

**Geophysical Laboratory**

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OFFICE OF THE DIRECTOR

February 29<sup>th</sup>, 2016

Re: Reply to Notice of Violation, Docket No. 03038189, License No. 08-00604-06

Dear Representative of the NRC,

On February 25<sup>th</sup> I received a notice of Violation from the NRC following an inspection by the NRC representative Dennis Lawyer of our Mössbauer spectrometer facility. I immediately contacted Dennis Lawyer to note that I have received the notice on the 25<sup>th</sup>, even as the notice was dated February 10<sup>th</sup>. I assured Dennis Lawyer that we are being responsive to this notice.

As a matter of background information we carry a NRC License (08-00604-06) that permits us to maintain a Mössbauer spectrometer facility for the purpose of chemical analysis. The Mössbauer spectrometer uses a Co-57 radioactive source to excite nuclear level transitions in Fe-57 (a natural and stable isotope of iron). We have had this instrument since 1980. Our inventory of old sources include seven sources (6 Co-57, 1 Sm-121). The most recent source was obtained 1/25/2011. The last Mössbauer measurement was made on 11/30/2011. Since that time no measurements have been made. It is our intention to decommission this instrument as soon as possible and transfer the old sources to a licensed storage facility. We intend to complete this prior our current license's expiration (2017).

We have been cited for four Severity level IV violations. Below we list the violations and our responses.

- 1) 10 CFR 30.36(d) No Principal Activities under the License have been conducted for a period of 24 months.

Action: We are in violation here as we were supposed to have informed the NRC that we were no longer using the Mössbauer spectrometer. We were unaware of this requirement. As stated above, we are moving to decommission the Mössbauer spectrometer. We hope that informing you this, here, puts us into compliance with 10 CFR 30.36.

- 2) 10 CFR 20.1101(c) Annual review of the radiation safety program.

Action: As we ceased operation of the Mössbauer spectrometer in 2011 and have no active radioactive sources (for the purpose of spectroscopy) and no plans of initiating operations, we mothballed the spectrometer and stored the old sources in their lead containers in a safe. As noted we did not conduct annual reviews of the

REC RG 1 0308 16 AM 07 34

radiation safety program. Viktor Struzhkin and I have now reviewed our Radiation Safety procedures and program. As noted above, our intention is to decommission the Mössbauer spectrometer as soon as possible. We hope that this puts us in compliance with 10 CFR 20.1101(c).

- 3) Physical Inventory to account for all sources received and possessed under the license.

Action: Since the last time we used the Mössbauer spectrometer (11/2011) we have kept our sources in their lead containers in a safe in a locked room. Viktor and I have confirmed that we have the sources listed in our inventory. After we have these leak checked we will dispose of these. We are in the process of contracting with a licensed company leak testing of our 7 sources. We expect this to be done within the month.

- 4) Condition 15 Testing of sealed sources.

We have removed the one source that was mounted in the spectrometer, placed the source in the lead container and locked this source with other old sources in the safe. As we decommission the Mössbauer spectrometer we will hire an outside contractor to leak test the sources and arrange to have these transferred to safe location for long term storage. Ideally we will have decommissioned this instrument within the month and this will then cease any further involvement with the NRC.

We hope that our actions address satisfactorily the four Severity Level IV violations. Please let us know if there are any additional actions we need to take. Such as submitting a decommissioning plan (DP) or similar actions. We will document all stages of the decommissioning and provide such documentation to the NRC as the process proceeds.

Sincerely,



George D. Cody  
Acting Director  
Geophysical Laboratory