
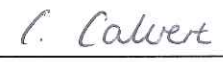



BRADWELL SITE

SILTBUSTER CAPACITY (ME A3 OT6)

BRAD/EN/REP/199

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1. Purpose

This document is in response to the Environment Agency's request to provide an operating technique to meet condition 2.3 "A3 OT6 Siltbuster Capacity" for the Mixed Effluent permit PR2TS/E10760C¹. This operating technique ensures that the volume of treated void effluent discharge is no more than 20m³ per day as stated in the Mixed Effluent permit PR2TS/E10760C.

2. Volume of Discharge Effluent Measurement

The site operates a silt buster to provide treatment for up to 20m³ per hour of voids' effluent pumped from the inlet delivery docks. The treatment reduces suspended solids and adjusts the pH of the effluent to between 6-9. Following treatment, the effluent is pumped at a rate of 20m³ per hour into the main drains pit (MDP) where it is periodically discharged into the estuary. Presently, pumping of the voids' effluent for treatment is usually carried out during and after a period of rainfall to prevent flooding of the site especially the turbine hall void. Consequently, operation of the siltbuster occurs only occasionally.

To ensure only 20m³ per day of the treated voids' effluent is pumped across into the MDP, the siltbuster will be operated for an hour in any day. This process will be controlled via management controlled procedures.

The maximum volume in the MDP is 360m³ but this is slightly reduced by the silt in the bottom. The MDP holds effluent from the sewage treatment plant (STP), surface drainage system, the reverse osmosis plant and occasionally from the silt buster. At present, discharge from the MDP is controlled by an automated system which starts pumping when the level is at 1200mm and stops when the level reaches 300mm. The operation removes 130m³ of mixed effluent during each discharge into the estuary.

To ensure the achievement of at least 6.5:1 dilution of the voids' effluent in the MDP during periods where the siltbuster is operated, pumping from the MDP to the estuary will be carried out in a manual mode. Operating the system in a manual mode ensures the removal of approximately 130m³ of the mixed effluent (including treated void effluent) into the estuary. Pumping of treated voids' effluent into the MDP will only be carried out if there is sufficient volume (minimum 130m³) of other effluents to achieve the 6.5:1 dilution. This operation will be carried out by suitably qualified and experienced personnel and controlled by management controlled procedures.

REFERENCES

- 1 Environment Agency 2016. Mixed Effluent Permit Number PR2TS/E10760C