

**FAO: Mr. Thomas Sexton,
Office of Environmental Enforcement,
Environment Protection Agency,
Richview,
McCumisky House,
Clonskeagh
Dublin 14.**

07th December 2018

Ref: W0232-01: Technical Amendment –Addition of EWC codes to Schedule A

Dear Mr. Sexton,

Dublin Waste to Energy Limited wish to request the addition of the following non-hazardous EWC codes to schedule A of IE W0232-01.

- 07 02 12 – Sludges from on-site effluent treatment other than those mentioned in 07 02 11*
- 07 05 12 - Sludges from on-site effluent treatment other than those mentioned in 07 05 11*

Please see attached analysis of the material from the various sources. We request that the names of the companies producing the sludges remain confidential during this application process. (Details of each facility will be sent under separate cover).

As can be seen from the analyses the sludges are non-hazardous in nature. The low ash content of the material and low metal content mean that the resulting bottom ash will not be adversely impacted. Furthermore, the facility is already permitted to accept sludges with the following LoW codes - 06 05 03, 19 08 05, 02 03 05, and 02 07 05). Moreover, the sludges requested are similar in nature to those already licensed.

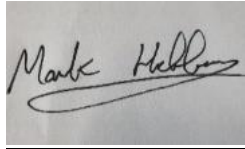
The Air Pollution Control System will be able to control the emissions through automatically adjusting the dosage rates for the lime, activated carbon and ammonia water, as it currently does, to ensure the ELV's for the plant remain within the license limits. The proposed delivery frequency of the material and associated volumes from each source facility are outlined in the table below.

Customer	Description	Annual Tonnage	Haz/Non Haz	EWC Code	Frequency of delivery
Facility A	Sludge	500.00	Non Haz	07 05 12	1 per week
Facility B	Sludge	214.00	Non Haz	07 05 12	1 per week
Facility C	Sludge	1015.00	Non Haz	07 02 12	2/3 per week
Facility D	Sludge	480.00	Non Haz	07 05 12	2/3 per week
Facility E	Sludge	196.00	Non Haz	07 05 12	1 per month
Facility F	Sludge	336.00	Non Haz	07 05 12	1 per month

The total volume of this material represents less than 0.5% of the total waste volume per annum.

I trust that this Technical Amendment submission meets your approval.

Yours Sincerely,



Mark Heffernan,
Environmental Manager.

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SAMPLE ID	Facility A
Fitz Scientific Sample ID	1561/769/01
DATE RECEIVED by lab	06/07/2018

Physical Characteristics (insert Yes/No)	Solid/Sludge	Yes	Liquid	No
Sieve Test	Yes			

Test	Pass/Fail range	Pass/Fail range	Result	Units
pH	report value	≥ 2 to ≤ 10	8	pH
CV (Calorific Value)	0 – 5 MJ/kg	0 – 5 MJ/kg	<5	MJ/kg
Moisture content	report value	report value	83.49	%
Dry Matter	report value	report value	16.51	%
Ash Content (calc. on above)	report value	report value	8.1	%
Flash point	Below 55°	55	>70	°C
Cl (Chlorine) (Hazardous Waste)	max. 1%	10000	15.382	mg/kg
Cl (Chlorine) (Non Hazardous Waste)	max. 4%	40000	15.382	mg/kg
S (Sulphur)	max. 3%	30000	70.980	mg/kg
F (Fluorine)	max. 0.4%	4000	13.243	mg/kg
Br (Bromine)	max. 0.5%	5000	<0.05	mg/kg
I (Iodine)	max. 0.5%	5000	<0.05	mg/kg
P (Phosphorous)	max. 0.5%	5000	180.344	mg/kg
Na (Sodium)	max. 2.5%	25000	1246.3	mg/kg
K (Potassium)	max. 2.5%	25000	254.7	mg/kg
Metals				
Hg (Mercury)	max. 10 ppm	10	<0.01	mg/kg
Cd (Cadmium)	max. 20 ppm	20	<0.01	mg/kg
Se (Selenium)	max. 20 ppm	20	<0.01	mg/kg
Tl (Thallium)	max. 20 ppm	20	<0.01	mg/kg
Mo (Molybdenum)	max. 30 ppm	30	2.790	mg/kg
Ni (Nickel)	max. 60 ppm	60	<0.01	mg/kg
Co (Cobalt)	max. 60 ppm	60	<0.01	mg/kg
As (Arsenic)	max. 100 ppm	100	<0.01	mg/kg
Be (Beryllium)	max. 100 ppm	100	<0.01	mg/kg
Cu (Copper)	max. 100 ppm	100	11.473	mg/kg
Sb (Antimony)	max. 100 ppm	100	11.908	mg/kg
Sn (Tin)	max. 200 ppm	200	6.446	mg/kg
Cr (Chromium)	max. 300 ppm	300	1.479	mg/kg
V (Vanadium)	max. 300 ppm	300	0.495	mg/kg
Pb (Lead)	max. 1000 ppm	1000	<0.01	mg/kg
Zn (Zinc)	max. 1000 ppm	1000	92.475	mg/kg
Pentachlorophenol (not tested if	max. 10 ppm	10	N/A	mg/kg
PCB (Polychlorinated biphenyls)	max. 10 ppm	10	<0.005	mg/kg
PCT(Polychlorinated terphenyls)	max. 10 ppm	10	N/A	mg/kg

SAMPLE ID	Facility B
Fitz Scientific Sample ID	1561/766/01
DATE RECEIVED by lab	06/07/2018

Physical Characteristics (insert Yes/No)	Solid/Sludge	Yes	Liquid	No
Sieve Test		Yes		

Test	Pass/Fail range	Pass/Fail range	Result	Units
pH	report value	≥ 2 to ≤ 10	7	pH
CV (Calorific Value)	0 – 5 MJ/kg	0 – 5 MJ/kg	<5	MJ/kg
Moisture content	report value	report value	87.36	%
Dry Matter	report value	report value	12.64	%
Ash Content (calc. on above)	report value	report value	1.9	%
Flash point	Below 55°	55	>70	°C
Cl (Chlorine) (Hazardous Waste)	max. 1%	10000	37.188	mg/kg
Cl (Chlorine) (Non Hazardous Waste)	max. 4%	40000	37.188	mg/kg
S (Sulphur)	max. 3%	30000	74.565	mg/kg
F (Fluorine)	max. 0.4%	4000	19.536	mg/kg
Br (Bromine)	max. 0.5%	5000	<0.05	mg/kg
I (Iodine)	max. 0.5%	5000	<0.05	mg/kg
P (Phosphorous)	max. 0.5%	5000	142.462	mg/kg
Na (Sodium)	max. 2.5%	25000	310.3	mg/kg
K (Potassium)	max. 2.5%	25000	102.5	mg/kg
Metals				
Hg (Mercury)	max. 10 ppm	10	<0.01	mg/kg
Cd (Cadmium)	max. 20 ppm	20	0.333	mg/kg
Se (Selenium)	max. 20 ppm	20	<0.01	mg/kg
Tl (Thallium)	max. 20 ppm	20	<0.01	mg/kg
Mo (Molybdenum)	max. 30 ppm	30	7.727	mg/kg
Ni (Nickel)	max. 60 ppm	60	15.674	mg/kg
Co (Cobalt)	max. 60 ppm	60	<0.01	mg/kg
As (Arsenic)	max. 100 ppm	100	<0.01	mg/kg
Be (Beryllium)	max. 100 ppm	100	<0.01	mg/kg
Cu (Copper)	max. 100 ppm	100	5.22	mg/kg
Sb (Antimony)	max. 100 ppm	100	15.938	mg/kg
Sn (Tin)	max. 200 ppm	200	8.614	mg/kg
Cr (Chromium)	max. 300 ppm	300	2.39	mg/kg
V (Vandium)	max. 300 ppm	300	0.675	mg/kg
Pb (Lead)	max. 1000 ppm	1000	0.627	mg/kg
Zn (Zinc)	max. 1000 ppm	1000	81.96	mg/kg
Pentachlorophenol (not tested if	max. 10 ppm	10	N/A	mg/kg
PCB (Polychlorinated biphenyls)	max. 10 ppm	10	<0.005	mg/kg
PCT(Polychlorinated terphenyls)	max. 10 ppm	10	N/A	mg/kg

SAMPLE ID	Facility C
Fitz Scientific Sample ID	1561/770/01
DATE RECEIVED by lab	06/07/2018
Physical Characteristics (insert Yes/No)	Solid/Sludge Yes Liquid No
Sieve Test	Yes

Test	Pass/Fail range	Pass/Fail range	Result	Units
pH	report value	≥ 2 to ≤ 10	7.5	pH
CV (Calorific Value)	0 – 5 MJ/kg	0 – 5 MJ/kg	<5	MJ/kg
Moisture content	report value	report value	91.29	%
Dry Matter	report value	report value	8.71	%
Ash Content (calc. on above)	report value	report value	0.6	%
Flash point	Below 55°	55	>70	°C
Cl (Chlorine) (Hazardous Waste)	max. 1%	10000	12.127	mg/kg
Cl (Chlorine) (Non Hazardous Waste)	max. 4%	40000	12.127	mg/kg
S (Sulphur)	max. 3%	30000	46.155	mg/kg
F (Fluorine)	max. 0.4%	4000	3.832	mg/kg
Br (Bromine)	max. 0.5%	5000	<0.05	mg/kg
I (Iodine)	max. 0.5%	5000	<0.05	mg/kg
P (Phosphorous)	max. 0.5%	5000	516.661	mg/kg
Na (Sodium)	max. 2.5%	25000	645.2	mg/kg
K (Potassium)	max. 2.5%	25000	170.4	mg/kg
Metals				
Hg (Mercury)	max. 10 ppm	10	<0.01	mg/kg
Cd (Cadmium)	max. 20 ppm	20	0.278	mg/kg
Se (Selenium)	max. 20 ppm	20	<0.01	mg/kg
Tl (Thallium)	max. 20 ppm	20	<0.01	mg/kg
Mo (Molybdenum)	max. 30 ppm	30	2.141	mg/kg
Ni (Nickel)	max. 60 ppm	60	<0.01	mg/kg
Co (Cobalt)	max. 60 ppm	60	<0.01	mg/kg
As (Arsenic)	max. 100 ppm	100	<0.01	mg/kg
Be (Beryllium)	max. 100 ppm	100	<0.01	mg/kg
Cu (Copper)	max. 100 ppm	100	2.265	mg/kg
Sb (Antimony)	max. 100 ppm	100	8.454	mg/kg
Sn (Tin)	max. 200 ppm	200	6.039	mg/kg
Cr (Chromium)	max. 300 ppm	300	1.433	mg/kg
V (Vandium)	max. 300 ppm	300	0.336	mg/kg
Pb (Lead)	max. 1000 ppm	1000	0.205	mg/kg
Zn (Zinc)	max. 1000 ppm	1000	88.262	mg/kg
Pentachlorophenol (not tested if	max. 10 ppm	10	N/A	mg/kg
PCB (Polychlorinated biphenyls)	max. 10 ppm	10	<0.005	mg/kg
PCT(Polychlorinated terphenyls)	max. 10 ppm	10	N/A	mg/kg

SAMPLE ID	Facility E
Fitz Scientific Sample ID	1561/768/01
DATE RECEIVED by lab	06/07/2018
Physical Characteristics (insert Yes/No)	Solid/Sludge Yes Liquid No
Sieve Test	Yes

Test	Pass/Fail range	Pass/Fail range	Result	Units
pH	report value	≥ 2 to ≤ 10	8.5	pH
CV (Calorific Value)	0 – 5 MJ/kg	0 – 5 MJ/kg	<5	MJ/kg
Moisture content	report value	report value	61.98	%
Dry Matter	report value	report value	38.02	%
Ash Content (calc. on above)	report value	report value	31.9	%
Flash point	Below 55°	55	>70	°C
Cl (Chlorine) (Hazardous Waste)	max. 1%	10000	7.625	mg/kg
Cl (Chlorine) (Non Hazardous Waste)	max. 4%	40000	7.625	mg/kg
S (Sulphur)	max. 3%	30000	48.758	mg/kg
F (Fluorine)	max. 0.4%	4000	2.877	mg/kg
Br (Bromine)	max. 0.5%	5000	<0.05	mg/kg
I (Iodine)	max. 0.5%	5000	<0.05	mg/kg
P (Phosphorous)	max. 0.5%	5000	8107.035	mg/kg
Na (Sodium)	max. 2.5%	25000	1011.1	mg/kg
K (Potassium)	max. 2.5%	25000	89.7	mg/kg
Metals				
Hg (Mercury)	max. 10 ppm	10	<0.01	mg/kg
Cd (Cadmium)	max. 20 ppm	20	0.381	mg/kg
Se (Selenium)	max. 20 ppm	20	<0.01	mg/kg
Tl (Thallium)	max. 20 ppm	20	<0.01	mg/kg
Mo (Molybdenum)	max. 30 ppm	30	6.177	mg/kg
Ni (Nickel)	max. 60 ppm	60	0.813	mg/kg
Co (Cobalt)	max. 60 ppm	60	<0.01	mg/kg
As (Arsenic)	max. 100 ppm	100	<0.01	mg/kg
Be (Beryllium)	max. 100 ppm	100	<0.01	mg/kg
Cu (Copper)	max. 100 ppm	100	22.62	mg/kg
Sb (Antimony)	max. 100 ppm	100	11.339	mg/kg
Sn (Tin)	max. 200 ppm	200	7.710	mg/kg
Cr (Chromium)	max. 300 ppm	300	3.585	mg/kg
V (Vandium)	max. 300 ppm	300	7.791	mg/kg
Pb (Lead)	max. 1000 ppm	1000	0.634	mg/kg
Zn (Zinc)	max. 1000 ppm	1000	35.46	mg/kg
Pentachlorophenol (not tested if	max. 10 ppm	10	N/A	mg/kg
PCB (Polychlorinated biphenyls)	max. 10 ppm	10	<0.005	mg/kg
PCT(Polychlorinated terphenyls)	max. 10 ppm	10	N/A	mg/kg

SAMPLE ID	Facility D
Fitz Scientific Sample ID	1561/767/01
DATE RECEIVED by lab	06/07/2018
Physical Characteristics (insert Yes/No)	Solid/Sludge Yes Liquid No
Sieve Test	Yes

Test	Pass/Fail range	Pass/Fail range	Result	Units
pH	report value	≥ 2 to ≤ 10	5.2	pH
CV (Calorific Value)	0 – 5 MJ/kg	0 – 5 MJ/kg	<5	MJ/kg
Moisture content	report value	report value	78.9	%
Dry Matter	report value	report value	21.1	%
Ash Content (calc. on above)	report value	report value	1.3	%
Flash point	Below 55°	55	>70	°C
Cl (Chlorine) (Hazardous Waste)	max. 1%	10000	44.623	mg/kg
Cl (Chlorine) (Non Hazardous Waste)	max. 4%	40000	44.623	mg/kg
S (Sulphur)	max. 3%	30000	305.275	mg/kg
F (Fluorine)	max. 0.4%	4000	4.384	mg/kg
Br (Bromine)	max. 0.5%	5000	<0.05	mg/kg
I (Iodine)	max. 0.5%	5000	<0.05	mg/kg
P (Phosphorous)	max. 0.5%	5000	21.983	mg/kg
Na (Sodium)	max. 2.5%	25000	988.1	mg/kg
K (Potassium)	max. 2.5%	25000	678.5	mg/kg
Metals				
Hg (Mercury)	max. 10 ppm	10	<0.01	mg/kg
Cd (Cadmium)	max. 20 ppm	20	0.281	mg/kg
Se (Selenium)	max. 20 ppm	20	<0.01	mg/kg
Tl (Thallium)	max. 20 ppm	20	<0.01	mg/kg
Mo (Molybdenum)	max. 30 ppm	30	5.488	mg/kg
Ni (Nickel)	max. 60 ppm	60	0.197	mg/kg
Co (Cobalt)	max. 60 ppm	60	<0.01	mg/kg
As (Arsenic)	max. 100 ppm	100	0.714	mg/kg
Be (Beryllium)	max. 100 ppm	100	<0.01	mg/kg
Cu (Copper)	max. 100 ppm	100	3.484	mg/kg
Sb (Antimony)	max. 100 ppm	100	14.93	mg/kg
Sn (Tin)	max. 200 ppm	200	8.686	mg/kg
Cr (Chromium)	max. 300 ppm	300	2.305	mg/kg
V (Vandium)	max. 300 ppm	300	1.125	mg/kg
Pb (Lead)	max. 1000 ppm	1000	<0.01	mg/kg
Zn (Zinc)	max. 1000 ppm	1000	39.733	mg/kg
Pentachlorophenol (not tested if	max. 10 ppm	10	N/A	mg/kg
PCB (Polychlorinated biphenyls)	max. 10 ppm	10	<0.005	mg/kg
PCT(Polychlorinated terphenyls)	max. 10 ppm	10	N/A	mg/kg

SAMPLE ID	Facility F
Fitz Scientific Sample ID	1561/780/01
DATE RECEIVED by lab	10/07/2018
Physical Characteristics (insert Yes/No)	Solid/Sludge Yes Liquid No
Sieve Test	Yes

Test	Pass/Fail range	Pass/Fail range	Result	Units
pH	report value	≥ 2 to ≤ 10	8.18	pH
CV (Calorific Value)	0 – 5 MJ/kg	0 – 5 MJ/kg	<5	MJ/kg
Moisture content	report value	report value	84.58	%
Dry Matter	report value	report value	15.42	%
Ash Content (calc. on above)	report value	report value	2.3	%
Flash point	Below 55°	55	>70	°C
Cl (Chlorine) (Hazardous Waste)	max. 1%	10000	107.617	mg/kg
Cl (Chlorine) (Non Hazardous Waste)	max. 4%	40000	107.617	mg/kg
S (Sulphur)	max. 3%	30000	60.530	mg/kg
F (Fluorine)	max. 0.4%	4000	<0.05	mg/kg
Br (Bromine)	max. 0.5%	5000	<0.05	mg/kg
I (Iodine)	max. 0.5%	5000	<0.05	mg/kg
P (Phosphorous)	max. 0.5%	5000	732.627	mg/kg
Na (Sodium)	max. 2.5%	25000	1214.8	mg/kg
K (Potassium)	max. 2.5%	25000	387	mg/kg
Metals				
Hg (Mercury)	max. 10 ppm	10	<0.01	mg/kg
Cd (Cadmium)	max. 20 ppm	20	0.295	mg/kg
Se (Selenium)	max. 20 ppm	20	2.145	mg/kg
Tl (Thallium)	max. 20 ppm	20	<0.01	mg/kg
Mo (Molybdenum)	max. 30 ppm	30	5.562	mg/kg
Ni (Nickel)	max. 60 ppm	60	1.121	mg/kg
Co (Cobalt)	max. 60 ppm	60	<0.01	mg/kg
As (Arsenic)	max. 100 ppm	100	<0.01	mg/kg
Be (Beryllium)	max. 100 ppm	100	<0.01	mg/kg
Cu (Copper)	max. 100 ppm	100	14.753	mg/kg
Sb (Antimony)	max. 100 ppm	100	13.431	mg/kg
Sn (Tin)	max. 200 ppm	200	6.388	mg/kg
Cr (Chromium)	max. 300 ppm	300	2.692	mg/kg
V (Vandium)	max. 300 ppm	300	0.967	mg/kg
Pb (Lead)	max. 1000 ppm	1000	0.788	mg/kg
Zn (Zinc)	max. 1000 ppm	1000	88.262	mg/kg
Pentachlorophenol (not tested if	max. 10 ppm	10	N/A	mg/kg
PCB (Polychlorinated biphenyls)	max. 10 ppm	10	<0.005	mg/kg
PCT(Polychlorinated terphenyls)	max. 10 ppm	10	N/A	mg/kg