

Hall: **A****RADIATION BUDGET FORM**

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Exp. # **PREX-II/CREX** rev:
E12-11-101, E12-12-004run dates: **2017**name of liaison: **Kent Paschke**

setup number			1	2	3	4	5	6	7	8	9	10	11	12	13	<i>totals:</i>	
beam	energy	GeV	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	2.2	2.2	2.2	2.2	2.2		
	current	uA(CW)	70.0	10.0	50.0	50.0	100.0	20.0	50.0	20.0	150.0	150.0	20.0	50.0	20.0		
exp't target	element		Pb	Pb	C	C	C	O	Ta	Be	Ca	C	O	Ta	Be		
	thickness	mg/cm2	568	57	53	40	265	444	330	43	1100	570	444	330	43		
	dist. to pivot	m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Z		82	82	6	6	6	8	73	4	20	6	8	73	4		
A		207	207	12	12	12	16	181	9	48	12	16	181	9			
add'l target 1	element		C					H		O			H		O		
	thickness	mg/cm2	80					56		57			56		57		
	dist. to pivot	m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Z		6	0	0	0	0	1	0	8	0	0	1	0	8		
A		12	0	0	0	0	1	0	16	0	0	1	0	16			
critical window	radius	cm	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13		
	dist. to pivot	m	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	1.29	1.29	1.29	1.29	1.29		
scattering weighting factor			0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13		
time	run time (100% eff.)	hours	648	10	10	10	10	24	10	5	864	24	14	10	5	1644	
		days	27.0	0.4	0.4	0.4	0.4	1.0	0.4	0.2	36.0	1.0	0.6	0.4	0.2	68.5	
	installation time	hours															0
		days	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
dose rate at the fence post (run time)	method 1	urem/hr	5.6	0.0	0.1	0.0	0.6	0.3	1.4	0.0	10.0	3.0	0.3	1.7	0.1		
	method 2	urem/hr	5.84								10.63						
	conservative	urem/hr	5.8	0.0	0.1	0.0	0.6	0.3	1.4	0.0	10.6	3.0	0.3	1.7	0.1		
dose per setup		urem	3784	0	1	0	6	6	14	0	9184	71	5	17	0	13089.5	
% of annual dose budget			37.84	0.00	0.01	0.00	0.06	0.06	0.14	0.00	91.84	0.71	0.05	0.17	0.00	130.89	
% of allowed dose for the total time															697.47		
% of allowed dose for the run time only															697.47		
<i>If > 200%, discuss result with Physics Research EH&S officer</i>																	
<i>date form issued:</i>			May 31, 2016						<i>authors:</i> P Degtyarenko								