

CITC
Operational Procedures for Issuing Frequency
Assignments and Radio Licenses for Professional
Radiocommunication Services

Contents

1. INTRODUCTION.....	5
2. AERONAUTICAL SERVICES.....	6
2.1 INTRODUCTION.....	6
2.2 DESCRIPTION OF SERVICES/LICENCES	6
2.2.1 LICENCES AVAILABLE.....	6
2.2.2 WHO CAN APPLY.....	7
2.3 FREQUENCY BANDS	7
2.4 LICENSING GUIDELINES	7
2.4.1 CALL SIGNS.....	7
2.4.2 FITTING OF EQUIPMENT	8
2.4.3 OPERATION OF EQUIPMENT	8
2.5 LICENCE APPLICATION FORMS	8
2.6 TIMESCALES FOR LICENCE ISSUE	8
2.7 FEES	8
3. BROADCASTING (FM).....	9
3.1 INTRODUCTION.....	9
3.2 DESCRIPTION OF SERVICES / LICENCES.....	9
3.2.1 LICENCES AVAILABLE	9
3.2.2 WHO CAN APPLY.....	9
3.2.3 APPROACH TO LICENCE AWARD.....	9
3.3 FREQUENCY BANDS	9
3.4 LICENSING GUIDELINES	10
3.4.1 CHANNEL BANDWIDTH.....	10
3.4.2 SERVICE AREA.....	10
3.4.3 INTERFERENCE.....	10
3.5 TECHNICAL REQUIREMENTS.....	10
3.6 LICENCE APPLICATION FORMS	10
3.7 TIMESCALES FOR LICENCE ISSUE	10
3.8 FEES	11
4. FIXED SERVICES	12
4.1 INTRODUCTION.....	12
4.2 DESCRIPTION OF SERVICES / LICENCES.....	12

4.2.1	LICENCES AVAILABLE	12
4.2.2	WHO CAN APPLY.....	13
4.2.3	APPROACH TO LICENCE AWARD	13
4.3	FREQUENCY BANDS	13
4.4	LICENSING GUIDELINES FOR POINT TO POINT LINKS	15
4.4.1	LINK LENGTH POLICY.....	15
4.4.2	EQUIPMENT CONFIGURATIONS.....	16
4.5	LICENSING GUIDELINES FOR BLOCK ALLOCATIONS.....	17
4.5.1	POINT TO POINT LINKS	17
4.5.2	POINT TO MULTIPOINT AND MULTIPOINT TO MULTIPOINT NETWORKS.....	18
4.6	TECHNICAL REQUIREMENTS.....	18
4.7	LICENCE APPLICATION FORMS	18
4.8	TIMESCALES FOR LICENCE ISSUE	18
4.9	FEES	18
5.	MARITIME.....	19
5.1	INTRODUCTION.....	19
5.2	DESCRIPTION OF SERVICES / LICENCES.....	19
5.2.1	LICENCES AVAILABLE	19
5.2.2	WHO CAN APPLY.....	21
6.2.3	APPROACH TO LICENCE AWARD	22
6.3	FREQUENCY BANDS	22
6.4	LICENSING GUIDELINES	22
5.5	TECHNICAL REQUIREMENTS.....	22
5.6	LICENCE APPLICATION FORMS	23
5.7	TIMESCALES FOR LICENCE ISSUE	23
5.8	FEES	23
6.	PMR	24
6.1	INTRODUCTION.....	24
6.2	DESCRIPTION OF SERVICES / LICENCES.....	24
6.2.1	LICENCES AVAILABLE	24
6.2.2	WHO CAN APPLY.....	25
6.2.3	APPROACH TO LICENCE AWARD	25
6.3	FREQUENCY BANDS	25
6.4	LICENSING GUIDELINES	27
6.4.1	CHANNEL BANDWIDTHS.....	27
6.4.2	TRANSMITTER POWER AND ANTENNA HEIGHT	27
6.4.3	POWER SPECTRAL DENSITY.....	28

6.4.4	EFFECTIVE SPECTRUM USE	28
6.4.5	RESPONSIBILITY FOR AREA LICENCE DEPLOYMENTS.....	28
6.5	LICENCE APPLICATION FORMS	28
6.6	TIMESCALES FOR LICENCE ISSUE	28
6.7	FEEES	28
7.	SATELLITE SERVICES.....	29
7.1	INTRODUCTION.....	29
7.2	DESCRIPTION OF SERVICES / LICENCES.....	29
7.2.1	LICENCES AVAILABLE	29
7.2.2	WHO CAN APPLY.....	29
7.3	FREQUENCY BANDS	30
7.4	LICENSING GUIDELINES	32
7.4.1	NATIONAL COORDINATION	32
7.4.2	INTERNATIONAL COORDINATION.....	32
7.5	LICENCE APPLICATION FORMS	33
7.6	TIMESCALES FOR LICENCE ISSUE	33
7.7	LICENCE TEMPLATES	33
7.8	FEEES	33

1. Introduction

This document describes CITC operational procedures to be followed for assignment of radio frequencies (channels) and issuing of radio licenses to users of various radiocommunication services in the Kingdom.

It specifically addresses the following radiocommunication services:

- Aeronautical
- Broadcasting (FM)
- Fixed (Point to point, point to multipoint and multipoint to multipoint, RL)
- Maritime
- PMR
- Satellite services (especially the Fixed Satellite Service (FSS) and Mobile Satellite Service (MSS), and VSAT (Very Small Aperture Antenna) networks))

Potential users of other professional radiocommunication services not described in this document (e.g. Mobile Broadband, Radio Location, etc.) should contact CITC for information regarding the availability of relevant spectrum assignments prior to making business decision on procurement of the relevant radiocommunication equipment.

Note relating to future changes in the regulations

It may be necessary in the future for CITC to make changes to the frequency bands available and / or their technical conditions due to:

- *Changes in spectrum allocations that may arise from decisions made at World Radio Conferences that change the international allocations or regional agreements;*
- *Changes needed to meet national requirements; and*
- *Changes needed to ensure efficient use of the spectrum.*

This may require existing users to modify or cease use of their radio links. CITC will aim to provide as much notice as possible if such requirements become necessary.

Note relating to the import of equipment:

Any party planning to import telecommunications and IT equipment into the Kingdom shall follow the procedures described in “Procedure for Approving and Importing Telecommunications and IT Equipment”:

<http://www.citc.gov.sa/En/RulesandSystems/RegulatoryDocuments/EquipmentApproval/Documents/TA117E.PDF>

2. Aeronautical Services

2.1 Introduction

Aeronautical services generally operate in internationally recognised frequency bands that are set out in the Radio Regulations. These services may be used in the aircraft or be ground based.

However, if there are ground stations which operate in bands not specifically allocated for aeronautical use (e.g. in the VHF and UHF bands for PMR) then the licensing information is provided under the relevant service (PMR in this example).

2.2 Description of services/licences

2.2.1 Licences available.

Aeronautical licenses will be issued with the following options:

- Aircraft Radio Station License
 - Aircraft Mobile Radio station
 - Aircraft Transportable Radio station
- Ground Based Aeronautical Station Licence
 - Aeronautical Ground Station (AGS)
 - Aeronautical Navigational Aids
 - Aeronautical Ground Based Radar

The aircraft Radio Station licence covers the use of all aeronautical equipment on board an aircraft, hang-glider or balloon registered in Saudi Arabia.

The aeronautical ground station licence covers the use of aeronautical frequencies for services such as general aviation, air traffic control, operations control, search and rescue and emergency communications, HF communication and public correspondence services.

The navigational aids licence covers, for example, the operation of navigational aids such as non-directional beacon systems, VHF marker beacons, instrument landing system, VHF omni-directional range (short / medium range navigation aid normally associated with distance measuring system) and DME (distance measuring system).

The ground based radar covers both air traffic control primary radar as well as secondary surveillance radar as defined in ICAO Annex 10.

2.2.2 Who can apply

General note: It should be noted that some of below listed licenses may require a separate right of use and radio proficiency certification from GACA. Potential new users must contact the CITC to confirm the requirements as they will apply to them.

Aircraft radio station licences

The Aircraft Radio Station Licences may be applied for by an individual or a representative of the organisation owning the aircraft or a fleet of aircrafts that are registered in the Kingdom of Saudi Arabia.

Ground based station licences

An Aeronautical Ground Station Licences may be applied for by an authorised representative of an Aerodrome approved by the General Authority of Civil Aviation (GACA).

Ground based Navigational Aids and Radar licences may also be applied for by an authorised representative of an Aerodrome approved by the General Authority of Civil Aviation (GACA).

2.3 Frequency bands

ICAO Annex 10 lists frequency bands and standards that are applicable.

Information on the applicable frequency bands can also be found in the [National Frequency Plan at CITC Web Site](#).

2.4 Licensing guidelines

Aeronautical service frequencies are managed by CITC. Any applicant shall carry a valid Aeronautical Service License from the General Authority of Civil Aviation (GACA) before applying for a frequency. The request for 'frequency assignments' are coordinated between the CITC and GACA. The Licenses are issued by CITC on the basis of equipment using those frequencies.

2.4.1 Call signs

Call signs are used to identify, uniquely, a user's radio station and facilitate channel sharing. Call signs will be issued by CITC and fall in the ranges 7 ZA–7 ZZ and 8ZA – 8ZZ.

2.4.2 Fitting of equipment

All applications for aircraft licences must include a certificate of approval from the recognised agency confirming the radio equipment is installed in accordance with the requirements for that particular aircraft.

2.4.3 Operation of equipment

It is a requirement that all operators of the radio equipment must be trained and qualified and hold the relevant radio proficiency certification.

2.5 Licence application forms

The licence application forms can be found at CITC Web Site.

2.6 Timescales for licence issue

CITC will typically issue or reject a licence application within 10 working days of receipt of an application assuming there are no co-ordination requirements.

This assumes that:

- The application form is correct and complete
- Payment is received.

These timescales do not apply to batch requests where there are 5 or more frequency assignments required or where the assignments do not match with CITC's policy for use of the spectrum.

2.7 Fees

Up to date information on the applicable fees can be found at [CITC Web Site](#).

3. Broadcasting (FM)

3.1 Introduction

Use of the FM band is for analogue radio broadcasting. The types of Broadcasting services that can / should be provided are defined under the permission to provide broadcast services issued by the Ministry of Information and Culture.

3.2 Description of services / licences

3.2.1 Licences available

Licences are available on a single site basis and are intended for commercial and community radio stations.

3.2.2 Who can apply

Applicants for commercial radio stations can be:

- An authorised representative of a broadcasting company registered in Saudi, or
- An approved foreign broadcasting company.

Applicants for the community radio stations need to meet the requirements of their granted broadcasting permission.

3.2.3 Approach to licence award

Licences will be awarded on a first come first served (FCFS) basis. A broadcasting permission is not a guarantee of access to spectrum as this depends on whether it is possible to allocate frequencies at the required geographic location with the requested transmitter power without causing interference to other FM broadcasters or the aeronautical services.

3.3 Frequency bands

Information on the applicable frequency bands can be found in the [National Frequency Plan at CITC Web Site](#). The main frequency band is 87.5 – 108 MHz.

3.4 Licensing guidelines

The Broadcasting service and the associated Plans are managed by the CITC in coordination with the Saudi Broadcasting Corporation (SBC). The SBC is operating under the Ministry of Media and it is the decision maker for individual assignments to broadcasting stations. The SBC determine which channel is to be used for each broadcasting station. Those wishing to operate a broadcasting radio station and to obtain frequencies for their operations should apply directly to SBC. CITC is responsible for the Radio license the duration of which will be determined by the broadcasting licence granted by SBC.

3.4.1 Channel bandwidth

The maximum channel bandwidth allowed is 200 kHz.

3.4.2 Service area

The allowed transmitter ERP directly relates to the service area which is the geographic area over which broadcasting services are to be provided and are authorised.

3.4.3 Interference

Any interference into aeronautical services in the adjacent frequency band or into other broadcasting services will require the transmission to be ceased immediately.

3.5 Technical requirements

The Radio Interface for radio (MF) FM broadcast services equipment and ancillary equipment, RI030, can be found at [CITC Web Site](#).

3.6 Licence application forms

The licence application forms can be found at CITC Web Site.

3.7 Timescales for licence issue

CITC will typically issue or reject a licence application within 30 working days of receipt of an application. In the case that co-ordination is required with neighbouring countries the timescales can be considerably longer and are typically 60 working days.

This assumes that:

- The application form is correct and complete
- Payment is received.

These timescales do not apply to batch requests where there are 5 or more frequency assignments required or where the assignments do not match with CITC's policy for use of the spectrum.

3.8 Fees

Up to date information on the applicable fees can be found at [CITC Web Site](#). Two distinct fees relate to transmit powers (e.r.p.) less than and greater than 100 Watts.

4. Fixed Services

4.1 Introduction

The Fixed Service as defined in the ITU Radio Regulations is a “radio-communication service between specified fixed points”¹.

The fixed service may be between two fixed points (point-to-point), between a central point and other connected points (point to multipoint) and between multiple points and other points (multipoint to multipoint²).

The systems are used to carry voice, data and video traffic.

4.2 Description of services / licences

4.2.1 Licences available

Fixed links can be used to provide network infrastructure or access links and can utilise a wide range of frequencies as described in Table 4-1 below according to a link length policy described in Table 4-2.

There are a number of different licences available as follows:

- Point to point and point to multipoint technically assigned
- Point to point block assigned over a specified geographic area
- Point to multipoint / multipoint to multipoint block assigned over a specified geographic area.

The most common licence is the individual point to point licence which is for links using digital modulation where CITC will assign frequencies according to the specific link requirements (e.g. link length, channel bandwidth, required propagation availability).

In addition, to provide greater flexibility to users, there is the option of licensing blocks of spectrum on an area or national basis. These licences would allow the user to manage their own spectrum and are targeted at significant users of fixed links, such as the cellular operators and the oil and gas companies or those wishing to deploy point to multipoint or mesh networks. It will be the responsibility of the licensees to manage co-ordination of frequencies with those users in adjacent frequency bands or to include guard bands within their spectrum blocks.

¹ See 1.20 in Radio Regulations at http://www.itu.int/dms_pub/itu-s/oth/02/02/S02020000244501PDFE.PDF

² Also referred to as mesh networks

4.2.2 Who can apply

The eligible people / organisations who can apply for a licence are:

- CIVIL category of spectrum users, as defined in the National Frequency Plan (NFP), Article 4 (XXXXX CITC web site) comprehensive of Commercial Operators and communication and ICT enterprises that are licensed to provide public telecommunication services in the country.

The 'CIVIL category' includes users of all governmental entities excluding those defined in the in the National Frequency Plan (NFP), Article 4, as 'GOVERNMENT category of spectrum users'.

There are separate frequency bands identified for Governmental use which are not included here as they are not available to the above mentioned users.

4.2.3 Approach to licence award

All licences will be awarded on a first come first served basis (FCFS) and according to the link length policy.

In the specific case of block and / or area assignments, the Applicants will have to contact CITC in order to demonstrate need and competence to manage such assignments..

4.3 Frequency bands

The following Table 4-1 shows the available fixed links bands and applicable channel plans. It should be noted that applications for frequencies that do not conform with the relevant channel plans will be rejected. Also any requests to vary existing licences that do not conform with the channel plans will be rejected and all historic channel plans that may have been used in the past are now closed to new assignments.

Table 4-1 Fixed Service frequency bands

Name (GHz)	Frequency bands (MHz)	ITU-R / EU CEPT Recommendations	Channel bandwidths	Duplex spacing where applicable	Comments
L6	5925 – 6425 MHz	ITU-R F.383-9 Recommends 1	29.65 MHz	252.04 MHz	

Name (GHz)	Frequency bands (MHz)	ITU-R / EU CEPT Recommendations	Channel bandwidths	Duplex spacing where applicable	Comments
U6	6425 – 7125 MHz	CEPT/ERC/REC 14-02 Annex 1	3.5, 7, 14, 20 and 40 MHz	340 MHz	
L7	7125 – 7425 MHz	ITU-R F.385-10 Annex 1	1.75, 3.5, 7, 14 and 28 MHz	154 MHz	
U7	7425 – 7725 MHz	ITU-R F.385-10 Annex 1	1.75, 3.5, 7, 14 and 28 MHz	154 MHz	Available for both civil and government users
L8	7725 – 8275 MHz	ITU-R F.386-9 Annex 2	7, 14 and 28 MHz	283.5 MHz	Available for both civil and government users
U8	8275 – 8500 MHz	ITU-R F.386-9 Annex 2	14 and 28 MHz	126 MHz	
10	10000–10680 MHz	ITU-R F.747-1 Recommends 4	3.5 MHz	350 MHz	Can use Annex 3 if utilising 10.15 – 10.3 GHz paired with 10.5 – 10.65 GHz and this provides 3.5, 7, 14 and 28 MHz channel spacings
11	10700–11700 MHz	ITU-R F.387-12, Recommends 1.1	5, 10, 20 and 40 MHz	530 MHz	
13	12750–13250 MHz	ITU-R F.497-7	1.75, 3.5, 7, 14, 28 and 56 MHz	266 MHz	
15	14500–15350 MHz	ITU-R. F. 636-4 Main	3.5, 7, 14, 28 and 56 MHz	420 MHz	
18	17700–19700 MHz	ITU-R F. 595-10 Recommends 1	13.75, 27.5 MHz	1010 MHz	55, 110 and 220 MHz channel plans also available
22	21200–23600 MHz	ITU-R F 637-4 Annex 1	3.5, 7, 14 and 28 MHz	1232 MHz	
26	24500–26500 MHz	ITU-R F.748-4, Annex 1	3.5, 7, 14, 28, 56 and 112 MHz	1008 MHz	

Name (GHz)	Frequency bands (MHz)	ITU-R / EU CEPT Recommendations	Channel bandwidths	Duplex spacing where applicable	Comments
28	27500–29500 MHz	ITU-R. F 748-4, Annex 2	3.5, 7, 14, 28, 56 and 112 MHz	1008 MHz	Band identified by US and other countries for IMT but not on current WRC-19 agenda
32	31800–33400 MHz	ITU-R F. 1520-3 Annex 1	3.5, 7, 14, 28, 56 and 112 MHz	812 MHz	Potential IMT band although mobile not currently primary WRC-19
38	37000–39500 MHz	T/R 12-01 Annex A	3.5, 7, 14, 28, 56 and 112 MHz	1260 MHz	37 – 40.5 GHz identified as potential band for IMT for WRC-19
42	40500–43500 MHz	ITU-R F.2005-0 Annex 3	7, 14, 28, 56 and 112 MHz	1500 MHz	
70, 80	71000–76000 MHz and 81000–86000 MHz	ITU-R F.2006-0	125 and 250 MHz	10 GHz	Identified as potential IMT band for WRC-19.

4.4 Licensing guidelines for point to point links

4.4.1 Link length policy

To ensure efficient use of the radio spectrum and ensure that lower frequency bands are available for the longer link lengths CITC operates a link length policy. This policy specifies the minimum link length permissible for a frequency band.

Table 4-2: Minimum point-to-point link length policy

Frequency Band(s)	Capacity Minimum Bit Rate (Mbit/s)	Minimum Path Length (km) (Note 1)
≤ 8 GHz	High (140 / 155 and above)	9
	Low (2, 8, 34 / 51)	15
>8 GHz and <18 GHz	High	5
	Low	9

Frequency Band(s)	Capacity Minimum Bit Rate (Mbit/s)	Minimum Path Length (km) (Note 1)
≥18 GHz and <38 GHz	High	2
	Low	1.5
≥38 GHz	High	None
	Low	None

Note 1: These values are based on 99.999% availability and typical receiver sensitivity of systems meeting a BER of 10^{-6} .

4.4.2 Equipment configurations

Frequency and link diversity

To further ensure efficient use of the available spectrum CIRC will not allow the use of frequency diversity or separate frequencies except in instances where there is a critical link and it is not possible to provide route diversity or deploy fibre. In such cases the use of frequency diversity will be time limited to a maximum of five [5] years.

Licensees are encouraged to deploy techniques such as hot standby, space diversity and route diversity to improve the resilience of their networks.

Antenna and Equipment

It is recommended that licensees utilise higher performance antennas, with narrower beamwidths, to minimise the potential for interference and adopt equipment with higher modulation schemes (for example 16QAM or greater) to minimise the link bandwidth requirements. The minimum Class of point to point antenna is Class 3 according to the applicable ETSI standard EN 302 217-4.

Signal Polarisation

It is allowed for licensees to utilise both polarities on a link (horizontal and vertical) where Co-Channel-Dual-Polar (CCDP) technology is deployed.

Transmitter Power

The transmitter power requested should be the minimum required to achieve the stated propagation link availability over the path.

4.5 Licensing guidelines for block allocations

Requests for area or national block allocations will be considered by CITC on a case by case basis for either fixed point to point links or point to multipoint and multipoint to multipoint networks.

4.5.1 Point to point links

The frequency blocks will be available on a national or defined area basis and will typically be based on one or multiples of the larger bandwidths available in a frequency band (for example on one or multiples of 28 MHz or 56 MHz) according to the applicable channel plan(s). The number of blocks awarded will be determined in discussion between CITC and the licensee who will be required to provide the necessary technical / assignment information to substantiate its requests.

The licensee will be responsible for undertaking their own assignments in the band and following the CITC's criterion to ensure efficient use of the spectrum. In the event that the CITC considers that the licensee is not utilising their spectrum efficiently or the number of links deployed are less than those anticipated in the licence application CITC may decide to revoke the licence and revert to individual link assignments.

The licensee is responsible for:

- Using frequencies from within their own frequency block allocation(s).
- Establishing mutually agreed co-ordination processes with licensees of adjacent blocks to avoid interference and avoid / minimise the need for guard bands.
- The management of the deployment of the network infrastructure within the licensed frequency block.
- Retaining a full set of information on the location and equipment deployed, which shall be provided on request by CITC, as well as on an annual basis using the format provided in the Terms and Conditions³ so CITC can take them into account, as necessary, when making individual link assignments in adjacent frequencies.
- Liaising with CITC if there are any cross border co-ordination requirements

A licensee is responsible for resolving interference issues if they are due to their own network.

³ {CITC will need to define what format in which the link data should be provided so that it can be entered into the spectrum database.}

4.5.2 Point to Multipoint and Multipoint to Multipoint networks

To facilitate the deployment of point to multipoint and multipoint to multipoint networks requests for block allocations will be considered by the CITC on a case by case basis for an area defined or national coverage network(s).

The same licensee responsibilities apply as for the block assignments for point to point links.

CITC will also consider block assignments for users that may wish to use a mix of point to point and multipoint and can demonstrate the capability to manage such a mix of assignments in band and also manage potential interference into adjacent bands.

A licensee is responsible for resolving interference issues if they are due to their own network(s).

4.6 Technical requirements

The Radio Interfaces for Point to Point (PP) radio fixed links, RI031, and for Point to Multi Point (PMP) radio fixed links, RI032, can be found at [CITC Web Site](#).

4.7 Licence application forms

The licence application forms can be found at CITC Web Site.

4.8 Timescales for licence issue

CITC will typically issue or reject a licence application within 30 working days of receipt of an application. In the case that co-ordination is required with neighbouring countries the timescales can be considerably longer and are typically 60 working days.

This assumes that:

- The application form is correct and complete
- Payment is received.

These timescales do not apply to batch requests where there are 5 or more frequency assignments required or where the assignments do not match with CITC's policy for use of the spectrum.

4.9 Fees

Up to date information on the applicable fees can be found at [CITC Web Site](#).

5. Maritime

5.1 Introduction

Maritime services generally operate in internationally recognised frequency bands that are set out in the Radio Regulations. These services may be used on board vessels or be located on land generally near the coast.

However, if there are stations which operate in bands not allocated for maritime use (e.g. in the VHF and UHF bands for PMR) then the licensing information is provided under the relevant service (PMR in this example).

5.2 Description of services / licences

5.2.1 Licences available

Maritime licenses will be issued for the following options:

- Ship Radio station license that applies to equipment installed on both SOLAS and non-SOLAS vessels and also any associated portable equipment
- Maritime navigational aids and radar radio stations including AIS (Automatic Identification Systems), Differential Global Positioning Systems (DGPS), radars and radio beacons.
- Coastal radio stations:
 - stations providing communications associated with business operations from a fixed land base station location to its associated ships.
 - stations that allow organisations such as fishing fleet operators, marinas and yacht clubs to communicate with their vessels on commercial matters.
 - stations associated with port operations: these will be used to support mainly port operations and ship movement services. It also allows the provision of other services such as public correspondence, facsimile and data.

Ship radio station licence

The ship radio station licences will cover all the equipment that may be used on board the ship to support the navigation and communication needs including the making of distress calls in emergency situations.

This licence is available for both:

- SOLAS vessels which have more than 300 gross tonnage (GT) and sail in regional and international waters. These vessels must be registered on the ITU Maritime mobile Access and Retrieval Systems (MARS) database. These vessels are required to carry Global Maritime Distress and Safety System (GMDSS) equipment as per the SOLAS convention.

The equipment that may be used on the vessel and covered by the licence includes:

- Digital Selective Calling (DSC) equipment associated with GMDSS
 - Mobile maritime communications equipment operating in HF, MF and VHF bands
 - Satellite communications equipment (i.e. ship's earth stations)
 - Radar and Search and Rescue Radar Transponders (SARTs)
 - On board, low power, UHF communications equipment
 - Emergency Position Indicating Radio Beacons (EPIRBs)
- Non-SOLAS vessels may also register on the MARS database and the necessary application form will be submitted to the ITU through CITC. These vessels may have on board:
 - Mobile maritime communications equipment operating in the VHF bands
 - Digital Selective Calling (DSC) equipment associated with GMDSS
 - EPIRBs

In addition, one or more handheld portable VHF or VHF/DSC radio transceivers may be included but operation on land is not covered by this licence.

Maritime navigational aids and radar

There are a number of different navigational aids that are covered by this licence. They include:

- Differential Global Positioning System (DGPS) which provides location information to a greater accuracy (about 10 cms) than provided by GPS (Global Positioning System). DGPS uses a network of fixed, ground based stations and operates in the 400 MHz band.

- Shore based radars that are used, for example, to provide collision avoidance or traffic regulation of ships in restricted waters. Radars on board vessels are covered under the ship radio licence.
- Beacons which are used for navigation purposes. Radar beacons (Racons) may be mounted on fixed structures or on floating aids anchored at fixed positions.
- AIS (Automatic Identification System)

Coastal stations

There are 3 different types of coast radio station licences which vary depending on whether they are for port activities, international or local (marinas, yacht clubs etc.) usage stations.

Where the frequencies used are in international maritime channels the operators will need to hold a Maritime Radio Operator's Certificate. The ship radio station licences will cover the corresponding equipment on board.

5.2.2 Who can apply

Ship radio station licences

The Ships radio station licence may be applied for by an individual or representative of a vessel registered in Saudi Arabia or by an authorised representative of a vessel registered in another country which will operate in Saudi waters under the sponsorship of a local registered company for more than a year.

Maritime navigational aids and radar

The maritime navigational aids and radar licences can be applied for by an authorised representative of the Government Agency responsible for Coast Guard operations or an authorised representative of a Saudi harbour or port authority.

Coastal stations

The coastal station licences can be applied for by an authorised representative of a Saudi harbour or port authority.

6.2.3 Approach to licence award

All licence applications will be awarded provided that they only cover the frequency bands that are identified internationally for maritime use. Separate licence applications will be necessary for services that operate in other frequency bands.

6.3 Frequency bands

Information on the applicable frequency bands can be found in the [National Frequency Plan at CITC Web Site](#).

6.4 Licensing guidelines

In order to operate maritime radio equipment in Saudi Arabia it is necessary to:

- Hold a radio operator's certificate of proficiency issues by the Ministry of Transportation or any of the internationally recognised administrations
- Have a call sign for identification purposes, and
- Have an MMSI identification.

Call signs are issued by CITC and all consist of the prefix for the geographic area (HZ for Saudi Arabia) and a suffix (5 characters) which will be unique for the individual application.

The MMSI is issued by CITC and uniquely identifies a ship station, coast station, ship and coastal earth station, group call, search and rescue, and navigational aids (403 followed by 6 characters).

Selcall (selective call) numbers can also be issued by CITC and can be programmed into the radio receivers for ship and coastal stations to ensure that they only respond to calls addressed to them.

5.5 Technical requirements

The relevant Radio Interfaces are listed in the following table and can be found at [CITC Web Site](#).

Radio Interface	Applicable equipment	Relevant frequencies
RI1092	Navigation (water) equipment	Loran-C receivers in the 90 – 110 kHz band Shipborne radars in the 2.9 – 3.1 GHz and 9.3 – 9.5 GHz bands.

Radio Interface	Applicable equipment	Relevant frequencies
RI1096	Emergency beacons	406 – 406.1 MHz band, and 1644.3 – 1644.5 and 1645.6 – 1645.8 MHz bands.
RI0112	Automatic Identification System (AIS)	161.975 MHz and 162.025 MHz bands.
RI112	VHF radios and ancillary equipment	156 – 162.05 MHz band.

5.6 Licence application forms

The licence application forms can be found at [CITC Web Site](#).

5.7 Timescales for licence issue

CITC will typically issue or reject a licence application within 10 working days of receipt of an application assuming there are no co-ordination requirements.

This assumes that:

- The application form is correct and complete
- Payment is received.

These timescales do not apply to batch requests where there are 5 or more frequency assignments required or where the assignments do not match with CITC's policy for use of the spectrum.

5.8 Fees

Up to date information on the applicable fees can be found at [CITC Web Site](#).

6. PMR

6.1 Introduction

Private Mobile Radio (PMR) services are generally used to provide communications, voice and low speed data, within a closed group of users.

For the purposes of licensing trunked radio, paging and scanning telemetry are also included under this category as they utilise the same frequency bands.

6.2 Description of services / licences

6.2.1 Licences available

There are two different types of licences which apply:

- An individual base station transmitter licence (technically assigned)
- An area licence which allows one or more base stations or a mobile only system to be deployed in a city, in a region or on a national basis.

An individual base station transmitter will be for the provision of PMR, trunked, paging or telemetry services at a fixed pre-defined location. The transmitter power and antenna height must be limited to those necessary to provide coverage over the required service area. This service area should be calculated by using the characteristics provided (e.r.p., antenna height) and the propagation model (Rec. ITU-R P.1546 for 50% of the time and 50% of the location, Receiver Antenna Height of 1.5 m for mobile). The estimated service area must be contained within the requested geographic area as shown in Figure 7-1 below.

Figure 6-1: Assessment of service area



An area licence allows the licensee to provide PMR, trunked, paging or telemetry services over a defined geographic area which is specified in the licence. Transmitter

powers and antenna heights must be limited such that coverage is no more than that required to provide service over the defined service area and to ensure interference is not caused into adjacent geographic areas. The licensee is free to use their radio equipment anywhere with the area provided they meet the applicable licence conditions and only use / re-use those frequencies specifically identified in the licence.

For both the individual base station transmitter licence and the area licence the applicant is required to show a technical coverage map based on the power level(s) / transmitter height(s) to be used.

6.2.2 Who can apply

The eligible people / organisations that can apply for a licence are:

- Organisations registered in Saudi Arabia that require a radio licence to meet their internal communications needs

6.2.3 Approach to licence award

All licences will be awarded on a first come first served basis (FCFS).

All applications for individual transmitter licences will need to justify their applications.

6.3 Frequency bands

Information on the applicable frequency bands can be found in the [National Frequency Plan at CITC Web Site](#).

The specific frequency bands available for Civil users are:

- Band **137-144** MHz

CITC needs to make the 1 MHz in the current GOV band available for CIV use to provide the paired spectrum with 137 – 138 MHz.

Frequency range	Type of link
137 – 138 MHz	MS – Duplex (4.6 MHz)
141.6 – 142.6 MHz (Note 1)	BS - Duplex (4.6 MHz)

Note 1: CITC need to make this 1 MHz available in the GOV band available for CIV use to provide the paired spectrum with 137 – 138 MHz

- Band **146-174** MHz

Frequency range	Type of link
146-146.8 MHz	Simplex

Frequency range	Type of link
146.8-149.9 MHz	MS1 – duplex (4.6 MHz)
149.9-150.05 MHz	Simplex
150.05-151.4 MHz	MS2 – duplex (4.6 MHz)
151.4-154.5 MHz	BS1 – duplex (4.6 MHz)
154.5-154.65 MHz	Simplex
154.65-156 MHz	BS2 – duplex (4.6 MHz)
	(Note)
157.45-160.4 MHz	MS3 – duplex (4.6 MHz)
160.4-160.6 MHz	Simplex
	(Note)
160.975-161.475 MHz	Simplex
	(Note)
162.05-165 MHz	BS3 – duplex (4.6 MHz)

Note: The interleaved bands 156–157.45 MHz, 160.6–160.975 MHz and 161.475–162.05 MHz are used by maritime according to Appendix 18 but could be made available in non-coastal parts of the country for simplex usage.

- Band **230-328.6** MHz

Frequency range	Type of link
235 – 240 MHz	Simplex
320-322 MHz	MS4 (duplex 5 MHz)
325-327 MHz	BS4 (duplex 5 MHz)

- Band **335.4-399.9** MHz

Frequency range	Type of link
335.4-340 MHz	Simplex
340-350 MHz	MS1 (duplex 10 MHz)
350-360 MHz	BS1 (duplex 10 MHz)

- Band **400.05-401** MHz

Frequency range	Type of link
400.05-401 MHz	Simplex

- Band **406.1-470 MHz**

Frequency range	Type of link	Comment
410-417 MHz	MS1 (duplex 10 MHz)	
420-427 MHz	BS1 (duplex 10 MHz)	
430-432 MHz 434-438 MHz 444-448 MHz	Simplex	
450-460 MHz	MS1 (duplex 10 MHz)	
460-470 MHz	BS1 (duplex 10 MHz)	

Note:

CITC can consider putting in place a national operator for a trunked network in 450 - 453 MHz and 460-463 MHz. Frequencies in these frequency ranges should not be assigned to individual base station transmitter and area licences. Further spectrum at 457-460 MHz and 467-470 MHz designated for GOV might also be used if a trunk network is to be implemented.

6.4 Licensing guidelines

6.4.1 Channel bandwidths

All new applications and variations to existing licences are required to deploy equipment with a bandwidth of 12.5 kHz or less. The exception is trunked radio where 25 kHz channel spacings are allowed. It should be noted that it is CITC's intention to move to 6.26 kHz channel spacings in the next 5 years if the high level of demand for UHF spectrum continues.

6.4.2 Transmitter power and antenna height

The intention is to minimise the sterilised geographic area and transmitter powers and antenna heights should be the minimum necessary to provide coverage over the required service area. Applicants are required to show a technical coverage map based on the power level / transmitter height to be used.

The maximum ERP for a base station is 100 Watts and 25 Watts for a mobile station.

6.4.3 Power spectral density

In the specific case of area assigned licences the licensee must operate the radio equipment with a power spectral density of not more than -119 dBm/6.25 kHz at and beyond the geographic boundaries specified in the licence.

6.4.4 Effective spectrum use

The applicant should, along with the service area / coverage map required earlier, indicate other mechanisms that demonstrate effective spectrum use such as the number of mobile stations per channel and any other technical provisions for time sharing.

6.4.5 Responsibility for area licence deployments

In the specific case of area licences the licensee is responsible for managing the use of the frequencies and maintaining a full set of information on the location and equipment deployed which shall be provided on request by CITC as well as on an annual basis as required in the licence.

6.5 Licence application forms

The licence application forms can be found at CITC Web Site.

6.6 Timescales for licence issue

CITC will typically issue or reject a licence application within 30 working days of receipt of an application. In the case that co-ordination is required with neighbouring countries the timescales can be considerably longer and are typically 60 working days.

This assumes that:

The application form is correct and complete

Payment is received.

These timescales do not apply to batch requests where there are 5 or more frequency assignments required or where the assignments do not match with CITC's policy for use of the spectrum.

6.7 Fees

Up to date information on the applicable fees can be found at [CITC Web Site](#).

7. Satellite services

7.1 Introduction

The provision of satellite space segment capacity and its coordination is managed at an international level through the ITU. CITC represents KSA in such activities. CITC's responsibilities in this regard are addressed under the licensing guidelines section below. Ground based satellite terminals located in the territory of KSA operating with satellites that have been coordinated internationally, will require a licence as described below.

7.2 Description of services / licences

7.2.1 Licences available

Three main licences are available:

- 1) For earth stations supporting international trunk links and feeder links for other satellite services. These earth stations operate in frequency bands shared with the fixed service and therefore require internal / national coordination. International coordination may also be required. Very Small Aperture Terminals (VSATs) operating in frequency bands shared with the fixed service will be treated in the same way as earth stations supporting international trunk links and feeder links for other satellite services.
- 2) Receive-only terminals operating in frequency bands shared with the fixed service. This licence is optional and obtains protection from fixed service transmitters operating within KSA.
- 3) For Very Small Aperture Terminals (VSATs) and other terminals operating in exclusive frequency bands (providing their individual EIRP is less than or equal to 50 dBW). VSATs having an individual EIRP greater than 50 dBW are considered to be in the same category as 1) above.

Receive only terminals operating in exclusive Fixed Satellite Service (FSS) bands, as defined below, do not require a licence. Similarly, receive only terminals receiving authorised broadcast signals in the Broadcasting Satellite Service (BSS) do not require a licence.

7.2.2 Who can apply

The organisations which can apply for a licence are:

- Commercial category of spectrum users - recognized communication and ICT enterprises that are licensed to provide public telecommunication services in the country.
- Civil category of spectrum users includes users of all governmental entities excluding those covered by Governmental category GOV, international organizations, enterprises excluding those covered by Commercial category COM, all non-commercial organizations and entities, public societies and local communities, as well as all kinds of private users for their own private use.

There are separate frequency bands identified for Governmental use which are not included here as they are not available to the above mentioned users.

Licences are awarded on a first-come, first-served basis. In bands shared with the fixed service, earth station operation may not be possible in some locations due to the presence of fixed links. In exclusive bands there are no limitations on licence award beyond satellite capacity being available.

7.3 Frequency bands

The main frequency bands relating to the Fixed Satellite Service (FSS) and the Broadcasting Satellite Service (BSS), including feeder links, are shown in the table below. Feeder links support not only the Broadcasting Satellite Service (BSS) but also other satellite based services such as the Earth Exploration-Satellite Service (EESS) and the Meteorological-Satellite Service (MetSS). Other frequency bands for satellite services exist and use of such bands may be made available on direct application to CITC.

Earth station receive	Earth station transmit
C-band	
3.6 – 4.2 GHz	5.725 – 7.075 GHz
Ku-band	
10.7 – 12.5 GHz	10.7 – 11.7 GHz (BSS feeder) 12.75 – 13.25 GHz 13.75 – 14.0 GHz 14.25 – 14.5 GHz
12.5 – 12.75 GHz (exclusive) (<u>Note 1</u>)	14.0 – 14.25 GHz (exclusive)
Ka-band	
17.7 – 19.7 GHz	17.3 – 18.4 GHz (BSS feeder) 27.5 – 29.5 GHz
19.7 – 20.2 GHz (exclusive)	29.5 – 30.0 GHz (exclusive)

Note 1: Although this band is also allocated to FSS (E-S) in the Radio Regulations, CITC has determined that it should only be available on an S-E basis in KSA (i.e. for earth station reception).

Additional FSS allocations are available at X-band and Ka-band. These could be licensed on the same basis as the commercial / civil bands identified above (i.e. depending on whether the bands are exclusive or shared with fixed links). However in many other countries these are identified for exclusive government use.

Mobile Satellite Service (MSS) allocations mainly at L-band and S-band supporting the service links to mobile terminals are also available for use. Terminals operating in these bands effectively operate on a licence-exempt basis.

Space Operations Service (SOS) allocations mainly at S-band supporting Telemetry, Tracking and Command (TT&C) links to spacecraft are also available for use. These links are supported by individual earth stations and will be licensed in the same way as feeder links for other services.

Use by ground based terminals of other satellite services and other frequency bands not mentioned here may be possible on direct application to CITC.

7.4 Licensing guidelines

7.4.1 National coordination

For those frequency bands identified above and not identified as being for exclusive satellite use, access is available on a first-come, first-served basis for both earth station and fixed link users.

7.4.2 International coordination

The responsibilities of CITC relating to international satellite network and earth station coordination / filing are limited to the processing of information (i.e. receiving filings from the ITU and submitting filings to the ITU) and attending international meetings when clearly necessary. Satellite and earth station operators will be wholly responsible for providing and analysing technical and administrative data as required by the ITU procedures and providing the necessary information for CITC to send to ITU. CITC reserves the right to change this arrangement (i.e. impose an internal due diligence process) should the system become unmanageable due to speculative filings through KSA. The principles underlying CITC's position are:

- CITC represents the government of KSA with respect to ITU requirements and as such has the responsibility to meet the obligations of the ITU Radio Regulations and other instruments promoted by the ITU
- While recognising and being responsible of the administrative requirements of the various Articles and Resolutions of the ITU, CITC only undertakes to act as the interface with the ITU in terms of forwarding and receiving data and information to / from the ITU in accordance with procedures. This also applies to fees that are levied by the ITU which will need to be paid by operators.
- For any satellite network or earth station operator that wishes to use the KSA administration to exercise the procedures of the ITU Radio Regulations it will be necessary for them to provide the necessary detailed information according to the schedule and in the format specified by the ITU such that CITC can pass it on to the ITU in a timely fashion. In particular, for satellite operators, this includes the due diligence requirements of Resolution 49 as well as the requirements of Articles 5, 9, and 11 and Appendices 4, 5, 7, 8, 30, 30A and 30B of the Radio Regulations.
- CITC undertakes to act as an interface to the ITU but if international coordination is needed, then CITC requires that operators undertake that coordination and keep CITC informed of progress. CITC will attend coordination meetings at its discretion

- For those frequency bands where a “first come, first served” regime exists, CITC will apply the same principle and, as noted above, will act as the interface with the ITU in terms of forwarding and receiving data and information to / from the ITU. For other frequency bands where a plan exists (i.e. Appendices 30, 30A and 30B) and where the resource is by definition limited, CITC will need to determine through consultation whether there is competition for such resource. In the event that potential competition exists CITC will need to implement a competitive award process whether beauty contest or auction.

7.5 Licence application forms

The licence application forms can be found at CITC Web Site.

7.6 Timescales for licence issue

CITC will typically issue or reject a licence application within 30 working days of receipt of an application. In the case that international co-ordination is required, the timescales can be considerably longer and CITC cannot commit to any specific time line as the process will depend on external parties.

In the absence of a requirement for international coordination the quoted timescale of 30 working days assumes that:

- The application form is correct and complete
- Payment is received.

These timescales do not apply to batch requests where there are 5 or more frequency assignments required or where the assignments do not match with CITC’s policy for use of the spectrum.

7.7 Licence templates

The licence templates can be found at XXXXX (CITC Web Site).

7.8 Fees

Up to date information on the applicable fees can be found at [CITC Web Site](#).