

**From:** [Brad Bingham](#)  
**To:** [Linton, Ron](#)  
**Cc:** [Jennifer Ortega](#); [Burrows, Ronald](#); [Poston-Brown, Martha](#); [Evans, Robert](#); [Randy Whicker](#)  
**Subject:** [External\_Sender] RE: Homestake Public Dose Clarification call  
**Date:** Tuesday, February 1, 2022 2:33:50 PM  
**Attachments:** [image003.jpg](#)

---

Ron,

Our requested responses are below. Please let me know if you have additional questions or require additional clarification.

ACEMP #1(3) – It appears that HMC did not answer the question as to who is the maximally exposed member of the public.

HMC Response: The maximally exposed member of the public is the nearest resident to the facility that resides closest to air monitoring station HMC-4 or HMC-5, depending on which monitoring station has the highest calculated total effective dose equivalent (TEDE) from exposure to combined concentrations of air particulates, radon gas, and ambient gamma radiation. As indicated for each calendar year in the 2<sup>nd</sup> half semiannual effluent and environmental monitoring report, the nearest resident (and maximally exposed member of the public) is situated “...within 100 yards of the HMC-4 and HMC-5 monitoring stations and therefore the exposure may be conservatively assumed to be comparable to that at the monitoring stations.”

ACPD #2 – It appears that HMC did not address the dose assessment period (i.e., the compliance period) as requested.

HMC Response: As specified in HMC’s response to ACPD #2, the dose assessment period (annual reporting period for compliance with 10 CFR 20.1301) is the standard calendar year beginning January 1 and ending December 31. During the January 25, 2022 clarification call with NRC staff, the staff noted that ACPD #2 contained reference to NRC guidance that addresses this issue, and HMC committed to reviewing the cited guidance. However, review of ACPD #2 reveals no citation or reference to any NRC guidance. As indicated in HMC’s response, *“HMC believes that its reporting protocols for annual public dose estimates based on environmental monitoring data are consistent with the definition of a reporting “year” in 10 CFR 20.1003. The regulatory definition does not state a specific start date at the beginning of January, and instead implies flexibility for small variations in monitoring start dates as long as they occur close to the beginning of the calendar year in early January, and provided that no day is omitted or duplicated in consecutive years (i.e. that there is no overlap or gaps between the end date of the previous year and the beginning of the current year, and that close to 365 days are represented by the actual annual monitoring period).”*

As indicated in the Statements of Consideration in the Federal Register / Vol 56, No. 98 / Tuesday, May 21, 1991 / Rules and Regulations, Page 23383, the following public comment and Commission response provides additional clarification on the definition of a reporting

“year” in 10 CFR 20.1003:

*Comment: The recordkeeping requirement in the proposed § 20.1106(d)(2) would require that all records begin at the beginning of a calendar year. This would create an unnecessary hardship on dosimeter processors since they could not stagger the dosimeter changeover schedules to provide a more uniform workload distribution.*

*Response and final rule: The term “year” in § 20.1003 replaces the term “calendar year” in proposed § 20.3 and permits the licensee to define the year to begin anytime in January. A licensee may change the starting date, provided that the change is made at the beginning of the year and provided that no day is omitted and no day is included twice in consecutive years.*

The final rule indicates that the reporting or compliance year for public dose estimates may begin anytime in January, but also suggests that the end date must occur precisely 365 days after the start date (i.e., in January of the following year). For example, a “compliance year” that begins on January 7, 2019, would need to be reported as “January 7, 2019 through January 6, 2020”, and all air particulate, radon, and gamma monitoring exchanges would need to be synchronized to begin precisely on January 7, 2019 and end on January 6, 2020. In practice, this expectation is unrealistic for NRC licensees as changing out detectors and air filters typically takes more than a single day to complete, and there is no way to ensure that year-end detector/filter exchanges can occur precisely on January 6, 2020. Weather conditions, employee schedules, and other factors can cause delays, and all monitors/filters generally cannot be exchanged in a single day. Moreover, by default, dosimetry vendors will always report the monitoring period for 1<sup>st</sup> quarter beginning January 1, and for 4<sup>th</sup> quarter ending December 31 (regardless of the actual date detectors are deployed in the field).

HMC has reviewed public dose reporting in 2<sup>nd</sup> half semiannual reports for several other NRC licensees, and interviewed a former NRC licensee in Wyoming (which recently became an Agreement State licensee), and has found that these licensees follow protocols similar to what HMC has followed for decades, which is to exchange all detectors/filters as close to January 1 as feasible, but to report public doses in 2<sup>nd</sup> half semiannual reports based on a standard January 1 through December 31 reporting year. HMC believes that our reporting and recordkeeping meets the regulatory requirements and is consistent with other licensees’ understanding and reporting under the regulation.

Respectfully,



**Brad R. Bingham**

Closure Manager – Grants Reclamation Project  
Homestake Mining Company of California

Tel: (505) 287-4456  
Mobile: (505) 290-8019

---

**From:** Linton, Ron <Ron.Linton@nrc.gov>

**Sent:** Tuesday, January 25, 2022 1:48 PM

**To:** Brad Bingham <bbringham@homestakeminingcoca.com>

**Cc:** Jennifer Ortega <Jennifer.Ortega@barrick.com>; Burrows, Ronald <Ronald.Burrows@nrc.gov>; Poston-Brown, Martha <Martha.Poston-Brown@nrc.gov>; Evans, Robert <Robert.Evans@nrc.gov>

**Subject:** EXT: Homestake Public Dose Clarification call

Brad

This is a follow-up on the clarification call we had today on HMC's Proposed Methodology for Demonstrating Compliance with 10 CFR 20.1301 and 20.1302 responses dated 9/22/2021. NRC staff wanted to clarify the following:

- ACEMP #1(3) – It appears that HMC did not answer the question as to who is the maximally exposed member of the public.
- ACPD #2 – It appears that HMC did not address the dose assessment period (i.e., the compliance period) as requested.

At the end of the call, we discussed having an additional call within a week, if needed. Additionally, NRC staff requested a letter or e-mail response on the two bullet items above within two weeks, if possible, which would be February 8, 2022. If additional time is needed, please contact me.

Thanks  
Ron

Ron C. Linton, Project Manager  
U.S. NRC  
phone 301-415-7777  
[ron.linton@nrc.gov](mailto:ron.linton@nrc.gov)