



هيئة تنظيم الاتصالات  
Telecommunications Regulatory Authority

## **Access Order No. 1 of 2009**

**An Access Order Relating Local Loop Unbundling, Bitstream  
and Wholesale DSL issued pursuant to the Access Regulation**

14 September 2009

Reference: MCD/09/09/065

**Purpose:** To impose Access Obligations upon Bahrain Telecommunications Company B.S.C to unbundle the local loop and to continue to provide Bitstream and Wholesale DSL as part of its Wholesale Reference Access Offer under the Access Regulation and pursuant to Section 57 (e) of the Telecommunications Law.

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## ACCESS ORDER

Pursuant to:

1. the exercise of its powers under articles 3(c)1, 3(c)13, 40 and Article 57 of Legislative Decree No.48 of 2002, the Telecommunications Law<sup>1</sup>, and articles 2, 3, 5, 6 and 8 of the Access Regulation issued on 30 April 2005 (“Access Regulation”);
2. the Dominance Determination in Wholesale Broadband Markets issued by Telecommunications Regulatory Authority (“TRA”) on 14 September 2009;
3. the Implementation Report for Local Loop Unbundling in the Kingdom of Bahrain (“the Implementation Report”) (attached to this Access Order as **Annex B**),
4. the Study on the Regulation of Wholesale Broadband Markets (“the Study”) (attached to this Access Order as **Annex C**).

TRA hereby orders Batelco to perform the following:

### 1. PROVISION OF ACCESS SERVICES

- 1.1 Implement and offer full local loop unbundling (“LLU”) by offering a dedicated point-to-point metallic path facility (the copper local loop), providing physical connectivity between Batelco’s Main Distribution Frame in Batelco’s Service Nodes and Batelco’s Network Termination Points at End Users’ premises, as described in the Implementation Report.
- 1.2 Provide related ancillary services described in this Access Order and its Annexes.
- 1.3 Continue to provide Bitstream and Wholesale DSL as part of the Batelco’s Reference Offer, subject to the provisions of paragraph 4.2 of this Access Order.
- 1.4 Batelco must implement this Access Order in accordance with Annex A (Implementation). Annex B (Implementation Report) provides the supporting rationale.
- 1.5 For the avoidance of doubt the Annexes to this Access Order form an integral part of it.

### 2. SCOPE OF THE ACCESS ORDER

- 2.1 This Access Order applies only to Batelco’s metallic path (copper local loop) and applies to both active and non-active lines for which there is capacity available at both the main and distribution network levels.

### 3. ENTRY INTO FORCE AND EFFECT OF THIS ORDER

- 3.1 This Access Order and related Access Obligations will be effective upon the date of signature of the General Director.

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<sup>1</sup> Published in the Official Gazette of the Kingdom of Bahrain Annex to Issue No. 2553, Wednesday, 17 Sha’aban 1423 (h) - (23 October, 2002).

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- 3.2 This Access Order is without prejudice to any further orders, regulations and determinations that TRA may consider necessary pursuant to its powers and duties, including but not limited to:
- (a) Articles 3(c)(1), 3(c)(13) and 3(c)(14) of the Telecommunications Law with respect to the provision of Access;
  - (b) Article 5 of the Access Regulation with respect to TRA's powers to review Reference Offers;
  - (c) Articles 35 and 65 of the Telecommunications Law; and
  - (d) Article 8.1 and 8.2 of the Access Regulation with respect to the enforcement of the Access Regulation.

**4. COMPLIANCE**

- 4.1 Batelco shall comply with the provision of the Access Order and Annexes as long as it is determined, by TRA, to be a Dominant Operator in the Wholesale Physical Network Infrastructure Access Market and in the Wholesale Market for Broadband Access in accordance with the Dominance Determination issued on *14 September 2009*, and as may be updated by TRA from time-to-time.
- 4.2 Within 12 months from the date of issuance of this Order, TRA shall commence a study to determine whether the Bitstream service is "fit for purpose". "fit for purpose" is to be assessed in terms of material compliance with the service description and process implementation and through an analysis of the market impact of the Bitstream service. Should TRA determine that the Bitstream service is "fit for purpose" TRA shall remove the obligation on Batelco to provide Wholesale DSL no sooner than 6 months from the issuance of that determination. That determination may also include specific provisions for the migration of other licensed operators ("OLOs") End Users that are being provided services on a Wholesale DSL to an appropriate replacement service (if needed) or other migration terms.

Signed on **14 September 2009**

**Alan Horne**

General Director

Telecommunications Regulatory Authority, Manama, Kingdom of Bahrain



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**Annex A**

**Implementation**

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## 1. IMPLEMENTATION PROCESS

### Reference Access Offer

- 1.1 Article 5.1 of the Access Regulation requires Operators that have been determined dominant in a relevant market to provide TRA with a Reference Offer within 2 months of the date of the dominance determination. Batelco must prepare a meaningful LLU Reference Offer Service Description (“LLU SD”) and submit for TRA’s review, within 2 months of the Dominance Determination.
- 1.2 The LLU SD must contain at a minimum the provisions outlined in Article 4.2 of the Access Regulation. The Implementation Report attached in Annex B (which has been consulted upon with the industry) outlines what TRA expects will be provided by Batelco in its LLU SD, such as SLAs, KPIs and forecasting requirements.

### Implementation Timetable

- 1.3 Batelco must take the following actions as per the timetable below:

<b>Action to be completed by Batelco according to the Access Order</b>	<b>Date of completion</b>
Release an Access Network Frequency Plan to the participating OLOs in the LLU Field Test	No later than 14 days prior to 11 October 2009
Make available the General Information in accordance with paragraphs 3.1 to 3.6 of Annex A	Within 14 days of the date of this Access Order
Provide LLU Process Information to TRA in accordance with paragraph 3.11 of this Annex A	Within 30 days from the date of the Access Order
Make all appropriate preparations in order for the LLU Field Test at the Manama Service Node (MAN) and Seef Service Node (SEF) in accordance with Section 8 of this Annex A	Starting no later than 11 October 2009 and ongoing for a period of 6 weeks
Submit LLU SD for TRA’s review in accordance with paragraphs 1.1 and 1.2 of this Annex A	Within 2 months from the date of the Dominance Determination
Commercial launch of LLU	No later than 14 days from the date TRA approves or orders Batelco’s LLU SD
Implement the Initial Collocation Process if more than 3 operators apply for LLU in accordance with paragraph 4.8 of this Annex A	Within 14 days from the commercial launch of LLU (“Initial Collocation Period”).
Inform TRA whether or not the Initial Collocation process is required.	14 days after the commercial launch of LLU (“Initial Collocation Period”).
Provide LLU Specific Information to OLOs interested in LLU in accordance with paragraphs 3.7 to 3.10	On the date of the commercial launch of LLU
Make available to OLOs a final Access Network	On the date of the commercial

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Frequency Plan for LLU implementation in accordance with section 5 of this Annex A	launch of LLU
Make ready and available all Ancillary services as defined in Section 4 of this Annex A	On the date of the commercial launch of LLU

**2. SCOPE OF LLU LINES**

- 2.1 Batelco must provide LLU for all active and non-active lines of its copper access network.
- 2.2 The Access Obligation upon Batelco to provide Full LLU extends to Non-Active Lines as explained in the Implementation Report in Annex B of this Access Order.
- 2.3 A Non-Active Line includes all lines that are not presently actively used and would necessitate in order to be actively used no more than the 3 following activities: jumpering at the MDF, jumpering at the street cabinet level or “final drops” installation.
- 2.4 Should an end-user and OLO wish to be connected on a non-active line, then Batelco must allow that line to be unbundled, including if there is no final drop, by installing the final drop, which will be charged by Batelco to the OLO on a time and materials basis.
- 2.5 Batelco may only refuse to unbundle Non-Active Lines based upon objective technical reasons which should be justified in writing to OLOs at the time of Batelco’s refusal.

**3. LLU INFORMATION**

**LLU General Information**

- 3.1 Within 14 days of the date of this Access Order, Batelco must compile and make available, to OLOs, a set of General Information.
- 3.2 The General Information must be provided to OLOs free of charge in either electronic or paper copy at the request of the OLO, and shall contain the following:

**a) The list of MDFs with their category of size in Bahrain, as defined below:**

<b>MDF Size</b>	<b>MDF Name and Site</b>
More than 10,000 working lines	...
Between 7,500 and 10,000 working lines	...
Between 5,000 and 7,500 working lines	...
Between 2,500 and 5,000 working lines	...
Less than 2,500 working lines	...

- b) The address and exchange boundaries of these MDFs on a map (except the ones for which valid national security reasons prevent their location or information being made public).**

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- 3.3 OLOs must request the General Information from Batelco in writing. Batelco must provide the OLO with the General Information no later than 3 days from receipt of the written request.
- 3.4 OLOs requesting General Information do not need to be LLU customers.
- 3.5 The General Information is confidential and cannot be used by the OLO for any purpose other than the analysis and implementation of LLU. The information cannot be provided to any third party unless agreed to by Batelco or if required by law. Should the OLO wish to provide external consultants with the information for the purposes of advising it on LLU analysis and implementation then it must seek Batelco's written permission, which must not be unreasonably withheld. Batelco may insist that the consultant enter into a non-disclosure agreement with the OLO and Batelco.
- 3.6 Batelco may provide the General Information on the condition that the OLO sign a non-disclosure agreement, but which can be no more onerous than the terms outlined in paragraph 3.5 above.

**LLU Specific Information to OLOs that are or indent to be LLU customers**

- 3.7 LLU Specific Information is information that is specific to a particular Service Node as defined in paragraph 4.3 below ("LLU Specific Information").
- 3.8 OLOs requesting LLU Specific Information will need to have signed the Reference Offer Supply Terms with Batelco and should have acquired the appropriate licenses from TRA. OLOs and Batelco will be bound to maintain the confidentiality of the LLU Specific Information in accordance with the confidentiality provisions of the Reference Offer Supply Terms.
- 3.9 OLOs requesting the LLU Specific Information must identify the Service Nodes for which they require LLU Specific Information. The request must be in writing.
- 3.10 Batelco must provide LLU Specific Information to OLOs within 5 working day of receipt of a written request.

**LLU Process Information to TRA**

- 3.11 Batelco must provide to TRA no later than 30 days from the date of the Access Order a list and description of existing internal processes pertaining to the provisioning of lines, together with any associated commitments towards its own end-users, including:
  - a) Documents describing the provisioning processes of lines (if relevant, including documents originating from Batelco's vendors for the use of Batelco's technicians as well as documents informing and confirming the acceptance of the service delivery to the end-user);
  - b) Documents describing the provisioning processes of broadband access (if relevant, including documents originating from Batelco's vendors for the use of Batelco's technicians as well as documents informing and confirming the acceptance of the service delivery to the end-user);
  - c) Documents describing fault management processes on active copper lines (if relevant, including documents originating from Batelco's vendors for the use of Batelco's technicians);



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- d) Documents describing the relevant Information Systems implemented inside Batelco (e.g. for Batelco staff and/or vendors to know the quality of the line or the status of the line, for Batelco staff and/or vendors to handle an order, etc.);
- e) Documents describing the current arrangements for Batelco's staff and contractors to access Batelco's sites.

**4. ANCILLARY SERVICES**

- 4.1 Batelco must provide the following LLU ancillary services to OLOs in its Reference Access Offer:
  - a) LLU Specific Information in accordance with paragraphs 3.7 to 3.10 of this Annex A;
  - b) LLU Backhaul and a corresponding Service Level Agreement;
  - c) LLU Service Node Collocation service;
  - d) LLU blocks and tie cables provision.
- 4.2 This list can be amended by TRA from time-to-time after consultation with stakeholders and publication of an amending Order.

**Ancillary Service # 1: LLU Specific Information**

- 4.3 In accordance with paragraphs 3.7 to 3.10 above Batelco must make available the following Specific Information to OLOs through its LLU SD, provided this is available at Batelco:
  - (a) The address of the Service Nodes;
  - (b) The number of active lines for LLU;
  - (c) The number of non-active for LLU;
  - (d) The average length of copper local loops (meters) measured at the exchange level;
  - (e) Power availability at each of Batelco's Service Nodes;
  - (f) Service Node space availability;
  - (g) Cable entry points (First manhole closest to the exchange) and duct capacity available;
  - (h) General information on cable characteristics (e.g. diameter, results from quality tests that have been conducted, technical interference, control and spectral management plan);
  - (i) Results of any xDSL tests.

**Ancillary Service # 2: LLU Backhaul and a corresponding Service Level Agreement**

- 4.4 Batelco must provide a LLU backhaul product with its LLU SD and a corresponding LLU Backhaul Service Level Agreement.
- 4.5 This will be reviewed and approved or ordered by TRA in accordance with article 5 of the Access Regulation.

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**Ancillary Service # 3: LLU Service Node Collocation;**

- 4.6 Batelco must provide collocation space (including the Hand-over Distribution Frame) inside the Service Node to the OLOs to the extent that there is sufficient space. This can be either a dedicated or co-mingled space at the choice of the OLO.
- 4.7 Where adequate space is not available within the Batelco Service Node, Batelco is still required to provide collocation but this is required to be either sheltered or distant at the choice of the OLO.

**Initial Collocation process:**

- 4.8 TRA anticipates that the process for allocating collocation space at the start of the LLU project may be difficult and hence Batelco must implement the following if more than 3 operators apply for or provide written interest in LLU within 14 days from the commercial launch of LLU (“Initial Collocation Period”). For such collocation requests the following process must be followed:
- (a) Batelco informs TRA at the end of the Initial Collocation Period whether or not the Initial Collocation process is required.
  - (b) OLOs will specify their orders for the Server Node they intend to place an immediate order;
  - (c) Batelco will determine for each Service Node the best collocation option that will fulfil the demand within one month, based on orders received, and will send OLOs the corresponding collocation prices;
  - (d) OLOs will have two weeks to confirm their order based on the prices provided by Batelco. Confirmation will be accompanied by a non-refundable advance payment.

**Standard Collocation process:**

- 4.9 After the Initial Collocation Period has ended the following collocation rules must be followed:
- (a) **First Come First Served rule:** This rule ensures that OLOs that ask for collocation space earlier are served first. TRA believes that any other rule for allocating space may slow down the development of LLU. As is the case in duct and civil works, the first OLO shall bear all the associated costs and shall be reimbursed by other OLOs coming afterwards on a pro rata basis.
  - (b) **Use It or Lose It:** By this rule, if an OLO has been granted space but has not used this space after the specified reasonable period of time, the space will be released and re-allocated. This will prevent the inefficiencies created by hoarding space.
  - (c) **One single space allocated per OLO per Service Node.** Where space is scarce OLOs will be initially restricted to a single space. This restriction will be reviewed on an exchange-by-exchange basis to ensure proportionality. The definition and dimensions of a “space” will be determined through the field tests on the basis of the exchange equipment chosen by the OLOs.

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- (d) Batelco should rely on effective demand for site preparation and as a general rule it should not be required of Batelco to provide space in advance for all or part of its Service Node sites.
  - (e) If several collocation options are available, the co-mingling option should always be proposed, and then, if no space is available for this option, the dedicated room option should be proposed, and then if no space is available for this option, the shelter option should be proposed, and then if no space is available for this option, the distant collocation option should be considered. In all cases the OLO will have the option to decide which collocation setup to choose.
- 4.10 Collocation minimum requirements will be:
- (a) the maintenance of space;
  - (b) access to power;
  - (c) OLO access to the allocated collocation space;
  - (d) Installation of an Optic Distribution Frame (“ODF”) on which one extremity of the backhaul to the OLO’s core network, in case the backhaul is provided by the incumbent;
  - (e) a Hand Over Distribution Frame (“HDF”) to which the tie cables are attached;
  - (f) fire suppression systems;
  - (g) air handling;

## **5. ACCESS NETWORK FREQUENCY PLAN**

- 5.1 Batelco must continue to provide the Access Network Frequency Plan (“ANFP”) that is released during the Field Test in accordance with paragraph 8.10 of this Annex. The Access Network Frequency Plan shall be made available to any OLO requesting LLU from the time of the commercial launch of the LLU SD.
- 5.2 The ANFP may be reviewed by TRA during the LLU SD review and in a working group hosted by TRA with OLOs and manufacturers/suppliers as required.

## **6. WORKING GROUP**

- 6.1 TRA will establish a Working Group on LLU Operations and Service Schedules consisting of TRA, Batelco and all participating OLOs in the field tests which will meet on a regular basis.
- 6.2 The goals of this Working Group will be to analyze and refine any existing processes and SLA/KPI measures to suggest appropriate amendments to the LLU RO and review and propose amendments to the ANFP as necessary.

## **7. TARIFFS**

- 7.1 In accordance with articles 57(e) and 58 of Telecommunications Law and articles 4.2(f), 5 and 6.1 of the Access Regulation Batelco must submit and TRA will review and approve or order LLU prices. TRA shall take into consideration the current available costing information from Batelco as well as international benchmarking of LLU prices in relevant markets.

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**8. LLU FIELD TEST**

- 8.1 Batelco must host a field test (“LLU Field Test”) with OLOs commencing on **11 October 2009** and ending 6 weeks from that date. Without prejudice to the provisions that follow, TRA will issue binding directions to Batelco and OLOs on how the LLU Field Test will be conducted.
- 8.2 Batelco must make all appropriate preparations in order for the LLU Field Test, at the Manama Service Node (MAN) and Seef Service Node (SEF), to start no later than 11 October 2009 and which will last for 6 weeks.
- 8.3 LLU Field Test collocation will be comingling collocation at each service node.
- 8.4 The LLU Field Test will involve a minimum of 10 and a maximum of 50 end-users for each participating OLO.
- 8.5 LLU Field Test costs will be distributed between Batelco and OLO as follows:
  - (a) Costs incurred as part of preparing the sites that are effectively and efficiently incurred by Batelco shall be included in a cost category called “LLU implementation costs”. They will be recovered by Batelco as approved or ordered by TRA.
  - (b) Costs in relation to the provision and usage of Backhauls incurred by OLOs must be borne by OLOs.
  - (c) All other costs related to equipment should be borne by the party owning and responsible for that equipment.
- 8.6 At the end of the LLU Field Tests, appropriate provisions shall be made so that end-users, having participated in the test, can migrate back to their original line setup or stay with the Field Test setup should they so choose and the OLO agrees to continue to provide service.
- 8.7 On completion of the Field Test any participating OLO has the right to continue to provide LLU based services to end-users that have taken part in the Field Test., Batelco is required to continue to provide the LLU and Ancillary services to any OLO that continues to provide LLU based services at a quality no less than that provided during the course of the Field Test.
- 8.8 The charges and Terms and Conditions for the LLU and Ancillary Services will be contained in the LLU SD and Reference Offer Schedule 3 Price List once approved or ordered by TRA. Such charges will apply respectively to the date of the day after completion of the Field Test.
- 8.9 TRA will share the information gathered through the Field Tests with participating OLOs in a working group and publish it on TRA's website (as deemed appropriate).
- 8.10 Batelco must release an Access Network Frequency Plan to the participating OLOs in the LLU Field Test no later than 14 days prior to the start date of the Field Test to allow OLOs to decide on the configurations to be used during the Field Test.

**Qualifications required for OLOs wishing to enter Field Test**

- 8.11 TRA will invite all OLOs to take part in this Field Test subject to OLOs complying with the following criteria:

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- (a) They are properly licensed operators in the Kingdom of Bahrain;
  - (b) They have expressed in writing to TRA and Batelco, their intention to participate in the field test confirming:
    - i. OLOs must identify which of their core network sites backhaul will have to be provided by Batelco;
    - ii. That they are able to install their exchange equipment by the proposed first day of the field test;
    - iii. That acknowledge that they must enter into written agreements with at least 10 End Users, to be connected to the OLO's equipment at least 14 days prior to the start date of the Field Test.
- 8.12 TRA will verify the names of OLOs which comply with the criteria set out above and will make public the list of the OLOs participating in the Field Test at least 7 days before the beginning of the field test.

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**Annex B**

**Implementation Report of Local Loop Unbundling in the  
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## **Annex C**

### **Study on the Regulation of Wholesale Broadband Markets**

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**Annex D**

**Legal Reasoning**



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Article 3(c)(1) of the Telecommunications Law grants TRA the power to issue regulations, orders and determinations as may be necessary for the implementation of the Telecommunications Law, including and in particular regulations, orders and determinations in relation to Interconnection, Access to networks and facilities, services tariffs, access to property and the promotion of competition;

Article 3(c)(13) of the Telecommunications Law grants TRA the power to encourage, regulate and facilitate adequate access and interconnection arrangements, including, where necessary, enforcing the sharing by public telecommunications operators of the benefits of facilities and property;

Pursuant to the obligations provided in Article 57(e) of the Telecommunications Law, upon request, a Dominant Operator shall offer access to its Telecommunications Network and Telecommunications Facilities on fair and reasonable terms to any Licensed Operator.

Pursuant to the Access Regulation, TRA may impose certain Access Obligations, as described in its Articles 3.3., 3.4 and 3.5 of the Access Regulation, on a Licensed Operator with a Dominant Position in the relevant market ("Dominant Operator") by way of an Access Order issued in accordance with Article 2 and Article 3(c)(1) of the Telecommunications Law.

In accordance with the above TRA has issued:

- (b) A Dominance Determination in Wholesale Broadband Markets dated [please insert the date] ("Dominance Determination") which defined the relevant markets and determined that Batelco is dominant in the Wholesale Physical Network Infrastructure Access Market and in the Wholesale Broadband Access Market;
- (c) An Access Order for Batelco to implement Full LLU in the Kingdom of Bahrain having the following Schedules attached to it:
  - i. A Study on the Regulation of Wholesale Broadband Markets dated [please insert the date] ("Study") determining appropriate wholesale remedies which are Wholesale DSL (Article 3.5 (d)), unbundled local loops (Article 3.5 (e)) and main distribution frames or concentrators for Bitstream access or DSL co-location (Article 3.5 (f)), to address the market failures identified by TRA in the Dominance Determination. The Study explains why Batelco should continue to provide Bitstream and Wholesale DSL and why TRA considers it no more than appropriate and necessary to address the market failure identified to impose upon Batelco to provide LLU for the purpose of Article 3.7 of the Access Regulation; and
  - ii. An Implementation Report setting out the appropriate approach for the implementation of LLU in the Kingdom of Bahrain [please insert the date].

Based upon this, in accordance with Article 2.1 of the Access Regulation and the Dominance Determination, TRA orders Batelco to provide LLU, Bitstream and Wholesale DSL services as Access Obligations under this Access Order.

Article 3.4 of the Access Regulation allows TRA to require the Dominant Operator to give other Licensed Operators access to specified elements of either or both of its Telecommunications Network and Telecommunications Facilities.

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Article 3.5 of the Access Regulation lists certain specific elements, including Wholesale DSL, unbundled local loops (LLU) and main distribution frames or concentrators for Bitstream access or DSL co-location.<sup>2</sup>

In accordance with the Dominance Determination, TRA considers that LLU is included in the relevant market for Wholesale Physical Network Infrastructure Access Market and that Wholesale DSL and Bitstream are included in the relevant Wholesale Broadband Access Market. As Batelco is found dominant in these two relevant markets, all three of these telecommunications network elements or telecommunications facilities specified in Article 3.5 (d), (e) and (f) of the Access Regulation may be imposed upon Batelco as the Dominant Operator.

Batelco already offers Wholesale DSL and Bitstream access to OLOs in the Kingdom of Bahrain, but not LLU. When considering whether to impose an Access Obligation to provide an Access Service, Article 3.7 of the Access Regulation requires the TRA to determine that the specific Access Obligation is no more than is appropriate and necessary, taking into account a number of criteria listed there.

On the basis of the Study conducted by TRA in accordance with Article 3.7 of the Access Obligation, TRA has:

- (a) considered the appropriate remedies with respect to wholesale services in the wholesale broadband markets; and
- (b) assessed whether it is no more than appropriate and necessary to impose upon Batelco an Access Obligation to address the market failure.

As a result, TRA can order Batelco to implement LLU by offering dedicated point to point Metallic Path Facility, providing physical connectivity between Batelco's Main Distribution Frame at Batelco's Service Node and Batelco's Network Termination Point at the End User's premises and to continue providing Bitstream and Wholesale DSL Services.

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<sup>7</sup>. Articles 3.5 (d), (e) and (f) of the Access Regulation, respectively.