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National Numbering Plan

National Numbering Plan

A Plan issued by the Telecommunications Regulatory
Authority

22 September 2003

Purpose: To provide a framework for the allocation of numbers in the national telecommunications system to competing service providers.



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1 Introduction

Legislative Decree No. 48 of 2002 promulgated the Telecommunications Law for the Kingdom of Bahrain. This Law formed the Telecommunications Regulatory Authority (the "TRA") which has responsibility for the regulation of the telecommunications of Bahrain during its transition from a monopoly supplied utility to a competitive industry. One of the roles assigned to the TRA (Section 3.C.12 Duties and Powers of the Authority) is to prepare and maintain a National Numbering Plan and allocate numbers to operators in accordance with that Plan. The licences issued to the operators require that they maintain their own individual numbering plans (section 18 in the fixed telecommunications licence and section 16 in the mobile telecommunications licence for example) in compliance with the National Plan.

This Plan is issued following a consultation process carried out in accordance with the Law, that involved the issue of document MOU/CN/004. Responses were received and a report on the consultation is contained in document MOU/RP/015.

This Plan takes into account the results of the consultation process and provides a clear and unambiguous National Numbering Plan (the "Plan") for the national telecommunications infrastructure, so that competing operators can configure their networks with confidence. The purpose of the Plan is to ensure a structured approach to the allocation of numbers that is in accordance with best international practice. In addition it is intended to achieve the following:

- An adequate pool of numbers to allow for the introduction of a wide range of services
- A common, closed, consistent numbering system that is easy for subscribers to understand
- Efficient management of the pool of numbers on a fair and equitable basis between the operators
- Consistent use of specific number ranges for specific purposes, so that subscribers are aware of the type of call they are using and its likely cost
- Minimal disruption to existing numbers and longer term stability that minimises the need for further changes

1.1 Document approval and issue

As a Plan, this document is issued with the authority of the General Director of the TRA and countersigned by the Legal Director. It is circulated to parties who, in the judgement of the General Director, have an interest in the National Numbering Plan and is also made available on the Authority's website.

Queries related to the use of the Plan may be submitted to the Authority in writing at the following address:

The Numbering Unit
Telecommunications Regulatory Authority
PO Box 10353
Manama
Kingdom of Bahrain

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Alternatively, e-mail queries may be sent to the Authority's e-mail address at contact@tra.org.bh

1.2 Scope

This document is the National Numbering Plan for Bahrain. It is applicable to all licensed operators wishing to make use of the National Numbering Pool ("the Pool") and its processes and strictures are mandatory on all such operators.

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2 The National Plan – Introduction

The National Numbering Plan will make use of a closed numbering Plan based on 8 digit dialling codes. All existing fixed numbers will be prefixed with the digits 17 and all existing mobile numbers will be prefixed with 3 so that all existing dialling codes will migrate to eight digits, which will include their current six- or seven-digit number.

This will make a considerable pool of new numbers available and these will be allocated to operators on a fair and equitable basis in accordance with justified need and the procedures defined in this document.

Figure 1 shows the broad structure of the Plan.

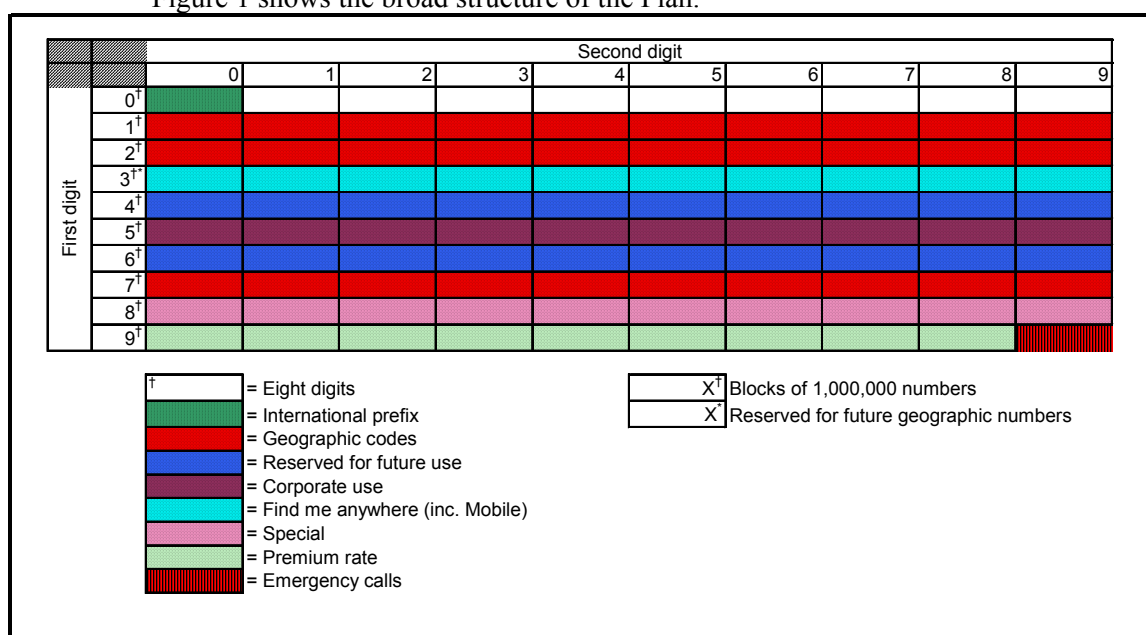


Figure 1 Proposed numbering scheme

In the Plan, the prefix ‘0’ is reserved so that International calls can easily be identified.

The code groups shown in Figure 1 are colour coded for ease of recognition. Codes starting with 1, 2 and 7 will be reserved for terrestrial geographic numbers. Existing incumbent geographic numbers will be included in the Plan with prefix 17. The remaining geographic codes will be allocated in a structured manner so as to preserve the number pool and avoid quarantining of numbers. Initially, a significant amount of the 1X number space is blocked out by existing short codes. Once migration to the Plan is complete this area will be tidied up to make much more of the 1X number block available for general use.

Leading digits 4 and 6 are reserved for future, as yet unidentified, uses, and the leading digit 5 codes will be assigned for corporate use.

Leading digit 3 codes will be used for all services based on the location of the user which are called ‘Find me anywhere’ services. These include mobile and paging services and any other services where the number follows the user rather than being allocated to a single location.

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Leading code 8 will be allocated to special services in which the tariff paid by the user is collected in the telephone bill, but some part of that tariff is then shared with the provider of an underlying service. A group of numbers in this block, in the range 8990XXXX to 8999XXXX will be reserved for allocation as inbound addresses for carrier purposes, or for internal routing purposes in accordance with Schedule 11 below.

Leading code 9 numbers will be assigned to premium rate services in which the charge made covers both the call and some further, usually content based, service. The number group will be sub-divided so that subscribers can estimate the level of charges that they are likely to accrue by looking at the number group itself. The emergency services number 999 will remain unchanged.

All of these allocations are described in more detail in the Schedules attached to this document.

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3 Migration

One of the primary considerations in preparing the Plan has been to minimise the impact, and hence cost, both to the incumbent and to users of migrating from the current plan to the new one. Migration to the new numbering scheme is relatively simple technically and users have little to learn to be able to translate the old numbers into the new ones. The Authority believes that users will still be able to operate the new numbering Plan even before businesses have completed the updates to their signage and stationery.

The approach to be taken to migration to the new numbering Plan will be consistent throughout the number range and will follow six stages:

- **The pre-announcement stage:** In this period, the incumbent and the Authority will co-operate to publicise the new numbering system and to make subscribers aware of what is happening and when it will take place.
- **Cutover 1 – December 2003:** At this point, the new numbers will go live and will operate in parallel with the old numbering scheme.
- **Parallel running – from December 2003 to June 2004:** In this period, both the old and the new numbers will work for subscribers
- **Cutover 2 – June 2004:** At this point, the old numbers will be disabled and be released for re-allocation and only the new numbers will work for subscribers
- **The post-announcement stage:** In this stage, if a subscriber tries to dial an old number, they will receive a recorded announcement that the number has changed, together with instructions on how to derive the new number
- **The steady-state:** As the old numbers are re-allocated, the post-announcement will be discontinued until eventually there are no post-announcements and the Plan is fully implemented.

Four phases of migration will be followed, each using the six stages above where relevant. Only two of these phases will have significant impact on users. Figure 2 shows the sequence at the high level.

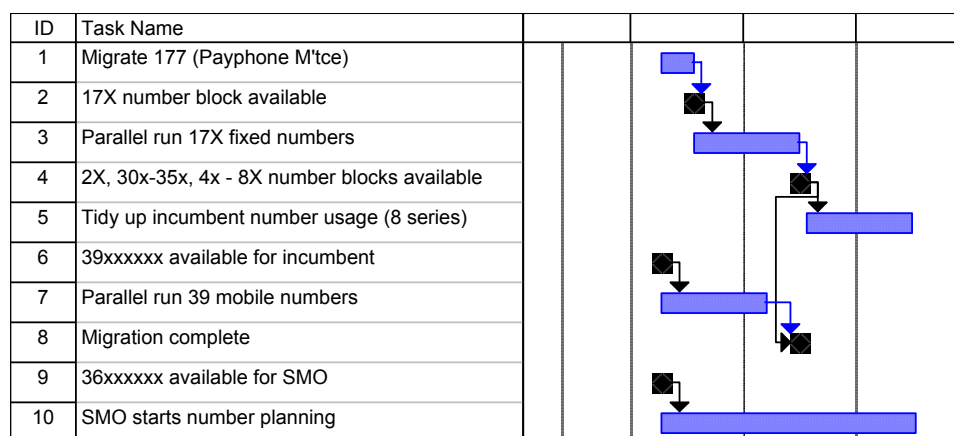


Figure 2 High level migration sequence

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For the fixed network, initially, the 177 Payphone Maintenance number will be migrated to another location in the 1X series of numbers. This will make the 17X block available. This change hardly warrants much publicity and will be completed quickly.

Next, all of the existing fixed line numbers will have a 17 prefix added to them, but the old numbers will still be recognised. This is the first of the parallel running periods. At the end of it the old fixed numbers will be withdrawn. This phase will go through all of the six stages mentioned above.

Once the old fixed numbers have been withdrawn, all of the new number space from 2X to 8X will become available.

For the mobile network (and independently of the changes going on in the fixed network), all of the existing mobile numbers will have a 3 prefix added to them, again leaving the old 9 series numbers in operation. This will form the second (and overlapping) period of parallel operation. At the end of it the old mobile numbers will be withdrawn. This phase will also go through all of the six stages mentioned above. At the same time, the Second Mobile Operator (SMO) will be allocated a sub-set of the free 36XXXXXX number space and will be free to make use of it immediately.

Once these three activities are completed, the new Plan will be fully in operation and all that remains is to tidy up some of the short code space and also some of the 39X series mobile space that will be occupied by the incumbent. At the same time, some codes, currently in the 8XXXXXX space may be migrated into the short code space. This will be a relatively long running process and publicity will be provided as and when it is appropriate for this stage.

The Authority will discuss with the incumbent and other interested parties the migration timetable for the four phases and six stages mentioned above in the context of the liberalisation timetable. In general the Authority will seek to minimise the migration timetable consistent with not accruing unnecessary conversion costs. In this way the disruption to users will be kept to a minimum.

The Authority will require the incumbent to update the national directories and distribute them prior to the end of the parallel running period.

The Plan has been designed to minimise the disruption for both the incumbent and subscribers and the way in which existing numbers will change is shown in Figure 3. In general all numbers remain unchanged initially with the exception of the addition of either one digit to mobile and pager numbers or two digits to terrestrial numbers.

The international prefix 00, and the emergency short code 999 will remain unchanged. All incumbent mobile and paging numbers will have a 3 added to the beginning of their current numbers, so that all incumbent Follow Me Anywhere services will start with 39. The new entrant mobile operator will be allocated a subset of the 36X series. To avoid the need for complex management of the number space, the incumbent will initially be allocated the whole of the 39X 1,000,000 number space. Other operators will be allocated space as required in units of 100,000 numbers. The Authority will wish to discuss with the incumbent the recovery of any substantial unused number blocks in the mobile number range.

All of the current terrestrial geographic numbers will remain unchanged except for the addition of 17 as a prefix. This applies to all of the numbers currently using the 2(0-9), 3(0-5), 4(0-7), 5(3-5 and 7-9), 6(0-9), 7(0-9) and 8(0-9) number blocks. Each of these 10,000 number blocks will be allocated to the incumbent to avoid the need to change

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subscribers' numbers other than the addition of the preceding 17. This prefix has been selected because the Authority believes that it is virtually unused in the existing numbering scheme. New entrants will be allocated blocks of numbers in units of 10,000.

These two main changes (the addition of 3 to the beginning of mobile and pager numbers and the addition of 17 to the beginning of geographic numbers) will cover the large majority of the numbers currently in use with the incumbent. The incumbent's use of numbers under the Plan is outlined in Figure 3.

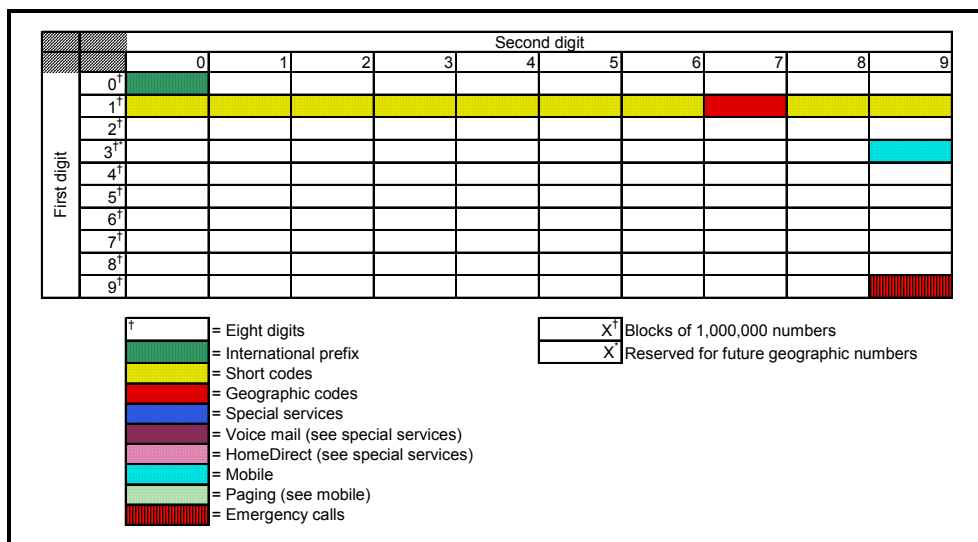


Figure 3 Allocation of numbers to the incumbent under the Plan

There are some small numbers of special and premium rate services that will also be migrated in the same time frame as the mobile and geographic numbers.

Currently the incumbent makes use of a small number of short codes in the 1X number groups. The usage of these number blocks is very low. The Authority will wish to compress the number space taken up by these codes and will discuss with the incumbent their migration into a single, relatively small, block in the 1X range of numbers. In the early stages of the Plan, the remainder of the 1X block under the new scheme will not be allocated for geographic use until the short codes have been migrated to their new location. Short codes will generally be allocated on a one off basis. In the initial migration period, short codes will remain unchanged.

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4 The National Numbering Plan

The Plan is governed by a number of general Conventions that are outlined in this section. These Conventions apply universally to all aspects of the Plan and generally describe the administrative mechanisms whereby the Plan can be executed. In addition to the Conventions, a set of Schedules attached to this document define the current status of the Plan in relation to each specific group of numbers that has been allocated or reserved for some other purpose.

The general Conventions cover:

- Convention 1. Rights, responsibilities and the review procedure (see section 4.2 below)
- Convention 2. Applying for numbers or codes (see section 4.3 below)
- Convention 3. Reserving numbers or codes (see section 4.4 below)
- Convention 4. Considering applications (see section 4.5 below)
- Convention 5. Conditions placed on allocations (see section 4.6 below)
- Convention 6. Re-allocating and withdrawing numbers or codes (see section 4.7 below)
- Convention 7. Requirement to notify others (see section 4.8 below)
- Convention 8. National Numbering Plan records (see section 4.9 below)

4.1 Introduction

1. The Numbering Conventions for the Kingdom of Bahrain (the 'Conventions') are a set of principles and rules relating to the use and management of numbers from the Plan. The Conventions are not intended to be used as a guide for consumers to any aspect of numbering policy or management.

2. The Conventions also govern the specification and application of the Plan and licensees' Numbering Plans. It is a breach of the licence granted under section 3 of the Telecommunications Law for an operator to have a Numbering Plan that does not accord with these Conventions. Each licensee is required to submit their numbering plan to the Authority for approval, and to report to the Authority on a regular basis the status of their usage of numbers.

3. The Conventions are revised from time to time by the General Director of the Authority after consultation with relevant licensees and interested parties (see clause 7 below).

4. The Authority will publish information on the Plan, and the current usage of numbers on the Authority's website at www.tra.org.bh

4.2 Convention 1. Rights, responsibilities and the review procedure

The Authority's guiding principles:

5. The Authority is responsible for developing and managing the Plan and issuing the Conventions. Numbers and codes are a national resource and the following guiding

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principles will be taken into account by the Authority when allocating, reserving or managing numbers:

- (a) The Authority will manage the Plan to ensure that there are sufficient numbers available to meet all reasonable demands that end users, operators and service providers might have.
- (b) The Plan will, where applicable, be compatible with relevant international agreements, standards and recommendations.
- (c) The Plan will, wherever possible, seek to ensure that numbers of different types give a broad indication of service type and/or tariff so that end users can be aware of the service type they are using, and its likely cost.
- (d) The Authority will ensure that costs or inconvenience to consumers, operators and service providers are objectively justified, and kept to the minimum consistent with meeting demands for numbers and sound management of the Plan.
- (e) The Authority will allocate or reserve numbers in a fair and equitable manner, normally to the first operator that requests the block or code (i.e. on a 'first come first served' basis). The Authority will only allocate or reserve numbering capacity to operators who meet the eligibility criteria set out in Convention 2.
- (f) The Authority will take into account the need to anticipate growth and innovative services in demand for telecommunications services and, when allocating numbers, the need to conserve numbering capacity in ranges identified as having a number shortage (e.g. Conservation Areas, a list of which is placed on the Authority website). In particular, the utilisation of previous numbering allocations, will be taken into account when considering new requests for number allocations.

Operators' responsibilities

6. Operators who have received allocations of numbers or codes shall act in accordance with the following principles:
 - (a) Operators shall adopt a Numbering Plan, for such numbers or codes as are allocated to it, in accordance with the Conventions and submit it to the Authority for approval.
 - (b) Operators shall be efficient in their use of numbers.

Reviews of the Conventions and the Scheme

7. The Authority may from time to time review the Conventions and/or the Plan upon its own initiative, or upon a request in writing by any operator, service provider, user or other interested party.
8. The General Director may from time to time amend or withdraw in full or in part the Plan and/or a Convention already published, or publish additional Conventions. This would take place only after consulting with relevant licensees, interested parties and, if the Director considers it appropriate, end users.
9. The normal consultation period for changes to the Plan will be three months. However, in exceptional circumstances, a shorter consultation period may be appropriate.

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Structure of the Conventions and Schedules

10. These Conventions set out the general rules or principles concerning the procedures for applications, reservations, withdrawals and other operations of the Plan from both the Authority's and recipients' points of view. Specific rules relating to numbers or codes within the public switched network or other parts of the Plan are defined in the Schedules attached hereto.

11. This structure is for presentational purposes only and shall not affect the status of any of the individual Conventions or Schedules.

4.3 Convention 2. Applying for numbers or codes

Criteria for the eligibility of applicants for number allocations and reservations

12. All operators providing publicly available telecommunications services and running a telecommunication system under a licence granted under section 3.C.12 of the Telecommunications Law, whether that is an individual or a class licence, containing a Numbering section, are eligible to apply for allocations and reservations of numbering capacity.

13. Other persons who may require an allocation of numbering capacity, but who are not eligible under clause 12 above, should seek a sub-allocation from an eligible operator (as defined in clause 12 above). Sub-allocations should be fairly and reasonably available from such operators. However, the Authority is prepared, at its discretion, to consider reserving or allocating numbers or codes to virtual service providers in demonstrably exceptional circumstances (e.g. where a virtual service provider is in the process of setting up a system).

Information to be supplied by an applicant for a numbering allocation and/or reservation

14. When applying for an allocation or reservation of numbering capacity, the applicant shall provide the following information to the Authority's Numbering Unit on an appropriate application form (see section A 1 below):

- (a) Name and contact details of the applicant.
- (b) Where a person submits an application form on behalf of the applicant, a signed and dated letter of authorisation shall accompany it from that applicant.
- (c) Details of the licence granted under the Telecommunications Law under which the applicant intends to operate the numbering capacity sought and of the system being operated.
- (d) Details of any existing ranges held that are relevant to that application.
- (e) Details of the operator's interconnection and number portability arrangements.
- (f) A preferred numbering code and/or block and, where appropriate, second and third preferences should be indicated.
- (g) Where relevant, details of the type of telecommunications service intended on the range and the proposed tariff rate of the service.
- (h) Details of the applicant's utilisation of existing number allocations. For example:
 - Numbers in service allocated to end users;

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- Capacity not in use but contracted for (geographic numbering only);
 - Numbers set aside for geographic growth or customer orders; and
 - A forecast of expected utilisation over a specified period.
- (i) Any other information that the applicant considers necessary or appropriate to justify the application.

15. In addition, applicants shall provide to the Authority any other information, judged by the Authority to be relevant to the application. This may include a brief description of the applicant's technical and operational system configuration.

Timing of applications

16. Applications for numbering allocations should not, in general, be made more than six months prior to the planned in-service date.

4.4 Convention 3. Reserving numbers or codes

Making reservations

17. In addition to allocating numbering capacity, the Authority may, at its discretion, agree to reserve it. Reservations may be appropriate where:

- (a) an applicant does not wish to be identified;
- (b) the reason for the application should not be divulged prior to an application for the allocation; or
- (c) a customer order has not been finalised.

18. A reservation may be made:

- (a) in anticipation of an application being made for numbering capacity in accordance with a three year rolling forecast provided by licensees entitled to apply for an allocation; or
- (b) against a specific request submitted by any person eligible to receive allocations (for example, for the expansion or growth of existing services or for the introduction of new services).

19. An application for a reservation shall be made to the Authority's Numbering Unit in accordance with Convention 2 (see section 4.3 above). Applications for reservations will be made public in the same way as allocations, unless the applicant requests otherwise and the Authority agrees that the request for confidentiality is reasonable.

Limitations

20. Wherever possible, the Authority will endeavour to convert a reservation into an allocation upon request. However, it should be noted that a reservation does not automatically entitle an applicant to activate the capacity. Nor, where numbering capacity is reserved, is there any guarantee that a corresponding allocation will subsequently be made. Reservations will be time-limited and the limit for reservations will normally be three months. Reservations may be renewable on request to the Authority. Reservations must be converted into allocations and approved before the number range can be activated.

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Cancellation

21. Once a reservation has been made, that numbering capacity will be unavailable for allocation, except for the purpose and to the organisation for which the reservation was made. However, a reservation will automatically be cancelled if:

- (a) the time limit has expired;
- (b) the applicant withdraws the reservation; or
- (c) The Authority and the applicant agree a substitute reservation or allocation.

Competing requests

22. Where available number ranges are limited, and several operators have requested the same number block, the Authority may reserve the block for more than one operator, but will allocate it to the first operator who provides the Authority with firm evidence of a customer order. In these circumstances, the Authority will inform each of the competing operators that their reservation is subject to competition.

4.5 Convention 4. Considering applications

23. When making number allocations or reservations within the Plan, the Authority will take into account:

- (a) the guiding principles set out in Convention 1 clause 5 above ;
- (b) the provisions of the numbering section of the licence and, where appropriate, any other relevant licence conditions;
- (c) the views of the applicant and other interested parties (through consultation, where appropriate);
- (d) any other matters that the Authority deems relevant (e.g. any requirement to open a new range or make changes to the Plan in order to allocate the required numbers or codes); and
- (e) new number ranges or changes to the Plan.

24. Before opening any new ranges, or significant parts of ranges, the Authority will publish a notification. The Authority will give at least 28 calendar days' notice of the opening of any new ranges or significant parts of ranges. The Authority will also specify a date for the initial receipt of applications for those ranges and, prior to that date, no applications will be accepted.

25. The Authority will notify the ITU Development Sector (ITU-D) of changes to the Scheme and ensure that the correct notification is given in the ITU-D Operational Bulletin. Where the Authority considers it appropriate, it will also notify other overseas administrations, such as those that do not subscribe to the ITU-D Operational Bulletin.

Number portability

26. The Authority may take into account how the applicant intends to provide portability for relevant numbers when considering applications.

Timescale for handling applications for numbering capacity

27. The Authority will use all reasonable endeavours to make an allocation or reservation in accordance with the Conventions, in response to applications for numbering capacity, within a period of twenty-eight calendar days following receipt of

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an application that contains all of the information required by Convention 2 (see section 4.3 above).

28. The period referred to in Convention 4, clause 27 may be exceeded where:
- (a) additional information is required from the applicant;
 - (b) a period of consultation is necessary, as initiated by the Authority;
 - (c) there are significant issues relating to the application that cannot be reasonably handled within that period;
 - (d) evidence is required that an applicant is running a system licensed under section 3.C.12 of the Telecommunications Law; or
 - (e) The Authority considers that an alternative period of time is justified.
29. Where the Authority considers that an exception to the normal period is required, then it will inform the applicant in writing of its reasons and of the revised period.

Refusal of applications for numbering capacity

30. The Authority may at its discretion refuse an application for an allocation or reservation of numbering capacity. Alternatively, the Authority may not grant the application in full, or may attach specific conditions to the allocation which are consistent with the Conventions and/or Schedules and relate to the use and management of the numbering capacity allocated. Such specific conditions will be set out in the letter that accompanies the Allocation Certificate.
31. In the event of a refusal, whether in part or in full, or where specific conditions are attached, the Authority will inform the applicant, in writing, of its reasons.
32. The Authority may, following consultation with the applicant, make an alternative allocation that has the potential to satisfy the applicant's requirements without conflicting with the criteria that caused the original application to be refused.
33. Where the Authority refuses an application, either in part or in full, or attaches specific conditions to the allocation, the applicant may write to the General Director disputing the reasons given by the Authority for its decision or giving further information for consideration regarding the application. The General Director will then consider the request and respond to the applicant within 28 calendar days.

Allocation of numbers in response to an application

34. Once the Authority has made a decision to allocate a range of numbers to an operator for a specific purpose, it will issue an Allocation Certificate to the operator. The operator may not make any changes relating to the requested allocation of numbers until it has this certificate in its possession.
35. Should it become necessary for the Authority to withdraw the allocation (as for example under the conditions in Convention 6, clause 44 below), then a further Allocation Certificate that overrides and withdraws the original will be issued by the Authority.

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4.6 Convention 5. Conditions placed on allocations

General conditions

36. In addition to any specific conditions that may apply (see Convention 4, clause 30 above), the following general conditions, relating to the use and management of numbering capacity, apply to all allocations made by the Authority:

- (a) the allocation shall be used for the purpose specified in the application (e.g. including any classification by type or tariff as set out in the Plan);
- (b) the person originally allocated numbers shall be responsible for them. This does not prevent that recipient sub-allocating numbers, provided that the sub-allocation is still for the use specified in the original application and in accordance with the Conventions;
- (c) the holder of the allocation shall maintain a record of the percentage of numbers in use;
- (d) the holder of the allocation shall maintain a record of numbers that have been ported to another operator (Ported Numbers);
- (e) holders of numbering capacity shall not, unless the General Director consents otherwise, charge any person for a number allocated to him (other than a coveted number allocated to a person who is not a public telecommunications operator at the request of such a person); in such circumstances where a charge is authorised, the Authority reserves the right to make a charge against the operator to which the number(s) were first allocated; and
- (f) an operator shall not use numbers from the Plan other than those allocated by the Authority and for which the operator has in its possession a valid Allocation Certificate (see Convention 4, clause 34 above).

Conditional allocations - codes

37. The Authority may allocate a code to an operator on the condition that it is used exclusively for traffic to and from a specified third party. In addition, it may be allocated on the condition that the code shall be capable of being transferred to that third party if, in due course, that third party becomes eligible to receive allocations of codes in its own right by satisfying the eligibility criteria in Convention 2, clause 12 above.

Changes to allocations

38. Those who have been allocated numbering capacity are required to apply to the Authority to make any changes:

- (a) to the ownership of the block or code;
- (b) to the purpose or use of the numbering allocation; or
- (c) which relate to conditions of use placed on the allocation.

The audit process

39. Each holder of an allocation shall submit to the Authority an Annual Numbering Return. The Annual Numbering Return shall refer to information at the calendar year end and shall be submitted to the Authority as requested, but usually within one month of the end of that year.

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40. The following information shall be provided in the Annual Numbering Return for each allocation:
- (a) the current use of the allocation;
 - (b) numbers in service allocated to end users;
 - (c) details of numbers set aside for planned growth, customer orders or other usage, with explanations;
 - (d) blocks of numbers allocated to any person for purposes other than end use; and
 - (e) the proportion of numbers ported, at the request of end users, to another operator, including those ported before allocation.
41. Each Annual Numbering Return shall also provide:
- (a) a three year forecast of demand within significant ranges, as specified by the Authority;
 - (b) any other information requested by the Authority.
42. This information shall be supplied in a format specified by the Authority.

Annual numbering report

43. The Authority will prepare an Annual Numbering Report on the organisation and use of the Plan for publication each year, usually in April.

4.7 Convention 6. Re-allocating and withdrawing numbers or codes

Reallocation

44. If a substantial proportion of numbers from an allocation has been transferred (e.g. sub-allocated or ported) to another operator, the Authority may, with the agreement of the operators concerned, re-allocate the number block to the operator who has most users in the block. The Authority will re-allocate number blocks or codes only when it has received the written consent of both the existing, and the intended new, allocatees. In these circumstances the original Allocation Certificate will be withdrawn and a new one issued to the new holder of the allocation.

Withdrawal

45. The Authority will withdraw capacity that it has allocated, or part of such capacity, if its continued use or allocation is not in compliance with:
- (a) the Conventions and/or Schedules;
 - (b) the Plan; or
 - (c) any specific conditions of the allocation.
46. Withdrawal of an in-service numbering range, which has been allocated by the Authority, can be made only after the Authority has consulted with interested parties for a period of not less than twenty-eight calendar days. It will be subject to a period of notice of not less than three months following that consultation.
47. If an allocation or part of an allocation is not brought into service within six months, it may be withdrawn, after consultation with such interested parties and for such period as specified in Convention 6, clause 46 above.

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4.8 Convention 7. Requirement to notify others

48. When activating a number allocation, it is the responsibility of the holder of the allocation to negotiate with, and to notify, relevant Kingdom of Bahrain operators and, where appropriate, overseas authorities. This will be done within a timescale agreed between the operators and/or organisations.

49. Those who have been allocated numbering capacity are required to advise the Authority, on an ongoing basis, of the contact in their organisations to whom Allocation Certificates of the allocated codes and number blocks should be sent.

50. The Authority will maintain a list of such contacts and will make it available on request to all organisations listed on it, and others who, in the Authority's opinion, have need of that information.

4.9 Convention 8. National Numbering Plan records

51. The Authority will maintain comprehensive records of the status of all number ranges, codes and blocks of numbers comprising the Plan. The full Plan will be set out in a list (the "Plan List") kept by the Authority and made available on the Authority's website. The Authority will endeavour to update the List on the Authority's website on a weekly basis.

52. Where available and not commercially sensitive, details of the operators' plans for reserved numbering will be included on the List on the Authority's website. However, those requiring further details of reservations are advised to contact the person for whom the code or block of numbers has been reserved.

Publication of changes

53. In addition to updating the Plan at the earliest opportunity, the Authority will publish confirmations of allocations, reservations or withdrawals, setting out the number range(s) being allocated, reserved or withdrawn, the person to whom the allocation has been made or from whom it has been withdrawn, and the action date.

Status indicators

54. The Authority will structure the Plan so that all numbers or codes will fall into one of two categories: namely, either designated or not designated. Designated numbers or codes are those set aside within the scheme for particular usage: e.g. geographic, find-me-anywhere, premium rate, etc. Designation is no indication as to the availability, or otherwise, of a number or code. Those parts of the Plan that are not designated have not been set aside for a use specified in the Schedules, and are therefore not available for allocation or reservation.

55. Codes or numbers that have been designated will, unless this is with reference to a Type A or a Type C Access Code (see Schedule 10), have one of the following, more specific, status indicators (listed in alphabetical order) within the Plan:

- **Allocated** - indicates codes or numbers that have been allocated to a person or organisation whose name will be listed alongside. While the majority of codes and number blocks shown as Allocated may also be in public service, these records will not contain information about in-service dates. In addition, allocations will not appear with full details on the List while an applicant maintains a requirement to protect commercially sensitive information prior to the opening of service.

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- **Allocated for Migration Only** - indicates that the code or block has been allocated to a listed person for the express purpose of managing a migration from one range to another. This may be a temporary allocation and, after a suitable specified time, and the meeting of allocation criteria, the Authority may determine that the block could be used for new business and its status changed accordingly.
- **Free** - indicates that this code or block is available for allocation or reservation. Applicants should note that a number block shown as Free could have already been requested by another operator between the time of the last update of the list and the time of applying for the number block.
- **Free for X** - indicates numbering ranges which are free only for specific purposes, e.g. Free for Geographic Dialling Only, and Free for New 10,000 Block Only, which indicates where number ranges are not normally available for allocation or reservation while numbers are still Free in previously opened ranges within that geographic code area (see Schedule 3 for further details).
- **Protected** - indicates where a number block is protected until further notice or, where a date is shown, until that date. Numbers are protected, e.g. for future planning purposes or to avoid temporary or permanent dialling problems.
- **Reserved** - indicates a provisional allocation, subject to confirmation by the applicant and/or the Authority. The applicant's name will normally appear alongside the reservation unless the Authority has agreed to maintain commercial confidentiality.

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A 1 Allocation Certificate Proforma

The Authority plans to manage the allocation of the numbers in the Plan by means of a database which will be made accessible through its web site. Holders of the relevant licences will be able to apply for an allocation of ranges of numbers using a form, a draft of which is included at Figure 4 and Figure 5.

It is intended that a single form will serve for three purposes:

- Application for the allocation of a range of numbers
- Allocation of a range of numbers
- De-allocation of a range of numbers

In the initial stages of the regulation of the Plan for the Kingdom of Bahrain, the Authority will issue the incumbent with Allocation Certificates for the ranges of numbers currently in use, or reasonably needed in the immediate future within the adjusted numbering scheme described herein. This initial allocation will not require the presentation of formal Applications. A similar approach will be taken to the allocation of the initial group of numbers required by the second mobile operator.

Once these allocations have been completed, all further allocations will take place making use of a form based on the draft presented in this section. Initially, an operator will prepare, and submit to the Authority, an Application Certificate. On receipt, the Authority will log the application and process it through its internal procedures to ensure that the requested number range is available for allocation, and is being requested for use within the definitions of the Plan.

Once the Authority is satisfied that the number range is available and is to be used correctly, then the range will be marked up in the database to show the allocation and this will be made available on the web site. On completion, the Application Certificate will be converted into an Allocation Certificate and returned, duly authorised, to the applicant.

In the event that the Authority wishes to withdraw a range of numbers from a licence holder (as for example in the case of need for conservation measures, see Schedule 3.2 below), then it may, following consultation with the licence holder to which the numbers had been allocated, issue a De-allocation Certificate that may cancel all or part of a previously issued Allocation Certificate and return a range of numbers to the pool of the Plan. Any such De-allocation Certificate will refer to the original Allocation Certificates that are affected by the de-allocation process.

Where the Authority finds that a number range cannot be allocated, for whatever reason (e.g. prior allocation of the range and no suitable 2nd and 3rd choices; or inappropriate use of the number range), then the Allocation Certificate will be returned to the applicant with the TRA signature marked 'Unapproved'. The certificate will be accompanied by a letter explaining the reasons for the rejection and the action that needs to be taken in order for a subsequent application to be successful (in accordance with section 4.5, paragraphs 31 and 32).

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Telecommunications Regulatory Authority Network numbering Certificate					
Applicant details:			Type of certificate		
Name Company Address Telephone Facsimile E-Mail			Application		
			Reservation		
			Allocation		
			De-Allocation		
			Type of number requested		
			Geographic		
			Find me anywhere		
			Special		
			Premium		
			Other		
Applicant's reference number			TRA reference number		
Applicant's licence reference			Superseded allocation(s)		
Range of numbers requested					
		1st choice	to		inclusive
or		2nd choice	to		inclusive
or		3rd choice	to		inclusive
Purpose of allocation					
Usage of existing allocations					
Range from		to		% in use	% committed
Supporting data					
Special conditions					
Applicants signature			TRA signature		
Name			Name		
Role		Date	Role		Date
TRA Internal use only					
Received and logged				Listed on website	
Range available				Certificate issued	
Allocated in database					

Figure 4 Draft Allocation Certificate

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Telecommunications Regulatory Authority

Network numbering Certificate

Notes on completion:

Applicant details: Should include the name of a previously agreed responsible person, together with address and contact details for further correspondence.

Type of certificate: One of the boxes should be ticked. Forms submitted to the TRA should be either Applications or Reservations. The application form will become the allocation certificate once it has been processed by the TRA.

A de-allocation certificate removes the right of use for the defined number range from the operator.

Type of number: This must be one of the defined purposes from the Plan

Reference numbers: Forms submitted to the TRA should include an applicants reference number by which it can be tracked. The TRA will assign the application a TRA reference number during the processing of the application

Licence reference: The identity of the licence under which the application is being made.

Over-ridden allocations: If the form is being used as a de-allocation, then any previous allocations that are over-ridden by the de-allocation will be referred to.

Range requested: The applicant should enter here the first choice of the number range selected. To allow for the possibility of coincident applications second and (if required) third choice number ranges may also be included to cover the possibility that the first choice range has been allocated already. As a general principle one form should cover one contiguous block of numbers.

Purpose of allocation: A brief description of the use to which the additional numbers will be put and why the request has been made.

Use of existing allocations: A list of the allocations currently available to the applicant for the same type of purpose and the percentage of the allocation actually in use and committed. (Use attachments if overflow space is required)

Supporting data: Include here any further information in support of the application. This may include growth history and predictions, new service information or any other background in justification of the allocation of more numbers.

Special conditions: Reference may be made by the Authority to any special conditions (e.g. duration of reservation) that may apply to the Allocation

Signatures: The Application only has force if it is signed by a previously agreed authorised person. The Allocation only has force if it is signed by the General Director of the TRA or his nominated representative.

Figure 5 Notes for completion of the Allocation Certificate

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5 Schedules to the Consultation

The following sections contain the Schedules to the National Numbering Plan. These Schedules contain specific information relating to the use of number ranges within the Kingdom of Bahrain.

Schedule 1 Structure of the Schedules

Schedule 1.1 The National Significant Number (NSN)

56. The National Significant Number (NSN) will usually be eight digits long, notated by the sequence ABCDEFGH. The only exceptions to this are the short codes used for specific purposes in the Plan (see Schedule 10 below). Where necessary, departures from the standard eight digit scheme are clearly marked on the List.

Schedule 1.2 The NSN Structure

57. The structure of the Scheme is as follows:

AB	Purpose
00	The international prefix code, used to access international dialling.
1X	The Geographic Numbering Range (see Schedule 3 below).
2X	The Geographic Numbering Range (see Schedule 3 below).
3X	Find-me-anywhere range for Personal, Mobile and Paging services (see Schedule 6 below).
4X	Protected for future use.
5X	Corporate Numbering (see Schedule 5 below).
6X	Protected for future use.
7X	Protected for future Geographic numbering (see Schedule 3 below).
8X	Special Services (see Schedule 7 below).
9X	Premium Rate Numbering and Broadband Services (see Schedule 8 and Schedule 9 below).

Table 1 High level allocation of codes to purposes within the Plan

Schedule 1.3 Allocation of sub-blocks

58. Since the numbering capacity associated with a range may exceed the potential demand for the usage identified in Schedule 1.2 above, allocations will be made from particular B digits, leaving other values of B digit free for future allocation to the given usage or for alternative designation. Similarly, capacity will be conserved by care in the allocation of C and D digits to avoid large blocks of numbers becoming sterilised. Numbers will normally be allocated from the lowest available block upwards.

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Schedule 2 Standards and standard presentation

Schedule 2.1 Standards

59. So far as it is practicable, the Scheme will conform to the relevant international standards. In particular, attention is drawn to the following ITU-T Recommendations, or their functional successors:

- **E.123** - Standard notation for national and international telephone numbers (see Schedule 2.3–Schedule 2.8 below).
- **E.161** - Arrangements of figures, letters and symbols on telephones and other devices that can be used for gaining access to a telephone network.
- **E.164** - The international public telecommunications numbering plan.
- **E.166** - Numbering plan for inter-working the E.164 and X.121 number plans.
- **X.121** - International numbering plan for public data networks.

Schedule 2.2 International service numbering

60. ITU-T Recommendations **E.169.2**, **E.169.3**, **E.175**, **E.191** and **E.195** describe the role of the ITU-T in introducing universal services. The allocation of numbers for such services (e.g. International Freephone 00800) is the responsibility of the ITU-T.

Schedule 2.3 Country code

61. The country code allocated by the ITU-T to the Kingdom of Bahrain is 973. This code follows the international dialling prefix on calls made from outside the Kingdom, and should be followed by the NSN of the destination within the Kingdom.

Schedule 2.4 Maximum number of digits

62. Particular attention is drawn to ITU-T Recommendation E.164 which states that the maximum number of digits that a national system is expected to handle on an outgoing international call is fifteen (15) (excluding the international dialling prefix).

Schedule 2.5 Alphanumeric arrangements

63. The Plan will use the decimal character set 0-9 for all number allocations. Letters and other non-decimal characters will not form any part of the NSN.

Schedule 2.6 Allocation of letters to numeric keypads

64. The use of the following keypad arrangement is strongly recommended, in line with ITU-T Recommendation E.161 Option A:

Numeric digit	Associated letters
1	No letters
2	ABC
3	DEF
4	GHI

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Numeric digit	Associated letters
5	JKL
6	MNO
7	PQRS
8	TUV
9	WXYZ
0	No letters

Table 2 Allocation of letters to numeric keypads

Schedule 2.7 International Prefix (AB = 00)

65. The international prefix 00 is used for international dialling from within the Kingdom of Bahrain. The digits of the country code and the NSN will follow this prefix. This also applies, where relevant, to ISDN data calls. Where an operator supports the use of handsets with the '+' character, this shall be interpreted as the International Prefix when used at the beginning of a dialling sequence.

Schedule 2.8 Consistency of format

66. Numbers can be presented in whatever way operators or users wish, so long as there is no intention to deceive or confuse. However, considerable benefit can be obtained from consistent forms of number presentation. The recommended formats for eight-digit NSNs under the Plan are as follows:

Geographic numbering ranges

1BCD EFGH – 1X range with eight digit dialling
2BCD EFGH – 2X range with eight digit dialling
7BCD EFGH – 7X range with eight digit dialling

Mobile numbering ranges

3B CDEFGH – 3X range with eight digit dialling

International format (incoming)

+973 ABCD EFGHI – Geographic numbering
+973 3B CDEFGHI – Mobile numbering

Schedule 3 Geographic numbering ranges (1X,2X & 7X)

Schedule 3.1 Use of the geographic number range

67. In the Scheme, the 1X, 2X and 7X ranges have been designated as the Geographic Numbering Ranges (GNR), although the 7X range is currently protected for future use. All current incumbent geographic numbers will be prefixed by 17 followed by the current (six digit) NSN. Some small groups of other 1X numbers are protected to cater for current short code numbers and there will be some consolidation of these numbers to release space in this number group (see Schedule 10.8 below). Further number requirements will be allocated from the 1X range until it is exhausted. As number groups become exhausted, then numbers will be allocated from the

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equivalent 2X range. In this way, the integrity of the existing geographic structure will be maintained, while at the same time setting out the basis for its future evolution.

68. The Authority will give at least two years' notice of any future code change to enable operators and users to prepare for it.

69. In deciding how future 2X or 7X codes should be used, the Authority will take into account the following factors:

- (a) areas likely to be affected by number shortages;
- (b) anticipated growth in demand for numbers;
- (c) demographic and business trends;
- (d) the existence of communities of interest;
- (e) the need for efficient utilisation of numbering resources; and/or
- (f) any representations received on behalf of local communities.

70. To ease the migration by end users to new codes and numbers, operators shall ensure that the following measures are in place wherever possible:

- (a) there must be adequate notification and publicity to end users prior to a change;
- (b) there must be a period of parallel running when numbers to both the old and new codes are available; and
- (c) there is a changed number announcement after the completion of the change (see Section 3 Migration).

71. The Authority will advise on the procedure for licensed operators on how to obtain a map of the Kingdom of Bahrain showing the geographic areas and codes used to identify them. The Authority will ensure that more precise details of the boundaries can be obtained, when necessary.

72. Calls anywhere within the GNR will be made using full national dialling. There will be no facility for using just the Subscriber Number to make calls when both ends of the call have the same National Destination Code (NDC).

73. The boundaries of the areas covered by the GNR will be material to the operators offering services in or around those areas. The Authority may make changes to the boundaries following consultation with relevant interested parties.

Schedule 3.2 Conservation measures

74. Geographic numbers will normally be allocated to applicants in blocks of 10,000 with CD digits (see Schedule 2.8 above) in the appropriate area code range.

75. Some groups in the 10, 12, 13, 15, 18 and 19 number ranges will not be available until after migration of some existing short codes into a consistent area.

76. The proposed Plan adds very significantly to the pool of available numbers and it is unlikely that exhaustion of numbers will occur under the Plan. If, because of some localised pressure on the numbering pool, the Authority considers that exhaustion is a possibility, then it may announce conservation measures. In those areas where conservation measures have been announced, numbers may be allocated in blocks of 1,000. Accordingly, conservation measures will not only enable the Authority to delay

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implementing code changes, but may remove the need for some code changes altogether.

77. The Authority will publish and revise as appropriate a list of Conservation Areas. The assessment of what constitutes a Conservation Area takes into account confidential audit returns, actual allocations over recent years, and the Authority's knowledge of local factors.

78. Conservation Areas will be separated into two types:

- (a) Conservation Areas where numbers will be allocated in units of 1,000 (Type A Conservation Areas); and
- (b) Conservation Areas where numbers will be allocated in units of 10,000 (Type B Conservation Areas).

79. Type A Conservation Areas are those which the Authority believes are within two years of exhausting the 10,000 number blocks available. In addition to allocating new blocks in those areas in units of 1,000 numbers, the Authority may, following at least six months written notice to operators, withdraw such 10,000 number blocks as have been previously allocated to them, and reissue to them an appropriate number of 1,000 number blocks from that 10,000 number block. An appropriate number in this context will be sufficient to cover existing usage and reasonable future utilisation.

80. Allocations in Type B Conservation Areas shall be conditional upon operators planning their usage of numbers in units of 1,000 at a time, and, should the area become a Type A Conservation Area, the Authority may withdraw and reissue numbers in accordance with Clause 79 above.

81. Additionally, in order to conserve numbers, the Authority will not normally open a new 100,000 range while numbers are still free in previously opened ranges within that code area.

82. Operators licensed to offer service in more than one local geographic code area must seek an allocation of number blocks for each of the relevant codes in those areas in which they wish to provide service in accordance with the GNR.

Schedule 4 Protected ranges (4X and 6X)

83. The 4X and 6X ranges of numbers are protected for future use.

Schedule 5 Corporate numbering (5X)

84. The 5X range of numbers has been designated for Corporate Numbering. Corporate number services will be provided from the Plan on an as required basis. In general number blocks will not be allocated for these services.

Schedule 6 Find-me-anywhere services (3X)

Schedule 6.1 General

85. The 3X range has been designated for 'Find-me-anywhere' services. These are services that enable end users to be contacted, whatever their location, where the call charge is not distance dependent. Mobile, Personal Numbering and Paging services are included in these services.

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Code	Service
30	Protected
31	Personal Numbering Services
32	Paging Services
33	Reserved
34	Reserved
35	Reserved
36	Mobile Services
37	Mobile Services
38	Mobile Services
39	Mobile Services

Table 3 Allocation of Find Me Anywhere codes to services

86. Current mobile services operated by the incumbent will use the number range 39. The incumbent currently uses numbers within its mobile range for paging. Paging numbers for new operators will not be allocated from within mobile number ranges, instead the number range 32 will be used.

87. New number blocks will only be issued to operators in the following ranges:

Code	Service
31	Personal Numbering Services
32	Paging Services
36 - 39	Mobile Services

Table 4 Ongoing allocation of Find Me Anywhere number ranges

Further ranges will not be opened until exhaustion approaches.

88. In general the Authority will aim not to mix numbers from different mobile operators in the same number range. If Number Portability is invoked, then this approach will become blurred as numbers 'leak' between operators, and the practice is not guaranteed indefinitely. Numbers will be allocated efficiently from the lower blocks upwards so that should new services arise, there will be contiguous blocks available for use if necessary. While sufficient number space remains available, different operators will be allocated different '3X' codes. The Second Mobile Operator will be allocated the number blocks with X = 6.

Schedule 6.2 Personal numbering

89. The Authority may allocate 31 numbers in 10,000 or 100,000 number blocks at the applicant's request and where it considers this to be appropriate, taking into account:

- (a) demand forecasts;

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- (b) previous allocations and reservations by the applicant and others offering similar services; and
- (c) the need to conserve capacity.

90. In particular, the only services allowed to be used for the 31 range shall be Personal Numbering Services which enable end users to be called using a single telephone number and to receive those calls at virtually any telephone number, including mobile numbers. The range of 31 numbers is suitable for end users who habitually move location.

91. For the avoidance of any doubt, the 31 range shall not be used for Premium Rate Services (see Schedule 8 below).

92. Any person to whom the Authority has allocated 31 numbers (the original 31 allocatee) shall not share with end users any revenue obtained from providing a Personal Numbering Service. Where the original 31 allocatee sub-allocates 31 numbers to persons other than end users, such as to a provider of Personal Numbering Services or another operator, that original 31 allocatee shall, prior to making such a sub-allocation (and without prejudice to the generality of his obligations under section 4.6, Clause 36 above - Convention 5), ensure that such persons undertake to procure that revenue obtained from providing a Personal Numbering Service is not shared with end users.

Schedule 6.3 Paging and mobile services

93. The Authority will allocate mobile service numbers in blocks of 100,000 and paging service numbers (due to their declining popularity) in blocks of 10,000.

Schedule 7 Special services (8X)

94. The 8X range has been designated exclusively for Special Services. These are services paid for through the telephone bill of a subscriber, and charged at special rates. The cost of the call to services in the 8X range shall be:

- (a) paid by the called party;
- (b) shared between the caller and the called party; or
- (c) paid wholly by the caller.

95. Operators and service providers shall offer services at the stated tariffs, which shall be no higher than the tariff for standard geographic calls in the 1X, 2X and 7X ranges.

96. Allocation of numbering in the 8X range will normally be in blocks of 10,000, whilst tariffing will be in blocks of 100,000.

97. In order to allow meaningful tariff information, codes will be allocated with A, and where relevant, with C, digits having the following significance:

Code	Service
8X0	No charge to caller
8X1	Protected
8X2	Internet for Schools

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Code	Service
8X3	Protected
8X4	Cost shared with operator
8X5	Protected
8X6	Protected
8X7	Cost born by the caller
8X8	Reserved
8X9	Protected

Table 5 Allocation of Special number codes in the 8X range

98. The Authority may designate further sub-ranges for specific services/tariffs from time to time. The Authority will publish such changes through the web site and other mechanisms it deems appropriate.

99. A group of numbers in the 899 range is reserved for inbound and internal use as defined in Schedule 11 below.

Schedule 8 Premium Rate Services (90/ 91)

Schedule 8.1 General

100. The 9X range has been designated for Premium Rate Services, both with and without content, and, in the longer term, switched broadband services. In order to preserve capacity and to provide service meaning to callers, codes will be allocated with C-digits having the following significance:

Code	Service
9X0	Premium Rate Content Services
9X1	Premium Rate Non-Content Services
9X2 – 9X8	Broadband services
9X9	Reserved

Table 6 Classification of Premium Rate service numbering

Schedule 8.2 Premium Rate Services

101. Premium Rate Services are normally expected to have the following characteristics:

- (a) they are paid for through the telephone bill of a subscriber;
- (b) they are charged at rates above Special Services in the 8X ranges;
- (c) the revenue for the call, which comprises the price of the telephone call plus the content, product or service, is shared between the operator and the provider of the service whether directly or indirectly; and

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(d) they are not Find Me Anywhere services.

102. Premium Rate Content Services in the 9X0 sub-range are those services which, apart from having the characteristics in Clause 101 above, include a charge for the content of the call or other product or service delivered in the course of, or as a direct consequence of, the call, which charge is in addition to, or forms part of the overall charge for, the telecommunications service which delivers that content, product or service.

103. Premium Rate Non-Content Services in the 9X1 sub-range are those Premium Rate Services which are not Premium Rate Content Services. These might include calls to specialist technical help centres where the call is a voice to voice call with no specified content.

104. Allocation of numbering in the 9X0 and 9X1 ranges will normally be in blocks of 10,000, although tariff distinctions will be made at the 100,000 level.

105. In order to provide service and tariff meaning to callers, Premium Rate call codes will be allocated with C and D digits having the following significance:

Code	Service
9X00 and 9X01	Calls with specified maximum charge*
9X02 to 9X04	Protected
9X05 and 9X06	Open ended charge
9X07	Purchase of products costing >1BD
9X08 and 9X09	Protected

Table 7 Tariff meaning of Premium Rate numbering

*The maximum charge that can be levied on calls in these number ranges is 0.5 BD p.m. and a total call charge of no more than 3BD.

106. Further sub-ranges may be designated by the Authority for specific services/tariffs from time to time and details will be published on the web site and through other media considered appropriate.

Schedule 9 Broadband services (9X2 to 9X8)

107. The ranges 9X2 to 9X8 have been designated for the use of Broadband switched services. These are services that allow a considerable amount of information to be conveyed, such as television pictures. Broadband is generally defined as a bandwidth that is more than 2Mbits per second. Broadband Services will in most cases be services incapable of connection to or from numbers in other narrowband numbering ranges.

Schedule 10 Access Codes and Short Codes

Schedule 10.1 General

108. Access codes are short, generally memorable, three to six digit numbers, usually, but not exclusively, beginning with 1, which allow end users to access a wide

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range of telephony services. Lists of codes in use or designated for use are included in the access codes sections of the Plan.

109. Access codes are categorised by the type of service for which they are used. There are three types of access codes: Types A, B and C.

Schedule 10.2 Type A access codes

110. Type A access codes are used by callers to reach commonly used services, such as operator services or information services such as the speaking clock. These codes may be used throughout the Kingdom of Bahrain by all operators offering equivalent services (and may not be used by any operator for any other service). More recently, the use of Type A codes has been refined for particular services where there is a social imperative, sometimes backed up by regulatory force, such as Suppress Calling Line Identification and voice text services for the deaf. Type A codes will be designated individually by the Authority for such services, and not allocated to a particular operator or a service provider.

Schedule 10.3 Type B access codes

111. Type B access codes have network-wide significance as they are used by the end users of one public telecommunications operator to have selected calls connected by an operator other than the one from whom they rent their telephone line (known as 'Indirect Access'). For example, callers might use Type B codes to select Indirect Access providers for long distance and/or international calls. Type B codes can also be used by callers to access services available from their own operator's system or another public operator's system. These codes are allocated by the Authority.

Schedule 10.4 Type C access codes

112. Type C access codes are set aside for independent use by public telecommunications operators, either to provide particular services exclusively to their directly connected end users or for internal network operations. This might include codes for access to sales services, fault reporting or general enquiries. Operators of different systems have the opportunity to choose corresponding codes where it is convenient and potentially beneficial to adopt a common approach, but are not obliged to do so. While the Authority has designated a range, it does not allocate Type C codes but, based on information supplied by operators, their use is recorded in the Plan.

Schedule 10.5 Number of digits

113. Given the need to ensure reasonable numbering capacity, allocation of access codes will generally be on the basis of five-digit 1XXXX codes. While three-, four- and six - digit codes will no longer be issued, three-, four- and six - digit codes already in use will remain in use. Access codes may, however, be withdrawn in accordance with section 4.7(Convention 6).

114. Where appropriate, different access codes may be linked together such as, for example, to allow choice of operator followed by access to a second operator's service. However, there may be limitations on the number of digits that the public system can handle in a single string (see Schedule 2.4).

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Schedule 10.6 Entitlement to allocation and maximum permissible holdings

115. Type B access codes will be allocated on the basis of Company Groups, with the entitlement generally being restricted to one access code of each type set out in Clause 116 below for each Company Group. The Authority will consider requests for additional access codes on a case by case basis. However, those who already have shorter-length access codes shall not generally be allocated new codes, and will be expected to extend their existing access codes.

116. There are generally three types of Type B Access Code:

- (a) Access codes used for the purpose of a direct call set-up, where the dialled digits of the access code and the following number are treated as a single unit, or 'string', by the telephone networks in setting up the call;
- (b) Access codes used as a prefix, where the second stage relies on the conveyance of a Personal Identification Number ('PIN'); and
- (c) Access codes that are used to access services, but which are not necessarily used in conjunction with a following number, or with a second stage which relies on conveyance of a PIN.

Schedule 10.7 Emergency numbers

117. In order to minimise the risk of misdialling or incorrect routing on emergency calls, the use of digits 999 and 112 in prominent positions in longer number strings should be avoided.

Schedule 10.8 Short codes

118. The use of short codes represents substantial numbering capacity and, for this reason, is recorded in the details of the Plan, where information is provided.

119. The Authority will seek to migrate existing short codes into a narrower range of numbers, using the standardised format over time so that all short codes are more easily recognisable.

Conventions for other codes and numbers

120. The Authority recognises that there is a need to manage other aspects of numbering in addition to those covered above. These include:

- Data network codes
- Legacy system codes (e.g. Telex)

121. The introduction of a new method of controlling numbering as well as a new numbering plan is a major undertaking and the Authority recognises that it may take some time to settle down. For this reason it does not intend, at this stage, to pursue the management of these aspects although it will return to them at a future date.

Schedule 11 Inbound and internal routing numbers

122. Blocks of numbers in the 899XXXXX range, from 8993XXXX to 8999XXXX, will be available for allocation to operators for inbound routing purposes. Numbers in those ranges will be eight digits in length and will normally be allocated in blocks of

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10,000. Operators will use the digits following 899 to identify service, carrier and end user. Operators will be expected to use a structure that will utilise the numbers efficiently. The need for further routing codes, or an increase in the provisional limit on inbound routing codes, will be addressed as and when necessary.

123. Operators may use codes in the ranges 8990 to 8992 for internal routing purposes without application to the Authority.

Schedule 12 Glossary and Definitions

Access Code

Short, generally memorable, codes, usually beginning with '1', which allow end users to access a wide range of telephony services.

Allocated

Status of a Code Block that has been assigned to an operator for a particular purpose

Allocated for Migration Only

Status of a Code Block that has been Allocated for a temporary period during migration from one numbering scheme to another.

Allocation Certificate

A formal document that carries the request for allocation and the allocation of a Code Block (or Blocks) to an operator for a particular purpose.

Annual Numbering Report

A report produced by the Authority on an annual basis that summarises the current position with regard to the national Numbering Plan.

Annual Numbering Return

Information supplied by operators to the Authority, at the Authority's request, in a manner prescribed, and usually within one month of the year's end.

Batelco

The incumbent telecommunications operator in the Kingdom of Bahrain.

Broadband

A service or connection allowing a considerable amount of information to be conveyed, such as television pictures. Broadband is generally defined as a bandwidth that is more than 2Mbits per second.

Closed Numbering Scheme

A numbering system in which all numbers are the same length

Code Block

A sequence of contiguous numbers used as the basis for allocating codes to operators

Company Group(s)

A Company Group means a parent undertaking and its subsidiary undertakings.

Conservation area

A geographic code area that has a realistic expectation of number exhaustion within the foreseeable future. This definition is based on knowledge of operators' business plans in a particular area or, generally, the amount of numbering capacity available and on

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information provided in operators Annual Numbering Returns. The Authority will publish and keep updated the list of Conservation Areas and it will be available on the Authority's website.

Consultation

A Consultation is a document issued by the Authority that expresses some intent with regard to telecommunications regulation prior to its imposition in order to allow interested parties to comment on it.

Convention

The Kingdom of Bahrain's National Numbering Conventions. These are a set of rules and principles that govern the use, management and allocation of numbers from the Plan. It is a breach of the licence granted to an operator under the Telecommunications Law, for an operator to not have a Numbering Plan, or to have a Numbering Plan that does not accord with these Conventions.

Country code (CC)*

The combination of one, two or three digits that identifies a specific country or countries in an integrated numbering plan or a specific geographic area. The public switched telephone network CC for the Kingdom of Bahrain is 973. This code follows the international dialling prefix on calls made from outside the Kingdom, and should be followed by the NSN of the destination within the Kingdom, (excluding the national dialling prefix, '0' if this is adopted).

Data Network Numbering and Data Network Identification Code (DNIC)

Data network numbering conforms to international standards and is assigned to the Kingdom of Bahrain by the ITU-T as required.

The (General) Director

The (General) Director of the Telecommunications Regulatory Authority.

'Find-me-anywhere' services

These are services that enable end users to be contacted, whatever their location, where the call charge is not distance dependent. Mobile, personal numbering and paging services are included in this category.

Free

Status of a Code Block that has not been allocated for any purpose.

Free for X

Status of a Code Block that is free but only for a specific purpose.

Geographic Numbering Range (GNR)

Those numbering blocks that have geographic significance

Indirect Access

Indirect access is the acquisition of calls by an operator through a different operator's infrastructure.

International Prefix

The International Prefix is the recognised numeric prefix that is added before the called number, which the telecommunications system uses to recognise that an international number is being called. For the Kingdom of Bahrain, the prefix is 00.

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ITU Telecommunications Standardisation Sector (ITU-T)

The ITU-T is a permanent organ of the International Telecommunications Union (ITU), the United Nation's specialised agency in the field of telecommunications. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardising telecommunications on a world-wide basis.

Local rate

An indication that the price for the call is equivalent to the rate for a geographic local call set by the relevant originating operator, where such a rate exists (local rate is not differentiated at present in Bahrain).

National Destination Code (NDC)*

A nationally optional code field, within the international public telecommunications numbering plan as set out in the ITU-T Recommendation E.164 number plan, which, combined with the subscriber number, will constitute the National Significant Number. In the Kingdom of Bahrain, this corresponds to the area code, used before the called subscribers number. In the Kingdom of Bahrain, the NDC has 2 digits.

National Numbering Plan (the Plan)

The Kingdom of Bahrain's Numbering Scheme (also known as the Plan). The Plan indicates the number ranges that are delegated for particular purposes or not delegated (see Section 4.9 - Convention 8).

National Numbering Plan List (the List)

The list of codes and numbers that make up the Plan, published by the Authority on its website and updated, normally, on a weekly basis. The List gives details of the current status of delegated parts of the Plan, e.g. Allocated, Free, Protected or Reserved.

National Rate

An indication that the price for the call is equivalent to the rate for a geographic national call set by the relevant originating operator, where such a rate exists (National Rate is not differentiated at present in Bahrain).

National Significant Number (NSN)*

This refers to that portion of the number that follows the country code for geographic areas. The National Significant Number consists of the National Destination Code followed by the Subscriber Number.

Number Block

A unit of 1,000, 10,000, or 100,000 numbers depending on the section of the Plan to which the number pertains.

Numbering Bulletin

This is the same as the Annual Numbering Report.

Number Range

A set of contiguous numbers of a specified or unspecified size.

Numbering Arrangements Condition

The condition contained in certain licences granted under the Telecommunications Law. This deals with numbering arrangements in respect of numbers commonly referred to as public numbers, such as a licensee's obligation to adopt a numbering plan

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for such numbers allocated to him by the General Director of the Authority from the Plan in accordance with the Conventions.

Numbering Plans

Plans that licensed operators adopt for such numbers as are allocated to them from the Plan. These plans describe the method adopted, or to be adopted, for allocating and reallocating a number to any network termination point, user, telecommunication apparatus or service element. The Numbering Arrangements Condition in the licence granted under the Telecommunications Law obliges a licensee to have a numbering plan that is consistent with the Conventions. Pursuant to that condition, the Director may request such information about the licensee's operations under its numbering plan as he may reasonably require to administer the Plan.

Open Numbering Scheme

A numbering scheme in which numbers may take different lengths and meanings depending on the contents of the number.

Personal Identification Code (PIN)

A number defined by a user that provides a degree of security in the operation of a service.

Personal Numbering Service (PNS)

This is a service based on number translation that enables end users to be called, using a single personal telephone number, and to receive those calls at almost any telephone number, including mobile numbers. Personal numbers are suitable for end users who habitually move location. For the avoidance of any doubt, personal numbers shall not be used for Premium Rate Services.

Ported Number

This is a number that has been Allocated to a particular operator who has then re-allocated the number to a third party in accordance with the provisions of the Plan.

Premium Rate Services (PRS)

Services that are paid for through the telephone bill of a subscriber, and charged at rates above those for Special Services. The revenue for a PRS call may be shared between the operator and the provider of the service.

Protected

The status of a Code Block that is withheld from issue for some future purpose.

PSTN

Public Switched Telephone Network.

Reserved

The status of a Code Block that has been provisionally Allocated to an unnamed party pending confirmation.

Schedules

Those sections of this document that detail the specific rules of the Plan

Special Services

Services that are paid for through the telephone bill of a subscriber, and charged at special rates, from free up to, and including, national rate. Charges for these calls can

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be paid by the called party, shared between the caller and the called party, or paid wholly by the caller.

Subscriber Number (SN)*

The number identifying a subscriber in a network or numbering area.

Suppress Calling Line Identification

A function requested by the caller that prevents the called party from identifying the source of the call.

Telecommunications Numbering and Addressing Body (TNAB)

A body approved by the Director as representative of public telecommunication operators and other persons whom the Director considers it appropriate to include in consultations about the content of the Conventions and the Scheme. (At the time of publication no such body has been approved).

Telecommunications Regulatory Authority

The body set up under the Telecommunications Law to administer the regulation of telecommunications in the Kingdom of Bahrain.

* - Indicates that this is based on an ITU-T Recommendation