

SCHEDULE

Part 1

LICENCE COMMENCEMENT DATE

The Licence Commencement Date with respect to GSM 900 is the 16th day of May 1996.

The Licence Commencement Date with respect to GSM 1800 is the 1st day of January 2000.

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Part 2

THE LICENSED MOBILE SERVICES

1. The Licensed Mobile Services

1.1 The Licensed Mobile Services are GSM Mobile and Personal Communications Services having the characteristic of a pan-European, cellular, digital, land based, mobile telephony service:-

(a) Compatible with the GSM Standard and provided in the in the 900MHz band (the "GSM900 Service") and (the 1800MHz "GSM1800 Service"), band in accordance with the Wireless Telegraphy Acts 1926 – 1988 and the GSM technical specifications of the European Telecommunications Standards Institute ("ETSI"), as published by the National Standards Authority of Ireland ("NSAI") and

(b) With the international roaming capability referred to in Part 5 of the Schedule.

2. Additional services

2.1 The Licensee shall be required to provide the following Services:-

- (i) Fax and Data.
- (ii) Short Message Service.
- (iii) Voicemail.
- (iv) Call Diversion.
- (v) Call waiting and Hold.
- (vi) Call Barring.
- (vii) Itemised Billing.

2.2.1 Before December 31, 2000 the Licensee shall introduce platforms for the following services, or equivalents thereto:-

- (i) Mobile banking (in association with a licensed bank).
- (ii) Enhanced Data Services.
- (iii) Enhanced Voicemail User Interface.

(iv) Wireless Application Protocol.

2.2.2 Before 31 December 2003, the Licensee shall introduce the following:-

(i) Medium to Broadband Data Services (based on approved ETSI GSM evolution standards).

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Part 3

ACCESS TO THE EMERGENCY SERVICES

1. General

The Licensee shall provide ready access for customers through the Licensed Mobile Service to the emergency services (within the meaning of this Part 3 of the Schedule).

2. Calls to an Emergency Service

In this part an “emergency services” means the Gardá Síochána, the fire brigade services, the ambulance services, the boat and coastal rescue services, (including the rescue services provided by the Air Corps) or the mountain and cave rescue services.

3. Directions by the Director

The Director may give directions in writing to the Licensee in relation to the handling of calls to and from customers relating to an emergency service (“emergency calls”), and the Licensee shall comply with any such directions.

4. Acceptance of Emergency Calls

Emergency access codes 999 and 112 shall be open to all GSM terminal equipment equipped with a valid SIM Card, where technically necessary, and any other codes subsequently designated for use as emergency access codes, exclusively for calls to the emergency services

5. Routing of Emergency Calls

The Licensee shall ensure that an emergency call is routed at the expense of the Licensee, to a collection centre for emergency calls. The Licensee shall provide not less than two routes with physical diversity between each mobile switching centre and a collection centre as described.

6. Emergency Calls Free of Charge

- (a) The Licensee shall not impose a charge on the customer in respect of an emergency call.
- (b) The Licensee shall not list on a customer’s itemised bill any emergency call.

7. **Identification of Emergency Calls**

When an emergency call is made to an emergency service from terminal equipment of a customer, the Licensee shall, where technically possible, transmit the customer's number to a collection centre for emergency calls in the form of a calling line identification message.

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Part 4

SERVICE QUALITY, PERFORMANCE STANDARDS AND OBLIGATIONS

1. General Obligations

1.1 For the purposes of carrying out service quality surveys, the Licensee shall provide, on request, to the Director the following:

- (a) Maps showing coverage for:-
 - (i) In the case of the GSM1800 service, 1 Watt terminals;
 - (ii) In the case of the GSM900 service, 2 Watt terminals.
- (b) An up to date list of the locations of the base transceiver stations;
- (c) A mechanism for identifying the base station that is handling a call at any given time;
- (d) An adequate number of test numbers.

1.2 Where requested to do so, the Licensee shall provide to members of the public, maps of the other GSM operators with whom it has roaming agreements showing the coverage provided by them,

2. Coverage

2.1.1 "**Coverage**" means the extent to which the strength of the radio signal is sufficient to provide an adequate service for:-

- a 2 Watt, GSM900 terminal operating outdoors.
- a 1 Watt, GSM1800 terminal operating outdoors.

An adequate service is achieved outdoors if the average field strength measured outdoors is at least 46dBuV/m for GSM 900 and 54dBuV/m for GSM1800 at a height of 1.5 metres above ground level.

An adequate service is achieved indoors if the average field strength measured outdoors is 56 dBuV/m for GSM 900 and 64 dBuV/m for GSM1800 at a height of 1.5 metres above ground level.

Coverage is expressed as a percentage of geographical area, and as a percentage of the population, of the State.

2.2 **Measurement Guidelines for coverage**

The appropriate figures contained in the latest population census published by the Central Statistics Office will be used for calculating the base figure when calculating national population coverage.

Measurements to determine coverage shall be carried out using:-

- a 2 Watt, GSM900 terminal operating outdoors and/or
- a 1 Watt, GSM1800 terminal operating outdoors

Alternatively, signal strength measuring equipment may used.

2.3 **Mandatory Service Standards**

2.3.1 The Licensee shall ensure that the national population coverage shall not fall below:-

- (i) In the case of the combined GSM900/GSM1800 service, 97%, and
- (ii) In the case of the GSM1800 service, 40%, subject to the provisions of Part 6 of the Schedule.

2.3.2 The Licensee shall ensure that national geographic coverage shall not fall below 90%.

2.4 **Other Obligations**

The Licensee shall publish up to date maps showing coverage for 2 Watt, GSM900 terminals operating outdoors and 1 Watt, GSM1800 terminals operating outdoors.

3. **Service Unavailability**

3.1 "**Service unavailability**" means the average number of minutes per terminal per year for which the Licensed Mobile Service is not available due to a network disturbance, failure or scheduled unavailability.

3.2 Measurement Guidelines for service unavailability

The calculation of service unavailability is subject to the following weighting factors which take account of traffic load variations:-

Service Unavailability, Weighting Factors (divide duration of each network event by weighting factor)			
	Monday to Friday	Saturday	Sunday
For periods between 07.00 and 24.00	1	2	4
For periods between 00.00 and 07.00	4	8	16

3.3 Mandatory Service Standard

The Licensee shall ensure that service unavailability is less than 60 minutes.

3.4 Other Obligations

- 3.4.1 The Licensee shall keep a log (the “ network log”) for the purposes of recording and tracking all periods of system unavailability. The Licensee shall maintain this network log in a manner, that will demonstrate, to the satisfaction of the Director, that such a network log is an adequate means of assessing whether the Licensee is complying with its system availability obligations under this licence.
- 3.4.2 The network log, or as may be appropriate part thereof, shall be made available on request to the Director.
- 3.4.3 The Licensee shall calculate the service unavailability for the Licensed Mobile Services for any period specified by the Director from the information recorded in the network log, and shall upon request and within such time as may be specified by the Director, provide the Director with the results of the calculation.

4. Grade of Service

4.1 Blocking Rates

Definitions:

"Blocking rate" means the percentage of total call attempts made for the traffic case concerned, during the time consistent busy hour and within coverage, which are unsuccessful.

"Time consistent busy hour" means the period of one hour starting at the same time each day for which the average traffic of the Licensee's Mobile and Personal Communications System concerned is greatest over the days under consideration. The time consistent busy hour shall be determined from an analysis of traffic data obtained from the service and shall be subject to the approval of the Director.

4.1.2 Mandatory Service Standards

The Licensee shall ensure that the blocking rate shall not exceed the percentages in respect of each of the traffic cases specified in the following Table:-

Maximum Permissible Blocking Rates		
Traffic Case	Blocking rate	
	Average	Worst Case
Terminal equipment (connected to the Licensee's Mobile and Personal Communications System) to Terminal equipment (connected to the Licensee's Mobile and Personal Communications System)	3%	10%
Terminal equipment (connected to the Licensee's Mobile and Personal Communications System) to Terminal equipment (connected to the Mobile and Personal Communications System of an Other Licensed Operator)	3%	10%
Terminal equipment (connected to the Licensee's Mobile and Personal Communications System) to Terminal equipment (connected to the Telecommunications Network of an Other Licensed Operator)	3%	8%

4.2 Dropped Calls

4.2.1 **"Dropped call rate"** means the percentage of total established calls during any measurement period which are prematurely released by the Licensee's Mobile and Personal Communications System within three minutes.

4.2.2 Measurement Guidelines

Measurements will be made:-

- In the case of the GSM900 service, with a 2 Watt, GSM900 terminal operating within claimed coverage areas; and
- In the case of the GSM1800 service, with a 1Watt, GSM1800 terminal operating within claimed coverage areas.

4.2.3 Mandatory Service Standards

The Licensee shall ensure that the dropped call rate shall not exceed the percentage in respect of each of the traffic cases specified in the following Table:-

Maximum Permissible Dropped Call Rates		
Traffic Case	Dropped Call Rate	
	Average	Worst Case
Terminal equipment (connected to the Licensee's Mobile and Personal Communications System) to Terminal equipment (connected to the Licensee's Mobile and Personal Communications System)	2%	4%
Terminal equipment (connected to the Licensee's Mobile and Personal Communications System) to Terminal equipment (connected to the Mobile and Personal Communications System of an Other Licensed Operator)	2%	4%

Terminal equipment (connected to the Licensee's Mobile and Personal Communications System) to Terminal equipment (connected to the Telecommunications Network of an Other Licensed Operator)	1.5%	3%
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4.3 **Transmission Quality**

The Licensee shall ensure that the speech transmission quality complies with the GSM Technical Specifications of ETSI.

In particular, the Licensee shall ensure that appropriate echo treatment equipment is used in the provision of the Licensed Mobile Services and that it is properly configured.

4.4 **Other Obligations**

The Licensee shall provide to the Director, on request, such grade of service measurement information as the Director considers necessary to determine performance against mandatory service standards and specifies to the Licensee.

5. **Customer Service Centres Response Times**

"Response time" means in relation to a customer service centre, is, the time taken for a call to the centre to be answered.

5.1 **Mandatory Service Standards**

The Licensee shall ensure that the response time shall accord with the appropriate time specified in the following Table:

Service Period	Response Times
08.00 to 20.00 hours, Monday to Friday, and 09.00 to 17.00 hours, Saturday, Sunday and Public Holidays	less than 15 seconds for 90% of calls, and less than 45 seconds for all calls
00.00 to 08.00 hours and 20.00 to 24.00 hours, Monday to Friday, and 00.00 to 09.00 hours and 17.00 to 24.00 hours, Saturday, Sunday and Public Holidays	less than 20 seconds for 90% of calls, and less than 60 seconds for all calls

6. Billing

6.1 Mandatory Service Standards

In relation to billing, the Licensee shall, unless agreed otherwise with individual customers, comply with the appropriate standard requirements specified in the following Table:-

Billing Aspects	Standard Requirements	Options and Alternatives
Billing Frequency	Monthly	Alternative frequency or flexible frequency subject to agreement with customer
Billing Itemisation	All billable calls and services	Customised bill layouts with or without summary itemisation subject to agreement with customer
Billing Medium	Paper	Delivery of bills on computer media or on-line subject to agreement with customer
Billing Method	Per Second Billing	At commencement of the service, calls shall attract minimum thirty second charge and charges shall increment in ten second intervals thereafter

An itemised bill shall contain, at least, the following information in respect of each billable call:

1. the date of the call
2. the start time of the call
3. the number called
4. the duration of the call
5. the price of the call

6.2 Billing Accuracy and Fraud Detection

The Licensee shall incorporate in its billing system:

- (i) measures to ensure that each call record is an accurate record of the actual call and that the correct accumulated call records are applied to generate each customer's bill, and
- (ii) measures to detect cases of possible fraud including measures to identify rapidly abnormal calling patterns.

7. Performance Standards and Objectives

- 7.1 The Director may, by direction in writing given to the Licensee, specify performance standards and obligations with respect to service quality or modify existing performance standards and obligations and the Licensee shall comply with any such directions.

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Part 5

ROAMING

1. The Licensee shall not act on foot of any agreement providing for a national roaming capability made between the Licensee and any other provider of a GSM mobile telephony service in the State unless and until the Director has approved the terms of the agreement.
2. The Licensee shall establish and maintain as part of the Licensed Mobile Services an international roaming capability for its Users that is as wide and comprehensive as is practicable.
3. The Licensee may impose charges in respect of Users roaming on GSM mobile telephony networks in other countries (being outward-roaming Users) and in respect of Users of GSM mobile telephony services in other countries roaming on the Licensee's Mobile and Personal Communications System (being inward-roaming Users) at rates not exceeding those specified below:-

Roaming Services	Licensee's charges	
	Outward-roaming User	Inward-roaming User
Roaming Service Fee	No charge	No charge
Outgoing calls from roaming customer	Other operator's tariff for roaming customers plus administration surcharge not exceeding 15% of that tariff	Licensee's call tariff for roaming customers charged to the other operator and no administration surcharge

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Part 6

SERVICE ROLL-OUT REQUIREMENTS

1. **Minimum Service Roll-out Requirements**

The Licensee shall ensure that coverage (as defined in Part 4) measured in accordance with Part 4 shall be not less than the percentages specified in the following Table before the expiration of the periods specified in that Table:-

Table: GSM1800 Service

Year	July 2000	End 2000	End 2001	End 2002
Coverage				
Population	23%	31%	38%	40%

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Part 7

CHARGES TO CUSTOMERS

1. The Licensee shall endeavour to reduce, in each of its financial years, the amounts of the charges to its customers so that those amounts are, after allowance is made for changes in the value of money in each such year after the first, lower than those obtaining in the previous such year, and shall endeavour to maintain those charges at or below the appropriate international comparators specified from time to time by the Director.

2. The following supplementary features shall be provided as constituent parts of the service to any customer, on request, without the addition of any amount in respect thereof to the amount of the connection fee or monthly rental specified, that is to say:
 - voice mail,
 - call diversion,
 - call waiting,
 - itemised billing,
 - short message service,
 - GSM data and fax

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Part 8

OTHER CONDITIONS

1. The Licensee shall maintain at least one centre (a “customer service centre”) to which access by telephone free of charge is provided to customers and members of the public at all times.
2. A customer service centre shall make available at all times a facility to receive reports in relation to difficulty in the use of the Licensed Mobile Services of a fault or breakdown in the provision of the Licensed Mobile Services.