
From: Patrick J Haley <patrick.j.haley@magnoxsites.com>
Sent: 01 September 2015 15:50
To: Greenwood, Bill
Cc: Rue Ancona
Subject: RE: Some questions about the application
Attachments: FED and site permit general understanding.docx

Bill

A few amendments to correct your understanding of the discharge arrangements are provided on the attachment with comments but generally you have the right idea. Please contact me if you need any further clarification.

Your further questions in order:

- The app states that 50 litres of NOX effluent will be added to a batch of 2,450 litres of acid FED bath. Does this mean that you will need to do 8 batches of FED a day to achieve the maximum 20 m3 of treated effluent?
In practice we are targeting six dissolution batches each day. The extra volume will be made up from caustic solution added for neutralisation in the abatement plant.
- How much NOX effluent is produced each day?
300litres per day absolute maximum. This will vary depending upon how much NOx liquors are needed to be removed from the scrubber to regulate pH. At present we are finding the dissolution reaction is clean, producing low gaseous NOx and therefore the NOx liquor pH in the scrubbers is constant, so there has not been a need to bleed and feed at all for many weeks.
- The application states that approximately twice a year the NOX liquors will bypass the FED acid bath and go straight into treatment. What volumes of NOX liquors would be involved in these bypasses?
300litres per day but in practice we would only do this in an outage situation our preferred option is re-use of the acid in dissolution.
- Are both the FED effluent and the treated (radioactive) site drainage effluent held in containment tanks before discharge so that both are tested before release and are both pumped releases controlled by the dual key system that you showed me on the site visit ?
Yes.
- Is the intention to spit the FED or other discharge across two tides within a day or to simply to discharge all in one go?
FED and other Active Effluent are never combined. Each has its own dedicated tank. Preferred option is to discharge the entire tank contents in one go. The only reason we would ever want to split the contents of a tank over the two tides would be if the pump had tripped and aborted the discharge. For example this happened today a fault on the flow proportional sample caused a trip mid discharge. Currently the FED permit specifies one discharge each day so we cannot split the tank into two tides on the one day.
- Is the intention to discharge the FED effluent and the treated (radioactive) site drainage on different tides for any reason?
They have to discharge on different tides as they are in separate tanks but share a common discharge pipeline. See comments on attached sheet.

Patrick

From: Greenwood, Bill [mailto:bill.greenwood@environment-agency.gov.uk]
Sent: 28 August 2015 15:18
To: Patrick J Haley
Subject: Some questions about the application

Hi Patrick

I would like to be clear that I have interpreted the important details of the applications correctly. The different influent sources, treatment systems and effluent streams, plus the different outlets and discharge arrangements can

be confusing. So I have devised the attached table to try and illustrate how these things can be differentiated from source to discharge. Could you please check the details in the table and let me know if I have got anything wrong and if so what the correct answer is.

In addition I have few other questions as follows:-

- The app states that 50 litres of NOX effluent will be added to a batch of 2,450 litres of acid FED bath. Does this mean that you will need to do 8 batches of FED a day to achieve the maximum 20 m3 of treated effluent?
- How much NOX effluent is produced each day?
- The application states that approximately twice a year the NOX liquors will bypass the FED acid bath and go straight into treatment. What volumes of NOX liquors would be involved in these bypasses?
- Are both the FED effluent and the treated (radioactive) site drainage effluent held in containment tanks before discharge so that both are tested before release and are both pumped releases controlled by the dual key system that you showed me on the site visit ?
- Is the intention to spit the FED or other discharge across two tides within a day or to simply to discharge all in one go?
- Is the intention to discharge the FED effluent and the treated (radioactive) site drainage on different tides for any reason?

I would be grateful for a quick response to my questions so that I can determine the application in good time.

Bill

Bill Greenwood

Water Quality Permitting Officer

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