

PC21 Draft Determination
NI Water Response

Annex 5.12 Controlled Reservoir
Maintenance and Inspections

Controlled Reservoir Inspections & Maintenance

Within section 6.54 Annex I Capital Investment it states 'the GB Reservoirs Act 1975 includes an inspection regime for "large raised reservoirs". The Reservoirs (Northern Ireland) Act is likely to be brought into effect during PC21 and will mirror the requirements of the GB legislation. This will make the inspection and maintenance of controlled reservoirs mandatory.'

It should be noted although the Reservoir Act is not currently fully enforced a Technical Guidance Note – 'The Practical Application of Strategic Planning Policy for Development in Proximity to Reservoirs' was introduced by the Department for Infrastructure. This explains the general approach DfI Rivers will follow when providing advice to Planning Authorities on all relevant applications for development within the potential flood inundation areas of controlled reservoirs.

As part of the guidance note and subsequently to avoid planning issues within the flood inundation zones downstream of NI Water Controlled Reservoirs NI Water were required to sign-up to a MOU in relation to Responsible Reservoir Manager Status. This involved entering into a written agreement with the Department to comply with key provisions of the Act.

As such although the act is not fully in place the inspection and maintenance of controlled reservoirs is already mandatory as part of the Responsible Reservoir Manager Status requirements.

It should be noted as detailed in Table 1 below NI Water has three times the number of Controlled Reservoirs per head of population compared to E&W Utilities. In addition the definition of a Controlled Reservoir within NI is a structure capable of holding 10,000 cubic metres or more of water above the natural level of any part of the surrounding land whereas in E&W this figure is currently 25,000 cubic metres. As a consequence the level of investment in this area is likely to be higher comparatively in NI compared to E&W.

Table 1 – Number of Controlled Reservoirs per Million People

Undertaker	Number of Controlled Reservoirs	Population Served	IR per head of population	IR per million people
Anglian Water	44	4,771,324	0.000009	9.22
Bristol Water	14	1,227,036	0.000012	11.41
Northumbrian Water	53	4,568,986	0.000012	11.60
Severn Trent Water	80	8,640,946	0.000009	9.26
Southern Water	9	2,571,526	0.000003	3.50
Thames Water	58	10,112,334	0.000006	5.74
United Utilities	181	7,295,157	0.000025	24.81
Welsh Water - Dwr Cymru	133	3,071,030	0.000043	43.31
Wessex Water	17	1,335,130	0.000013	12.73
South West Water	40	2,214,820	0.000018	18.06
Yorkshire Water	133	5,071,134	0.000026	26.23
			Avg	15.99
NI Water	85	1,886,300	0.000045	45.06176

In relation to Controlled Reservoir Inspections & Maintenance there are five areas of focus as part of the DD Response:-

1. The interpretation of funding within Annex I of Draft Determination Capital Investment Document
2. The proposed reduction in funding for Reservoir Inspections
3. An increase in the estimate for Supervising Engineer Costs
4. An increase in the identified capital maintenance required for the delivery of the recommendations in the Section 10 Inspections.
5. A new submission for additional Staff Required for Reservoir Safety Team

1. The interpretation of funding within Annex I of Draft Determination Capital Investment Document

In relation to Controlled Reservoir Maintenance the PC21 Submission was as follows:-

- **2294 – Controlled Reservoir Maintenance – IRS & SRs – £7.6m**
- **2295 – All reservoir Panel Engineer Inspections (IRs &SRs) – £1.05m**
- Total - £8.65m**

Within Annex I of the draft determination Capital Investment Document the text and table combines the projects above under the banner inspections. However the Business Plan Pre-Efficiency Figure quoted for these elements is incorrectly quoted as £7.784m. This is £866k less than the submission and the figures quoted in the text for the various elements are not correct. In addition given how costs are estimated for this programme the reporter adjustment of 6.7% should not apply.

It should be noted the figures quoted in the Capex Storyboard spreadsheet are correct.

2. The proposed reduction in funding for Reservoir Inspections

NI Water notes that for Reservoir inspections only 50% of the funding for PC21 impounding reservoir inspections subject to the generic Reporter adjustment has been granted. The Draft determination states 'We have reduced this allowance as only a limited number of impounding reservoirs require inspection during PC21 period based on the 10 year inspection cycle. The provision of this level of funding will allow 50% of inspections to be undertaken and for the company to start to 'smooth' the profile of inspections over forthcoming price control periods. '

NI Water would highlight that if only 50% of inspections are carried out in PC21 then as previously highlighted, under Query Response 127, NI Water are unlikely to be able to meet the dates defined in the S10 reports by the ARPE by which matters in the interest of safety are due to completed. If this does occur NI Water will be unable to comply with the Reservoirs Act and planning within the flood inundation zones of the affected reservoirs will be refused. In addition the company will liable to reputational damage associated with Reservoir Safety concerns.

As part of the compliance requirements for the Responsible Reservoir Manager Status NI Water have already had to repeat eight Section 10 inspections with two more planned to comply with our

commitments as recommended dates could not be met. This is likely to continue to be an issue in PC21 given the implementation of the Technical Guidance Note – ‘The Practical Application of Strategic Planning Policy for Development in Proximity to Reservoirs’ and NI Water commitments under the MOU.

In addition it was assumed in the original submission that 20 SR Section 10 Inspections would take place in PC15. However due to the impact of Covid on the Reservoir Cleaning Programme there has only been one inspection carried out to date and in reality there will only be a maximum of 5 SR Section 10 Inspections in PC15. Therefore an additional 15 inspections will be required at these sites in the early part of PC21.

In summary NI Water would ask that

- In general the funding for Reservoir Inspections is not reduced to ensure compliance with the MOU for Responsible Reservoir Manager Status in PC21 and also enable a detailed maintenance programme to be established for the PC27 submission.

Once a steadier programme is established the dates by which work must be achieved should not be a major issue in the future negating the need for future early inspections.

- An additional £123k is required for SR Inspections in PC21 for the sites not inspected in PC15 (15 X £8.2K).

3. An increase in the estimate for Supervising Engineer Costs

NI Water notes that funding has been allowed for the retention of a Supervising Engineer less the generic Reporter adjustment (£0.46m).

This was based on an original submission figure of £516k (£1k per site). Since this time NI Water went to market and the Supervising Engineering costs for 20/21 was £1.8k per site. This would equate to $£1.8k \times (45 \text{ IRs} + 40 \text{ SRs}) \times 6\text{yrs} = £918k$.

Therefore NI Water believe the funding for this element should be increased to this amount and should also not be subject to the generic reporter adjustment. This would be a £458k increase from the DD.

It should be noted that if funding is provided for the Reservoir Safety Engineer role (Highlighted in Point 5) then this should offset some of this requirement in the latter years of PC21. It is anticipated that 30 sites could be under the supervision of a Reservoir Safety Engineer in the last year of PC21 and thus funding could be reduced by £54k.

4. An increase in the identified capital maintenance required for the delivery of the recommendations in the Section 10 Inspections.

As part of the Controlled Reservoir Maintenance submission £6.6m was identified to deliver the recommended outputs from the Section 10 inspections. Since the submission more detailed costs have been established as ECI works which included exploratory investigations at the sites have been carried out. In addition due to the need to repeat a number of Section 10 inspections to comply with the Responsible Reservoir Manager Status MOU some new elements have been identified. In general

the increase in costs is due to new requirements for Leakage Surveys at a number of sites and also increased costs associated with remedial work at Toe Drains.

This has seen the estimated costs for the project increase from £6.6m to £7.258m, an increase of £658k. However it is anticipated that some work will be carried out this year with a possible maximum of £500k of work being completed.

Therefore in summary NI Water would ask for an additional £158k for this element.

5. A new submission for additional Staff Required for Reservoir Safety Team

To comply with the Responsible Reservoir Manager Status MOU there was a requirement to commission a Supervising Engineer to monitor Controlled Reservoirs at all time. As there are no Supervising Engineers within NI Water an external consultant was appointed to carry out these duties. This commission is currently £1.8k per site with the 20/21 estimate of £81k for the 45 Impounding Reservoirs. This will increase in the future with the addition of Service Reservoir Sites.

To off-set these costs in the future NI Water is proposing to establish new Reservoir Safety Engineer roles. Two additional staff associated with inspection, evaluation and interventions at reservoirs are required for new legislation not covered by the PC21 plan. The post holders will be required to undertake focused training to develop to a point where they have the appropriate knowledge, skills and experience to be in a position to apply to Defra for application to the Panel of Supervising Engineers.

This will enable NI Water to offset future Supervising Engineer Costs and also to be a more informed client which will ultimately enhance Reservoir Safety to the benefit of all customers within the flood inundation zones of the reservoir.