Office of Utility Regulation

Review of Cable & Wireless Guernsey Price Control

Draft Decision

Document No: OUR 05/12 **June 2005**

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Contents

1. Introduction

In June 2004, the Director General ("DG") published a series of consultation documents designed to assist in the consideration of a proposed new price control for C&W Guernsey ("C&WG"). The purpose of the price control and the rationale for imposing such a control on C&WG was set out in OUR 04/10. The new control is intended to replace the current price control which expires in September 2005 (having recently been extended – see OUR 05/08).

The DG also consulted upon a number of related issues. These included:

- a review of dominance in the telecoms market in Guernsey (OUR 04/09):
- the structure and scope of any price control (OUR 04/10): and
- the OUR's approach to assessing C&WG's allowed revenue under a price control (OUR 04/11)

The OUR received the following responses to each of the consultation papers:

Consultation Paper	C&WG	Newtel Solutions	Wave Telecom	Policy Council
OUR 04/09	●	●		
OUR 04/10	●	●	●	
OUR 04/11	●	●	●	●

The DG would like to thank all parties for their responses to the consultation documents and all licensed operators for the information provided in response to the market analysis questionnaires. The DG has considered fully all of the comments made and has assessed these responses along with the other information available to him in reaching the conclusions contained in this draft decision paper. In response to commercially confidential submissions this report contains a number of confidential annexes which set out the DG's position on certain commercially confidential issues raised during the price control review. These annexes have been provided solely to C&WG.

This paper also sets out the DG's position on the main issues considered during the three consultations, the outputs of the OUR's own economic modelling, the assessment of C&WG's business plan and the OUR's market analysis, culminating in the DG's intended position on the scope, structure and format of a new price control for C&WG to come into effect from 1st October 2005. As such it should be read in conjunction with those earlier consultation documents as those papers set out at length the background and technical detail on certain matters addressed in this paper.

To provide additional support and assurance, OUR commissioned expert consultants (Frontier Economics and GOS Consulting) to review elements of C&WG's business plan and the OUR's approach to estimating the company's allowable revenue under a price control regime. Where the DG's analysis is based on ranges for specific assumption (e.g. market shares for national calls), the DG has taken the mid point of the range for those assumptions.

This paper sets out the DG's conclusions on the issues being commented on and is based on the DG's consideration of the best available information at this time. Interested parties are invited to comment on any of the issues raised in this paper and where appropriate provide any further information or evidence to help inform the DG's final decision. Subject to the consideration of those comments, the DG intends to confirm the final shape of the new price control decision in August 2005.

2. Structure of this Paper

2.1 *Structure*

The rest of this paper is structured as follows:

Section 3: provides a brief summary of the background to the DG's draft decision. Interested parties are invited to refer to the original three consultation papers and all non-confidential responses received by this Office (which are available at the OUR's website, www.regutil.gg) for a fuller description of the legal and licensing framework in relation to retail price controls in the telecoms sector within the Bailiwick;

Section 4 sets out the DG's draft decision on the main issues raised in the original three consultation papers which includes dominance, C&WG's costs of capital, calculation of C&WG's allowable revenue, the price control structure including X factors and the duration of the price control;

Section: 5 describes the next steps in the process which will result in a new price control coming into effect from 1st October 2005.

This draft decision paper contains a number of annexes (some of which are confidential and have been provided solely to C&WG) detailing the DG's position on a number of key issues arising from the original consultation papers and C&WG's business plan. These annexes together with an outline of their contents and level of disclosure are listed below.

Annex A - sets out fully the DG's position on responses to the OUR's review of market dominance (i.e. OUR 04/09);

Annex B - provides a technical review of the issues relating to the estimation of C&WG's Cost of Capital (i.e. Questions 13-22 raised in OUR 04/11);

Annex C - comprises three parts, firstly the DG's detailed comments on respondents' views on the appropriateness of a Market to Asset Ratio ("MAR") adjustment to C&WG's asset base, secondly how the DG intends to apply MAR, and finally how the DG has estimated the appropriate MAR adjustment. This final part contains confidential information and has been given only to C&WG;

Annex D - contains the DG's confidential assessment of C&WG's proposed capital expenditure plan for the business plan period;

Annex E - includes the DG's confidential assessment of C&WG's forecast efficient operating costs contained in the company's business plan;

Annex F - summarises the work undertaken by the OUR's advisors in assessing C&WG's relative efficiency with other operators; and

Annex G - includes the DG's confidential assessment of C&WG's demand forecasts and the assumptions used in the OUR's assessment of C&WG's business plan.

2.2 *Comments*

Interested parties are invited to submit comments in writing on the matters set out in this paper to the following address:

Office of Utility Regulation
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Hirzel Court
St Peter Port
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Email: info@regutil.gg

The period for comments will run from 3rd June to 1st July 2005. All comments should be clearly marked "**Comments on Review of C&W Guernsey Price Control**" and should arrive before 5pm on 1st July, 2005.

In line with the policy set out in Document OUR 04/01 – "Regulation in Guernsey; Revised Consultation Procedures", the DG intends to make any further comments received available on the OUR website. Any material that is confidential should be put in a separate Annex and clearly marked so that it can be kept confidential. However the DG regrets that he is not in a position to respond individually to the responses to this consultation.

Any comments received will be taken into account by the DG in informing his final decision regarding C&WG's price control which will come into effect on 1st October 2005.

This document does not constitute legal, technical or commercial advice; the DG is not bound by this document and may amend it from time to time. This document is without prejudice to the legal position or the rights and duties of the DG to regulate the market generally.

3. Background

In March 2002, following a consultation, the OUR imposed the first price control on Guernsey Telecoms (now C&WG) which applied to a range of fixed telecommunications services using the internationally recognised mechanism of incentive regulation.

The price control set an upper limit for the prices of a number of baskets of services provided by C&WG, allowing individual prices for services within those baskets to change upward or downward, within the overall constraint of the control. The control was initially set for the period from 1st April 2002 to 31st December 2004. This was later amended to be aligned with a change in the year-end of C&WG so as to facilitate reporting and compliance monitoring. The price control was therefore extended to 31st March 2005. Following a consultation in January 2005, this control has been extended for a further six month period to the end of September 2005.

The legislative and legal framework for the issues being addressed in this paper is set out in detail in each of the consultation papers mentioned earlier and, for the sake of brevity, it is not intended to repeat this detail here.

4. Structure of Price Control and Related Findings

In the three original consultation documents (OUR 04/09, 04/10 and 04/11) the DG sought views on a wide range of issues. The DG's detailed consideration of those issues is outlined in the various annexes attached to this report. It should be noted that some of those annexes are confidential and are being provided only to C&WG. However as much information as the DG considers reasonable has been included within the publicly available document.

Although separate, these issues are interlinked and it is useful to understand their role in the setting of the price control.

Price controls for dominant operators are forward looking i.e. they control price levels over a number of years into the future from a specified starting point. C&WG have prepared and submitted to the OUR a forward looking business plan which forecasts a range of key inputs over the lifespan of the control, including trends in underlying costs (operating costs and capital investment programme), potential efficiency gains and the effect of competition on C&WG's market shares for products.

The OUR has undertaken its own economic and financial modelling to calculate the "allowed revenues" for the price controlled part of the regulated business over the lifetime of the control. The level of allowed revenue in turn determines the level of the price control (the "X" factor in the control). The objective is to set the control at a level such that if the regulated firm operates efficiently, it can expect to cover its costs, including earning a reasonable return on the capital employed (i.e. its cost of capital), over the period of the control. The level of the control, in conjunction with the composition of the basket of services, will then determine the upper limits on prices that may be charged over the lifetime of the control and the degree of flexibility that the regulated firm has in setting those prices.

4.1 *Review of Dominance*

The DG undertook in OUR 04/09 a consultation on the degree to which any operator held a dominant position in the telecoms market in Guernsey. In the context of the Regulation Law under which the DG acts, a dominant position is construed as it would be in the UK under the Competition Act 1998. That paper, in conjunction with the market questionnaires sent to all licensed operators, sought to assess how any dominance review should be undertaken, the assessment of the relevant product market(s), and the assessment of the geographical boundaries of these. Annex A provides greater detail on the DG's consideration of these matters.

The DG is aware of international developments in this particular area. While the OUR is committed to following regulatory best practice, the Office must also be cognisant that where necessary and appropriate this best practice has to be scaled to reflect Guernsey's specific characteristics and the size of the telecoms market within the Bailiwick, and not simply imported from larger jurisdictions. It must also be reflective of the state of market development.

The DG is also mindful that the state of competition and the level of sophistication in markets where greater market disaggregation has occurred are not directly comparable to those in Guernsey. The length of time since the introduction of competition (leaving aside any commentary on the effectiveness of competition) in Guernsey is much less than in EU markets, as are the number and scale of the competitors. The DG therefore does not believe that the level of market analysis adopted by the EU (as sought by C&WG for use in Guernsey) is appropriate for Guernsey at this particular time.

While the DG notes that developments, including competitive entry, have occurred in certain product markets since the original findings of dominance in 2001 (and to a lesser extent since the end of June 2004), the DG is not convinced that those developments are such that in those markets where competitors are active, competition could yet be considered to be effective or approaching effectiveness such that it would influence the conclusions arrived at regardless of the level of analysis undertaken.

4.1.1 Fixed-line telephony markets

The DG proposes to define the following relevant markets for the purpose of determining dominance in the telecoms market in Guernsey:

- the wholesale market in fixed-line telecommunications; and
- the retail market in fixed-line telecommunications.

As of June 2004, C&WG have had the only fixed-line voice telephony network in the Bailiwick, including exchange lines to retail customers. It remains the case that C&WG retains the only Bailiwick-wide fixed network and the large majority of retail customers. Further all new entrants to the telecoms market are, and will continue to be reliant upon interconnection with and access to the C&WG network to enable them to provide services to their customers.

Thus, an analysis of the situation in the Bailiwick leads the DG to conclude that C&WG remains dominant in the two fixed-line markets identified.

4.1.2 Mobile telephony markets

As is the case for fixed telecommunications, the latest data available for the mobile telecommunications market in the Bailiwick is from June 2004. Since then there have been some changes in the market, for example with Wave Telecom launching its mobile networks and providing services in competition with C&WG. The DG therefore regards it as appropriate to define two mobile telecommunications markets:

- the wholesale mobile telecommunications market; and
- the retail mobile telecommunications market;

With a competitor operating an alternative network, C&WG no longer has a monopoly in the mobile retail market. However the DG does not believe there has been sufficient market penetration by entrants to justify a departure from the previous conclusion that C&WG is dominant in this market.

Following EU and UK regulatory practice, the DG proposes to find the operator of each mobile telecommunications network dominant in the provision of wholesale services on their own network.

4.1.3 Market data collection

The DG intends to collect market data on a regular basis to review the development of competition within the Bailiwick but believes yearly collection of this information to be more appropriate than quarterly and six monthly returns (as suggested by C&WG) as this will lessen the burden (and cost) to operators in collecting, compiling and supplying the information necessary. The DG intends to keep this under review so that should more frequent reporting be necessary it could be introduced at some future point. Furthermore, as a result of the problems experienced by some operators in complying with previous data requests, the DG intends in the future to liaise closely with operators in all telecoms markets for which data is sought in order to improve the ease of compliance by operators.

The DG will be issuing all licensed operators with a further market analysis questionnaire later this year. He does, however, intend to seek feedback from operators on the format of the questionnaire and the most suitable time of year to collect this information prior to issuing the new questionnaire. It is also intended that the results of the market analysis will in future be published in the interests of transparency and information sharing.

Proposed Decision

The DG proposes to find C&W Guernsey Limited dominant in the following markets:

- wholesale fixed-line telecommunications market:
- the retail fixed-line telecommunications market:

The DG also proposes to find C&W Guernsey Limited dominant in the retail mobile telecommunications market and both C&WG and Wave Telecom dominant in the wholesale mobile telecommunications market on their respective networks.

4.2 *Cost of Capital*

Deciding on an appropriate level of the cost of capital (weighted average cost of capital or WACC) for C&WG requires a number of issues to be considered in detail. These include:

- the mechanism for calculating the cost of capital including whether a blended rate[1] should apply;
- the cost of equity;
- the cost of debt; and
- how gearing and tax should be treated.

The DG considered in full all comments received in response to the questions raised in OUR 04/11 on this issue and the DG's response to the points raised is provided in Annex B of this document. Following a review of these responses, the DG proposes to use a single WACC for C&WG's telecoms business (derived from the Capital Asset Pricing Model ("CAPM")). This WACC will be applied to both pre and post privatisation assets. Table 1 below provides the summary estimate of the pre-tax nominal cost of capital for C&WG, based on the OUR's detailed analysis.

Table 1: Summary view of cost of capital for C&WG

Factor	**Low**	**High**
Risk-free rate	4.8%	5.0%
Debt premium	1.0%	1.5%
Cost of debt	**5.8%**	**6.5%**
Risk-free rate	4.8%	5.0%
Equity risk premium	4.0%	6.0%
Asset Beta	0.85	1.00
Equity Beta	0.94	1.10
Cost of equity	**8.5%**	**11.6%**
Gearing	10%	10%
Tax rate	20%	20%
WACC – pre-tax nominal	**10.2%**	**13.7%**

The range for the WACC is 10.2% to 13.7%. The DG therefore proposes to use a pre tax nominal WACC of 12.0% (i.e. the midpoint of the range) in the OUR's economic modelling of C&WG's price control. The DG notes that C&WG proposed a medium scenario of 12.6% as the company's pre tax nominal WACC.

[1] i.e. a WACC for C&WG's combined mobile and fixed telecoms businesses.

Proposed Decision

The DG proposes to use as the cost of capital in setting a price control for C&W Guernsey Limited a pre tax nominal WACC of 12.0% in the OUR economic model for the price control.

4.3 *Calculating the Allowed Revenue*

A number of issues need to be considered by the DG before being able to determine the allowed revenue for the purposes of the price control. These include:

- A consideration of the application of MAR (see OUR 04/11 for a detailed background on MAR);
- Current Cost Accounting ("CCA");
- Depreciation;
- Projected Capital Expenditure (capex) for the price control period;
- Projected Operating Expenditure (opex) for the price control period and efficiency issues; and
- Projected demand and market share distribution for the price control period.

4.3.1 Application of MAR

The role of the regulator is to ensure that consumers receive high quality services at an efficient cost while also allowing the regulated company, if acting efficiently, to make an appropriate return on its investment and to encourage the further development of the network and services. If a dominant company is making excessive returns (i.e. a return on their investment that is above a 'reasonable' rate) on a sustained basis, the regulator's role is to eliminate those excess returns in order to protect consumers' interests whilst safeguarding the long term sustainability of the market. There is a clear balance to be struck between these objectives. The DG believes that a MAR adjustment can be viewed as an appropriate tool to help achieve this balance.

A detailed examination on the appropriateness of the MAR to C&WG's regulated businesses and the actual estimation of the MAR adjustment is provided in Annex C. The first section of the Annex summarises C&WG's response to the DG's proposals and presents the DG's view on these matters. The second part of the Annex sets out how the DG is minded to define the constituent components of the MAR calculation. The third part of the Annex shows how the DG has estimated the appropriate level of MAR and is provided in confidence to C&WG due to the commercially confidential nature of the information.

The DG is aware that the MAR approach – as highlighted by certain respondents – if incorrectly applied may be detrimental to the development of competition and thus not in the long term interests of consumers. The DG concurs that it would be inappropriate to apply a uniform MAR across C&WG's entire regulated business and has adopted a general principle that the MAR adjustment to the regulatory asset base should be applied only to areas of the business in which competition is unlikely to develop for the medium term.

Following detailed consideration of this issue and the likely development of competition in certain markets the DG intends to apply a MAR of 26.6% to C&WG's Regulatory Asset Base ("RAB") (pre-privatisation) for those products and services [2] where competition is not expected to develop. The DG intends therefore to apply a MAR adjustment to the company's RAB apportioned to local calls, public payphones and exchange line rental.

Proposed Decision

The DG proposes to apply a MAR adjustment of 26.6% to C&W Guernsey Limited's RAB (pre-privatisation) for those products and services where competition is not expected to develop in the medium term.

4.3.2 CCA and Depreciation

The DG notes that since the publication of the consultation documents C&WG has undertaken significant work on CCA and therefore some of the issues raised in OUR 04/11 concerning the implementation of CCA have been addressed. The DG appreciates the efforts by C&WG's staff in revaluing the company's asset base within the given timeframe to submit a business plan based on CCA. In particular C&WG's excel model includes indexation and holding losses / gains and has been based on CCA principles as required by the OUR. In light of the comments received the DG is prepared to accept the approach set out in C&WG's supporting model.

The depreciation applied by C&WG has also been adjusted to reflect the CCA valuation of the assets. Similarly, in light of the comments received the DG intends to adjust the depreciation schedules for assets purchased prior to privatisation by the MAR where appropriate in accordance with his proposed decision on the application of MAR. The DG notes that C&WG's business plan has been prepared on a CCA basis and is again prepared to accept the approach adopted by C&WG with regard to depreciation on post-privatisation assets in this regard.

Proposed Decision

The DG intends to accept C&W Guernsey Limited's proposals for the treatment of CCA and depreciation for the purposes of formulating the price control.

4.3.3 Capex

Capex is an important input into the calculation of C&WG's allowable revenue under the

[2] Those products and services to which the 26.6% MAR would apply are listed in section C.1.

price control and has been assessed by the DG and his advisors. In summary it appears that C&WG's capital expenditure plan for 2004/05 to 2009/10 is broadly consistent with general industry trends. The DG has reviewed the relevant individual components of C&WG's capex forecasts and taken one of two actions either:

- for those elements where there is no significant reason to question C&WG's capex forecast, C&WG's forecast has been accepted as reasonable; or
- for those elements or plans where there are reasons to question C&WG's forecast of capex and/or C&WG have not fully justified its forecast, the OUR has proposed alternative capex levels.

The net effect of the adjustments to C&WG's capex is to reduce the total amount forecast to be spent between 2004/05 to 2009/10 by 5%. Annex D contains a detailed explanation of the DG's position regarding the company's capex assumptions and the assumptions that have been made to inform the DG's decision. This Annex contains confidential information and has therefore been provided solely to C&WG.

Proposed Decision

The DG proposes to reduce C&W Guernsey Limited's proposals for capex by 5% over the period 2004/05 to 2009/10 in line with the justification contained in Annex D (confidential to C&WG). The DG intends to use this revised capex plan for determining allowable revenue under the price control.

4.3.4 Opex

The DG's decision on the appropriate opex to be included with C&WG's allowable revenue has been based on a detailed review of the company's business plan and forecasts. This has included a detailed assessment of both the potential for future efficiency gains by C&WG and an assessment of its demand forecast.

In looking at the potential future efficiency gains, the OUR's advisors have drawn upon several methodologies, namely:

- **historic efficiency gains** (examining C&WG's historic performance in order to determine, in part, what may be reasonably expected in the future). The OUR's advisors have used historic productivity growth using different indicators, including a partial factor productivity measure (lines/employee);
- **projected efficiency gains** (examining C&WG's business plan to determine C&WG's own projections of potential efficiency savings, see annexes D and E for the capex and opex reviews respectively); and
- **relative efficiency**: (The OUR's advisors have examined C&WG's relative efficiency compared to comparators in other jurisdictions - the results of this analysis are discussed in detail in Annex F).

The results of the relative efficiency review are shown in Table 2 below and have been included in the overall consideration of the OUR's determination of allowable revenue. The changes in C&WG headcount each year are derived from assumptions regarding the annual average increase in lines per employee. For the purposes of the OUR's modeling the DG has used the mid-point of the range (-4.8% to -7.7% pa) to forecast efficiency gains.

Table 2 Changes in C&WG headcount

	Percentage annual change in C&WG headcount		
Annual average increase in lines per employee	**2005-06**[3]	**2006-07**	**2007-08**
3.8%	-4.8%	-5.1%	-5.5%
6.2%	-6.9%	-7.3%	-7.7%

As a result of all the detailed analysis and review of C&WG's forecast opex costs (which is included in Annex E and is confidential to C&WG and of which Table 2 is only one part of the OUR's analysis) the DG is minded to reduce the allowable opex costs proposed by C&WG by 4% over the price control period.

Proposed Decision

The DG proposes to reduce C&W Guernsey Limited's proposals for opex by 4% and intends to use these revised opex forecasts for determining allowable revenue.

Demand forecasts are an important element for the setting of a forward-looking price control. The DG has reviewed in detail C&WG's demand forecasts. The OUR's detailed comments on C&WG's forecasts are provided in Annex G (confidential to C&WG). The demand forecasts within the OUR's model are shown in Table 3 below.

[3] Based on C&WG's business plan forecast for staff numbers in March 2005. This calculation is based on an assumption on the number of channels per ISDN line.

Table 3: Summary DG's Main Market Assumptions for 2009/10[4]

Product	Market CAGR[5] 2004/05 to 2009/10	C&WG Market Share 2009/10
Exchange line rental	-0.1%	100%
Local calls	-6.0%	95%
Calls to UK & Jersey	-7.0%	80%
Fixed to mobile	+1.8%	90% ftGm[6] 80% ftJm[7] 80% ftUKm[8]
International calls	-2.3%	65%
Analogue Leased Lines	-7.5%	100%
Digital Leased Lines	-3.5%	90%

C&WG's forecast direct opex costs will also be determined largely by C&WG's demand forecasts.

Proposed Decision

The DG proposes to amend C&W Guernsey Limited's demand forecasts as set out in Table 3 above. The DG intends to use these revised forecasts to derive both direct opex and calculated revenue within the allowable revenue estimates.

4.4 *Scope, Structure and Duration of Price Control*

The DG has considered carefully the comments made with regard to the scope, structure and duration of any proposed price control. All respondents agreed that a form of incentive regulation would be the most suitable form of regulating prices whilst recognising that the scope of regulation should be kept to a minimum and gradually reduced and eventually removed as competition develops.

Proposed Decision

The DG proposes to impose an incentive regulation form of price control (i.e. RPI-X) on C&W Guernsey Limited for the next price control period.

C&WG believed that the OUR's "Net Present Value ("NPV") Neutrality" approach was an extremely unusual methodology and would be likely to lead to an inaccurate and inappropriate value for an X factor reducing the extent of the price cap regime for providing appropriate incentives for investment.

[4] Note C&WG Business goes out to 2009/10, whilst price control ends 2007/08.
[5] Compound Annual Growth Rate
[6] ftGm = local fixed to Guernsey mobiles
[7] ftJm = fixed to Jersey mobile calls
[8] ftUKm = fixed to UK mobile calls

From the DG's perspective one of the primary objectives of an economic regulator is to eliminate any excess economic profit and improve service where practicably possible. Excess economic profits relate to the level of profit over and above normal profit, where normal profit is that which would be achievable in a competitive market. In perfectly competitive markets with full competition all investments would have a NPV of zero, i.e. products would be priced at such levels to ensure the investment earns its shareholders the required rate of return.

An economic regulator forecasts anticipated output levels, projects the associated operating expenditure together with capital costs, which comprises depreciation and the allowable rate of return on the value of the assets invested in the regulated business. The regulator then sets a level of price that brings costs into line with revenues[9].

In setting X factors as part of the incentive regulation price control the DG has combined the NPV neutrality approach (i.e. tending towards NPV=zero) [10] with seeking primarily to ensure that the regulatory business within the OUR's model earns the required regulatory return by the end of the price control period. In other words, rather than implementing a P_0 adjustment at the outset of the price control period, the DG has sought to propose a phased rebalancing of retail tariffs through to 2007/08.

Proposed Decision

The DG has set X factors on the basis of forecasts which trend towards allowing C&W Guernsey Limited, if efficiently operated, to earn a reasonable return at the end of the price control period.

Most of the other comments received relate to the range of services that should be covered by a price cap and how certain services that might be included are treated, and this is discussed below.

4.4.1 Scope of Price Control

In formulating a view on the range of services to be included, the DG has been guided by the following principles, namely that the price controls should:

- protect customers (and vulnerable customers in particular) from excessive pricing where competition either does not exist or is not fully effective;
- allow effective competition to develop by not discouraging efficient entry;
- provide C&WG sufficient flexibility in its pricing to enable it to operate in a market that will become increasingly competitive;
- encourage C&WG to make efficiency improvements in it regulated business; and

[9] See R Baldwin & M Cave "Understanding Regulation – Theory, Strategy and Practice" Oxford University Press, 1999

[10] If prices were set at such a level at the outset that in order to achieve an NPV neutral outcome, prices at the end of the price control period would have to be below cost, a regulator may consider making a one off P_0 adjustment at the start of the price control period.

- allow C&WG to make a reasonable rate of return on its regulated business, if operated efficiently.

In OUR 04/10 the OUR reviewed the scope of the price control by dividing services into three groups, namely:

- new services offered since the original 2002 price control was introduced (specifically ADSL access (rental and connection) to customers, ADSL access to ISPs, frame relay and access to UK based DQ services);
- services excluded from the existing price control; and
- services included in the existing price control.

The DG has considered the responses to the consultation carefully and his position on each of these areas is set out below.

New Services

In the light of the comments received, the DG does not intend to include the new services (including frame relay and broadband services which were suggested in OUR 04/10) which C&WG have introduced since 2002 in the price control. The DG intends however to consider further the issue of retail and wholesale ADSL broadband pricing as part of the next stage of the audit of broadband services within the Bailiwick.

Proposed Decision

The DG proposes to exclude new services introduced by C&W Guernsey Limited since 2002 from a new price control.

Services Excluded from Original Price Control

With regards to mobile services, the OUR notes that although Wave Telecom has now launched mobile services, C&WG is still likely to be the leading player in the market in the foreseeable future. The DG has considered responses to the consultation on this issue and due to the emergence of competition with a new entrant in the mobile sector, does not consider it appropriate to include mobile services within the new price control.

However the DG notes from C&WG's published regulatory accounts [11] that the company's mobile business earned a Return on Capital Employed ("ROCE") of 118% and a Return on Turnover of 37% for 2003/04. Although excluding C&WG's mobile services from the price control the DG intends consider further a number of issues with regard to the mobile market separately.

Proposed Decision

The DG proposes not to include mobile services within the new price control.

Calls to mobiles were another category of service offered by C&WG which were

[11] Available at www.cw.com/guernsey/docs/products_services/reference_offer/Separated_Regulatory_Accounts_YE2004.pdf

excluded from the original price control on Guernsey Telecoms in 2002. Charges for calls from fixed to mobiles are determined by two main components;

- the mobile termination rate (set by the mobile operator); and
- the retention rate (set by the fixed operator).

The DG intends to consider separately issues with the mobile market (including termination rates). However based on the information provided in C&WG's confidential business plan, the DG believes there is a need to also constraint the overall level of the retail charge to protect consumers' interests. Therefore the DG intends to include fixed to mobile call charges within C&WG's new price control.

Proposed Decision

The DG proposes to include fixed to mobile calls within the new price control.

Services included in the existing price control

The DG intends to price control all services in the existing price control with the exception of DQ services. DQ services were included in the original price control as C&WG was the only provider of such services to local customers. Since then, the market for DQ services has changed significantly and there are now a number of established DQ services available to customers. The DG believes therefore that there is no longer a requirement to include DQ services within the price control.

Proposed Decision

The DG proposes to include all existing services within the new price control with the exception of C&W Guernsey's DQ service.

4.4.2 Structure of Price Control

The DG believes that the most appropriate means of meeting the principles set out in section 4.4.1 is through the use of a range of basket of services. The contents and construction of these baskets reflect where the DG considers that there remains a need to ensure that prices are controlled as no effective competition exists at the time of setting the price control or is envisaged during the price control period. The DG therefore intends to apply a retail price control of RPI-4.2% to C&WG through the use of four separate baskets with the following individual Xs:

Basket 1: Main basket: RPI + 0%

- Exchange line connection and takeover
- ISDN line rental, connection and takeover
- Jersey dialled calls
- National dialled calls
- International dialled calls
- Local dialled calls to ISPs
- Fixed Line calls at national call rate

- Fixed Line calls charged at Local Rate
- Public payphone calls
- Fixed calls to Guernsey Mobiles;
- Fixed calls to other mobiles.

Changes in prices of this basket shall not exceed RPI +0 %.

Basket 2: Leased Lines: RPI-23%
- private circuit connection and takeover
- private circuit rental.

Changes in prices of this basket shall not exceed RPI - 23%.

Basket 3: Exchange Line Rental: RPI+10%
- Exchange line rental

Changes in the price of this basket shall not exceed RPI + 10%

Basket 4: Local Calls: RPI-18%
- Local calls

Changes in the price of this basket shall not exceed RPI -18%

Proposed Decision

The Director General proposes to set a price control for C&W Guernsey Limited so that the charge for the services described in this section will be controlled along the lines described in this section 4.4.2 of this report.

The final level of the control has been set so that C&WG, if it operates in an efficient manner, will be able to recover its costs associated with the price controlled business from the revenue attributable to that business. The overall X factor of 4.2% allows for the rebalancing of C&WG's retail tariffs over the duration of the price control and the DG believes it in the interests of the market for these prices to be rebalanced over a period of time, rather than implementing P_0 adjustments at the outset of the price control period.

4.4.3 Duration

On the question of duration the respondents gave general support for a three year price control period and as a consequence the DG propose to introduce a new price control for the period 1st October 2005 through to 31st March 2008 i.e. covering three relevant periods for price control compliance purposes, namely:

- 1st October 2005 to 31st March 2006 (i.e. a six month period with pro rata X factors and RPI for the relevant historical six month period);

- 1st April 2006 to 31st March 2007 (12 month period); and
- 1st April 2007 to 31st March 2008 (12 month period).

Proposed Decision

The DG intends to set a price control for C&W Guernsey Limited for the period 1st October 2005 through to 31st March 2008.

4.4.4 Carry Over

Regarding carry-over, the DG maintains the view that carry-over should be at the DG's discretion and considered on a case by case basis. This view was supported by Wave Telecom and Newtel. Whilst C&WG strongly objected to the principle of case by case approval of carryover arguing that it provides poor incentive signals, the DG notes that previous requests for carry over by C&WG have not been approved as C&WG have not been able to provide sufficiently accurate and verifiable compliance returns to the OUR. The reliability and accuracy of the returns have been important as C&WG's apparent compliance with the current price control in a number of previous years has been marginal in any event. The DG believes that the decisions proposed in sections 4.4.5 and 4.4.6 below should make any future requests for carryover easier to demonstrate.

Therefore the DG will reserve the right to decide whether any over-achievement in one price control period may be carried over into later periods on the merits of the case presented by C&WG. However, the DG would be minded to permit carry over where early reductions benefit consumers.

Proposed Decision

The Director General proposes to determine whether any over achievement in one price control period may be carried over into later periods on the merits of the case presented by C&W Guernsey Limited.

4.4.5 Prior Year Weights and RPI

In its response to OUR 04/10, C&WG requested that the OUR reconsider the use of current year weightings and forecast RPI in determining compliance with any price control. C&WG encouraged the DG to instead consider the use of prior year weightings which is consistent with the approach adopted by Oftel historically and confirmed by Ofcom in the UK.

Now that the company has sufficient prior year data to use as revenue weights, the DG concurs that it would be appropriate to use prior year weights and prior year RPI figures for demonstrating compliance with the price control. This change in methodology will simplify the reporting process for C&WG.

Going forward the DG believes that by moving to the use of prior year weights and RPI C&WG should be better placed to demonstrate compliance to the DG's satisfaction in the event of any requests for carry over.

Proposed Decision

The DG intends to use prior year weights and prior period RPIs for monitoring compliance with the new price control.

4.4.6 Monitoring and Compliance

The aim of the compliance procedures will be to ensure that C&WG meets its obligations under the price control. This overall aim has the following objectives:

- to minimise the resources required for compliance and monitoring, both from the OUR and from C&WG;
- to ensure maximum transparency and certainty for C&WG to make its pricing decisions; and
- to provide C&WG with flexibility in establishing tariffs for various services.

The OUR will revise the current Price Control Guidelines which were issued to Guernsey Telecoms in 2002. The DG believes that the guidelines will be of assistance both to his Office and to C&WG in ensuring that the targets set by the price control are met, and will also allow any possible need for carry over to be identified and fully assessed in good time. The compliance guidelines are a living document that may be adapted by the DG.

5. Conclusions and next Steps

The DG has formulated this position based on the best information available to him at this time. Subject to any comments that interested parties may wish to make on these proposals and any further analysis of the OUR's model, the DG intends to confirm this proposal by late summer for introduction of a new price control on C&WG from 1st October 2005. Any comments on the proposed decisions set out in the paper should be sent to the DG by 5pm on 1st July 2005.

Annex A Analysis of Market Power

The OUR received a number of comments in response to its consultation, concerning the analysis of market power. The DG is grateful for these and has incorporated them as far as he regards them as reasonable and practicable.[12]

Some of the comments received related to the depth and detail of the type of market analysis undertaken in other, longer-standing regulatory environments. It should be noted at this point that, while the OUR is well aware of best practice in telecommunications regulation in jurisdictions such as those in the UK and other EU member states, it is equally aware of the need to adopt such best practices only as long as they are practicable and appropriate to a communications industry of the size, characteristics and stage of liberalisation of that existing currently in the Bailiwick of Guernsey.

The DG has, therefore, proceeded with what he considers to be a level of depth and detail of analysis that can be usefully undertaken on these markets, and with the levels of disaggregation that can be meaningfully applied. With these points in mind, and taking into account responses made to the consultation document 04/09, the DG believes that the market definitions set out below can be made.

A.1. Relevant product markets

Fixed-line telephony

The most appropriate breakdown of fixed telephony services at the current time is into retail and wholesale markets. ‘Retail’ refers to the provision of networks and services to end users. ‘Wholesale’ refers to the provision of network services to competing operators.

It has been suggested that these markets might be disaggregated further to take account of different types of services offered by operators, for example separating internet services from voice telephony. While further redefinition may be considered in the longer-term, the DG considers on the evidence available currently, given the current state of competition in fixed-line telephony in the Bailiwick, that further disaggregation would not, at this time alter the findings being proposed.

It is highly unlikely that any competing telephony network would be rolled out in the Bailiwick, and equally unlikely that any other similar existing network (for example, the electricity grid) would be used to offer a competing telephony service. There is therefore no foreseeable scope for competition in fixed-line networks or wholesale services.

The only competition in the retail market occurs through the purchase by other service

[12] Full non-confidential versions of the responses received can be found on the OUR website.

providers of wholesale products. While it might be said that there is some potential for further market entry in the retail market through other operators offering retail services, this has yet to develop to any significant extent capable of constraining the behaviour of C&WG. Therefore, there remains a case for the continued regulation of retail market prices. Furthermore, given the continued rate of fixed-line penetration despite the increasing penetration of mobile telephony, the latter cannot, at the moment, be regarded as a retail fixed-line substitute.

The DG concludes therefore that there are separate wholesale and retail fixed-line telecommunications markets.

Mobile telephony

Retailers of mobile services (i.e. to end-users) compete on prices and services. Mobile network operators sell wholesale call time to call originating retailers through call termination charges. The simplest segmentation, and the most appropriate for Guernsey, to be made in mobile markets is that of call origination charges and call termination charges for retail and wholesale, respectively.

Competition in call origination is essentially competition amongst mobile service providers for customers (either pre- or post-pay). Looking at call termination, current best regulatory practice in the UK and EU is to regard each mobile network operator (as distinct from service provider) as having a monopoly in call termination on their own network. Thus, any mobile network operator may potentially be subject to price regulation for call termination charges.

The DG concludes therefore that there are separate wholesale and retail mobile telecommunications markets.

A.2. Geographic markets

Having set out what the DG believes to be appropriate product market definitions for fixed and mobile telephony, it is appropriate to look at the geographic limits of these markets.

For fixed-line telephony, the DG believes that the geographic limit should be regarded as the Bailiwick of Guernsey. The fixed-line customers of the network in the Bailiwick all reside within this limit and the full extent of the network exists within it. It has been suggested that, particularly since Guernsey is part of the UK numbering scheme, there exists the potential for UK service providers to enter into the Guernsey market and that telecoms operators on Guernsey are therefore constrained by potential competition in a far larger geographic area than the Bailiwick (e.g. the UK).

However, for such service providers to be able to offer competing services, for example through carrier selection, they would need to be licensed in the Bailiwick in order to have such services set up on the existing C&WG network. The only operator currently offering competing services of this type is Wave Telecom, which is not a UK operator. The OUR knows of no UK operators who have plans to enter the market in this way. An alternative way of offering carrier selection is through the use of 0800 numbers, but this would not allow a potential entrant to offer prices from the same cost base as the UK since there would be further costs to pay associated with such a service in Guernsey.

The DG believes therefore that such potential entry is unlikely to form a realistic constraint. For the purposes of this assessment, the DG proposes to retain the definition of the geographic market for fixed services as being the Bailiwick of Guernsey.

In the case of the mobile markets, the DG sees no reason to move from the previous geographic definition of the Bailiwick, as set out previously. No mobile network has been licensed to provide services in a market greater in area than the Bailiwick of Guernsey, nor are any mobile operators from outside the Bailiwick providing services to customers within the Bailiwick. Neither does the DG believe that there is influence on prices from outside this area.

A.3. Market power

Fixed Market

Competition in retail fixed-line telephony is still in its very earliest stages. C&WG owns the only Bailiwick-wide network, including exchange lines. This means that it is effectively the only provider of interconnection to the fixed network and that the potential for competition in the wholesale market is at present non-existent. Any new entrant will need to gain access to and interconnect with the C&WG network in order to provide service to its customers. In newly liberalised markets competition has developed first through new operators using the incumbent's network in this way and experience to-date in Guernsey suggests that competition here will follow that trend. As C&WG has the only network on which such wholesale services can be provided, it is and will remain dominant in the provision of these services for the foreseeable future.

In the retail market, there has not been competitive entry into the market to any extent sufficient for a conclusion of the dominance of C&WG to be changed. Given that dominance is customarily regarded as being indicated by, amongst other things, a market share of at least 40%, it can be said that, given their incumbent position and the position of their competitors in the fixed markets defined above, C&WG have far in excess of what could be called a dominant share. In summary, C&WG have the only Bailiwick-wide fixed-line telephony network (and therefore 100% of the supply of fixed telecommunications wholesale services) and close to 100% of the retail supply of fixed telecommunications services.

The OUR therefore proposes to designate C&WG as a dominant operator in the wholesale fixed-line telecommunications market and the retail fixed-line telecommunications market and to regulate its pricing accordingly.

Mobile Market
The previous OUR decision on mobile telephony market definition was made at a time when C&WG was the sole provider of mobile telephony services in the Bailiwick. Furthermore, the latest market data available to the OUR is from June 2004 which was before any new licensed operators had begun to operate in the market. Since then, there has come into operation a second mobile network operator (Wave Telecom) also providing retail services.

While there are, at present, no actual market share figures showing the progression of mobile market entry, there are nonetheless two conclusions that can be drawn with reasonable certainty on the current state of the mobile markets defined above. Firstly, there has still as yet been insufficient penetration in the mobile retail (call origination) market for a significant reduction in the market power of the incumbent in the mobile retail market.

Secondly, notwithstanding that the penetration of Wave Telecom into mobile communications is still in its early stages in the Bailiwick, as mentioned above, current best regulatory practice in the UK and EU is to regard each mobile network operator as having a monopoly in call termination on their own network. Thus, while Wave Telecom has yet to achieve sufficient market share in mobile retail for either C&WG's dominance to be altered or for Wave to be declared in possession of a significant level of market power, the fact that it has its own mobile network in operation, with retail customers on it, should lead, according to best practice, to their being declared dominant in wholesale telephony on that network.

In summary, then, the DG proposes to find C&WG dominant in mobile retail services and both C&WG and Wave dominant in wholesale mobile services on their respective networks.

The DG has already noted earlier that he does not intend to include mobile services within the scope of the proposed price control. However, a number of matters with respect to the mobile market will form the basis of a further separate workstream to be carried out by the OUR.

A.4. Collection of Market Data

In Document 04/09, the DG proposed to commence a market data gathering exercise to facilitate the regular review of the telecommunications markets within the Bailiwick. The information from the market analysis and the responses to future consultations will it is hoped help the DG to determine the state of competition within the various markets.

While it was pointed out in responses received that jurisdictions such as those of the European Commission and the OFT require data to be compiled on a quarterly basis, it is felt by the OUR that such a requirement would impose a large and, given the current level of competition development, disproportionate burden on telecoms operators in Guernsey. It is proposed, therefore, that market data continue be collected, for the time being, on an annual basis. As mentioned in section 4 of the main document, the DG intends to keep this under review so that should more frequent reporting be necessary it could be introduced at some future point. Additionally, in the hope that future data gathering can be made as easy and useful as possible, the DG intends to liaise fully with operators over the ways in which this can be done.

Annex B C&WG's Cost of Capital

Setting the cost of capital (weighted average cost of capital or WACC) for C&WG requires a number of issues to be considered which are addressed in detail within this section.

B.1. Mechanisms for Calculating Cost of Capital

The OUR sought views on whether the terms of the loan to fellow C&WG group companies represented an appropriate basis for assessing the cost of capital. C&WG argued against this approach stating that the cost of capital relates solely to the riskiness of the activity in question. The fact that C&WG currently holds surplus cash should not be a factor in setting the cost of capital. There are numerous potential uses for this capital, each of which would have its own cost of capital relating to its individual characteristics[13].

The DG concurs with this position.

The DG's view is that the CAPM approach is an appropriate methodology for estimating C&WG's WACC as it is widely used and relatively straightforward to estimate and interpret.

The OUR also consulted on whether C&WG's cost of capital should be estimated for the fixed business only. C&WG argued in favour of a blended rate (covering both fixed and mobile) on the basis that, in principle, the WACC should be estimated for each separate activity (access, conveyance etc) and if this would not be done the split between fixed and mobile should not be done either.

As the DG intends to price control only C&WG's fixed retail services, he intends to estimate a WACC for C&WG's fixed telecoms business only.

The DG agrees with C&WG that it would be inappropriate to apply separate costs of capital for investment pre- and post-privatisation. The DG therefore intends to use a single fixed WACC for pre- and post-privatisation for the purposes of the price control.

B.2. Cost of Equity

B.2.1. Risk-free rate

The yield on nominal government bonds is an appropriate and standard way to estimate the risk-free rate which raises two issues for consideration, namely the appropriate maturity and the choice of time period to assess the value of the risk free rate.

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[13] C&WG's substantial response to the WACC consultation questions are set out on pages 34-55 of its response to OUR 04/11 which is available on the OUR's website.

The DG recognises that it is commonly argued that the bond maturity should reflect the length of the regulatory period and the average asset life. There is clearly merit in basing the choice of maturity on these factors although the liquidity of the capital markets and the slope of the yield curve are also relevant. Taking these factors into account the DG considers that five years would appear to be a reasonable choice as the maturity period parameter.

In terms of the time period for estimating the risk free rate there is a case for not basing the estimate on the latest month's data, but on an average of the recent data (e.g. the past 6 months or the past year) or rounding the estimate up. The advantage to this is two-fold. First, from a practical perspective, using an average figure reduces any pressure to continually revise the WACC calculation during the course of the price control process. Second, there is a view[14] that the risk-free rate and the equity risk premium ("ERP") are inversely related, that an increase in the risk-free rate is associated with a reduction in the ERP, and vice versa. Given that the ERP is not directly observed and is estimated using long-run data, there is a case for taking a relatively long-term view on the risk-free rate as well.

The DG therefore intends to base the risk free rate on a five year maturity period and taking an average figure of recent data, use risk free rates of 4.8% and 5.0% for estimating a range for C&WG's cost of capital.

B.2.2. Equity risk premium

The DG believes that the estimate of 5% for the ERP in the consultation paper is reasonable. Further, the DG does not accept C&WG's analysis that 5% is towards the bottom end of the available evidence. It is common to take into account a range of evidence in estimating the ERP. For Guernsey, the OUR has included historical data on the ERP in the UK and other financial markets and expectations of future risk premium, based on the views of investors and financial market experts.

Table B.1 summarises a selection of this evidence. It is not exhaustive but it covers a wider range of sources than used by C&WG. From this evidence it would appear that a fair range for the ERP lies between 4% and 6%, with the bulk of the evidence supporting a central value of 5%.

[14] For example, see the research report for the UK regulators, *A study into certain aspects of the cost of capital for regulated utilities in the UK*, Smithers and Co, February 2003.

Table B.1: Evidence on the Equity Risk Premium

Evidence	Description	Value for ERP
Survey evidence		
Welch, 1998	Survey of over 100 financial economists - mainly US	6%
Welch, 2001	Update of survey financial economists	5%
OXERA	March 2000 survey of ERP used by UK firms	5%
Bruner *et al*[15]	US survey of corporations and financial analysts	Corporate users favour range 5% - 6%
UK financial institutions	Views from investment banks and fund managers since 1997	Most estimates lie in range 2 - 4%
Historical data		
UK historic data 1900 - 2000	Barclays Capital and ABN-AMRO / LBS studies	Geometric mean 4.5% Arithmetic mean 6.6%
UK historic data 1955 - 2000	ABN-AMRO / LBS studies	Geometric mean 6.1%
US historic data 1925 - 2000	Ibbotson Associates	Geometric mean 5.3% Arithmetic mean 7.7%
Analysis of US data	Cornell, The Equity Risk Premium – the long-run future of the stockmarket, 1999	Premium over Treasury bonds 3.5% - 5.5% Premium over T-bills 5.0% - 7.0%
Evidence from 16 international markets 1900 - 2000	Dimson, Marsh and Staunton, 2002	Geometric mean – 10 year Netherlands 4.3% UK 4.8% France 4.9% USA 4.9% Australia 6.3%

B.2.3. Equity Beta

C&WG has presented a range of evidence on the Betas (equity and asset) and the OUR has a number of observations on C&WG's proposals.

It is appropriate to consider a wide range of evidence in assessing the Beta, including actual and modelled Betas. There can be significant variation in actual Betas for a single company depending on the frequency (daily or monthly) and time period (one year, five years) over which the Beta is measured. Daily and weekly estimates tend to be more

15 Bruner et al, Best practice in estimating the cost of capital, Financial Practice and Education, Spring / Summer 1998.

robust and these can be assessed over periods of one or two years.

Ofcom's current view of the asset Beta for BT is approximately 0.9 (based on the PPC charge control, September 2004). Overall, the DG believes that there would appear to be evidence that the Beta proposed by C&WG is at the high end of the range (i.e. 0.978 to 1.09).

The DG intends to use equity betas 0.94 and 1.10 and asset betas of 0.85 and 1.0 as inputs for estimating a range for C&WG's cost of capital which reflects that C&WG is less exposed to competition that BT and takes into account evidence from European telcos.

B.3. Cost of Debt

C&WG argued that the debt premium of the group company, lying in the range 2% to 2.5% is appropriate for C&WG. OUR has concluded that this is not the appropriate basis for setting the debt premium as C&WG should be treated as a stand-alone entity and the financial position of the group should not be a relevant factor. The DG believes that the appropriate basis for setting the debt premium would be Ofcom's current view on the debt premium for BT (1.0%) adjusting to reflect the gearing assumption (which will be lower for C&WG[16] thereby reducing the premium). This results in a debt premium of 1.0% to 1.5% which the DG considers to be a conservative assumption that reflects an uplift on the assessed premium for BT.

B.4. Gearing & Tax

C&WG has a gearing level of 0%. The question is whether this level should be used in estimating the cost of capital, or whether some "optimal" level of gearing should be used instead.

It would be consistent with regulatory practice for OUR to assess the WACC based on optimal gearing, however the OUR wishes to take a cautious approach to gearing given that there is likely to be a significant difference between actual and estimated "optimal" gearing. In particular it might be unrealistic to assume that C&WG would be able to reach an optimal level of gearing within the price control[17].

The DG considers an alternative approach would be to assume an average level of gearing representing a move during the price cap period towards a level which is likely to be closer to the optimal level. The DG believes a figure of 10% would appear reasonable in this context.

The DG considers that the use of the standard rate of corporation tax, 20%, is a

[16] See section B4 below

[17] The fact that C&WG has lent funds to group implies that C&WG actually has negative gearing. This does not alter the fact that OUR should consider C&WG as if it were a stand-alone entity and that it is appropriate to consider the WACC under an "optimal" gearing. It may though influence the period of time over which it is reasonable to expect C&WG to achieve a more appropriate gearing level.

reasonable assumption. It is a standard regulatory practice to use the standard rate as opposed to the effective tax rate, principally for reasons of simplicity and transparency.

B.5. Cost of Capital Conclusions

Table B.2 provides the summary estimate of the pre-tax nominal cost of capital for C&WG, based on the assumptions described above.

Table B.2: Summary view of cost of capital for C&WG

Factor	**Low**	**High**
Risk-free rate	4.8%	5.0%
Debt premium	1.0%	1.5%
Cost of debt	**5.8%**	**6.5%**
Risk-free rate	4.8%	5.0%
Equity risk premium	4.0%	6.0%
Asset Beta	0.85	1.00
Equity Beta	0.94	1.10
Cost of equity	**8.5%**	**11.6%**
Gearing	10%	10%
Tax rate	20%	20%
WACC – pre-tax nominal	**10.2%**	**13.7%**

The range for the WACC is 10.2% to 13.7%. The DG therefore proposes to use a pre tax nominal WACC of 12.0% in the OUR's economic modelling of C&WG's price control (i.e. the midpoint of the range). The DG notes that C&WG proposed a medium scenario of 12.6% as the company's pre tax nominal WACC.

Annex C Appropriateness and Estimation of Market to Asset Ratio Adjustment

C.1. Appropriateness of MAR

OUR described the application of the Market to Asset Ratio ("MAR") approach and discussed its relative merits in section 6.4 of OUR 04/11. In 04/11, the OUR stated that the key merit of implementing the MAR approach was to avoid shareholders receiving windfall gains at the expense of consumers in the event that the purchasers of the business paid less than the book value of the assets at the time of sale. Two specific questions were raised in relation to this subject in section 6.5 of the consultation document, namely:

- whether the MAR approach was an appropriate methodology to use when deriving the opening asset base for a regulated utility that was privatized at a price lower than the value of its assets; and
- if so whether a uniform MAR should be applied to the business's asset base.

Any MAR adjustment would only be applied to those assets at privatization which were included in the company's opening asset base.

Respondents' Views

C&WG were opposed to the proposed use of the MAR to the company's opening asset base[18]. C&WG noted that MAR has only been applied in industries which were deemed to be natural monopolies and it was therefore not necessary to consider the negative impact of MAR on the introduction of competition in those industries. C&WG also noted that MAR has not been applied previously in the telecommunications industry. In addition C&WG stated that a change in the regulator's approach in setting the value of the regulatory asset base will increase the risks of doing business in the Guernsey telecommunications market which will lead to 'sub-optimal investment decisions.'

Wave Telecom were also opposed to the use of the MAR approach in the setting of any telecommunications price controls in Guernsey. Wave Telecom argued a reduction in the regulated prices arising from the application of a MAR approach to the valuation of C&WG's regulatory asset base to below those that would prevail in a competitive market would severely impact Wave Telecom's business case. Wave Telecom also noted that the MAR approach has not been applied in telecommunications markets previously.

Newtel believed that the MAR approach to be an appropriate methodology, in the absence of current cost information about the value of the assets.

The response from the States of Guernsey's Policy Council supported the use of the MAR approach for valuing C&WG's asset base.

[18] C&WG also submitted a detailed substantial response to the OUR 04/11. This document summarises the key points raised but for all exposition of the company's position, interested parties should refer to the company's full response which is available on the OUR's website.

Consideration of Responses

Historically in other sectors, a MAR adjustment has been applied in setting regulatory price controls for businesses which have been privatized where the price paid for the business was significantly less than the book value of the business[19]. The adjustment is intended to ensure that a reasonable rate of return is made on the **actual investment**, rather than on the value of the assets reflected in the company accounts. By setting prices on the basis of a MAR adjusted regulatory asset base, the regulator ensures that investors are compensated for the investment that they have made, assuming that the business is operated efficiently, without receiving any windfall profits (i.e. profits in excess of a reasonable rate of return that do not reflect efficiency improvements made by the regulated business).

If the prices of the incumbent, set on the basis of a MAR adjusted Regulatory Asset Base (“RAB”), are significantly below the level that would be charged by an efficient new entrant, other operators may not be able to earn a reasonable rate of return if they enter the market. This may reduce the scope for effective competition in the segments of the market in which this is the case. The DG is similarly cognizant of the fact that in the regulatory cases where MAR has been applied in the past, the impact of the adjustment on the development of competition has not been a relevant consideration.

The DG believes that any application of a MAR adjustment to C&WG’s RAB therefore requires careful consideration of the impact on the current and potential future market outcomes. The relative impact on competition in infrastructure and in the downstream/services segments of the market will depend on how the MAR is applied.

To address the concerns on the impact on competition the DG believes however it is possible to adapt the application of the MAR adjustment in order to limit potential adverse consequences for competition in different parts of the supply chain. The DG believes therefore that a targeted application (i.e. applied to the RAB apportioned to those services where competition is not expected to develop) of the MAR ensures that C&WG will receive a fair return on its actual investment going forward.

The DG does not believe that a MAR adjustment is likely to result in an undue increase in the risk faced by companies in the sector for a number of reasons:

- the MAR approach to valuing the regulatory asset base is consistent with a number of regulatory decisions in the UK and its actual implementation in Guernsey is reasonable and proportionate;
- its application should not increase the riskiness of investing in the Guernsey telecommunications market as the DG believes that the clarity provided by the OUR regarding the application of the MAR will prevent this adversely affecting future investment decisions in the market;
- The DG has indicated that C&WG will continue to receive an appropriate

[19] The MAR approach has been accepted by a number of UK regulatory authorities as a reasonable approach to setting the regulatory asset base for regulated companies. In particular, the MMC decisions of 1993 and 1997 concerning regulation of the UK gas industry, the regulation of UK electricity companies and the UK water industry all adopted a MAR approach to the valuation of the Regulatory Asset Base.

return on its investment (including new investments) going forward; and

- The MAR adjustment is a one-off adjustment. As future investment takes place any impact of this adjustment will lessen significantly.

The DG intends to address the issues raised above regarding the potential impact on competition of a MAR adjustment through the selective application of the adjustment to a subset of the assets of the business (i.e. not applying a uniform MAR and applying a targeted MAR for assets apportioned to non-competitive markets only). The DG considers that a MAR targeted in this way would allow the OUR, through the price control, to eliminate any excess returns in areas where there is limited prospect for competition.

The OUR specified that C&WG's excel model which supported its business plan should allocate assets between the different components of C&WG's business. This enables the OUR to apply a MAR adjustment to specific parts of C&WG's business.

The DG therefore intends to apply a MAR adjustment of 26.6% to C&WG's RAB for those products and services where the DG does not forecast any competition during the price control period (2005/06 to 2007/08). The detailed methodology followed to calculate the actual MAR adjustment is provided section C.3 (which is confidential to C&WG).

The DG intends therefore to apply the 26.6% MAR to C&WG's RAB (pre-privatisation) allocated to exchange line rental, payphones and local calls.

C.2. Principles for Estimating MAR

This section addresses issues that arise in the calculation of the value of MAR.

Treatment of current assets

The MAR should reflect the value that the market or purchaser places on the business. All of the assets and the liabilities of the business would be taken into account by a purchaser of the business, prior to agreeing a price. The MAR should reflect the market valuation of the net assets of the business.

$$\text{MAR} = \frac{\text{market price}}{NBV(FA) + (CA) - (D) - (CL)}$$

where:

NBV(FA) = the net book value of the fixed assets of the business;

CA = the value of the current assets of the business;

D = the value of the business's long-term debts; and

CL = current liabilities

The MAR reflects the market valuation of the net total assets of the business. This issue has not been discussed in detail in records of previous regulatory decisions on MAR because, in the majority of cases, the balance sheet of the business has been dominated by fixed assets.

Treatment of cash

Any cash in excess of that which is required to run the business effectively should be treated differently from other current assets in the calculation of the MAR.

The market value of this surplus cash is the same as its face value. It is therefore clear that a part of the market value of the business can be assigned to the cash element of the business's assets. The remainder of the purchase price can be allocated to the remainder of the business' assets.

The MAR is therefore the ratio between

- the market price, less the value of cash in the business at the point of sale; and
- net total assets of the business, less the value of the cash in the business at the point of sale.

When there is cash included in the business at the point of sale, the formula for the MAR calculation should therefore be:

$$\text{MAR} = \frac{\text{market price - (C)}}{NBV(FA) + (CA) - (C) - (D) - (CL)}$$

where

(C) = the value of the cash balances

Off-balance sheet liabilities

C&WG have argued that the MAR calculation should also take into account off-balance-sheet liabilities. The DG accepts that it is correct that any investor purchasing a business would attempt to value such off-balance sheet liabilities. This valuation would be included in the price that the investor would be willing to pay for the business.

In principle, all liabilities held by the company, including those not recorded on the balance-sheet, should be taken into account in the market valuation of the company. Any genuine off-balance sheet liabilities should therefore be subtracted from the denominator in the MAR calculation. The MAR formula would therefore be:

$$\text{MAR} = \frac{\text{market price} - (C)}{NBV(FA) + (CA) - (C) - (D) - (CL) - (OBL)}$$

where

OBL = the value of off-balance sheet liabilities

However, in the context of a regulated business, it is noted that many future expenditures would be included in the calculation of allowable revenue, either through incorporation into the RAB or through inclusion in the allowance for operating costs. These types of expenditure commitments are therefore not true liabilities since they are matched by future revenue streams.

C&WG have listed a number of items which they consider to be off balance-sheet liabilities which should be included in the denominator in the MAR calculation. These points are addressed in section C.3.

Shareholder gain

In their response to OUR 04/11, C&WG raised the issue of "shareholder gain". There are two possible interpretation of this concept and these are considered below.

Post-sale capital expenditure

The MAR adjustment is applied only to the value of assets in the business at the time of sale. This valuation is used in the calculation of the RAB for any pre-sale assets.

Any assets that are purchased after the sale, would be included in the RAB at their book value (or CCA basis in this case). Under a new price control, C&WG would be allowed to earn a reasonable return on the value of this expenditure.

Transaction risk

The DG concurs that it is correct that the shareholders should be compensated for the risks that they take when investing in the business. This is generally captured in the value of the cost of capital which is applied to the regulatory asset base.

In the case of the application of the MAR approach, regulators have sometimes used a market valuation to set the RAB (i.e. not necessarily the sale price). The rationale for this is as follows:

- Prior to the sale, some relevant information concerning the value of the RAB is not known. The purchaser is therefore taking a risk by undertaking the transaction.
- In the period after the sale, some of this information is revealed and the 'market' valuation of the business may be different from the sale price.
- It is reasonable to compensate the purchaser for the risk that they undertook in the transaction and this is the key reason for using a market valuation of the business rather than the sale price for the purpose of setting the RAB. In practice, the precise period over which the share price is evaluated has varied.

In the case of C&WG, it is not possible to use a 'market value' because shares in the business are not publicly traded. Whilst it may be argued that an adjustment should be made to the sale price used to calculate the MAR in order to take account of this. However, without a market valuation, there is no clear way of setting this adjustment.

The DG’s position on this issue is:

- By including the cost of capital in the calculation of allowable revenue, the shareholder is being sufficiently compensated for the risks associated with their investment.
- In the absence of a publicly traded share price, there is no clear way of calculating the ‘market’ value of the business. Any uplift from the sale price used in the MAR calculation would therefore be arbitrary.
- The OUR’s starting point should be to base the MAR calculation on the sale price of the business.

In light of the discussion of these issues the DG intends to calculate the MAR as outlined above.

C.3. Estimation of MAR

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Annex D Review of C&WG's Capex Forecasts

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Annex E Review of C&WG's Opex Forecasts

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Annex F Efficiency Review

F.1. Introduction

In Document OUR 04/11 the OUR sought views on whether it was necessary for C&WG to provide a robust, logical, transparent and fully justified explanation regarding the efficiency of its base year and projected operating costs. The OUR further consulted on whether it was necessary and prudent for the DG to compare the regulated firm's operating cost levels with other operators in order to form a conclusion in relation to the efficiency of the operating cost proposals put forward by C&WG.

C&WG stated its position to be that the company was efficient unless the OUR proved otherwise and that there was no evidence to suggest that it is inefficient[20]. The company also believed that it should have an opportunity to comment on any inefficiencies that the OUR may identify and any efficiency assessment by the OUR should take into account all legal, legacy and Guernsey specific factors faced by the company. C&WG strongly felt that a single efficiency adjustment in the base year would be inappropriate and a more gradual approach should be taken within the price control should any inefficiency be identified.

C&WG highlighted methodological issues raised by benchmarking. The company also noted that economic tools are resource intensive and consequently believed that such studies would not be cost effective and proportionate in achieving efficiency gains. C&WG stated that in the absence of perfect information, it is C&WG that will provide cost data closest to full information.

F.2. Consideration of Responses & OUR's Analysis

The OUR's advisors have assessed C&WG's potential efficiency gains and have drawn upon several methodologies in order to ensure the robustness of any decision the DG may make about C&WG's relative efficiency.

In carrying out this exercise the following methods to determine C&WG's potential future efficiency gains have been used:

- **Historic efficiency gains**: examining C&WG's historic performance in order to determine, in part, what may be reasonably expected. The DG recognises that past performance is not necessarily a guide to what can be expected in the future and that exceptional historic productivity gains may indicate that it will be more difficult to achieve similar productivity gains in the future. However, as one measure among several, historic productivity performance contributes valuable information to the final conclusions.

[20] Interested parties should refer to pages 28 to 34 of C&WG's response to Document OUR 04/11 for a full exposition of the company's position.

- **Projected efficiency gains**: examining C&WG's business plan to determine C&WG's own projections of potential efficiency savings. The OUR's detailed assessment of C&WG forecast capex and opex are set out in Annexes D and E respectively.
- **Relative efficiency**: as another means of verifying C&WG's potential future efficiency savings, the OUR's advisors have also examined C&WG's relative efficiency compared to comparators in other jurisdictions. Several methods to estimating relative efficiency have been considered, including Data Envelopment Analysis ("DEA") and a range of econometric approaches (e.g. ordinary least squares ("OLS"), corrected least squares ("CLS") and stochastic frontier analysis ("SFA")).

The purpose of this analysis was to provide an efficiency benchmark analysis against which the forecasts of outputs and costs provided by C&WG could be compared.

F.3. Selecting the appropriate measure of relative efficiency

In theory, efficiency should be measured based on total factor productivity ("TFP"): the ratio of an aggregate measure of output to an aggregate measure of inputs. While the use of TFP measures is possible, given the extra costs and limited potential added benefits (i.e. greater accuracy and confidence in the results), the OUR's advisors used a partial measure of productivity choosing the ratio of the number of installed telephone lines to the number of full time equivalent (FTE) employees of C&WG as a proxy for C&WG's efficiency, for the purposes of the comparative analysis.

To the extent that C&WG's relative efficiency would be different if measured based on a TFP approach, as opposed to an approach that uses lines/employee, the partial measure adopted by the OUR's advisors would favour C&WG as long as C&WG is less efficient than comparator firms in its capital spending. If this were the case then using a TFP measure would result in a higher estimate of the potential future efficiency gains. Conversely, if C&WG were more efficient in its capital expenditure than the comparators, the partial productivity approach would result in a lower estimate of potential future efficiency gains.

F.4. Selecting the relevant comparator set for international benchmarking

In comparing C&WG with a set of operators, the OUR's advisors had to decide which companies should be included within the set of comparators and they have adopted a general-to-specific approach in the determination of the relevant comparator set:

- examine the widest possible comparator set (i.e. all countries for which data about lines/employee is available);
- eliminate comparators that operate in clearly different environments (e.g. in very large countries) to generate a base dataset on which the statistical analysis is

conducted; and

- examine relevant subsets of the base dataset to determine relative efficiency (e.g. small island economies, economies with similar size of population).

The countries used in the data set include Bahamas, Bahrain, Belgium, Bolivia, Cape Verde, Chile, Costa Rica, Cyprus, Estonia, Fiji, Finland, Haiti, Honduras, Hong Kong, Ireland, Israel, Jamaica, Jordan, Latvia, Macau, Malta, Mauritius, Micronesia, New Zealand, Oman, Sao Tome and Principe, Switzerland, United Arab Emirates, United Kingdom and the USA.

The econometric analysis also allowed the OUR's advisors to control for notable differences in operating environment that may continue to exist within the sample (e.g. differences in population density and GDP per capita).

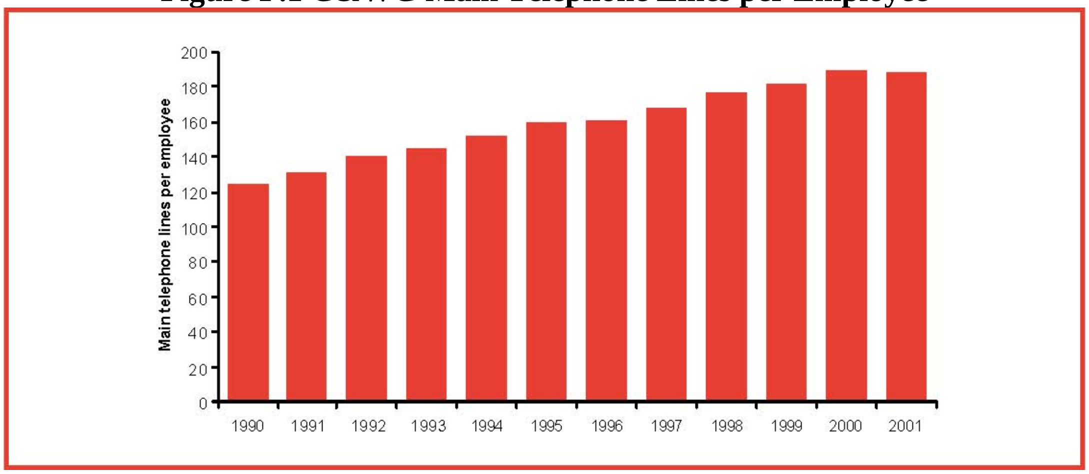
F.5. Identification of efficiency savings

This section summarises the OUR's advisors' analysis of potential efficiency gains that may be expected of C&WG using each of the three methods described above.

Historic productivity gains

Data has been collected on main lines per (FTE) employee for C&WG from 1990 until 2001 from the ITU. The series is illustrated in Figure F.1.

Figure F.1 C&WG Main Telephone Lines per Employee



This data indicates that:

- over the entire time period the cumulative annual growth rate ("CAGR") in lines/employee was 3.8% per year; and
- over the last 5 years of this period the CAGR was 2.4%.

In its response to OUR 04/11, C&WG provided graphical information regarding its number of lines per employee between December 2001 and March 2004. This was followed by further information provided by C&WG in a letter to the OUR, dated November 17th 2004. However, this data only permits the calculation of the change in lines per employee for a single period (2002-03 to 2003-04). Without a more complete dataset, it is therefore not possible to obtain a more robust view of efficiency changes since 2001.

Relative efficiency – comparison with the average

As described above, the OUR's advisors examined C&WG's efficiency gains relative to a set of peers. They initially conducted simple OLS regressions to understand the performance of C&WG relative to the *average* performance across the sample of peers. Two main models were examined:

- Model 1: examined C&WG's performance relative to the average of the full sample of peers, controlling for GDP per capita and the size of the population.
- Model 2: examined C&WG's performance relative to the average of a subset that included only peers who provide both fixed line and mobile telephony services, controlling for GDP per capita and in one variation also controlling for the size of the population.

The basic results are reported in Table F.1.

Table F.1 C&WG's relative efficiency[21]

Model	**Current C&WG performance**	**Expected C&WG performance1**	**Implied future annual CAGR2**
Model 1 without population control	203.5	205.5	0.33%
Model 1 with population control	203.5	217.3	2.21%
Model 2 without population control	203.5	217.6	2.26%
Model 2 with population control	203.5	229.4	4.07%

The OUR's advisors then examined the definition used by the ITU for the number of lines. This examination led to further sensitivity analysis. The ITU data set includes, for some jurisdictions, ISDN channels in the total number of main lines, whilst these are excluded for other jurisdictions. The ITU figure for main lines in Guernsey appears to include ISDN channels. The OUR's advisors therefore has run a further series of regressions on a sample of countries for which the ITU data explicitly includes ISDN

[21] *Source: OUR calculations, based on data from C&WG and ITU*

1: If C&WG is to meet the average performance of the group

2: Over a three year price control period to reach the current average performance channels in the number of main lines. This reduces the sample size in comparison to the main data set because the ITU data set does not include data on the number of ISDN channels in all jurisdictions. The results of this additional analysis are shown in Table F.2.

Table F.2 C&WG's relative efficiency (including ISDN channels in definition of PSTN Lines for all countries)[22]

Model	**Current C&WG performance**	**Expected C&WG performance[1]**	**Implied future annual CAGR[2]**
Model 1 without population control (log format)	203.5	190.6	-2.2%
Model 1 with population control (log format)	203.5	195.2	-1.4%
Model 2 – linear format	203.5	213.1	1.5%
Model 2 – log format	203.5	212.4	1.4%

Taken together, the results of the econometric analysis shown in Tables F.1 and F.2 do not provide conclusive evidence that C&WG is significantly more or less efficient than its peers. It is possible that they indicate that the efficiency of C&WG is broadly in line with its peer group.

However even if this were the case, it does not mean that C&WG would not make any further efficiency gains going forward during the price control period. This is for two reasons:

- It is reasonable to expect that the average efficiency of the peer group will improve over the price control period. An assumption of no improvements in efficiency during the price control period would fail to take this into account.
- It is not unreasonable to expect that C&WG would be able to outperform the average level of efficiency of comparator operators. An assumption of no improvements in efficiency during the price control period would therefore represent a conservative assumption of C&WG's potential.

[22] *Source: OUR calculations, based on data from C&WG and ITU*

1: If C&WG is to meet the average performance of the group

2: Over a three year price control period to reach the current average performance

Relative efficiency – comparison with best practice

The approach to efficiency analysis described above compares the performance of C&WG with that of the average of the relevant peer group. However, for the purposes of estimating C&WG's potential for future efficiency improvements, it is also appropriate to compare current efficiency with "best practice". This is done by carrying out a comparison of the efficiency of C&WG with that of other operators in the sample. The OUR has considered the following possible definitions of "best practice"[23]:

- *C&WG to match the most efficient firm in the base dataset*: this would be the incumbent in New Zealand which has 347.9 lines per employee compared to C&WG's 203.5, an improvement of about 71% over the control period. If New Zealand is regarded as an outlier then the required efficiency improvement to the second most efficient company in the sample is equivalent to about 30% over the price control period;
- *C&WG to be in the top decile of the dataset*: this would imply a performance similar to the incumbent operator in Hong Kong who has 215.8 lines per employee, an improvement of about 6% over the control period; or
- *C&WG to be able to improve by one standard deviation within the context of the current data set*: this would imply an improvement of between about 67.3[24] and 70.6[25] lines per employee, depending on which sample of peers is used, an improvement of between 33% and 35% over the price control period.

F.6. Conclusions

The efficiency analysis has indicated a range of potential efficiency gains that could be expected of C&WG. This analysis provides an indication that C&WG's efficiency should be expected to improve over the price control period. At this stage, the DG intends to propose a range of values for the estimate of efficiency gains that can be achieved by C&WG during the price control period.

C&WG's historical improvements efficiency would indicate that annual efficiency improvements of 3.8% during the price control period by C&WG are achievable and the DG intends to use this as the lower limit of its range of forecasts of annual efficiency improvements during the price control period.

If C&WG is expected to match the current average of its peer group, it is possible that its

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[23] In all of the comparisons discussed below, the potential efficiency gains are derived based on the setting of best practice according to the historic performance of the comparators (i.e. the most recent information available for the comparator operators). It is reasonable to expect that the efficiency of the best practice performers will improve over the next 3 years. The calculated estimates are therefore likely to be an under-estimate of the true required efficiency improvement for C&WG to achieve the stated best practice comparator benchmark.

[24] This figure is calculated using the complete dataset of comparators.

[25] This figure is calculated using the set of operators with both fixed and mobile businesses as comparators.

efficiency will remain at the current levels. However, for the reasons noted above, the DG considers that this would represent a conservative estimate of the potential for C&WG to make efficiency improvements during the price control period and therefore the DG does not include it in his estimate of the range of potential future efficiency gains.

Comparison with best practice in the peer group of operators around the world indicates that C&WG could improve its efficiency by an annual rate of between 2.0% and 10.5%, in order to achieve best practice. The DG therefore intends to use the mid-point of this range (i.e. 6.2%) as the upper limit for the range of the expected efficiency improvements to be used in supporting the setting of the price control.

Annex G Review of C&WG's Demand Forecasts

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