B5 MAINTAINING THE SUPPLY/DEMAND BALANCE

General guidance to the company

In part B5, the company should set out its strategy for maintaining the balance between supply and demand for the water and sewerage services.

The focus should be on the implications for the company of maintaining (or restoring) service levels in the face of future influences on the balance between supply and demand. The company should set out how these costs are related to demand forecasts and related revenue expectations.

Its strategy for PC10 should be consistent with the company's water resource strategy/plans, leakage appraisal and its existing sewerage plan. Any deviations from these should be explained and justified.

For both water and sewerage services the company must provide all relevant supporting material to demonstrate its approach to the identification of an optimal set of interventions to maintain supply / demand balance including:

- its economic leakage appraisal;
- its current water resource strategy/plans and
- its long term sewerage plans.

The company should also comment on the methods it has used to forecast the costs presented in Tables B5-2 and B5-5 and submit information to support these cost forecasts.

Aggregate expenditure projections reported must be consistent with the Capital Investment Plan in part C5 and the company's water resource management strategy/plan.

Suggested structure of part B5

We suggest that this part of the company submission should be divided into two sections for each service. This structure should provide a framework for the company to explain its strategy for maintaining the supply demand balance in its own way.

Maintaining the supply demand balance	
Section 1	Strategy
Section 2	Expenditure implications of maintaining the supply demand balance

SECTION 1: Specific points the company should address in its strategy

Water service strategy

For the water service the company must describe its baseline supply demand balance, the interventions, if any, that are required to restore or maintain security of supply, and their impact in the final supply demand balance. It is recognised that although the production of a Water Resource Management Plan (WRMP) by the company is not currently a statutory requirement, the company will have been undertaking water resource planning as a business as usual activity. The company should therefore submit any and all information relating to its current water resource strategy/plans required to support this submission. The company should explain how the strategy for maintaining the balance between supply and demand is consistent with its current water resource strategy/plans, summarising where and why changes have been made.

Broadly there are three main reasons why the company may seek additional expenditure for balancing supply and demand:

- to meet growth in demand from customers (either existing or new);
- to restore the security of supply to customers, because of a downward revision to deployable output because of possible climate change impacts, or reductions to abstractions for sustainability reasons; and
- to enhance service levels by providing a stepped improvement in the levels of service for water supply reliability, e.g. to remove an existing deficit against target headroom, or to improve levels of service justified by customer support.

The company should summarise in overview:

- the key aspects of the water resource strategy, with primary focus on expected interventions during the period 2010-2017, including any major areas of overlap with expected quality enhancements;
- its strategy in relation to metering and assessment of the likely cost and demand impact;
- its strategy in relation to new development/customers;
- its strategy in relation to water efficiency;
- its strategy in relation to leakage reduction and
- its assumptions about supply/demand outputs including its security of supply index.

The company should also provide the following information:

Tables B5.1 – Demand forecasts for water service

Table B5.1 should be completed to show demand resulting from the implementation of the company's strategy. The table sets out a comprehensive forecast of demand by component upon which the expenditure forecasts should be based.

Tables B5.3– Supply demand balance

Tables B5.3 should be completed to show the supply demand balance for the water service. They should be consistent with the company's water resource management strategy/plans. Table B5-3 sets out the supply demand balance.

Sewerage service strategy

For the sewerage service the company should set out the key elements of its long-term plan for supply/demand balance and specify its current planning horizon and summarise in overview the methodology it has applied for PC10.

The company should separately set out required investments in wastewater treatment and sewerage network capacity. This should be supported with details of how the company has identified and assessed these costs, in the light of established trends. The company should also set out expected outputs in terms of maintaining existing performance levels in the face of expected changes in demands..

Broadly the main reasons why the company may seek additional expenditure for balancing supply and demand are as follows:

- additional flows from new customers, including infill development;
- additional flows from existing customers;
- increased hard area drainage;
- illegal connections;
- changes in storm intensity; and
- potential impact of climate change.

We would suggest that the company also considers the methodology contained in UKWIR's Long Term Least Cost Sewerage Plan as it applies to wastewater supply-demand, and other issues, and provides a statement relating to how it might adopt this approach for the future. This statement should include indication of the scope for the adoption of the principles, processes and procedures together with realistic timescales for its adoption,

The company should also provide the following information, where available:

- a comparison of planned expenditure to past actual expenditure;
- the impacts on its plan of the requirement to prevent the deterioration of the status of water bodies as required under the Water Framework Directive;
- the impact on its plan of urban creep; and
- the impact on its plan of climate change.

We expect that the company will have communicated with the NIEA in producing its sewerage service strategy and the company should briefly indicate the involvement that the NIEA has had.

Table B5.4 – Demand forecasts for sewerage service

Table B5.4 should be completed to show demand resulting from the implementation of the company's strategy. The table sets out comprehensive forecasts of demand by component upon which the expenditure forecasts should be based.

SECTION 2: Expenditure implications of maintaining the supply demand balance

General guidance for data tables

General guidance is applicable to tables for both the water and sewerage services.

The company should explain its judgements on the expenditure needed to maintain a balance between supply and demand in accordance with the strategy set down in Section 1. The company should demonstrate that its strategy represents the least cost combination of measures necessary to maintain the supply demand balance and set down its plan for the financing of these costs. The company should draw, where applicable, on detail provided in part B8 on charging policies and revenues supported by supplementary information in part B7 (namely tables B7-15 and B7-16)in support of the judgements in this section.

Expenditure allocation

When allocating expenditure, the company must carry out proportional allocation as set out in RAG 2.03. Where a supply/demand balance driven scheme includes other elements, the company must proportionally allocate between all those elements - supply/demand, quality, capital maintenance and/or enhanced service levels. Only the supply demand balance costs of the scheme is to be included in tables B5.2 and B5.5.

The company shall set out its approach to forecasting all capital expenditure in part C5 of the business plan. Within the B5 commentary the company shall also provide further detail relating to the specific approach and data used for forecasting capital

and associated changes in operating expenditure for capital projects for supply/demand expenditure. Likewise the company will provide similar details in B3, B4 and B6. The guidance is set out below.

The company shall explain:

- any differences between the overall approach and the specific approach used to forecast expenditure in each component of their programme (in part B5, this relates to supply/demand expenditure). The reasons for any differences (for example, if the company has no relevant previous experience or has concerns about cost data reliability) should be clearly set out. It is not necessary to repeat the overall approach but the company is required to reference the relevant commentary in part C5;

- how the cost data used to forecast capital expenditure in each purpose category relates to the overall approach; and

- how the outputs and/or activity relate to the forecast expenditure.

Capital costs

Capital costs for both services should to be reported in their infrastructure and non-infrastructure constituents.

Operating costs

For additional operating costs we will generally expect the company to report zero in 2007- 08 in the supply/demand area. Additional supply/demand operating expenditure is included in the total operating costs reported in table B3.3, and will form the basis of the 2007- 08 base operating expenditure. If the company feels that 2007- 08 reported base operating costs do not already include all of the incremental operating costs driven by supply/demand balance factors in 2007- 08, it may enter a non zero value, but should justify its figures with the appropriate evidence for review by the Reporter.

Any operating expenditure associated with the preferred water or sewerage strategy included in B5.2 and B5.5 should be net of savings in base opex.

New development and growth costs

When allocating costs between the new development and growth categories, the company should be aware that:

- new development costs relate to the provision of distribution assets to provide water services and sewerage network assets for new customers with no net deterioration of existing levels of service. These assets can include service reservoirs, pumping stations and rising mains.

- new development costs should also include any works that fall within the scope of the requisitioning provisions in Water & Sewerage Services (NI) Order 2006.

- requisitions and infrastructure charges associated with new development costs should be reported in lines 19 and 21, table B5.2 and lines 15 and 17, table B5.5. The company must set out the basis for these anticipated capital receipts. A company that reports capital contributions as revenue in table 23 of the Annual Information Return return must also report in its commentary a forecast of this revenue stream over the period, and

- growth costs relate to the provision of assets associated with meeting or offsetting growth in demand from **new and existing** customers, while maintaining existing levels of service.

Optional metering costs

It is accepted that there is currently uncertainty regarding domestic metering. However, we are keen to ensure that any associated information can be facilitated from the commencement of any policy to introduce domestic metering in Northern Ireland.

Metering costs should be consistent with the information provided in table B8-13 in section B8. The company should provide commentary showing cost assumptions according to the assumptions made in B8.

Operating costs in the sewerage service are expected to comprise only the extra costs associated with a measured account.

The information in this section should be drawn from and reconcile with the supplementary information in parts B2 and B8.

Operating costs in the sewerage service are expected to comprise only the extra costs associated with a measured account.

Table B5.2 - Expenditure to balance supply and demand – water service

Total capital and operating (net of savings in base opex) expenditure associated with the preferred water resources management strategy should be included in table B5.2, other than:

- expenditure on maintaining leakage at the economic level for the base year (2007-08) or on the implementation of the company's demand management policy (these costs are allowed for in base opex); and
- expenditure for water resource-related environmental quality enhancements (e.g. low flow alleviation schemes) which appear in the quality and other Capital Investment Plan in part C5 under quality drivers, or water resource scheme costs that are proportionally allocated to quality drivers..

The company should report capital and operating costs under the following categories:

- enhanced security of supply
- growth excluding demand management – water;
- growth selective meters – water;
- growth other demand management – water;
- new development – water;
- optional metering – water;

Aggregate expenditure projections reported for each of these categories should also be consistent with the Capital Investment Plan in part C5.

The company should explain how the costs included in this table are consistent with its draft water resources management plan, detailing where and why changes have been made.

Expenditure on leakage reduction

The company should report incremental capital and operating expenditure on leakage control in this table, allocated to the appropriate cost category, where this has been identified as a cost-effective means of balancing supply and demand and results in a stepped change in leakage. This should be consistent with the economic leakage appraisal.

Meters installed in new properties

The capital cost of meters installed in new properties is recovered through the connection charge and should not appear anywhere in this section (as neither do capital contributions in the form of connection charges). The operating cost of these meters should be included in table B5.2 line 25 ‘Opex new development – water’ for the water service and in table B5.5 line 20 ‘Opex new development –sewerage’.

Enhanced service levels

The company should also provide details in this section of expenditure intended to provide a stepped improvement in the levels of service for water supply reliability, whether this is to remove an existing deficit against target headroom, or to improve levels of service where justified by customer support.

'Physical' Security Requirements

No costs associated with schemes to comply with guidance on 'physical' security requirements issued by the Centre for the Protection of National Infrastructure (CPNI)/NIO on behalf of the Secretary of State (refer to Article 294 of the WSSO) or the Department (refer to Article 295 of the WSSO) should appear in this section. These costs should be reported in section B4, Table B4-3.

Table B5.5 - Expenditure to balance supply and demand – sewerage service

For the sewerage service, the company should set out forecast investment requirements and the basis on which they have been identified. The company should demonstrate long term least cost planning, to meet future demands on its sewerage service assets, recognising overlaps with quality obligations and capital maintenance.

The company should set out the impact of supply/demand balance investment on sewerage service assets through a forecast of the number of properties that will become at risk of sewer flooding and that which will be dealt with on a reactive basis during the NIAMP3 and NIAMP4 periods as a result of growth in the sewerage service. The company should also forecast the number of unsatisfactory combined sewer overflows during the NIAMP3 and NIAMP4 periods. The forecast number up to 31 March 2010 should take into account the latest data on the number of unsatisfactory combined sewer overflows and any planned reduction due to investment funded in the SBP quality programme.

In table B5-5 the company should report the expenditure (net of savings in base operating expenditure) associated with the effects of growth in flows to sewers on wastewater treatment works and the sewage network. Growth in flows to sewers can occur due to:

- additional flows from new customers, including infill development;
- additional flows from existing customers;
- increased hard area drainage;
- illegal connections; and
- changes in storm intensity.

The company should report capital and operating costs under the following categories:

- sewage treatment (growth);
- sewerage (growth);
- new development; and
- optional metering (opex only).

Sewage treatment (growth)

These costs relate to individual schemes that the company anticipates carrying out during the next price limit period to accommodate increased flow and / or concentration at treatment works. Where the company anticipates work but does not know specific details, a single item covering these grouped schemes may also be reported in this section. These costs should include schemes associated with the prevention of deterioration of the status of water bodies as required under the Water Framework Directive. Capital expenditure relating to the provision of local distribution assets to provide a sewerage service to new customers should be excluded from sewage treatment (growth) expenditure and included under new development.

Sewerage (growth)

Under this category the company should report the costs of work to prevent new sewer flooding problems and increases in the number of unsatisfactory combined sewer overflows caused by additional flows to sewers downstream from new development and other causes of growth in flows to sewers. Capital expenditure relating to the provision of distribution assets to provide a sewerage service to new customers should be excluded from sewerage (growth) expenditure and included under new development.

It should be noted that the above categories as set out in UKWIR's Long Term Least Cost Plan for wastewater supply-demand are further split between defined schemes, defined contingent schemes; and non-specific schemes.

The company should provide brief commentary on the approach it has used to forecast costs making reference to whether any of the principles, processes and procedures from the UKWIR Long Term Least Cost Framework have been utilised.

Expenditure on first time rural sewerage to meet quality obligations should be excluded from supply/demand balance expenditure.

Aggregate expenditure projections reported must be consistent with the Capital Investment Plan in part C5.

Reporter guidance – demand and supply forecasts

For tables B5-1, B5-3 and B5-4, the Reporter is required to ensure that the company has followed the guidance above and to examine and comment on the robustness of material assumptions underpinning the company's demand and supply forecasts. The Reporter should check and report that assumptions made by the company are consistent across reporting categories and across years, with particular regard to:

- Confirming or otherwise that the information submitted and the explanations given by the company are consistent with the supporting information in part B8.
- Commenting on the approaches the company has undertaken to support its required investment and on the robustness of data and assumptions employed.
- Confirm or otherwise that the company has demonstrated for section 2 that its strategy represents the least cost combination of measures to maintain the supply/demand balance.
- Giving an opinion on the company's economic justification for proposed changes in levels of service and/or headroom compared with 2007-08.
- Population changes, in particular whether the population forecast figures have been derived from the most recent NISRA (Northern Ireland Statistics and Research Agency) estimates or local authority estimates or the company's update of these estimates. If the company has revised the most recent NISRA or local government estimates, the Reporter must determine the basis for the changes and assess whether they are robust.
- Future water delivered to different customer groups, in particular the amount of water lost through leakage and water delivered to measured and unmeasured household customers.
- The effects of different climatic conditions, in particular any changes in the components of household consumption and changes in the amount of water available for supply. If climate change is cited by the company as being a material assumption behind the demand and supply forecast, the Reporter is expected to determine the basis for the assumptions made (e.g. are the climate change assumptions consistent with the UKWIR 'Effects of Climate Change on River Flows and Groundwater Recharge: Guidelines for resource assessment').
- Assumptions underpinning the company's assessment of growth in flows to sewers, with regard to the components of infill development, additional flows from existing customers, increased hard area drainage, illegal connections and changes in storm intensity.
- The robustness of the company's analysis to support its forecast of sewerage service investments (wastewater treatment and sewer network) driven by supply/demand balance factors.
- The Reporter shall confirm whether the company has followed the definitions set out in the EA's Water Resource Planning Guidelines for water resource zones, water available for use, reporting year distribution input and target headroom. Where these elements are not consistent with the definitions, the Reporter shall ask the company to explain why and comment on its explanation.
- Whilst it is accepted that the company is not currently obliged to produce a WRMP the Reporter is required to check and comment on the appropriateness of the company's current water resource strategy and plans.

Reporter guidance for expenditure to balance supply and demand – water and sewerage service costs

For tables B5-2 and B5-5, the Reporter should ensure that the company has followed the guidance above. In particular, the Reporter should comment on:

- The consistency of expenditure with its water resource strategy/plans. Are the costs consistent and do they reflect the company's least cost plan? Are there any schemes included that are not part of the least cost plan? If so, why?
- Whether costs have been allocated appropriately. In particular, have the costs of system extensions, not including system reinforcement costs associated with new development, been allocated (correctly) to new development or (incorrectly) to growth?
- The composition of costs. What do the costs consist of; has the company set out an explicit link between the summary costs requirements and the schemes that they will pay for? If not, what are these schemes?
- Large schemes. Do the costs underlying any large schemes appear to be robust?
- The driver of costs. Are growth costs supported by evidence of growth in water delivered or sewage collected? Is this at a zonal level, or are there hotspots? Has the company taken into account any savings in opex in situations where there is falling demand?
- Do the costs associated with sewerage (growth) appear reasonable in relation to forecast housing and population trends?
- Consistency of costs with the information submitted in Part C5 (spreadsheets C5-1 and C5-2).
- Consistency of cost data with knowledge about costs of recent similar schemes.
- Consistency of efficiency assumptions with those set out in parts B2 and B3.
- The company's allocation of costs between the new development and growth categories. Has the company complied with the definitions?
- Any evidence the company has presented to justify the inclusion of additional supply demand balance operating costs in 2007-08.
- The basis of forecast costs for dealing with the impact of schemes associated with preventing the deterioration of the status of water bodies under the Water Framework Directive.
- Whether proposed schemes can be split into independent elements, some of which provide better value and some of which provide less value.
- Scrutinise investment plans to identify elements of schemes that are unnecessary for the achievement of objectives.

SUPPORTING INFORMATION

Economic Leakage Appraisal

NIW should submit a copy of the company's current economic leakage appraisal as part of its business plan submission for PC10.

NIAUR will require the company to undertake and submit a further appraisal as part of its PC12 submission. The following guidance (denoted below by grey shading) provides information on the anticipated reporting requirements for PC12.

Economic Leakage Appraisal submission requirements for PC12

Objective of Appraisal

The purpose of the economic leakage appraisal is for the company to demonstrate that current and future target levels of leakage are based on sound economic analyses that form part of a holistic approach to the supply/demand balance. Equally, the company must demonstrate it has a full understanding of the current level of leakage from all parts of the water supply network.

We would like to monitor the company's leakage performance against their own targets set using robust economics. If the company is unable to supply such an analysis then we will set targets pragmatically with reference to the security of supply index.

Appraisal Output Content and layout

A Current water balance and estimate of leakage

The company must demonstrate that it has a robust water balance consistent with table 10 of the Annual Information return. Any differences in assumptions to those used in the Annual Information return must be clearly explained. The current leakage level forms the base for leakage targets going forward. The company must explain the methodology used to calculate the different components of leakage from across the distribution system, e.g. trunk main, supply pipe, service reservoir etc.

B Baseline leakage strategy

The company is required to set out its current policy with regard to leakage detection and control. This should include descriptions of its supply pipe leakage policy, methods to detect service reservoir and trunk mains leakage, together with an indication of the frequency of inspection. For other parts of the network descriptions of the find and fix methodologies must be provided, including DMAs and non-DMA areas, the use of loggers and telemetry and the frequency of data collection, traditional sweeping with listening sticks and the use of the other technologies. The company should explain how contractors are used, e.g. are contracts incentive based? In general the company must report on current resources, both physical and financial, devoted to leakage control.

C Economic appraisal

The company is expected to adopt current industry best practice when calculating the economic level of leakage (ELL). We expect the company to calculate an ELL as part of a least cost approach to balancing the supply and demand for water. The company should use company specific data but where it is unable to do so then the sources of the data and the assumptions behind them should be explained. The following sub-headings give an outline of what we expect, as a minimum, an ELL appraisal should contain in terms of key components:

C1 Methodology

The company should explain the general methodology used. The link between the supply/demand balance and leakage must be explicit. A 25 year least cost approach is expected. The ELL should be calculated zonally, where data assumptions vary across zones this must also be made explicit.

C2 Current leakage/cost relationship

The company must understand the relationship between leakage levels and costs. The company may demonstrate the relationship between leakage and leakage costs and activity using the principal of a cost curve/equation. The leakage/cost relationship should be developed using actual company cost and activity data and can be used to estimate the costs of leakage at different levels using the current policy. The company must include a summary of the figures and methodology used in deriving the relationship and any differences in assumptions used across zones.

Also known as background or base level leakage, policy minimum leakage is a key component of a best practice ELL appraisal. The policy minimum is an estimate of how low leakage could be driven using the current find and fix policies in an intensive manner. It must be measured using the same methodology as current leakage in terms of measured night flows. The company must set out the methodology used to calculate the policy minimum in terms of number of sweeps, repair times, sample selection and extrapolation.

C3 Alternative options

A full range of alternative leakage policies must be considered. Policy options such as new or improved district metering, pressure management, new leak survey technology, increased efficiency in leak survey and repair, increased metering, mains replacement, etc., should be considered. The current policy should be used to calculate a baseline least cost leakage control policy. The alternative options should then be used to develop the final least cost leakage control policy. Care should be taken to avoid double counting where different options interact. This is the policy that should be used in the ELL/supply/demand least cost planning.

C4 Final leakage control policy

The results of the first stage of the ELL analysis should be presented in tabulated form supported by commentary. The different leakage options should be presented

including the costs for each option in terms of capital and operating costs and the average incremental social cost (AISC). The final least cost leakage control policy should then be presented, again in terms of capital and operating costs and the AISCs. Impact on leak location costs, leakage level, policy minimum leakage and on break out rates should also be considered. The company may choose to present leakage reduction in tranches. These should be set out against the other supply/demand options in explicit comparison in the same terms. The company must also set out the cost of the next tranche of leakage reduction that would be uneconomic. Again all results should be presented at a zonal and company level.

The preferred policy for leakage management should take full account of the interaction with the company's strategy on capital maintenance.

The company should explain how forecast changes in the number of households have been taken into account when setting targets. The company should also explain how the targets set for the 25 year period deal with supply/demand deficits, i.e. is there a smoothed profile with steady decreases in leakage or is leakage expected to be reduced only when an extra resource is needed?

C5 Environmental and social costs and benefits

The company may be required to undertake a best practice study of environmental and social costs/benefits of leakage control to calculate the ELL that maximises benefits for consumers, the environment and society. Ofwat's RD02/08 provides guidance on how companies should undertake this analysis.

C6 Sensitivity testing

The company must carry out sensitivity analysis on the key components of the ELL. These will include background losses, detection and repair costs and repair times, and all other key variables and assumptions.

C7 Results summary and targets

The company must produce a series of annual targets for years one to ten. Targets must also be produced for years 11-15, 16-20 and 21-25. These must be consistent with the water resource plan. The company must show how the company target relates to water resource zone targets with reference to leakage from different parts of the network. The company should set out how they propose to manage their leakage control policy going forward in terms of planned changes to find and fix methodology.

C8 Assessment criteria

We will use the assessment criteria adopted in E&W in order to judge the robustness of the company's ELL analysis. The key questions considered will be as follows:

1	*Methodology*	*Is the model used robust? Does it comply with industry best practice? If it does not in all areas, then why not?*

2	*Data quality*	*Has the company used company specific data in its ELL analysis? Is this data applied zonally or on a company level? Has data been collected over a period of time? Is this time period considered long enough to produce reliable results? Has the source of all data inputs been made clear in the company's report, including the derivation of the costs of each policy option? How do key data compare to industry values? How do current and forecast capital and operating costs associated with each policy option, and the levels of efficiency assumed, compare to other companies and recent schemes undertaken by the company? How has the company calculated policy minimum levels of leakage? Are the company's estimates appropriate to its operating environment and are they comparable to levels reported by other companies?*
3	*Breadth of analysis*	*Has the company considered a wide range of leakage policy options available? Are these analyses fully documented in the report?*
4	*Water balance*	*Is the water balance acceptable to NIAUR? How large is the MLE adjustment if used? If not used, how large is the imbalance between top down and bottom up leakage? Is bottom up leakage calculated by industry best practice?*
5	*Consistency with SDB*	*Does the ELL analysis form part of an integrated supply/demand balance assessment? Are the different supply/demand options considered in the same format in an explicit manner?*
6	*Zonal appraisal*	*Is the company ELL built up from resource zone level?*
7	*Sensitivity analysis*	*Have the key data inputs in the analysis been tested for their effects on the ELL?*
8	*Comparative analysis*	*How do the key inputs and assumptions compare with data and assumptions used by the rest of the industry? If there are differences then are there justifiable reasons why?*
9	*Externalities*	*Has the company included environmental and social costs and benefits in its ELL analysis? Does this meet best practice?*

Reporter guidance for Economic Level of Leakage Appraisal

The reporter shall assess the company's ELL submission (making reference to the nine assessment criteria set out above where possible). The reporter should confirm consistency of the ELL calculation with industry best practice as set out in the 2002 report, 'Future approaches to leakage target setting for water companies in England and Wales' and with the process for including externalities detailed in Ofwat's RD02/08. Both are available on Ofwat's website.

TABLE B5-1

Table B5-1: Demand forecasts: water service line definitions

Block A – Properties

1	Households billed unmeasured water	000 (3dp)
Definition	Average number of households billed for unmeasured water within the supply area. Exclude void properties.	
Processing rules	Copied Field: Table B8-2 Line 1	
Reference	-Annual Information Return table 7 line 3	
Responsibility	Network Regulation Team	

3	Non-households billed unmeasured water	000 (3dp)
Definition	Average number of non-households billed for unmeasured water within the supply area. Exclude void properties.	
Processing rules	Copied Field: Table B8-6 Line 1	
Reference	Annual Information Return table 7 line 8	
Responsibility	Network Regulation Team	

2	Households billed measured water	000 (3dp)
Definition	Average number of billed metered households. Exclude void properties.	
Processing rules	Copied field: table B8-3 line 5	
Reference	Annual Information Return table 7 lines 4 and 5	
Responsibility	Network Regulation Team	

4	Non-households billed measured water	000 (3dp)
Definition	Average number of non-households billed for measured water within the supply area. Exclude void properties.	
Processing rules	Input and The sum of table B8-7 line 9 plus B8-7 line 18	
Reference	Annual Information Return table 7 line 9	
Responsibility	Network Regulation Team	

5	Void properties	000 (3dp)
Definition	Average number of properties, within the supply area, which are connected to the distribution system but do not receive a charge as there are no occupants.	
Processing rules	Calculated field. The sum of Table B8-2 line 26 and Table B8-6 line 12. Note: For 2007-08 base year this should reconcile with the Annual Information Return.	
Reference	Annual Information Return Table 7 Line 12	
Responsibility	Network Regulation Team	

7	Population – households billed measured water	000 (2dp)
Definition	Average resident population in billed households supplied with measured water. The population should be obtained from most recent NISRA or local government estimates or the company's update of these estimates.	
Processing rules	Input field	
Reference	Annual Information Return table 7 line 14	
Responsibility	Network Regulation Team	

Block B – Population

6	Population – households billed unmeasured water	000 (2dp)
Definition	Average resident population in billed households supplied with unmeasured water. The population should be obtained from most recent Northern Ireland Statistics and Research Agency (NISRA) or local government estimates, or the company's update of these estimates.	
Processing rules	Input field	
Reference	Annual Information Return table 7 line 13.	
Responsibility	Network Regulation Team	

8	Population – non-households billed unmeasured water	000 (2dp)
Definition	Average resident population in billed non-households supplied with unmeasured water. The population should be obtained from most recent NISRA or local government estimates, or the company's update of these estimates.	
Processing rules	Input field	
Reference	Annual Information Return table 7 line 15	
Responsibility	Network Regulation Team	

Block C – Water delivered – volume

9	Population – non-households billed measured water	000 (2dp)
Definition	Average resident population in billed non-households supplied with measured water. The population should be obtained from most recent NISRA or local government estimates, or the company's update of these estimates	
Processing rules	Input field	
Reference	Annual Information Return table 7 line 16	
Responsibility	Network Regulation Team	

10	Population – total	000 (2dp)
Definition	Total average resident population	
Processing rules	Calculated field: the sum of lines 6, 7, 8, 9	
Reference	Annual Information Return table 7 line 17	
Responsibility	Network Regulation Team	

11	Total leakage	Ml/d (2dp)
Definition	The sum of network losses and underground supply pipe leakage. The input must be consistent with estimates of, leakage derived from night flow measurements; reservoir and trunk mains tests; allowances for plumbing losses and customer night time use.	
Processing rules	Input field	
Reference	Annual Information return table 10 line 25	
Responsibility	Network Regulation Team	

12	Distribution losses	Ml/d (2dp)
Definition	Distribution losses represent the losses on the company's potable water distribution system, ie excluding supply pipe leakage which is the customer's responsibility.	
Processing rules	Input field	
Reference	Annual Information Return table 10 line 24	
Responsibility	Network Regulation Team	

13	Billed measured household	Ml/d (2dp)
Definition	Average volume of water delivered to households which is measured (Ml/d). This is to include supply pipe leakage and meter under-registration. For households that are internally metered, estimates of supply pipe leakage and of meter under-registration must be made for comparative purposes, and included in this line. The method of estimation must be set out and supported in the commentaries. Additional meters fitted to measured households for ancillary supplies (e.g. external hosepipes) which are non-commercial, are to be included as should any fitted to unmeasured households if this is how revenue is allocated. The company should clearly report any amendments to actual metered consumption records to provide the requested water delivered information. Amendments may be necessary to take account of billing periods different to the report year. Under-registration of meters may also be a problem which the company may need to take into account, and adjust records if necessary. If records are adjusted this should be clearly reported in the commentaries along with evidence to support the need for any changes. Where under-registration is a problem, the company should specify the class of meters involved and the percentage error assumed. Forecasts of water delivered should be based on expected demand averaged over a set of forecast years which cover a range of weather variations within the climatic conditions assumed.	
Processing rules	Input field	
Reference	Annual Information Return table 10 line 1	
Responsibility	Network Regulation Team	

14	Billed measured non-household	Ml/d (2dp)
Definition	Average volume of water delivered to non-households which is measured (Ml/d). This is to include supply pipe leakage and meter under-registration. For non-households that are internally metered, estimates of supply pipe leakage and of meter under-registration must be made for comparative purposes and included in this line. The method of estimation must be set out and supported in the commentaries. Additional meters fitted to measured non-households for ancillary supplies (e.g. external hosepipes) which are non-commercial are to be included, as should any fitted to unmeasured non-households if this is how revenue is allocated. The company should clearly report any amendments to actual metered consumption records to provide the requested water delivered information. Amendments may be necessary to take account of billing periods different to the report year. Under-registration of meters may also be a problem which the company may need to take into account, and adjust records if necessary. If records are adjusted this should be clearly reported in the commentaries along with evidence to support the need for any changes. Where under-registration is a problem, the company should specify the class of meters involved and the percentage error assumed. Forecasts of water delivered should be based on expected demand averaged over a set of forecast years which cover a range of weather variations within the climatic conditions assumed.	
Processing rules	Input field	
Reference	Annual Information Return table 10 line 2	
Responsibility	Network Regulation Team	

15	Billed unmeasured household	Ml/d (2dp)
Definition	Estimated average volume of water delivered to households which is unmeasured. This is to include supply pipe leakage. (If the company's per capita consumption of unmeasured households excludes supply pipe leakage, an estimate of this leakage must be made and included in this line for comparative purposes.) The method of estimation must be set out and supported in the commentaries. If any meters are fitted to unmeasured properties for ancillary supplies (eg external hosepipes) which are non-commercial, these should be included in the consumption category, corresponding with the revenue allocation as used for the Principal Statement. Forecasts of water delivered should be based on expected demand averaged over a set of forecast years which cover a range of weather variations within the climatic conditions assumed.		
Processing rules	Input field	
Reference	Annual Information Return table 10 line 4	
Responsibility	Network Regulation Team	

16	Billed unmeasured non-household	Ml/d (2dp)
Definition	Estimated average volume of water delivered to non-households which is unmeasured. This is to include supply pipe leakage. If the company's per capita consumption of unmeasured non-households excludes supply pipe leakage, an estimate of this leakage must be made and included in this line for comparative purposes. The method of estimation must be set out and supported in the commentaries. If any meters are fitted to unmeasured properties for ancillary supplies (eg external hosepipes) which are non-commercial, these should be included in the consumption category, corresponding with the revenue allocation as used for the Principal Statement. Forecasts of water delivered should be based on expected demand averaged over a set of forecast years which cover a range of weather variations within the climatic conditions assumed.		
Processing rules	Input field	
Reference	Annual Information Return table 10 line 5	
Responsibility	Network Regulation Team	

TABLE B5-2

Table B5-2 Water service – supply/demand balance expenditure projections

Block A – Efficiency profiles

1	Overall compounded assumed improvement profile (capex enhancements infrastructure)	% (2dp)
Definition	Projected annual reductions in capital enhancement expenditure on infrastructure assets compared to projected levels based on the company's current unit cost database.	
Processing rules	Copied field: Table B2-2 line 25	
Reference		
Responsibility	Comparative Efficiency Team	

2	Overall compounded assumed improvement profile (capex enhancements non-infrastructure)	% (2dp)
Definition	Projected annual reductions in capital enhancement expenditure on non-infrastructure assets compared to projected levels based on the company's current unit cost database.	
Processing rules	Copied field: Table B2-2 line 31	
Reference		
Responsibility	Comparative Efficiency Team	

3	Overall compounded assumed improvement profile (capex meters)	% (2dp)
Definition	Projected annual reductions in capital enhancement expenditure on non-infrastructure assets for meters compared to projected levels based on the company's current unit cost database.	
Processing rules	Copied field: Table B2-2 line 34	
Reference		
Responsibility	Comparative Efficiency Team	

4	Overall compounded assumed improvement profile (opex base)	% (2dp)
Definition	The overall cumulative improvement in water service base operating efficiency resulting from catch-up in relative efficiency plus minimum improvements achievable by band A company.	
Processing rules	Copied field: Table B2-2 line 4	
Reference		
Responsibility	Comparative Efficiency Team	

5	Overall compounded assumed improvement profile (opex enhancements)	%
Definition	The overall cumulative improvement in water service enhancements operating efficiency resulting from catch-up in relative efficiency plus minimum improvements achievable by band A company.	
Processing rules	Copied field: Table B2-2 line 9	
Reference		
Responsibility	Comparative Efficiency Team	

7	Capex growth selective meters – water (infrastructure)	£m (3dp)
Definition	Capital expenditure on infrastructure assets associated with the installation of selective meters. . These costs should be consistent with the scheme specific costs reported in Chapter C5	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

Block B – Water service SDB – capital expenditure infrastructure

6	Capex growth excluding demand management - water (infrastructure)	£m (3dp)
Definition	Capital expenditure on infrastructure assets associated with meeting or offsetting changes in demand from new and existing customers, while maintaining existing levels of service. Exclude expenditure associated with selective meters. . These costs should be consistent with the scheme specific costs reported in Chapter C5. Note: This capital expenditure should exclude expenditure relating to the provision of local distribution assets to provide a water service to new customers. This expenditure should be reported under line 8: capex – new development.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

8	Capex new development - water (infrastructure)	£m (3dp)
Definition	The gross capital costs associated with the provision of local distribution infrastructure assets to provide water services for new customers with no net deterioration of existing levels of service. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

9	Capex optional metering - water (infrastructure)	£m (3dp)
Definition	Infrastructure capital expenditure associated with the total number of free meter options installed at household properties during each year. Include assets for meters installed at household properties fitted in any location (eg internal, external in garden, external at boundary, etc.). Include only those assets for meters which have been installed free of charge to the customer and which are used to determine a customer's bill. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

10	Capex sub total - water (infrastructure)	£m (3dp)
Definition	Gross capital expenditure for the provision of infrastructure assets to provide water services for new customers, to accommodate increased use of water by existing customers and to accommodate the potential impact of climate change, while maintaining existing levels of service. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: the sum of lines 6, 7, 8 and 9	
Reference		
Responsibility	Network Regulation Team	

11	Capex total net of efficiency - water (infrastructure)	£m (3dp)
Definition	Gross capital expenditure net of efficiency, for the provision of infrastructure assets to provide water services for new customers, to accommodate increased use of water by existing customers and to accommodate the potential impact of climate change, while maintaining existing levels of service. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: Line 10 multiplied by (1 – line 1 divided by 100).	
Reference		
Responsibility	Network Regulation Team	

Block C – Water service SDB – capital expenditure non-infrastructure

12	Capex growth excluding demand management - water (non-infrastructure)	£m (3dp)
Definition	Capital expenditure on non-infrastructure assets associated with meeting or offsetting changes in demand from new and existing customers, while maintaining existing levels of service. Exclude expenditure associated with selective meters and other assets to manage customer demand. . These costs should be consistent with the scheme specific costs reported in Chapter C5. Note: This capital expenditure should exclude expenditure relating to the provision of local distribution assets to provide a water service to new customers. This expenditure should be reported under line 15: capex – new development.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

13	Capex growth selective meters - water (non-infrastructure)	£m (3dp)
Definition	Capital expenditure on non-infrastructure assets associated with the installation of selective meters. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

14	Capex growth other demand management – water (non-infrastructure)	£m (3dp)
Definition	The gross capital costs associated with the provision of assets to manage customer demand, other than selective meters, which should be included in line 13. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

15	Capex new development - water (non-infrastructure)	£m (3dp)
Definition	The gross capital costs associated with the provision of local distribution non-infrastructure assets to provide water services for new customers with no net deterioration of existing levels of service. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

16	Capex optional metering - water (non-infrastructure)	£m (3dp)
Definition	Non-infrastructure capital expenditure associated with the total number of free meter options installed at household properties during each year. Include meters installed at household properties fitted in any location (eg internal, external in garden, external at boundary, etc.). Include only those meters which have been installed free of charge to the customer and which are used to determine a customer's bill. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

17	Capex sub total - water (non-infrastructure)	£m (3dp)
Definition	Gross capital expenditure for the provision of non-infrastructure assets to provide water services for new customers, to accommodate increased use of water by existing customers and to accommodate the potential impact of climate change, while maintaining existing levels of service. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: the sum of lines 12, 13, 14, 15 and 16	
Reference		
Responsibility	Network Regulation Team	

18	Capex total net of efficiency - water (non-infrastructure)	£m (3dp)
Definition	Gross capital expenditure net of efficiency, for the provision of non-infrastructure assets to provide water services for new customers, to accommodate increased use of water by existing customers and to accommodate the potential impact of climate change, while maintaining existing levels of service. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: Sum of lines (12, 14 and 15) multiplied by (1 – line 2 divided by 100) plus the sum of lines (13 and 16) multiplied by (1 - line 3 divided by 100)	
Reference		
Responsibility	Network Regulation Team	

Block D – Capital contributions

19	Requisitions and other contributions	£m (3dp)
Definition	A projection of anticipated requisitions and anticipated capital contributions to be invited as commuted lump sums received for the water service.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

20	Grants	£m (3dp)
Definition	All grants received, approved and anticipated net of associated costs of securing the grant for the water service.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

21	Infrastructure charges	£m (3dp)
Definition	Anticipated revenues from infrastructure charges which should equate to the multiple of the number of connections for domestic purposes, the proposed standard infrastructure charges and the effect of any scaling factor.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

23	Opex growth selective meters - water	£m (3dp)
Definition	The additional operating expenditure associated with the total number of selective meters installed at properties in each year. Include meters installed at properties fitted in any location (e.g. internal, external in garden, external at boundary, etc.). Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

Block E – Water service SDB – changes in operating expenditure

22	Opex growth excluding demand management - water	£m (3dp)
Definition	The adjustments made to base operating expenditure in 2007-08 associated with changes to water delivered to new and existing customers while maintaining existing levels of service. Exclude expenditure associated with selective meters and other assets to manage customer demand. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

24	Opex growth other demand management - water	£m (3dp)
Definition	The additional operating expenditure associated with assets to manage customer demand, other than selective meters, installed at properties in each year. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

25	Opex new development – water	£m (3dp)
Definition	The adjustments made to base operating expenditure in 2007-08 as a result of additional capital costs associated with the provision of local distribution assets to provide water services for new customers with no net deterioration of existing levels of service. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

26	Opex optional metering – water	£m (3dp)
Definition	The additional operating expenditure associated with the total number of free meter options installed at household properties in each year. Include meters installed at household properties fitted in any location (e.g. internal, external in garden, external at boundary, etc.). Include only those meters which have been installed free of charge to the customer and which are used to determine a customer's bill. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

27	Opex sub total - water	£m (3dp)
Definition	The adjustments to base operating expenditure in 2007-08 due to growth related capital expenditure, capital investment for new development and to accommodate the potential impact of climate change, while maintaining existing levels of service. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: the sum of lines 22, 23, 24, 25, and 26	
Reference		
Responsibility	Network Regulation Team	

28	Opex total net of efficiency – water	£m (3dp)
Definition	The adjustments to base operating expenditure in 2007-08 net of efficiency, due to growth related capital expenditure, capital investment for new development and to accommodate the potential impact of climate change, while maintaining existing levels of service. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: The sum of lines (22, 24, and 25) multiplied by (1 minus line 5 divided by 100) plus lines (23 and 26) multiplied by (1 minus line 4 divided by 100)	
Reference		
Responsibility	Network Regulation Team	

28a	Opex total PPP	£m (3dp)
Definition	The adjustments made to operating expenditure in 2007-08 associated with changes in the PPP contracts. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

Block F – Water service ESL – capital expenditure infrastructure

30	Capex – enhanced security of supply total (infrastructure)	£m (3dp)
Definition	The infrastructure capital costs associated with the achievement of an enhanced service level that directly impacts on supply/demand balance through improved security of water supplies. An enhancement is achieved through the provision of identifiable, measurable and permanent stepped improvements in service levels above the most recently established company-wide base level of service and additional to improvements which result from expenditure in other purpose categories. This expenditure should be consistent with the forecasts set out in your water resource plans. . These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

31	Capex – enhanced security of supply net of efficiency (infrastructure)	£m (3dp)
Definition	The infrastructure capital costs, net of efficiency, associated with the achievement of an enhanced service level that directly impacts on supply/demand balance. An enhancement is achieved through the provision of identifiable, measurable and permanent stepped improvements in service levels above the most recently established company-wide base level of service and additional to improvements which result from expenditure in other purpose categories. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: line 30 multiplied by (1 –line 1 divided by 100).	
Reference		
Responsibility	Network Regulation Team	

Block G – Water service ESL – capital expenditure non-infrastructure

33	Capex – enhanced security of supply total (non-infrastructure)	£m (3dp)
Definition	The non-infrastructure capital costs associated with the achievement of an enhanced service level that directly impacts on supply/demand balance through improved security of water supplies. An enhancement is achieved through the provision of identifiable, measurable and permanent stepped improvements in service levels above the most recently established company-wide base level of service and additional to improvements which result from expenditure in other purpose categories. This expenditure should be consistent with the forecasts set out in your water resource plans. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

34	Capex – enhanced security of supply net of efficiency (non-infrastructure)	£m (3dp)
Definition	The non-infrastructure capital costs, net of efficiency, associated with the achievement of an enhanced service level that directly impacts on supply/demand balance. An enhancement is achieved through the provision of identifiable, measurable and permanent stepped improvements in service levels above the most recently established company-wide base level of service and additional to improvements which result from expenditure in other purpose categories. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: line 33 multiplied by (1 –line 2 divided by 100).	
Reference		
Responsibility	Network Regulation Team	

Block H – Water service ESL –changes in operating expenditure

36	Opex – enhanced security of supply total	£m (3dp)
Definition	The adjustments made to base operating expenditure in 2007-08 due to capital investment undertaken to achieve an enhanced service level that directly impacts on supply/demand balance through improved security of water supplies. This expenditure should be consistent with the forecasts set out in your water resource plans. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

37	Opex – enhanced security of supply net of efficiency	£m (3dp)
Definition	The adjustments made to base operating expenditure, in 2007-08 net of efficiency, due to capital investment undertaken to achieve an enhanced service level that directly impacts on supply/demand balance. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: Line 36 multiplied by (1- line 5 divided by 100).	
Reference		
Responsibility	Network Regulation Team	

39	Security of supply index (reference levels of service)	nr
Definition	The forecast security of supply index, to the reference level of service, calculated as set out in Ofwat's RD 03/02. For 2008-09, the index should be based on actual data. In subsequent years, you should forecast the index based on your anticipated water resources position.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

Block I – water service output measures

38	Security of supply index (planned levels of service)	nr
Definition	The forecast security of supply index, to your company's planned level of service, calculated as set out in Ofwat's RD 03/02. For 2008-09, the index should be based on actual data. In subsequent years, you should forecast the index based on your anticipated water resources position.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

40	Security of supply index (critical period)	nr
Definition	The forecast security of supply index, to the reference level of service, calculated as set out in Ofwat's RD 03/02. For 2008-09, the index should be based on actual data. In subsequent years, you should forecast the index based on your anticipated water resources position. Note: the company need report this index only if investment to maintain the supply demand balance is driven by the critical period.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

TABLE B5-3

Table B5-3: Supply forecasts: water service line definitions

Block A – Supply forecasts

1	Deployable output	Ml/d (2dp)
Definition	Average deployable output should be consistent with that collected by the NIEA as part of the Water Resource Planning Guideline, less any process losses included in the Company's Water Resources Plan. For groundwater sources, the deployable output is defined as: • The output for specified conditions and demands of a commissioned source or group of sources as constrained by: licensed quantities; water quantity; environment (constraints in licence); treatment; raw water mains and/or aquifers pumping plant; and/or well/aquifer properties; transfer and/or output main. For surface water systems, the deployable output is defined as: • The constant rate of supply that can be maintained from the water resources system except during periods of restriction within the following constraints: given level of service; the historic period for which data is available or could be derived; supply without storage entering the emergency storage zone; supply within the defined physical capacities of the existing system adopted for the simulation; source operation in accordance with the licence, or, for specified scenarios, a Drought Order or Permit.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

2	Reductions in output imposed by NIEA	Ml/d (2dp)
Definition	The reduction in deployable output that results from licence reductions imposed by the Northern Ireland Environment Agency. This should include expiry of time limited licences.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

3	Reductions in output to meet other statutory obligations	Ml/d (2dp)
Definition	The reduction in deployable output that results from the need to meet other statutory obligations, such as a new water quality standard or to deal with deteriorating raw water quality.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

4	Outage allowance	Ml/d (2dp)
Definition	Outage is defined as a temporary loss of deployable output due to planned or unplanned events. Planned events are those such as maintenance of source works; unplanned events are exclusively pollution, turbidity, nitrate, algae, power failure and system failure.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

5	Bulk imports	Ml/d (2dp)
Definition	Volume of water imported from other companies in bulk supplies by the appointed business. Include treated imports and untreated imports which are treated by the appointed business, but exclude non potable supplies.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

6	Bulk exports	Ml/d (2dp)
Definition	Volume of water exported to other companies in bulk supplies by the appointed business. Include treated exports and untreated exports which are treated by the appointed business, but exclude non potable supplies.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

7	Water available for use (including PPP)	Ml/d (2dp)
Definition	Company wide water available for use is defined as the deployable output less sustainability reductions, including PPP, plus bulk supply imports, less bulk supply exports and less reductions made for outage allowance.	
Processing rules	Calculated field: line 1 minus line 2, minus line 3, minus line 4, plus line 5, minus line 6.	
Reference		
Responsibility	Network Regulation Team	

8	Distribution input (normal year)	Ml/d (2dp)
Definition	The forecast of annual average demand (expressed as distribution input) under normal weather conditions.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

9	Distribution input (dry year) (including PPP)	Ml/d (2dp)
Definition	The forecast of dry year annual average demand (expressed as distribution input) including PPP.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

10	Available headroom (dry year)	Ml/d (2dp)
Definition	The difference between water available for use and dry year annual average demand (expressed as distribution input) at any given point in time.	
Processing rules	Calculated field: line 7 minus line 9	
Reference		
Responsibility	Network Regulation Team	

11	Target headroom (dry year)	Ml/d (2dp)
Definition	The threshold or minimum acceptable headroom which, under the conditions assumed for the forecast of dry year annual average demand, would trigger the need for the introduction of those water management activities (from source to end use) that would result in an increase in water available for use or a decrease in demand. The company will be required to provide a detailed cost/benefit analysis of any forecasts of target headroom.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

12	Water available for use (critical period) (including PPP)	Ml/d (2dp)
Definition	Company wide critical period water available for use including PPP is defined as the critical period deployable output less sustainability reductions, plus bulk supply imports, less bulk supply exports and less reductions made for outage allowance. The company should provide details of the conditions that govern the timing and duration of their critical period.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

13	Distribution input (critical period) (Including PPP)	Ml/d (2dp)
Definition	The forecast of average demand over a company's critical period (expressed as distribution input) including PPP. The company should provide details of the conditions that govern the timing and duration of their critical period.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

14	Target headroom (critical period)	Ml/d (2dp)
Definition	The threshold or minimum acceptable headroom which, under the conditions assumed for the forecast of average demand over a company's critical period, would trigger the need for the introduction of those water management activities (from source to end use) that would result in an increase in water available for use or a decrease in demand. The company will be required to provide a detailed cost/benefit analysis of any forecasts of target headroom.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

TABLE B5-4

Table B5-4: Demand forecasts: sewerage service line definitions

Block A – Properties

1	Number of unmeasured households	000 (3dp)
Definition	Average number of households billed for unmeasured sewage collected within the undertaker's area. Exclude void properties	
Processing rules	Copied field: Table B8-4 Line 1	
Reference	Annual Information Return table 13 line 3	
Responsibility	Network Regulation Team	

3	Number of unmeasured non-households	000 (3dp)
Definition	Average number of unmeasured non-households receiving a sewerage service. Exclude void properties.	
Processing rules	Copied field: Table B8-8 Line 1	
Reference	Annual Information Return table 13 line 6	
Responsibility	Network Regulation Team	

2	Number of measured households (with standing charge)	000 (3dp)
Definition	Number of measured households receiving a sewerage charge and paying a standing charge. Exclude void properties. Include households billed for measured water supply where sewerage bills are based on value of water supplied.	
Processing rules	Copied field: Table B8-5 Line 1.	
Reference	Annual Information Return table 13 line 4	
Responsibility	Network Regulation Team	

4	Non-households billed measured sewage collected	000 (3dp)
Definition	Average number of non-households billed for measured sewage collected within the undertaker's area. Exclude void properties.	
Processing rules	Input and Table B8-9 Line 9	
Reference	Annual Information Return table 13 line 7	
Responsibility	Network Regulation Team	

5	Void properties	000 (3dp)
Definition	Average number of properties within the undertaker's area which are connected to the sewerage system but do not receive a charge as there are no occupants	
Processing rules	Calculated field. Sum of Table B8-4 line 26 and Table B8-8 line 12.	
Reference	Annual Information Return table 13 line 9	
Responsibility	Network Regulation Team	

7	Population – households billed measured sewage collected	000 (2dp)
Definition	Average resident population in households billed for measured sewage collected.	
Processing rules	Input field	
Reference	Annual Information Return table 13 line 4	
Responsibility	Network Regulation Team	

Block B – Population

6	Population – households billed unmeasured sewage collected	000 (2dp)
Definition	Average resident population in households billed for unmeasured sewage collected.	
Processing rules	Input field	
Reference	Annual Information Return table 13 line 3	
Responsibility	Network Regulation Team	

8	Population – non-households billed unmeasured sewage collected	000 (2dp)
Definition	Average resident population in households billed for unmeasured sewage collected.	
Processing rules	Input field	
Reference	Annual Information Return table 13 line 6	
Responsibility	Network Regulation Team	

Block C – Sewage collected – volumes

9	Population – non-households billed measured sewage collected	000 (2dp)
Definition	Average resident population in non-households billed for measured sewage collected.	
Processing rules	Input field	
Reference	Annual Information Return table 13 line 7	
Responsibility	Network Regulation Team	

10	Population total	000 (2dp)
Definition	Total average resident population connected to the sewerage area.	
Processing rules	Calculated field: the sum of lines 6, 7, 8, 9	
Reference		
Responsibility	Network Regulation Team	

11	Volume unmeasured household domestic sewage collected	Ml/d (2dp)
Definition	Volume of water delivered to household properties billed for unmeasured water that is returned to the sewerage area.	
Processing rules	Input	
Reference	Annual Information Return table 14 line 1	
Responsibility	Network Regulation Team	

12	Volume unmeasured non-household domestic sewage collected	Ml/d (2dp)
Definition	Volume of water delivered to non-household properties billed for unmeasured water that is returned as domestic sewage to the sewerage area.	
Processing rules	Input	
Reference	Annual Information Return table 14 line 2	
Responsibility	Network Regulation Team	

13	Volume measured household domestic sewage collected	Ml/d (2dp)
Definition	Volume of measured household domestic sewage effluent discharged to the sewerage area.	
Processing rules	Input	
Reference	Annual Information Return table 14 line 4	
Responsibility	Network Regulation Team	

14	Volume measured non-household domestic sewage collected	Ml/d (2dp)
Definition	Volume of measured non-household domestic sewage effluent discharged to the sewerage area.	
Processing rules	Input	
Reference	Annual Information Return table 14 line 5	
Responsibility	Network Regulation Team	

15	Volume trade effluent collected	Ml/d (2dp)
Definition	Volume of trade effluent discharged to the sewerage area.	
Processing rules	Input	
Reference	Annual Information Return table 14 line 6	
Responsibility	Network Regulation Team	

16	Total volume of sewage collected	Ml/d (2dp)
Definition	The total volume of sewage collected at wastewater treatment works and discharged to the sewerage area. This includes all domestic and non domestic sewage, trade effluent, septic tank and cesspool waste.	
Processing rules	Calculated field: Sum of lines 11, 12, 13, 14 and 15.	
Reference		
Responsibility	Network Regulation Team	

17	Volume returned to sewer – measured households	% (1dp)
Definition	Percentage of water delivered to measured households that is assumed to return to the sewerage area for billing purposes. This should be the return to sewer assumption for measured household sewerage customers as per the principal statement.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

18	Volume returned to sewer – measured non-households	% (1dp)
Definition	Percentage of water delivered to measured non-households that is assumed to return to the sewerage area for billing purposes. This should be the return to sewer assumption for measured non-household sewerage customers as per the principal statement.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

TABLE B5-5

Table B5-5: Sewerage service – supply/demand balance expenditure projections and service output measures

Block A – Efficiency profiles

1	Overall compounded assumed improvement profile (capex enhancements infrastructure)	%
Definition	Projected annual reductions in capital enhancement expenditure on infrastructure assets compared to projected levels based on the company's current unit cost database.	
Processing rules	Copied field: Table B2-3 line 25	
Reference		
Responsibility	Network Regulation Team	

2	Overall compounded assumed improvement profile (capex enhancements non-infrastructure)	%
Definition	Projected annual reductions in capital enhancement expenditure on non-infrastructure assets compared to projected levels based on the company's current unit cost database.	
Processing rules	Copied field: Table B2-3 line 31	
Reference		
Responsibility	Network Regulation Team	

3	Overall compounded assumed improvement profile (opex base)	%
Definition	The overall cumulative improvement in sewerage service base operating efficiency resulting from catch-up in relative efficiency plus minimum improvements achievable by band A companies.	
Processing rules	Copied field: Table B2-3 line 4	
Reference		
Responsibility	Comparative Efficiency Team	

4	Overall compounded assumed improvement profile (opex enhancements)	%
Definition	The overall cumulative improvement in sewerage service enhancements operating efficiency resulting from catch-up in relative efficiency plus minimum improvements achievable by band A companies.	
Processing rules	Copied field: Table B2-3 line 9	
Reference		
Responsibility	Comparative Efficiency Team	

Block B – Sewerage service SDB – capital expenditure infrastructure

5	Capex growth - wastewater treatment (infrastructure)	£m (3dp)
Definition	Capital expenditure on infrastructure assets associated with meeting or offsetting changes in demand from new and existing customers at wastewater treatment works and sludge treatment centres. These costs should be consistent with the scheme specific costs reported in Chapter C5. Note: This capital expenditure should exclude expenditure relating to the provision of local distribution assets to provide a sewerage service to new customers. This expenditure should be reported under line 7: capex new development - sewerage (infrastructure)	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

6	Capex growth - sewerage (infrastructure)	£m (3dp)
Definition	Capital expenditure on the sewerage network infrastructure assets associated with changes in sewage collected from new and existing customers while maintaining existing levels of service. These costs should be consistent with the scheme specific costs reported in Chapter C5. Note: This capital expenditure should exclude expenditure relating to the provision of local distribution assets to provide a sewerage service to new customers. This expenditure should be reported under line 7: capex – new development.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

7	Capex new development - sewerage (infrastructure)	£m (3dp)
Definition	The gross capital costs associated with the provision of local distribution infrastructure assets to provide sewerage services for new customers with no net deterioration of existing levels of service. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

8	Capex sub total – sewerage (infrastructure)	£m (3dp)
Definition	Gross capital expenditure for the provision of infrastructure assets for sewerage to provide services for new customers, to accommodate increased use of sewerage services by existing customers and the potential impact of climate change, while maintaining existing levels of service. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: The sum of lines 5, 6, and 7	
Reference		
Responsibility	Network Regulation Team	

9	Capex total net of efficiency - sewerage (infrastructure)	£m (3dp)
Definition	Gross capital expenditure, net of efficiency, for the provision of infrastructure assets for sewerage to provide services for new customers, to accommodate increased use of sewerage services by existing customers and the potential impact of climate change while maintaining existing levels of service. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: Line 8 multiplied by (1 - line 1 divided by 100).	
Reference		
Responsibility	Network Regulation Team	

11	Capex growth – sewerage (non-infrastructure)	£m (3dp)
Definition	Capital expenditure on non-infrastructure assets associated with meeting or offsetting changes in demand from new and existing customers, while maintaining existing levels of service. These costs should be consistent with the scheme specific costs reported in Chapter C5. Note: This capital expenditure should exclude expenditure relating to the provision of local distribution assets to provide a sewerage service to new customers. This expenditure should be reported under line 12: capex – new development – sewerage (non-infrastructure).	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

Block C - Sewerage service SDB – capital expenditure non-infrastructure

10	Capex growth – wastewater treatment (non-infrastructure)	£m (3dp)
Definition	Capital expenditure on non-infrastructure assets associated with meeting or offsetting changes in demand from new and existing customers at Wastewater treatment works and sludge treatment centres. These costs should be consistent with the scheme specific costs reported in Chapter C5. Note: This capital expenditure should exclude expenditure relating to the provision of local distribution assets to provide a sewerage service to new customers. This expenditure should be reported under line 12: capex new development - sewerage (non-infrastructure)	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

12	Capex new development - sewerage (non-infrastructure)	£m (3dp)
Definition	The gross capital costs associated with the provision of local distribution infrastructure assets to provide sewerage services for new customers with no net deterioration of existing levels of service. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

13	Capex sub total – sewerage (non-infrastructure)	£m (3dp)
Definition	Gross capital expenditure for the provision of non-infrastructure assets for sewerage to provide services for new customers, to accommodate increased use of sewerage services by existing customers and the potential impact of climate change, while maintaining existing levels of service. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: The sum of lines 10, 11, and 12	
Reference		
Responsibility	Network Regulation Team	

14	Capex total net of efficiency - sewerage (non-infrastructure)	£m (3dp)
Definition	Gross capital expenditure, net of efficiency, for the provision of non-infrastructure assets for sewerage to provide services for new customers, to accommodate increased use of sewerage services by existing customers and the potential impact of climate change while maintaining existing levels of service. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: Line 13 multiplied by (1 - line 2 divided by 100).	
Reference		
Responsibility	Network Regulation Team	

15	Requisitions and other contributions	£m (3dp)
Definition	A projection of anticipated requisitions and anticipated capital contributions to be invited as commuted lump sum received for the sewerage service.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

16	Grants	£m (3dp)
Definition	All grants received, approved and anticipated net of associated costs of securing the grant for the sewerage service.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

17	Infrastructure charges	£m (3dp)
Definition	Anticipated revenues from infrastructure charges which should equate to the multiple of the number of connections for domestic purposes, the proposed standard infrastructure charges and the effect of any scaling factor.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

19	Opex growth – sewerage	£m (3dp)
Definition	The adjustments made to base operating expenditure in 2007-08 for sewerage conveyance associated with changes to sewage collected from new and existing customers while maintaining existing levels of service. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

Block E - Sewerage service SDB – changes in operating expenditure

18	Opex growth – wastewater treatment	£m (3dp)
Definition	The adjustments made to base operating expenditure in 2007-08 for sewage and sludge treatment associated with changes to sewage collected from new and existing customers while maintaining existing levels of service. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

20	Opex new development – sewerage	£m (3dp)
Definition	The adjustments made to base operating expenditure in 2007-08 as a result of additional capital costs associated with the provision of local distribution assets to provide sewerage services for new customers with no net deterioration of existing levels of service. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Networks Regulation Team	

21	Opex - metering – sewerage -	£m (3dp)
Definition	The additional operating expenditure associated with the total number of meters options including selective meters installed at properties in each year. Include meters installed at properties fitted in any location (eg internal, external in garden, external at boundary, etc.). Include only those meters which have been installed free of charge to the customer and which are used to determine a customer's bill. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Input field:	
Reference		
Responsibility	Network Regulation Team	

23	Opex total net of efficiency – sewerage	£m (3dp)
Definition	The adjustments made to base operating expenditure, in 2007-08 net of efficiency, associated with the provision of services for new customers and to accommodate increased use of sewerage services by existing customers and the potential impact of climate change while maintaining existing levels of service. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: The sum of lines (18, 19 and 20 multiplied by (1 – line 4 divided by 100) plus line 21 multiplied by (1- line 3 divided by 100)	
Reference		
Responsibility	Network Regulation Team	

Block F - Sewerage service output measures

22	Opex sub total – sewerage	£m (3dp)
Definition	The adjustments to base operating expenditure in 2007-08 due to growth related capital expenditure and capital investment for new development and the potential impact of climate change while maintaining existing levels of service. Unless there are exceptional circumstances, we would expect the company to report zero in 2007-08. These costs should be consistent with the scheme specific costs reported in Chapter C5.	
Processing rules	Calculated field: the sum of lines 18, 19, 20 and 21	
Reference		
Responsibility	Network Regulation Team	

24	Forecast number of properties at risk of internal flooding to be dealt with reactively	nr
Definition	The forecast number of properties that will become at risk of sewer flooding, as a result of growth and new development, and that you will remove from the DG5 2:10, 1:10 and 1:20 'at-risk' registers of internal flooding' on a reactive basis. The entries to this line are mutually exclusive to those in line 25	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

25	Forecast number of properties / areas experiencing external flooding to be dealt with reactively	nr
Definition	The forecast number of properties / areas that will experience sewer flooding, as a result of growth and new development, and that you will prevent from further flooding on a reactive basis. The entries to this line are mutually exclusive to those in line 24.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	

26	Forecast number of unsatisfactory combined sewer overflows	nr
Definition	The number of combined sewer overflows that are classified by the NIEA as 'unsatisfactory'. For 2008-09, report the actual number. In subsequent years, forecast the number of 'unsatisfactory' combined sewer overflows resulting from investment to deal with growth on the sewerage network.	
Processing rules	Input field	
Reference		
Responsibility	Network Regulation Team	