

Garrett, Betty

From: John Schmuck <John_Schmuck@Cameco.com>
Sent: Wednesday, January 16, 2013 1:34 PM
To: Burrows, Ronald
Cc: Larry Teahon
Subject: Additional Revision to Sealed Tank Page Change
Attachments: Sealed Tank Page Change 2nd version.pdf

Ron – Please disregard the email send earlier this morning regarding Sealed Tank page changes. I have made an additional change to further clarify the discussion.

Thank. .john

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4.1.1 Tank and Process Vessel Ventilation Systems

A separate ventilation system will be installed for sealed indoor process tanks and vessels where radon-222 or process fumes would be expected during resin transfer. The system will consist of an air duct or piping system connected to the top of each of the process tanks having the potential to produce radon (i.e., resin transfer tank, and wastewater tanks). Redundant exhaust fans will direct collected gases to discharge piping that will exhaust fumes to the outside atmosphere by forced air ventilation. The design of the fans will be such that the system will be capable of limiting employee exposures with the failure of any single fan. Discharge stacks will be located away from building ventilation intakes to prevent introducing exhausted radon into the facility as recommended in Regulatory Guide 8.31². Airflow through any openings in the vessels will be from the process area into the vessel and into the ventilation system, controlling any releases that occur inside the vessel. Separate ventilation systems may be used as needed for the functional areas within the satellite plant.

A tank ventilation system of this type is utilized in the Central Processing Plant. Operational radiological in-plant monitoring for radon concentrations has proven this system to be an effective method for minimizing employee exposure.

4.1.2 Work Area Ventilation System

The work area ventilation system would be designed to force air to circulate within the satellite plant process areas.

4.1.2.1 Ventilation System at Current CBR Operating Facility

The ventilation system at the current CBR operating facility has been shown to adequately ventilate areas where radon and daughter products could accumulate. The ventilation system maintains a negative pressure on the process building to prevent gases such as radon from accumulating in the work areas. The current ventilation system consists of 3 wall fans that exhaust air out of the building while drawing across the plant floor. Each fan has a capacity of 11,000 cubic feet per minute (cfm). The total plant air volume is approximately 988,949 cubic feet (ft³). Based on the fan capacities and the total air volume of the facilities, the turnover of the complete plant air volume is approximately 29.97 minutes. Tanks in the process area having the potential for radon emissions have vent fans that discharge emissions outside of the building. For example the west IX column tanks (6,000 cfm) and east IX column tanks (6,000 cfm) have separate vent fans that discharge to a common vent system. There are also vent fans for the backwash tank (800 cfm), waste tank (1,500 cfm), eluant tank (1,500 cfm), precipitation tank (1,500 cfm), east resin screen (1,200 cfm) and west resin screen (1,200 cfm). These later fans vent emissions to the outside of the building.

CROW BUTTE RESOURCES, INC.



Technical Report North Trend Expansion Area

4.1.1 Tank and Process Vessel Ventilation Systems

A separate ventilation system will be installed for scaled indoor process tanks and vessels where radon-222 or process fumes would be expected during resin transfer. The system will consist of an air duct or piping system connected to the top of each of the process tanks having the potential to produce radon (i.e., resin transfer tank, and wastewater tanks). Redundant exhaust fans will direct collected gases to discharge piping that will exhaust fumes to the outside atmosphere by forced air ventilation. The design of the fans will be such that the system will be capable of limiting employee exposures with the failure of any single fan. Discharge stacks will be located away from building ventilation intakes to prevent introducing exhausted radon into the facility as recommended in Regulatory Guide 8.31². Airflow through any openings in the vessels will be from the process area into the vessel and into the ventilation system, controlling any releases that occur inside the vessel. Separate ventilation systems may be used as needed for the functional areas within the satellite plant.

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