From: Larry Teahon
To: Burrows, Ronald
Cc: Sabrina Fox; Tami Dyer; Kari Toews
Subject: [External_Sender] Response to LC 11.11
Date: Friday, December 04, 2015 11:27:29 AM
Attachments: Radon Daugher Measurements in the Wellfield Area.xlsx

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Ron:

On September 21, 2015, Crow Butte submitted to the NRC responses to requests for addition clarifications concerning License Condition 11.11. In the response to RAI #8 (page 30), Crow Butte indicated the following: "All wellfield operations personnel participate in the monitoring program, which includes monitoring for internal and external exposure. The external exposure is monitored with OSL badges provided by Landauer and exchanged on a quarterly frequency. The badges are worn for an employee's entire shift. Since it is difficult to sample all areas of the wellfield accurately, the internal exposures for the wellfield operations personnel are based on the same plant concentrations at a 100% occupancy factor. Wellfield concentrations of both radon daughters and airborne uranium will be much lower than plant concentrations so this is a very conservative way to assign internal intake". Attached is the data collected in the wellfield that was used in making this assessment.

Regards,

Larry Teahon
SHEQ Manager
Cameco Resources
Crow Butte Operation
86 Crow Butte Road
Crawford, NE 69339

Office: (308) 665-2215 ext. 114
Fax: (308) 665-2341
Larry_Teahon@cameco.com

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Kuznetz Samples

Location/ Date Range	WL 10-May-13	WL 12-Jul-13	WL 16-Aug-13	WL 30-Sep-13	WL 18-Oct-13	WL 8-Nov-13	WL 20-Dec-13	24-Jan-14	WL Average	
AM-1	0.002	0.001	0.001	0.001	0.000	0.000	0.003	0.000	0.0010	
AM-2	0.002	0.002	0.001	0.001	0.000	0.001	0.001	0.001	0.0011	
AM-3	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.001	0.0014	
AM-4	0.002	0.001	0.001	0.001	0.002	0.002	0.001	0.000	0.0013	
AM-5	0.001	0.002	0.000	0.001	0.001	0.001	0.000	0.001	0.0009	
AM-6	**0.000**	**0.002**	**0.000**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.0009**	**Bkg Station**
AM-8	0.002	0.002	0.000	0.001	0.001	0.000	0.004	0.000	0.0013	
AM-22	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.000	0.0005	
AM-23	0.001	0.002	0.001	0.001	0.000	0.001	0.001	0.001	0.0010	
AM-24	0.000	0.002	0.001	0.014	0.001	0.000	0.001	0.001	0.0025	
AM-25	0.007	0.004	0.000	0.001	0.000	0.000	0.001	0.000	0.0016	
WH-9	0.000	0.003	0.000	0.001	0.000	0.000	0.001	0.001	0.0008	
WH-17	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.0009	
WH-47	0.001	0.001	0.001	0.000	0.001	0.000	0.002	0.001	0.0009	
WH-50	0.001	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.0009	
TE-1	0.001	0.001	0.001	0.000	0.001	0.000	0.001	0.001	0.0008	
TE-2	0.003	0.002	0.000	0.001	0.001	0.000	0.004	0.004	0.0019	
TE-3	0.003	0.004	0.000	0.001	0.002	0.002	0.003	0.002	0.0021	
TE-4	0.002	0.004	0.000	0.001	0.002	0.001	0.001	0.001	0.0015	

Bkg Subtracted Kuznetz Samples

Location/ Date Range	10-May-13	12-Jul-13	16-Aug-13	30-Sep-13	18-Oct-13	8-Nov-13	20-Dec-13	24-Jan-14	Average
AM-1	0.002	0	0.001	0	0	0	0.002	0	0.0006
AM-2	0.002	0	0.001	0	0	0	0	0	0.0004
AM-3	0.001	0	0.001	0	0	0	0.003	0	0.0006
AM-4	0.002	0	0.001	0	0.001	0.001	0	0	0.0006
AM-5	0.001	0	0	0	0	0	0	0	0.0001
AM-8	0.002	0	0	0	0	0	0.003	0	0.0006
AM-22	0	0	0	0	0	0	0	0	0.0000
AM-23	0.001	0	0.001	0	0	0	0	0	0.0003
AM-24	0	0	0.001	0.013	0	0	0	0	0.0018
AM-25	0.007	0.002	0	0	0	0	0	0	0.0011
WH-9	0	0.001	0	0	0	0	0	0	0.0001
WH-17	0.001	0	0	0	0	0	0	0	0.0001
WH-47	0.001	0	0.001	0	0	0	0.001	0	0.0004
WH-50	0.001	0	0	0	0	0	0	0	0.0001
TE-1	0.001	0	0.001	0	0	0	0	0	0.0003
TE-2	0.003	0	0	0	0	0	0.003	0.003	0.0011
TE-3	0.003	0.002	0	0	0.001	0.001	0.002	0.001	0.0013
TE-4	0.002	0.002	0	0	0.001	0	0	0	0.0006

Average 0.0006 (excludes bkg station result)