

Meeting note

Wednesday 15 June 2016, 10.00 am to 3.45 pm
Centre City Tower, 7 Hill Street, Birmingham B5 4UA

Sludge working group – 4th meeting

| Attendees | |
|------------------|--|
| Adrian Mercer | Veolia |
| Alexander Maddan | Agrivert Ltd |
| Alison Fergusson | Ofwat |
| Andrew Boardman | Ofwat |
| Andrew Chesworth | Ofwat |
| Andrew Snelson | Anglian Water |
| Brian Caire | Ofwat |
| Crawford Winton | Northumbrian Water |
| Daniel Davies | Welsh Water |
| Dave Musco | Yorkshire Water |
| Helen Richards | South West Water |
| Jacob Wood | Ofwat |
| Jessica Allen | Anaerobic Digestion and Bioresources Association |
| Jon Latore | United Utilities |
| Justine Dade | Ofwat |
| Kevin Wightman | Southern Water |
| Mat Davis | Environment Agency |
| Matt Wheeldon | Wessex Water |
| Peter Jordan | Ofwat |
| Peter Trafford | Thames Water |
| Robert Lee | Ofwat |
| Sam McGauley | Severn Trent Water |
| Steven Jackson | Kelda Group |

| Action | By whom | Deadline |
|--|---|---|
| <p>20th July meeting on Environmental Regulations:</p> <ul style="list-style-type: none"> • Prepare an agenda for the next meeting and coordinate with other stakeholders (Defra, DECC, ...). • Alexander Maddan to liaise with Mat Davis on the presentation slides on co-digestion and energy incentives for the next meeting. • Mat Davis to provide the CIWEM slides for circulation. • Suggest agenda items to Mat Davis or Alison Ferguson for the next meeting on environmental regulation. | <p>Mat Davis and Alison Fergusson</p> <p>Alexander Maddan and Mat Davis</p> <p>Mat Davis</p> <p>All attendees</p> | <p>4 July 2016</p> <p>8 July 2016</p> <p>30 June 2016</p> <p>30 June 2016</p> |
| <p>Development of the revenue control for sludge:</p> <ul style="list-style-type: none"> • Prepare and send a questionnaire on how companies measure their sludge flows (TDS, PE). • Circulate questionnaire from WaterUK Biosolids network to help design questionnaire mentioned below. | <p>Dave Musco & Alison Fergusson</p> <p>Andrew Snelson</p> | <p>TBC</p> <p>30 June 2016</p> |
| <p>Wastewater modelling:</p> <ul style="list-style-type: none"> • Companies to provide Alison with any suggestions of cost drivers for the econometric modelling. | <p>All attendees</p> | <p>24 June 2016</p> |
| <p>UKWIR programme:</p> | <p>Peter Trafford</p> | <p>30 June 2016</p> |

| | | |
|--|---------------|--------------|
| <ul style="list-style-type: none">• Confirm whether the UKWIR programme for 2016/17 has now been finalised. | | |
| <p>Sludge Working Group Themes:</p> <ul style="list-style-type: none">• Propose themes that should be considered as part of the sludge working group. | All attendees | 30 June 2016 |

Note of the meeting

May Water 2020 document – overview of sludge¹

Ofwat provided an overview of the decisions and consultation questions made in the May Water 2020 document relative to sludge. Some companies challenged Ofwat's estimation of the benefits coming from trading sludge among WaSCs and with OOW treatment centres. They expressed interest in seeing the underlying data of the models to understand the trading opportunities that Ofwat identified. Ofwat reminded the companies that the purpose of the models was not to identify individual trade opportunities but rather to give indicative estimates of the benefits based on realistic assumptions and available data. The conclusion to draw from the bottom up and top down estimates is that the benefits are expected to considerably outweigh the costs. Delegates agreed that a proportion of the sludge is tradeable but expect most of the benefits to come from technological innovation introduced by entrants.

One group member rejected the idea of producing standard products and contract terms for bids as they believed that this could hinder the commercial discussion and ultimately the market development. This was generally accepted by other attendees. However, another group member suggested that there needs to be standardisation around transfer pricing between the appointed business and the non-appointed business to ensure a level playing field.

Companies asked whether the information on bids (e.g. how many bids have been accepted) will become a "league" table. Ofwat suggested that it is more likely to be used to monitor compliance, rather than rank companies.

There were also questions about the introduction of new licences made possible by the Water Act and the impact it will have on the development of the sludge market and on asset-strading risks. Ofwat confirmed that its sludge proposals could be enacted without the need for Water Act wholesale licences. Wholesale licences could be useful to further open the market. However, there is still a lot to work through and to learn from the opening of the retail market. It was also noted that the wastewater licencing elements of the Water Act will not be implemented before 2019.

¹ This is also referred to as bioresources.

Ofwat considers there is no asset-stranding risk post-2020 because companies can make a commercial decision whether to treat their sludge “in-house” or contract out to another company. Companies understand why there is no need for a guarantee but believe this could limit sludge trading - taking into account asset-stranding for current assets could limit the attractiveness of third parties’ offers.

Attendees discussed the definition of sludge volume which will be used to calculate the average revenue price control. Companies confirmed that the data on tonnes of dry solids is not necessarily consistent between companies and even over time within some companies as they have changed their methodology. Furthermore, the volume figure is affected by a number of elements such as weather (amount of rainfall, temperature, ...). It was agreed that a clear methodology needs to be set in order to derive a meaningful volume unit which can be used to set the average revenue.

Delegates also asked about the likely start date of publishing market information. Ofwat stated that it would like to start the test phase in 2017. One delegate raised the issue that the May document highlighted the need for licence changes to require companies to publish this data, which would need to be taken into account.

Attendees noted that the duration of contracts could become a sensitive issue as companies who invest in new assets would prefer to sign long-term contracts but companies producing the sludge might be reluctant to do so.

The form of price control

Ofwat started this session by defining the notion of a price control and its objectives. Ofwat then introduced the different forms of price control considered and the reasons for selecting the average revenue control as the form of price control which will be used in the sludge market.

Attendees raised the question on who was doing the trading of sludge – network plus or the sludge business. One attendee considered that the average revenue control for sludge implied that it was the sludge business doing the trading rather than network plus. Ofwat considered that as the companies are remaining an integrated monopoly that it was the “appointee” that would receive the sludge revenue. However, it did acknowledge that for reporting purposes in the regulatory accounts that it would need to confirm whether this is reported against the network plus or sludge business. Ofwat currently thought it would most likely be reported against its sludge business for accounting purposes. Attendees considered that the allocation of the sludge revenue was an important issue to be considered as it could appear

that the sludge business was not recovering the return on its RCV for its sludge business.

Average revenue control formula: Ofwat provided details on the overall formula for calculating the average revenue control. Attendees asked if tax would be taken into account and Ofwat confirmed it would. Attendees also asked if PAYG and RCV will be calculated in the same way as it is in other price reviews. This is something Ofwat will have to consider.

Ofwat presented two possible units (denominators) to base the average revenue calculation on: tonnes of dry solid (TDS) and population equivalent (PE). The working group considered the accuracy and appropriateness of each of these measures in setting the average revenue.

- PE is not widely used internationally. Companies also do not have accurate knowledge on the number of customers (only on property numbers), therefore companies have to make some assumptions on this. There is also some fluctuations on sludge produced based on level of tourists during the summer.
- TDS is often calculated based on assumptions. It was thought that companies calculate this differently from each other using information on different parts of the sludge production and treatment process. This can affect the total volume of TDS reported. Other factors will also affect the total reported TDS, such as, the weather (e.g. decomposition speed depends on temperature).

It was noted that neither measure offers any information to the market on the quality of the sludge produced. Ofwat suggested it may be appropriate to divide sludge into different categories according to its quality (e.g. calorific value, composition) but attendees noted that there is no one measure of sludge quality. Some companies suggested that defining the quality of sludge by measuring the proportion of volatile solids could be a good start. All attendees agreed that the measure should have a clear definition, be applied consistently across companies and reflect cost drivers. Ofwat will work on defining a sensible measure.

Other Issues: Other issues discussed about the average revenue control included:

- **Efficiency Challenge:** On how efficiency challenges should be applied, attendees raised the point that efficiency in waste water directly impacts efficiency in sludge. Therefore, efficiency challenges should be considered on the whole process or the impact of waste water should be taken into account when assessing the efficiency of sludge.
- **Average revenue set yearly or 5-yearly:** whether the average revenue was set yearly or over the whole price control period.

- **Charging:** whether sludge would be charged separately to the overall network.

Other concerns included how the cost incentives will affect the decision to invest or contract out and what will happen if companies decide to free up asset capacity for trading by building a new asset for its own sludge treatment. The lack of data on transport cost and distances is a hindrance to understanding all opportunities to maximise efficiency in sludge services. But the cost of collecting this data could prove to be prohibitive. Attendees are welcome to submit suggestions about the parameters and costs to consider for cost assessment modelling. This could be an area to explore for UKWIR.

The sludge working group going forward

Due to the number of topics to be discussed in future meeting of the sludge working group, all attendees agreed to extend the number of meetings from that set out in the original Terms of Reference. There was also a general agreement that attendees could be given more “homework” between meetings in order to make the most out of the meetings. One attendee raised the issue of gate fees and transfer pricing, which would like to be discussed at a future working group.

Proposals for UKWIR projects

UKWIR currently does not plan to include in its 2017-18 programme any research in sludge regulation but it may be possible to influence the UKWIR programme. Because Ofwat expects to set the price review methodology at the end of 2017, research from UKWIR could come in too late in the process to have any impact. However, the research could be used to settle details such as how to calculate TDS.

Attendees are of the opinion that UKWIR is used to best effect to either reach a consensus among companies or increase technical understanding through consultant reports. It was suggested that UKWIR could research liquor charging and/or transfer pricing.

Asset valuation of sludge

Ofwat presented four (not mutually exclusive) options to value sludge assets:

1. Use of PR09 MEAV (medium equivalent asset value) and index forward;
2. Companies do their own valuation;
3. Bottom-up unit cost model;

4. Single, independent valuer for all companies.

The first option had no support from attendees nor Ofwat. The objective of the PR09 valuation was not to split the RCV. Some companies suggested a two-step process where companies do their own valuation according to Ofwat guidance and then a consultant checks the methodologies companies use. This would have the advantage of promoting company ownership, consistency across the sector and reduce consultancy costs compared to option 4.

One attendee thought the bottom-up unit cost model could be appropriate to get reasonable estimates. Another attendee suggested that different methods could be used in parallel. Ofwat welcomes suggestions from attendees on how to proceed with the asset valuation. It was noted that any valuation should reflect that some of the assets might be sold or used for trading.

Attendees' also raised the point that modern assets typically have a shorter lifespan than older assets. This should be reflected in the MEAV. Ofwat also stated that modern assets will probably be more efficient and that this should also be taken into account. Additionally, some of the assets currently in use have a very long lifespan but this doesn't mean that companies would build them again if they had the choice today (e.g. concrete tank). Because the lifespan of new sludge assets is relatively short, the replacement value might not be far from the actual cost which should makes the valuation easier. On the question of whether to use gross MEAV or net MEAV, an attendee noted that companies with old assets might have a low net MEAV but a large gross MEAV. Net MEAV was generally accepted as most suitable.

An attendee asked whether the same valuation methodology would be used in the water resources. Ofwat replied that this was uncertain as sludge RCV is split on a focused approach whereas water resources RCV is split on an unfocused approach.

An attendee was concerned about the short timeline for valuation. There is little time to create guidance, especially if the guidance applies to other parts of the value chain. Ofwat thought the guidance would only apply to the sludge business but that it would keep in mind the rest of the value chain. Attendees asked if the guidance would be subject to consultation, a call for evidence or a topic to discuss at one of the sludge working group.

One attendee highlighted that even if the objective of asset valuation is to create a level playing field between incumbents and new entrants, new entrants might have an advantage as incumbents' assets are typically of higher construction standards.

Regulatory Accounting Guidelines (RAGs)

Ofwat presented slides on the RAGs which is currently being consulted in. The RAG definitions are likely to be used to define the boundary between sludge and waste water.

There is still uncertainty about where exactly the boundary between waste water and sludge will stand for PR19, especially when transport crosses the boundary at a number of points. Ofwat is looking to clearly define the boundary and encourage attendees to reply to its consultation on RAGs. Only when the boundary is finalised will water resources and sludge be shown as distinct price control units in part 2 of the annual performance report.

Additionally, the regulatory burden needs to be considered. For example, including thickening assets on the sludge side of the boundary would increase the number of sites with sludge assets on. One company suggested that the status of some assets in regard to the boundary could be bespoke and defined during the valuation exercise but this would increase the regulatory burden. Ofwat considered the boundary needs to be consistent across the industry.

The treatment of liquor costs is also an issue to tackle because they often cross the boundary and are treated at a sewage works. Attendees stressed the fact that ammonia is not the only element to take into account; phosphorus and many other contaminants need to be considered. Ofwat suggests that the cost of liquor treatment could be averaged across a company area but that the applicable elements of the charging calculation used is modified at a site level, depending on whether the sewage works uses the processes reflected. Therefore, a site with no ammonia consent would not charge the ammonia element of any liquor charges scheme. Another attendee noted that the Mogden formula would probably need to be modified to take into account a European chemicals directive which will require the industry to replace Chemical Oxygen Demand (COD) measurement by Total Organic Carbon (TOC).

Environmental regulations

The next sludge working group meeting on 20 July will discuss environmental regulation and be facilitated by the Environment Agency. The attendees have expressed their interest in covering the following items in the next meeting:

- Start the day by a general “education” session which will cover the basics of environmental regulation;

- How environmental regulation applies to co-digestion and co-location, the regulatory regime under which incumbents operate (UWWD or EPR) and any additional costs;
- Understand how environmental regulation could constrain or stimulate the sludge market and if there is a possibility to modify and/or simplify the regulation;
- Take example of different types of sludge transactions and analyse how the environmental regulations apply;
- Look into non-Ofwat incentives such as energy incentives from DECC.

This meeting will focus on the impact of environmental regulation on sludge and not on environmental regulation in general.