REGULATORY AUTHORITY

Cost Orientation

Proposed Guidance Note

Version 1.0

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About this Guidance Note

This Guidance Note sets out guidance from the Regulatory Authority of Bermuda (the "Authority") in relation to the Cost Orientation obligation imposed on SMP operators in the electronic communications sector, set forth in [Insert name of GD] on [Date GD was issued].

This document constitutes Version 1.0 of the Cost Orientation guidance. The Authority is intending to revisit this guidance in the future, and if necessary, update it on the basis of market developments as well as dialogue with the SMP operators and industry stakeholders.

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Definitions

Access Network: Relates to the part of the network that connects directly to customers, from a local aggregation/distribution point.

Accounting Separation: An obligation set forth in [name the final GD] to produce financial statements that report the performance of each Product Group of an SMP operator. Accounting Separation enables the Authority to monitor whether an operator with SMP is compliant with certain price-based obligations, such as to ensure prices are cost oriented.

Activity-based costing (“ABC”): A cost allocation methodology where costs are assigned to the services based on allocation keys presenting a causal link with the costs incurred.

Adjusted equally efficient operator (“adjusted EEO”): One of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of the SMP provider, adjusted to the scale of an entrant. See also “EEO” and “REO”.

Average avoidable cost (“AAC”): The average of the costs that could have been avoided if the operator had not produced a discrete amount of (extra) output

Average customer lifetime (“ACL”): The average revenue-generation duration for which a customer stays with a particular service provider.

Average revenue per user (“ARPU”): A measurement used to indicate the average monthly revenue earned from a customer who subscribes to a service.

Average variable cost (“AVC”): The average variable cost for a given unit of output.

Bandwidth: The amount of data that can be transmitted within a fixed amount of time, expressed in bits per second (bps) or bytes per second.

Broadband: An Internet service or connection generally defined as being “always on”, providing a bandwidth greater than narrowband.

Bundle: Communications services sold together in a package, in contrast to each service being sold on a stand-alone basis.

Capital expenditure (“CAPEX”): Funds used by a company to acquire, upgrade, and maintain assets such as property, industrial buildings, or equipment.

Common costs: Costs that are shared between multiple services supplied by an entity.

Consumer: Someone who purchases an electronic communications service (i.e. a retail product such as broadband). Consumer can also refer to a wholesale consumer, i.e. a supplier in the value chain who buys a service or product and then supplies it to the final consumer (or end-user).

Core Network: The backbone of a communications network, which carries different services such as voice or data.

Cost causality: The attribution of costs to components, services and business divisions strictly in accordance with the activities that cause those costs to be incurred.

Cost Orientation: An obligation set forth in [name the final GD] to ensure that prices charged for products or services are reflective of the underlying cost of provision.

Current cost accounting ("CCA"): A form of depreciation in which an operator's asset base is annualized based on the gross replacement cost of the assets.

Customer: Someone who purchases an electronic communications service. Customer and consumer are used interchangeably in this report, but customer usually refers to a customer of a specific service provider (i.e. a OneComm customer).

Customer premises equipment ("CPE"): Electronic equipment that is located in a customer's premises such as an Internet modem or PayTV set-top box.

Ducts: Existing trenches and pipes in which copper and fiber lines are, or could be, installed.

Discounted cash flow ("DCF"): Approach used to calculate profitability, where revenues and costs are aggregated over time and discounted using an appropriate discount rate.

EBIT: Earnings before interest and taxes; an indicator of a company's profitability.

ECA: Electronic Communications Act 2011.

Equivalence of inputs ("EOI"): Under the FRAND obligation, the SMP operator must treat all access seekers equally. Under EOI, the downstream access product retailed by the vertically integrated operator with SMP in the wholesale market uses exactly the same physical upstream inputs as the downstream product supplied by competitors. The product development process is therefore the exact equivalent in terms of functionality and price. See also "EEO".

Equally efficient operator ("EEO"): One of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of the SMP operator. See also "adjusted EEO" and "REO".

Equivalence of outputs ("EOO"): Under the FRAND obligation, the SMP operator must treat all access seekers equally. Under EEO, the access products offered by the wholesale SMP operator to alternative operators are comparable to the products that the wholesale SMP operator provides to its retail division in terms of functionality and price, but the products may be provided by different systems and using different processes. See also "EOI".

Equi-Proportionate Mark-Up ("EPMU"): A means of recovering fixed and common costs through a mark-up in addition to the incremental costs. The costs to be recovered are allocated across a range of services so that each service is allocated the same mark-up as a percentage of its incremental costs.

***Ex ante* remedy:** A regulatory obligation imposed by the Authority on one or more SMP operators in order to prevent anticompetitive conduct and promote competition.

Financial capital maintenance (“FCM”): An approach under which the financial capital of the company is maintained in current-price terms. Capital is assumed to be maintained if shareholders’ funds at the end of the period are maintained in real terms at the same level as at the beginning of the period. This means that the depreciation charge to the profit and loss account includes holding gains or losses due to changes in asset prices.

Fully Allocated Costs (“FAC”): An accounting method for attributing all the costs of a company to defined activities such as products and services. Typically, this method will follow the principle of cost causality.

Generally accepted accounting principles (“GAAP”): A collection of commonly followed accounting rules and standards for financial reporting.

General Determination: A statutory instrument made pursuant to section 62 of the Regulatory Authority Act 2011 (“RAA”). The General Determination is applicable to all operators, or to such sub-category of operators as falls within the scope of the statutory instrument.

Gross book value: The original price paid for an asset, without depreciation deductions.

FRAND: Fair, reasonable and non-discriminatory.

Historical cost accounting (“HCA”): An approach to accounting whereby the costs that the operator actually incurs are used in the accounting statement.

Holding gains and losses: Annual changes in the value of an asset.

Individual Products: An individual service, product or tariff offered by an operator. Examples include a specific pre-pay mobile tariff, a 150 Mbps fiber broadband, or a specific PayTV package.

Individual Product Bundles: A specific bundled product made up of a two or more Individual Products. Examples include a bundle of 150 Mbps fiber broadband and a specific PayTV package; or a triple-play bundle of 150 Mbps fiber broadband, a specific PayTV package and a specific pre-pay mobile tariff.

International financial reporting standards (“IFRS”): A collection of commonly followed accounting rules and standards for financial reporting.

Integrated Communications Operating Licence (“ICOL”): A licence granting the licensee the right to establish, construct and operate one or more electronic communications networks and to provide electronic communications services, on an integrated basis, within the territorial limits of Bermuda, and between Bermuda and other countries.

Internal rate of return (“IRR”): The rate of return for an investment project that sets the net present value (“NPV”) of all cash flows (both positive and negative) from the investment equal to zero.

Key performance indicator (“KPI”): A measurable value that demonstrates how effectively a company is achieving its key business objectives.

Leased line: A transmission facility that is leased by a customer from a public carrier and which is dedicated to that customer's traffic.

Long-run incremental costs ("LRIC"): The average of all the (variable and fixed) costs that an operator incurs to produce a particular product.

Margin squeeze test: An assessment of the margin that exists between the wholesale and retail prices set by an entity, in order to understand whether the prices are set such that an efficient entity purchasing the wholesale product would be unable to earn a reasonable return.

Mean capital employed: Total assets less current liabilities, excluding corporate taxes, dividends payable and long-term liabilities, with the mean computed from the start and end values for the financial year.

Mobile virtual network operator ("MVNO"): A provider of mobile telephony services, who does not have allocation of spectrum or its own wireless network.

Modern equivalent asset ("MEA"): An approach to deriving asset values based on assessing the most efficient available technology that performs the function of the asset in question.

Net present value ("NPV"): The value of all future cash flows (positive and negative) over the lifetime of an investment discounted to the present.

Non-SMP Product Groups: Products that are within a market that is not subject to *ex ante* regulation, i.e. the market is not covered by an SMP determination. Non-SMP Product Groups include subscription television, high speed leased lines (inside of Hamilton), low speed leased lines (inside and outside of Hamilton), and submarine capacity/off-island connectivity.

Office of Communications ("Ofcom"): UK regulator responsible for the regulation of the electronic communications sector.

Office of Fair Trading ("OFT"): (former) UK regulator responsible for ensuring fair trading, and now part of the UK competition authority.

Operating expenditure ("OPEX"): The costs of the day-to-day operation of a company, such as staff costs, repairs and maintenance expenditure, and overheads.

PayTV: Subscription-based television services.

Pure long-run incremental cost ("Pure LRIC"): A cost standard approach that assesses the variable cost to provide service for one additional customer.

Product Bundle Groups: Any combination of two or more Product Groups sold together in a package, i.e. as a bundle. Examples include broadband and PayTV bundles; and broadband and mobile bundles.

Product Groups: Major groups of products offered by an operator, and which include broadband, mobile, fixed voice, subscription television, business connectivity (i.e. leased lines) and off-island connectivity (i.e. submarine capacity). A further distinction is made between SMP Product Groups and non-SMP Product Groups.

Profit and loss statement ("P&L"): A financial statement showing a firm's financial performance in terms of revenues and expenses.

RAA: Regulatory Authority Act 2011.

REO: Reasonably efficient operator—one of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of an entrant (with less scale than the SMP operator). See also "adjusted EEO" and "EEO".

Regulatory asset value ("RAV"): The value ascribed by the Authority to the capital employed in the SMP operator's regulated business.

Return on capital employed ("ROCE"): A measure of how efficiently capital is being used. It is calculated as accounting profit divided by the capital employed.

Second Consultation: The document published by the Authority in February 2019, named the "Market review of the electronic communications sector". The document set out the Authority's provisional view, at that time, on relevant economic markets, significant market power and requisite remedies.

Service level agreements, or guarantees ("SLAs", "SLGs"): Commercial agreements under which the SMP operator is obliged to provide access to wholesale services with a specified level of quality.

Significant market power ("SMP"): A position of economic strength in the relevant market or markets that affords an entity, either individually or jointly with others, the power to behave to an appreciable extent independently of competitors and consumers, which may provide a basis for the imposition of *ex ante* remedies.

SMP Product Groups: Groups of products for which the operator has been found to have SMP. The SMP Product Groups have been found to be broadband and mobile services (OneComm and Digicel Group), and fixed voice and high speed leased lines (outside of Hamilton) (Digicel Group).

Sub-groups of Products: A group of Individual Products within a Product Group. Examples of Sub-groups of Products include all pre-pay mobile services; or all fiber broadband products above a certain speed.

The Authority: The Regulatory Authority of Bermuda.

Time preference of money: In economics, the principle that people place a greater value on receiving a good or service earlier rather than later.

Virtual unbundled local access ("VULA"): A broadband access remedy that requires a network operator to provide access to its superfast broadband network. VULA provides a connection from the nearest "local" aggregation point to a customer's premises.

Weighted Average Cost of Capital ("WACC"): The rate that a company is expected to pay on average to all its security holders to finance the company's assets.

1 INTRODUCTION

1. The Regulatory Authority Act 2011 ("RAA"), section 12, sets out the principal functions of the Regulatory Authority of Bermuda (the "Authority"). These include ensuring that the regulation of the electronic communications sector promotes competition, the interests of residents and consumers in Bermuda, the development of the Bermudian economy, Bermudian employment and Bermudian ownership.

2. Separately, the Electronic Communications Act 2011 ("ECA") requires the Authority to complete a market review process in order to determine what, if any, *ex ante* regulatory remedies are required to address significant market power ("SMP") in the supply of electronic communications services.

3. In the most recent market review (completed in 2019), the Authority identified SMP in a number of markets in the electronic communications sector. As a result of this finding of SMP, the Authority imposed remedies to address the competition concerns. For a full list of remedies, see [insert link to GD].

4. A number of SMP remedies are new to the electronic communications sector in Bermuda and span several markets. Specifically, these remedies are the obligations to

    i) comply with Accounting Separation;

    ii) ensure Cost Orientation of prices;

    iii) require SMP operators to provide wholesale access on fair, reasonable and non-discriminatory (FRAND) terms, including by not engaging in a margin squeeze;

    iv) provide key performance indicators and timely information on market data; and

    v) ensure that consumers do not experience unnecessary difficulties when switching providers.

5. The Authority has decided to provide explicit guidance on these five key remedies, in order to:

    - provide more clarity and certainty on how the Authority will expect the SMP operators to act in order to ensure that the firms are compliant with the operators' regulatory obligations;

    - provide greater clarity and certainty to the SMP operators on how the Authority will monitor compliance with these obligations;

    - assist interested stakeholders contemplating making a complaint to the Authority in relation to non-compliance with these obligations in understanding the evidential threshold that needs to be met and the information that the Authority will require; and

- provide better outcomes for consumers by giving them greater ability to purchase the services that best meet their need, subsequently driving competition, lower prices and higher quality.

6. This Guidance Note sets out guidance in relation to the ***Cost Orientation*** obligation. Cost Orientation is an important remedy because it addresses the concern that where markets lack effective competition, SMP operators are likely to have the ability and incentive to set prices that can act to distort or restrict competition through excessively low ("predatory") pricing, as well as to exploit consumers through excessively high pricing. Such pricing practices ultimately harm consumers by denying them the benefits that would result from an effectively competitive market.

7. In order to address the risks of such conduct, the Authority has imposed an obligation on SMP operators to ensure that the operators' retail prices are cost oriented. As explained in the General Determination [insert link to GD], the ***Cost Orientation*** obligation applies to the retail markets for broadband, mobile, fixed voice and the high speed leased lines market outside of Hamilton, where one or more operators have been found to have SMP.

8. This Guidance Note relates to the regulatory obligation put in place following an SMP designation pursuant to Part 4 of the ECA, and is without prejudice to the application of ex post competition rules, requirements or obligations established by the Authority in accordance with sections 84(1)(a), 85 and 86 of the RAA. However, in the event that the Authority were to investigate allegations of margin squeeze under competition rules, the Authority expects to make use of principles and concepts similar to those outlined in this Guidance Note.

9. In this Guidance Note, the Authority provides information on what SMP operators will need to do to ensure compliance with the ***Cost Orientation*** obligation. The Note is structured as follows:

   - **section 2** explains the objectives of the ***Cost Orientation*** obligation; and

   - **section 3** provides guidance to SMP operators on how the Authority will assess compliance with the ***Cost Orientation*** obligation.

2 OBJECTIVES OF COST ORIENTATION

10. The ***Cost Orientation*** obligation seeks to achieve three main objectives:

    i. protect consumers from excessive retail pricing arising from the exercise of market power;

    ii. protect the competitive process from anticompetitive behaviour in the form of below cost retail pricing by the SMP operator, i.e. excessively low (or predatory) pricing; and

    iii. allow SMP operators the opportunity to recover the operators' relevant costs and earn a reasonable rate of return.

11. The first two objectives relate to the actions of SMP operators in setting prices, specifically the operators' retail prices. However, the ***Cost Orientation*** obligation in combination with the FRAND requirement on wholesale access should also ensure that wholesale access prices are related to the underlying costs of providing that access. This is because if the retail price is set with reference to costs, and the FRAND requirement on access ensures that the margin between retail and wholesale prices is also set with reference to costs, it follows that the wholesale access prices will need to be cost oriented to comply with this obligation.

12. The third objective in the above list is intended to ensure that in any assessment of compliance with the ***Cost Orientation*** obligation, the Authority is minded to take into account that SMP operators should be allowed the opportunity to recover the operators' relevant costs and earn a reasonable rate of return.

13. As such, any view that the Authority takes on whether or not prices are cost oriented will need to factor in the costs that SMP operators have incurred in providing the product or service, as well as taking a view on what is a reasonable rate of return for the operators.

3 APPROACH TO COST ORIENTATION

14. This section sets out guidance on how the Authority will assess compliance with the ***Cost Orientation*** obligation. The Authority considers that guidance is useful in relation to two main areas:

    i. how the Authority expects to measure costs and revenues as part of any assessment. This relates to the approach that the Authority will take in considering the relevant costs and relevant revenues, including questions about the appropriate cost standard, and at what level of aggregation any test should apply. This guidance is linked to the guidance in respect of Accounting Separation, on which the information for the preliminary assessment of costs and revenues would be based; and

    ii. how the Authority will use information on costs and revenues to make any determination on compliance with the ***Cost Orientation*** obligation. The Authority is minded not to assess compliance with Cost Orientation mechanistically and would therefore expect to take account of a number of factors in assessing compliance.

15. This section begins with a brief overview of Cost Orientation, before discussing the above two areas of guidance:

    - **section 3.1** presents an overview of Cost Orientation;
    - **section 3.2** discusses how the Authority will measure costs and revenues; and
    - **section 3.3** looks at how the Authority will assess compliance with the ***Cost Orientation*** obligation.

3.1 Overview of Cost Orientation

16. In simple terms, Cost Orientation imposes constraints on the prices that SMP operators can set.

17. In the case of excessively high prices, this concern could have been addressed by setting *ex ante* price controls on the maximum price that the operator can charge. However, as explained during the market review process, the Authority has chosen not to impose such a prescriptive price control regime.

18. Instead, the Authority will monitor the market and assess over time whether the prices charged by SMP operators are reflective of the operators' costs of providing the services, including the cost of capital.

19. The ***Cost Orientation*** obligation is intended to protect consumers by preventing SMP operators from setting prices that are substantially and persistently above the costs of provision, including the cost of capital, which would result in profits that exceed what would be expected in a competitive market. Cost Orientation can therefore be assessed with reference to the profits earned by the SMP operators.

20. A profitability assessment involves measuring the rate of return made on investments in a line of business, company or industry over a period of time and comparing that rate of return against an appropriate benchmark. The level of profitably is then determined by how much above or below the return is to the appropriate benchmark.

21. From an economics point of view, the profitability of an activity can be defined in terms of net increases in value resulting from that activity and realized over time. The internal rate of return ("IRR") and the net present value ("NPV") are the conceptually correct methods for measuring this profitability. The IRR and the NPV both take into account the inflows and outflows of an activity over time and reflect the economic principle of time preference of money.

22. The IRR is the discount rate that results in an NPV of zero, i.e. when the sum of discounted future inflows equals the initial outflow and provides a measure of the return earned by the investor over the time period of the analysis.[1]

23. The Authority notes that the IRR and NPV estimations can be undertaken on a backward-looking basis (to assess the profitability of an investment in the past) and on a forward-looking basis (to assess the expected profitability of an investment, or a business activity, in the future). The final step in the analysis is to compare the estimated IRR with the operator's Weighted Average Cost of Capital ("WACC"). Where the IRR is materially above the WACC, relative to an appropriate benchmark, this may indicate a breach of the ***Cost Orientation*** obligation, unless this can be explained by other factors, such as superior efficiency or fair reward for taking on significant downside risks with an investment.[2]

3.2 Measuring costs and revenues

3.2.1 The cost standards and tests that will be applied

24. The Authority notes that in relation to the Accounting Separation obligation, and associated guidance, financial information on the SMP operators' costs will need to be provided on a fully allocated cost ("FAC") basis. As explained below, such information will be used to run initial screening tests and more detailed assessments of compliance with the ***Cost Orientation*** obligation.

25. In section 4.1 above, the Authority set out its view that the use of IRR and NPV approaches are the most conceptually sound for assessing profitability. However, the Authority recognizes that these approaches involve undertaking material financial modelling, as well as a process of gathering additional information to feed into the financial modelling and its

[1] For further detail on the IRR and its use in assessing profitability in competition and regulatory policy analyses, see Office of Fair Trading ("OFT") (2003). "Assessing profitability in competition policy analysis", Economic Discussion Paper 6, July [Link].

[2] For example, in the UK, the Office of Telecommunications ("Ofcom") regulates investment by BT,a telecoms provider regulated by Ofcom, in new risky projects (e.g. fiber networks) by applying the 'fair bet' principle. According to Ofcom, "an investment is a 'fair bet' if, at the time of investment, expected return is equal to the cost of capital. This means that, in order to ensure that an investment is a fair bet, the firm should be allowed to enjoy some of the upside risk when demand turns out to be high (i.e. allow returns higher than the cost of capital) to balance the fact that the firm will earn returns below the cost of capital if demand turns out to be low. This issue is particularly important where there is significant uncertainty around demand (or other factors that affect returns)" Ofcom (2011). "Wholesale broadband access charge control consultation", January, paragraph A8.27 [Link].

underlying assumptions. Such a process would take material time and effort for the Authority to complete.

26. As a result, the Authority may use an initial screening test in order to decide whether further investigation is warranted. Therefore, when assessing compliance with Cost Orientation in relation to the **risk of excessive pricing**, in the first instance the Authority will use readily available information on prices and costs, which the operator will submit regularly to the Authority in its separated accounts.

27. With this information, the Authority will be able to assess a company's earnings before interest and taxes ("EBIT") in a given period. Dividing this by the capital employed in that period will give the operator's return on capital employed (ROCE). Under certain conditions, a weighted average ROCE gives the same result as an IRR estimation. As such, a comparison of the ROCE in a given period against the WACC of the SMP operator can give a good indication of compliance with the ***Cost Orientation*** obligation. Another formulation of the ROCE test is to compare revenues with FAC for a given set of products. The ratio of revenue to FAC provides a quick and easy metric to ascertain whether prices are being set with reference to the production costs.[3]

28. When assessing compliance with Cost Orientation in relation to the risk of **excessively low (predatory) pricing**, where the concern is about the potential exclusion from the market of efficient competitors or new entrants, FAC is not an appropriate benchmark. Instead, in these situations, competition authorities and regulators worldwide typically use average avoidable cost ("AAC"), average variable cost ("AVC") or long-run average incremental cost ("LRIC") as the cost benchmarks.

29. AAC is the average of the costs that could have been avoided if the operator had not produced a discrete amount of (extra) output. AVC is the average variable cost for a given unit of output. In most cases, AAC and the AVC will be the same, as often only the variable costs can be avoided. LRIC is the average of all the (variable and fixed) costs that an operator incurs to produce a particular product.

30. Failure to recover AAC indicates that the operator is sacrificing profits in the short term and that an equally efficient operator cannot serve the targeted customers without incurring a loss. LRIC is usually above AAC because LRIC includes product-specific fixed costs. This is in contrast to AAC, which includes only the fixed costs that the operator incurred during the period under examination. Failure to recover LRIC indicates that the operator is not recovering all the (attributable) fixed costs of producing the good or service in question, and that an equally efficient competitor could be foreclosed from the market.

31. The Authority recognizes that pricing below FAC may be economically rational and would not result in foreclosure of efficient rivals. However, failure to recover LRIC indicates that the SMP operator is not recovering all the (attributable) fixed costs of producing the good or service in question, and that an equally efficient competitor could be foreclosed from the market. Therefore, in line with these principles, the Authority will assess compliance

[3] This calculation can be complemented by the addition of an allowance for a return on capital (measured at the firm's WACC) and would therefore provide an equivalent view to the ROCE versus WACC estimation described above.

with Cost Orientation in relation to the risk of excessively low prices by reference to the LRIC cost standard.

32. Since the Accounting Separation obligation does not require the SMP operator to provide LRIC information, the Authority will need to estimate a value for LRIC. The Authority will do this by applying a scaling factor to the FAC value in the separated accounts. This could be done on the basis of an international benchmark, adjusted for local factors. For example, if the LRIC to FAC ratio were 0.5, for comparable electronic communications operators for the product in question, this ratio could be applied to derive a LRIC estimate. In this example, if the FAC were $10, a LRIC to FAC ratio of 0.5 would result in a LRIC estimate of $5.

33. Data gathered from the SMP operators' separated accounts will be used to conduct a backward-looking analysis of the IRR of the SMP operators' different Product Groups.[4] This analysis will also inform the Authority's determinations in future market reviews.

3.2.2 Level of product and service aggregation at which Cost Orientation is required

34. For the assessment of compliance with Cost Orientation, it is necessary to decide on the level of aggregation at which such assessment should take place.

35. In the case of both excessively high pricing and pricing below cost, in the first instance the Authority will assess compliance with the ***Cost Orientation*** obligation by looking at compliance at the level of Product Groups. Information readily available from the separated accounts will be used to undertake an initial screening, given that the separated accounts are to be prepared (in accordance with the Authority's guidance) such that the revenues and costs from each Product Group can be clearly identified.

36. The Authority will assess compliance on only the groups of products for which the SMP operator has been found to have SMP, i.e. the SMP Product Groups. The SMP Product Groups are broadband and mobile services for both OneComm[5] and Digicel Group[6], and fixed voice and high speed leased lines (outside of the City of Hamilton) for Digicel Group alone.

37. In certain circumstances the Authority may wish to assess compliance with Cost Orientation at a more detailed level and may apply a test of compliance to a Sub-group of Products, i.e. a group of Individual Products within a Product Group. The Authority notes that while the information in the separated accounts will be prepared at the level of each Product Group, the Authority expects that more detailed information may need to be provided.

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[4] Product Groups relate to major groups of products offered by an SMP operator, and include broadband, mobile, fixed voice, subscription television, business connectivity (i.e. leased lines) and off-island connectivity (i.e. submarine capacity). Furthermore, a distinction is made between SMP Product Groups and non-SMP Product Groups.
[5] BDB Ltd., Bermuda Digital Communications Ltd., Logic (formerly Bermuda Cablevision Limited), and Cable Co. Ltd. operating under the brand name One Communications, collectively "OneComm".
[6] Telecommunications (Bermuda & West Indies) Limited ("Digicel"), Transact Limited, and Bermuda Telephone Company Ltd, collectively "Digicel Group".

3.2.3 Cost Orientation for bundles

38. In section 3.2.2 the Authority set out that, in the first instance, the Authority will conduct screening at the level of SMP Product Groups. However, as some customers may utilize the SMP service as part of a bundle (and not on a standalone basis), the Authority intends to assess Cost Orientation for all the formats in which customers subscribe to the SMP service in question, whether the service is supplied on its own or in a bundle.

39. The Guidance Note on Accounting Separation specifies that the SMP operator must provide cost and revenue information not just for each Product Group, but also for each permutation of bundle involving two or more Product Groups, i.e. for each Product Bundle Group. As such, in all Product Bundle Groups involving at least one product or service over which the SMP operator is deemed to have SMP, the Authority will undertake an initial screening for compliance with Cost Orientation.

3.2.4 Approach to asset valuation

40. In the Instructions on Accounting Separation, the Authority sets out in section 5.4.1 that the Authority in the first instance will require assets in the separated accounts to be valued on a historical cost accounting ("HCA") basis. However, the Authority intends to take steps to move the separated accounts to a current cost accounting ("CCA") basis in time.

41. The consistent application of a single approach to asset valuation (be it HCA or CCA), over the lifetime of an asset, will result in full cost recovery. However, the Authority is also mindful of its objectives of promoting effective and sustainable competition. Given this, the Authority notes the differences between HCA and CCA in terms of the relevance and reliability of the computed asset costs:

- **Reliability:** HCA is in some ways more reliable than CCA in regard to computing the incurred costs of the operator—HCA is essentially a record of fact, in that it sets out the actual costs incurred by the firm, i.e. the gross book value of the asset; and[7]

- **Relevance:** CCA is more relevant than HCA since the CCA cost relates to the economic value of the asset. For example, CCA would enable an understanding of the costs that an operator (of equivalent scale) entering the market today would incur, i.e. the gross replacement cost.[8]

42. Despite the benefits of HCA in terms of reliability, the Authority is keen to promote competition. Therefore, the Authority considers it more important to ensure that the asset valuations are economically relevant and can inform regulatory decisions that promote market entry with the aim of fostering effective competition in the future. As a result, the Authority will ensure that, in time, the cost information from SMP operators is provided on a CCA basis.

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[7] The gross book value is the original price paid for an asset, without depreciation deductions.
[8] The gross replacement cost is simply the cost of replacing an asset, i.e. the price today for the asset (or an asset with comparable specifications).

43. In moving from HCA to CCA, the Authority is aware of the issues involved, for example in relation to windfall gains or losses. As a result, one approach the Authority is considering is to introduce a Regulatory Asset Value (RAV) for all assets as they are currently recorded in the accounts, and to apply some form of CCA indexation to estimate the gross replacement cost of the RAV over time. The Authority will discuss with the industry whether to introduce a RAV for all assets.

44. Where there are material divergences between the modern equivalent asset ("MEA"),[9] and CCA values of the assets,[10] the Authority may make adjustments to the SMP operators' costs to ensure that any assessment of compliance with Cost Orientation appropriately balances the overall interests of consumers. Hence, prior to the publication of the first set of separated accounts, the Authority will engage in dialogue with industry to discuss what types and magnitudes of adjustment, if any, would be appropriate to make to the asset values in order to monitor compliance with the ***Cost Orientation*** obligation.

3.2.5 Efficiently incurred costs and international benchmarking of prices

45. The Authority recognizes that, unlike more prescriptive price control regimes based on bottom-up or top-down cost modelling, the Authority is not imposing any efficiency targets within the ***Cost Orientation*** obligation. As a result, there is a risk that costs incurred by the SMP operators are inefficiently high, which would harm consumers. For example, this could lead to excessively high prices, even if prices were not above costs (i.e. if profits were not excessive).

46. To establish whether prices are excessive, the Authority intends to conduct international benchmarking of prices in order to indirectly monitor the levels of operational efficiency of the SMP operators. The Authority intends to do this by comparing the prices charged by operators in countries with characteristics similar to Bermuda to see whether the prices charged by the SMP operators in Bermuda are in line with these comparators, adjusted for economic productivity and standards of living between countries (such as PPP).

47. If the Authority were to observe that an SMP operator was setting prices in excess of relevant comparators and observed that the SMP operator was not making an excessive profit, this could indicate that the SMP operator was not operating efficiently. This would prompt further investigation by the Authority.

3.3 Reaching a finding of non-compliance with the Cost Orientation obligation

48. The section above sets out guidance on the cost standards and tests that the Authority will use to assess compliance with Cost Orientation. In this section, more guidance is provided on how the Authority will make use of these tests in reaching potential findings of non-compliance with the ***Cost Orientation*** obligation.

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[9] MEA is an approach to deriving asset values based on assessing the most efficient available technology that performs the function of the asset in question.

[10] The materiality of any adjustment will require a degree of judgement. For guidance, the Authority notes that, an adjustment shall be deemed material if: (i) its non-disclosure, misrepresentation or omission is potentially prejudicial to the interpretation of the financial position of the operator; or (ii) the difference, as presented, is likely to distort the understanding of the nature of the business activities in which the entities within its business group are engaged.

49. As noted above, as a starting point, the Authority plans to use the information available from the separated accounts to undertake initial screening for compliance with Cost Orientation. This will take the following forms:

- Where there are concerns about excessively high pricing, an assessment will be undertaken to compare ROCE with WACC. An alternative formulation of this is to compare prices/revenues with FAC (which would need to include an allowance for ROCE); and
- Where there are concerns about excessively low pricing, a comparison will be undertaken of prices/revenues with a LRIC estimate, which the Authority will compute by applying a LRIC to FAC ratio to the FAC number, with an allowance included for a reasonable return (i.e. the SMP operator's WACC).

50. If prices are outside of the above-mentioned LRIC and FAC boundaries, the Authority will not automatically deem that the SMP operator has breached the ***Cost Orientation*** obligation. This is for two main reasons:

    i. Costs could fluctuate over time, including in response to changing prices for inputs and economic cycles. As such, it could be that prices have remained stable but that there has been an unexpected cost shock in one period that is causing a short-term divergence between prices and costs.

    ii. The Authority is minded to ensure that the firms maintain the incentive to undertake network investments, and the Authority recognizes the risk of dampening investment incentives if the ***Cost Orientation*** obligation is applied too rigidly. This includes ensuring that firms are not penalized for achieving superior efficiency and are fairly reward for taking on significant downside investment risks.

51. For these reasons, the Authority intends to take a phased approach to assessing compliance with Cost Orientation.

52. In **Phase 1**, as set out above, the Authority will compare the prices/revenues against the FAC and estimated LRIC values (including an allowance for the WACC).

53. These screening tests will be undertaken at the level of all SMP Product Groups, including Product Bundle Groups containing at least one retail SMP product that rely on SMP wholesale inputs.

54. If prices are within the bounds of LRIC and FAC (i.e. above LRIC and below FAC), the Authority will be minded not to undertake further analysis. However, the Authority notes that this does not preclude the possibility that concerns may arise with the pricing of Sub-product Groups or Individual Products. There could be situations where a large divergence between revenues and costs for Individual Products gives rise to concerns about vulnerable customers being exploited or about products being targeted below cost pricing aimed at excluding specific entrants. Based on representations that the Authority receives from stakeholders, or on the Authority's own initiative, the Authority may launch an investigation.

55. Furthermore, the Authority considers that even if prices were slightly above FAC or slightly below the LRIC estimate, this does not itself indicate that the SMP operator has not complied with the ***Cost Orientation*** obligation. In such cases the Authority will exercise judgment in regard to the degree of divergence between price and cost estimates. For instance, if prices are only slightly outside the LRIC and FAC range and if the cause for such divergence is expected to be temporary, the Authority might consider that further investigation is not required.

56. Notwithstanding the above, the Authority will also take account of evidence presented by industry stakeholders.[11] If, on the basis of the Authority's own Phase 1 assessment, and/or compelling evidence provided by stakeholders, the Authority suspects there are grounds to believe that the SMP operator is in breach of the ***Cost Orientation*** obligation, it will proceed to a **Phase 2** analysis.

57. Phase 2 would involve the Authority assessing in more detail whether the SMP operator has complied with the ***Cost Orientation*** obligation. Such an assessment will involve:

- Requesting additional and more detailed information from the SMP operator, for example on particular Sub-product Groups, or more cost information.

- Undertaking further assessment of costs and prices to understand the magnitude of any misalignment between prices and costs, and to understand whether any divergence is significant/material.

- Where relevant, assessing any material divergence between the asset values on a CCA versus HCA basis.

- Assessing multiple years of information to understand whether any misalignment between prices and costs is temporary. Where possible, the Authority may also choose to undertake an IRR estimation, as explained in section 4.1 above.

- Receiving submissions from the SMP operator explaining the reasons for the divergence and what measures are being taken to ensure that such divergence does not persist in the future.

58. On the basis of the above, the Authority considers that in cases where prices are significantly and persistently above FAC or below LRIC,[12] and where there are no compelling explanations for such divergence, the Authority is likely to reach a finding of non-compliance with the ***Cost Orientation*** obligation.

59. In addition, if the SMP operator were found to have not complied with the ***Cost Orientation*** obligation, the operator would need to submit to the Authority detailed plans for how the operator intends to address such non-compliance going forward. Such plans,

[11] For instance, if a stakeholder presents evidence to the Authority to suggest that the SMP operator is not complying with the Cost Orientation obligation, the Authority will assess the evidence and decide whether to undertake further assessment under a Phase 2 analysis.
[12] Including an allowance for the cost of capital.

which may include commitments to reduce or increase the prices of certain retail products, will need to be approved by the Authority.

60. The two phases of the assessment will seek to ensure that any determination of compliance with the ***Cost Orientation*** obligation is not mechanistic, and accounts for factors that could explain why prices and costs are not be aligned in certain cases.

61. The process outlined above should make clear that the initial screening tests based on FAC and LRIC (in Phase 1) are not ‘bright line’ tests, and do not themselves constitute the bounds of acceptable price-setting by a SMP operator. They are simply a convenient screening to understand whether the prices set by the SMP operator might not be cost oriented. However, further analysis during Phase 2 (examples of which are set out above) would be required before the Authority would make any determination of compliance with the ***Cost Orientation*** obligation.