Hall: A

RADIATION BUDGET FORM

Exp. # GMn **E12-09-019** **rev: 0** **run dates: 2019** **name of liaison: Eric Fuchey**

setup number			**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	
beam	energy	GeV	**8.8**	**11.0**	**11.0**	**11.0**	**4.4**	**4.4**	**4.4**	**4.4**	**4.4**	**4.4**	***totals:***
	current	uA(CW)	**30.0**	**30.0**	**55.4**	**30.0**	**20.0**	**20.0**	**60.0**	**20.0**	**20.0**	**60.0**	
radiator	element						**Cu**	**Cu**		**Cu**	**Cu**		
	thickness	mg/cm2					**772**	**772**		**772**	**772**		
	dist. to pivot	m					**-0.15**	**-0.15**		**-0.15**	**-0.15**		
	Z		**0**	**0**	**0**	**0**	**29**	**29**	**0**	**29**	**29**	**0**	
	A		**0**	**0**	**0**	**0**	**64**	**64**	**0**	**64**	**64**	**0**	
exp't target	element		**Al**	**D**	**H**	**Al**	**H**	**Al**	**H**	**H**	**Al**	**H**	
	thickness	mg/cm2	**935**	**2435**	**1062**	**935**	**1062**	**935**	**1062**	**1062**	**935**	**1062**	
	dist. to pivot	m	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	
	Z		**13**	**1**	**1**	**13**	**1**	**13**	**1**	**1**	**13**	**1**	
	A		**27**	**2**	**1**	**27**	**1**	**27**	**1**	**1**	**27**	**1**	
cryo tgt window	element			**Al**	**Al**		**Al**		**Al**	**Al**		**Al**	
	thickness	mg/cm2		**83**	**83**		**83**		**83**	**83**		**83**	
	dist. to pivot	m		**0.0**	**0.0**		**0.0**		**0.0**	**0.0**		**0.0**	
	Z		**0**	**13**	**13**	**0**	**13**	**0**	**13**	**13**	**0**	**13**	
	A		**0**	**27**	**27**	**0**	**27**	**0**	**27**	**27**	**0**	**27**	
critical window	radius	cm	**13.8**	**13.8**	**13.8**	**13.8**	**13.8**	**13.8**	**13.8**	**13.8**	**13.8**	**13.8**	
	dist. to pivot	m	**5.10**	**5.10**	**5.10**	**5.10**	**5.10**	**5.10**	**5.10**	**5.10**	**5.10**	**5.10**	
scattering weighting factor			**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	
time	run time	hours	**4**	**100**	**13**	**8**	**12**	**2**	**3**	**24**	**2**	**6**	**543**
	(100% eff.)	days	**0.2**	**4.2**	**0.5**	**0.3**	**0.5**	**0.1**	**0.1**	**1.0**	**0.1**	**0.3**	**22.6**
	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**
dose rate at the fence post (run time)	method 1	urem/hr	**1.58**	**1.94**	**0.59**	**1.65**	**1.57**	**2.53**	**0.61**	**1.57**	**2.53**	**0.61**	
	method 2	urem/hr											
	conservative	urem/hr	**1.58**	**1.94**	**0.59**	**1.65**	**1.57**	**2.53**	**0.61**	**1.57**	**2.53**	**0.61**	
dose per setup		urem	**6**	**194**	**8**	**13**	**19**	**5**	**2**	**38**	**5**	**4**	**676.46**
% of annual dose budget		%	**0.1**	**1.9**	**0.1**	**0.1**	**0.2**	**0.1**	**0.0**	**0.4**	**0.1**	**0.0**	**6.7646**

% of allowed dose for the total time	**109.13**
% of allowed dose for the run time only	**109.13**

If > 200%, discuss result with Physics Research EH&S officer

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