

July 21, 2010

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RE: Response to Request for Additional Information Regarding Decommissioning Plan (Mail Control No. 318219) Dated June 18, 2010

#### **Question 1**

ABC' needs to expand their oversight commitment. The audit commitment in Section 9, Decommissioning by ABC does not convince us that there will be sufficient Company presence during the work. Typically, oversight will include a mobilization check, supplemented by frequent checks coordinated with key work phases. Also, specify the individual or individuals, who will interface with the contractor.

Additionally, there should be a commitment for an ABC representative to participate in daily and or weekly briefs. What communications will be provided by the contractor to keep the company informed on activities particularly if there are significant safety and or regulatory issues, and other issues that could extend beyond the remediation work areas, or off-site such as transportation issues, media interest, etc. In Section 1.5.1 "Project Manager" and 1.5.2 "Site Health and Safety Officer," of the Health and Safety Plan their duties are discuss, and it appears that close communication between these two individuals and a Company representative would be appropriate.

The Audit checklist (Attachment VII) is comprehensive and adequate for mobilization, but doesn't address simple checks that will be observed while work is being performed.

Please point out in the agreement or your application how issues observed or encountered during work will be addressed. Confirm that the ABC representative will keep a written record of the observations and audits.

#### **Question 1 Response:**

ABC will be represented by Engelhardt & Associates or an ABC Radiation Safety Officer approved by the NRC. Bionomics will maintain a log book of daily activities, observations and any significant safety or regulatory issues. ABC will receive a copy of the log book to retain with the decommissioning records.

Each morning of the project prior to the beginning of the work that day, Bionomics will hold a meeting to discuss prior day activities or issues recorded in the log book, as well as the activities for the day. A senior management member responsible for safety and compliance with

the DP will attend the daily meetings. Engelhardt & Associates or ABC's RSO and Jim Turner/Andy Lombardo of SEC will be on-site during mobilization, and at key phases of the remediation. Jim Turner will be the designated on-site RSO for SEC. Andy Lombardo will provide assistance as needed to Jim Turner and will officially be designated as an off-site SEC representative. Mr. Lombardo will however be present on site as determined by Misters Turner and Nipper (Project Manager). In addition to the Audit checklist provided, a radiation work plan specific to the area will be provided by Bionomics. The work plan will include a daily checklist for review and concurrence by SEC, Bionomics, and ABC management representatives. If, at any time, ABC senior management determines that there are any compliance or safety issues, either independently or as raised by its regulatory consultant or internal RSO, ABC will halt all decommissioning work until the issues are satisfactorily addressed.

**Question 2:**

Section 3 of DP Acceptance Review.

Clarify and supplement the soil contamination depth impact described in your DP. The plan infers that the radiological contamination is limited to the top 6 to 8 inches of soil.

"Sample results indicate the removal of the topsoil in selected areas to achieve release criteria. The topsoil depth is from zero to six inches deep. Anticipated excavation will be to a depth of six inches to eight inches."

It is not clear from the characterization data or discussion in your plan, what information you have to support your soil depth impact assumption. What will be done if contamination above the release limit at the 8" depth is identified?

The licensee was asked to indicate where they will obtain the soil that will be used for backfill.

**Question 2 Response:**

Samples provided to date found no contamination below the six inches of soil. Below the soil level of 0 – 6 inches is the clay liner, which in the samples showed no contamination. We will be taking remedial activities samples during the remediation process to determine if we have achieved our release criteria. If contaminated soil or the clay liner is detected below this level, it will be remediated to a lower level to achieve acceptable release criteria.

The soil used to backfill the lagoon will be pushed in from the berm. Note that the soil sample analyses of the berm did not indicate that the berm was impacted. However, prior to using the berm soil, additional random samples will be collected from the berm and analyzed to confirm that the soil is acceptable for use. If any additional soil is required to be brought in to appropriately level the site, it will be clean fill dirt obtained locally.

**Question 3:**

Your application only addresses dose impacts for carbon-14 and not hydrogen-3. Please address. During the call it was indicated that the carbon-14 and hydrogen-3 levels would be

reduce to a value less than the EPA Screening Levels, for example carbon-14 would be 45 Ci/g. Please confirm the values and modify your RESRAD evaluation to reflect this DCGL. The release criteria will need to ensure that dose from both are considered, and that the unity rule is applied for release.

**Question 3 Response:**

Please see attached PDF (Attachment A) from Andy Lombardo to Dr. Lee on June 23, 2010, that discusses the dose assessment for both C-14 and H-3. Final status survey samples will include analysis for H-3 as well as C-14.

**Question 4:**

Your discussion regarding potential for groundwater impacts does not provide a technical narrative discussion regarding why ABC and its HP contractor believe there are no groundwater impacts. Please provide.

**Question 4 Response:**

Please see attached PDF (Attachment A) from Andy Lombardo to Dr. Lee on June 23, 2010, that discusses the impact on groundwater. None of the RESRAD input parameters indicate an impact.

**Question 5:**

Based on June 8, 2010 e-mail from Paul Nipper, it is indicated that you will not pursue the US Ecology 20.2002 Exemption request, but will send the waste to U.S. Ecology. If this request is to be pursued, it will be necessary to address the following:

In section 12.2, it is indicated that an estimated 2000 liters liquid waste may be generated. It is not discussed sufficiently how this waste will be disposed of. We would need clarification as to whether this waste will be solidified and included as part of the 20.2002 disposal, or disposed of by some other means.

**Question 5 Response:**

ABC confirms its intention that the remediated solid material will be disposed of at the Energy Solutions disposal site in Utah. In the event there is any aqueous liquid over the facility release limits, the liquid will be containerized and processed at the Energy Solutions facility in Oak Ridge, Tennessee.

**Question 6:**

Reference Section 12.3, Mixed Waste,

From the DP, "Initial sampling was performed and analysis performed that indicated no chemical impacts in the lagoon. See Attachment II. Additional sampling has been performed and has been submitted. Results have not been reported as of this writing. Analytical data is scheduled for delivery on October 21, 2009 and will be submitted

under separate cover. As soon as the results are available they will be reviewed and submitted to MDNR for concurrence that Mixed Waste is not an issue.”

During a discussion with Tom Judge, MDNR, it was indicated that he had been sent the sampling data, but the information was not sufficiently documented so he could make an informed evaluation and decision regarding possible impacts. For example, he indicated there was no information regarding the sampling activity or sample locations.

We discussed the need to work with MDNR regarding their concurrence that either chemical impacts are not of concern, or provide what actions need to be taken in conjunction with the radiological remediation activities.

**Question 6 Response:**

Our records indicate the additional sampling data was submitted in October 2009, but are attached again to ensure you have a complete record (Attachment B). Tom Judge, MDNR, does have copy of the sampling. Jamie Shinn, also of MDNR, has reviewed the results and concurs there is no evidence of mixed waste in our lagoon. In any event, after remediation of the lagoon, samples will be collected and analyzed for appropriate analytes and provided to MDNR. The lagoon will not be closed until the sample results are received and confirm we have met the criteria for release and closure for both NRC and MDNR.

**Question 7:**

We discussed the incorporation of the health and safety plan into the DP. The licensee indicated that they would okay the incorporation.

**Question 7 Response:**

As discussed, ABC agrees with the incorporation of the SEC health and safety plan into the DP.

**Question 8:**

The SEC license and application appears to be missing from ABC DP booklet. Please resubmit current versions.

**Question 8 Response:**

It is my understanding that our former RSO submitted a copy of the SEC license and application. Another copy is being forwarded to you by Bionomics and should be in your possession by July 23, 2010.

**Question 9:**

Final Status Survey

Staff discussed the licensee's proposed release values and survey plan. The licensee will provide additional information to address staff concerns. Some general observations are outline as follows:

The licensee's final release and survey plan needs to provide confidence that the DCGLw and the value to be used for elevated areas, when assessed together provides confidence that the dose values satisfy the unity rule. Specifically, The DCGL<sub>EMC</sub> is irrelevant to the VSP hot spot detection due to the infeasibility of scan. That's because if the number of the hot spots is unknown, the unit rule stated in Section 8.52, MARSSIM, cannot be used to ensure that the total dose is within the release criterion.

The area sizes for the class 1, class 2 were discussed. The licensee will look at the classification and respond.

The staff also discussed how the licensee will justify the number of samples to be collected for each survey area.


The licensee and the SEC personnel committed to work closely with Dr. Lee, and will provide information discussed during the call.

**Question 9 Response:**

Attached is a copy of an email (Attachment A) from Andy Lombardo sent to Dr. Lee on June 23, 2010, explaining the methodology to be used in the post remediation sampling. This email and attached file "ABC Labs-Columbia MO Site Final Status Survey Implementation" included with this email should address this and other issues.

Please do not hesitate to contact either me or Elaine McCoy with any further questions.

Respectfully submitted,



Scott Ward  
Sr. Vice President and General Manager, Chemical Services

Attachment A

Email from Andy Lombardo to Peter Lee of June 23, 2010  
Including "ABC Labs-Columbia MO Site Final Status Survey Implementation

Attachment B

October 20, 2009 RCRA Sample Results