

CASE STUDY HANDOUT FOR CILA WASTE TALK 27 NOVEMBER 2014

The premises and plant

1. The insured receives local authority food waste at its anaerobic digestion plant in northern England. The plant is a proprietary design from a company based in continental Europe which was installed and commissioned by a UK contractor in January 2013.
2. The process is illustrated by the diagram attached at Appendix A.

The loss

3. One of the three digester tanks cracked and collapsed, causing 500m³ of feedstock to spill out.
4. The feedstock and debris severely damaged the CHP plant, putting it out of action for 3 months.
5. The concrete tank took 4 months to replace but the process could not be restarted for a further 2 months owing to difficulties in restarting the microbial process. New microbes (beneficial bacteria) had to be purchased from a manufacturer in Sweden, which took three months to cultivate and a further three months to achieve the optimal mix. During this time the plant could only receive 80% of the usual volume of waste and biogas generation was well below expected performance criteria.
6. The cause of failure was fatigue of the concrete walls resulting from repeated over-pressurisation of the tank. Overpressurisation occurred because the alarm was wrongly calibrated and, unlike certain other designs, the tank was not protected by a pressure relief valve.

Policy terms

7. The plant is insured by a standard all risks policy.

- a. The insuring clause provides:

The Company will indemnify the Insured up to the Sum Insured against accidental Damage to the Insured Property from any external cause not excluded, whilst in the Insured Premises.

- b. Damage is defined as:

Physical loss or damage to material property.

- c. Insured Property is defined as:

All Buildings, Contents and Stock of the Insured or held by the Insured in trust or on commission and for which the Insured is legally responsible whilst situated in or at the Insured Premises stated in the Schedule.

- d. Buildings are defined as:

Buildings situated at the Premises being constructed of brick, stone or concrete under a roof of slates, tiles, concrete, metal or asbestos, unless otherwise agreed by insurers and landlords fixtures and fittings in or on the said buildings which are the property of or leased to the insured.

e. Contents are defined as:

Machinery, plant, equipment, computer equipment, furniture, fixtures, fittings, alterations and decorations and all other contents the property of the insured or held by it in trust for which the insured is legally responsible and is contained within the premises excluding:

- *Buildings;*
- *Stock and materials in trade;*
- *Money, documents, manuscripts and business books;*
- *Computer records;*
- *Patterns, models, moulds, plans and designs;*

f. Stock is defined as:

Stock and materials in trade including finished stock and work in progress, the property of the insured and goods in trust for which the insured is responsible.

g. Cover is extended to cover debris removal:

Debris removal - means costs and expenses necessary and reasonably incurred by the insured with the prior consent of insurers to:

- *Remove debris from*
- *Dismantle and/or demolish*
- *Shore up or prop up portions of the Insured Property following*

h. The policy contains the following relevant exclusions:

The Company will not indemnify the Insured in respect of:

(1) Loss of or damage caused by or arising from:

(a) Mechanical or electrical breakdown or derangement of machinery or equipment, other than subsequent damage which arises from a cause not otherwise excluded

(b) joint leakage, failure of welds, cracking, fracturing, collapse or overheating of boilers, economisers, super heaters, pressure vessels or any range of steam and feed piping connected to them

(c) Latent defect, faulty workmanship, structural defects or faulty design of the Insured Property, other than subsequent damage which arises from a cause not otherwise excluded

(d) faulty or defective workmanship by the Insured or any Employees;

(e) operational error or omission by the Insured or any Employees;

(f) rust, corrosion, shrinkage, evaporation, loss of weight, dampness, dryness, marring, scratching, wet or dry rot, fungus, mould and spores, vermin or insects.

(2) Loss or damage to:

(a) property in the open or being processed, constructed, erected, installed, altered, dismantled, removed or re-sited including related material and suppliers

(3) Damage to livestock, growing crops or trees.

- i. The policy also contains the following definition of 'Occurrence':

A single event or series of events arising from a single original cause.

The claim

8. The claim comprises:

Feedstock removal (500 m ³ @ £85 per tonne)	£42,500
Replacement of concrete tank and associated works	£1,500,000
Repair of CHP plant and associated works	£1,000,000
Lost feedstock @ £40 per tonne	£20,000
Cost of replacement microbes	£500,000
Lost revenue from tank being out of action for 6 months (deliveries to site reduced by 5,000 tonnes @ £40 per tonne)	£200,000
Lost electricity sales while CHP plant out of action for 3 months (sales reduced by 10m KWh at a rate of £0.05 per KWh plus RHI payment of £0.068 per KWh)	£1,180,000
Lost electricity sales during 3 months while tank was reinstated (output reduced by 20% over that period)	£236,000
Lost sales of soil improver during 3 months while tank was reinstated (4,500 tonnes @ £40 per tonne)	£180,000
TOTAL	£4,858,500

Appendix A: The anaerobic digestion process

