Message

From: Davis, Eva [Davis.Eva@epa.gov]
Sent: 2/24/2016 7:26:19 PM
To: d'Almeida, Carolyn K. [dAlmeida.Carolyn@epa.gov]; Wayne Miller [Miller.Wayne@azdeq.gov]
CC: Dan Pope [DPope@css-dynamac.com]
Subject: RE: 2016-2-23 - wafb - ST012 - is EPA satisfied that regulators are on same page with ST012 SEE shut down or extension

Carolyn –

I think this does say that MNA alone can degrade benzene concentrations of 100 – 500 ppb to cleanup levels in the 20-year time frame, just not very elegantly. I think some of the earlier versions of the document said it better, because it has always been my understanding that they were shooting for these concentrations so they wouldn't have to apply EBR in the thermal treatment zone. But now they are trying to say that it's okay to not meet this criteria because they can just apply EBR in this area and still meet the cleanup goal. A big thing lacking is any QA/QC on the modeling they supposedly performed that supports the assertion that 100 – 500 ppb will naturally attenuate in less than 20 years.

The second to last sentence before table 4-2 starts states "The criteria will be considered in total with the weight of evidence from these multiple lines being used for decisions." This would indicate that all lines of evidence are considered equal, and supports your interpretation that 'primary' in a previous sentence meant that it was one of the first to be observed. Another reason to think that 'primary' meant first to be observed is that it refers to the temperature criteria, which we had talked about being the first thing we would look for to ensure that the entire treatment zone was heated, but obviously reaching temperature is the start of real treatment, not the ending point.

Eva

From: d'Almeida, Carolyn K.
Sent: Tuesday, February 23, 2016 4:57 PM
To: Davis, Eva <Davis.Eva@epa.gov>; Wayne Miller <Miller.Wayne@azdeq.gov>
Cc: Dan Pope <DPope@css-dynamac.com>
Subject: RE: 2016-2-23 - wafb - ST012 - is EPA satisfied that regulators are on same page with ST012 SEE shut down or extension

I have been reading and rereading the EBR sections of the RDRAWP to see where it is indicated that sulfate can degrade NAPL. The only statement I found was:

Benzene concentrations:	100 to 500 µg/L	Concentration range where natural attenuation can complete degradation within the remedy time frame.	Benzene concentrations in extracted groundwater provide an indication of the amount of benzene remaining in the TTZ. These concentrations will be monitored against a target benzene concentration in the 100 to 500 µg/L range within the TTZ. This concentration range is predicted to achieve cleanup levels within the 20-year remedial timeframe based on modeling of groundwater contaminant attenuation outside the TTZs after active EBR (Appendix E). Benzene located around the perimeter of the TTZ and the perimeter/interior extraction wells will be evaluated for benzene concentrations to identify any perimeter influx that may mask benzene removal within the TTZ. It is expected that lower benzene concentrations within this range will be achieved in the interior of the TTZs than at the perimeter.
Steam	240,257,000	Numerical	A target total of 240,257,000 lbs of steam is

Yet on the call last week Don stated that 500 ppb concentration was the target goal for MNA only, without EBR. But it doesn't say that at all. Did you find the sections he was referring to? Sometimes I just feel like he is making stuff up to confuse us.

It also doesnt say in the RDRAWP that benzene concentrations are secondary to meeting target temperatures. It only says the primary factors (the first to be observed) would be achieving target temperatures and seeing mass removal rates decrease, and the remainder of the text seems to indicated that all criteria are equally weighted.

From: Davis, Eva
Sent: Tuesday, February 23, 2016 11:45 AM
To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Wayne Miller <Miller.Wayne@azdeq.gov>
Cc: Dan Pope <DPope@css-dynamac.com>
Subject: RE: 2016-2-23 - wafb - ST012 - is EPA satisfied that regulators are on same page with ST012 SEE shut down or extension

I too am not convinced that they have gotten all they can from the steam. Was looking at the vapor phase data from the last data submission – TPH as JP-4 on 1/11/2016 was 13M ug/m3 – still an order of magnitude greater than what it was back in 10/2014. Confirms some of what Bo was saying that vapor phase extraction has not diminished. Also, based on the exhausting conversation we had last week, I'm not sure their response to comments are going to be fully acceptable, which is why I sent additional comments – as cryptic and informal as they were – last week. I think they should at least continue until we have the meeting in March when we'll hopefully have better discussions on this.

From: d'Almeida, Carolyn K.
Sent: Tuesday, February 23, 2016 1:14 PM
To: Wayne Miller <Miller.Wayne@azdeq.gov>
Cc: Davis, Eva <Davis.Eva@epa.gov>; Dan Pope <DPope@css-dynamac.com>

Subject: RE: 2016-2-23 - wafb - ST012 - is EPA satisfied that regulators are on same page with ST012 SEE shut down or extension

Wayne

I am a little concerned that Amec might shut down steam before we even have written responses to our comments on the EBR workplan in hand. The call last week was pretty exhausting. I'm not sure what more we can say at this point until we have the call to go over the next round of data from pressurization to compare. I am not convinced that continuing steam at this point would be less productive than starting EBR. But understand this is being run according to budget more than anything else. Perhaps we could do a joint letter stating that we don't approve SEE shutdown before the EBR workplan is approved? And get management to sign it?

Carolyn

From: Wayne Miller [mailto:Miller.Wayne@azdeq.gov]
Sent: Tuesday, February 23, 2016 10:32 AM
To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>
Subject: 2016-2-23 - wafb - ST012 - is EPA satisfied that regulators are on same page with ST012 SEE shut down or extension

Do ADEQ and EPA need to issue a joint agency, simple single page statement/letter saying extend the SEE or SEE okay to shut down, or are we all waiting until after 1st call on Feb. 29 or after the 2nd call on March 8? Do EPA and ADEQ need to have a pre-meet before the 29th?

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