**From:** Saxton, John
**To:** Lux, Jeff J
**Cc:** Smith, James; J. Paul Davis
**Subject:** RE: Groundwater Flow Model
**Date:** Wednesday, April 13, 2022 11:43:29 AM

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Jeff,

My comments are in **bold**.

John

I just received a call from Paul Davis and came away with the following understanding:

1. The MODFLOW version on which Burns & McDonnell's groundwater flow model is based is old and has some deficient characteristics associated with the regular grid, the "trench is a series of wells", etc.

**Yes, I discussed with Paul my expectations on the utility of you revising your model at this time. I am sure you will be able to discretize it to reflect the heterogeneities; however, it is not setup to simulate the trench as the trench is not aligned with a principal axis for the model grid. Using a series of individual wells to simulate the trench may be fine for a first approximation; however, I anticipate it would not provide the details needed nor would it be calibrated to the pilot test data.**

2. You are preparing a report on the flow model you generated.

**Yes, I discussed with Paul my plan to complete in the near future a report on my calculations including the model setup, etc. I hope to make the report publicly available prior to issuance of RAI's on the DP so that, if elected to do so, you can provide comment on the assumptions, etc., that were used in the calculations.**

3. The shortest path to concurrence on the flow models, the infrastructure, the pumping rates, and the duration of remediation may be for Burns & McDonnell to replace their existing MODFLOW model with the model you generated (at least as a starting point) and adding the treated water injection component, etc.

**Yes, Paul and I discussed how to come to a mutually agreeable calculation that is needed to demonstrate that a proposed remediation timeframe is reasonable. My comment was largely about what sort of calculations were needed. If the revisions to your existing model provide a reasonable scenario, I would expect to accept those calculations. However, as stated above for comment (1), I am doubtful that the revised model will provide sufficient detail. And I want to be clear, my comment about you using the current version of MODFLOW may be preferred over revision to your existing model, or possibly using a simple analytical element model. In the alternative, when my calculations are made public, you can provide comment on those**

**calculations, including disagreement with any assumption or any revision to the model, if you choose to do so, in the response to any RAI. I am not advocating that NRC give you a model to use for your design, in fact, the purpose of the model was solely to provide calculations in order to verify assumptions in your calculations.**

I don't know if you can talk modeler-to-modeler about what your plans are and if you can make the flow model available to him, but time is passing and we're going to be "on hold" at least until Jim arranges a public meeting to discuss technical issues. Is my understanding (as expressed above) reasonably accurate, and what is the best path forward to expedite making progress?

**I think it would be possible for me to demonstrate to your technical personnel the process used in developing my calculations in a non-public setting. From my perspective, such a meeting is a follow-up clarification on information provided during the last public meeting. With respect to your proposed infiltration system, from a conceptual point of view, using some sort of infiltration system between extraction trenches seems reasonable. I don't think an expansive numerical model is needed for its justification at this time in order to submit a revised DP for a detailed technical review. I think the details could be hashed out through the RAI process. Similarly, I don't think it wise to alter the construction diagrams at this time; this also can be best accomplished when all RAIs are addressed. Revisions to the figures included in the DP narrative should be sufficient.**

**I know Jim is finalizing our comments to your responses on our comments to your responses on the audit review comments. In my opinion, once the comments are finalized and sent to you, a revised DP could be submitted shortly thereafter.**

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**From:** Lux, Jeff J <jlux@burnsmcd.com>
**Sent:** Tuesday, April 12, 2022 5:08 PM
**To:** Saxton, John <John.Saxton@nrc.gov>
**Subject:** [External_Sender] Groundwater Flow Model

I just received a call from Paul Davis and came away with the following understanding:

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2. You are preparing a report on the flow model you generated.
3. The shortest path to concurrence on the flow models, the infrastructure, the pumping rates, and the duration of remediation may be for Burns & McDonnell to replace their existing MODFLOW model with the model you generated (at least as a starting point) and adding the treated water injection component, etc.

I don't know if you can talk modeler-to-modeler about what your plans are and if you can make the flow model available to him, but time is passing and we're going to be "on hold" at least until Jim arranges a public meeting to discuss technical issues. Is my understanding (as expressed above) reasonably accurate, and what is the best path forward to expedite making progress?

*Jeff Lux, P.E.*
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