

## Comments on Assumptions (Slide 3)

### Covering of tanks

All open topped tanks are to be covered and emissions sent to CHP engines or Odour Control Units. We understand not just methane, but all potential emissions including methane, ammonia and odours. **Correct if the contents of the tank are likely to be a source of polluting emissions to air.**

Need a threshold for residual biogas potential to determine whether to send to CHP or OCU - use PAS110. **This was not the original purpose for referencing the PAS110 RBP limit, and the possibility of using PAS110 has now been discounted. The choice of CHP or OCU will depend upon the efficacy of the OCU in preventing emissions to atmosphere.**

Existing tanks were not designed to take covers – may need to replace tank and in different location than current (affects any secondary containment design). **We are advised that flexible single and double membrane roofs can be fitted to most types of tank and these are likely to be less expensive than retrofitting rigid roofs. How thoroughly have these tanks been assessed? If tanks are unable to bear the additional weight of flexible roofs it raises questions about tank integrity and whether they are safe and fit for purpose. If tanks are approaching end of life the full cost of asset replacement should not be attributed to IED.**

full solution scope has included new/modified CHP/OCU, pipework etc. **It has come to our attention that on at least one site (Didcot) the majority of biogas produced is flared and thus wasted. Without an acceptable solution in line with BAT this alone will prevent us from being able to issue a permit. Also it would appear unreasonable to attribute to IED the cost of installing a CHP to prevent gas being disposed of. On a positive note I expect the ROI would likely be very short after which there would be a net annual reduction in costs due to the new revenue stream.**

### Secondary containment

Design to larger of 25% to all tanks or 110% of largest tank (CIRIA C736 directed by Appropriate Measures – BAT doesn't direct to CIRIA C736 and says "volume is normally sized to accommodate the loss of containment of the largest tank within the secondary containment") **The 110/25% rule on secondary containment has been applied to regulated industries for nearly 30 years. It is incorporated into the CIRIA C736 UK industry standard for secondary containment and is viewed as a best available technique. There is a recognition that containment volumes may in some instances need to exceed the standard 25% requirement but no corresponding recognition that a lesser volume would be acceptable. Some 10 Thames Water facilities are Control of Major Accident Hazards (COMAH) sites with most of the designations being for 'flammable liquids and gases'. These facts indicate the potential need to consider credible scenarios and an increase in total secondary containment above the standard 25%, however we have not required this of Thames Water. If you feel there are mitigating circumstances which indicated a lower volume would be equally protective of the environment you can propose alternative measures together with the relevant evidence to support your case. Area colleagues say that they recently rejected a proposal that in the event of a loss of containment temporary defences would be deployed.**

Design for “worst case scenario” ... it is likely to occur as you “have to account for “human error””. **The integrity of the primary containment is rarely the root cause of loss of containment. More often the cause is a failure of operating procedures or lack of maintenance.**

### **Liquor monitoring**

Characterisation of every liquor return leaving IED permitted boundary, so for PR24 we estimated installing an average of 4 sample points and 4 flow meters on each site –

Ongoing sampling required

Initially estimated 12 samples a year for 9 substances/parameters

Now 150+ substances/parameters to be tested (Surface Water guidelines) and up to daily sampling frequency required (waste process classification)

Through WRc work, quantity of sample points decreased but testing & costs increased – still work in progress.

**We are discussing the technical challenges around the analysis of liquors with one of the major laboratories and will clarify when those discussions are complete.**

### **Waste Acceptance**

Instructed to develop a proposal for a waste acceptance procedure that meets the requirements of Appropriate Measures

Characterisation of wastes imported - requirement to testing at MCERTS or UKAS accredited labs

Visually inspect every load (to visually inspect, some sort of sample needs to be taken to visualise it) **This was discussed at the Water UK TFG. Standard practice for the majority of companies receiving third party wastes is to receive and hold a sample of each tankered load so that in the event of contamination the load can be identified and traced back to source.**

Every import to be sampled and analysed to confirm pre-acceptance checks

Procedure to be the same for inter-site as for third party imports **This is not correct. Inter-works sludges are excluded from waste regulation controls if they go to the head of the works. If they are sent to the sludge AD facility they can be received under standard duty of care provisions.**