PMTurkeyCOLPEm Resource

From: Bryce, Robert W [rw.bryce@pnl.gov]
Sent: Tuesday, October 26, 2010 5:05 PM
To: Labiosa, Rochelle G; Kugler, Andrew; Ward, Jeffrey A; Thorne, Paul D; Vail, Lance W
Cc: TurkeyCOL Resource
Subject: Call Notes - Dr. Rand
Attachments: Conference call with Rand 10 26 10.doc

Attached are draft conference call notes for our discussion with Dr. Rand today. If they look OK I suggest we have Rochelle forward them to Dr. Rand for confirmation.

Thanks

Bob

From: Bryce, Robert W
Sent: Tuesday, October 26, 2010 12:04 PM
To: Labiosa, Rochelle G
Subject: Call Notes

These are pretty sketchy – but maybe I caught some things

Hearing Identifier: TurkeyPoint_COL_Public
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Subject: Call Notes - Dr. Rand
Sent Date: 10/26/2010 5:04:57 PM
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From: Bryce, Robert W

Created By: rw.bryce@pnl.gov

Recipients:
"TurkeyCOL Resource" <TurkeyCOL.Resource@nrc.gov>
Tracking Status: None
"Labiosa, Rochelle G" <Rochelle.Labiosa@pnl.gov>
Tracking Status: None
"Kugler, Andrew" <Andrew.Kugler@nrc.gov>
Tracking Status: None
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Conference call with Rand 10 26 10.doc	93760	

Options
Priority: Standard
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Phone/Conference Call Record

Project/Plant: Turkey Point Units 6 & 7

Date/time: October 26, 2010

Time: 10:00 PDT

Attendees:

NRC Team

Andy Kugler	Environmental Project Manager

PNNL Team

Bob Bryce	Team Lead for Environmental Review
Rochelle Labiosa	Hydrologist
Paul Thorne	Hydrologist
Jeff Ward	Aquatic Ecologist

Florida International University

Gary Rand	Professor of Aquatic Toxicology

Call title/subject: Turkey Point Reclaimed Water Quality and TOX Testing
Purpose of call: Gary Rand of FIU is performing toxicity testing on effluent from the water treatment plant for Miami Dade Water and Sewer Department. The call is to understand his testing plan and to get recommendations from Dr. Rand on species and contaminants we should consider in the EIS and to discuss issues related to reuse water and toxicity endpoints for aquatic ecology.

Call notes:

Andy provided an introduction to our review process. Rochelle Labiosa led the discussion using the following agenda:

Agenda

Specific Topics:

1) We have developed a plan for conducting a conservative assessment of the impacts of emerging contaminants from reuse water used as cooling water at the plant on aquatic life. We would like to go through our list of candidates and discuss the strategy with you to see if it appears reasonable, and if we have neglected major considerations.
2) If you could discuss in detail your plans for this year and when data will be available from the toxicity testing (and end members), we can see if there is data that can help us with the assessment or which can be pointed to in the future.

3) Can you provide your perception of any issues with using effluent for restoration projects given your literature review and other research?
4) Are there literature sources that are of use that you could provide that are current?

Dr. Rand has prepared an action plan for testing the Miami-Dade reuse water. We can get the action plan, it is open to stake holders so it can be considered publicly available. Dr. Rand has an update to the plan that he can send us. The updated plan includes a table that covers the planned testing in more detail. His team has done a review of the literature plus information from the federal government, and includes the Society of Environmental Toxicology and Chemistry 2009 conference info (2010 conference is in November). They recently submitted journal articles summarizing the literature review. We asked to him to please provide citations of relevant literature (the literature review and his heavy metal studies- copper and zinc) when they are publicly available. Dr. Rand mentioned that he could put us on the project email list, potentially, so that we receive updates related to the project.

When you look at TOX information – most has been developed is for Personal Care Products. Many of the studies looked at individual compounds and so may not mean much. They looked at specific personal care products and pharmaceuticals. He doesn't expect acute toxicity due to any of them – but the effluent may exhibit acute toxicity because of a combination of the chemicals.

Dr. Rands' team will be doing fresh water and salt water testing. They will also be looking at local native species as well as standard test species. Local species to be used in testing include flag fish and mosquito fish. The test plan includes tests on zooplankton, phytoplankton, fish and benthic invertebrates. They will be using an SSP approach on mixtures. He has not seen the final analyses of the reuse water. The plant just got up and running. They will be looking at two different treatment trains. They will compare the results to see if one train is better than another. The engineers at the plant say that water quality is consistent over the year, but he has doubts – part of the initial project is to see how consistent the water quality is and design the tox testing (batch sampling) accordingly. Could be variable, b/c of influx of "snowbirds" so likely seasonal effect. Right now they are determining logistics and how much water is needed.

The planned tox testing follows traditional design. The will be looking at the specific mode of action – in addition to survival/growth/reproduction, they will look at more subtle effects (locomotion, other effects). It will be a 2 to 3 year program and they are just getting started. The pilot plant for water treatment is just coming on line.

They will be doing acute short term tests of 48 and 96 hours on both water systems and systems with sediment; salt water and fresh water. Mixture of salt and fresh will also be tested. Long term chronic tests of 3 weeks to 6 months are also planned. Some data should be available in early 2011 (and they can share the data with us, as stakeholders are federal agencies and when he shares it with them it will be public data). Dr. Rand expects to see impacts related to the fresh water environment, not the saltwater environment. Another thing they will be watching is pH change in the water provided. Some of the changes like pH and salinity will likely have a bigger impact than the chemicals they are testing. His source of salt water is from a well connected to Biscayne Bay – he assumes some filtration. He will move from individual testing to microcosm testing 1000 gal tanks, with phytoplankton and zooplankton. May put some fish in (?). Microcosms are not standardized, per se, but are more natural than lab.

Jeff asked if there would be TIE (Toxicity Identification Evaluations). It will be tricky since these are mixtures (overall toxicity only, not bad actor(s)).