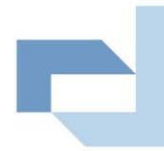


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CASTLEMARTYR WASTE WATER AGGLOMERATION

WW DISCHARGE LICENCE REVIEW APPLICATION

ATTACHMENT C.2 - MEASURES TO PREVENT UNINTENDED DISCHARGES

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1.0 EXISTING MEASURES TO PREVENT UNINTENDED DISCHARGES

Technologies:

The Inlet Pumping Station at Castlemartyr WWTP has two pumps, one duty the other standby. The Castlemartyr Bridge PS also has two pumps, one duty and one assist. In the event of power failure, the operator can connect a mobile generator to power the pumps. This enables continued wastewater and sludge treatment, thereby reducing untreated emissions from entering the receiving aqueous environment.

Techniques:

A Performance Management System (PMS) is in place at the Castlemartyr WWTP. This PMS was developed by the Water Services National Training Group (WSNTG). The PMS provides a uniform approach to dealing with all relevant performance management issues, including Independent Compliance Audits, Management of Change, Dispute Resolution, Public Relations, Emergency Procedures and Reporting Procedures.

The current operator is contractually obliged to perform the Operation of the WWTP in accordance with the Performance Management System and to maintain the design performance capability of the existing WWTP. Further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused.

These measures apply at the WWTP and to the network & pumping station.

Prevention of Pollution:

Any alteration / upgrading of the existing infrastructure undertaken shall not increase the potential to cause pollution in the environment. In particular, any alterations to the WWTP will be designed to enable any operator of the facility to prevent pollution of the environment by the following potential contaminants:

- Surface water run-off;

- Spillages;

- Solid Waste.

Toxic Substances:

The WWTP operator is to ensure that any modification or alterations to the WWTP do not increase the impact by any toxic substances. All chemicals and dangerous substances must be stored safely at all times and all appropriate safety measures must be taken to ensure against leakage and spillage in accordance with the relevant health and Safety Legislation. These measures apply at the WWTP and to the network & pumping station.

2.0 PROPOSED MEASURES TO PREVENT UNINTENDED DISCHARGES

Technologies:

The normal operation of the proposed upgraded WWTP will be fully automated. Castlemartyr WWTP will have its own automation control centre where the WWTP operation will be monitored. Telemetry/Alarms will also be available remotely to the operator's personal device when not present at the WWTP.

The Inlet Pumping Station at Castlemartyr WWTP has two pumps, one duty the other standby. The Castlemartyr Bridge Pumping Station also has two pumps, one duty, and the other assist. A generator with automatic start-up will be located onsite to power the pumps in the event of a power failure. This enables wastewater and sludge treatment to continue, thereby reducing untreated emissions entering the receiving aqueous environment.

Alarms and telemetry will be used on WWTP equipment to ensure the WWTP is operating within specified limits. Operators will be automatically notified if such limits are exceeded.

Standby equipment and provisions in the event of the power supply being interrupted, such as portable generators and equipment with automatic switchover will be provided at the proposed upgraded WWTP.

Mitigation measures to reduce the risk of plant spillages resulting in untreated effluent entering the Kiltha River have been considered throughout the design stages of the project. The potential for overflow has been minimised at each stage of the treatment process by applying appropriate control measures to reduce the likelihood of such an event occurring. The design features employed to minimise the risk of unintended discharges associated with overflow or spillages are described below.

RAS is transferred directly from the FST's into the RAS pumping station. The direct link between the two systems reduces the likelihood of a spillage in comparison to that which would be present if multiple interconnecting chambers were used. The risk of sewer flooding upstream of the WWTP is minimal. Even in the event of a complete power failure, in addition to the on-site generator failing to start and flows continuing to be received at the WwTP, all flows will still be screened prior to discharge. Hydraulic design of the main discharge pipe is based on 0.1% AER River flood level and so the risk of the WWTP being affected at high water levels in the Kiltha River is remote.

The Storm Water Overflow (SW002) is designed for use only when flows back-up and exceed FFT. At standard plant inlet flows, this would only occur if inlet pumps were to fail, which would rely on power supply to the WWTP failing, in addition to an onsite generator failure. The pumping station to tertiary treatment is fitted with an overflow system which connects to the discharge location in the Kiltha River. This will only discharge in the event of the power supply to the plant being cut and subsequent failure of onsite generators.

As noted above, there are duty / stand-by pumps present at every Pumping Station at the WWTP and so the risk of pump failure resulting in an unintended discharge is minimal. All pumping stations on the

proposed upgraded WWTP will be intrinsically hydraulically safe, with the sole exception of the return liquors pumping station. In the event that a high level is detected in this pumping station, or there is a loss of level signal, an alarm will be raised and processes that discharge to the pumping station will be temporarily inhibited to prevent out-of-chamber discharges.

The potential for an unintended release of chemicals is minimal. All chemicals are stored in bunded containers, while chemical deliveries are received in a contained area equipped to collect spillages.

The proposed upgraded WWTP has been designed to achieve a high level of hydraulic safety, and therefore presents minimal risk for unintentional spills to occur. Methods employed at individual steps in the overall process to reduce the risk of such overflows are described below.

Flows gravitate to the inlet works, the potential for overflow at this point is considered by the presence of an SWO chamber (SW002). The WwTP is designed to handle any flow that can be pumped to it from the Castlemartyr Bridge Pumping Station on the main road. In the event of the WWTP receiving flows greater than FFT, excess wastewater will pass through inlet screens into a settling tank prior to discharge to the Kiltha River. Inlet sewers have been designed to carry all flows that be carried by the network pumping station under all circumstances.

Techniques:

A Performance Management System (PMS) is in place at the Castlemartyr WWTP. This PMS was developed by the Water Services National Training Group (WSNTG). The PMS provides a uniform approach to dealing with all relevant performance management issues, including Independent Compliance Audits, Management of Change, Dispute Resolution, Public Relations, Emergency Procedures and Reporting Procedures.

The operator is obliged to perform the Operation of the WWTP in accordance with the Performance Management System and to maintain the design performance capability of the existing WWTP. Further measures planned to comply with the general principle of the basic obligations of the operator ensure that no significant pollution is caused. These measures apply at the WWTPr and to the network & Castlemartyr Bridge Pumping Station.