

Subject: RE: Rivenhall - tighter limits

Reference: S1552-0710-0217

Thanks for your email. The Applicant has considered your question and has the following response.

1) For sulphur dioxide, the control system would be configured to ensure that the reduced half-hourly emission limit is met. The sulphur dioxide concentration would be measured in the raw unabated gases from the boiler and the cleaned flue gases in the stack. Both of these measurements would be used by the control system to vary the lime injection rate (feed forward control). If either measured concentration began to increase, the lime injection rate would be increased. In comparison to a plant with the typical half-hourly emission limit of 200 mg/Nm³, the lime injection rate would begin to increase at a lower measured concentration and would potentially reach a higher rate. The overall effect would be an increase in lime consumption. If this proves to be insufficient, which is not anticipated, then lime with a higher specific surface area will be used.

2) For cadmium, thallium and group 3 metals, the primary abatement technology is the bag filter. Other influencing parameters are the dust separation efficiency and the efficiency of the sorbent (activated carbon) for the metals. The applicant is confident, based on experience at other plants, that the reduced emission limits will be met with the bag filter and injection of activated carbon. However, during operation, the performance of the bag filter may deteriorate. This deterioration is mitigated by maintenance of the system. In particular, individual filter bags are replaced if they fail and the entire set of filter bags are replaced every 3-4 years. The operator would monitor the performance of the bag filter, focussing on the pressure drop over the bags, the pulse jet cleaning frequency and the total particulate concentration as well as the periodic monitoring results for metals, and would carry out maintenance accordingly. In comparison with a plant with the current emission limits for metals, it is anticipated that the condition of the bags would be monitored even more carefully and the bags would be replaced more frequently.

Kind regards,