



هيئة تنظيم الاتصالات
Telecommunications Regulatory Authority

Number Portability Specifications Consultation Report

Reference No. ICT/0211/019

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Public Document

Introduction

1. On January 11, 2010 the Telecommunications Regulatory Authority (TRA) published for public consultation the Number Portability Specifications documents (“the Specifications”) (reference TOD/ICT/0110/002). This Report details the responses received in relation to the Specifications and provides TRA’s views and final position on the issues raised by the respondents.
2. This Number Portability Specifications Consultation Report (“the Report”) details the changes made to the Specifications as a consequence of the submissions made in response to both the Specifications public consultation and the public consultation concerning the Number Portability Regulation (“the Regulation”).
3. The responses and positions stated by TRA in this Report reflect TRA’s final position in relation to these comments and their impact on Number Portability.

Number Portability Specifications Development Overview

4. TRA published the final Regulation on Thursday May 13, 2010. TRA subsequently published the report detailing the changes and TRA's final position with respect to the Regulation, the Number Portability Regulation Consultation Report ("the Regulation Report"), on June 21, 2010.
5. The Regulation establishes the legal framework and obligations placed upon Licensees, whereas the Specifications outline the technical requirements and procedures to be applied by Licensees when implementing Number Portability.
6. On September 6, 2009 TRA appointed Rabion Consultancy, of the Netherlands, to develop the Specifications and supervise the implementation of Number Portability in conjunction with the Central System solution provider.
7. During the months of September, October and November 2009, a number of Number Portability Specification Working Groups ("the Working Groups") meetings were held between TRA and the Licensees, at which the various Specifications were discussed and the Licensees' feedback obtained.
8. Having taken into account the feedback from the Working Group meetings, TRA published for public consultation the draft Specifications in January 2010. This public consultation ended on March 4, 2010.

Consultation Responses

9. As part of the public consultation process on the Specifications, TRA received responses from the following six organizations (listed alphabetically):
 - Bahrain Telecommunications Company BSC (“Batelco”)
 - Ericsson (“Ericsson”)
 - Giza Systems (“Giza”)
 - Saudi Telecom (“STC”)
 - Systor Trondheim AS (“Systor”)
 - Zain Bahrain (“Zain”)
10. All comments raised by the aforementioned parties are addressed in this Report and, where appropriate, reflected in the relevant Specification.
11. TRA did not receive any confidential responses.
12. Respondent comments have not been altered by TRA in this Report, except for updating terminology (such as changing references to “CDB” and “BNPS” to Central System) and minor grammatical corrections. This has been done purely for readability and user-friendliness purposes.
13. In clarifying TRA’s position this Report makes references to the Regulation, the Regulation Report, the Specifications and the Telecommunications Law. Terms used in this Report are as defined in these referenced documents.
14. In the interests of simplicity and avoiding redundancy and ambiguity, TRA has consolidated the Mobile Number Portability Process Specification, the Fixed Number Portability Specification and the Resolution Procedure Specification for Bad Debt Subscribers into a single document called the Number Portability Process Specification. All comments that were raised by respondents regarding the MNP, FNP or Bad Debt Specifications are, where relevant, addressed in the NP Process Specification.
15. This report is divided into sections based on the original five individual Specifications documents. General comments that do not refer to a specific Specifications document will be addressed first.

General Comments

Respondent's Comment (from Batelco)

16. As the major provider of fixed and mobile telecommunications infrastructure and services in Bahrain, Batelco is more significantly impacted by the requirement to implement Number Portability than any other Licensee in the Kingdom.

TRA's Response

17. Batelco's comment implies that Batelco will only be negatively affected by the introduction of Number Portability. TRA is of the view that Number Portability will benefit consumers and as such anticipates that all affected Licensees will be both a Donor Operator and a Recipient Operator and thus have the opportunity to benefit from Number Portability.

Respondent's Comment (from Batelco)

18. As the main transit network, Batelco will also be impacted in terms of routing, charging and call completion/failure if other Licensees fail to introduce Number Portability measures (such as insertion of Routing Numbers) in their own networks within the timeframes set out by TRA.

TRA's Response

19. As per the Regulation, unless provided with a temporary exemption from the obligations to implement Number Portability by TRA, all Licensees that have been granted Telecommunications Licenses that allow the use of Numbers for the purposes of providing Telecommunications services and which assign Numbers to Subscribers and provide Telecommunication services through such Numbers must implement Number Portability. The introduction of Number Portability does not affect Licensees' ability to charge inter-operator charges for conveyance, routing and other related services. Please refer to Article 10 of the Regulation for additional information on Routing with respect to Number Portability.

Respondent's Comment (from Batelco)

20. Batelco has no information concerning the likely number of customers who will want to Port their Numbers to or from Batelco's networks. TRA has provided no forecasts to the industry in the course of determining that there were "sufficient requests" for NP in Bahrain to trigger the legislative requirement. Batelco must therefore determine whether to invest in

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systems development or to use manual processes to handle elements of the proposed processes in an information vacuum.

TRA's Response

21. Please refer to TRA's response to a similar comment raised by Batelco with respect to the Regulation. For ease of reading TRA has reproduced the text from paragraphs 35 to 43 of the Regulation Report.

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35. *In July 2007, TRA conducted a Consumer Survey as part of a Strategic and Retail Market Review. The survey conducted by Nielsen had a Nationality representative survey sample of 1052 residential consumers and 159 businesses in Bahrain.*

36. *Within the Consumer Survey the following questions pertaining to Number Portability were asked:*

- a. *Residential: How important would it be for you to keep your present number in deciding whether to switch your fixed line provider?*
- b. *Business: Please tell me if you are thinking about changing your telecom provider both for mobile and fixed line, how important would it be to retain your existing telephone number(s)?*

37. *To which:*

- a. *40% of residential users who have fixed lines responded that retaining their old number is “important”;*
- b. *93% of business users responded that retaining their old number is “important” (71% responded to the question as “essential”);*
- c. *36% of business users indicated that the main reason for not switching fixed line provider was that they did not want to change their number;*
- d. *41% of business mobile users said that the reason for not switching the mobile provider is they don't want to change the number;*
- e. *27% of residential mobile users said that they have not switched to another mobile operator because they are not able to keep their current number.*

38. *On 3 June 2008 the TRA issued the Final Statement of its Strategic and Retail Market Review and issued a determination Significant Market Power on Batelco in a number of markets.*

39. *Regulatory Measure Number 7 of the Final Statement noted that:*

“Number portability will be introduced to facilitate any fixed or mobile customers switching provider by giving them the possibility to retain their existing phone number when changing operator. TRA intends to work with the industry to identify the most cost effective and pragmatic solution to implement mobile and fixed Number Portability.

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If necessary, TRA would be minded to consider financing some of the costs of introducing Number Portability from proceeds of auctions or similar revenues subject to necessary approvals and/or consultations. This could minimize the cost to the industry of activities beneficial to all operators and ultimately to consumers”.

40. *On 14 October 2008 TRA launched the Draft Regulation for consultation. Responses closed on 30 November 2008.*
41. *Additionally, TRA developed the “I Love My Number” campaign launched in July 2009 which included a questionnaire on TRA’s website. The campaign was designed to gauge the level of public interest in Number Portability and asked the public to register their details for the purposes of Number Portability. The questionnaire noted that upon Number Portability being implemented, TRA would contact the individuals who had registered with the campaign. During the course of the campaign from 15 July to 15 August, 2009 TRA received over 5,300 registrations.*
42. *Based upon the results of the 2007 Consumer Survey, the 2008 Strategic and Retail Market Review determination of Batelco having Significant Market Power and the results of the 2009 “I Love My Number Campaign”, TRA concluded that the requirements of Article 40 of the Telecommunications Law have been satisfied and on 13 May 2010 the Number Portability Regulation was published in the Official Gazette.*
43. *Furthermore, and in line with the 2008 Strategic and Retail Market Review TRA has given an undertaking to fund the cost of the capital expenses of implementing the Central System, which will facilitate Number Portability in the Kingdom. TRA has the option of selling, assigning, leasing or licensing the Central System, in which case most if not all of the capital expenses may be recovered by the TRA.*

“

Respondent’s Comment (from Batelco)

22. Batelco’s discretion in making these decisions is severely limited by TRA’s desire to implement all forms of Number Portability within a compressed timeframe and to impose tight KPIs for Number Portability processes from day one, rather than taking a more conservative approach and refining Number Portability on an incremental basis. This means that Batelco is not able to invest efficiently to meet actual demand, but is forced to over-invest to insure against regulatory enforcement action in the event it does not meet the specified KPIs.

TRA’s Response

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23. Batelco's recommendation to take 'a more conservative approach and refining NP on an incremental basis' is inconsistent with earlier comments raised by Batelco as part of the Number Portability Regulation Public Consultation. In Batelco's comment on Article 7.5 of the Draft Regulation, Batelco stated:
24. "... reducing the amount of porting-time over time is unreasonable, given that Batelco will have to develop systems, processes and resources in compliance with the initial timeframes (2, 3 and 5 days). Two years later, Batelco will have to re-develop systems, processes and resources in compliance with a new porting time of only one day. This is a waste of resources and time, as Batelco would have to ensure at the outset, that the systems, processes, and resources are already developed for one day."
25. This is additionally addressed by the Regulation and the accompanying Regulation Report. Please refer to Paragraphs 121 to 127 of the Regulation Report.

Respondent's Comment (from Batelco)

26. To ensure that Number Portability functions efficiently and effectively from its inception, major changes are required to Batelco's networks, systems, processes and contractual arrangements with customers. Batelco believes that TRA has failed to appreciate the complexity of the implementation required; hence the time needed to implement Number Portability, and has also made the implementation more complex and uncertain by mandating certain principles which are impractical.

TRA's Response

27. In its comment Batelco has failed to specify in what way TRA has failed to appreciate the complexity of the implementation of Number Portability. Consequently TRA is unable to address these concerns directly. However, as a consequence of the known complexity of implementing Number Portability TRA has, through public consultation and conducting industry Working Group meetings for each of the Specifications, allowed all interested parties' expressed views and concerns to be taken into account throughout the development process of the Regulation and Specifications.

Respondent's Comment (from Batelco)

28. The implementation of Number Portability has been significantly complicated by the choice of a Recipient-led process, which encourages migrating customers to accumulate and abandon Bad Debt upon Porting from their former service-provider. TRA's mandating of "no Winback"

further complicates the process of recovering debt from customers who have migrated to another network. Notwithstanding that Batelco considers prohibition of Winback to be an unreasonable intervention in the market and a restraint of fair trade, it will be extremely complicated to implement and monitor.

TRA's Response

29. Batelco raises two concerns in relation to the Recipient-led process; the question of Bad Debt recovery and the prohibition of "Winback" activities. TRA has addressed each of these concerns in the Regulation Report under Paragraphs 116 and 67 to 69 respectively.

Respondent's Comment (from Batelco)

30. TRA's decision to place no limits on the frequency with which a Subscriber may Port their Number between Licensees pays no regard to the administrative difficulties and costs of managing short-term customer accounts, and will expose operators to "gaming" by customers seeking to gain unfair advantage from them (see Part C Annex 5). The specification of a sensible minimum period (for example one month) with an operator would reduce this problem.

TRA's Response

31. Batelco raises concerns over the potential for Subscribers to "game" operators in order to gain unfair advantage as a consequence of TRA's decision to not impose a minimum period between Porting Requests and as a consequence the potential exposure of operators to administrative difficulties and additional costs. TRA remains of the view that Number Portability is a user right as articulated in Paragraphs 32 to 43 of the Regulation Report; as such it is inappropriate to establish arbitrary minimum periods between Porting Requests. Notwithstanding this, Article 11 of the Regulation establishes the maximum Porting charges and the mechanisms for cost recovery for both the Donor Operator and the Recipient Operator.

Respondent's Comment (from Batelco)

32. TRA has stated (but no revised draft regulation has been seen – see Introduction) that the Regulation specifies the implementation of Mobile Number Portability ("MNP") within 6 months, and Fixed Number Portability ("FNP") within 8 months of the publication of the Regulation. These timeframes have not been set in consultation with the operators which must implement the Regulation. Batelco is also concerned that TRA may

have made other changes to the Regulation which may affect its ability to implement NP in the timeframe set by TRA.

TRA's Response

33. Having regard for the comments and concerns raised during the public consultation on the Regulation TRA has amended the implementation period starting point from the publication of the Regulation to the publication date for the Specifications. This is articulated in Articles 5(b) and 5(c) of the Regulation.

Respondent's Comment (from Batelco)

34. Although there has been a delay in the publication of the Regulation, this has not afforded Batelco any significant additional time to implement the requirements of the Regulation. Batelco cannot produce a stable Functional Requirements Specification for its network platforms and IT systems vendors until the Regulation and the Implementation Specifications in TRA's Paper are finalised. These are critical-path items in the implementation and Batelco again draws TRA's attention to the paragraph above.

TRA's Response

35. Please refer to Paragraph 33 of this Report for TRA's position.

Respondent's Comment (from Batelco)

36. In formulating the Regulation, TRA has paid little regard to comments on the above matters by Bahrain's largest telecommunications operators, but has chosen to mandate its own view of what is appropriate for Number Portability in Bahrain without, in Batelco's view, having sufficient regard to the scale and nature of the local marketplace. TRA has described this process as (Bahrain Number Portability Implementation TOD//ICT/0110/002 11 January 20[09]10 para 4) "having taken all of those [views] into account...". This is regrettable.

TRA's Response

37. The chosen implementation path for Number Portability adopted by TRA is based upon the considerations presented by all interested parties as well as the experiences of other administrations in the implementation of Number Portability. TRA has accommodated, as considered appropriate, the views and concerns expressed throughout the process.

Respondent's Comments (from Batelco)

38. TRA's Paper purportedly seeks comments on drafts with which the industry working groups were "satisfied" (Bahrain Number Portability Implementation TOD//ICT/0110/002 11 January 20[09]10 para 6) following discussion in Autumn 2009. However the last drafts which were seen by the Working Groups have been revised twice (based on the document revision numbers) by TRA before issuing them for consultation – this is procedurally unreasonable.

TRA's Response

39. The purpose of the Industry Working Groups and public consultation is to ensure that interested parties have the opportunity to provide feedback and comment and for TRA to consider such feedback and comment prior to issuing a final decision.
40. As Batelco will observe, the meaning and intention of the documents commented upon by the Working Groups has been preserved and therefore Batelco's assertions of procedural unreasonableness are unfounded. The revision of the documents by TRA after the last presentation to the Working Groups was primarily involved in including comments raised by the Working Groups, enhancing the readability of the documents, clarifying ambiguities and ensuring that there is no discrepancy between the Specifications and the Regulation.

Respondent's Comment (from Batelco)

41. Number Portability and other services including Local Loop Unbundling ("LLU") and Carrier Pre-selection are inter-dependent. These dependencies need to be studied and appropriate processes built around them to assure reliable service to Subscribers. These have not been considered in formulating the Specifications.

TRA's Response

42. TRA recognizes that both LLU and carrier selection involve the use of infrastructures and services to which the use of Numbers are assigned. However, since Batelco has not articulated the interdependencies with Number Portability, TRA is unable to address this point directly.

Respondent's Comment (from Batelco)

43. To minimise the possibility of "slamming" of customers, TRA must mandate that Recipient Operators obtain a signed contract from all Subscribers that Port their Numbers from a Donor Operator. This signed

contract should be reasonably available for inspection by the Donor Operator where disputes arise.

TRA's Response

44. The Regulation has been amended to take this point into consideration. Article 6(b) of the Regulation requires that Recipient Operators shall not commence the Number Portability Process for any Subscriber unless it has entered into a contract for Telecommunications services with the Subscriber and received a valid Number Porting Request from that Subscriber.
45. TRA does not consider it necessary that the contract shall be submitted as part of the Number Porting Request. However, the Donor Operator has been afforded the right to be able to inspect the contract for verification should a dispute arise. Such a request for inspection must not delay, cancel or otherwise impact the processing of the Number Porting Request within the timeframes laid out in Article 7 of the Regulation.

Respondent's Comment (from Batelco)

46. TRA's mandating of the "All Call Query (ACQ)" approach to Number Portability will result in reduced network performance in Bahrain due to the penalties incurred in performing database lookups on most calls.

TRA's Response

47. Article 10 of the Regulation requires each Licensee that is subject to the provisions of the Regulation to host, maintain and update a local copy of the Central System's database of Ported Numbers. It also requires that each Operator that originates or routes a call to a Ported Number does so in the most efficient way. Consequently from a routing perspective the initial inquiry will be to the local copy of the database of Ported Numbers and the Central System's database of Ported Numbers queried if the relevant routing data is not available local from the local copy.
48. Since Batelco has not articulated in what way network performance will be reduced beyond the need to carry out a database look-up TRA is unable to address this point directly.

Respondent's Comment (from Ericsson)

49. Ericsson FNR product solves the NP issue for the handling of the GSM/WCDMA traffic operation, which is basically required by TRA with in Annex 3.

TRA's Response

50. TRA notes Ericsson's comments.

Respondent's Comment (from Giza)

51. The TRA's public Number Portability Specification consultation documents, including Annexes, have an adequate amount of information for the operators and Central System vendors to understand the TRA's high level intentions. Other country's Number Portability Public Consultations have been found to have more or less information in various areas. The Public Consultation document uses unusual/uncommon terminology in various places, which could be misleading. For example, Annex 1 Section 5.4 "Query Message" could be mistaken for a real-time look-up ("dipping") during call processing by the network, which is not the meaning intended in this section. Another example would be the term "Billing Notification" in Section 5.5. This term can be mistaken for billing functionality such as invoicing, whereas it is meant to be a notification.

TRA's Response

52. The Query process is defined in Paragraph 3.1.4 of Annex 1. In order to avoid any possible misunderstanding a comment has been added to the final NP Process Specification that the Query message is not meant for real-time look-up during call processing. 'Billing Notification' will be added to the Glossary of the Specifications to avoid misunderstanding.

Respondent's Comment (from Giza)

53. We realize that this is a Public Consultation and not a Request for Information or Request for Quotation. However, to progress from this consultation to a Number Portability Solution tender, various sections will have to be added, such as Schedule (tender & project), Terms and Conditions & Licensing, Approach to Testing, Business Model (buy vs. lease vs. managed service).

TRA's Response

54. TRA notes Giza's comments.

Respondent's Comment (from Syster)

55. Syster would like to honour the Telecommunications Regulatory Authority of the Kingdom of Bahrain for the development of a very clear, complete and detailed set of specifications for the implementation of Number Portability in your country which also comply well with international best

practice and ensure a fast and uncomplicated implementation project. Our comments are not many and only suggestions for alternative and in our experience more efficient ways of implementing some specific features of the message exchange.

TRA's Response

56. TRA notes Systor's comments.

Respondent's Comment (from Zain)

57. Whilst Zain Bahrain has found the NP working group meetings with the TRA and other interested parties helpful, Zain Bahrain would have appreciated receiving a copy of the TRA/NP Regulation prior to its publication in the Official Gazette, in order to properly and fully provide comments on the TRA's approach to Number Portability. In this respect, the Consultation does not provide the complete picture of Number Portability given that the main legal basis for Number Portability is missing (TRA Regulation on Number Portability). Therefore, the comments set out below are limited to what are essentially the technical implementation measures proposed by the TRA and do not cover the issues that were raised by Zain Bahrain and other parties on the Number Portability Public consultation (Ref: LAU/1008/222). Although some concerns were raised and discussed in the Working Groups meeting, unfortunately were also rejected by the chairman at these meetings as he claimed that these are part of the Regulation and are not subject to further discussion.

TRA's Response

58. TRA notes Zain's comments.

Respondent's Comment (from Zain)

59. Section 16.7 of Zain Bahrain's License states that "before issuing any direction for the purpose of section 16.6, the regulator shall consult with the Licensee, the relevant qualifying operators and interested parties and shall take into account all representations made" and section 16.9 states "in this section "qualifying operator" means a public telecommunications operator holding a Mobile Telecommunication License that (a) has notified the Licensee in writing that it requests the provision of Number Portability in relation to such public telecommunications operator's mobile telecommunications network from the Licensee specifying the type or types and extent of Number Portability so requested, and (b) is able and willing to provide the same type or types and extent of Number Portability in relation to its mobile telecommunications network to the Licensee on reasonable terms and in accordance with any Specifications published

from time to time by the Regulator intended to enable the efficient implementation and utilisation of Number Portability". Thus, it is clear that the treatment between operators with regard to the implementation of Number Portability should be reciprocal.

TRA's Response

60. The requirement for all appropriately licensed operators to implement Number Portability is captured within Article 5 of the Regulation. Further details and explanation are also provided in Paragraphs 45 and 59 of the Regulation Report.

Respondent's Comment (from Zain)

61. General Comment on Billing Notification, referring to the last paragraph on page 62 of the Consultation, Zain Bahrain strongly recommends that Ported Subscribers should remain with the Recipient Operator for at least three months for the reasons set out below:
62. The Subscriber should have an opportunity to experience the Recipient Operator's quality of service and he/she needs a reasonable length of time to form an opinion of this.
63. Billing Notification Period and Debt Clearance Period are 60 and 15 days respectively, and if a customer misuses Number Portability and moves from one operator to another within the initial 60 day period, that will likely create some uncertainties in the collection of amounts due. For example, if a Subscriber Ports out from operator A to operator B, operator A has 60 days to claim the amounts due, yet within 20 days, the Subscriber Ports out from operator B to operator C. Should operator A send the billing notification to operator B or operator C? And how will messages be followed through the Central System?
64. Some customers may simply seek "nice" numbers from operators. Although they may prefer to be served by another operator with no minimum grace period, such customers may force the operator to lose its competitive advantage of having nice number block ranges, and the operator will incur a loss in terms of sales to those customers.
65. Thus, Zain Bahrain believes that there should be a minimum period for customers to stay with the Recipient Operator or with the Block Operator if the number is newly activated.

TRA's Response

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66. Zain raises concerns regarding the billing and the potential for debt recovery as a consequence of multiple short-lived Ports between Licensees. Multiple short-lived Ports are not proscribed nor is any sort of 'minimum Porting Period' applicable. This issue has been addressed within Article 6 of the Regulation. This establishes that one of the possible reasons for rejection of a Number Porting request is if "the subscriber has a Bad Debt with the Donor Operator" (Article 6(g)). For avoidance of doubt, the Regulation also provides a definition of Bad Debt.
67. Individual Licensee's policies with respect to the sale of "nice numbers" is a commercial matter that is not subject to the implementation of Number Portability.

Respondent's Comment (from Zain)

68. The Number Porting Process in the defined timeframe of the FNP specifications does not necessarily mean that the customer will receive the service after completing the Porting as it depends on the customer's requested method of having the service delivered. For instance, if the Recipient Operator's service is delivered to the customer through LLU, that falls under the LLU process and procedure which it is not yet established; whereas if the customer requests NFWS, the NFWS Operators needs to install its pre-provisioned equipment into the customer's premises in order to provide customers with access to the service. Therefore, the TRA should consider educating customers about the porting lead time and equipment installation time needed to fully provide the service.
69. This point has been raised also during the Working Groups meetings, and Zain Bahrain would like to emphasize it once again: some Fixed Operators made some investments and provided Subscribers with equipment to access their services. If such Subscribers Port out and switch to another operator, the Donor Operator has the right to collect its equipment installed within the customers' premises. This process is not defined within the FNP and Zain Bahrain believes that a unified and agreed process needs to be put in place by the TRA to be adhered to by Fixed Service Operators and Fixed Service Customers.
70. Zain Bahrain would like to bring to the TRA's attention the fact that Zain Bahrain only provides a dual play service (voice & internet) through its current offers on NFWS. Hence, if a customer decides to port in/out of a single service, it will not be possible to do this through Zain Bahrain's current offers.

TRA's Response

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71. Whilst TRA notes the concerns of Zain as stated above, TRA re-iterates that the Regulation establishes the requirement to implement “Number Portability” and not “Service Portability”. No Services may be Ported with the Number. Therefore the concerns raised by Zain are not germane to this Report. It should be noted however that when Porting Numbers Subscribers may not be able to receive the same services from the Recipient Operators as those previously enjoyed from the Donor Operator. This is a fact that Recipient Operators must make clear to Subscribers wishing to Port a Number prior to the process being initiated.
72. The only acceptable reasons for rejection are those detailed in Article 6(g) of the Regulation. The details and process of recovering Donor Operator equipment from the Subscriber is not in the scope of the Number Porting Process.

Comments to the Mobile Number Portability (MNP) Process Specification

73. Please refer to Paragraphs 1415 for a clarification on the consolidation of the MNP Process Specification into the new NP Process Specification.
74. In the Consultation document issued by TRA, interested parties were invited to comment whether or not the Mobile Number Portability (MNP) Specifications contained in Annex 1 to this Consultation are of a sufficiently comprehensive and detailed nature to allow Licensees to develop and implement the necessary processes and procedures to effect the implementation of MNP.
75. Interested parties who consider the MNP Specification to be deficient or lacking specificity, were requested to state why, in their view, the MNP Specification is deficient, what is missing and how the Specifications should be amended. Comments to the MNP Specification were made by several interested parties. These comments, and TRA position on each, are detailed as follows:

Respondent's Comment (from Batelco)

76. Concerning 1.1 NP Implementation in Bahrain, "The Number Portability Process is Recipient-led, which means that the Subscriber does not need to communicate with the Donor Operator", this is overly proscriptive and unreasonable. The Porting Subscriber may have complex contractual commitments (for example, staged payments) with the Donor Operator and will not be clear about how these will be handled going forward. The Donor must be able to communicate with the Subscriber to clarify their liability under their contract. The comment is applicable to both MNP and FNP Processes.

TRA's Response

77. The question of Recipient or Donor led process has been addressed in Paragraph 29 above.

Respondent's Comment (from Batelco)

78. Concerning 1.1 NP Implementation in Bahrain, "All Mobile Licensees will have to connect to the Central System. Other Licensees and Transit Operators will also have to connect to Central System for originating and routing calls to Mobile Numbers": This is reasonable, but is inconsistent with article 7.6 of the Regulation which gives TRA the discretion to exempt

Licensees from implementing NP (or any part of it) for an indefinite period. This establishes considerable uncertainty for Batelco, which will be unable to plan appropriate Number Portability procedures and technical arrangements without knowing which operators will, at day one, be implementing Number Portability. TRA must confirm (well in advance of any Number Portability launch) which operators are, or are not, implementing Number Portability or any part(s) of it. The comment is applicable to both MNP and FNP Processes

TRA's Response

79. Article 5 of the Regulation establishes the requirement for all Licensees granted with Telecommunications licenses that allow the use of Numbers to be capable of offering Number Portability and hence connect to the Central System and create and maintain a local copy of the Central Systems database of Ported Numbers for the purpose of originating, routing and receiving calls to a Ported Number (Article 10 of the Regulation). Article 5(c) does allow TRA to temporarily exempt Licensees from the obligations to implement Number Portability. In such cases this exemption will be published on the TRA website along with the reasoning for the grant of exemption.

Respondent's Comment (from Batelco)

80. Concerning 3 MNP Procedures, the processes defined for MNP are (subject to the following notes) reasonably logical and straightforward at a conceptual level. However their implementation in systems and software may require some modification, principally in the area of error conditions. For example, where a message is sent to or from the Central System but does not require an acknowledgement from the receiving entity, then there is the possibility for the receiving system to not act on the message due to a fault condition. The sending system will not be aware of this and will take no further action, leaving the process "hung". It is probable that some additional acknowledgement messages will need to be built into the Central System to cater for such eventualities, particularly (for example) to "protect" a Donor Operator which has diligently activated a Porting Request. The comment is applicable to both MNP and FNP Processes

TRA's Response

81. TRA agrees that it is desirable for a technical acknowledgement message to be sent as a confirmation to any received message. The NP Process Specification has been amended to reflect that all messages require an acknowledgment message. However, it should be noted that the acknowledgement message itself may be subject to fault conditions and

not reach the desired destination in a correct way. This would mean that the protection that Batelco is aiming for is not achieved.

Respondent's Comment (from Batelco)

82. Concerning 3.1.1 Phase 1: Preparation, the reference to Rejection Codes should read 4.5.4.3

TRA's Response

83. This has been corrected in the final NP Process Specification.

Respondent's Comment (from Batelco)

84. Concerning 3.1.1 Phase 1: Preparation, "Until Porting Execution, it is at all times possible for the Recipient Operator to cancel the Porting Request", this case is not shown in the subsequent process diagrams (although it is shown in 5.1 Figure 10). The comment is applicable to both MNP and FNP Processes

TRA's Response

85. A diagram has been added to the NP Process Specification to show the Cancel Message being sent from the Recipient Operator. Please refer to Section 3.1.1, Figure 5 in the NP Process Specification.

Respondent's Comment (from Batelco)

86. Concerning 3.1.1 Phase 1: Preparation, "The Donor Operator may not cancel the Porting": If a Porting Subscriber enters a Bad Debt condition between Porting Request Accept and Porting Execution then it is reasonable for the Donor Operator to cancel the Porting Request. Other conditions may also arise which necessitate cancellation of the Porting Request; these should be handled in the same manner as Porting Request Reject – ie with the origination of a reject code. The comment is applicable to both MNP and FNP Processes.

TRA's Response

87. As per Article 8(a) of the Regulation, the Recipient Operator may cancel a Porting Request only by the request of the Subscriber. A Donor Operator may only reject a Porting Request when it is first submitted for the reasons listed in Article 6(g) of the Regulation. Once the Porting Request is accepted by the Donor Operator, then it is processed as per the relevant process and KPIs. Issues of Bad Debt are then handled as per the relevant procedure.

Respondent's Comment (from Batelco)

88. Concerning 3.1.1 Phase 1: Preparation, the process is unnecessarily restrictive on business customers who wish to Port multiple, non-consecutive Numbers, and must submit individual Porting Requests for each number. The message structure should be flexible enough to deal with this type of request without the need to duplicate common information. The comment is applicable to both MNP and FNP Processes.

TRA's Response

89. In order to prevent undue complexity that may arise in the processing of requests with multiple numbers, such as multiple reject reasons, TRA has determined that requests are submitted to the Central System for processing at the individual Number level. This does not prevent Licensees from allowing Subscribers to submit requests for multiple (consecutive or non-consecutive) Numbers. From the Subscriber's perspective, the process need not be complicated. The request form to Port a Number can include fields for ranges of Numbers. The NP Process Specification is not overly prescriptive or restrictive on this matter. The Licensee's system may accept the Request to Port a range of Numbers (consecutive or otherwise). However, the NP Process Specification requires that such a Request be sent from the Licensee's system to the Central System in single Number Porting Requests. This is transparent to the Subscriber and Recipient Operator, as it may be done automatically by the system.

Respondent's Comment (from Batelco)

90. Concerning 3.1.1 Phase 1: Preparation, Clarification: GSM Phase 2 services may only be Ported in association with their primary voice service. This is not clear in the Specification.

TRA's Response

91. TRA re-iterates that the Regulation establishes the requirement to implement "Number Portability" and not "Service Portability". Please refer to Paragraph 71 of this Report for TRA's position.

Respondent's Comment (from Batelco)

92. Concerning 3.1.2 Phase 2: Activation, the Execution process only requires the Porting Executed message from the Donor Operator, which will result in networks which have not responded to the Porting Broadcast routing calls destined for the Ported Number to incorrect networks. This is most

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likely to lead the Recipient Operator to the assumption that the Donor Operator has incorrectly activated the Porting. It may be preferable for the Central System to require all connected networks to respond with Porting Executed before relaying Porting Executed to the Recipient Operator. The comment is applicable to both MNP and FNP Processes

TRA's Response

93. It is only necessary to wait for the Donor and Recipient Operators to have responded, as they are responsible for all mandatory procedures required for completion of the Porting Process. Waiting for all Licensees to respond may unnecessarily delay the process. If any other Licensee has not updated their Local Copy for any reason, they would route the calls to the wrong network which would then drop the call. Therefore, if any Licensee notices that they are getting dropped calls to a Number, they can query the Central System to verify the Number's status in their Local Copy. Maintaining the link between the Licensee's Local Copy and the Central System, as well as the veracity of the Licensee's Local Copy, is the responsibility of the Licensee.
94. The execution of the Porting Process is initiated by the Recipient Operator connecting the Ported Number on its' network. The Donor Operator then needs to release the Number from its' network and send a 'Porting Executed' message through the Central System. This message indicates that the Number is released and the Donor's Local Copy has been updated. The entire process is monitored by the Central System. Therefore, there is no possibility of the Recipient Operator being misled as it is always clear what stage of the process has been reached.

Respondent's Comment (from Batelco)

95. Concerning 3.1.3 Phase 3: Deactivation, the Specification does not make clear whether Ported Numbers MUST be returned to the Block Operator once a customer's account is terminated and the minimum Fallback Period has elapsed, or whether they remain available for reallocation to new customers up to the 30 day deadline. The comment is applicable to both the MNP and FNP processes

TRA's Response

96. In the event of a Subscriber terminating a Telecommunications service with a Recipient Operator, other than as a result of Porting the Number to a new Licensee, the Ported Number must be returned to the original Block Operator within a maximum period of 30 days from the date of termination of the Telecommunications service. The Recipient Operator is not entitled to re-assign or re-allocate the Number to a different Subscriber. The Block

Operator may allocate the Number to a new Subscriber once the Number has been returned to the Block Operator. This has been updated in the NP Process Specification. Please also refer to Article 8(c) of the Regulation.

Respondent's Comment (from Batelco)

97. Concerning 3.1.3 Phase 3: Deactivation, Batelco's view is that Ported Numbers should be returned to the Block Operator 8 days after the original Subscriber ceases his contract with the serving network, and that the Number should not be transferable to third parties. The comment is applicable to both the MNP and FNP processes

TRA's Response

98. Please refer to Paragraph 96 of this Report for TRA's position.

Respondent's Comment (from Batelco)

99. Concerning 3.1.3 Phase 3: Deactivation, the Specification is unclear concerning the timing of the Deactivation process. The Deactivation message is assumed to be generated when the subscription to the Number has been cancelled AND the minimum Fallback Period (8 days) has been passed AND the Number has been returned to the Block Operator. The comment is applicable to both MNP and FNP Processes

TRA's Response

100. The TRA-approved terms and conditions of each Licensee specify the credit terms and conditions that dictate how and when Numbers are terminated. Once a Number is terminated in accordance with these terms and conditions, the 30 day period during which the Number must be returned to the original Block Operator commences. There are no other time periods. The originally proposed minimum of 8 days has been removed, and the Regulation states a maximum period of 30 days from the date of termination in which the Number shall be returned to the original Block Operator. The Deactivation Process begins immediately upon termination of the Subscriber's Number. The NP Process Specification has been amended to clarify this point.

Respondent's Comment (from Batelco)

101. Concerning 3.1.3 Phase 3: Deactivation, this leads to a further uncertainty – does the deactivated Number then remain in the Central System as an "active" Number, is it deleted or is it flagged "not in service"? Newly-ceased Numbers are likely to receive significant numbers of failed call attempts from parties who are unaware that the Subscriber's Number has

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been ceased. The network originating the call and the Block Operator for the Number will then waste resources processing the call. The principle which should be followed is that the first-handling network should be able to determine whether the call can be completed, rather than consuming resources in two networks. This matter is further discussed in the Central System Specification comments below. The comment is applicable to both the MNP and FNP processes.

TRA's Response

102. The Ported Number Database will maintain a record of all Numbers. However, this database is primarily concerned with the correct routing of calls to the appropriate Licensee's network. It is not intended to track the active/inactive status of every Number, as that would require all Licensees to update the Central System on the active/inactive status of all Numbers, regardless of whether they are being Ported or not. Once a Ported Number has been deactivated, the Ported Number Database will register that the Number is now with the Block Operator, but will not indicate whether it is active or inactive. Calls routed to that Number will receive the standard message from the Block Operator that the Number is not in use, as per currently used processes.

Respondent's Comment (from Batelco)

103. Concerning 3.1.3 Phase 3: Deactivation, the Specification does not appear to place any discipline on Recipient Operators to return deactivated Numbers to Block Operators nor does it indicate how TRA proposes to police this. The comment is applicable to both the MNP and FNP processes.

TRA's Response

104. The Recipient Operator has to pay the TRA for Ported Numbers; this serves as an incentive to return Numbers once they have been disconnected and are no longer in use. Also, both the Central System and the Block Operator may analyze the quantity of Numbers subject to the Deactivation process and point out suspect behavior in the application of the process.

Respondent's Comment (from Batelco)

105. Concerning 3.1.5 Phase 5: Billing Notification, The Billing Notification process should include at least an acknowledgement message from the Recipient Operator to the Central System, which should generate an error if the acknowledgement is not received. This ensures that Billing

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Notifications are acted upon by the Recipient Operator. The comment is applicable to both the MNP and FNP processes.

TRA's Response

106. The NP Process Specification has been amended accordingly. It may be desired that a technical acknowledgement message is to be sent as a confirmation to any received message. However, this is left to be defined by the supplier of the Central System during the design phase.

Respondent's Comment (from Batelco)

107. Concerning 4.3 MNP Message Fields Description, Table 4.3: an additional field "TIME_STAMP" should be included in all messages. The capability to synchronise time stamps between sending and receiving parties will need to be built into the Central System. The comment is applicable to both the MNP and FNP processes.

TRA's Response

108. The field 'TIME_STAMP' will not be included in the messages. This is due to potential difficulties in synchronizing the clocks on all Licensee networks with the Central System clock. Such a lack of synchronicity would potentially lead to confusion as to whether the time stamp in the message is the time the message was sent or the time the message was received. All messages will be 'time-stamped' in the Central System which will monitor KPIs based on the time it receives the message from Licensees and the time it responds with the next message in the process sequence. Maintaining the links between the Licensee networks and the Central System to avoid any delays in sending or receiving these messages is the responsibility of the Licensee.

Respondent's Comment (from Batelco)

109. Concerning 4.3 MNP Message Fields Description, Table 4.3 row 8: the date format should be consistent (ie YYYYMMDD) to facilitate sorting. The comment is applicable to both MNP and FNP Processes.

TRA's Response

110. The NP Process Specification has been amended accordingly.

Respondent's Comment (from Batelco)

111. Concerning 4.3 MNP Message Fields Description, Table 4.3 row 16: "NEW_ROUTE – a number in the range 001 to 999". This conflicts with

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Table 4.4 which shows Routing Numbers as “a0x” (where x=1 to 9). This is a critical dependency for Batelco network and systems development. The comment is applicable to both the MNP and FNP processes.

TRA’s Response

112. The information in row 16 is outdated and should have been a001-a099. The NP Process Specification has been amended accordingly.

Respondent’s Comment (from Batelco)

113. Concerning 4.3 MNP Message Fields Description, Table 4.3 row 17: “BACKPORT_FLAG Y or N”, the purpose of this indicator (used in the Porting Broadcast message) requires clarification. The comment is applicable to both MNP and FNP Processes.

TRA’s Response

114. This field has been removed from the NP Specifications since it contained redundant information. Every Licensee is able to determine the network currently serving any given Number, including Ported Numbers that have been returned to their original Block Operator, by referring to the database of Ported Numbers. .

Respondent’s Comment (from Batelco)

115. Concerning 4.3 MNP Message Fields Description, Table 4.3 row 18: “PORTING_DATE_TIME”, the function of this parameter is unclear as Porting is triggered by the Recipient Operator using the Porting Execution message and the timing is defined in the Timer Definitions. The comment is applicable to both the MNP and FNP processes.

TRA’s Response

116. This field has been removed from the NP Specifications. PORTING_DATE_TIME in the Porting Requests Message was intended to specify the expected time and date that the Porting will take place. This is no longer applicable as the Central System will not store future dated Porting Requests. Each Porting Request is immediately processed and time-stamped in order to measure compliance with relevant KPIs.

Respondent’s Comment (from Batelco)

117. Concerning 4.5.1.1 Porting Request (NpRequest) from the Recipient Operator to Central System, the SIM_CARD_NUMBER field does not

indicate whether it lists all SIM Card numbers for the case where multiple (consecutive) numbers are being Ported in the same Porting Request.

TRA's Response

118. Please also refer to Paragraph 89 of this Report. Consequently since all Porting Requests submitted to the Central System for processing are specific to an individual number the SIM_CARD_NUMBER field will only list one SIM Card number for each Porting Request. Multiple (consecutive number) requests will each be handled by the system as individual requests.

Respondent's Comment (from Batelco)

119. Concerning 4.5.4.3 Reject Codes for NpRequestReject, in line with Batelco's comments in Part B paragraph 7, an additional Reject Code is required "Minimum Period not exceeded". Batelco proposes a one-month (single billing period) minimum duration. The comment is applicable to both the MNP and FNP processes.

TRA's Response

120. Please refer to Paragraph 66 of this Report concerning the minimum period between Porting Requests for an individual Number. This additional Reject Code is not required.

Respondent's Comment (from Batelco)

121. Concerning 5 Porting Conditions, Batelco takes the view that the structuring of the timers for the porting procedures is flawed. The Regulation sets KPIs for the Porting Process and the Implementation Specifications attempt to apply the KPIs to the processes. If TRA intends to apply any enforcement measures on Donor Operators in cases where these KPIs are not met, then the Implementation Specifications must be changed. The comment is applicable to both MNP and FNP Processes

TRA's Response

122. TRA's understanding of Batelco's comment is that there is an alleged disparity between the Regulation and the Specifications and that the KPIs set in the Specification are unfeasible. The Regulation sets out the overall time for the entire Porting Process while the Specification goes into some depth regarding specific procedures within the overall Porting Process. There is no conflict in timers/KPIs between the Regulation and the Specifications.

Respondent's Comment (from Batelco)

123. Concerning 5 Porting Conditions, if operators are to be bound by KPIs, then the achievement of those KPIs by operators must be within their control. This is not currently the case with the processes described in the Implementation Specifications. The comment is applicable to both MNP and FNP Processes

TRA's Response

124. All process steps and timers have been presented during the Number Portability Specification Working Groups and later as part of the Number Portability Specification Public Consultation. Neither the Working Groups nor Batelco have identified any specific KPI issues for TRA to address, nor have they put forward any alternate suggestions for TRA to consider. Therefore TRA is unable to address this point. However, TRA remains of the view that most steps in the Porting Process are automated and thus can be addressed by Licensees and are under their control.

Respondent's Comment (from Batelco)

125. Concerning 5 Porting Conditions, for example Timer T11 measures the achievement of the overall Porting Process end to end and may be used to determine whether a Donor Operator has complied with the Regulation. However, the Donor Operator only has control over the process during Timer T3 and, following receipt of a subsequent Porting Execution message, during Timer T5a. Any measurement of the achievement of target KPIs by the Donor Operator must therefore be based on the sum of T3 and T5a, not T11 which is dependent on the performance of other entities. The comment is applicable to both MNP and FNP Processes

TRA's Response

126. The KPI description for T11 has been updated to express the Recipient and Donor Operators responsibilities. T11 is a timer that is primarily intended to verify if the Recipient Operator executes the Number Porting within the relevant timeframes. Therefore, the KPI is primarily to measure the performance of the Recipient Operator. If the Recipient Operator fails to meet the KPI then obviously it must be analysed if the Recipient Operator is causing the KPI violation (e.g. because Number Porting Execution was started too late) or whether other parties were the cause of this. If the Donor Operator fulfills the KPI for Porting Execution Time (T6), and completes Porting Execution at least 95% of the time within the relevant KPI then the Donor Operator should not be held accountable for the KPI associated with T11.

Respondent's Comment (from Batelco)

127. Concerning 8 Porting Windows/Timer Definitions. Batelco firmly believes that the time objectives detailed in the "Comments" column should be the subject of further industry workshops once operator feasibility studies have been completed (following finalisation of the Regulation and the Implementation Guidelines). The comment is applicable to both MNP and FNP Processes

TRA's Response

128. TRA agrees that the industry should prove the feasibility of these KPIs. If in practice one of the specified KPIs is not feasible then this may be a subject of discussion and could possibly lead to a change in the NP Process Specification. Article 3(b) of the Regulation states that the Specifications may be amended by the TRA from time to time after due consultation.

Respondent's Comment (from Batelco)

129. Concerning 9 Key Performance Indicators, see general comments above on Timer Definitions. "Fall Back Period" of between 8 and 30 days seems illogical: the number should fall back to its block operator after a maximum of 8 days have elapsed. The comment is applicable to both MNP and FNP Processes

TRA's Response

130. Please see Paragraphs 96 and 100 of this Report for TRA's position.

Respondent's Comment (from Batelco)

131. Concerning 9 Key Performance Indicators, KPIs should be agreed in industry workshops following feasibility studies, and should be optimised and adjusted as experience with the processes is developed, rather than setting aspirational KPIs from day one. The comment is applicable to both the MNP and FNP processes.

TRA's Response

132. Please refer to Paragraph 128 of this Report for TRA's position.

Respondent's Comment (from Ericsson)

133. Initially the Routing Numbers specified were 001, 002 & 003. It was already reported in the MNP study (section 1.4) that the double zero from

the network prefixes could lead to some conflicts in B-number analysis tables in GMSC nodes. For example, the International prefix is also a double zero, so, it might be possible that in some traffic cases the new NP prefix could lead to a conflict. Now, in the Version 5 of this annex, they have changed 001, 002 & 003 to a01, a02 & a03, but they are not stating anything about digit 'a'. We would recommend to include an explanation about digit 'a' stating that as these three digits are also used for routing purposes, so digit 'a' must be any free number which does not interfere with any other currently used in the National Numbering Plan.

TRA's Response

134. The format is meant to be A01–A99 for MNP and B01-B99 for FNP. 'A' and 'B' are hexadecimal digits (the letters are used 'as-is' and are not meant to signify a numeric digit). The use of the hexadecimal digits should be supported in the Licensees' networks. TRA will allocate these routing numbers as an extension to the National Numbering Plan.

Respondent's Comment (from Giza)

135. The processes described are common to what has been deployed in several other countries and should work well in Bahrain. The one process that is different is that consultation allows the operator to send an Error Notification to NPC when a message they receive from the Central System "cannot be read 'in Section 3.2'". This should never happen. Only the Central System is allowed to send an Error Notification because there should never be something wrong with the content/format of a message that the Central System sends to an operator. If there is, this is a bug that needs to be reported and fixed – it's not something that can be handled by having the operator send the NPC an Error message.

TRA's Response

136. It is acknowledged that if an error is apparent in a message sent by the Central System, resulting in an Error Notification, that this error must be fixed and corrected. This message is included in order to provide Licensees with a clear method through which to highlight any potential errors that may arise.

Respondent's Comment (from STC)

137. In section (3.2) on "Error Notifications", we propose to add 3) the NP message is out of sequence.

TRA's Response

138. The comment is consistent with the definition of Error Codes in section 4.6.2. of Annex 1. 'NP message is out of sequence' has been added to Section 3.2 in the NP Process Specifications.

Respondent's Comment (from STC)

139. In section (4.5.4.1), we propose to use an example different from REJ0099, such as REJ0012, due to the reason explained in concern-3 below.

TRA's Response

140. The use of the reject code REJ0099 is to allow for any unforeseen circumstances. However, the use of REJ0099 must be accompanied by a clear comment describing the circumstances of its use. Furthermore, TRA intends to monitor the use of this code to ensure that its' use is not abused. If deemed necessary, TRA may expand the list of error codes after appropriate consultation, as per Article 8(d) of the Regulation.

Respondent's Comment (from STC)

141. In section (4.5.4.3), we propose that (Code # REJ0099) to be taken out. Only explicit Rejection codes need to be included. It is strongly believed that having a code for "Others" will leave an open door for misuse.

TRA's Response

142. Please refer to Paragraph 140 of this Report for TRA's position.

Respondent's Comment (from STC)

143. According to concern 3 above, it is proposed to delete section (6).

TRA's Response

144. Please refer to Paragraph 140 of this Report for TRA's position.

Respondent's Comment (from STC)

145. In Section (8) on Porting Windows/Timers definitions, we propose to increase "Porting Execution Time (T5a)" from 10 minutes to 30 minutes.

TRA's Response

146. Since STC provides no justification or arguments supporting its proposal to increase the KPI for this process TRA is unable to address specifically the concerns of STC. However, by defining the timer at a value of 10

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minutes TRA is intending to ensure that the interruption of service for the Subscriber is as short as possible. In particular in GSM/UMTS networks which have centralized Subscriber Registers, automated procedures to disconnect a subscription should be able to support this timer value. It should be noted that the KPI for this timer is set to 95% in the NP Process Specification. (At least 95% of porting execution cases by the Donor Operator must be completed within 10 minutes).

Respondent's Comment (from Systor)

147. Concerning Phase 1: Preparation, if a Recipient Operator wants to Port several Numbers (groups of Numbers, not including FAX or DATA Numbers) belonging to one Subscriber (e.g. one company), then the Recipient Operator should send individual Porting Requests for each Number. However, if a Subscriber wishes to Port multiple Numbers that form a consecutive sequential range, then the customer may submit a single request for the entire range. According to Systor there is no reason, as seen from the Central System's point of view, that multiple individual Numbers belonging to a single Subscriber should not be requested in a single Porting Request, even when subsequent data or fax numbers are present. Doing so will normally save time for the involved operators on both sides compared to having to handle one Porting Request for each Number, and will ensure that the Numbers are handled as one entity. The Numbers may also be requested to be Ported individually as an alternative if required.

TRA's Response

148. Please refer to Paragraph 89 of this Report for TRA's position.

Respondent's Comment (from Systor)

149. Concerning 4.6.2 Error Codes, an alternative to distinct error codes for format errors related to each field would be one error code for format error and an indication of which field is in error.

TRA's Response

150. TRA notes the possibility of implementing the error codes as per Systor's comments. However, TRA is minded to maintain distinct error codes for the implementation of the Central System and associated Number Portability processes. Consequently the error codes have not been changed in the Specifications.

Respondent's Comment (from Systor)

151. Concerning 5.1 Preparation, the Recipient Operator collects and provides data for the Porting Processes such as: Service Type, Message Code, Telephone number, Subsequent Numbers (Data or Fax numbers), DONOR ID, RECIPIENT ID, Originating ID, Destination, Porting Date and Time (the time and date at 16 working hours after the submission of the Number Porting Request) , SIM card number. Systor comments that for validation purposes, the Central System holds the numbering plan, meaning there is no need for the Recipient Operator to enter the fields Donor ID or Recipient ID – these may be filled in by the Central System based on the connected user (Recipient ID) and the numbering plan or the Porting table (Donor ID). This gives fewer sources for errors to be made and hence smoother operation. The Originating ID may also be filled in by the Central System.

TRA's Response

152. TRA agrees with Systor's comments. The Recipient Operator's system should automatically enter the RECIPIENT ID. The Central System will automatically assign the DONOR ID based on the current serving operator. The NP Process Specifications have been amended accordingly.

Respondent's Comment (from Zain)

153. Concerning 3.1.1 Phase 1: Preparation, "*On receipt of the request, the Donor Operator can subsequently accept or reject the Porting Request according to possible reject codes and reasons (see section 4.5.4.1 for Reject Codes).*" The rejection of a Number Porting Request should include the customer's Bad Debt issues with his/her current service provider, as detailed in Annex 5 of the Consultation. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

154. In the section of the NP Process Specifications describing the Reject Codes (Section 4.5.4.1) the reject code REJ0009 is defined for cases that 'Subscriber is in Bad Debt'. The Preparation phase already includes the Subscriber's potential Bad Debt issue. Please refer to Article 6(g) of the Regulation and Paragraphs 65, 116 and 138 of the Regulation Report.

Respondent's Comment (from Zain)

155. Concerning 3.1.1 Phase 1: Preparation, "*If a Recipient Operator wants to Port several Numbers (groups of Numbers, not including FAX or DATA numbers) belonging to one customer (e.g. to one company) ...*". Zain Bahrain believes that in the case of the one company example, the company's authorized person's contact details should also be included in

the mandatory information along with the Numbers Requested for Porting. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

156. In order to remove ambiguity from the Specifications the rule has been amended as follows:
157. If the customer is a company (and in the Porting Request the COMPANY_FLAG is set to 'Y') then the Commercial Register Number is mandatory in the requests and the CPR or the PASSPORT_NUMBER of any person authorized to represent the company should be provided in the Porting Request. In addition, the contract signed by the company and the Recipient Operator will have the necessary contact information. The NP Process Specifications have been amended to reflect the above validation rule in a consistent manner.

Respondent's Comment (from Zain)

158. Concerning 3.1.2 Phase 2: Execution: *"The Recipient Operator will send a Porting Execution message to BNPS once the porting number has been activated on its network..."*. Zain Bahrain believes that the Recipient Operator should not activate the service for Subscribers until the service has been deactivated by the Donor Operator. This is due to the fact that within this period, the Subscriber will no doubt receive calls from the Donor Operator and some other transited traffic on his/her newly issued SIM card from the Recipient Operator. Therefore, the service can be activated on the Recipient Operator's network side only and not on the customer's newly issued SIM card. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

159. Once the Porting Execution message has been submitted to the Central System, the Central System will submit a Porting Broadcast. The Porting Broadcast message for all other networks is the (only) trigger to start routing traffic from those networks to the Recipient Operator's network. This means that the Number has to be active with a SIM card on the Recipient Operator's network otherwise incoming calls cannot be terminated. It may take a short time (timer defined at 10 minutes) before the Donor Operator disconnects the Ported Number from the Donor Operator's network. Effectively, the Ported Number will be active at both the Recipient Operator and the Donor Operator network, meaning that calls may be sent from two networks and received in two networks. This will depend on:

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- a. Which of the SIM cards is inserted in a mobile phone;
 - b. Which Licensees have already processed the Porting Broadcast message.
160. Similar Number Portability execution processes are operational and effective in several countries such as the Netherlands and Germany. The Porting Execution phase definition will not be changed for this matter.

Respondent's Comment (from Zain)

161. Concerning 3.1.2 Phase 2: Execution: "*The Central System will broadcast the execution of the Porting to the Donor Operator and to all other participants in the Number Porting Process...*". Broadcast message to all other participants should be done only after receiving a Porting Executed message from the Donor Operator. This is because if the Donor Operator should face any error in the implementation of this or the Recipient Operator should cancel the execution process, then in both cases, the Porting Process would not be completed. Consequently, all other participants should not start routing calls to the Recipient Operator and should keep routing calls to the Donor Operator. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

162. Once the Recipient Operator has submitted the Porting Execution Message, the Recipient Operator may only cancel the Porting Request upon request by the Subscriber. This cancellation may only take place during the Porting Execution phase. The Donor Operator network, even in case of error or difficulty, should continue the Porting Execution process and finalize the procedure (although the Donor Operator may need manual operations or fault resolution procedures for these cases). The Donor Operator network has only one objective, which is to finish the Porting Execution procedure according to the KPI that is set for this procedure. The Porting Execution phase definition will not be changed for this matter. Please also refer to Article 8(a) of the Regulation.

Respondent's Comment (from Zain)

163. Concerning 3.1.3 Phase 3: Deactivation, the Deactivation process should not only be limited to the Subscribers' service terminations request. This is for a number of reasons such as, if the Subscriber should have a Bad Debt to settle with the Donor Operator, or if the Subscriber is a prepaid Subscriber and the lifecycle of the Subscriber's prepaid account reaches the deactivation stage or number recycle stage and the Donor Operator decides to disconnect or terminate the service for any other reason. Consequently, the Donor Operator should be able to exercise the

Deactivation Phase without having a request from the Subscriber, so as to permit the Block Operator to reuse this MSISDN and to ensure efficiency in utilizing numbers from the Numbering Block by the Block Operator. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

164. The comment is correct that the Deactivation Phase should take into account any situation in which a previously Ported Number is disconnected from the Subscription Network, whether driven by the Subscriber or from the Licensee. The NP Process Specification has been updated for this matter.
165. However, the comment is not correct in the sense that the Donor Operator is 'able to exercise the Deactivation Phase'. Only the currently serving Recipient Operator is able to actively exercise the Deactivation Phase. Even the lifecycle of a pre-paid account will be subject to the Recipient Operator's policies and not the Donor Operator's policies.

Respondent's Comment (from Zain)

166. Concerning 5.1 Preparation, Prep(7): Point 2, "*The invoiced amount equals or exceeds BHD 3/-*". Zain Bahrain strongly disagrees with the TRA on its proposal that the Donor Operator can only claim amounts which are equal to or over BHD 3 in value. Zain Bahrain believes that the Donor Operator should have the right to collect all the amounts owed by customers regardless of that amount. Zain Bahrain would respectfully draw the attention of the TRA to the point that, in accordance with the Bahraini Commercial Companies Law, the Board of Directors of the company is the only party that is empowered to waive any amounts due to a company. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

167. It is important to establish two quite different principles: the rejection of a Porting Request as a consequence of Bad Debt in accordance with Article 6(g)(4) and the ability of a Licensee to pursue the recovery of Bad Debt. Article 6(g)(4) and the Bad Debt definition of the Regulation establish a threshold for rejection. This does not oblige the Donor Operator to waive any legitimate rights it may have in collecting outstanding Bad Debt. Please also refer to Paragraph 118 of the Regulation Report.

Respondent's Comment (from Zain)

168. Concerning 5.1 Preparation, Prep(7): Point 3. "*An SMS notification has been sent to the Subscriber shortly before the due date*". The operator

should be allowed to send the notifications to the customers regarding the due date for invoices by any reasonable method which it sees fit, e.g., bill softcopy, E-mails, fax, etc. By the TRA's prescribing the SMS method, Zain Bahrain considers this to be indirectly forcing operators to notify Subscribers about their bills by SMSs, which limits operators' innovation and freedom of choice in notifying Subscribers about their bills due. Furthermore, this could result in Subscribers feeling bombarded with SMS notifications in relation to each overdue bill and which could be perceived by Subscribers as a menace.

169. Zain Bahrain would like to draw to TRA's attention that once the customers' bills are issued they become due after twenty one (21) days from the bills' issuance date, and this is the current practice for both Zain Bahrain and Batelco. Therefore, Zain Bahrain believes that TRA should unify this period between operators in the Kingdom. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

170. It is important to distinguish between a normal debt notification process for an existing Subscriber, and the process for a Ported Subscriber. The proposal put forth by TRA is concerned only with notifying Ported Subscribers of any outstanding dues owed to the Donor Operator.
171. The impact of outstanding dues may ultimately result in the suspension and deactivation of a Subscriber's Ported Number. This is a process that must be closely monitored by the Central System for purposes of tracking KPIs and verifying any claims from any involved party. SMS notifications are an ideal channel through which to notify Ported Subscribers of their outstanding dues without risking attempts at Winback. This has already been discussed in the Working Group sessions with the Licensees, and TRA's final position takes into account these discussions. The NP Process Specification clarifies which means of communication are acceptable.
172. With reference to credit terms of Licensees, each Licensee's payment window is already established by the respective Licensees' terms and conditions, which are previously reviewed and approved by TRA. If the Licensees wish to unify their credit terms, TRA can facilitate discussions to achieve this objective.

Respondent's Comment (from Zain)

173. Concerning 5.3 Deactivation, the Fall Back Period should be limited to a maximum of eight days only. Theoretically and practically, if a Subscriber asks to disconnect a Number, the Block Operator has the right to assign that Number to another Subscriber and the retention (of the Number) should be based on the Block Operator's grace period. If the Number is

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retained by the Subscriber through exercising the Number Portability Process, once the Number is disconnected, no grace period is needed. After the eight days, the Recipient Operator should send the deactivation message immediately to the Block Operator and Other Operators. If the proposed 30 days applies, the Number cannot be used by the Recipient Operator nor should the Block Operator be responsible for paying that number's fees to TRA for the unused 30 days. Moreover, within the proposed eight days, the Recipient Operator should have no right to assign the Ported Number to a different Subscriber by reselling it. Finally, the eight days should only apply to re-activating the number to the same Subscriber by the Recipient Operator. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

174. Please see Paragraph 96 of this Report for TRA's position.

Respondent's Comment (from Zain)

175. Concerning 5.5 Billing Notifications: Bill(1): Zain Bahrain disagrees with the BHD3 value, please refer to the comments on Prep(7): Point 2 above. Zain Bahrain's comments on the MNP are generally applicable to FNP.

TRA's Response

176. Please see Paragraph 167 of this Report for TRA's position.

Comments to the Fixed Number Portability (FNP) Process Specification

177. Please refer to Paragraphs 1415 for a clarification on the consolidation of the FNP Process Specification into the new NP Process Specification.
178. In the Consultation document issued by TRA, interested parties were invited to comment whether or not the Fixed Number Portability (FNP) Specifications contained in Annex 2 to this Consultation are of a sufficiently comprehensive and detailed nature to allow Licensees to develop and implement the necessary processes and procedures to effect the implementation of FNP.
179. Interested parties who consider the FNP Specification to be deficient or lacking specificity, were requested to state why, in their view, the FNP Specification is deficient, what is missing and how the Specifications should be amended. Comments to the FNP Specification were made by several interested parties. These comments are summarized as follows:

Respondent's Comment (from Batelco)

180. Many comments on the MNP Specification apply equally to the FNP Specification. These have been marked in the comments on that Specification and are not repeated in this section.

TRA's Response

181. TRA's position on comments regarding the MNP Specification which apply to the FNP Specification have been addressed in TRA's response to those comments, and are duly noted as such.

Respondent's Comment (from Batelco)

182. Concerning 1.1 NP Implementation in Bahrain, "Universal Numbers" are included within the scope of FNP, but their Portability is limited. It was agreed in the Working Groups that these Numbers could be Ported either between Fixed networks OR between Mobile networks, NOT between Fixed and Mobile or vice versa. This needs to be clear in the Specification (for example in 1.2 Scope).

TRA's Response

183. Article 5(2)(b) of the Regulation and Paragraph 96 of the Regulation Report address this issue and clearly state that Universal Numbers can

only be Ported for the same purpose i.e. if fixed in purpose on the Donor Operator's network it can only be Ported to another fixed network Recipient Operator. The process for Porting a Universal Number is identical to other Numbers of its type (e.g. MNP for Universal Numbers classified as Mobile, etc). The NP Process Specification has been updated to make this clear.

Respondent's Comment (from Batelco)

184. Concerning 1.2 Scope of the Document, the scope should clarify that FNP encompasses Number Portability between Licensees and between locations but not between services. To clarify this point, Batelco uses PSTN network numbering in its billing system to identify the access service provided to a customer. This may be either a telephone service or a telephone service combined with a broadband internet service. If a Subscriber having a broadband connection wishes to Port their telephone Number to another network, they cannot retain their Batelco broadband connection associated with that Number. To change this would require major modification to billing and customer care systems

TRA's Response

185. The location where a Number is being used is irrelevant for the purposes of Number Portability. It is possible to Port all Numbers. No services being offered on a Number may be Ported with the Number. The broadband service provided using DSL is not reliant upon a Number, and as such, the broadband service being provided over a Fixed line should not deter the Subscriber from Porting the Number that was bundled with the broadband service. Licensees should not cease and re-provide broadband (or other) services as a result of a Subscriber Porting their Number. Licensees using a Number to identify a broadband Subscriber will have to rely upon other means of identification.

Respondent's Comment (from Batelco)

186. Concerning 3 FNP Procedures, no reference is present for a Number Porting Process for Universal Numbers.

TRA's Response

187. Please refer to Paragraph 183 above for TRA's response.

Respondent's Comment (from Batelco)

188. Concerning 4.2 FNP Message Description, The word "Porting" is missing from the first sentence of row 9.

TRA's Response

189. This has been corrected in the NP Process Specification.

Respondent's Comment (from Batelco)

190. Concerning 4.3 FNP Message Fields Description, Row 4 and 5, it is unclear how the Port_ID will be correlated with Numbers in a discontinuous range but with the same primary ISDN number. As ISDN MSNs can number in the hundreds, it is also not clear how these will be handled in the subsequent numbers field which has a capacity of only three numbers. If multiple requests are used, then that would lead to duplication of the main Number Porting Request.

TRA's Response

191. A new section has been added to the NP Process Specification to address this point. Please refer to Section 8: Complex Porting Situations in the NP Process Specification.

Respondent's Comment (from Batelco)

192. Concerning 4.3 FNP Message Fields Description, Row 21, Batelco considers that CPR is insufficient for verifying the service and Subscriber for FNP. The Service Address should also be provided by the Porting Subscriber. This should be specified in a new field in the standard House/Block/Road format. Corresponding Reject Codes would also be required.

TRA's Response

193. Batelco has not submitted any supporting arguments or evidence to explain why they consider the CPR field insufficient. It is unclear why the Service Address is required for verifying the Subscriber if CPR, Commercial Register number and Number (or Number Range) being Ported have been provided. There is also the risk of data mismatch between address records which would cause additional complications and delays in the Number Porting Process. The NP Process Specification has not been updated for this matter as it is TRA's view that these message fields are sufficient. This is in line with the discussions held during the Working Groups meetings.

Respondent's Comment (from Ericsson)

194. This document is quite similar to Annex 1. In the same way as before, section 4.4 "**Operator Codes and Routing numbers**" of this annex is specifying the coding of the operator prefixes. They are from b01 to b15. We would recommend to include an explanation about digit 'a' and digit 'b' stating that as this digits are also used for routing purposes, so digits 'a' & 'b' must be any free number which does not interfere with any other currently used in the National Numbering Plan.

TRA's Response

195. Please refer to Paragraph 134 of this Report for TRA's position.

Respondent's Comment (from Giza)

196. The processes described are common to what has been deployed in several other countries and should work well in Bahrain. The one process that is different is that consultation allows the operator to send an Error Notification to NPC when a message they receive from the Central System "cannot be read 'in Section 3.2'." This should never happen. Only the Central System is allowed to send an Error Notification because there should never be something wrong with the content/format of a message that the Central System sends to an operator. If there is, this is a bug that needs to be reported and fixed – it's not something that can be handled by having the operator send the Central System an Error message.

TRA's Response

197. Please refer to Paragraph 136 of this Report for TRA's position.

Respondent's Comment (from STC)

198. Section (3) there is a typing error that needs correction.

TRA's Response

199. TRA notes STC's comment. The typing errors have been corrected in the NP Process Specification.

Respondent's Comment (from STC)

200. In section (3.2) on "Error Notifications, we propose to add 3) the NP message is out of sequence.

TRA's Response

201. Please refer to Paragraph 138 of this Report for TRA's position.

Respondent's Comment (from STC)

202. In section (4.5.4.1), we propose to use an example different from REJ0099, such as REJ0012, due to the reason explained in concern-4 below.

TRA's Response

203. Please refer to Paragraph 140 of this Report for TRA's position.

Respondent's Comment (from STC)

204. In section (4.5.4.3), (Code # REJ0099) should be taken out. Only explicit Rejection codes need to be included. It is strongly believed that having a code for "Others" will leave an open door for misuse. Accordingly, it is proposed to delete section (6).

TRA's Response

205. Please refer to Paragraph 142 of this Report for TRA's position..

Respondent's Comment (from STC)

206. In Section (8) on Porting Windows/Timers definitions, we propose to increase "Porting Execution Time (T5a)" from 10 minutes to 30 minutes.

TRA's Response

207. Please refer to Paragraph 146 of this Report for TRA's position.

Respondent's Comment (from STC)

208. Definition of NSN in page (79) should apply to both Mobile and Fixed numbers.

TRA's Response

209. This definition has been corrected to apply to Mobile and Fixed numbers

Respondent's Comment (from Systor)

210. Concerning Phase 1: Preparation, If a Recipient Operator wants to port several numbers (groups of numbers, not including FAX or DATA numbers) belonging to one Subscriber (e.g. to one company), then the Recipient Operator should send individual Porting Requests for each number. However, if a Subscriber wishes to Port multiple Numbers that

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form a consecutive sequential range, then the Subscriber may submit a single Porting Request for the entire range. According to Systor there is no reason, as seen from the Central System's point of view, that multiple individual Numbers belonging to a single Subscriber should not be requested to be Ported in a single Porting Request, even when subsequent data or fax Numbers are present. Doing so will normally save time for the involved operators on both sides compared to having to handle one request for each Number, and will ensure that the Numbers are handled as one entity. The Numbers may anyway be requested to be Ported individually as an alternative if required.

TRA's Response

211. Please refer to Paragraph 89 of this Report for TRA's position.

Respondent's Comment (from Systor)

212. Concerning 4.6.2 Error Codes, An alternative to distinct error codes for format errors related to each field would be one error code for format error and an indication of which field is in error.

TRA's Response

213. Please refer to Paragraph 150 of this Report for TRA's position.

Respondent's Comment (from Systor)

214. Concerning 5.1 Preparation, the Recipient Operator collects and provides data for the Porting Processes such as: Service Type, Message Code, Telephone number, Subsequent Numbers (Data or Fax numbers), DONOR ID, RECIPIENT ID, Originating ID, Destination, Porting Date and Time (the time and date at 16 working hours after the submission of the Number Porting Request), SIM card number. Systor comments that for validation purposes, the Central System holds the numbering plan, meaning there is no need for the Recipient Operator to enter the fields Donor ID or Recipient ID – these may be filled in by the Central System based on the connected user (Recipient ID) and the numbering plan or the Porting table (Donor ID). This gives fewer sources for errors to be made and hence smoother operation. The Originating ID may also be filled in by the Central System.

TRA's Response

215. Please refer to Paragraph 152 of this Report for TRA's position.

Respondent's Comment (from Zain)

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216. Concerning 5.1 Preparation, Prep (7): *“If the provided SIM card number (ICCID, as printed on the SIM card) does not correspond to the provided number (and the number has passed the validation) then Reject Code REJ0010 applies”*. In the Fixed Services, there is no SIM card and thus, Zain Bahrain suggests changing the “SIM Card” to the “Physical Address of the provided service” if it is not the same as the Subscriber's address.

TRA's Response

217. Please refer to Paragraph 193 of this Report for TRA's position regarding the use of a physical address as part of the Porting Request. The reference to provision of SIM card numbers has been amended to only apply to the MNP in the NP Process Specification.

Comments to the Routing and Charging Specification

218. In the Consultation document issued by TRA, interested parties were invited to comment whether or not the Routing and Charging Specifications contained in Annex 3 to this Consultation are of a sufficiently comprehensive and detailed nature to allow Licensees to develop and implement the necessary processes and procedures to effect the implementation of Number Portability.
219. Interested parties who consider the Routing and Charging Specification to be deficient or lacking specificity, were requested to state why, in their view, the Routing and Charging Specification is deficient, what is missing and how the Specifications should be amended. Comments to the Routing and Charging Specification were made by several interested parties. These comments are summarized as follows:

Respondent's Comment (from Batelco)

220. Concerning 1.2.1 Definitions, "Fixed Terminating Access (FTA)" is not consistent with the term used in Bahrain "PSTN Terminating Access".

TRA's Response

221. TRA notes Batelco's comment. The NP Process Specification has been amended accordingly.

Respondent's Comment (from Batelco)

222. Concerning 2.1 Introduction, TRA's document outlines some alternative implementation approaches for inter-network signaling by Licensees. Following finalisation of the Regulation and TRA's Implementation Specifications, Licensees will need to approach their vendors for a detailed study of feasibility, (once that has been assessed) conduct multi-lateral operator discussions (including vendors) to determine workable inter-network signaling plans, (potentially) conduct further feasibility studies, finalise agreements with other operators, implement these changes in software, test and verify these changes. The above are non-trivial processes which will severely test the implementation deadlines set in the Regulation by TRA.

TRA's Response

223. Please refer to Paragraph 33 of this Report for TRA's position.

Respondent's Comment (from Batelco)

224. Concerning 2.2.1 Definitions, [Onward Routing definition] Batelco assumes that ONLY calls received from foreign networks will require Onward Routing, as the Regulation requires ALL Fixed and Mobile networks in Bahrain to implement Number Portability. Batelco is not expecting to receive A-numbers without a routing number prefixed from any Bahrain operator.

TRA's Response

225. It seems logical that the comment 'Batelco is not expecting to receive A-numbers without a routing number prefixed from any Bahrain operator' should have been 'Batelco is not expecting to receive B-numbers without a routing number prefixed from any Bahrain operator'.

226. The Routing and Charging Specification defines that the B-number should be prefixed if the call originates from a Bahrain operator network. As all Licensees must implement ACQ, there should be no cases of a locally originated call with no routing number prefixed.

Respondent's Comment (from Batelco)

227. Concerning 2.2.2 General Principles, [sub-heading "Voice" paragraph 2] Batelco will only perform transit of a call prefixed with a RN where it has an existing transit agreement with the operator offering the call.

TRA's Response

228. TRA considers this a reasonable assertion.

Respondent's Comment (from Batelco)

229. Concerning 3.2 Charging of Porting Transactions, "Licensees will bear the costs involved with setting up NP processes and IT/Network investments". This should exclude all costs related to the Central System and its XML gateways. See further below in comments on Central System Specifications.

TRA's Response

230. This is a correct assertion. However, it remains the Licensees' responsibility to connect to the Central System. The Specification has

been updated accordingly. Please also refer to Article 3(c) of the Regulation.

Respondent's Comment (from Batelco)

231. Concerning 3.2 Charging of Porting Transactions, the Porting transaction charges between Licensees detailed in the Regulation have been set in the absence of any detailed knowledge of the costs of implementing Number Portability in Bahrain. These charges must be reviewed in the light of actual operator costs once Number Portability is implemented.

TRA's Response

232. This issue has been addressed in the Regulation Report. Please refer to Paragraphs 49 to 57 of the Regulation Report. Changes to the maximum charges can occur in line with Article 3(b) of the Regulation.

Respondent's Comment (from Batelco)

233. Concerning 3.3 Charging for Calls to Ported Mobile Numbers, For the avoidance of doubt, Batelco will apply standard interconnect charging principles under its reference offer for calls relating to Ported Numbers. That is, if a call is transited on behalf of an OLO a Transit charge will be levied, if a call is terminated a Terminating Access charge will be levied. Where routing scenarios arise which are not covered by existing charges, new charges may need to be developed.

TRA's Response

234. Batelco's assumption is accurate. As per Article 11(h) of the Regulation, Licensees must not discriminate between Ported and non-Ported Numbers. Therefore, standard rates for transit and termination apply. However, any new charges must observe all regulatory obligations before being implemented.

Respondent's Comment (from Batelco)

235. Concerning 3.3 Charging for Calls to Ported Mobile Numbers, Batelco reserves the right to introduce charges for attempts to terminate calls to its network for numbers which are not present on its network, where the routing of such calls results from a deliberate policy of an OLO to reduce call-processing loading within its own network.

TRA's Response

236. Please refer to Paragraph 234 of this Report for TRA's position.

Respondent's Comment (from Batelco)

237. Concerning 3.3 Charging for Calls to Ported Mobile Numbers, the handling of SMS/MMS routing for Ported Numbers may require the agreement of additional charges for signaling messages between Licensees in Bahrain. This will be handled under normal Reference Offer processes.

TRA's Response

238. Please refer to Paragraph 234 of this Report for TRA's position.

Respondent's Comment (from Batelco)

239. Batelco's customer billing systems (as is common with most operators) are driven by B-party number analysis. The use of Routing Numbers will require major changes to these systems. Subscribers will also no longer be able to reconcile charges for calls by called party number – this may require further enhancement of billing systems to detail the relevant information. Batelco again stresses that the changes to these systems will require time to implement and TRA's timelines for MNP and FNP implementation are too short.

TRA's Response

240. Please refer to Paragraph 33 of this Report for TRA's position.

Respondent's Comment (from Ericsson)

241. As indicated in the annex, it is based on the 3GPP specifications. They are the same specifications taken as base design for Ericsson FNR. The quality of the document is much better than other specifications from Regulatory Bodies of other countries. There is nothing to add.

TRA's Response

242. TRA notes Ericsson's comment.

Respondent's Comment (from Giza)

243. This Annex has an excellent tutorial on routing & signaling in the context of Number Portability. It is probably the best summary and illustration of ETSI/3GPP Number Portability related standards published by a regulator. The information in this Annex 3 will be of value to operators for their operations and process planning.

TRA's Response

244. TRA notes Giza's comment.

Respondent's Comment (from STC)

245. TRA may specify safeguards for quality of service provided by operators when a call transits through their network for reaching the Recipient Operator's network.

TRA's Response

246. TRA notes STC's comment.

Respondent's Comment (from STC)

247. The originating operator may be required to bear the cost of any additional conveyance charges to create incentive for direct routing using ACQ.

TRA's Response

248. One of the goals of using ACQ is to avoid incurring conveyance charges due to routing a call without the routing number prefixed. Given the nature of many Licensees' network architecture in the Kingdom of Bahrain, transit charges are highly likely to occur. For more information on this matter, please refer to Article 10 of the Regulation.

Respondent's Comment (from STC)

249. It is proposed not to get in to the detailed configurations and diagrams and only to refer to the relevant cases of Direct Routing in ETSI TS 123 066 V7.0.0 (2007-06) (e.g. sections B.4.4 and C.3.3).

TRA's Response

250. Detailed configurations and diagrams are provided as examples of routing and signaling processes in Number Portability. They are meant to be only an informative guide to Licensees and not authoritative.

Respondent's Comment (from Zain)

251. Concerning 2.2.2 General principles, Zain Bahrain recommends that the TRA change the wording of the following paragraph to make it clearer: "*Licensed Operators shall route calls to the Subscription network, when it receives calls from networks which have not performed Number Portability lookups for the Bahrain phone numbers.*" to: "Licensees shall route calls to the Subscription network, when it receives international calls from

overseas networks which have not performed Number Portability lookups for the Bahrain phone numbers."

TRA's Response

252. Please refer to Paragraphs 225 of this Report for TRA's position. As suggested, this sentence has been amended in the Routing and Charging Specification as follows: "Licensees shall route calls to the Subscription Network when they receive international calls which do not have a routing number prefixed."

Respondent's Comment (from Zain)

253. Concerning 3.3.1.1 Charging scenario MNP – voice: *"The charges between operators for handling calls are handled via Interconnect and Roaming agreements and are not subject to MNP specification. However, for the sake of clarity the most important scenario's have been depicted in the following Figures."* This statement should not be limited to voice calls only, it should be generalized on SMS and MMS calls also.

TRA's Response

254. The previous version of the Specification has a definition of 'call' that also included SMS and MMS. SMS and MMS calls are also addressed in Section 2.2.4.2 of the Routing & Charging Specification. Please also refer to Paragraph 234 of this Report for further information.

Comments to the Central System Specification

255. In the Consultation document issued by TRA, interested parties were invited to comment whether or not the Central System Specification contained in Annex 4 to this Consultation are of a sufficiently comprehensive and detailed nature to allow Licensees to develop and implement the necessary processes and procedures to effect the implementation of Number Portability.
256. Interested parties who consider the Central System Specification to be deficient or lacking specificity, were requested to state why, in their view, the Central System Specification is deficient, what is missing and how the Specification should be amended. Comments to the Central System Specification were made by several interested parties items. These comments are summarized as follows:

Respondent's Comment (from Batelco)

257. Concerning 4.2.2.1 (Manual) Web Interface, The functions of the web interface and its use in handling errors and exceptions are insufficiently and unclearly defined. A process specification is required.

TRA's Response

258. The initial implementation of the Central System will not include any web interface. All communications between Licensees and the Central System will happen through the dedicated channels and systems. TRA may implement the web interface in a later phase of the project should it determine that there is sufficient justification for such an interface. The requirements and functions of such an interface would be determined at that time, following due consultation.

Respondent's Comment (from Batelco)

259. Concerning 4.2.2.2 Machine-Machine Interface, The functional and technical specifications of the XML gateway platform need to be specified.

TRA's Response

260. The technical specification of the interfaces, such as XML messages and/or XSD schemes will be a deliverable of the supplier of the Central System.

Respondent's Comment (from Batelco)

261. Concerning 4.2.3 Operator Administration and System Configuration, Additional information is required on the functions, roles and responsibilities of the users in the system to determine resource requirements.

TRA's Response

262. It is unclear from this comment how Batelco's resource requirements will be determined based on those of the Central System. TRA intends to fully outsource the management and operations of the Central System to a suitably qualified and reputable third party.

Respondent's Comment (from Batelco)

263. Concerning 4.2.4 Ported Number Database "The Ported Number database will contain information on the state of all Numbers, in every Number Range allocated by TRA". The status flags include Ported, not Ported and back-ported. It is unclear whether this means that the database will flag whether a number is active or not-in-service. If this is indicated, then otherwise-unsuccessful call attempts to other networks may be avoided, but additional processes would be needed to inform the Central System when numbers are not in-service.

TRA's Response

264. The Central System will not keep track of the status of the Number. It will only provide information on which network is the currently serving Subscription Network for the Ported Number.

Respondent's Comment (from Batelco)

265. Concerning 4.2.5 Reporting on NP Execution and Performance, The means by which KPIs will be measured must be defined, that is, how the time-stamps will be used to delineate each measured interval.

TRA's Response

266. TRA notes and agrees with Batelco's comment. Each transaction, and each message communicated to or from the Central System will be given a time-stamp by the Central System. The period of time between the time-stamp of an outgoing message and the time-stamp of the next sequential incoming message will determine the time elapsed for that segment of the process. These 'elapsed time' calculations are the means by which TRA will determine whether the relevant KPIs are met by each Licensee.

Respondent's Comment (from Batelco)

267. Concerning 4.2.5 Reporting on NP Execution and Performance, it is unreasonable to set detailed KPI values in the implementation specifications before any systems and platform modifications and testing have taken place. KPIs must be set with reference to the real environment and not to theoretical or aspirational targets. Post-testing discussions between operators will be the best way to establish appropriate KPIs, rather than regulatory imposition.

TRA's Response

268. The implementation of a solution is based on known requirements and objectives. It is considered standard procedure for the system to be designed to cater to required KPIs rather than the opposite. TRA has stated on numerous occasions that it shall be reasonable in any measure that is imposed on Licensees, and has provided in the Regulation the ability to make suitable amendments from time to time.

Respondent's Comment (from Batelco)

269. Concerning 4.2.7 Delivery of NP Query Results, File types and formats for NP Query results must be specified.

TRA's Response

270. The technical specification of files and formats will be a deliverable of the supplier of the Central System.

Respondent's Comment (from Batelco)

271. Concerning 4.2.8 Test Operator Platform, TRA has provided no indication of when a testing platform for the Central System will be available or the period of availability or the scope of the test environment provided. This is a critical area of Number Portability implementation and the absence of this information unreasonably places operators at risk of breaching the fixed deadlines in the Regulation.

TRA's Response

272. This is an important issue for implementation and needs to be addressed in an implementation plan. It is however not an issue that can be expected to be resolved by the Specifications. TRA will not consider Licensees to be in breach of the Regulation due to delays incurred by elements under the responsibility of TRA. It is worth noting however, that during the evaluation of possible Central System solutions TRA will attempt to rely on, as much

as possible, open-standards technologies rather than proprietary technologies, so as not to limit the Licensees' choices.

Respondent's Comment (from Batelco)

273. Concerning 4.3.2 Connection of Licensees to the Central System, various references to the Central System throughout TRA's paper collectively give an unclear view of where the boundaries of the Central System lie. Figure 3 shows the Central System Gateway on operator premises being outside the Central System, while other references in the documents and comments in the earlier working group meetings indicated that this would be part of, and the responsibility of Central System.

TRA's Response

274. The Central System gateway is part of the Central System and under the responsibility of the operator of the Central System. The Central System Specification has been made consistent on this matter.

Respondent's Comment (from Batelco)

275. Concerning 4.3.2 Connection of Operators to Central System, Batelco's view is that the XML gateway should be part of the Central System, as should the links which connect it to the central system. The communication links should also have redundancy, diversity and data security designed-in.

TRA's Response

276. TRA does not agree with Batelco's comment. The Licensee's XML gateway is considered a core component of the Licensee's network as all communications between the Licensee and the Central System will be in XML. Please also refer to Articles 3 and 4 of the Regulation.

Respondent's Comment (from Batelco)

277. Concerning 4.4 Technical Requirements, for web-based communications, only HTTPS (not HTTP) should be required.

TRA's Response

278. HTTPS makes use of Public Key Infrastructure (PKI) certificates in order to secure communication channels between the web server and clients. The main objective of implementing HTTPS is the protection of data while in transit. Although Batelco has not substantiated its recommendation to use HTTPS with supporting arguments of why a secure channel is needed,

TRA will consider the use of HTTPS with the supplier of the Central System¹. The Specifications have not been amended to reflect Batelco's recommendation.

Respondent's Comment (from Batelco)

279. Concerning 4.4 Technical Requirements, file-based communications should be sFTP.

TRA's Response

280. Please refer to Paragraph 278 of this Report for TRA's position regarding security of data in transit.

Respondent's Comment (from Batelco)

281. Concerning 4.4 Technical Requirements, The protocol over which XML will be delivered needs to be specified (eg SOAP).

TRA's Response

282. Please refer to Paragraph 260 of this Report for TRA's position.

Respondent's Comment (from Batelco)

283. Concerning 4.5.1 System Performance Requirements, no means of establishing accuracy of the database as "at least 99.99%" are described. The specified figure suggests that more than 100 customer numbers may be incorrectly specified in the database at any one time, potentially resulting in 100 trouble tickets being open with operators for network routing anomalies. This seems very large.

TRA's Response

284. Accuracy of 99.99% in this case would mean that 1 out of 10,000 numbers may have incorrect routing information in the Central System. This would be irrespective of the cause of the anomaly. It is not necessary that each case has a trouble ticket. The supplier of the Central System may present a better performance than the 99.99% accuracy stated in the Central System Specification.

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Batelco, no PKI certificates can be used to secure data in transit.

285. In the Central System Specification, the accuracy may be considered to be put to a higher figure of 99.999% in order to confirm whether suppliers are able to commit to such a figure.

Respondent's Comment (from Batelco)

286. Concerning 4.6 Process Requirements, Operational procedures in the event of BNPS system failures need to be defined. Operators will potentially hold asymmetrical databases due to Porting transactions in progress at the time of failure.

TRA's Response

287. Please refer to Paragraph 160 of the Regulation Report for TRA's position.

Respondent's Comment (from Batelco)

288. Concerning 4.6 Process Requirements, TRA should consider specifying a "hot-standby" configuration for the Central System which is capable of a higher level of availability.

TRA's Response

289. Please refer to Paragraph 160 of the Regulation Report for TRA's position.

Respondent's Comment (from Giza)

290. The Central System Specifications do not mention any sizing or performance/throughput requirements. It may be TRA's intentions to assess Central System vendor offer capabilities. Bahrain has approximately 1.5 million mobile subscribers and 225,000 fixed lines. Even with Porting rates above industry averages, commercially available Central System solutions should be able to meet the required performance and throughput needs. In the same context, the anticipated Number Portability solution life cycle (e.g. 3 vs. 5 vs. 10 years) plays an important role. However, the specifications do not give any indication on the desired contract duration.

TRA's Response

291. The desired contract duration and other design criteria of the Central System will be included within the Request for Proposal for the Central System.

Respondent's Comment (from Giza)

292. The specifications lack an approach to Disaster Recovery (DR plan vs. DR system & geographic redundancy). The Consultation specifies data accuracy on 99.99%: The problem with data in any system is that the stored data is only as clean as the data that is being entered into the system by the operators. Although a high quality Central System solution uses sophisticated and intelligent data validation algorithms to prevent “dirty” data from being entered into the Central System, it ultimately is the operators who control data accuracy.

TRA’s Response

293. Please refer to Paragraphs 284 to 284 of this Report for TRA’s position on the matter of data accuracy. Disaster Recovery procedures will be a deliverable of the supplier of the Central System. Regarding the matter of Disaster Recovery procedures, please refer to Paragraph 164 of the Regulation Report for TRA’s position.

Respondent’s Comment (from Giza)

294. Page 18 states that failure recovery should be within 30 minutes. Failure Recovery is a very misleading term. A high quality Number Portability solution system uses redundancy & clustering to achieve high availability, but in the (unlikely) case the system (or site or connectivity) fails, a full restoration within 30 minutes in most cases won’t be achievable. 30 minutes is barely enough time to re-boot a system without having to change any equipment such as routers, switches, servers, hard drives. To take it a step further, assume a disaster scenario where the system or site will be completely destroyed. The specifications do not foresee a geographically separated disaster recovery system. The decision to deploy a DR site is to be made by the TRA after assessing the cost/benefits.

TRA’s Response

295. TRA notes Giza’s comment. The details and recovery times of the Central System will be a deliverable of the supplier of the Central System. The explicit recovery time of 30 minutes for recoverable failures has been removed from the Specification.

Respondent’s Comment (from Giza)

296. Page 16 Section 4.3.2 suggests connectivity via 64 kbps lines. Depending on Port volumes, Porting Request content (e.g. scanned attachments) & type of data synchronization (real-time vs. narrow broadcast window), 64kbps might not be sufficient bandwidth. In addition, and from a reliability standpoint, any form of connectivity should be redundant.

TRA's Response

297. The recommendation TRA received from its consultants indicated that a minimum of 64 Kbps per Licensee would be sufficient. The data that will traverse these lines is XML, which is text based. No attachments of any kind will be transmitted.
298. TRA will ensure that the Central System addresses all questions of availability, including redundancy in equipment, systems and locations, amongst other matters. It is the responsibility of each Licensee to ensure they have a working Number Portability implementation that meets all relevant requirements and KPIs.
299. The Central System Specification has not been amended with respect to this comment.

Respondent's Comment (from STC)

300. Since all Fixed and Mobile operators shall be connected to the Central System, the Central System may be considered to perform clearing-house functionality for inter-operator payment purposes.

TRA's Response

301. Please refer to Article 4 in the Regulation for the functions of the Central System.

Respondent's Comment (from Systor)

302. Concerning 4.2.1 Clearing House for message validation and message handling and routing, the initial message validation checks to be applied by the Central System are:
- Check if Recipient, Donor, and origination operator IDs are valid in the context of the Number Porting Request
 - Check if the number to be ported – according to the number plan Database and Porting Database are serviced by the operator the Porting Request is destined for (Correct Donor validation). The comment of Systor is that Recipient, Donor and origination operator IDs do not have to be entered and hence neither validated. This is information known by the Central System from the ID of the user issuing the request and the data stored in the number databases and may be inserted by the Central System.

TRA's Response

303. Please refer to Paragraph 152 of this Report for TRA's position.

Respondent's Comment (from Systor)

304. Licensees may only submit Porting preparation, execution and deactivation messages to the Central System during the Porting window. This does not mean that Licensees are not allowed to collect Porting Request data from prospective customers (e.g. via internet sales). It means that these Porting Requests will have to be stored until the Porting window opens. Systor comments that depending on the foreseen operations requirements, the Central System may well receive and store Porting Requests also outside the Porting window. These requests may be validated at the time of reception by the Central System and forwarded to the addressee at the opening of the Porting window.

TRA's Response

305. TRA notes and agrees with Systor's comment. The Central System will accept Porting Requests outside of the Porting Window, but will process them during the next open Porting Window. No forward dated Porting Requests will be accepted or held. The Central System Specification has been amended to clarify this.

Respondent's Comment (from Systor)

306. Concerning 4.3.2 Connection of Operators to Central System, The physical connectivity between the Central System Gateway and Central System communication module could be:

- 1) Dedicated leased circuit (per operator). Capacity of 64 kbps line should be sufficient (paid by each individual operator, and communicates over a VPN). Systor comments to this that 64 kbps is sufficient for messaging, but might be on the lean side for heavy query reports if these are to be fetched using XML.
- 2) The Central System's own MPLS network. Systor comments that Traffic over internet can be secured in one of the following ways: VPN over Internet (network-to-network encryption and authentication) or HTTPS with client certificates (encryption and authentication on the application level)

TRA's Response

307. TRA notes Systor's suggestions. Please refer to Paragraph 297 to 299 of this Report for TRA's position regarding capacity of leased lines and

Paragraph 278 of this Report for TRA's position regarding the use of HTTPS.

Respondent's Comment (from Zain)

308. Concerning 2.1 Definition, "*A Service Provider is a reseller, using the SIM cards and Numbers of a Licensed Operator.*" The Central System will be used for MNP and FNP and Zain Bahrain therefore proposes to change the wording so that it should read: "A Service Provider is a reseller, using the SIM cards or any other service access media and Numbers of a Licensee."

TRA's Response

309. This definition has been amended in the Central System Specification to read as: "*A Service Provider is a reseller, using the equipment (such as SIM cards), and Numbers of a Licensee under its own brand.*".

Respondent's Comment (from Zain)

310. Concerning 4.2.2.1 (Manual) Web interface, "*Small operators with very low messaging requirements could use the web interface instead of the machine-machine interface.*" Zain Bahrain believes that interworking should be standardized between all operators in particular because there is no defined definition on the meaning of "very low messaging requirements" and, on the other hand, there is no mechanism on how to upgrade operators from the web interface interworking to machine-to-machine interface.

TRA's Response

311. Please refer to Paragraph 258 of this Report for TRA's position.

Comments to the Resolution Procedure Specification for Bad Debt Subscribers

312. Please refer to Paragraphs 14 and 15 for a clarification on the consolidation of the Resolution Procedure Specification for Bad Debt Subscribers into the new NP Process Specification.
313. In the Consultation document issued by TRA, interested parties were invited to comment whether or not the Resolution Procedure Specification for Bad Debt Subscribers contained in Annex 5 to this Consultation are of a sufficiently comprehensive and detailed nature to allow Licensees to develop and implement the necessary processes and procedures to effect the implementation of Number Portability.
314. Interested parties who consider the Resolution Procedure Specification for Bad Debts Subscribers to be deficient or lacking specificity were requested to state why, in their view, the Resolution Procedure Specification for Bad Debts Subscribers is deficient, what is missing and how the Specifications should be amended. Comments to the Resolution Procedure Specification for Bad Debts Subscribers were made by several interested parties. These comments are summarized as follows:

Respondent's Comment (from Batelco)

315. Batelco has previously expressed to TRA its concerns in relation to the levels of Bad Debt expected to be generated as a result of TRA mandating of a Recipient-led process and its approach to dealing with outstanding debt (as opposed to Bad Debt) at the time a Subscriber Ports out.

TRA's Response

316. TRA has taken Batelco's concerns into account and believes that the current Resolution Procedure sufficiently addresses events where the Subscriber has outstanding debt with the Donor Operator. Please also refer to Paragraph 116 of the Regulation Report and Paragraph 167Error! Reference source not found.of this Report.

Respondent's Comment (from Batelco)

317. Batelco is only agreeable to implementing the Recipient-led process on the basis that strong, compulsory obligations are placed on Licensees to cooperate in minimising Bad Debt. Batelco therefore seeks TRA's assurance that appropriate enforcement is applied, and seen to be applied,

where these obligations (for example, to restrict service to Bad Debt Subscribers of a Donor Operator) are not observed.

TRA's Response

318. The obligations arising from the regulation to implement Number Portability apply without discrimination to all relevantly licensed operators including Batelco. TRA's normal measures of enforcement shall apply where contraventions are detected. Please also refer to Article 12 of the Regulation.

Respondent's Comment (from Batelco)

319. Concerning 3 Requirements, Batelco is concerned that the definition of "Bad Debt" is insufficient to protect it from unreasonable financial exposure. Many Subscribers are, for example, on monthly installment plans to clear debts that have been accumulated in the past. Batelco is of the view that it is reasonable to treat these Subscribers as debtors until the arrears have been paid off, and to reject Porting Requests for these Subscribers during that period.

TRA's Response

320. 'Bad Debt' is clearly defined in the Regulation. Rejection of a Number Porting Request on the basis of 'Bad Debt' must adhere to that definition. Therefore, Donor Operators may not reject a Porting Request on the basis that a Subscriber has installments remaining on a payment plan. Licensees still have the right to claim any dues owed by the Subscriber, as per applicable contractual terms (including the possibility of a Subscriber continuing to pay monthly installments after Porting their Number). Licensees may need to revise their contractual terms to fully address such scenarios.

Respondent's Comment (from Batelco)

321. Concerning 3 Requirements, Batelco similarly considers that Subscribers on contracts which have fixed terms (and hence exit-penalties) should clear those contractual impairments before being able to Port out their Numbers.

TRA's Response

322. Subscribers may not be considered in Bad Debt based on the description provided by Batelco in this comment. Please refer to Paragraph 320 of this Report for TRA's position.

Respondent's Comment (from Batelco)

323. Concerning 3 Requirements, a “Maximum Allowable Debt” figure – the contractual amount which would be due if the Subscriber ceased his service might also be used as a gating for the rejection of Porting Requests.

TRA's Response

324. TRA assumes that by ‘gating’ Batelco means ‘reason’. Thus TRA interprets this comment to mean that Batelco considers amounts due when a Subscriber terminates their contract as dues that fall under the definition of Bad Debt. This is incorrect. Rejection on the basis of ‘Bad Debt’ is clearly described in the Regulation. Please refer to the definition of Bad Debt and Article 6(g) of the Regulation as well as Paragraph 320 of this Report for TRA’s position.

Respondent's Comment (from Batelco)

325. Concerning 3 Requirements, the Resolution Procedure Specification makes it very clear that the Donor Operator is responsible for the management and collection of outstanding payments and Bad Debt. This will require contact between the Donor Operator and the Subscriber by telephone, SMS, letter or face to face contact in retail outlets. This contact may result in the Subscriber changing their mind and deciding to remain with, or switch back to the Donor Operator, particularly in cases where the Subscriber becomes aware that he will incur contractual penalties as a result of Porting.

TRA's Response

326. The NP Process Specification mandates that Bad Debt resolution messages be sent through the Central System. Payment reminders to Ported Subscribers may be in the form of SMS reminders (in the case of Mobile Subscribers), by email, postal mail or through Automated Call Announcement. It is ultimately the choice of the Subscriber whether they wish to Port their Number back to the Donor Operator or not. If it becomes apparent to TRA that the Subscriber’s decision to Port back to the Donor Operator was unduly influenced through Winback practices in any way, TRA will take strict measures against such acts of non-compliance, as per Article 12 of the Regulation.

Respondent's Comment (from Batelco)

327. Concerning 3 Requirements, Such a situation aligns very poorly with the “Winback” prohibition in the Regulation, and may result in disputes

between Donor and Recipient Operator. This will be extremely difficult for TRA to police fairly. Batelco is of the view that the Winback prohibition is unworkable in practice and unreasonable in principle in a competitive marketplace.

TRA's Response

328. Please refer to Paragraph 29 of this Report for TRA's position.

Respondent's Comment (from Batelco)

329. Concerning 4 Resolution Procedure, the means by which Recipient Operators must remind Bad Debt Subscribers to clear their debt with a Donor Operator need to be detailed. These measures must also be sufficient – a single SMS message, for example, could easily be unseen amongst the large number of marketing messages typically received by SMS in Bahrain. A daily SMS message would be more effective.

TRA's Response

330. Section 3.1.5 of the NP Process Specification details the channels by which a Donor Operator notifies the Porting Subscriber of their outstanding dues. These processes are sufficiently detailed without flooding Porting Subscribers with daily reminders.

Respondent's Comment (from Batelco)

331. Concerning 4 Resolution Procedure, in the case of Fixed network Subscribers, a letter will need to be generated or a call made to the Subscriber's number – this adds considerably to the costs of debt recovery, particularly in administration terms, and endorses the avoidance of debt in the first instance through measures such as those proposed in Paragraphs 69 to 71 (of Batelco's response).

TRA's Response

332. The Resolution Procedure Specification does not allow for calls to be made by the Donor Operator to the Porting Subscriber. Printed invoices are already being produced by Licensees before the implementation of Number Portability. The same invoicing and notification process, albeit only using SMS (for MNP) or mail (for both MNP and FNP), will be used to notify Porting Subscribers of their due payments to the Donor Operator. In addition, new processes using email and/or Automated Call Announcement may be used.

Respondent's Comment (from Batelco)

333. Concerning 4 Resolution Procedure, Bad Debt status with a first Donor Operator must preclude a Subscriber from on-Porting his Number from the initial Recipient Operator to another Recipient Operator or changing to a new Number with the first Recipient Operator. That is, the Billing Notification flag must be a block on Porting out from the Recipient Operator.

TRA's Response

334. TRA notes and agrees with this comment. A Bad Debt Subscriber will be flagged by the Central System as being involved in a Billing Resolution process. The Specifications have been amended accordingly.

Respondent's Comment (from Batelco)

335. Concerning 4 Resolution Procedure, Batelco is of the view that a block on Porting-out from a new Recipient Operator for a period of one billing cycle (one month) after initial Porting must be included in the Specification. Otherwise a Subscriber may "Operator Hop" from an initial Donor Operator to a first, then a second Recipient Operator leaving debt at the original Donor Operator. This will be very difficult or impossible to manage through the Billing Notification Process.

TRA's Response

336. Please refer to Paragraph 66 of this Report and Article 7(d) of the Regulation for TRA's position.

Respondent's Comment (from Batelco)

337. Concerning 4 Resolution Procedure, the process diagram shown in TRA's paper provides a reasonable starting basis for handling Bad Debt between Licensees. This should be further developed and reviewed by an operator working group.

TRA's Response

338. TRA agrees with Batelco's comment. As per Article 3(b) of the Regulation, TRA may amend the Specifications from time to time after due consultation.

Respondent's Comment (from Giza)

339. We realize that your approach to Bad Dept Subscriber handling is very common in the region. Similar processes can be found e.g. in Saudi

Arabia and Egypt. However, countries offering Number Portability outside the Middle East do follow a different approach. Following the INTUG position, a number is a number and a contract is a contract, whereas the owner of the Number is the Subscriber and Number Portability should not be used as a tool to hold a Subscriber hostage to an operator or contract. In the end, this is a legal issue, but the reality of bringing contractual issues and money owed to an operator into Number Portability is that this approach is not proven to be effective globally even though it seems appealing. If a Subscriber doesn't want to pay the amount owed to the operator, Number Portability does not create a strong enough incentive to change the Subscriber's mindset. Instead, in most cases the Subscriber will just sign a contract with another service provider and take a new Number rather than Port. Hence, mixing contractual issues with Number Portability might adversely affect the success of Number Portability and make Number Portability unnecessarily complicated.

TRA's Response

340. TRA notes Giza's comment.

Respondent's Comment (from STC)

341. STC Bahrain generally supports TRA in this regard. However, STC Bahrain proposes to add a clause (4.7) to apply a penalty to the Donor Operator in case of not communicating payment of the Subscriber to the Recipient Operator that would unnecessarily lead to the Subscriber's service interruption.

TRA's Response

342. TRA notes and agrees with STC's comment. The Resolution Procedure Specification has been amended to require the Recipient Operator to terminate the Subscriber's account only if the final notification message of non-payment has been received from the Donor Operator through the Central System.

Respondent's Comment (from Zain)

343. Zain Bahrain appreciates the efforts that the TRA has gone to in setting out a detailed procedure in relation to a Subscriber's unpaid fees. However, Zain Bahrain considers that this approach does not go far enough in that it is only aimed to *"assist the Donor Operator in collecting any unpaid fees or dues from the Subscriber"* (section 2, Scope of Document, Resolution Procedure Specification – Bad Debt).). In particular, Zain Bahrain is concerned that there is no provision whereby the Donor Operator can be sure to recover bad debt. , In effect, Number

Portability enables Subscribers to Port their Numbers from a Donor Operator with which the Subscriber has accumulated debt, to another operator. Zain Bahrain considers this is far from ideal and could be open to exploitation by Subscribers. In particular, if large numbers of Subscribers with Bad Debt were to Port their Numbers, operators could risk losing the ability to pursue their outstanding amounts due. It is a commercial reality that Recipient Operators will not have the same incentives to settle Bad Debt owed to competing operators by Ported Subscribers than the Recipient Operators would have for pursuing debt owed to them. Settlement between operators is not ideal.

TRA's Response

344. TRA disagrees with this assertion and considers the proposed processes for Bad Debt Resolution in the NP Process Specification to be sufficient to assist the Donor Operator in the recovery of Bad Debt. Since the scenario depicted by Zain is possible today without Number Portability, TRA remains of the view that Number Portability does not add risk to Licensees from this perspective.

Respondent's Comment (from Zain)

345. Concerning 2 Scope of the document, Zain Bahrain believes that limiting this scope to be only for post-paid numbers will limit operators' innovation in coming up with subsidy promotions for pre-paid services and in contractual agreements with them. With advanced IN systems capabilities especially, there are hybrid packages that mixes both the pre-paid and post-paid types. Moreover, the terms post-paid and pre-paid are used only in mobile services and not in fixed services. Thus, Zain Bahrain strongly recommends that the TRA change the wording as appropriate to reflect this and to broaden the wording to be: "...to assist the Donor Operator in collecting any unpaid fees or dues from the Subscriber after completing a Number Porting on a post-paid number."

TRA's Response

346. TRA is unsure why Zain believes this to be an issue. The fact that the Billing Resolution Procedure applies only to post-paid Numbers does not, in any way, limit Licensees from being innovative in their product offerings. If a service includes both post-paid and pre-paid services, then the Specification applies only to those services that are post-paid. With respect to the wording suggested by Zain, the sentence has been amended to say 'Porting' instead of 'Port'.

Respondent's Comment (from Zain)

CONSULTATION REPORT

347. Concerning 3 Requirements, 3.4. as discussed above, Zain Bahrain strongly disagrees with the TRA on its proposal that Donor Operators should only be able to claim amounts which are equal to or over BHD 3 in value. Zain Bahrain believes that the Donor Operator should have the right to collect all the amounts owed by Subscribers, irrespective of value. As mentioned previously, we understand that the Bahraini Commercial Companies Law empowers only the Board of Directors to waive pursuit of any amounts due to the company.

TRA's Response

348. TRA reiterates that no amounts of outstanding debt are being waived. Please refer to Paragraph 167 of this Report for TRA's position.

Respondent's Comment (from Zain)

349. Concerning 4 Resolution Procedure, 4.3. Zain Bahrain believes that two weeks is a long period and it should be limited to one week only, in which the entire period till the line is totally disconnected will be limited to three weeks only and the whole process timing should be amended.

TRA's Response

350. Zain Bahrain has provided no justification or evidence to support its position. The current credit processes of most Licensees allow periods much longer than two weeks. TRA believes that the periods specified within the Billing Resolution Procedure are appropriate.

Respondent's Comment (from Zain)

351. Zain Bahrain strongly suggests adding a new additional point at the end of the Resolution. Concerning 4 Resolution Procedure, 4.7, the Subscriber should not be allowed to exercise the Porting Process once the Donor Operator sent a billing notification via the Center System informing the Recipient Operator that the Subscriber is in Bad Debt.

TRA's Response

352. Please refer to Paragraph 334 of this Report for TRA's position..

Respondent's Comment (from Zain)

353. Concerning 4 Resolution Procedure, the TRA should monitor the implementation of the Resolution Procedure and reports should be generated by the Central System showing the Recipient Operators compliance with this Resolution.

TRA's Response

354. TRA notes and agrees with Zain's comment. All KPIs will be reported by the Central System to TRA.

Respondent's Comment (from Zain)

355. Concerning the Glossary, Debt Clearance Period: Zain Bahrain suggests that the underlined word be added in the definition: *If -within a certain period after the Billing Notification was sent- the subscriber has not cleared outstanding debts to the Donor Operator, then a resolution procedure needs to be started between the Donor Operator and the Recipient Operator via the Central System.* (as mentioned in point 4.2 of this Annex).

TRA's Response

356. TRA agrees with Zain's comment. The suggested amendment has been added to the Specification.

- End of Document -