



هيئة تنظيم الاتصالات  
Telecommunications Regulatory Authority  
مملكة البحرين - Kingdom of Bahrain

## ANNEX TWO

### Functional Separation of Batelco

#### Separation Guidelines

[ ] 2018

Ref: [ ]

Purpose: To guide Batelco in its separation process, specifying the Authority's requirements following the Economic Regulatory Framework.

## Legal disclaimer

### Legal disclaimer

This document contains information and statistics that have been obtained from sources believed to be reliable in regard to the subject matter covered.

This document does not however constitute commercial, legal or other advice however so described. The Telecommunications Regulatory Authority (the “**Authority**”) excludes any warranty and, or liability, expressed or implied, as to the quality, completeness, adequacy and accuracy of the information, statements and statistics contained within this document.

The Authority reserves the right to change and update the information, statements and statistics provided in this document at its discretion and without prior notification and assumes no obligation to update the document on the basis of suggestions, comments and/or queries made by third parties.

The Authority assumes no responsibility for any consequences that may arise in the absence of such changes and/or updates.

To the fullest extent permitted by law, neither the Authority nor any of its officers however so described or agents will assume responsibility and/or liability for any loss or damage, including losses or damages such as loss of goodwill, income, profit or opportunity, or any other claim of third parties, arising from or related to the use of the content of this document.

# Separation Guidelines

## Table of contents

### Table of Contents

1	Introduction.....	4
2	Separation Milestones and Timetable.....	4
3	Asset Allocation Plan .....	5
4	Security Management Plan .....	6
5	Systems Separation Plan.....	7
6	FSE Governance Framework.....	9
7	Organisational Separation Plan .....	10
	Annex - Summary of Batelco Submission Requirements.....	12

Draft

# Separation Guidelines

## Annex

### 1 Introduction

1. This document, the Separation Guidelines (the “**Guidelines**”), is the third in a series of reports and draws on the decisions set out in the Economic Regulatory Framework (the “**Framework**”) to guide Batelco in the establishment of the Functionally Separated Entity (“**FSE**”) and in the development of the FSE’s products and services. Definitions used in the Framework shall also apply to this document, unless the context requires otherwise.
2. This document specifies a number of requirements in relation to the separation of Batelco with the intention of achieving a model of separation that is in accordance with the aims and decisions made in the Framework. The Authority expects Batelco to reflect these in its proposed Undertakings.<sup>1</sup>
3. Having regard to the tasks involved in the implementation of functional separation, the Authority also expects that Batelco’s Undertakings will be accompanied by a number of implementation plans and frameworks that set out how its commitments will be implemented. Batelco is expected to at a minimum consider and submit the following materials, which are detailed in this document:
  - a. Separation Milestones and Timetable
  - b. Asset Allocation Plan
  - c. Security Management Plan
  - d. Systems Separation Plan
  - e. FSE Governance Framework
  - f. Organisational Separation Plan
4. Batelco will be required to submit its Undertakings to the Authority by [date].

### 2 Separation Milestones and Timetable

5. Batelco will be required to submit a detailed implementation timetable with clearly defined separation milestones, dependencies and timings. These separation milestones include requirements for the submission of specific documentation and operational milestones relating to:
  - a. Systems Separation
  - b. Organizational Separation
  - c. FSE Business Case

---

<sup>1</sup> For illustration purposes only, the following link contains the Undertakings of BT to the UK regulator Ofcom in 2004: [https://www.ofcom.org.uk/data/assets/pdf\\_file/0020/24509/consolidated.pdf](https://www.ofcom.org.uk/data/assets/pdf_file/0020/24509/consolidated.pdf) or the separation undertakings of Telecom New Zealand in 2008: <http://www.mbie.govt.nz/info-services/sectors-industries/technology-communications/communications/previous-reviews-and-consultations/telecom-separation/documents-image-library/telecom-separation/telecom-separation-undertakings.pdf>

## Separation Guidelines

### Annex

- d. Product Roadmaps
  - e. Reference Offers
6. This timetable is expected take into account the requirements specified in these Guidelines, the Framework and NTP4, and the preparation of Batelco's FSE Reference Offer Submission. In particular, Batelco should set out the steps it will take during the transitional period to build towards achieving functional separation.
7. Batelco will be required to satisfy the Authority that it has met all relevant milestones in order to progress through the key stages of the separation process.

### 3 Asset Allocation Plan

8. The Authority requires that Batelco submit an asset allocation plan to the Authority alongside its Undertakings. This asset allocation plan is expected to include consideration of the following:
- a. Batelco's proposals for as to whether, and if so how, Batelco will transfer control of deployment, operation and maintenance of the following assets to the FSE:
    - i. Fibre cable
    - ii. Copper wire
    - iii. Duct and poles
    - iv. Active equipment
    - v. Exchange buildings and cabinets
    - vi. International landing stations and international cable
    - vii. Office accommodation
    - viii. Other assets
  - b. In line with the Single Network objective, the Authority expects the FSE to, at a minimum, control passive network assets such as fibre cable, copper wire, and ducts and poles.
  - c. The Authority expects the number of shared assets between the FSE and the rest of Batelco to be as small as possible. In the case of any proposed asset sharing agreements between the FSE and the rest of Batelco, this is expected to require the establishment of service agreements between the two entities, which include:
    - i. Transfer prices (if any)
    - ii. Personnel sharing (if any)
    - iii. Service specifications
    - iv. Provisioning timeframes
    - v. Standards for fault resolution and repair times
    - vi. Standards and processes for in-life service management
    - vii. Penalties for breach of the service level agreements ("**SLAs**")

## Separation Guidelines

### Annex

9. Furthermore, the FSE is expected to assess on a regular basis whether it will continue to require use of assets held by the rest of Batelco. Where it is determined that FSE no longer has operational need for the shared assets, the Authority expects to be notified for its approval.
10. The criteria for assessing Batelco's proposed allocation of assets as per the Framework will include:
  - a. **Delivery of the FSE Product and Service Set** – the assets to be controlled by the FSE should be driven by the FSE Product and Service Set, which the FSE will be required to deliver to all downstream operators.
  - b. **Alignment with Eol** – Any demarcation is to ensure that all aspects of Eol are maintained and that all downstream operators are able to compete on a “level playing field”, thereby promoting service-based competition. In particular, any arrangement should not discriminate against either OLOs or BRE when considering potential access and sharing arrangements.
  - c. **Efficiency** – The transfer of assets will need to ensure that the FSE is resourced efficiently and able to recover its efficiently incurred costs, including a fair return on investment. The scope of assets transferred should be sufficient for the FSE to fulfil its functions but should not involve any assets which the FSE does not feasibly require control over as part of the Single Network.
  - d. **Independence** – In line with Eol, any asset transfer is to ensure the FSE is able to make decisions in its own commercial interest, independent of other licensed operators, in particular BRE.
  - e. **Security requirements** – Any potential access and sharing arrangements between the FSE and the rest of Batelco or OLOs should be consistent with the Security Management Plan.
  - f. **Potential for cross subsidization** – The asset demarcation should limit the potential of Batelco to cross subsidise between returns earned on assets used in regulated markets with those deployed as part of competitive environments.

## 4 Security Management Plan

11. As set out in the Framework, and summarized here, the FSE will be expected to take into account and accord with relevant industry standards and regulations in designing the security of the Single Network, the FSE Product and Service Set and its organisation by specifically considering:
  - a. **National security** – The FSE will need to ensure that in the operation of the Single Network, all national security obligations are complied with.
  - b. **Asset security** – To address the need to ensure the physical security of the Single Network and its supporting infrastructure, the Authority requires that the FSE's physical security measures encompass both prevention of unauthorised access through the installation of physical security perimeters and entry controls, the monitoring and logging of any access, and protection against environmental threats including fire, floods and other forms of disaster that may affect the facilities.

## Separation Guidelines

### Annex

- c. **Information security** –The FSE will be required to comply with the Critical Telecommunications Infrastructure (“CTI”) risk management regulation. The FSE will be responsible for safeguarding a substantial amount of information, encompassing not only data transmitted over the network but also data relating to the Single Network architecture. The Authority requires the FSE to ensure that confidentiality and integrity of all data in transit, accessed or stored across the Single Network or within the FSE systems, is maintained.
  - d. **Cyber security** – The Authority requires that the FSE implements necessary security controls to mitigate the risks of cyber-attacks, including the establishment of a secure and resilient cyber security architecture in which the FSE operates and offers its service. This cyber security architecture should reflect the current and anticipated cyber-attack environment, identifying trends in attack data to proactively detect areas of prioritisation. The FSE will further be required to establish a robust incident response process in the case where malicious attacks are detected.
  - e. **Organisational security** – To address the risk of insider attack, the FSE will need to ensure that appropriate measures are in place both during the hiring phase when introducing new employees, contractors and consultants to the FSE, and as part of its ongoing organisational security process to ensure that employees that originally had no malicious intent are not recruited by those wishing to do harm to the FSE and the Single Network.
  - f. **Physical security** – The Authority considers it is critical for the FSE to ensure the physical network security of the Single Network by developing and deploying a network with sufficient speeds, resilience and redundancy, ensuring to the fullest extent possible that the network remains operational even in the event of disruptions that impact normal operation
12. Batelco will be required to submit a **Security Management Plan** in its Undertakings. This plan is expected to set out the steps that will be taken by the FSE, including milestones if relevant, to address all of the above aspects of security.

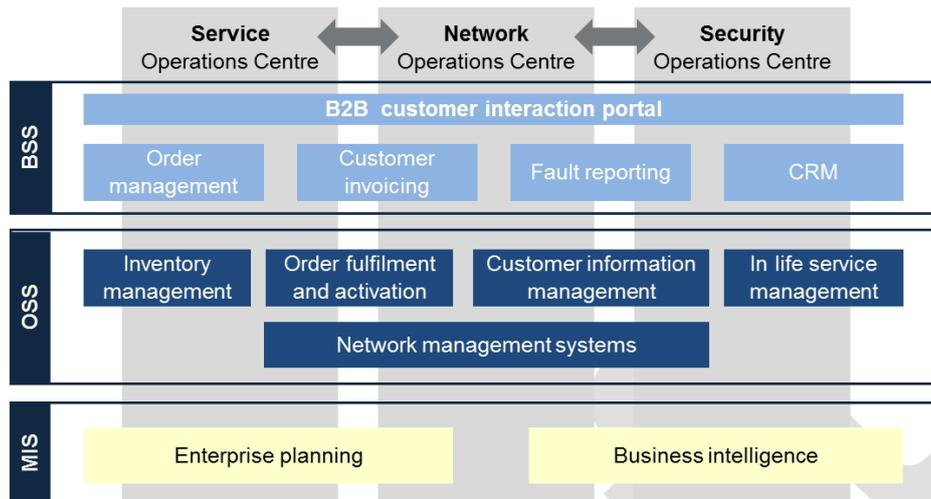
## 5 Systems Separation Plan

13. By the end of the NTP4 period, the FSE will be expected to offer NBN based wholesale services on an EoI basis. As established in the Framework and to give rise to the provision of NBN based wholesale services on an EoI basis, the FSE will be required to separate its systems and processes from the rest of Batelco as part of the separation process. All FSE systems are required to be physically/logically separated from those used by the BRE.
14. During the transitional phase, Batelco will be required to take steps to build towards achieving EoI. As such, Batelco will be required to submit a detailed **Systems Separation Plan**, including a roadmap for how it is to comply with informational equivalence and control requirements.
15. The Systems Separation Plan is expected to address the separation of each relevant process and system illustrated in the following diagram:

# Separation Guidelines

## Annex

Figure 1: Illustrative representation of the FSE's systems



Source: the Authority

The Systems Separation Plan is expected to cover:

- a. A roadmap for how Batelco will make sure that relevant FSE systems will be physically/logically separated. This is expected to include:
    - i. Proposed timelines for the systems separation process, including provisional dates for key milestones. In particular, Batelco will be required to take steps during the transitional period to build towards achieving EoI.
    - ii. Proposed approach for meeting equivalence obligations for any FSE non-NBN-based wholesale products and services. For instance, the Authority will be mindful of the practicalities of implementing EoI for these products and services, for which Equivalence of Outputs (“EoO”) may be more suitable until they are retired.<sup>2</sup>
    - iii. Proposed systems separation program management, including the way in which Batelco will ensure that this separation process is aligned across all relevant departments within the FSE and the rest of Batelco.
16. The Authority’s view is that in the final state all FSE systems should be physically/logically separated from those used by BRE in the interests of informational equivalence and control as well as the independence of the FSE. This would require the FSE and the rest of Batelco to use separate hardware, operating systems and physical support such as maintenance contracts. In case where such information is stored over a virtualized environment or a cloud hosted by a third party, the FSE shall ensure that necessary information security checks are put in place that prevent unauthorized disclosure of such information.

## Separation Guidelines

### Annex

17. The criteria for assessing Batelco's proposed separation of the systems and processes during the transitional period and in its final state will include:
  - a. **Security of customer confidential information** – Informational equivalence and control requires, in summary, that OLOs and BRE have access to the same information from the FSE at the same time, but the FSE shall not disclose customer confidential information obtained from one downstream operator with any other without express permission from the entity that provided this information. Consequently, the Authority expects Batelco to ensure that the FSE's systems are separated from the rest of Batelco in such a way that prevents the disclosure of information to BRE where this information is not also accessible by the OLOs on the same terms or where this information is customer confidential.
  - b. **The scope for discrimination in the event of data leakage** – Given that the key motivation for EoI is to prevent discrimination against the OLOs, a key determinant of the acceptable form of systems separation during the transitional period should be the potential impact on the OLOs should a data breach occur. Where data leakage from a FSE system to BRE would afford it a material advantage over the OLOs, this system should be subject to stronger transitional arrangements than systems which do not pose a significant threat for discrimination.
  - c. **Incremental cost and efficiency** – The FSE should bear efficiency considerations in mind in relation to the design of its systems. Such efficiency considerations are a key input in the decision around the method of separating the FSE's systems. For example, the FSE may have the choice between 'system cloning' and 'new system build'. In some instances it may be more efficient to achieve the EoI requirements by cloning systems rather than building new systems and vice versa.
  - d. **FSE's security obligations** – The FSE will have security obligations, as noted above in relation to the Security Management Plan, which include the responsibility to prevent unauthorised access to FSE systems. Given that the degree of separation directly impacts the ease of unauthorised access by BRE to FSE systems, it may be the case that in the interests of information security, a greater degree of systems separation will be required during the transitional period, particularly in relation to systems housing more sensitive data.
  - e. **The development of EoI** – As noted above, Batelco will be required to take steps during the transitional period to build towards achieving EoI. This will be a key consideration in the assessment of Batelco's proposals for the separation of systems and processes.

## 6 FSE Governance Framework

18. The FSE shall act on an independent basis from OLOs and BRE, to enable it to make decisions independently of all other operators.
19. The Authority recognizes that FSE's management is likely to have reporting duties to the Batelco Chief Executive Officer ("**CEO**"), who will oversee both the FSE and BRE. However, the Batelco CEO cannot be involved in day-to-day activities of the FSE and shall comply with the EoI obligations and other non-discrimination requirements applicable to all

## Separation Guidelines

### Annex

FSE staff. Moreover, there will be added oversight by the Authority over Batelco's compliance as set out in the Monitoring Regime.

20. As such, the **FSE Governance Framework** is expected to set out in detail the FSE's proposed governance arrangements and include as a minimum:
  - a. A description of the roles and responsibilities of Batelco CEO, the head of the FSE and wider management team.
  - b. The process by which the Batelco Board will set a financial boundary to the FSE, including limits on operating and capital expenditure, and financial key performance indicators.
  - c. The extent of the FSE's delegated right to authorize spending within the Batelco Board approved boundary, and the process by which the FSE can seek expenditure outside of this financial boundary or which does not meet the financial KPIs. Any approval or rejection must not discriminate against any OLOs in favour of BRE.

## 7 Organisational Separation Plan

21. Batelco will be required to design the FSE such that it is efficiently resourced and able to make decisions in its own commercial interest, independently of OLOs and BRE, and in line with NTP4.
22. To this end, Batelco's Undertaking to separate its organisational business units should be accompanied by a detailed Organisational Separation Plan ("**OSP**") that addresses the following:
  - a. The organisational structure for Batelco, highlighting in particular BRE and the FSE within this structure.
  - b. The organizational structure for the FSE that, at a minimum, describes the following:
    - i. Work carried out by each function, in particular, those that are customer facing.
    - ii. Sourcing model of each function (outsource / insource / hybrid / shared services).
    - iii. Organizational hierarchy, roles, and their responsibilities.
    - iv. Skills of Full Time Equivalents ("**FTEs**") by levels within each department.
  - c. FSE staff resourcing plan, including forecast of resourcing requirements.
  - d. Rules and procedures to ensure that:
    - i. Staff may only work for the business unit that they are engaged with, other than in exceptional circumstances.
    - ii. BRE staff that cease to be employed by BRE cannot work for the FSE for a period sufficient to avoid any actual or perceived conflict of interest.
    - iii. FSE staff that cease to be employed by the FSE cannot work for BRE for a period sufficient to any actual or perceived conflict of interest.

## Separation Guidelines

### Annex

- e. Measures to ensure that incentive remuneration schemes for staff are based solely on the performance of staff within the business unit (e.g. either FSE or BRE) they are engaged in, including penalties for any breach of Eol requirements.
  - f. Separation of FSE accommodation.
  - g. Identification of shared functions.
  - h. Branding of FSE compared with the rest of Batelco.
  - i. Identification of the specific Batelco wholesale and network business units that are transferred to the FSE.
23. The criteria for assessing Batelco's proposed separation of the organisational structure will include:
- a. **Staffing and resourcing proposals** – In preparing for the establishment of the FSE, Batelco will be expected to determine its proposed organisational structure, provisioning HR to the FSE in a way that ensures it is able to fully meet its scope of business with an efficiently sized headcount.
  - b. **Identification of necessary functions** – Based on the FSE's scope of business and requirements set out in these Guidelines, Batelco is expected to identify necessary functions of the FSE.
  - c. **Identification of the required skills to deliver these business processes** – Once the necessary business processes of the FSE have been identified, Batelco is expected to identify the necessary skills required to deliver these processes. The Authority expects that this will be informed by Batelco's existing experience in delivering wholesale data products, but should take into account new requirements for the FSE, particularly in relation to its security and Eol requirements.
  - d. **Right-sizing** – Batelco is expected to determine the number of FTEs required to carry out the business processes of the FSE. This is expected to reflect both the need to ensure that the FSE is adequately resourced to fulfil these duties whilst avoiding over-resourcing and the associated inefficiencies. In particular, this right sizing approach should consider productive efficiency gains in relation to headcount as set out in the Framework.<sup>3</sup>

---

<sup>3</sup> See Section 6.1 of the Framework.

## Separation Guidelines

### Annex

## Annex - Summary of Batelco Submission Requirements

24. The following table summarises the submission requirements for Batelco across the three areas of these Guidelines.

Submission requirement	
<b>Batelco Separation Undertakings covering:</b>	
Separation Milestones and Timetable <ul style="list-style-type: none"> <li>• <i>Systems Separation</i></li> <li>• <i>Organizational Separation</i></li> <li>• <i>FSE Business Case</i></li> <li>• <i>Product Roadmaps</i></li> <li>• <i>Reference Offers</i></li> </ul>	
Asset allocation plan: <ul style="list-style-type: none"> <li>• <i>Fibre cable</i></li> <li>• <i>Copper wire</i></li> <li>• <i>Duct and poles</i></li> <li>• <i>Active equipment</i></li> <li>• <i>Exchange buildings and cabinets</i></li> <li>• <i>International landing stations and international cable</i></li> <li>• <i>Office accommodation</i></li> <li>• <i>Other assets</i></li> </ul>	
Security management plan: <ul style="list-style-type: none"> <li>• <i>National security</i></li> <li>• <i>Asset security</i></li> <li>• <i>Information security</i></li> <li>• <i>Cyber security</i></li> <li>• <i>Organisational security</i></li> <li>• <i>Physical security</i></li> </ul>	
Systems separation plan: <ul style="list-style-type: none"> <li>• <i>B2B customer interaction portal</i></li> <li>• <i>Order management</i></li> <li>• <i>Customer invoicing</i></li> <li>• <i>Fault management</i></li> <li>• <i>CRM</i></li> <li>• <i>Inventory management</i></li> <li>• <i>Order fulfilment and activation</i></li> <li>• <i>Customer information management</i></li> <li>• <i>In life service management</i></li> <li>• <i>Network management systems</i></li> <li>• <i>Enterprise planning</i></li> <li>• <i>Business intelligence</i></li> <li>• <i>others</i></li> </ul>	
FSE Governance Framework <ul style="list-style-type: none"> <li>• Description of roles and responsibilities</li> <li>• Process for setting financial boundaries of FSE</li> </ul>	
Organisational separation plan:	

## Separation Guidelines

### Annex

<ul style="list-style-type: none"><li>• <i>Batelco organizational structure</i></li><li>• <i>FSE organizational structure</i></li><li>• <i>FSE staff resourcing plan</i></li><li>• <i>Separation rules and procedures</i></li><li>• <i>Remuneration incentives</i></li><li>• <i>Accommodation plan</i></li><li>• FSE and rest of Batelco branding</li><li>• Identification of shared services</li><li>• Transfer of existing business units to FSE</li></ul>	
--	--

Draft