

GS Grab sample.

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DW When dewatering unit in operation.

DR When drying unit in operation.

### **11.4.4 Management of consumables**

#### **Chemicals Management**

The Contractor shall keep records of all chemicals used for the treatment of wastewater or sludge. The Contractor shall put procedures in place to ensure that the treatment processes are optimized, to minimize the use of chemicals.

#### **Energy Management**

The Contractor shall keep records of the hours of operation of each item of electrical plant and the total energy usage of the treatment plant. The Contractor shall put procedures in place to ensure that the treatment processes are optimized, to minimize the energy consumption.

### **11.4.5 Recording of unusual or abnormal situations**

Unusual circumstances arising from industrial disputes, accidental spillage, mechanical breakdown, power failure, stoppage for essential maintenance or abnormal weather conditions shall be noted by the Contractor in detail and taken into consideration when interpreting the analytical data from the treatment plant.

The Contractor shall notify the Employer of any unusual occurrence or incident in respect of the provision of the Operation and Maintenance Works. Notification shall be made by telephone with immediate effect and shall be followed by a written report of the occurrence or incident.

## **11.5 Maintenance of the Treatment Plant**

### **11.5.1 General**

The Contractor shall provide for the routine, planned, breakdown and repair maintenance of all assets relating to civil, mechanical, electrical and electronic plant, equipment and infrastructure at the wastewater treatment plant.

Maintenance includes measures taken in order to avoid failure of the plants and equipment in addition to repair measures in case of failure.

### **11.5.2 Maintenance programme**

The Database software for maintenance programme to be put in place by the Contractor shall be based on a recognized maintenance methodology. The Contractor shall provide a statement of the methodology he proposes to adapt to the End Recipient for approval, before developing it in detail.

The maintenance regime adopted by the Contractor shall include:

- Schedules for the maintenance of the treatment plant to include but not be limited to:
  - a complete list of the assets to be maintained
  - the frequency and type of routine and planned maintenance for each asset