

PC21 Draft Determination  
NI Water Response

Annex 5.28 – Wastewater Study Work

## PC21 Draft Determination Query 6.169

We have accepted need and scope of the investment for study work proposed by the company. We note the proposed development objectives linked to this work and expect the company to prepare a programme of work with outputs and delivery dates in advance of the final determination.

### NI Water's Response

#### 1. 16z Microplastics in WWTW final effluent

This will be carried through the full duration of PC21. There will be quarterly reviews to ascertain progress and review findings.

Years 1 – 3

Research will be carried out on existing Microplastic projects which are on-going with various Universities, UKWIR, WHO and other Utility providers.

The outcomes of this research will form the basis for years 4-6 in PC21.

Site selection for sampling final effluent. The sites selected should be based on rural/urban areas, size of plant, type of treatment process and proximity to protected waterways.

Year 4 –

Continue to review ongoing research and recommendations

Review the recommendations from on-going research projects

Begin the sampling program to establish a base line of microplastic quantities. This should be carried out at different times the year to provide a wide range of environmental conditions including dry and wet weather periods.

Implement small scale trials for new technologies to remove microplastics from final effluent

Installation of new technologies for reducing presence of microplastics

Year 5 -

Begin the sampling program to establish a reduction in the presence of microplastics. This should be carried out at different times the year to provide a wide range of environmental conditions including dry and wet weather periods.

Year 6 -

Conclusions and recommendations / Lessons learned from the project.

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#### 2. 16z Priority Substances in WWTW final effluent

This will be carried through the full duration of PC21. There will be quarterly reviews to ascertain progress and review findings.

Years 1 – 3

Research will be carried out on existing priority substances projects which are on-going with various Universities, UKWIR, WHO and other Utility providers.

The outcomes of this research will form the basis for years 4-6 in PC21.

Site selection for sampling final effluent. The sites selected should be based on rural/urban areas, size of plant, type of treatment process and proximity to protected waterways.

Year 4 –

Continue to review ongoing research and recommendations

Review the recommendations from on-going research projects

Begin the sampling program to establish a base line of priority substance quantities. This should be carried out at different times the year to provide a wide range of environmental conditions including dry and wet weather periods.

Implement small scale trials for new technologies to remove priority substances from final effluent  
Installation of new technologies for reducing presence of priority substances

Year 5 -

Begin the sampling program to establish a reduction in the presence of priority substances. This should be carried out at different times the year to provide a wide range of environmental conditions including dry and wet weather periods.

Year 6 -

Conclusions and recommendations / Lessons learned from the project.

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### **3. 16z Sludge Strategy PC27**

Years 1 – 4

Formation of a strategy to replace the current sludge strategy and disposal contract which expires in 2032 including work to develop a business case. There will be quarterly reviews to ascertain progress and review findings.

Year 5-

A business case will have been developed with options to inform a clear strategic vision for a sustainable and highly cost and energy efficient solution for sludge disposal.

This will include the following elements:-

- 1) A more detailed and focussed study to identify whether there is an available land bank for sludge in Northern Ireland.
- 2) Sensitivity of cost changes given that the cost of incineration of raw sludge and the cost of AAD followed by incineration is so close.
- 3) The transport of sludge to a site or sites in GB to obtain an estimate of the cost involved.
- 4) The possibility of whether or not to pursue any further market opportunities for dried sludge.

The options will then be assessed in more detail which will include updating costs in the model but also consideration of non-monetary issues such as Land, Environment and Planning.

This will be completed to inform the funding in PC27 required to implement the necessary changes and infrastructure required.

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### **4. 16z PPP Studies for PC27**

Years 1 – 4

Formation of strategy to replace the current PPP arrangements for the 5 WwTW (which excludes Kinnegar as it is included in the Living With Water Program) which runs to 2032. There will be quarterly reviews to ascertain progress and review findings.

Year 5-

A business case will have been developed with options to inform a clear strategic vision for a sustainable and highly cost and energy efficient solution for these 5 WwTW.

This will enable continuation for Ni Water to:-

- 1) Improve WwTW compliance figures in line with targets by continuation of sustainable sludge removal and processing.
- 2) Comply with the Water Framework Directive.
- 3) Encompass S&EG Priorities and Long Term Water Strategy Aims & Policies.
- 4) Provide a positive ecological and environmental impact.
- 5) Provide acceptable sustainable solutions.

The options will then be assessed in more detail which will include updating costs in the model but also consideration of non-monetary issues such as Land, Environment and Planning. This will be completed to inform the funding in PC27 required to implement the necessary changes and infrastructure required.