

DWR CYMRU WELSH WATER LTD

INTERIM DETERMINATION – December 2000

SUMMARY OF OFWAT'S ASSESSMENT AND DETERMINATION

1. Ofwat has followed a four stage assessment of the application in accordance with the terms of Condition B of the company's licence.
2. The company cited five changes in its application: (1) greater numbers of customers taking up the free meter option (additional meter optants); (2) the continuous monitoring requirements for cryptosporidium required by the Drinking Water Inspectorate (DWI); (3) a re-appraisal of the methods of controlling lead in the water supply; (4) improvements to comply with new undertakings at two water treatment works, and (5) legal requirements to make sewage treatment improvements at three works.
3. Ofwat's assessment and determination of the application is set out in summary terms below for each of the stages and items.

STAGE 1 – CONFIRMATION THAT THE CHANGED REQUIREMENTS ARE RELEVANT CHANGES IN CIRCUMSTANCE OR ARE COVERED BY SPECIFIC NOTIFIED ITEMS

Item 1 – Additional Meter Optants

4. A special notified item was set out in the 1999 price limit determination to protect the company from some of the implications of a greater number of customers taking up the free meter option than had been assumed by Ofwat.

Item 2 – Cryptosporidium – Additional Requirements for Continuous Monitoring and Treatment.

5. In 1999 the extent of the new requirements to deal with the risk from cryptosporidium was uncertain. Provision was only made for that work which had been identified and received technical support from DWI for the purposes of the periodic review. The outcome of risk assessments was not known, and hence no provision was made in price limits for these requirements.
6. Ofwat has sought confirmation from the DWI that the company's assessment of the requirements under regulation 23B of The Water Supply (Water Quality) (Amendments) Regulations 1999 was appropriate and necessary. The Chief Inspector, Michael Rouse, issued a revised notice under Regulation 23A(7) dated 31 July 2000, in which he set out the need for the company to carry out the work, citing the appropriate regulations.
7. Ofwat has reviewed the work set out by the company as necessary to meet this new requirement and taken into account the findings of the Reporter following his review of the company submission.

8. The company has chosen to deal with the requirements at 40 sites by abandoning or providing new sources at 14 sites, carrying out continuous monitoring at 12 sites and installing additional treatment at 14 sites. The Reporter has commented that the decisions made by the company are reasonable.

9. Ofwat confirms that the cryptosporidium requirements do qualify as a Relevant Change of Circumstance. Ofwat is content that the scale of the work set out in the application is appropriate and additional to what has been assumed in price limits set in 1999.

Item 3 – Plumbosolvency treatment to reduce lead levels in drinking water

10. Provision was made in price limits set in 1999 for a work programme to deal with the new lead parameters. This was based on a lead communication pipe replacement programme. During the 1999 periodic review DWI made it clear that after it received further information from each company, it would review the most effective means of delivering compliance. Plumbosolvency control is now the preferred initial approach.

11. In its application the company explained that it was finalising a programme of work to deal with lead levels initially by plumbosolvency control. This indicated that the company would need to install first time treatment at 16 works and optimise existing treatment at a further 16 sites, as well as some ancillary work. Since the provisional determination of 15 November 2000, Ofwat has received a copy of the letter from the DWI to the company dated 24 November 2000, setting out the Programme of Improvement Works for Plumbosolvency Treatment and Control Measures - the final version of the Statement of Intent. These measures are slightly different from those included in the company referral notice. The company proposals have now been assessed by DWI, which has made a number of further revisions to remove anomalies and improve consistency. This Statement of Intent sets out that the company is required to install first-time treatment at 15 works, and optimise treatment at a further 17 works.

12. Ofwat has taken advice from DWI on the timescale and extent of any subsequent lead communication pipe replacement which may be required. Plumbosolvency control work will need to be carried out before it is possible to decide if this has been successful in achieving compliance, or if further action is required to achieve full compliance with the lead parameter. The company submitted proposals to DWI to continue a programme of opportunistic lead pipe replacement before the extent of any strategic pipe replacement programme is finalised. There are still issues which need to be clarified and it may be some time before the timescale and extent of any such a programme is finalised.

13. DWI has confirmed that the provision made in the final determination for lead was for the purposes of the final determination only, and the formal Statement of Intent replaces the Letter of Support provided for the periodic review process. At this stage there is no requirement for the company to carry out replacement of lead communication pipes as part of the specified programme of work to meet new lead standards. Both DWI and Ofwat note that some replacement of lead communication

pipes will continue both as part of the company's routine capital maintenance programmes or in response to customers who have replaced their internal and external lead plumbing. Any changes to this programme of work to deal with compliance with the new lead standards will be considered either at the next Periodic Review or if material at a further interim determination.

14. Ofwat confirms that the net difference between the provision for lead assumed at the periodic review and the programme of work now confirmed by DWI can be considered to be a Relevant Change of Circumstance.

Item 4 – New Section 19 Undertakings given to the DWI

15. Both of these undertakings were given by the company to comply with water quality standards in the current Water Quality Regulations. Ofwat has not been persuaded that either of these undertakings was necessary because of matters beyond the control of the company, such as a deterioration in the quality of the raw water available to the company. Ofwat assumes that companies will continue to comply with the current water quality standards within current price limits. No additional provision has been made in the determination for this work.

16. Ofwat does not consider that this work qualifies as a Relevant Change of Circumstance.

Item 5 – Additional sewage treatment required to comply with new consents issued by the EA

17. The application to deal with sewage treatment falls into two parts, that concerned with the additional work to Llangefni not included in the 1999 price limits and subject to review by the National Assembly for Wales (NAfW), and secondly small changes to the assumed programme of work at Garnswilt and Porthmadog.

a) Llangefni

18. At the 1999 Periodic Review the First Secretary excluded the River Quality Objectives (RQO) element of the Llangefni scheme as it did not appear to offer good value for money for either the environment or customers. No provision was made in price limits for the scheme submitted by Dwr Cymru in its business plan. In its Referral Notice the company submitted a new scheme in response to a new consent set by the Environment Agency Wales. The costs are considerably less than the costs in the original submission in the business plan.

19. Ofwat has received confirmation from the EA that the assumed completion date for this scheme is as on the schedule included in the Annex to *Achieving the Quality* published in June 2000. The improvements are expected by March 2005. Ofwat has received confirmation that the NAfW considers that as the cost of the scheme has substantially reduced and it will deliver benefits both to customers and the environment it should therefore be completed in the current price limit period (2000-05).

20. The work to deliver the improvements at Llangefni has been included in this interim determination, with a completion date of March 2005. It is being considered as a relevant Change of Circumstance.

b) Garnswllt and Porthmadog

21. At the 1999 Periodic Review both these schemes were addressed with respect to the costing details submitted by Dwr Cymru in its business plan, and as such were included in the process of Ofwat's final determination. Additional provision has not been made in this assessment. Ofwat considers that the company will need to accommodate its costing error within set price limits. However, the costs submitted by Dwr Cymru for both the schemes did not impact solely on price limits, as they did not then fall completely within the price setting period (April 2000 to March 2005).

22. Ofwat does not consider that this work qualifies as a Relevant Change of Circumstance for which further provision should be made in price limits.

STAGE 2 – ASSESSING THE APPROPRIATE NET ADDITIONAL COSTS / REVENUE LOSSES ATTRIBUTABLE TO EACH CHANGE

Item 1 – Additional Meter Optants

23. Ofwat has assessed carefully the information contained in the application and, where appropriate, requested further clarification from the company and the Reporter.

Numbers of Optants

24. In assessing the evidence most weight has been attached to confirmed outturn information and the extent to which this indicates a divergence from the assumptions made in the final determination.

25. The final determination assumed that from a position where 7.4% of water customers were metered a further 10% of unmeasured customers would choose to change to measured charging between April 2000 and March 2005. Furthermore it was assumed that switching would follow a pattern whereby a constant proportion of the remaining unmeasured customer base took up the free meter option each year.

26. The final determination also contained assumptions about the number of optants among unmeasured sewerage customers who receive water supplies from other water suppliers.

27. The company application presented evidence relating to confirmed free meter requests received in the period 1 February 2000 to 24 September 2000. In the company letter of 11 December 2000 further details of the number of free meter requests up to 3 December 2000 were provided. In addition, the company's submission presents evidence to support the forecast of meter optants up to March 2005.

28. For the purpose of this interim determination Ofwat is required to take a forward-looking view of the likely uptake of optional metering for the remainder of the quinquennium. In doing so Ofwat has had regard to the sensitivity of calculations to alternative extrapolations, and to the limited quantity of outturn data

29. Ofwat considers that it is appropriate to adjust assumptions about the uptake of optional metering during the quinquennium as indicated in Annex A such that 12.7% of unmeasured water customers are assumed to switch to a meter between April 2000 and March 2005. However, Ofwat also considers that it is still appropriate to assume that the proportion of the remaining unmeasured customers taking up the free meter option each year will remain constant, as metering penetration increases.

30. Licence Condition B 14.2(3)(i)(D) requires that no account to be taken of

“... any amounts attributable to matters allowed for in making a Relevant Determination, except to the extent that such amounts otherwise fall to be taken into account as amounts reasonably attributable to, or connected with, the Relevant Item.....;”

31. Ofwat’s approach has recognised this by revising assumptions adopted at the final determination for variations between the assumed level of meter optants for 1998-99 and 1999-2000 and the outturn numbers of meter optants during that period and offsetting their financial effects against those derived from para 29 above.

Meter Optant Characteristics

32. The company has estimated that the characteristics of meter optants will be different from those assumed in the 1999 Final Determination, and has presented evidence to support this based on meter readings and surveys of optants.

33. Ofwat has considered the available evidence and concluded that it is appropriate to revise assumptions about average optant pre-switching water delivered, but not to revise the assumed demand reduction associated with switching. The determination assumes that optants’ pre-switching water delivered will be 53% of the average unmeasured household water delivered in 2000-01 rising to 61% of the average unmeasured household water delivered in 2004-05. These assumptions take account of the low level of meter penetration among the customer base, and the likely trend in optant characteristics assuming that those who stand to make the largest savings will, on average, switch during earlier phases on optional metering.

Meter Unit Costs

34. The company has presented evidence to support its assessment that the unit capital costs of metering are higher than those allowed for in the final determination. Ofwat considers that there is no reason not to expect further efficiencies, and that the unit cost assumptions used in the final determination remain appropriate.

Meter Location

35. Ofwat has also considered evidence presented relating to meter location, in particular Dwr Cymru's view that external metering carries a range of advantages. Ofwat has also taken account of the Competition Commission's opinion that the level of funding allowing in the 1999 Final Determination will have the effect of pushing companies towards an internal meter policy. Therefore, meter capital and operating cost allowances have been calculated assuming that 30% of new meters will be installed in existing boundary boxes and that 75% of the remaining new meters will be installed externally.

Item 2 – Cryptosporidium – Additional Requirements for Continuous Monitoring and Treatment.

36. The company proposed to deal with the requirement of the Notice in two ways, by continuous monitoring and by installing additional treatment. In the determination, these were dealt with separately.

Continuous Monitoring Requirements

37. Ofwat has reviewed the company's projected costs for meeting this requirement and considered the Reporter's report. Ofwat has also looked more widely at experience elsewhere and in particular at market prices for this type of work already included in price limits for other companies. Ofwat considers that the company has over-estimated the operating costs of carrying out the continuous monitoring. Therefore Ofwat's assessment has been based on a benchmark established by other companies and current market prices.

38. Ofwat has noted that continuous monitoring and testing for cryptosporidium is in its infancy. As the experience and level of this monitoring increases it is reasonable to assume there will be an increase in efficiency for this labour intensive procedure as well as a decrease in unit costs of materials for the assay. This is a new area of technology and routine high levels of work have yet to be carried out in commercial laboratories. Analogies can be drawn with other developments where unit costs have shown the existence of steep learning curves.

39. The company made representations concerning Ofwat's initial view in the provisional response of the rate at which efficiencies may be demonstrated in this area. Ofwat has revisited two aspects of the judgement in the light of the representations. Firstly, it is not certain how far the benchmark supplier had moved down the learning curve; it is possible that there had been already a rapid acquisition of expertise and the costs had decreased accordingly in the first year or so after the wide deployment of this type of monitoring. Secondly, the level of continuous monitoring over the next 15 years is subject to possible change. Sufficient oocysts might be found at a number of sites for it to be considered prudent to fit treatment. Conversely, continuous monitoring might be terminated at some sites if the risk classification changes. In either event the number of sites requiring monitoring would decrease, and there would not be the current level of incentive for innovative new techniques to be employed and for significant efficiencies to be delivered. Ofwat now judges that 2.5% per annum continuing efficiency to be a reasonable

expectation. This projection will still provide a balance both in terms of a continuing stimulus to the company to seek cheaper ways of delivering the obligation and an incentive to go even further, which will benefit the company and its customers in the longer term.

40. For the additional capital investment associated with the sites requiring continuous monitoring, the same assumptions were employed as for the capital associated with additional treatment set out below.

Additional treatment

41. Other work to deal with cryptosporidium involved the company deciding to fit additional treatment to works rather than carry out monitoring. This was deemed to be cost-effective by the company and this has been confirmed by the Reporter.

42. Insufficient information was available on other projects employing this control measure to allow the cost put forward by the company to be compared directly with the costs of carrying out this work elsewhere in the industry. Ofwat has considered the company methodology, procurement practice and has noted that proposals have not been market-tested by full tendering. In the light of these recommendations Ofwat has reduced the company estimate of costs by 10% for both the operating and capital costs.

43. For the capital cost for this work future efficiencies were assumed from 2001-02. In view of the pressing time constraints on carrying out this work and the lack of flexibility within this relatively homogenous programme, Ofwat has limited future efficiency gains to 1.4% per year.

44. Uncertainty surrounds the net additional operating costs of such work. In the past companies have been able to deliver much greater efficiencies in dealing with such new standards than both they and Ofwat originally expected or forecast. Accordingly Ofwat has assumed an efficiency gain of 2.8% a year. Ofwat considers this rate of improvement provides a reasonable balance between the incentives on the company to achieve these efficiencies and the scope to go even further, which would in time be to the benefit of customers.

Ofwat view of the likely costs of monitoring and treatment.

45. The company assessed the net present value over 15 years of the operating and capital costs of complying with the new requirement as £19.5m at 2000-01 prices, with £5.2m net additional operating costs and £8.7m net additional capital costs incurred over the period to March 2005.

46. Ofwat assesses the net present value over 15 years of these costs to be £15.3m, with £4.0m net additional operating costs and £7.9m net additional capital costs over the period to March 2005.

Item 3 – Plumbosolvency treatment to reduce lead levels in drinking water

47. The company submitted an outline estimate of the programme for controlling plumbosolvency. This had a number of components, including conventional orthophosphate dosing and further optimisation using lime or CO₂ dosing.

48. The programme of work, set out in the formal Statement of Intent from DWI, is slightly different from that included in the referral notice. The company has not supplied an update of its programme to reflect this slightly different programme. Ofwat has based the provision in price limits for the current confirmed programme on the costs included in the original referral notice. Ofwat considers that the company will be able to deliver the confirmed programme within this package of costs, the effect of any differences not being significant compared with the inherent uncertainties in the desk study.

49. The Reporter has indicated that the capital costs assumed for this programme were site specific. The costs had been estimated from a desk study, and on three site visits made by the Reporter only one of these site solutions was satisfactory. Although the estimates have now been revised, Ofwat considers that this indicates a significant level of uncertainty about these costs. In view of this and the contingency built into the estimates, Ofwat has taken as a starting point the company's original estimates for capital costs reduced by 10%.

50. For this capital work, future efficiencies were assumed from 2001-02. In view of the pressing time constraints on carrying out this work and the lack of flexibility within the programme, only 1.4% per year future efficiency has been assumed.

51. On operating costs, sufficient information is available to be able to compare the company's estimate of costs for orthophosphate treatment with those of other companies. In the original comparison, costs from 17 other companies were employed. However, since then the company has made strong representations that the type of water being treated by the company, and the need to optimise to achieve the 10ug/l standard, if possible, has greatly increased costs compared with the assumptions being used by companies at the time of their business plans in April 1999. Ofwat has reviewed the comparative company estimates, and only compared the company with companies likely to have similar qualities of water. The costs for the benchmark company have been compared with those submitted for orthophosphate dosing, and Ofwat has used an estimate for this work that is 75% of the way from the company figures to the benchmark costs.

52. A significant proportion of the company's operating costs are for the optimisation of plumbosolvency control using pH control with either lime or CO₂. In view of the limited amount of comparative information for this process, it is considered that at least some of the costs identified in the desk study have been based on the same estimating assumptions as those for the orthophosphate plants. As a starting position for these costs, a percentage adjustment equivalent to 50% of the way from the Company estimate to the benchmark company costs has been applied. In view of the time constraints and the need to approach benchmark costs in a single area a conservative future efficiency gain of 1.4% a year has been incorporated.

Ofwat view of the likely costs of plumbosolvency control measures

53. DWI has confirmed that the formal Statement of Intent has replaced the Letters of Support provided for the purposes of the periodic review only. No lead communication pipe replacement has yet been confirmed by DWI, and the timescale

and extent of any such replacement is not yet known. No provision has been made for a quality related lead communication pipe replacement programme and the outputs associated with the 1999 determination have been deleted.

54. The net present value over 15 years of the operating and capital costs, put forward by the company, of complying with the new requirement was £25.7m at 2000-01 prices, with £4.9m net additional operating costs and £10.0m net additional capital costs being incurred over the period to March 2005.

55. Ofwat assesses the net present value of these costs to be £13.2m, with £3.2m net additional operating costs and £3.3m net additional capital costs over the period to March 2005.

Item 5 – Additional sewage treatment required to comply with new consents issued by the EA

a) Llangefni

56. Ofwat has reviewed the company's projected costs for meeting this requirement and considered the Reporter's report. It is assumed that the company has used the same methodology for estimating costs as that used for the rest of the environmental programme in 1999. The costs of the additional work at Llangefni have been challenged in the same way as comparable improvements in the sewerage quality programme at the 1999 final determination. The timescale for completion of this work has been assumed to be March 2005, and the need for capital and the additional operating costs have been rephased accordingly.

Ofwat view of the likely costs for Llangefni

57. The company assessed the net present value over 15 years of the operating and capital costs of complying with all the sewage treatment schemes as £4.2m at 2000-01 prices, with £0.3m net additional operating costs and £3.3m net additional capital costs being incurred over the period to March 2005.

58. Ofwat assesses the net present value of dealing with additional treatment at Llangefni to be £2.2m, with £0.1 net additional operating costs and £2.1m net additional capital costs over the period to March 2005.

59. This would normally be considered trivial. However, since the scheme was omitted from the 1999 price limits to allow reappraisal, Ofwat has included it in this interim determination.

STAGE 3 – MATERIALITY TEST – IN AGGREGATE DOES THE SUM OF ALL THE CHANGES EXCEED THE MATERIALITY THRESHOLD SET DOWN IN THE LICENCE?

60. Condition B of the licence sets a materiality threshold for consideration of interim determinations. If the present value of the net additional costs and revenue losses (calculated up to the start of the next charging period for capital costs and over 15 years for operating costs and revenue losses) arising from the changes is greater than 10% of the turnover of the Appointed Business in the latest financial

year for which accounting statements have been delivered to Ofwat, then a revision of price limits is triggered.

61. The results of Ofwat's analysis, based on the revised assumptions set out above, are summarised in Annex A. This indicates that the materiality threshold has been satisfied.

STAGE 4 – IMPLICATIONS FOR PRICE LIMITS IF THE MATERIALITY THRESHOLD IS EXCEEDED

62. Ofwat's provisional assessment of the company's application is that the price limits for the charging years 2001-02 to 2004-05 should be revised as set out in the table in Annex A.

63. Ofwat proposes to adopt the symmetrical Notified Item model used by the Competition Commission, together with the new projections of meter optants as amended, see Annex C.