Subject: **IP 0004/07/C – Application for the renewal of IP 0004/07/B for the Thermal Treatment Plant operated by WasteServ Malta Ltd., Marsa**

Date: 30 April 2021

To: ERA Board

From: Environment Resources Directorate

Case officer: Gabriella Grima

1. Background

This report has been prepared for the determination of IP 0004/07/C (renewal of IP 0004/07/B) for WasteServ Malta Ltd., submitted by Mr. Richard Bilocca. In this regard, the application was received on 27th July 2018 and a consolidated application was submitted on 3rd March 2021.

The main activity at the Thermal Treatment Plant is the incinerator for animal by-products and hazardous waste, and the operation of an autoclave plant for animal by-products. The installation is covered by an IPPC Permit which is valid until the 29th of May 2021 for the carrying out of activities which fall within scope of the Activity 5.2b and 6.5 stipulated under Schedule 1 of S.L. 549.77:

> *"Disposal or recovery of waste in waste incineration plants for hazardous waste with a capacity exceeding 10 tonnes per day.*
>
> *''Disposal or recycling of animal carcases or animal waste with a treatment capacity exceeding 10 tonnes per day."*

On the 27 October 2020, the Authority was notified that a fire incident took place within the Autoclave yard which was caused by auto-ignition of bone meal stored within IBCs. The Civil Protection Department were requested to intervene in controlling the fires. Due to the fires, the installation suffered damages to equipment, which is ancillary to the use of the autoclave including the scrubber, tallow silos, piping and other electrical equipment. Since then, WasteServ Malta Ltd. have continued operation without the use of the autoclave and handling of animal by-products is taking place by direct incineration into the furnace.

2. Case Officer Report

2.1 Proposal

The application is for renewal of IP 0004/07/B. The applicant has applied for a renewal of the current permit retaining the same activities already permitted as follows but requested changes to some wastes, which were specified in the waste acceptance list by EWC codes. The changes include mainly the removal of EWC codes related to polychlorinated biphenyls [PCB] containing waste, certain solvent and ink waste, hydraulic oil. Moreover, due to the 27 October 2020 fire incident, the autoclave and its ancillary activites, which have not been in operation, have also been removed from the autorised activity list. The revised activity list listed hereunder

Table 1. The Permit Holder is authorised to carry out the activities and the associated activities specified in Table 1		
Activity listed in Schedule 1 of the Industrial Emissions (IPPC) Regulations / Associated Activity	**Description of specified activity**	**Limits of specified activity**
Waste incineration plant *"Disposal or recovery of waste in waste incineration plants for hazardous waste with a capacity exceeding 10 tonnes per day''* *''Disposal or recycling of animal carcases or animal waste with a treatment capacity exceeding 10 tonnes per day."*	Receipt, temporary storage and incineration of waste, flue-gas treatment temporary storage on site of residues generated Emissions to air will be via a 26.12 m high stack and will be minimised by cleaning the waste combustion gases as follows: Oxides of nitrogen (NOx) will be abated using Selective Non-Catalytic Reduction (SNCR)	From acceptance of waste listed in Schedule 5 to off-site recovery or disposal of residues generated. Any waste in this list that seems to be falling under a 99 code must be specifically authorised by the Authority as waste deemed acceptable to be accepted at the installation. Only wastes with a chlorine and fluorine content of less than 1% shall be accepted. Polychlorinated biphenyl (PCBs) and polychlorinated triphenyl (PCTs) composites and very stable polychlorinates shall not be accepted.

	Acid Gases will be abated using a sodium bicarbonate abatement system Dioxins, mercury and volatiles abated using activated carbon injection Particulate matter and metals abated by bag filters Usage of emergency stack	Cytotoxic or cytostatic wastes shall not be accepted. Radioactive waste shall not be accepted. Waste containing brominated flame retardants shall not be accepted. Emissions to air during normal operations and abnormal operations shall be discharged from PS1 As described in the OTNOC conditions 2.2.21 – 2.2.26
Waste heat recovery boiler and economiser	Conversion of heat within a heat exchanger	From receipt of hot air from the primary combustion chamber to delivery of cooled air.
Diesel tank farm	Storage of diesel for on-site use.	From receipt of fuel to delivery of utility.
Blood coagulator	Sterilisation of blood and separation of blood coagulum from water.	From acceptance, sterilisation of blood and incineration of blood coagulum.
Wastewater treatment plant	Treatment of all waste waters on site.	From acceptance/ generation of contaminated or potentially contaminated waste waters to discharge of treated effluent into the sewer.
Reverse Osmosis Plant	Pre-treatment of water used for boilers	From receipt of utility to treatment and reuse/disposal of brine reject
Combustions plants	bin-washing area boiler diesel emergency electricity generator (Autoclave).	From receipt of fuel to delivery of utility.

	diesel emergency electricity generator (incinerator)	
Associated activity of storage and disposal/recycling of wastes generated on site.	Handling, storage and disposal/recovery of wastes generated from installation.	From generation and storage of waste (including bottom ash and fly ash from incineration process) to disposal or recovery offsite at permitted facilities. No treatment of bottom ash and slags shall take place on site.

2.2 Proposed Emissions and Mitigation and in – process controls

Table 1 : Emission points		
Emission point reference	Source	**Mitigation Measures**
PS1	Incinerator (Main Stack)	Dry flue gas treatment includes: a. Use of Selective Non-Catalytic Reduction (SNCR) for abatement of Oxides of nitrogen (NOx) b. Use of sodium bicarbonate for abatement of acid gases c. Activated carbon injection for abatement of Dioxins, mercury and volatiles d. Bag house filter for abatement of Particulate matter and metals
PS 2	Incinerator (Emergency Stack)	No abatement
PS 3	Emergency Generator (autoclave)	No abatement
PS 4	Emergency Generator (incinerator)	No abatement
PS 5	Bin washing Boiler	No abatement

Table 1 : Emission limits to air and monitoring from PS 1					
		A	B		
Parameter[1]	**Daily limit** (mg/Nm^3)	**Half-hourly limit (100%)** (mg/m^3)	**Half-hourly limit (97%)** (mg/m^3)	**Periodic**	**Monitoring**
Total dust	5	20	5	–	**Continuous**
TOC/TVOC	10	20	10	–	
HCl	8	50	8	–	
HF	<1	4	2	–	
SO_2	35	150	40	–	
NO_x	170	350	180	–	
CO	50[2] (97%)	100 (100%)[3]		–	
NH_3	10	–	–	–	
Cadmium and Thallium and their compounds[4], expressed as cadmium (Cd) and thallium (Tl)	–	–	–	0.02 mg/m^3	**Periodic**
Mercury and its compounds[4], expressed as mercury (Hg)	–	–	–	0.005 mg/m^3	
Total Metals[4] and their compounds, (As,Cr, Co,Cu, Mn, Pb, Sb,V, Ni)	–	–	–	0.3 mg/m^3	

[1] Either none of the half-hourly values shall exceed any of the emission limit values set out in column A, or, 97 % of the half-hourly average values over the year shall not exceed any of the emission limit values set out in Column B.

[2] For CO [daily limit] at least 97% of the daily average shall not exceed the ELV

[3] For CO [half-hourly limit] all (100%) of the half-hourly average values in any 24-hour period shall not exceed the emission limit values specified [100 mg/m^3] or at least 95% of all the 10-minute average values taken in any 24-hour period do not exceed 150 mg/m^3.

[4] All average values over a sampling period of a minimum of 30 minutes and a maximum of 8 hours. Metals include both gaseous and vapour and solid phases as well as their compounds (expressed as the metal or total as specified).

PCDD/F [5]	–	–	–	0.04 ng WHO-TEQ/Nm^3	
PCDD/F + dioxin-like PCBs[5]	–	–	–	0.06 ng WHO-TEQ/Nm^3	
N_2O	–	–	–	–	
Benzo[*a*]pyrene	–	–	–	–	

Table 3: Emission Limit Values in cases of abnormal operation			
Emission Point Reference	**Parameter**	**Half hourly limit** (mg/Nm^3)	
PS1	Total Dust	150 (100%)	
	CO	100 (100%)	
	TOC	20 (100%)	10 (97%)

Table 4: Key process Parameters from Flue-gas from the incineration of waste	
Parameter	Frequency
Temperature Secondary combustion chamber and Primary combustion chamber	Continuous
Exhaust gas Flow	Continuous
Exhaust gas Oxygen	
Exhaust gas Temperature	
Exhaust gas Pressure	
Water Vapour	

Table 5: Emission limits and monitoring from indirect discharge from E1				
	Parameter	Emission Limit	Unit	Frequency
E1	pH	6-10	–	As agreed with water service corporation
	Arsenic	0.05	mg/L	
	Biological Oxygen Demand (BOD)	500	mg/L	
	Boron	2	mg/L	
	Chloride	1000	mg/L	

[5] Average values shall be measured over a sampling period of a minimum of 6 hours and a maximum of 8 hours. The emission limit value refers to the total concentration of dioxins and furans calculated using the concept of toxic equivalence in accordance with part 2 of annex VI of directive 2010/75/EU and as indicated in Schedule 9. Either the ELV for PCDD/F or the ELV for PCDD/F + dioxin-like PCBs applies.

	Chlorine	100	mg/L	
	Chromium	5	mg/L	
	Chemical Oxygen Demand (COD)	1000	mg/L	
	Copper	5	mg/L	
	Fats, Oils & Greases (FOG)	200	mg/L	
	Fluoride	10	mg/L	
	Lead	1	mg/L	
	Nickel	5	mg/L	
	Settleable Solids	20	mg/L	
	Silver	5	mg/L	
	Sulphide	10	mg/L	
	Sulphate	1000	mg/L	
	Total suspended solids (TSS)	500	mg/L	
	Total Kjeldahl Nitrogen	100	mg/L	
	Total Phosphorus	20	mg/L	
	Zinc	10	mg/L	

Table 6: TOC/ Loss on ignition of slags and bottom ashes

Parameter	Limit as per BAT	Unit	Monitoring frequency
TOC content in slags and bottom ashes	2	Dry weight-%	For bottom ashes once a month, for slags a minimum of once every three months
Loss on ignition of slags and bottom ashes	3	Dry weight-%	

2.3 Supporting documents recommended for approval

Documents: IP0004/07/C

Drawings: IP0004/07/C /DOC1

IP0004/07/C /DOC2

IP0004/07/C /DOC3

2.4 Applicable law/ policy

WasteServ Malta Ltd. carries out two main activities which fall within scope of the Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, in particular Activity 5.2b and 6.5 under Schedule 1 of S.L. 549.77:

"Disposal or recovery of waste in waste incineration plants for hazardous waste with a capacity exceeding 10 tonnes per day.

''Disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes per day."

The proposal is to comply with:

- Environment Protection Act (CAP. 549);
- The Waste Regulations (SL 549.63)
- Industrial Emissions (Framework) Regulations (S.L. 549.76)
- Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (S.L. 549.77)
- Industrial Emissions (Waste Incineration) Regulations (S.L. 549.81)
- Commission Implementing Decision (EU) 2016/902 of 30 May 2019 establishing best available techniques (BAT) conclusions, for waste incineration, under Directive 2010/75/EU of the European Parliament and of the Council
- Best available techniques (BAT) specified in the BREF for Animal by-products and slaughterhouses (published November 2003)

2.5 Site Description and Constraints

WasteServ Malta Ltd.'s Thermal Treatment facility is located adjacent to the Civil Abattoir in Albert Town, Marsa. The area surrounding the incinerator site is characterized by land uses related to the Civil Abattoir, port activities, shipyard, residential area, and government departments. A large number of buildings are vacant and abandoned. These include dwellings and garages / warehouses. The residential area is confined to the area along Triq il-Princep Bertu and Triq Dr Guzeppi Zammit, approximately 250m south of the incinerator. Approximately 270 metres south of the incinerator, along Triq ix-Xwieni, are a number of large garages. Land uses along Triq Troubridge, south of the site, include an array of commercial and residential use. To the west of the site are two large government-owned sites including the Marsa Open Centre. The buildings to the north of the site, between Triq il-Moll and Triq Garrick, are mostly abandoned. Shipyard activities are located to the north and east of the site.

2.6 Site History

The following permitting history is noted on site:

Number	Title	Status
PA 2201/01 - Incinerator	To install an incineration unit and adjacent cold store within incineration site at Public Abattoir to meet E.U standards	Approved (03 March 2006) and completed
PA 3201/07 - Incinerator	Alterations and additions to existing building - To convert it to stores and laboratory	16 January 2008
PA 5115/07 - Autoclave	Alterations and additions to existing including concrete flooring and sanctioning of boundary wall. Change of use from Stores to Temporary Waste Sorting and Storage Facility, at Xatt il-Mollijiet, Marsa	14 March 2008
PA 2928/09 - Autoclave	Demolition of existing buildings	Withdrawn by PD due to lack of submissions
PA 2585/13 – Autoclave	Construction of an autoclave as an ancillary to the MTTF	04 August 2014
IP004/07/A	New Permit	Issued 31 October 2007
IP004/07/B	Renewal & Variation to include the Autoclave	Issued 1 April 2016
	Extension of validity	Issued 29th November 2019
IP0004/07/C	Renewal	Applied 31st July 2018
OK0072/19	in relation to odour issues arising from the site's operations	Issued on 20th November 2019.

		OK0072/19 is still active
IF1122/19-F	In relation to odour nuisance	Under appeal
IF0148/20-F	In relation to odour nuisance	Under appeal

2.7 Consultations

i. Intra-ERA feedback

In relation to **biodiversity & water** there were no comments in view, that that any wastewater generated is treated and discharged to the sewerage system. There were no comments from an **environmental assessment** point of view.

With respect to **noise emissions**, an updated '*terms of reference'* for the noise monitoring was provided for inclusion within the permit. The noise team also commented as to whether a silencer can be placed on the ID-fan and stack of the incinerator as per the recommendations provided in 2014 by an independent study, which WSM provided as part of the application. However, it was agreed that such issues will be tackled depending of the outcome of the subsequent noise monitoring required.

With respect to the aspects relating to **ambient air quality**, it was commented that the Annual Environmental Report in the permit needs to be amended in order to aid in the compilation of the inventory including:

1. Reporting of the waste gas flow normalized to the conditions at which the pollutant concentrations are reported.
2. Reporting of the total loads emitted in kg or tons for all the pollutants they are required to measure by the permit.

The requested data requirements has been included in the revised permit.

In relation to the permit conditions, the air team sought further clarification with respect the sampling frequency of dioxins and furans, in view of ERA's reporting obligation in relation to persistent organic pollutants (POPs). In this regard, as per WSM's response in the Best Available Techniques (BAT) conclusions for waste incineration assessment, the intention is to carry out short-term sampling. It was also queried as to whether it would be possible that monitoring emissions from the various heavy metals is carried out individually for the air inventory purposes. Is to be noted that, the current permit already requires that the individual contribution each metal in air emissions from the incinerator. However, when it came to

reporting the sum total of metal concentration was being reported in view that the emission limit on which compliance is assessed applies to the sum total concentration not the individual metal concentration. Notwithstanding the AER of the proposed permit has been revised to ensure that all the aforementioned requested reporting requirements in relation to ambient air quality are catered for the proposed permit.

In terms of **waste**, input was provided in relation to ongoing discussions between CED and the waste team on a study on the bottom ash (as part of the improvement programme item IP0004/07/B). Through these discussions, the ERA provided guidance on the procedure to follow for the purposes of carrying out such tests on such material. In this regard, a procedure for the methodology for bottom ash characterisation was submitted as part of the application, on which a number of minor amendments were requested. The aforementioned procedure is proposed to be included as an approved document (IP0004/07/DOC3). Additionally, the conditions within the permit have been amended to reflect the methodology and necessary requirements of the Best Available Techniques (BAT) conclusions for waste incineration and the numerous environmental acquis related to the handling and disposal of such waste.

Furthermore it was remarked that based on the current technical specifications of the facility, any waste containing PCBs, particularly the following EWC codes 13 01 01* (hydraulic oils, containing PCBs) and 13 03 01* (insulating or heat transmission oils containing PCBs) should be removed from schedule detailing the listed waste streams by EWCs that can be accepted on site, which are reflected in the proposed permit. This request was made, in view that the facility is not able to reach the required temperature of 1100°C for the destruction of such a waste stream as the incinerator has a declared attainable temperature of 900°C. Furthermore, waste team also requested minor updates to the waste acceptance procedure, which are also reflected in the proposed permit.

During the processing of the renewal application, a number of clarifications and requests were requested by the **Compliance & Enforcement Directorate**, on matters relating to WSM's replies provided in the application. Particularly in relation to the submission of the Best Available Techniques on waste incineration on bottom ash treatment, on waste acceptance, waste water issues, odour emissions and the quoted air emissions and adherence to revised emission limit values as quoted by the BAT document. No specific issues with the air emissions were identified at the time during the BAT appraisal and review. Following multiple resubmissions of documentation, CED replied that they had no further comments. At application stage, feedback in relation to exceedances, to limits in relation to sewer discharges was provided.

The recent **compliance status** can be summarized as follows:

Annual environmental reports (AER) from 2016 till 2019 have been submitted. For the 2019 AER, ERA had requested clarifications solely on the waste reporting, and revised waste records were submitted on 13th July 2020. Cesspit and weighbridge certifications these have been also been submitted in line with the permit requirements.

Exceedance in the discharges to sewer were noted for a number of parameters were again noted in the latest of 2019 as in previous years. When informing Water Services corporation (WSC) on the above, WSC had informed ERA that they are aware of the situation and that is due to the fact that the Autoclave is not connected to the on-site Waste Water Treatment Plant (WWTP). Discussions are ongoing between both entities to find a solution.

With respect to the emissions to air, it was remarked that based on 2019 data the autoclave boiler emissions were in line with the stipulated limits of the permit. It was also noted from the 2019 data, that for PS1 incinerator emissions, several exceedances were recorded throughout the year. Notwithstanding, the analysis resulted to be inconclusive when determining compliance with the permit conditions, as the overall compliance is assessed against three different emission limit values i.e. daily average, half-hourly values (100%), & half-hourly values (97%) and the reporting provided is not in the required format to determine compliance. However, the current permit conditions require WSM to notify the Authority when exceedances are recorded, which from the notifications being received by ERA, such procedure are followed. In addition, the AER requires WSM to submit monthly averages, which are not adequate to assess compliance with the aforementioned limit values. In view of the above, it is recommended that the reporting requirements within the permit are being updating to reflect the Industrial Emissions (Waste Incineration) Regulations S.L.549.81 obligations.

On the **odour issues** on site, CED highlighted the significant problems in terms of odour management, which intensified from 2018 onwards. Besides the long-standing odour issues at the incinerator building and fridge, inadequate waste storage practices of animal by-product waste prior to treatment; there were in recent years odour issues arising from components of the Autoclave Plant. In this regard, WSM had commissioned an independent consultant to identify the odour sources and come up with potential solutions.

The site has been subject to numerous **complaints** over the years in relation to odour, some of which attracted media attention. In 2020 alone, 30 complaints were

registered from various constituents and entities in the surroundings. In 2021, no odour complaints have been received thus far.

Further to the matter of odour nuisance, the site is under active enforcement proceedings in relation to **OK0072/19 in relation to odour issues arising from the site's operations**, issued on 20th November 2019. Moreover, two separate administrative fines related to odour nuisance were served to WSM both of which are currently under appeal. The first one is IF1122/19-F issued as effective on 20th May 2020 following an ERA Board hearing for €1,200. The second one, IF0148/20-F issued as effective on 14th May 2020 for €1,200.

Moreover the **Compliance & Enforcement Directorate**, requested certain clarifications and minor amendments to permit which are reflected in the proposed permit.

The following feedback was provided in relation to the improvement programme item:

IP item No.	Description	Status
2	Submission of monitoring data from plant acceptance tests related to solvent storage and solvent line.	The plans for using such a set up were scrapped shortly after issuance of the second permit (IP0004/07/B). Thus IP item no longer relevant.
11	Submission of air emissions improvement plan.	While various details on air emissions abatement have been provided by Wasteserv over time and throughout the renewal process, records the actual consolidated plan required by IP Item has never been submitted.
12	Implementation of approved air emissions improvement plan.	Not implemented in view that IP 11 was not submitted
13	Related to a number of submissions in relation to waste water treatment plan	Only partially fulfilled. Notwithstanding this issue is being handled directly between WSM and WSC.
14	Submission of land and groundwater risk assessment, and if required, a monitoring	The submission of the risk assessment only is fulfilled. Baseline report is being

	strategy and baseline report in line with European Commission.	recommended for inclusion as an improvement programme item in proposed permit.
15	the certification from a competent company or engineer that the relevant fire safety procedures and equipment are in place, including emergency firefighting water supplies for use by the Civil Protection Department	Addressed
16	Submission for proposal for treatment of bottom ash prior to landfilling	Addressed, notwithstanding there is still ongoing discussion on the pre-treatment of bottom ash.
17	Authorisation from the Regulator for Energy and Water Services (REWS) for operations and for the storage of fuels, oils and other liquids not mentioned in Regulation 2 of LN 53 of 2010.	Addressed
18	Certification by an independent warranted civil engineer or engineer that the engineered site containment, cesspit and drainage systems	Addressed.
19	Certification by an independent warranted engineer that the pipes, pumps, valves and flanges forming part of the diesel transfer system are leakproof.	Addressed
20	Implementation of conditions imposed by Water Services Corporation in 'no objection' letter dated 13th August 2015 (as found in Schedule 7 of the permit) and the related Voluntary Undertaking agreement.	Tackled directly between WSM, WSC and discussions ongoing.

21	Submission of an updated plan of the sewage system of the installation.	Addressed
22	The compilation of ozone depleting substances equipment registration form	Addressed
23	The submission of a maintenance programme for all plant in the installation	Addressed.
24	Submission of an update to the noise report	Addressed
25	Submission of updated list of delegate TCPs and their CVs and contact details	Addressed

Furthermore, the **Compliance & Enforcement Directorate stated they there is no objection to the granting of the permit.**

ii. Feedback from External consultees

The **Water Services Corporation (WSC)** commented on a number of sewer discharge related issues as follows:

1) On compliance with the Sewer Discharge Control Regulations (S.L.545.08)

Both sites (autoclave and the incinerator together comprising of the MTTF) are still not covered by a Public Sewer Discharge Permit. At the time, WSC indicated that the IPPC permit should include clear timeframes by when Wasteserv will have to fully comply with the Sewer Discharge Control Regulations. On this note and also in relation to improvement programme item no 20 of IP0004/07/B it was remarked that the voluntary undertaking is no longer being considered given the fact that only the Autoclave waste water is being treated whilst the waste water from the TTF is still being discharged 'raw'. It was remarked that Wasteserv is to commit with a fixed deadline to treating the wastewater from the TTF pit either through a separate treatment plant or by diverting the wastewater to the autoclave STP.

In this respect, ERA requested that WSM provide a status update on measures being taken to achieve compliance with the Sewer Discharge Control Regulations (S.L. 545.08). WSM remarked that the on-site WWTP equipment

had undergone major upgrades to address issues during commissioning in Q4 of 2019. At the time, the Operator implied that by March 2020 the sewer discharge will be in line within the legal parameters. At the time, WSC positively noted the efforts which were made by WSM to upgrade the WWTP and also to connect the TTF pit to the on-site wastewater treatment plant (WWTP). Notwithstanding, WSC still expressed concerns on the discharge practices of untreated wastewater from the site and set a target of 31 May 2020 for adherence to the Sewer Discharge Control Regulations (S.L. 545.08).

Following the elapse of 31 May 2020 target, a number of extensions were granted by WSC to WSM by when adherence to S.L.545.08 was expected. However, due to COVID-19 limitations as well as the major fire incident which took place in October 2020, WSM reiterated that they shall be reinitiating the sewer discharge permit process with a view of attaining the required authorization from WSC. WSC confirmed that sampling from the final effluent is scheduled for April 2021 taking into consideration that currently only TTF effluent is being treated. If results of the analysis are conformant to the requirements, a Public Sewer Discharge Permit will be issued with the condition that when the autoclave is back in operation the sampling will need to be repeated to confirm that effluent quality is maintained.

In view of the long-standing issues, constant developments on the matter especially in-view that the operations of the Autoclave have been temporarily ceased, in addition to the direct discussion between WSC and WSM on the matter, it was agreed that matters in relation to sewer discharges will be tackled between both entities and such the aforementioned compliance with S.L. 545.08 timeframe initially requested by WSC does not need to feature in the proposed permit.

2) WSC had also requested that any culverts (located in non-contaminated areas) exposed to rain water which are connected to sewer shall be redirected to road or public thoroughfare as per BRO Technical Guidance Document F requirements. Additionally it was requested the any drawing reflect the current set-up set up as well as discrepancies noted by the Planning Authority

On this matter, WSM submitted the requested updated to the site layout and sewer discharge contingency plans in the event of failure of the WWTP shut down, notwithstanding until the time of writing of this report they are not to the satisfaction of WSC. Recently the WSC have recently requested that rainwater gutters near security room & main gate to be rerouted to road surface. Thus, an improvement programme item in relation the submission of the discharge layout following the re-routing listed has been included in the proposed permit.

Moreover, during the processing of the renewal discussion were on-going between WSC and WSM for the installation on-line final effluent monitoring equipment as opposed to the current practice of grab samples. In this regard, WSC have informed ERA that they have directed WSM to install such equipment. In light of this, following discussion with WSC an improvement programme item it proposed to be included for the installation of automated monitoring for sewer discharges.

In terms of the permit, WSC requested that permit is updated with reference to the legislation and that the reported in-direct discharges parameters comprises an updated parameter list. It was also agreed that the permit conditions and schedule referring to the voluntary undertaking between WSC and WSM in the previous permit could be removed from the proposed permit, following a query posed by ERA. WSC agreed with the conditions, reporting requirements, improvements programme timeframes as well the recommended amendment to a timeframe proposed by WSM in relation to discharges to sewer.

The **Regulator for Energy and Water Services (REWS**) commented that the unauthorised Petroleum Filling Station (Commercial Site) was present on site and requested the operator to commit to either obtain the necessary REWS authorization or proceed with the decommissioning of this fuel storage within a reasonable period. WSM remarked that they shall discontinue the use of the fuel dispenser and shall pursue its decommissioning by end of March 2021. In this regard, REWS commented that it shall be following up on the matter directly with the Operator. REWS stated they had no further comments and have no objection to the permit renewal.

The **Occupational Health and Safety Authority (OHSA)** noted that from the information supplied by the applicant, the quantities of dangerous substances stored at stored on site do not classify the site as a COMAH establishment under, the Control of Major Accident Hazards Regulations (S.L.424.19). It was remarked issues identified during an OHSA inspection on site were addressed and thus OHSA finds no objection to the renewal of the permit as long as the operator/employer conforms to all applicable OHSA regulations.

The **Civil Protection Directorate (CPD)** commented that WSM should ensure that their emergency plan is updated and to ensure the following fire safety requirements are maintained;

a) Good fire brigade access.
b) The private fire hydrant system is regularly maintained

c) The water reservoir is full and topped with water.

In this regard WSM had stated that such requirements are already in place and at the time CPD had no further comments. Following the 27 October 2020 fire incident at the site, it remarked that the aforementioned requirements that CPD highlighted will be constantly revisited by CPD. To this effect, CPD highlighted that the Operator must ensure that such recommendations are put into practice. In addition to above requirements, CPD also detailed the following additional requirements;

a) Hydrant valves are maintained and not blocked
b) The firefighting system must be maintained
c) No surface water is harvested for firefighting water
d) WSM to ensure that personnel capable of operating the manual fire pump are to be at all times during operating hours

The above listed requirements have been included in the proposed permit as a specific condition and an improvement programme item related to fire safety and emergency preparedness which are to be enforced by CPD are included in the proposed permit. CPD agreed with the suggested inclusions.

The **Environmental Health Directorate** (EHD) provided generic comments with respect to pest control, nuisances and complaints, which are reflected in the proposed permit. In subsequent consultations, it was remarked that no water runoff or litter is to exit the site, which is already an existing permit condition and is retained in the proposed permit. The EHD also queried whether the cooling tower in the autoclave building was in line with the Control of Legionella Control Regulations (S.L.465.03). It was clarified by the Operator that the cooling tower in question is an air-cooled condenser and thus no water aerosol is generated. Finally, EHD also commented in relation to the use of the second-class water, its treatment and methodology to be applied if this water is used for irrigation purposes. A specific condition specifying that second class water is to be treated with chlorine has been included in the permit. EHD were satisfied with the replies and proposal submitted by WSM and ERA respectively, and had no further comments on the application nor the permit.

The Planning Authority during application stage commented that there were a number of discrepancies in the sewage network plan provided and those submitted to the PA and as per PA 2585/13/170A. In this regard WSM submitted the drawings available, however PA provided no subsequent comments following the submissions were put forward during various subsequent consultation on the application and permit.

The **Malta Competition and Consumer Affairs Authority** stated they had no comments with respect to the application.

The **Energy and Water Agency**, remarked that they did not have comments on the application from an Energy and water perspective.

The Veterinary regulation directorate and the **Malta Resources Authority** did not provide feedback on the application and nor the permit.

iii. Feedback from the operator

Consultation regarding the permit was carried out with the Applicant following which several comments were received by the Authority. Of particular note, the following pertinent points were provided:

1) Operator Feedback: Operator requested that limits in sewer discharge regulations (S.L. 545.08) are provided as opposed to the indirect discharge limits provide in the BAT conclusions for Animal By-products and Slaughterhouses.

   ERD reply: In consultation with Water Services Corporation, it was recommended that the limits in sewer discharge regulations should be adhered to. The indirect discharges included in the Animal By-products and Slaughterhouses, are significantly more stringent particular on biological oxygen demand and chemical oxygen demand, which are notoriously problematic at the facility. The BAT itself also acknowledges that the indicative BAT-AELs specified may not even be attainable. The aforementioned BREF is currently undergoing Seville-process mandated review, which is spearheaded by CION. In view of this, ERD proposes that the limits stated in S.L. 545.08 are provided, until such time that the review is finalized and the common implementing decision published.

2) Operator Feedback: Requested that maximum storage capacities for each EWC code in the waste acceptance list attached to Schedule in the permit would not be operationally practical, this is especially in view of ABP waste and clinical waste, the latter of which increased sustainably during the COVID-19 pandemic more than their projected targets. The operator requested some operational flexibility especially in lieu of certain waste for other waste-management sites do not accept.

   ERD reply: The directorate is proposing the inclusion of the maximum storage capacities should be included in the permit.

3) The Operator also requested a revision in certain timeframes for IP items.

   ERD Reply: The timeframes have been adjusted accordingly in the proposed timeframes.

4) Feedback was also provided by the Operator in relation to fire safety concerns mentioned by CPD especially in relation to the fire incident.

5) The Operator requested a revision of the of the emission limits values proposed in the permit for stack emissions emanating from the incinerator. A subsequent request for revision was submitted on 14th April 2021 in view of an anomaly which was noted by WSM in the reported values which were the basis on which ERA revised the emission limit values in the proposed permit.

   ERD reply: The initial ELVs indicated in the draft permit for consultation, were based on the replies from the Operator, in some cases, the strictest ELV within the BAT-AEL was declared to be achievable. Following discussions with the Operator, the daily limits were revised such that a higher limit is indicated but nonetheless still within the prescribed range of the BAT. Following the latest request, the proposed emission limit values were once again updated to reflect less stringent ELVs, following an arithmetic anomalies for the calculation of the daily reported values on which the revised ELVs were based.

6) The Operator requested the removal of a number of EWC codes related to 13 01 waste hydraulic oils, 13 02 waste engine, gear and lubricating oils and 13 03 waste insulating and heat transmissions oils.

   ERD reply: Such a request has been reflected in the updated permit.

7) Operator Feedback: The Operator also requested a revision of the permit such that surrogate parameter monitoring takes places instead of dilute olfactometry, which was the standard practice, carried out the WSM. The Operator also requested that two representatives from Wasteserv would be present in case of odour panel monitoring as opposed to one representative.

   ERD reply: With respect to the request for an additional representative from the WSM to part of the odour panel, the ERD believes that the Authority should accommodate such a request, and thus is reflected in the proposed permit. With regards to the surrogate parameter monitoring request this has been included an improvement programme item, in which a method statement is to be submitted prior to initiation. In tandem, the proposed permit also include odour panel monitoring and dilute olfactometry monitoring which can be requested by the Authority as needed and when deemed necessary.

8) Operator Feedback: The Operator queried on the requirements relating to the number of auxiliary burners which need to be installed, were the Authority informed the Operator that there is an obligation to fulfil the requirement of 11 (3a) of the Industrial Emissions (Waste Incineration) regulations, S.L.549.81.

9) The Operator also requested changes in timeframes, which respect to certain improvement programme items, which were acceptable to the Authority.

10) The Operator also provided the Authority with an updated approved doc IP0004/04/C/DOC1, which includes further details on the improvements on site.

11) The Operator additionally requested minor clarifications, and amendments to certain conditions, which are addressed in the proposed permit.

Updated approved documents were provided as requested by the Authority. Some updates to conditions were also made. In view of substantial updates, which were made to the permit, the permit was once again provided to the Operator for comments on the 16th April 2021 and replies were provided on 29th April 2021

2.8 Representations from public

i. **Public consultation dates:** 6th March 2021 to the 20th March 2021

ii. **Responses received:** No public comments received.

2.9 Discussion

The Thermal Treatment Facility carries out two activities which fall within scope of the Industrial Emissions (Integrated Pollution Prevention and Control) Regulations, in particular Activity 5.2b and 6.5 under Schedule 1 of S.L. 549.77:

"Disposal or recovery of waste in waste incineration plants for hazardous waste with a capacity exceeding 10 tonnes per day.

''Disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes per day."

The Thermal Treatment Facility, at Marsa, was originally designed by the Veterinary Services to incinerate 12,910 tonnes of animal and food derived waste only. This volume

of waste was necessary to ensure that the incinerator would operate all year round stopping only for routine maintenance. Due to the low calorific value of these waste streams, a large amount of diesel fuel would need to be used on a daily basis to operate the incinerator. In February 2007, an application was submitted for the consideration of the thermal treatment plan as a hazardous waste incinerator application IP004/07/A, which was determined on 31st October 2007. An application for the renewal and variation of the IPPC permit was submitted on 30 June 2011. The variation included the change in site boundary, installation of autoclave, variation to list of permitted waste, waste delivery times, waste acceptance procedures. The application was determined on18 February 2016 and granted on 1st April 2018. The expiry of IP0004/07/B was 1st April 2018. The operator submitted a requested for renewal of the permit and for the extension of validity of IP0004/07/B on 27th July 2018. Following the ERA Board of 24 August 2018, it was determined that the extension of validity can be granted subject to an administrative fine of €10,000. The extension of validity was issued on 29th November 2019 and expires on 29th May 2021.

With respect to the renewal application a statutory consultation as required by S.L. 549.77 Industrial Emissions (Integrated Pollution Prevention and Control) Regulations carried out for the application of renewal (application IP0004/07/C) between 24th April 2019 till 15th May 2019 , between 13th January 2020 till January 27 2020 , between 11th May 2020 till 25th May 2020, between 11th march till 20th march and 29th march till 2nd April 2021. A request for the consolidated application was requested by ERA on 29th October 2020 in which it was submitted on 16th February 2021 and resubmitted on 4th March 2021 which enabled initiation of the public consultation between the 6th March 2021 and 20th March 2021. No comments were received from the public.

In view of the fire on 27 October 2020, which rendered the autoclave and certain ancillary equipment inoperable, the Authority has removed such an authorised activity until such time the improvements listed hereunder (approved doc IP0004/07/C/DOC1) and variation is applied for and granted. In this regard, the Permit holder has provided an addendum to the application with details as to how further abatement equipment associated with use of the autoclave shall be implemented. Such improvements are being proposed for inclusion as part of the Improvement programme together with the submission of an application for variation of the IPPC permit to cater for the proposed changes. The current boiler which is associated with the operation of the autoclave shall also be replaced and the Directorate is proposing the inclusion of an improvement programme item related to the dismantling of the boiler and the registration of the new boiler in line with the requirements of S.L. 549.122.

During the processing of the application, the Commission Implementing Decision (EU) 2019/2010 establishing the Best available techniques (BAT) conclusions for waste incineration was published on 12 November 2019. The Operator carried out an appraisal

with the BAT conclusions. To this effect, based on the replies on the statutory consultees and ERA's assessment for the most part the requirements are duly fulfilled. Notwithstanding, the Directorate is seeking further work and improvements to be carried out by the Operator through the proposed improvement programme items. In particular a performance test in relation to the boiler efficiency is proposed to substantiate the Operator's calculated method of energy efficiency. From the calculated method provided the boiler efficiency is in line with the BAT-AEL. On other another note a 'start-up and shut plan' and submission of an 'other than normal operating conditions' (OTNOC) plan is being requested to complement requirements emanating from the BAT conclusions.

Notwithstanding, there are techniques recommended by BAT particularly on automated control systems and automated reagent dosing systems which need to be assessed further. On this aspect, the operator indicated that the incineration system is currently reaching its end of lifetime cycle. Replacing the control system would involve heavy investment that would amount to 50% of replacing the existing equipment. WSM remarked that further studies would be undertaken to evaluate the feasibility and technical viability of executing the required modifications to meet the latest BAT's requirements. WSM remarked at the time the main foreseeable issues were:

a) The possibility of stopping the incineration process until the necessary installation, testing, tweaking and commissioning process is done.
b) The need to retrofit advanced technologies that are compatible with obsolete systems.
c) The ability to adopt the old technologies to new systems without affecting the integrity of the process.

To this effect, an improvement programme (item 26) is being proposed in which submission of a complete assessment of plant operations with legislative requirements is being requested. In furtherance to the above, the air emission limit values stipulated in the permit were revised in accordance to the replies provided in the BAT appraisal and following discussion with the Operator, parameters and associated emission limit values have been revised based on the past air emission data provided and the BAT-AEL. From the latest feedback provided by the operator, following a revision of the 2020 reported values, in 2020 the preliminary indication is that the ELV for ammonia is being exceeded, potentially due to urea injection as part of the NOx abatement.

WSM has for the most part fulfilled the improvement programme item in IP0004/07/B, with the exception of improvement programme item 11 relating to air emissions. I. In this regard, WSM had also indicated that they had commissioned a third party company to upgrade the existing waste to air mixture to ensure complete combustion of the waste. The secondary air ventilation system has been redesigned to allow better mixtures and uniform temperatures, lower flue gas volumes and better treatment. WSM had also stated

at the time, that they are committed to enhance the current air improvement plan to meet the requirements in the BATs. Following, the latest compliance update provided in April 2021 in which CED remarked that the air emissions of 2019 were not satisfactory, an improvement programme item (item 26) requesting an assessment of the air emissions to ensure that the facilities compliance status is in line with BAT requirements, is being requested.

In view of these shortcomings, the permit has been substantially revised to include specific requirements on all aspects in relation to air monitoring including specific standards to be utilized for calibration as well for mandated periodic monitoring. Specific conditions were also included in relation to data handling, data validity and assessment of compliance with the permit from the requirements stemming from the Industrial emissions (waste incineration) regulations S.L. 549.81. In relation to reporting requirements for air emissions, the proposed permit requires the operator to submit monthly data, especially in view that the air compliance assessment was stated to be inconclusive. The proposed reporting mechanism, would give the Authority a clearer picture of the air emission scenario with regards to facility to ensure that by 2023 (which is deadline for implementation as permit conditions required by BAT), such issues can be fully tackled.

Some improvement programme items relating and enforeced by Water Services Corporation (WSC) have been removed, in agreement with WSC in view that such requirements are being dealt with directly between both entities and a number of the enlsited requirements which albeit pending according to CED have now become redunant due on-going developments with respect to waste water treatment on-site. To this effect an improvement programme relating to the requirement for the installation of on-line monitoring equipment for in-direct discharges at the request of WSC has been included in the permit. Additionaly, in view of further changes which were recently requested by WSC, the operator is being requested to submitted the necessary plans once the requested changes are effected. This requirement is also been proposed as an improvement programme item.

On the matters relating to odour, the Operator was made aware that ERA was not satisfied with odour management practices on site. ERA instructed WSM that odour issues need to be taken seriously and concrete measures to control odours need to be presented and implemented. Such measure were to include both short-term and long-term mitigation measures. To this effect, WSM had commissioned a consultant, which provided ERA with an odour impact assessment as well as proposals addressing aimed at reducing odours from the site.

In furtherance to the above, the operator has submitted an update to the renewal application which included a proposal for air abatement in relation to the eventual operation of the autoclave and odour improvement mitigation measures, which will be

commissioned in Q2 of 2022. The former is being included as approved doc (IP004/07/DOC1) as part of the proposed permit and details further upgrades to the installation with the aim of improving odour issues on-site. With respect to the listed odour mitigation measures which were triggered off from OK0072/19, but were also included as part of the application documentation, some of these measures have already been implemented. Such improvements included; upgrades to the air scrubber (affected by the fire incident and to be replaced), wastewater treatment plant, and increased storage capacity of incoming waste in refrigerated reefers which have been put in place by 31 March 2021. The latter of which is deemed essential for the storage of animal by-products. In terms of future improvements on site, this consolidates future work, and any pending updates from the proposal which was submitted through OK0072/19. It is to be noted will be subject to a variation, separate from this renewal application shall consist of extensive infrastructural upgrades:

a) Shredder room
b) Waste marshalling area
c) Vents of tallow silos
d) Installation of chemical scrubber or ioniser (to replace fire damaged scrubber)
e) Installation of thermal oxidiser

Tn particular, The installation of an enclosed waste Marshalling Area, with adequate re-routing and treatment of odorous air , will ensure that animal-by products awaiting incineration shall be stored an enclosed area. All the above listed improvements are expected to improve odour nuisances noted at the site once these are implemented. To this effect, an improvement programme is proposed in the permit. In tandem pre-operational conditions are proposed such that the autoclave is not put into operation until such time such improvements are in place, and the authorization is granted.

In terms of odour monitoring requirements, which are not included in the current permit, the Directorate is proposing a tiered approach that includes surrogate parameter monitoring, dilute olfactometry monitoring and odour panel monitoring. The improvement programme item on surrogate parameter monitoring in relation to odour is being proposed as part of the permit. Dilute olfactometry monitoring and odour panel monitoring requirements, can be requested by the Authority as deemed necessary. Such monitoring will feed into iterations which may be needed in the odour management plan, as well as remedial action to be proposed by the Operator during the lifetime of the proposed permit in case odours issues are not addressed to the satisfaction of the Authority.

On improvement item 35, which related to the certification that the relevant fire safety procedures and equipment at the facility, the current permit also included such a requirement and this was deemed fulfilled on March 2016. In view of the comments

raised by the CPD in the light of the fire incident, the proposed permit includes the reinstatement of the fire safety certification as part of the proposed permit for the Civil Protection Department's perusal and assessment.

On the improvement programme item related to the land and groundwater risk assessment, this was submitted in November 2016. From the report it was indicated that land and groundwater baseline testing would be required. In this regard, following the delay WSM were requested to indicate whether any amendments/improvements have been carried out at the facility, which may have affected the risk factor indicated in the report. To this effect, it was agreed that the submission of the baseline report following the testing is to be include as part of the improvement programme items. In view of various incidents, and upgrades to the plant which were made which may have a bearing on the risk assessment which was carried out, an addendum to the risk assessment is being requested prior to the submissions of the method to reflect updated practices on site.

With respect to the medium combustion plants on site, during the site visit on 18th March 2021 the operator remarked the existing autoclave boiler will be decommissioned an replaced by a new boiler. The operator was requested to withdraw the application of renewal of the aforementioned medium combustion plant. Two improvement programme items related to the decommissioning of the exiting autoclave boiler and the registration of the new autoclave boiler are being proposed for inclusion in the improvement programme item. The Operator also applied for the renewal of the diesel generator, which falls within scope of the medium combustion plant regulations (S.L. 549.122). The pervious permit did not include air emission monitoring for such, the emissions limits proposed in the permit are in line with 549.122.

From discussions with the operator, the following are noted as issues requiring improvement at the facility to ensure adherence with to the Industrial Emission (Waste Incineration) Regulations, S.L.549.81

a) Regulation 7 (5a) states that adequate storage capacity should be in place for the adequate collection and were necessary treatment prior to discharge of contaminated fire-fighting water. Additionally, the storage capacity shall be adequate to ensure that such waters can be tested and treated before discharge where necessary.

   Whilst it is argued that fire-fighting water could be stored within the various bunded arrangements in the different localized areas, a dedicated area for contaminated fire-water storage is not in indicated to be in place. The contaminated fire-fighting water is currently directed to the wastewater treatment plant which is not deemed as best practice or adequate. Albeit, the Operator indicated that in certain cases such water

is removed from site via a bowser. On this aspect, Water Services Corporation remarked that this practice should cease. In light of this, an improvement programme assessing the current contaminated fire-fighting water arrangements is proposed.

b) Regulation 11 (3a) states that each combustion chamber of a waste incineration plant shall be equipped with at least one auxiliary burner. This burner shall be switched on automatically when the temperature of the combustion gases after the last injection of combustion falls below the temperatures of 850°C

The Authority was recently notified that the auxiliary burner has not been in operation for the few years, despite a permit condition highlighting the requirements of regulation 11 (3a). The rationale provided was that the auxiliary burner was contributing to emissions from the incineration process. An improvement programme item to ensure that the auxiliary burner is operated is being proposed.

c) Regulation 11 (4c) states that waste incineration plants and waste co-incineration plants shall operate an automatic system to prevent waste feed in the number of situations listed;

i. At start-up, until the required temperature been reached;
ii. Whenever the temperature of 850°C is not maintained;
iii. Whenever the continuous measurements show that any emission limit value is exceeded due to disturbances or failures of the waste gas cleaning devices.

Whilst the requirement is in place and in practice for i) and ii), this is not the case for point iii). Such an action is mandated by the operator involvement and is not automated. In relation to this requirement and to the automation issue highlighted above, the Operator commented that personnel are adequately trained . Nonetheless, following the implementation of improvement programme item 26 in the proposed permit, the Authority may request further improvements on this front.

Two site visit was carried out on the 19th October 2018 and 18th March 2021. A marked reduction was noted in terms of odour nuisance between the two inspections. The inspection also served the Authority for an update to activites on site following the fire in October 2021. A number of requests were made by ERA, which are also being reflected in the post decision requirements and improvement programme items were added to address the abovementioned issues.

2.10 Financial Matters

Application Fee	€10,000 - PAID

Other Fee (MCP renewal)	€125 - PENDING
Financial guarantee	A financial guarantee of € 2,187,850 is being assigned to secure the obligations under this permit. The previous financial guarantee amounted to €1,000,000 The financial guarantee is covered by the Letter of Undertaking (MF35/05/160)
Annual Fee	For WasteServ Malta Ltd. Ltd €1000 per year (2016-2022) and an additional €200 for each inspection carried out since 2016 (29 in total) totaling € 12,800

3 Environment Officer Recommendation:

The Environment and Resources Directorate recommends the GRANTING of the Permit for a period of four (4) years subject to the following post-decision requirements:

- Submission of a bank guarantee of €2,187,850 (previous bank guarantee of €1,000,000). WSM have provided confirmation that the bank guarantee is covered by the Letter of Undertaking covering Government Projects ref MF35/05/160.

- Submission of an annual fee of €12,800 covering the period 2016 - 2022 and 29 inspections carried out to date (rated at €200 per inspection)

- Submission of payment of € 125 for the renewal of a medium combustion plant as per S.L.549.122.

The proposed permit conditions include:

- Standard conditions for each sector;

- Site specific condition:
    - Emissions to air from three combustion plants on site are allowed, of which only one falls within the threshold for medium combustion plants regulations (S.L.549.122).
    - Various conditions prescribing the Best Available Techniques (BAT) both on the BAT conclusions for waste incineration and those specified in the BAT for Animal by-products and slaughterhouses (published November 2003)
    - Conditions on optimization techniques are employed to improve the overall environmental performance of the incineration of waste.

- Air emissions from the incinerator shall be monitored at the frequency prescribed by BAT, using the enlisted standards provided in the permit.
- Provisions on OTNOC, including specific conditions in relation to the emergency stack.
- Provisions on abnormal emissions.
- Conditions on fire-fighting water, that no such discharge shall take place to sewer.
- Provisions on slag and bottom ash monitoring in the frequency and requirements listed by BAT.
- In-process controls such that the incineration plant shall be operated and maintained such that the gas resulting from the waste incineration following the last injection of combustion air must achieve and maintain a temperature of 850ºC for a minimum two seconds.
- In-process monitoring and recording.
- Continuous monitoring is to be in place to ensure that the plant is operating effectively.
- Waste inputs monitoring and testing to ensure the plant operates within set parameters to allow for effective treatment within the plant.
- Specific details on data reporting and data managements for continuous monitoring and periodic monitoring
- Performance requirements and calibration methods of automated measuring systems.
- An improvised notification schedule to accommodate abnormal operation and (Other than normal operating conditions) OTNOC events.
- Specific conditions on ABP and clinical waste storage and handling.
- Specific conditions on infectious ABP waste infected with Transmissible Spongiform Encephalopathy.
- Specific condition that air emission data from the incinerator shall be available to the public via the operator's website.

- Improvement programme items:

Table 1.5.1: Improvement programme

Reference*	Requirement	Date
26	Submission of a report , by a suitably qualified person approved by the Authority prior initiation, related to a review of the performance of the facility against the conditions in this permit and the Waste Incineration BAT conclusions (as per CID 2019/2010/EU). and submission of details of procedures/plans to be developed for achieving	Within 4 months of the granting of the permit

Table 1.5.1: Improvement programme		
Reference*	**Requirement**	**Date**
	and demonstrating compliance with permit conditions. The plan shall also include: a) A comprehensive air emission improvement strategy b) A proposal for execution of implementation measure identified in a) including timeframes	
27	The submission of a decommissioning plan in relation to the existing autoclave boiler and the associated LPG tank including details of how it shall be disassembled in an environmentally safe manner and waste disposed of in accordance with applicable regulations.	Within 8 months of granting of the permit
28	Registration of the replacement autoclave boiler in line with S.L. 549.122 following the decommissioning the existing boiler as per Improvement programme item 27.	By Q4 2021
29	a) Submission of an addendum to the land & groundwater risk assessment to take into consideration the recent fire incident b) Submission of a method statement for monitoring c) Submission of a baseline report in conformity with Articles 16(2) and 22 of the Industrial Emissions Directive, 2010/75/EU following submission of the implementation of the monitoring in line with the approved method statement.	a) With 1 month of granting of the permit b) With 2 months following the approval of a) c) As agreed upon with the Authority
30	a) Submission of a finalized plan for the upgrades listed Approved DOC IP0004/07/C/DOC1 b) Notification of installation and commissioning of odour abatement equipment as per Approved DOC IP0004/07/C/DOC1 (for the listed improvements on the waste marshalling area (4), chemical scrubber or ionizer (7) and tallow silos vents (8) including the	a) Within 3 months of granting of the permit b) Within the timeframe agreed with the Authority following implementation of a)

Table 1.5.1: Improvement programme		
Reference*	**Requirement**	**Date**
	submission an application for variation/s to this IPPC permit.	
31	a) The submission of a method statement on surrogate parameter odour monitoring b) The submission of monitoring results of the first sampling episode of testing	a) Within 2 months of the granting of the permit b) Within the timeframe agreed by the Authority
32	a) Submission of a revised odour management plan aimed at identifying sensitive receptors around the installation b) Submission of a revised odour management plan following: i) the submission of the first sampling episode of surrogate parameter monitoring test results. ii) Implementation of improvement programme item 30	a) Within 2 months from the granting of the permit bi) Within 2 months from the submission of the first sampling episode bii) Within 12 months from the granting of the permit
33∞	Submission of revised as-built site drainage layout plans differentiating between clean rainwater, sewage and trade effluent cleared by the Water Services Corporation and the Planning Authority.	Within 5 months from the granting of this permit.
34∞	Implementation of automatic wastewater monitoring equipment on the WWTP outlet reservoir to monitor quality prior to discharge to sewer.	Within 12 months from the granting of this permit
35∞	Certification from a competent company or engineer that the relevant fire safety procedures and equipment are in place, including emergency firefighting water supplies for use by the Civil Protection department.	Within 3 months from the granting of this permit

Table 1.5.1: Improvement programme		
Reference*	**Requirement**	**Date**
36	a) Submission of a performance test to calculate the boiler efficiency based on FDBR RL 7: Acceptance Testing Of Waste Incineration Plants With Grate Firing Systems. b) Depending on the results of the performance test in a) above, submission comprehensive review of the options available for improving the boiler efficiency may be requested by the Authority.	a) Within 9 months of granting of the permit b) As agreed upon with the Authority
37	Submission of a report for the calibration and verification testing of the performance of continuous emission monitoring (CEMS) (for the parameters with a specified frequency of monitoring marked as continuous in table 2.2.6) in line with the requirements of EN 14181, specifically the requirements of QAL1, QAL 2 and QAL 3. The report shall also include details of the certifiable range of the CEMS.	Calibration report shall be submitted within four weeks of completion of calibration exercise.
38	Submission of a risk assessment to determine whether additional firewater retention capacity is required. Subject to findings and recommendation of a), the Permit Holder shall prepare and implement a suitable risk management programme.	With 5 months from the date of granting of this permit Within the timeframe agreed with the Authority.
39	a) Submission of a risk-based OTNOC Management Plan as required by BAT 18 in the Waste Incineration BREF. The plan shall include a list of scenarios considered to represent OTNOC and the associated proposed techniques to reduce associated emissions to air and water during each of the OTNOC scenarios identified. b) Shall submit a proposal for monitoring during OTNOC events identified under a)	a) Within 4 months from the date of granting of the permit b) Within 2 months from completion of a)

Table 1.5.1: Improvement programme		
Reference*	**Requirement**	**Date**
40	Submission of a start-up and shut-down plan setting out the necessary steps to be taken by the Permit Holder during such operations to ensure that all appropriate preventative measures against pollution are taken and to limit as far as practicable start-up and shut-down operations.	Within 6 months of granting of the permit.
41	Notification of installation and operation of the auxiliary burner.	Within 18 months of granting of the permit

This report [to the ERA Board] has been prepared, reviewed and endorsed by:	
Case Officer: Gabriella Grima	**Reviewed by: Simon Farrugia**
Env. Protection Officer (Permitting)	Senior Env. Protection Officer (Permitting)
Signature:	Signature:
Date: 30th April 2021	Date: 30th April 2021
Endorsed by: Nathalie Ellul	
Team Manager (Permitting)	
Signature:	
Date: 30th April 2021	