APPENDIX 2

ESTIMATION OF CERTIFIED EMISSION REDUCTION BY REPLACING OPEN DUMPING OF FLESHINGS BY LIQUEFACTION AND TREATMENT OF LLF IN UASB

(i) Basic Data

Fleshings generated (for equivalent flow of 5000 m$^3$/day) = 30 tons/day

Fleshings generated on dry wt basis (85.5% moisture) = 4.35 tons/day

**Open Dumping (Baseline)**

COD g/g of fleshings on dry wt basis = 0.79 g/g

Total COD/day from fleshings = 3.44 tons/day

COD removed = 3.1 tons/day

Total methane produced at the rate 0.29 m$^3$/kg of COD removed = 897 m$^3$CH$_4$/day

**UASB (Project Activity)**

Total COD/day from fleshings = 3.44 tons/day

COD removed (70%) = 2.41 tons/day

Total methane produced at the rate 0.29 m$^3$/kg of COD removed = 697.6 m$^3$CH$_4$/day

(ii) Baseline Emissions

\[ BE_y = BE_{CH_4,y} + BE_{EL,y} + BE_{HG,y} \]  \hspace{1cm} (A2.1)

Methane emission from open dumping (BE$_{CH_4,y}$) [tCO$_2$/yr] = 2464.66

CO$_2$ emissions associated with electricity generation that is = 539.45
displaced by the project activity \((BE_{EL,y})\) [tCO\(_2\)e/yr]

\(\text{CO2 emission from fossil fuel combustion for heating} = 0\)

\([tCO_2e/yr]\)

Hence the total baseline emission \((BE_y)\) [tCO\(_2\)e/yr] = 3004.11

(iii) Project Emissions

\(PE_y = PE_{CH_4, effluent, y} + PE_{CH_4, digest, y} + PE_{flare, y} + PE_{Sludge, LA, y} + PE_{EC, y} + PE_{FC, y}\) (A.2.2)

Project Emissions Related to Physical Leakage from the Reactor = 106.94

\(PE_{CH_4, digest, y} [tCO_2e/yr]\)

Project Methane Emissions from Effluent from the Reactor \(PE_{CH_4, effluent, y} [tCO_2e/yr]\), Project Emissions From Land Application of Flare \(PE_{flare, y} [tCO_2e/yr]\), Project Emissions From Land Application of Sludge \(PE_{Sludge, LA, y} [tCO_2e/yr]\), Project Emissions from Electricity Consumption \(PE_{EC, y} [tCO_2e/yr]\), Project Emissions from Fossil Fuel Combustion \(PE_{FC, y} [tCO_2e/yr]\) are negligible

Hence, Project emission \((PE_y)\) [tCO\(_2\)e/yr] = 106.94

(iv) Emission Reductions

\(ER_y = BE_y - PE_y\) (A2.3)

\(BE_y = \text{Baseline emissions in year } y \ [tCO_2e/yr] = 3004.11\)

\(PE_y = \text{Project emissions in year } y \ [tCO_2e/yr] = 106.94\)

Hence, the Emission Reductions \((ER_y)\) = 2897.17 tCO\(_2\)e/yr