GUIDELINES FOR CALCULATING THE NET COST OF THE UNIVERSAL SERVICE OBLIGATIONS FOR CABLE BAHAMAS LIMITED

CONSULTATION DOCUMENT

ECS 16/2014

Issue Date – 19 August 2014

Response Date – 31 October 2014

UTILITIES REGULATION & COMPETITION AUTHORITY

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1. Introduction

These *Guidelines for Calculating the Net Cost of the Universal Service Obligations of Cable Bahamas Limited* ("Guidelines") provide guidance to Cable Bahamas Limited ("CBL") on the approach that CBL is required to adopt in its calculation of any net cost associated with the provision of CBL's designated universal service obligations (USO) under section 119 and Schedule 5 of the Communications Act ("Comms Act"). In these Guidelines, the Utilities Regulation and Competition Authority ("URCA") provides an indicative operational methodology for the calculation of CBL's net cost, which URCA expects CBL to comply with when submitting any USO claim.

These Guidelines follow URCA's Statement of Results and Final Decision "*Framework for the Clarification and Implementation of Existing Universal Service Obligations (USO) under Section 119 and Schedule 5 of the Communications Act 2009*" [ECS 01/2013] in which URCA concluded that CBL would be required to undertake a calculation of the net cost it incurs in meeting its USO, should it wish to apply for compensation.

These Guidelines focus on the quantification of the net cost of the USO, which is the first of several steps, detailed herein which CBL must carry out before URCA can consider whether the estimated net cost of the USO constitutes an unfair financial burden on CBL and whether compensation is warranted. The determination of whether an unfair financial burden exists, rests with URCA – although CBL will be expected to make its own assessment on the unfairness of the burden and present it to URCA as part of its application for compensation. These Guidelines set out the elements of such an assessment.

1.1 Universal service obligations

CBL has been entrusted in section 119(1) and Schedule 5 of the Comms Act with the provision of the following universal services:

- Affordable basic television (six channels inclusive of ZNS-TV and the Parliamentary channel) to all populated areas; and
- Internet at a nationally uniform and affordable tariff to all populated areas and free of charge to Specified Institutions.

For the avoidance of doubt, the requirement to provide nationwide USO TV and USO internet services excludes the provision of such services to inhabitants of privately owned islands. CBL is free to choose whether it shall serve private islands and how it shall price its services to these customers.

1.1.1 CBL's Implementation Plan

The operational definitions of the USO obligations will be set out in CBL's Implementation Plan. URCA recognises that a net cost exercise can only be carried out when there is clarity in relation to the scope of the USO.

In particular, URCA will base the requirement for CBL to provide USO services in particular areas on CBL's current network status and its Implementation Plan, with the intent that URCA expects the full range of URO products to be made available to a wider population and additional islands over time. URCA subject to consultation with CBL will establish or specify the conditions under which an "unserved" population today can expect to have access to USO services in the future, and the time period necessary for CBL to carry out the necessary upgrades to its network. The Implementation Plan shall also include the operational definition of populated area for the purpose of the USO obligations. URCA is aware that, to date, CBL provides different levels of services to different islands, which services fall into three categories.

1) Islands where CBL's cable network supports both TV and broadband;
2) Islands where CBL's cable network supports TV only[1];
3) Islands where CBL has no cable network deployed but provides terrestrial TV.

1.2 Overview of methodology for USO net cost calculations

URCA may, pursuant to section 44(3) of the Comms Act, apply the universal service fund to the installation and maintenance of networks and the provision of universal services in areas where the *"gross avoidable cost of providing the universal services exceeds the revenue derived from those services"*.

1.2.1 Methodology documented in these Guidelines

As noted by URCA in its Consultative Document ECS 12/2012 entitled "*Framework for the Clarification and Implementation of Existing Universal Service Obligations (USO) under Section 119 and Schedule 5 of the Communications Act 2009*", the Net Avoidable Cost (NAC) is the widely accepted approach to measure the loss in profits incurred by the USP due to it having to meet the USO (i.e., the net cost). This approach is an operational method that seeks to measure the cost incurred in meeting a USO by comparing the profits realised by the USP with and without the USO and has been widely used in the electronic communications sectors (electronic and postal) globally.

Under this approach, the overall net cost of the USO to CBL under the NAC approach would be made up of three elements:

- The net cost of providing USO services to uneconomic islands;
- The net cost of providing USO services to uneconomic customers in economic islands; and
- The net cost of offering a USO broadband Internet service free of charge to designated Specified Institutions.

In calculating the net cost of providing USO services to an uneconomic island, the NAC approach would:

[1] On the islands of Andros, Bimini, Berry Island, Great Exuma, Great Inagua, San Salvador and Long Island, CBL only provides cable television services via unidirectional CATV facilities.

- Identify the islands on which the USO services generate less revenues than their incremental costs and hence would be classified for purposes of the USO as being loss making;
- Aggregate the net losses of the loss making islands as identified above.

As set out in the next Section of these Guidelines, URCA proposes that any net cost calculation be done at the level of individual islands. The islands on which CBL incurs a net loss from the provision of USO services will be deemed “uneconomic islands” and those that are profitable will be deemed “economic islands”. As the assessment is concluded *ex post*, a net cost calculation can only be carried out for islands that are currently served with USO services by CBL.

In addition, there may also be some customers in economic islands who are abnormally expensive to serve and, hence, are not profitable to serve even if they generate revenue per subscriber similar to the national average. For the purpose of these Guidelines, these customers will be considered under the terms “uneconomic customers in economic islands”. The net cost associated with the provision of USO services to these customers, if such a cost exists, will be included in the overall net cost of the USO.

The third element of the potential net costs of CBL’s USO arises from CBL’s requirement to provide a USO internet package free of charge to Specified Institutions.[2] This special tariff obligation also generates by definition a net cost that should be included in the overall net cost of the USO.

In summary therefore, the total direct net cost to CBL of meeting its USO obligation could comprise the sum of the following elements:

- Incremental cost minus foregone revenues of serving subscribers of USO services in uneconomic islands;
- Incremental cost minus foregone revenues of serving uneconomic customers who subscribe to at least one USO service in economic islands; and,
- Revenue to be made in serving Specified Institutions in both economic and uneconomic islands and which CBL foregoes as a result of meeting its USO.

Any intangible benefits associated with the provision of the USO shall be deducted from the direct net cost of the USO. The four intangibles identified in the Statement of Results and Final Decision [ECS 01/2013] should be considered by CBL in calculating the net cost of the USO: brand recognition, ubiquity, lifecycle benefits, and marketing.

This estimate of the overall net cost of the USO and all supporting evidence and assumptions are to be submitted to URCA by CBL as part of any application for compensation. URCA will review the robustness of this estimate and establish whether the estimate of the net cost of the USO constitutes an unfair financial burden upon CBL. Where URCA concludes that an

[2] Specified Institutions are defined at Schedule 5 of the Comms Act.

unfair financial burden exists, such a finding is expected to trigger the activation of a compensation fund.

1.2.2 Critical elements of a net cost calculation

The net cost calculation rests on three critical elements:

1) Identification of avoidable activities and network components absent the USO

The net cost of the USO will be driven by those costs that CBL would avoid and the revenues it would forego in the event that it no longer provided USO services.

CBL is therefore required to identify any network components and activities that would not be required if CBL suspended the provision of its USO services only, in a given island. This will establish whether a cost item is truly avoidable or not as CBL continues to serve customers who do not subscribe to USO services.

2) Valuation of avoidable costs

Having completed the assessment above and identified those cost items that would be avoidable if CBL was not required to provide its USO services. CBL is then required to determine the value of those avoidable costs. The best practice approach for such assessment would ideally estimate the level of avoidable costs a new operator would save, that is, the costs would reflect the latest and most efficient technology and an optimal network configuration. This is often referred to as "forward looking costs". To derive the costs under such optimal configuration, URCA, as stated in its Final Decision ECS 01/2013, agreed that the USP should have the flexibility to build a bottom-up cost model to derive estimates of long run incremental costs of activities or of products.

In the absence of the requisite information to build a bottom-up model, URCA is of the view that CBL should use the actual costs of providing the USO with adjustments made for efficiency as appropriate. Such adjustment may be necessary given that CBL's cost accounting records are on a historical cost accounting basis (HCA).

URCA recognises that costs valued on a HCA basis do not depict the costs of a new entrant as best practice would require. Costs valued on a Current Cost Accounting (CCA) basis are recognized as being superior in that respect in that they depict the costs a new operator would face entering the market. CCA is therefore considered superior in an evaluation of the true avoidable costs of the USO. However, until URCA considers revision to its costing methodology for separated accounts (which accepts HCA), URCA accepts that the net cost calculation shall be determined on a HCA basis.

That acceptance notwithstanding, these Guidelines can be applied with either a HCA or CCA approach. At this stage, URCA accepts that costs will be valued on a historical cost basis for the purpose of the net cost of the USO calculation[3].

[3] In the event that the obligation to prepare separated accounts is removed from CBL whilst it continues to face a USO, URCA will provide further guidance on the cost standard to be used to estimate net USO costs.

3) Cost data broken down by area

Another critical element to CBL's calculation of the net cost of its USO is an understanding of how an activity/network component varies under different geo-demographic conditions[4]. A net cost calculation relies on the availability of cost data broken down according to the main drivers of costs. For example, the unit cost of providing a connection to a new subscriber in a rural area may be higher than that of an equivalent connection in an urban area. In such a situation, a net cost of the USO may arise as the USP is required to provide a service at a uniform price despite variances in the cost of provision across geo-demographic zones. For example, a subscriber connection in a rural area would generate a negative contribution (the uniform price of the service is below the cost of providing the service in a rural area) while a subscriber line in an urban area would generate a positive contribution to the USP[5].

The cost information necessary for CBL to calculate its net cost would be obtained in part from CBL's cost accounting records and in part from new statistical assessment of costs. These are discussed further in these Guidelines.

1.4 Scope of the Guidelines on application of the methodology

In developing these Guidelines, URCA has given consideration to a methodological approach that is:

- *Based on currently available data.* This ensures that the adopted approach is practical to implement and that the methodology chosen to calculate the net USO costs will be determined by the data that is largely currently available. The Guidelines provide a view on the minimum required disaggregation of the cost data.
- *Transparent.* The methodology chosen should be easily understood.
- *Easy to update and flexible.* The selected approach allows the USO net cost calculation to be updated easily as data becomes available and is sufficiently flexible to be extended to incorporate the availability of new data.

1.5 Consultation Process

URCA issues this consultation document in accordance with section 8 of the Comms Act which states that –

> *"For the purposes of carrying into effect the electronic communications policy objectives, URCA shall have the power to issue any regulatory and other measures and in particular shall –*

[4] Geo-demographic conditions refer to the variances across islands and within islands and between urban and rural areas.

[5] Without variations in costs of providing the same service to different areas, the obligation of a nationwide service at a uniform price (matching costs) would not be a burden on the USP. Equivalently the obligation of providing a nationwide service where a same service can be charged at non-uniform price would not be binding on CBL.

(e) issue directions, decisions, statements, instructions and notifications;

URCA considers that its proposals for the assessment of the Net Avoidable Costs for Universal Services, conform specifically to section 8(1)(e) of the Comms Act. URCA proposes to provide directions, instructions and notifications to both BTC and CBL as to the manner that both BTCA and CBL shall assess the Net Avoidable Costs of their respective universal services. URCA considers that the approach set out in this document is of public significance as it involves:

i. a major change in the activities carried on by URCA;

ii. will significantly impact the activities carried out by a licensee operating in the electronic communications sector; and

iii. significantly impacts on the general public of The Bahamas.

It is URCA's view therefore that the proposed Guidelines for the assessment of Net Avoidable Costs of universal services is considered to be a regulatory measure having public significance for the purposes of sections 11 and 12 of the Comms Act.

URCA shall therefore afford persons with sufficient interest a reasonable opportunity to comment on URCA's proposals. Subsequent to the conclusion of the consultation process, URCA will issue a Statement of Results after careful consideration of all the comments received.

1.6 Objectives of the Consultation

The objectives of this consultation are to:

- present URCA's approach to the assessment of Net Avoidable Cost claims by CBL; and
- invite feedback from CBL and the general public who would be most affected by URCA's proposal.

1.7 Responses to the Consultation

Responses to this consultation document should be submitted to URCA by 5:00 p.m. on 31 October 2014. Persons may send their written responses or comments to the Director of Policy and Regulation, either:

- by hand, to URCA's office at UBS Annex Building, East Bay Street, Nassau; or
- by mail to P.O. Box N-4860, Nassau, Bahamas; or
- by fax, to (242) 323-7288; or
- by email, to info@urcabahamas.bs.

URCA reserves the right to make all responses available to the public by posting responses on its website at www.urcabahamas.bs. If a response is marked confidential, reasons should be given to facilitate evaluation by URCA of the request for confidentiality. URCA may publish or refrain from publishing any document or submission, at its sole discretion.

URCA will carefully consider all comments and submissions received on the consultation on or before the deadline date specified above. At the end of this consultative period, URCA will review responses and publish a Statement of Results on the consultation.

1.8 Structure of the Guidelines

The various aspects of the methodology are discussed as follows:

- Section 2 sets out how CBL is to determine if an island is uneconomic to serve and then to calculate the net cost of the USO of uneconomic islands;
- Section 3 sets out how CBL is to calculate the net cost of uneconomic customers in economic islands;
- Section 4 sets out how CBL is to calculate the net cost of the special USO tariffs granted to Specified Institutions for the provision of internet services free of charge;
- Section 5 sets out the treatments of reasonable profits (i.e., cost of capital) and cost efficiency improvements in the calculation of the net costs of the USO;
- Section 6 sets out how to calculate the value of intangible benefits associated with the provision of the USO; and
- Section 7 sets out the information to be provided to URCA as part of an application for funding, including the information for an assessment if an unfair financial burden exists.

2. Net Cost of Uneconomic Islands

This Section of the Guidelines sets out how CBL is to calculate the net cost of providing universal services to uneconomic islands.

It provides guidance on how to determine:

- whether an island is uneconomic (i.e., whether meeting the USO on a given island imparts a net cost on CBL);
- the activities and network components that would not be necessary absent the USO and whose costs would be avoided; and
- the foregone revenues if CBL were to stop providing the USO services.

2.1 Analysis at island level

In URCA's Statement of Results and Final Decision [ECS 01/2013], URCA stated that it would give further consideration to the reasonableness of an individual island as the unit of analysis when developing guidelines on the methodology for calculating the net cost of the USO. Having duly considered the various options, URCA is of the view that the net cost of the USO should initially be assessed at the island level. In URCA's view this level of analysis is not only pertinent insofar as it is consistent with the presumption that an operator would make its initial decisions about entering the market at an island level, but it also reflects the technical organisation of the communications network of an operator and takes account of the investment decisions and commercial activities of an operator not subject to a USO.

The calculation of net cost at this level consists of quantifying the difference between avoidable costs and the foregone revenues should CBL stop providing universal services to an island as a whole:

- If the avoidable costs are larger than the foregone revenues from the provision of USO TV and broadband products, it is expected that CBL with full commercial freedoms would be better off not providing these services. In this situation the island is deemed to be "uneconomic".
- If the foregone revenues are larger than the avoidable costs, it is expected that CBL would continue to provide the said services even in the absence of a USO. In this situation the island is deemed to be "economic".

Based on the results of the 2010 Census published by the Department of Statistics, URCA posits that for the purposes of these Guidelines there are a minimum of 16 islands for which a separate net cost of the USO may be calculated – provided USO services are made available on these islands. In Table 1 URCA lists the most populated islands in The Bahamas, together with the surface and populated density of these islands.[6] The least populated island is Ragged Island and the smallest (by surface area) populated island is Biminis (11 sq. miles).

Table 1: Populated islands

Names	Population size	Area (sq. miles)	Population density (per square mile)
1. Abaco	17,224	649	26.5
2. Acklins Island	565	192	2.9
3. Andros	7,490	2,300	3.3
4. Berry Islands	809	12	67.3
5. Bimini, Cay Lobos & Cay Sal	1,988	11	180.7
6. Cat Island	1,522	150	10.1
7. Crooked Island	330	84	3.9
8. Eleuthera, Harbour Is & Spanish Wells	11,515	200	57.6
9. Exuma and Cays	6,928	112	61.9
10. Grand Bahama	51,368	530	96.9
11. Inagua Islands	913	599	1.5
12. Long Island	3,094	230	13.5
13. Mayaguana	277	110	2.5
14. New Providence	246,329	80	3,079.1
15. Ragged Island	72	14	5.1
16. San Salvador &Rum Cay	1,039	90	11.5

Source: The Bahamas Department of Statistics 2010 Census. http://statistics.bahamas.gov.bs/download/044192000.pdf

2.2 Avoidable activities and costs absent the USO

In assessing the net cost, CBL will have to identify the activities or network usage that would not be necessary should it stop providing USO TV and/or USO internet services; and those network elements that will be unavoidable as it continues to provide other (non-USO) electronic communication services on the island, such as premium TV and/or internet packages and telephony services.

The avoidable costs to be considered are those related to the provision of a USO TV package, and a USO Internet package using CBL's network. URCA notes that the network components in CBL's separated accounts may provide a suitable level of granularity for assessing which components are likely to be avoidable.

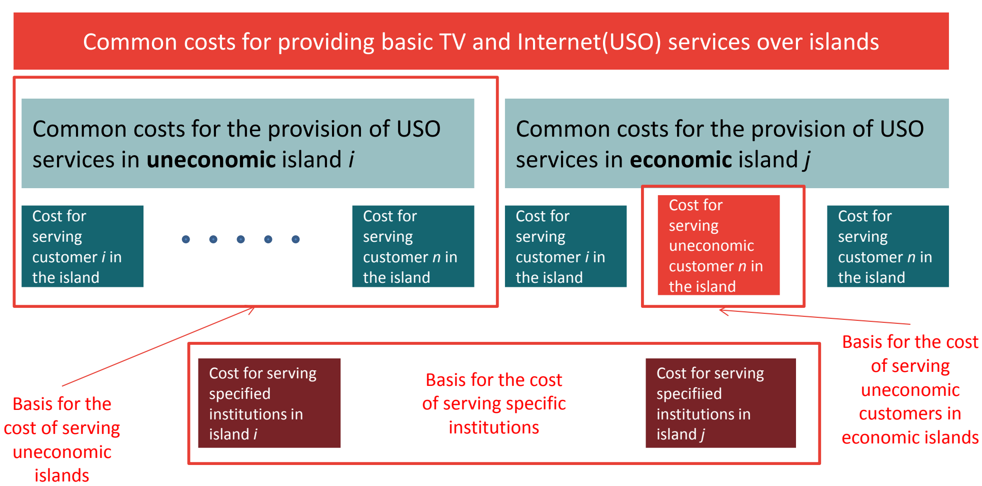
[6] Data from the national statistics also include in this list the Spanish Wells http://statistics.bahamas.gov.bs/download/095485600.pdf.

The data underlying CBL's separated accounts are likely to provide an initial foundation for assessing which costs could be avoided were it to no longer provide the USO services. For example:

- Costs that are directly allocated to an activity and/or service can be expected to be fully avoidable;
- Costs that are indirectly allocated (or are joint costs) need further scrutiny as to whether they are avoidable; and
- Costs that are common should be treated as unavoidable to the extent they are common to other non-USO services the USP would continue to provide on the island absent the USO, and to the extent they do not vary with the number of customers served.

Common costs that are only common to the provision of the USO services for a specific island would be treated as avoidable, whereas costs which are common to the provision of USO services across groups of islands that will continue to be served absent the USO, would be treated as unavoidable. This is illustrated in Figure 1.

Figure 1. Costs considered in the calculation of the USO cost



Source: URCA

2.3 Avoidable costs at island level

Ideally, avoidable cost data would be available at an island level from within CBL's existing separated accounting system. However, where this is not the case, URCA is of the view that CBL should consider the following two options to estimate avoidable costs:

- CBL can undertake a geographically disaggregated cost allocation exercise for each of the main islands served by CBL and group all smaller islands together.

- CBL can conduct a statistical analysis on the variation of costs by area within and across islands and construct the costs of an island according to the mix of areas present on each island. This option is further discussed in the paragraphs below.

2.3.1 Variations in cost of providing access by zone

The net cost of the USO is caused by costs varying by geographical zones whilst prices are uniform[7]. Therefore, URCA will critically review the robustness of CBL's approach and the application of the approach to the determination of cost variability by zones – both of which must be documented in detail by CBL as part of any application for compensation.

Further, given that the cost of providing an access line to a customer can vary significantly compared to the costs of services provided over these lines (e.g., calls), CBL's assessment of the variability of costs should focus on the variability of costs in providing access.

In that regard, CBL should firstly divide an island into geographical zones according to the different geo-demographic characteristics of serving customers living in these zones. This is because these different geo-demographic characteristics lead to different costs of serving different zones. In coming to a view as to how the cost of access varies under different geo-demographic characteristics (or equivalently cost drivers), CBL should use a bottom-up cost model, or network planning data. This exercise should allow CBL to obtain a unit cost of access per zone.

Secondly, CBL should allocate its subscribers on each island to the various zones that make up the island. Thereafter CBL should derive a weighted unit average cost of access for the given island, using the share of subscribers per zone as weight.

2.3.2 Cost of providing communication services over subscriber connections

The cost of providing USO services over the cable access connections will be assumed not to vary by zone (and thus by island either).

2.4 Foregone revenues absent the USO

The revenues foregone with the removal of USO services should be calculated as the product of the charge of each USO product times their respective subscribers (excluding Specified Institutions) in the year. In this calculation, CBL should assume that customers continue to subscribe to their non-USO services such as telephony and premium TV packages. The revenues from non-USO services would therefore not be foregone.

[7] This is only the case where overall, the average revenue is set to cover all costs.

In addition, CBL's estimate should reflect the potential for its customers to switch to non-USO products in the event that USO services are withdrawn. For example, a customer subscribing to USO TV could switch to CBL's SuperBasic package upon withdrawal of CBL's USO TV package; in the event of this occurring, the withdrawal of the USO may lead to a partial rather than a full reduction in revenues for CBL. The critical assumptions for this assessment are the cross-price elasticity between USO Basic TV and SuperBasic. URCA recognises that until USO products are established, it will not be possible to come to a view on this hypothetical switch as limited information will be available. However in the future, URCA will expect CBL to demonstrate whether an adjustment to its estimated foregone revenues is warranted.

2.5 Net cost of the USO per island

The net cost of the USO for an island is derived from the difference between the aggregate foregone revenues and aggregate avoidable costs in withdrawing the availability of a USO TV package and a USO internet package. Table 2 summarises the key components of the calculation discussed above.

Table 2: Model to estimate the net cost of USP from uneconomic island

Avoidable costs
+ Access cost
+ Incremental costs of USO TV services
+ Incremental costs of USO internet services
Foregone revenues
- Retail revenue from basic USO TV services
- Retail revenue from internet services
- Retail revenue from other activities associated with the two USO packages
+ adjustment for USO customers switching to non-USO products
= Net cost of an island

3. Net Cost of Uneconomic Customers in Economic Islands

Uneconomic customers exist in two types of islands. First, uneconomic customers may be large in number and predominate in an island, making the island overall "uneconomic". Second, uneconomic customers may be in the minority and surrounded by economic customers, leaving the island overall economic to serve by CBL. These islands are called the "economic islands" for the purpose of these Guidelines.

This Section sets out how CBL should calculate the net cost of serving uneconomic customers in economic islands.

It provides guidance on:

- The definition of uneconomic customers for the purpose of the calculation of the net cost of the USO
- The determination of both avoidable costs and foregone revenues.

The calculation of the net cost of uneconomic customers in economic islands can be carried out only after the economic and uneconomic islands have been identified (as described in Section 2 above).

3.1 Definition of uneconomic customers

Conceptual definition

Identifying individual customers is not required in the first stage of the calculation of the net cost of the USO (i.e., the identification of uneconomic islands in Section 2 above) since the calculation is done at island level. However, identifying uneconomic customers in an economic island requires an analysis of net cost at individual level. This is a more involved exercise that rests on evidence of the variability in costs of providing USO TV and/or USO internet services at a high level of granularity.

URCA proposes that uneconomic customers in economic islands shall be those who subscribe to at least one of CBL's USO services but who, through their location or other geo-demographic characteristics, cause CBL to incur higher than average service costs such that CBL makes a loss serving those customers (assuming the customer generates the same average revenue for CBL as other customers).[8]

[8] The dynamic effects are dealt with as part of the intangible benefit called the "Life Cycle Effect".

In these circumstances, and assuming that CBL were able to identify such customers individually, absent the USO it would have chosen to disconnect them, having taken into account the possible negative branding impact of disconnecting these individuals.

3.2 Determining the number of customers who are uneconomic to serve

Ideally, in performing the calculation of net avoidable cost for uneconomic customers CBL should seek to identify uneconomic customers (who subscribe to at least one of CBL's USO services) individually. Where CBL is unable to do so, CBL may adopt a statistical approach to determine the set of uneconomic customers in economic islands. In the latter instance, CBL would be required to provide evidence to URCA to justify how it has identified such uneconomic customers.

Assuming average usage, a customer who subscribes to at least one of CBL's USO services may be uneconomic to serve if the costs of serving that customer are significantly above average. This could arise for two reasons:

- Some network elements may be dedicated to serve a particular (uneconomic) customer; or
- Some network elements for access are used in much higher quantities for a particular customer when compared with an average customer (e.g., a customer may live further from a "node", leading to higher access network costs).

A simple way to identify uneconomic customers would be by comparing the avoidable cost of serving the customer with the average revenue generated by CBL's customers who use at least one USO service (USO basic TV, USO internet or a bundle of USO services). If the avoidable cost exceeds the average revenue, the customer is considered to be uneconomic. If avoidable costs can be modelled as a function of observable parameters (such as population density in the area, percentage of the area in a hilly terrain, etc.), it will be possible to identify uneconomic customers based on a set of specific parameters.

3.3 Avoidable costs absent the USO

The avoidable cost of specific and/or dedicated network elements shall be estimated as the product of the quantity of those network elements times their unit cost.

For the purpose of calculating the cost associated with the provision of uneconomic customers, avoidable costs for the provision of USO TV and USO internet services should be considered. In the scenario where these customers also generate revenues from non-USO services (such as digital TV, national leased lines or other services) the avoidable costs of providing those services should be taken into account.

3.4 Foregone revenues absent the USO

The foregone revenues for high cost subscribers will depend on the mix of packages used by these subscribers. In the instance where a high cost subscriber uses the USO TV package only, only the revenue associated with this package is foregone. If the high cost customers subscribe to USO TV as well as other non-USO services such as Premium Broadband or telephony then the revenues for all three products subscribed to must be included in the methodology as foregone.

3.5 Net cost of uneconomic customers

The sum of the losses for all uneconomic customers will correspond to the net cost of the uneconomic customers on economic islands.

A statistical analysis of access costs is critical for this evaluation. Where CBL is not able to provide the associated evidence for differing costs of customers connected, URCA may dismiss any claim that the USO imparts a net cost on CBL as a result of serving uneconomic customers in economic areas.

4. Net Cost of Special Tariffs to Specified Institutions

This Section provides guidance to CBL on how it should calculate the net cost of providing its USO Internet service for free to Specified Institutions (including Community Centers).

A Specified Institution subscribing to a USO internet service creates a *de facto* net cost for CBL. Absent this USO, CBL would serve the Specified Institution and charge the full monthly rate for its Internet subscription.

As such, this element of the net cost calculation focuses on the revenue CBL foregoes by providing USO services for free to Specified Institutions. The avoidable costs associated with the actual subscriptions to the USO internet service are already taken into account in the determination of both economic and uneconomic islands.

4.1 Specified Institutions

URCA, in its Statement of Results and Final Decision [ECS 01/2013], reaffirmed the designated Specified Institutions in paragraph (2)(e) of Schedule 5 of the Comms Act that are eligible to obtain access to USO services free of charge:

- All public and church operated schools registered with the Ministry of Education;
- Public libraries registered with the Ministry of Education;
- Public hospitals and public medical clinics registered and/or operated by the Ministry of Health and/or the Public Hospitals Authority;
- Senior citizens homes registered with the Residential Care Establishment Licensing Authority;
- Orphanages registered with the Residential Care Establishment Licensing Authority; and
- Community Centers (whose definition is provided in the Statement of Results);
- The College of The Bahamas;
- The Bahamas Technical and Vocational Institute;
- The Bahamas Hotel Training College; and
- Eugene Dupuch Law School.

4.2 Net cost of special tariffs

The net cost of special tariffs corresponds to the opportunity cost of providing USO internet services for free. It is given by the standard flat rate monthly charge for the USO internet service (as charged under the USO to other customers).

The estimated opportunity costs (i.e., revenues not earned) would need to be adjusted to account for the possibility that faced with the standard monthly flat rate charge Specified Institutions would stop subscribing to USO internet services. This adjustment should be based on stated preference analysis[9].

Table 3: Model to estimate the net cost of USO from Specified Institutions (all islands combined)

	Revenue foregone (calculated as follows)
	- Revenue from internet, prevailing monthly flat rate times number of Specified Institutions who subscribe to CBL USO internet service + Adjusted for lower demand as subscriptions are charged at standard tariffs.
	= Net cost of serving broadband internet for free to Specified Institutions

[9] Stated preference analysis, also called conjoint analysis, requires research participants to make a series of trade-offs. Analysis of these trade-offs will reveal the relative importance of component attributes – including price.

5. Adjustment to the Net Cost of the USO

This Section sets out the treatment of both the cost of capital and cost efficiency improvements in the net cost of the USO calculation.

5.1 Need to adjust for cost of capital

The cost of capital associated with the provision of the USO is a cost that could be avoided absent the USO. It must be accounted for in the net cost calculation.

CBL is expected to set out whether the cost data used in the net cost calculation includes an allowance for the cost of capital.

To the extent that a measure of the net cost of the USO is calculated using operating avoidable cost data, the net cost would need to be augmented to account for the cost of capital for the provision of the USO.[10] CBL is expected to first identify assets used for providing the USO and document to what extent these would be avoided absent the USO, and then estimate the avoidable cost of capital using the applicable weighted average cost of capital ("WACC") used by URCA in other regulatory decisions for CBL.

5.2 Need to adjust for cost efficiency

In its Statement of Results and Final Decision [ECS 01/2013], URCA concluded that where the net cost is estimated using actual data, URCA may, if it considers it appropriate make an efficiency adjustment to the estimate of the net cost of the USO based on any annual productivity gains the USP is set to achieve. URCA would therefore carefully consider the circumstances of each case to ascertain whether such efficiency adjustment to a calculated net cost of the USO would be necessary.

If an efficiency adjustment is deemed warranted, it will be applied once the direct net cost of the USO has been calculated.

URCA may use a number of methodologies to determine the appropriate level of costs that would have been incurred by an efficient operator, in order to determine the quantum of adjustments necessary to the USP's net cost calculation. These methodologies may include, but are not limited to, the use of:

- The review of CBL's business plan;

[10] For clarity, the inclusion of the cost of capital will increase the level of avoidable costs, and so islands marginally economic may become "uneconomic". Therefore, a net cost of the USO accounting for the cost of capital is expected to be higher than a net cost of the USO without such an allowance, all else equal.

- Any indicators of quality of service, say, in relation to the speed at which access connections are provided (and as defined in the Implementation Plan); and
- Independent survey report regarding the USP's efficiency.

Any efficiency adjustment will be applied *ex-post* to the overall net cost of the USO and expressed as a percentage to be taken off the net cost estimate.

6. Intangible Benefits

This Section sets out guidance on how CBL should calculate the value of the intangible benefits arising from the provision of the USO.

Whilst the USP may face a direct net cost of the USO, this monetary amount does not capture the potential intangible benefits arising from the USO services and the status as universal service provider (USP). Such benefits, if they exist, enhance the overall economic performance of the USP. Hence, URCA considers that the direct net cost of the USO should be netted off against the value of intangible benefits to obtain the overall net cost of the USO.

In its Statement of Results and Final Decision [ECS 01/2013], URCA reaffirmed that, in principle, an adjustment for the intangible benefits to the calculation of the net cost of the USO is appropriate. Whilst a number of intangible benefits arising from the USO have been identified in the literature and regulatory decisions in other jurisdictions, URCA has identified four intangible benefits that it considers to be pertinent in the context of The Bahamas. These include:

- Enhanced Brand Recognition/Corporate Reputation;
- Ubiquity;
- Life Cycle Effect; and
- Marketing.

In this Section, URCA explores which of these intangible benefits may be relevant in the context of CBL.

6.1 Enhanced brand value

The brand image of a USP is drawn in part from the fact that it provides universal services throughout the country and customers know that they are entitled to the specific USO products upon request. From this fact, a USP may enjoy a better brand image and draw an advantage from it.

Related to brand value is the notion of brand recognition.

The formalisation of the USO status of CBL is on-going. As such, customers are not necessarily aware yet that they have a right of access to the specific USO services of CBL. Therefore, URCA believes that CBL is not currently extracting any brand benefits from its USO status, as such benefits are being newly acquired.

For this reason, URCA concludes that this benefit should not be considered in the determination of the net cost of the USO under the approach proposed in these Guidelines (as initially envisaged in the Statement of Results and Final Decision [ECS 01/2013]).

Notwithstanding the above, as CBL's USO status settles this intangible benefit may become relevant. Hence, URCA does not discard the possibility, based on the development of the market, of reconsidering its position in the future by making the necessary amendments to these Guidelines.

6.2 Ubiquity

Ubiquity benefits refers to the fact that some customers who move from an area with a high cost of service provision to an area with a low cost of service provision are more likely to stay with the USP who served them in the high cost area than a new customer is likely to take service from this USP.[11]-[12] Ubiquity is deemed as a benefit in that a USP faces lower acquisition costs for these moving customers than its rivals. The USO status makes the USP more attractive to these moving customers.

This intangible applies only if full ubiquity of service is already achieved. To the extent that CBL's USO cable TV and internet packages are not readily available across all islands, then this benefit would arise only between islands currently served by CBL with USO services (and as agreed in CBL's USO Implementation Plan).

In order to capture the ubiquity benefits arising from this customer behaviour, CBL should estimate a per line net contribution to profits that CBL may expect to earn as customers migrate from high cost to low cost areas currently served by CBL (in this context, the high and low cost areas shall refer to the uneconomic and economic islands).

For example, this estimate could be done by calculating the product of (A x B x C) below:

- The number of CBL's customers in an uneconomic island moving to another, albeit economic, island (A);

[11] Ubiquity and life cycle effects are related. The former is about current migration from a high cost to a low cost island for a customer at a given cycle of his/her life. The latter is about the evolution of revenue spent on communications services as a customer that evolves through different cycles of his/her life. Broadly speaking, the former is about increasing contribution per line thanks to lower costs; the latter is about increasing contribution per line thanks to higher revenues.

[12] For simplicity reasons, URCA does not propose at this stage that another type of ubiquity benefit be evaluated. This other type of ubiquity benefit would seek to capture the fact that some customers may have requirements covering multiple sites and prefer an operator who is present in all locations – which happens to be the case for a USP by virtue of its USO.

- The probability that a CBL customer from the uneconomic area is likely to reconnect to CBL rather than choosing another provider on an economic island (B); and
- The difference in margins of providing the same electronic communications services in an economic and uneconomic island (C).

Two conditions are therefore necessary for the ubiquity benefit to materialise. First, the customers need to migrate from uneconomic to economic islands[13], and second, customers choose the USP as a result of having been served by it previously.

The first variable may be derived according to the number of customers who cancel their subscriptions because they are changing location of residency, adjusted for the proportion of general population moving from uneconomic to economic islands.[14]

This would then be adjusted to derive an estimate of the propensity of customers to choose the same operator as before. Absent these statistics, the market share of CBL in the economic island may be used as a proxy.[15]

Regarding the third variable, the initial exercise of identifying the economic and uneconomic islands will provide information on the average revenue and average cost per island. CBL should then compare the average margin contribution for each uneconomic island with the higher margin contribution in the economic island.

6.3 Lifecycle benefits

Lifecycle benefits refer to the fact that some customers may become more profitable in the future and when considering this lifelong perspective, such customers may become economically viable customers. This phenomenon is deemed as a potential benefit for CBL insofar as such customers remain loyal to CBL once they have become profitable to CBL. These customers may become profitable to CBL as they move away from USO subscriptions and upgrade their subscriptions to (non-USO) services (e.g., digital TV packages, faster internet speeds and telephony).

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[13] Ubiquity intangibles may arise only when a customer moves from a high cost island (uneconomic) to a low cost island (economic). It is not considered when a customer moves from a low cost island (economic) to a high cost island (uneconomic). This is because one assumes that competitors would have chosen not to serve uneconomic islands and only the USP is present in uneconomic islands because it has a universal service obligation to be present there.

[14] For example, if 1,000 customers have cancelled their subscriptions to CBL because of a change of address. National Statistics indicate that 0.3% of population that migrate, migrate to a more prosperous island, then at best 0.3% * 1,000 customers would be assumed to have moved to economic islands.

[15] The proxy says that if CBL holds a market share of 70% on a given island, 7 out of any 10 customers would choose CBL as they move to this island. URCA recognises that this proxy is not perfect. The implicit assumption would be that new customers on an economic island would have this (market share) propensity to stick to the USP because of its USP status. Other reasons than the USP status might explain why customers choose the same operator as before.

Two conditions are therefore necessary for the lifecycle benefits to materialise. First, there must be a positive proportion of CBL's USO customers who become profitable (with a positive net present value (NPV)). Second, the expected NPV of these customers must be greater if services are being provided whilst the customer is unprofitable to CBL (as a result of customers' increased propensity to stay with CBL).

URCA considers that this benefit is already captured in the estimated net cost of the USO. This is because the lifecycle benefits, if they exist, are largely accounted for as the analysis is carried out at island level. For the uneconomic customers in economic islands, their average revenue is assumed to match the average revenues of all customers. This latter average revenue is based on the consumption of communication services by the mix of all customers – and therefore at different stages of their lives.

Therefore, URCA concludes that this benefit should not be considered in the determination of the net cost of the USO under the approach proposed in these Guidelines (as initially envisaged in the Statement of Results and Final Decision [ECS 01/2013]).

6.4 Marketing

Marketing benefits refer to the potential use and/or commercialisation of customer usage data (in terms of usage and profile of service mix, for example).

The customers on whom data may be valuable are the customers in uneconomic islands. This dataset is deemed a USO benefit for a USP which is the single and unique provider to uneconomic islands (i.e., absent the USO, no profit maximising operator would choose to serve this market). Hence this information has a value for future operators should they wish to market themselves to these customers/islands as they become economic and justify entry in the market.

However, as indicated previously, CBL is a relatively new entrant in a market with established incumbents. Broadcasting is made available by other non-cable operators and telephony/internet services were under BTC's monopoly until the market liberalisation. In other words, uneconomic islands are not served by CBL only, and other providers can collect their information on customers on these uneconomic islands in these respective markets. Therefore CBL extracts no exclusive information that their competitors cannot obtain as all operators may provide services on uneconomic islands.

On this basis, URCA concludes that this benefit should not be considered in the determination of the net cost of the USO under the approach proposed in these Guidelines (as initially envisaged in the Statement of Results and Final Decision [ECS 01/2013]).

7. Beyond the Net Cost Calculation and Next Steps

7.1 Format of application

As previously stated at Section 1 of this document, URCA expected CBL to make its own assessment on the unfairness of the burden and present it to URCA as part of its application for compensation. In that regard, CBL must therefore provide its estimate of the net cost of the USO with and without intangibles and the net cost for the components of the USO.[16]

These overall figures must be presented to URCA with evidential support and the underpinning assumptions together with a description of the approach followed by CBL. The spreadsheet model used for the calculations is also to be provided to URCA.

URCA accepts that CBL may adopt slightly different approaches in implementation to those suggested in these Guidelines because of data availability or technical requirements. However CBL must ensure that its implemented approaches are consistent with the principles set out in these Guidelines. The quality of CBL's documentation will be a key element for URCA's assessment of the robustness of these estimates. URCA reserves the right to request further clarification if the information provided by CBL is deemed insufficient in scope and quality. CBL must also agree to take part in any meetings with URCA to provide clarification or further information in relation to its submission as may be required by URCA.

Timing

An application for compensation for the net cost of the USO is to be submitted to URCA within six months of URCA approving CBL's separated accounts for that year or within six months of the publication of CBL's financial audited accounts if separated accounts are not required under the URCA regulations prevailing at that time.

7.2 Unfair financial burden

In the event that having completed its assessment of CBL's submission, URCA accepts the estimate of the net cost of the USO (inclusive of intangible benefits), URCA will then consider CBL's assessment of whether the net cost of the USO constitutes an unfair financial burden upon CBL. For the avoidance of doubt, URCA will undertake its own analysis of unfair burden where necessary.

Where such analysis is required, URCA will employ a two stage approach to the possible determination of an unfair financial burden. The first stage relates to the market share threshold at which URCA will commit to undertake an analysis of whether an unfair financial burden exists. The second stage is the actual analysis of unfair burden and the approach discussed below.

[16] Uneconomic islands; uneconomic customers in economic islands; special tariff for Specified Institutions.

The market share threshold for the determination of whether an unfair burden exists will be set at 80%. Where the USP’s market share is 80% and greater, the presumption is that no unfair burden exists. The USP would have to demonstrate to URCA that it faces an unfair burden whilst having a market share of 80% and above.

Where the USP’s market share is less than 80%, URCA will assess whether an unfair burden exists. In these cases, URCA will look at the following indicators.

First, the impact of a USO can, in principle, undermine the profitability of a USP or endanger its financial viability. It is relevant and necessary, therefore, to take into account whether or not a positive net cost significantly affects CBL's profitability and/or ability to earn a fair rate of return on its capital employed in the prevailing market circumstances. URCA will therefore consider how and to what extent CBL is able to achieve a fair rate of return on capital employed (ROCE).

Profitability can indicate a USP’s ability to bear a USO in the short term. However, a static view of a USP’s revenues and profitability may only provide a weak indicator of a USP’s ability to continue paying cross-subsidy revenues into the future. In this regard, an assessment of a number of dynamic and somewhat interdependent criteria can also inform the USP’s ability to sustain a USO positive net cost. Among these, URCA will consider the following criteria:

- changes in prices over time;
- changes in market share and/or changes in related markets; and
- barriers to market entry.

CBL is similarly expected to produce its own assessment against these various criteria.