Wednesday 29 March 2023
3.00 pm to 5.00 pm

Presentation of Jacobs' report on the River water quality (phosphorus) PC definition. Summary of discussion amongst Outcomes Working Group

Overview

We gave an overview of the existing river water quality (phosphorus) performance commitment definition before handing over to Jacobs to present their report.

Data

Data was sourced from gov.uk sites for England where already published and through a data request to the Environment Agency when it was not. Data was requested from companies in Wales, as it isn't published. Companies will need to verify the data and add in any that is missing.

- There was a query as to when permits would change; the date when they were applied for, the date set out in the environment programme or when the Environment Agency or Natural Resources Wales change the permit.
- Some stakeholders raised the issue that changes may be implemented and phosphorus reduced before a limit is included in the permit for phosphorus.

Calculation

Jacobs outlined how the phosphorus load is calculated in the existing definition and the alternative options that they considered. Ideally the flow would be multiplied by concentration, on a continuous basis but practically this isn't possible. The definition currently multiplies 'median flow x mean concentration', but the data provided for England doesn't allow that, instead we only have the mean flow. For Wales, we have weekly average data which allows a median to be calculated as well.

There is a difference in the measured phosphorus load, depending on the method used for calculation, but no clear indication that any provides a better result. The recommendation is to use the data that we do have available for all companies; **mean flow x mean concentration.**

- Discussion around the data identified that daily flow data is reported to regulators. Although the median could be calculated in line with the current definition, the permits are worked out on mean flow. Therefore, it was considered that mean is a more appropriate measure and easier to calculate.

Default assumptions

The current default assumption within the definition is if you don't have information around phosphorus levels in the base period, you assume that the concentration is 5mg/l. Jacobs identified two options in relation to this:

- assume performance is 5mg/l. When permit comes into operation, the reduction is a large performance improvement, but you don't actually know what performance was in that base period; or
- take the permit level as the assumption, this results in a much lower performance improvement.

Jacob's recommended to the group was that the **lower level (ie the permit level)** is taken as the assumption rather than the 5mg/l. It also recommended that when new permits are issued performance is judged against the new permit level.

The following points were made:

- Thames Water had found the average was 6mg/l, but this is from old data.
- The recommendation concerned some stakeholders in the group, as it would not provide any incentive to deliver benefits to the environment earlier. They consider that this would mean the incentive for them would be to wait as long as possible before reducing phosphorus as they will incur operating costs that would not be reflected in the incentive.
- Some considered that greater effort is required to make subsequent reductions in phosphorus levels and an incentive is essential to drive this behaviour.
- One stakeholder asked if a company should reduce phosphorus when there was no phosphorus limit as part of the permit. We replied that ideally the permit would be varied first.
- Other stakeholders expressed concern that if early delivery was incentivised that it may incentivise the use of chemicals rather than the nature based solutions which have longer lead time. We responded that the definition does stipulate that outperformance has to be in line with best value plan (ie if companies inappropriately increase chemical usage, they don't get to count that as out performance). In addition other PCs will also be incentivising the reduction of greenhouse gas emissions and increasing biodiversity. Where there are better value options companies will have incentives to use them.
- There was concern that many permits have March 2030 regulatory dates, so if that is when changes come online there won't be a reduction in phosphorus levels until the 2030/31 reporting year. It would be better if schemes have realistic dates. We responded that it will depend on the delivery profile for which it allows costs. However, even if there are schemes that deliver at the end of the period, we intend performance commitments to be long term and so there will still be incentives for companies to deliver and not allow investment to slip into the next period. Otherwise we expect that slippage would lead to underperformance beyond 2030.

Normalisation

Jacobs shared the options considered and identified that 'Kg/yr per person', which is in the current definition had thrown up some unexpected results, such as a smaller outperformance potential if a company has tighter permits. Using % reduction on baseline phosphorus levels is the preferred option.

- The group asked for clarity around the population figures, challenging the use of population per company, especially where phosphorus is disposed of to the coast and considered that using population for works that have phosphorus removal makes more sense. Jacobs replied that there isn't the population equivalent for population served by works that have phosphorus removal, so it would be back calculated based on flow and the use of population raised complexities.
- It was noted that using a % phosphorus reduction takes some account of the company starting position and this can be further aided through the use of company specific targets.
- It was also noted that whatever normalisation method is used, it will always be easier to do a first reduction at a site, as opposed to further reductions at sites where companies are already reducing phosphorus levels.

Summary and next steps

There was a consensus amongst the group for amending the calculation to reflect mean flow multiplied by mean concentration. There was also a consensus to normalising the performance commitment by using a % reduction from baseline.

There was not a consensus about changing default assumptions.

The report and definition will be finalised after Easter. If controversial changes, such as changes to the default assumptions are progressed, then we will consult further with stakeholders.

We will provide companies with the relevant dataset produced by Jacobs and ask them to verify the data included, as well as completing the dataset for the year 2022. We may also ask companies to confirm where permits will change between 2022 and 2024.