Local Procedure

Business Services – Tankered Waste

Site Name	Various Sewage Treatment Works Permitted for Imports
Title	TTW Approvals Procedure
Owner's Name	Eddison Ruswa eddison.ruswa@severntrent.co.uk
Owner's Role Title	Tankered Waste Manager
Date of Next Review	March 2021
Version Number	TTWSS002.2

If this is a printed version please ensure that it is still within the current review period, if not **'DO NOT USE'** and contact your line manager for a new version.

Remember – If you can't do the job safely, don't do it.
'DO NOT CARRY OUT THE PROCEDURE'
and seek advice from your line manager

Summary of Standard

This procedure provides an insight into the various stages involved in approving a Tankered Trade Waste (TTW) which starts at the enquiry stage with a Waste Approval Form (WAF) and sample analysis, followed by calculating the risk of the waste seeking approval and then finally, the actual approval via the various stakeholders.

The document makes reference to **CWID (Commercial Waste Information Database).** CWID has been developed in-house to replace previous database / information systems (Microsoft Excel based) utilised by the TW Team. CWID is designed to provide a centralised database with tools to manage enquiries, approvals, bookings, waste receipt and management information.

Purpose of this Document

- To describe the process for the approval of tankered trade waste streams prior to acceptance into Severn Trent Sewage Treatment Works.
- To ensure that:
    - the approval process protects the operational effectiveness and compliance of STW operations therefore providing protection for the wider environment.
    - waste streams are suitable for treatment via the processes available on site.

Procedure Must Have's

- Access to relevant information / colleagues & stakeholders
- Technically Competent Persons (TCP / Qualified Chemist)
- Access to TTW documents & systems
    - CWID (Commercial Waste Information Database)

Procedure Must Do's & Don'ts

- Do ensure a suitable TCP / Qualified Technician/Chemist/Process Specialist performs TW approval
- Do ensure all aspects of possible impacts on sewage treatment processes (Inc. site loadings, waste compatibility, BioSolids, etc.) are considered during approval process
- Do ensure approvals are compliant with waste permits
- Do ensure that customers / stakeholders are kept informed during approval process
- Do consult with relevant colleagues if unsure at any time during the process
- Do ensure that the approval process is completed as swiftly as practicable

Identified Hazards

(Include health & safety, environmental, quantity & quality hazards)

- HS&W risks associated with unsuitable / volatile / hazardous waste streams.

- Damage or inhibition of sewage treatment / energy production processes and/or compliance; including waste permits, discharge consents, BioSolids, etc.
- Potential damage to the wider environment from failures of the treatment processes due to unsuitable waste streams being accepted.

Overview of the Approvals Process

- Sales Enquiry
- Waste Approval Form (WAF) review and waste enquiry analysis
- Waste enquiry risk categorisation
- Waste enquiry approval assessment
- Confirmation to the customer

Roles and Responsibilities

Key:

- Tankered Trade Waste Manager (TWM):
  - Accountable for the overall running of the approval process. The manager is not responsible for technical specifications in the approval process but works to ensure procedures are followed and technically competent persons are completing the approvals. If the manager is technically competent they can also make approvals.
- Tankered Trade Waste Process Specialist
  - Setting up and updating the approval process
  - Approving Low and Medium Risk Waste-streams
  - Reviewing WAF details to ensure they comply with our processes
  - Notifying the commercial teams when a waste-stream is technically acceptable.
  - Setting the discharge conditions for Low and Medium risk waste-streams
- Tankered Trade Waste Technicians
  - Sending samples for analysis
  - Approval Low Risk Waste-streams, if sufficiently trained. Several technicians have nearly a decade of experience and draw on this for approvals however the team has just introduced formal training with Cranfield University by taking the Biological Process course.
  - Reviewing WAF details to ensure they comply with our processes
  - Notifying the commercial teams when a waste-stream is technically acceptable.
  - Setting the discharge conditions for Low risk waste-streams, if sufficiently trained
- Commercial Team
  - Setting the price for the wastestream and informing the customer of the discharge conditions set by the technicians or process specialist. The commercial team are not permitted to set the discharge conditions nor to technically approve a wastestream regardless of the risk specification.
  - Providing the customer the WAF to complete and setting up sales opportunity on CWID.
  - Notifying the customer of the outcome of the Approval Assessment.
- Treatment & Quality
  - Can approve high risk waste streams.

Procedure

Overview of Procedure:

1. Enquiry
2. Waste Approval Form (WAF) Review
3. Sample Analysis
4. CWID Upload (Commercial Waste Information Database)
5. Waste Enquiry Risk Calculation
6. Waste Stream Approval
7. Confirmation to Customer

- Re-Approval
- Process Monitoring
- Timescales

1. Enquiry

Waste stream enquiries may be received in writing via post or e-mail, telephone or verbally by the Commercial Team. All enquires must be channelled through the Commercial Team. If enquiries are made to other members of the team they must be passed through to the Commercial team.

Enquiry details may be discussed, but no waste stream may be booked in or received unless:

- A fully completed WAF has been received
- A customer account is in place

Once a fully completed WAF has been received by the Commercial Team it is uploaded onto CWID under the relevant Opportunity.

Note: Waste stream details must be checked in CWID (or previous systems) to confirm if the waste stream has been previously accepted.

If previously received, a waste stream may be approved using the existing information held by STW subject to the following:

- *the reception of a fully completed WAF*
- *The existence of analysis data from previous loads received*

2. WAF Review

Once a completed WAF is received:

- It must be reviewed to confirm all required information is present.

- CWID must be updated with the relevant information and a copy of the WAF saved. Please note most customers now submit electronic WAFs.
- A check must be completed to ensure a customer account is in place.
- A check must be completed to ensure the requested discharge sites have the appropriate EWC code and that the description for the waste stream is specified on the permit.

Required WAF information includes:

- Producer Address
- Waste Description
- EWC code
- SIC Code
- Process of Generation
- Nature of Business
- Haulier of Waste
- Proposed acceptance sites
- Approximate tonnage & frequency
- Other relevant information i.e. COD, Suspended Solids, Ammonia, metal analysis, List I, List II and Red List substances if present etc.

The technician reviewing the WAF must contact the Commercial Team if there are any queries.

Note: If specific information is not present on the WAF, the Approval Process may continue but the waste stream MUST NOT be approved until a fully completed WAF is received and saved in CWID.

3. Sample Analysis

The sample analysis process helps ensure STW has sufficient information to properly assess a potential waste prior to acceptance.

Specific analysis and/or data collection will be dictated by the specifics of individual waste-stream and is subject to change depending on ecological risk. Presently new sales enquiries are analysed for the following determinants for liquid samples, and if the WAF indicates others waste(s) are present, these are assessed and where required, additional analysis is carried out.

Description	Units
pH	pH_unit
Suspended Solids	mg/l
BOD (2mg/l ATU) 5 day suppressed	mg/l
Ammoniacal Nitrogen as N mg/l	mg/l
Nitrite as N	mg/l
Nitrate as N	mg/l
Iron (total) as Fe (mg/l)	mg/l
Aluminium (total) as Al (mg/l)	mg/l
Cadmium (total) as Cd (mg/l)	mg/l
Chromium (total) as Cr (mg/l)	mg/l
Copper (total) as Cu (mg/l)	mg/l
Lead (Total) as Pb (mg/l)	mg/l
Nickel (total) as Ni (mg/l)	mg/l
Zinc (total) as Zn (mg/l)	mg/l
Phenols monohydric (mg/l)	mg/l
Sulphide as S (mg/l)	mg/l
Fluoride as F (mg/l)	mg/l
COD (total)	mg/l
Phosphorous total as P	mg/l
Arsenic total as As (mg/l)	mg/l
Mercury Total as Hg	mg/l
Selenium (total) as Se (mg/l)	mg Se/l
Tin (total) as Sn (mg/l)	mg Sn/l
Bromide as Br	mg/l
Cyanide excluding Iron Cyanide (mg/l)	mg/l
Antimony (total) as Sb (mg/l)	mg Sb/l
Molybdenum total mg/l	mg/l
COD 1h settled	mg/l
Sulphate as SO4	mg SO4/l
Chloride	mg Cl/l
AMTOX nitrification inhibition test 25% dilution	%
AMTOX nitrification inhibition test 10%	%
AMTOX nitrification inhibition test 1%	%
AMTOX nitrification inhibition test 0.5%	%
AMTOX nitrification inhibition test 0.1%	%
AMTOX nitrification inhibition test 5%	%
AMTOX nitrification inhibition test 50%	%
Phenols monohydric (mg/l) HPLC	mg/l

For sewage sludge (>4% thickness) and sewage cake Samples

Description	Units
Mercury (total) as Hg dry weight	mg/kg
Arsenic (total) as As dry weight	mg/kg
Selenium (total) as Se dry weight	mg/kg
pH sludges and soils	pH_unit
Nitrogen as N % Dry weight	% DW
Phosphate as P % Dry weight	% DW
Potassium as K % Dry weight	% DW
Molybdenum (total) as Mo dry weight	mg/kg
Solids Total at 105c	%
Loss on Ignition dried solids	%
Cadmium (total) as Cd dry weight	mg/kg
Chromium (total) as Cr dry weight	mg/kg
Copper (total) as Cu dry weight	mg/kg
Lead (total) as Pb dry weight	mg/kg
Nickel (total) as Ni dry weight	mg/kg
Zinc (total) as Zn dry weight	mg/kg
Sulphur as SO3 % Dry weight	% DW
Sulphur as S % Dry weight	% DW
Magnesium as MgO % Dry weight	% DW
Magnesium as Mg % Dry weight	% DW
Potassium as K2O % Dry weight	% DW
Phosphate as P2O5,% dry weight	% DW
Available Fluoride as F (mg/kg)	mg/kg

or

- The provision of sufficient information from the customer / waste producer for the approver to fully assess the possible operational and compliance impact/s of the waste stream. Sufficient information may include:
    - Extensive laboratory analysis provided by the customer may be sufficient enough for approval without a sample being submitted.
    - a detailed explanation of the waste production process and chemical components

Where a waste stream is approved on this basis; a full analysis of the first load received must be completed and the results reviewed in comparison with the expected / declared results.

4. CWID Upload

- Details of a waste enquiry must be entered onto CWID by the Sales Tech as soon as is practicable in the process. Waste Stream approvals are only valid in CWID and waste bookings will not be permitted unless the waste stream is approved within CWID and all relevant information is saved on the system.
    - As a minimum this will include all the details from a fully completed WAF and a copy of the WAF saved on the system.
- Once an enquiry is entered onto CWID, it is allocated a specific reference number which must be utilised during all future stages of waste stream approval & acceptance.

Waste bookings must be recorded in CWID.

Note - System Failure:
In the event of a system failure / power failure – deliveries may be accepted and recorded using hard copy "Tankered Waste Tickets" and the information uploaded to CWID as soon as practicable.

However, if any member of the Trade Waste team has any queries regarding the booking / approval of delivery; the delivery MUST NOT be accepted until the query can be resolved.

5. Waste Stream Risk Calculation

The risk calculator assess only the eco-toxicological risk to the treatment process and biosolids cake quality. The waste-streams are classified either as;

- **Low risk**
- **Medium risk**
- **High risk**

Hazardous Waste:

The WAF shall be completed with the following

- The Hazardous Property(s)
- The Hazard Phrases
- The Material Safety Data Sheet(s) AND/OR the COSHH form shall be submitted alongside the sales sample. Safety sheets shall be uploaded onto CWID under the wastestream.

6. Waste Stream Approval

The TW Approver will review the information provided. The request may be for acceptance at one or more STW sites. Approval for each site must be considered separately but may be confirmed by a single response.

- Approval may include comments or conditions which must be recorded on CWID & actioned prior to acceptance of the waste.
- Rejection must include reasons for rejection.

The TW Approver will update CWID Waste Stream Record for Approved and Rejected enquiries as above.

Anyone approving a waste stream must consider the following as a minimum:

- Permit Compliance
- Risk Level (from the “Risk Calculator)
- Suitability for biological treatment with regard to the current performance of the treatment process at the site being considered.
- Site Loadings / Chemical Limits
- BioSolids / BAS (Biosolids Assurance Scheme) compliance

Where the CWID Waste Stream has been set to Approved, CWID will also need the relevant Site(s) setting to Approved, otherwise a Bookings Record cannot be created.

Note
The commercial team cannot be involved in the technical approval decision making however they can provide additional information which can be used in making an approval determination.

7. Confirmation to Customer

Once a waste enquiry has been approved or rejected the TW Approvals Tech will notify the Commercial Team. The Commercial Team will then inform the customer of the outcome.

The Commercial Team will then issue conditions of disposal to the customer and the waste stream may be booked in.

Re-Approval

A waste stream approval is valid for 12 months from the point the last booking is fulfilled.

Re-approval may be granted provided that there is no significant change to the waste stream.

Approval Timescales

The approval process highest priority is to protect the environment and to maintain the highest standards in these areas, there is no pre-determined timescale by which an approval must be completed.

However in consideration of providing high service levels to our customers, the team will endeavour to complete the process (approval on CWID) within the following timescales from receipt of the a sample to the approval on CWID:

- Low Risk: 10 working days
- Medium Risk: 15 working days
- High Risk: 15 working days

Customers must be kept updated as to the progress of an approval especially where the above timescales will not be possible.

Competences

Competence for the roles within the Approval Process is based on a combination of qualifications and experience.

As a minimum:

- Low Risk Approvals
    - University Degree in a Scientific Area
    - TW experience (minimum 6 months)

- Medium Risk Approvals
    - University Degree in a Scientific Area
    - TW experience (minimum 12 months) or 12 months technical experience in the Wastewater Treatment Industry in either design, operation or commissioning.
    - Specific training below is beneficial
        - CIWM Hazardous Waste Classification
        - Cranfield University Biological Processes

Emergency Approvals

Same day approval decisions are essential in the case of emergencies, examples being, flooded motorways, overtopping lagoons or where unplanned events have affected a customer. Emergency approvals can only be sanctioned for Low Risk Wastes with guidance maximum concentrations shown below.

Emergency approvals shall not be used to circumvent the formal approval process but only for genuine emergencies.

Determinant	**Maximum Strength Guidance**
Ammonia (mg/l)	3,000
COD 1hr Settled (mg/l)	40,000
COD Total (mg/l)	60,000
Cyanide (mg/l)	0.5
pH	Check if the 200:1 dilution brings the sample into the 6 -9 range
Phenol (mg/l)	50

Please note the customer needs to provide a fully completed WAF and the sample can be collected when the waste tanker arrives on site.

Testing onsite site using the Hach Lange analyser may take up to 4 hours before the discharge is permitted.

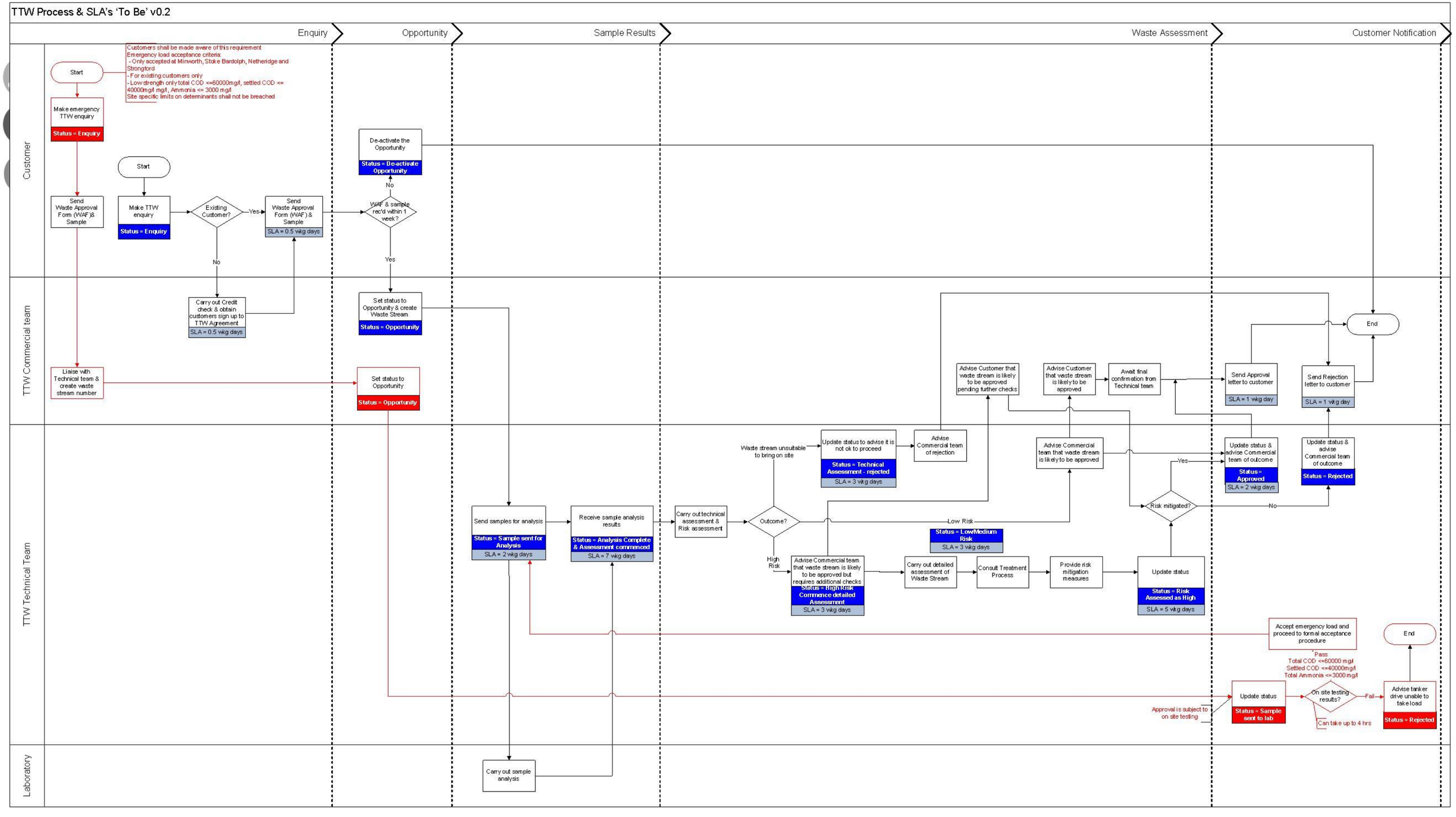
Emergency approvals can only be sanctioned by technicians/process specialist qualified to approve medium risk waste.

Even when approved the first load sample shall be sent to the lab for formal analysis and shall follow the formal approval process as detailed in the previous sections.

Seek and Share

SEVERN TRENT WATER

Overview of Waste Approval Process



References & Appendices

References

All documents listed below, are located in \\stw.intra\STW\Operations\ComServ\·Section-Wide Data

- CWID User Manual
- Customer Packs
- Blank Waste Approval Form (WAF) and red list. \\stw.intra\STW\Operations\ComServ\·Section-Wide Data\Tankered Waste\Domestic\Customer Documents
- Link to standards folder
- 5. Waste Acceptance Standards
- 4. Booking of loads Standards
- Risk Calculator \\stw.intra\STW\Operations\ComServ\·Section-Wide Data\Tankered Waste\Trade
- Respo Data \\stw.intra\STW\Operations\ComServ\·Section-Wide Data\Tankered Waste\Trade\Operational\STW Sales Information\Sales Sample Tracker\Respos

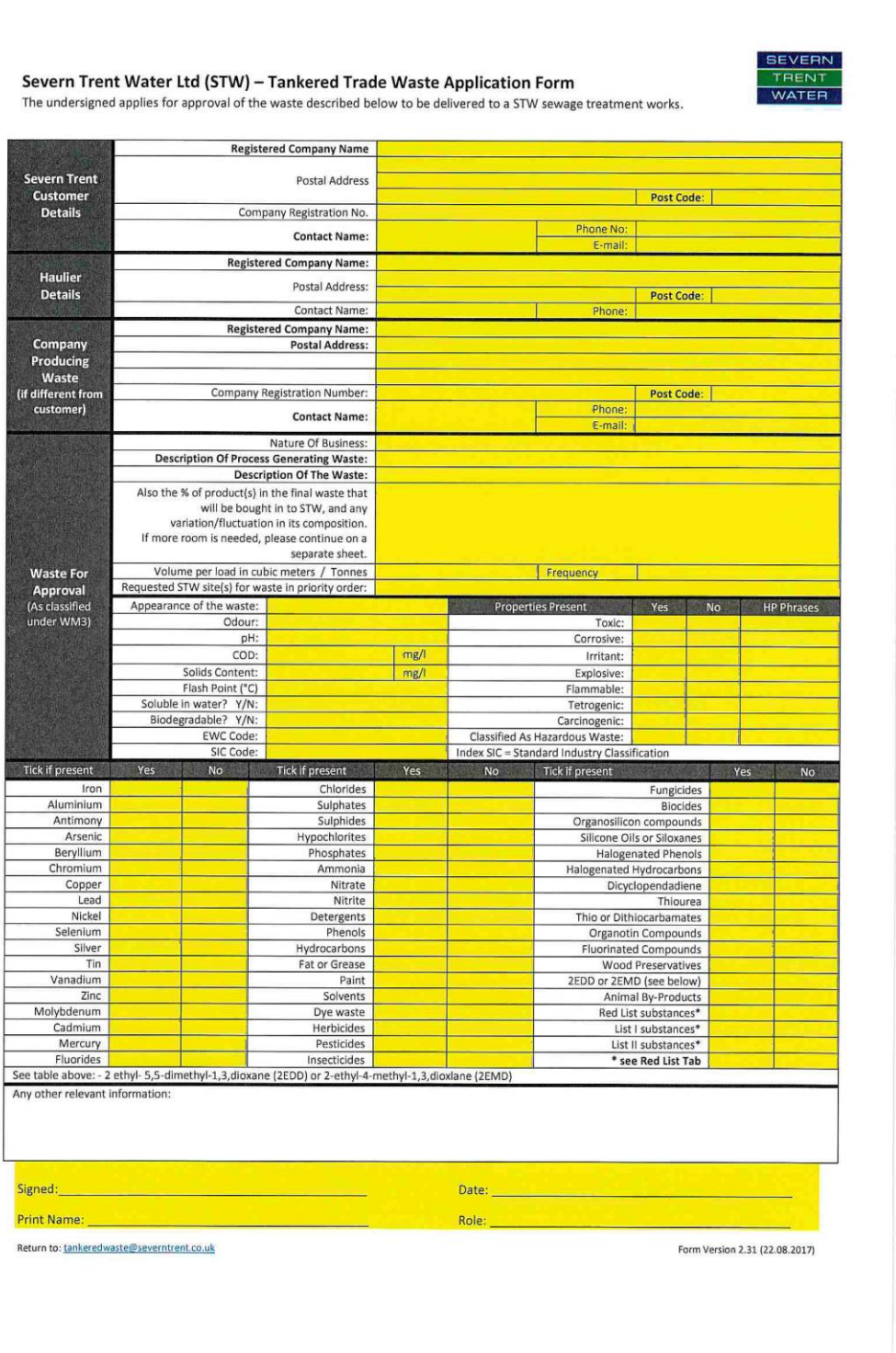
This document has been developed with reference to:

- *sections 2.1.1 and 2.1.2 of Sector Guidance Note IPPC S5.06 – Guidance for the Treatment of Hazardous and Non-Hazardous Waste;*
- *How to comply with your environmental permit, Additional Guidance for: Anaerobic Digestion – Reference LIT8737 – Report Version 1.0, November 2013.*
- *Technical Guidance WM3 – Guidance on the classification and assessment of waste.*
- *Framework for Assessing Suitability of Wastes Going to Anaerobic Digestion, Composting and Biological Treatment – Framework Guidance note, July 2013.)*

Any future variations to this procedure must reference the above documents or the latest revisions / equivalent.

Appendices

Example Waste Approval Form (WAF)



Severn Trent Water Ltd (STW) – Tankered Trade Waste Application Form

The undersigned applies for approval of the waste described below to be delivered to a STW sewage treatment works.

SEVERN TRENT WATER

Severn Trent Customer Details	**Registered Company Name**				
	Postal Address			**Post Code:**	
	Company Registration No.				
	Contact Name:		Phone No:		
			E-mail:		
Haulier Details	**Registered Company Name:**				
	Postal Address:			**Post Code:**	
	Contact Name:		Phone:		
Company Producing Waste (if different from customer)	**Registered Company Name:**				
	Postal Address:				
	Company Registration Number:			**Post Code:**	
	Contact Name:		Phone:		
			E-mail:		
Waste For Approval (As classified under WM3)	Nature Of Business:				
	Description Of Process Generating Waste:				
	Description Of The Waste:				
	Also the % of product(s) in the final waste that will be bought in to STW, and any variation/fluctuation in its composition. If more room is needed, please continue on a separate sheet.				
	Volume per load in cubic meters / Tonnes		Frequency		
	Requested STW site(s) for waste in priority order:				

Appearance of the waste:		Properties Present	Yes	No	HP Phrases
Odour:		Toxic:			
pH:		Corrosive:			
COD:	mg/l	Irritant:			
Solids Content:	mg/l	Explosive:			
Flash Point (°C)		Flammable:			
Soluble in water? Y/N:		Tetrogenic:			
Biodegradable? Y/N:		Carcinogenic:			
EWC Code:		Classified As Hazardous Waste:			
SIC Code:		Index SIC = Standard Industry Classification			

Tick if present	Yes	No	Tick if present	Yes	No	Tick if present	Yes	No
Iron			Chlorides			Fungicides		
Aluminium			Sulphates			Biocides		
Antimony			Sulphides			Organosilicon compounds		
Arsenic			Hypochlorites			Silicone Oils or Siloxanes		
Beryllium			Phosphates			Halogenated Phenols		
Chromium			Ammonia			Halogenated Hydrocarbons		
Copper			Nitrate			Dicyclopendadiene		
Lead			Nitrite			Thiourea		
Nickel			Detergents			Thio or Dithiocarbamates		
Selenium			Phenols			Organotin Compounds		
Silver			Hydrocarbons			Fluorinated Compounds		
Tin			Fat or Grease			Wood Preservatives		
Vanadium			Paint			2EDD or 2EMD (see below)		
Zinc			Solvents			Animal By-Products		
Molybdenum			Dye waste			Red List substances*		
Cadmium			Herbicides			List I substances*		
Mercury			Pesticides			List II substances*		
Fluorides			Insecticides			* see Red List Tab		

See table above: - 2 ethyl- 5,5-dimethyl-1,3,dioxane (2EDD) or 2-ethyl-4-methyl-1,3,dioxlane (2EMD)

Any other relevant information:

Signed: _____ Date: _____

Print Name: _____ Role: _____

Return to: tankeredwaste@severntrent.co.uk

Form Version 2.31 (22.08.2017)

SUBSTANCE	TICK IF PRESENT	RED LIST	LIST I	LIST II
Mercury and it's compounds		YES	YES	
Cadmium and it's compounds		YES	YES	
All isomers of Hexachlorocyclohexane		YES		
All isomers of DDT		YES	YES	
Pentachlorophenol and it's compounds		YES	YES	
Hexachlorobenzene		YES	YES	
Hexachlorobutadiene		YES	YES	
Aldrin		YES	YES	
Dieldrin		YES	YES	
Endrin		YES	YES	
Polychlorinated Biphenyls		YES		
Dichlovos		YES		YES
1,2 – Dichloroethane		YES	YES	
All isomers of Trichlorobenzene		YES	YES	
Atrazine		YES		YES
Siimazine		YES		YES
Tributyltin compounds		YES		YES
Triphenyltin compounds		YES		YES
Trifluralin		YES		YES
Fenitrothion		YES		YES
Azinphos – methyl		YES		YES
Malathion		YES		
Endosulfan		YES		YES
Chloroform			YES	
Perchloroethylene			YES	
Trichloroethylene			YES	
Carbon tetrachloride			YES	
1,1,1- Trichloroethane				YES
1,1,2- Trichloroethane				YES
2,4-D (ester)				YES
2,4-D (non-ester)				YES
2,4- Dichlorophenol				YES
2-Chlorophenol				YES
4-Chloro-3-methyl-phenol				YES
Bentazone				YES
Benzene				YES
Biphenyl				YES
Boron				YES
Chlorotoluenes				YES
Chromium				YES
Copper				YES
Cyfluthrin				YES

Demeton				YES
Dimethoate				YES
Flucofuron				YES
Iron				YES
Lead				YES
Linuron				YES
Malathion				YES
Mecoprop				YES
Mevinphos				YES
Naphthalene				YES
Nickel				YES
Omethoate				YES
PCSD's				YES
Permethrin				YES
Sulcofuron				YES
Toluene				YES
Triazphos				YES
Vanadium				YES
Xylene				YES
Zinc				YES