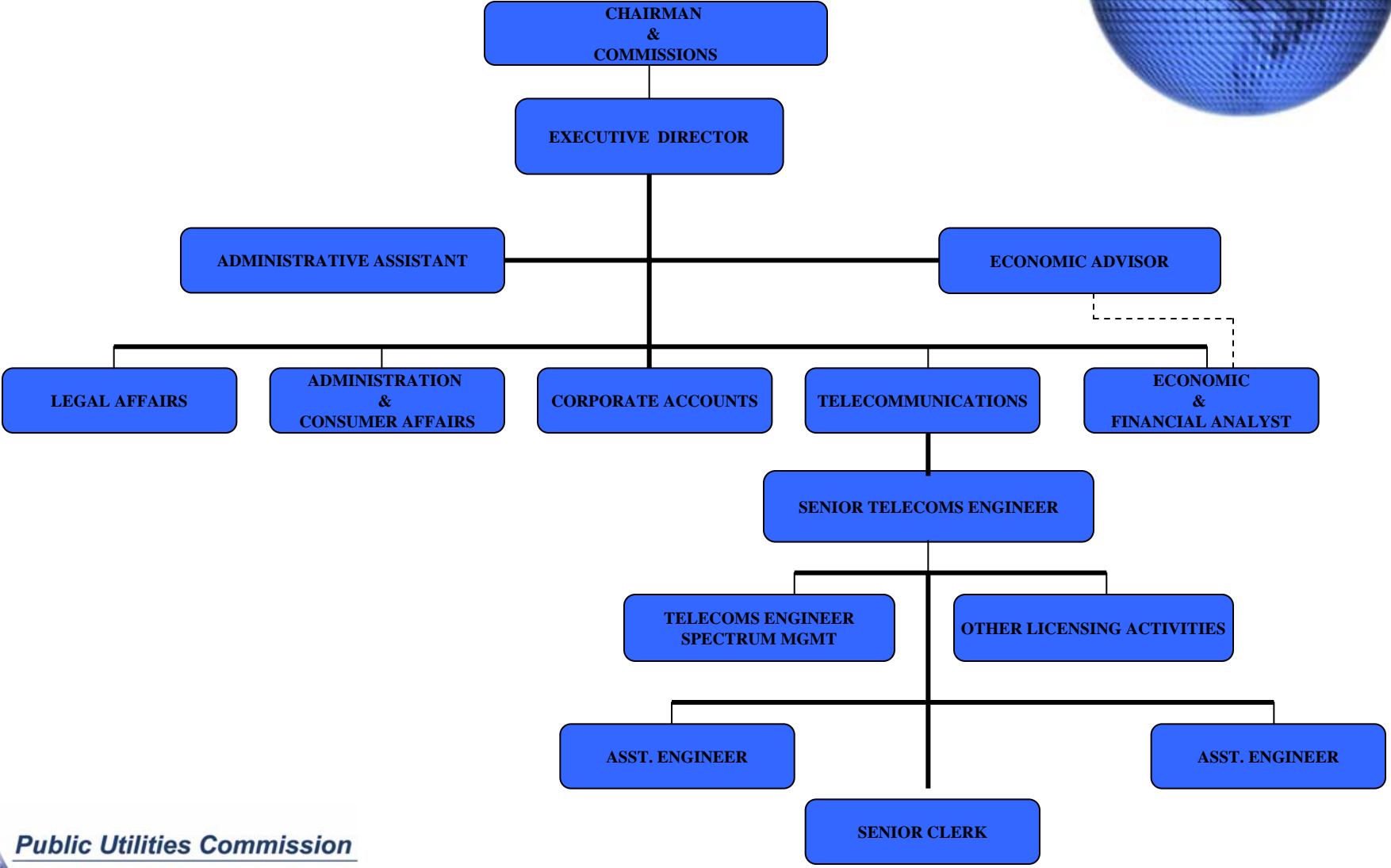


MANAGING THE RADIO SPECTRUM



by Charles G. Kemp

PUC ORGANIZATIONAL CHART

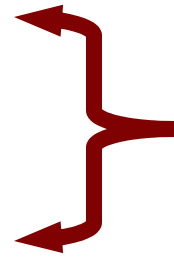


MANAGING THE RADIO FREQUENCY SPECTRUM: INTRODUCTION



- **ANCIENT AND MODERN MEANS OF COMMUNICATION**

- SMOKE SIGNALS
- DRUM RHYTHMS
- DIFFERENT AUDIBLE SOUNDS ETC
- FAX MACHINES
- TELEPHONES
- CELL PHONES
- SATELLITES
- INTERNET



LIMITED TO THE HORIZON,
SHORT DISTANCES AND
WITHIN VILLAGES OR
COMMUNITIES



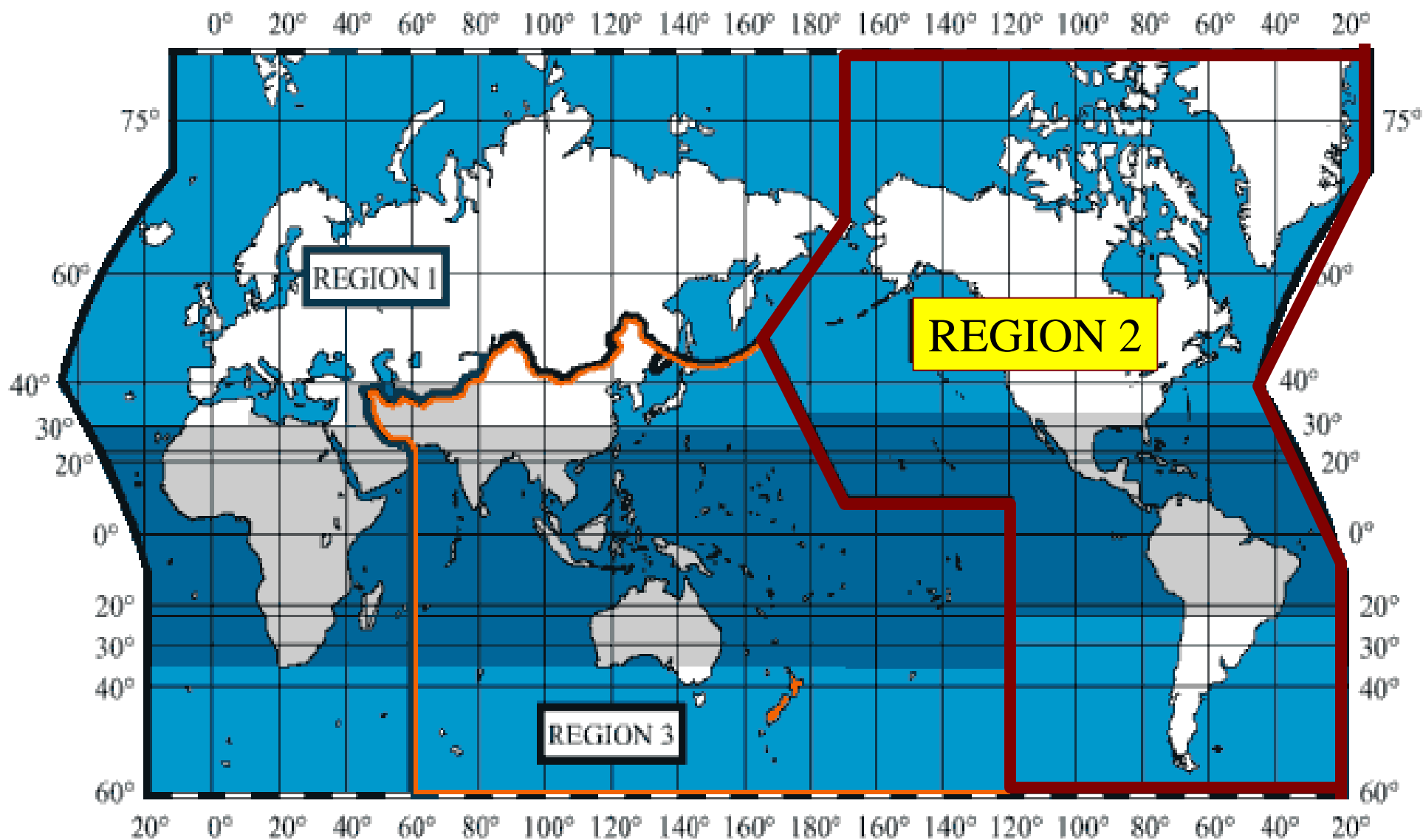
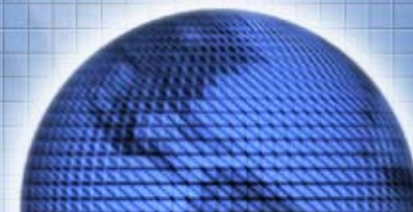
THE RADIO FREQUENCY SPECTRUM



- **WHAT IS THE RADIO FREQUENCY SPECTRUM**
 - A LIMITED NATURAL RESOURCE THAT MUST BE EQUITABLY SHARED BY ALL COUNTRIES
- **ROLE OF THE ITU AS IT RELATES TO RADIO SPECTRUM**
 - CONCERN WITH THE ALLOCATION OF RADIO FREQUENCIES FOR TELECOMMUNICATION SERVICES ON A SHARED OR EXCLUSIVE BASIS FOR THE DIFFERENT REGIONS



ITU REGION MAP



Bahamas

Table of

Frequency

Allocations

THE RADIO SPECTRUM

RADIO SERVICE COLOR CODING

AIRCRAFT (ENROUTE)	TELEVISION	AIR NAVIGATION
AIRCRAFT (ARRIVAL)	AIR RADIOS	AIR NAVIGATION (ENROUTE)
AIRCRAFT (DEPARTURE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY (ENROUTE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY (ENROUTE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY (ENROUTE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY (ENROUTE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY (ENROUTE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY (ENROUTE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY (ENROUTE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION
FERRY (ENROUTE)	AIRCRAFT (ENROUTE)	AIR NAVIGATION

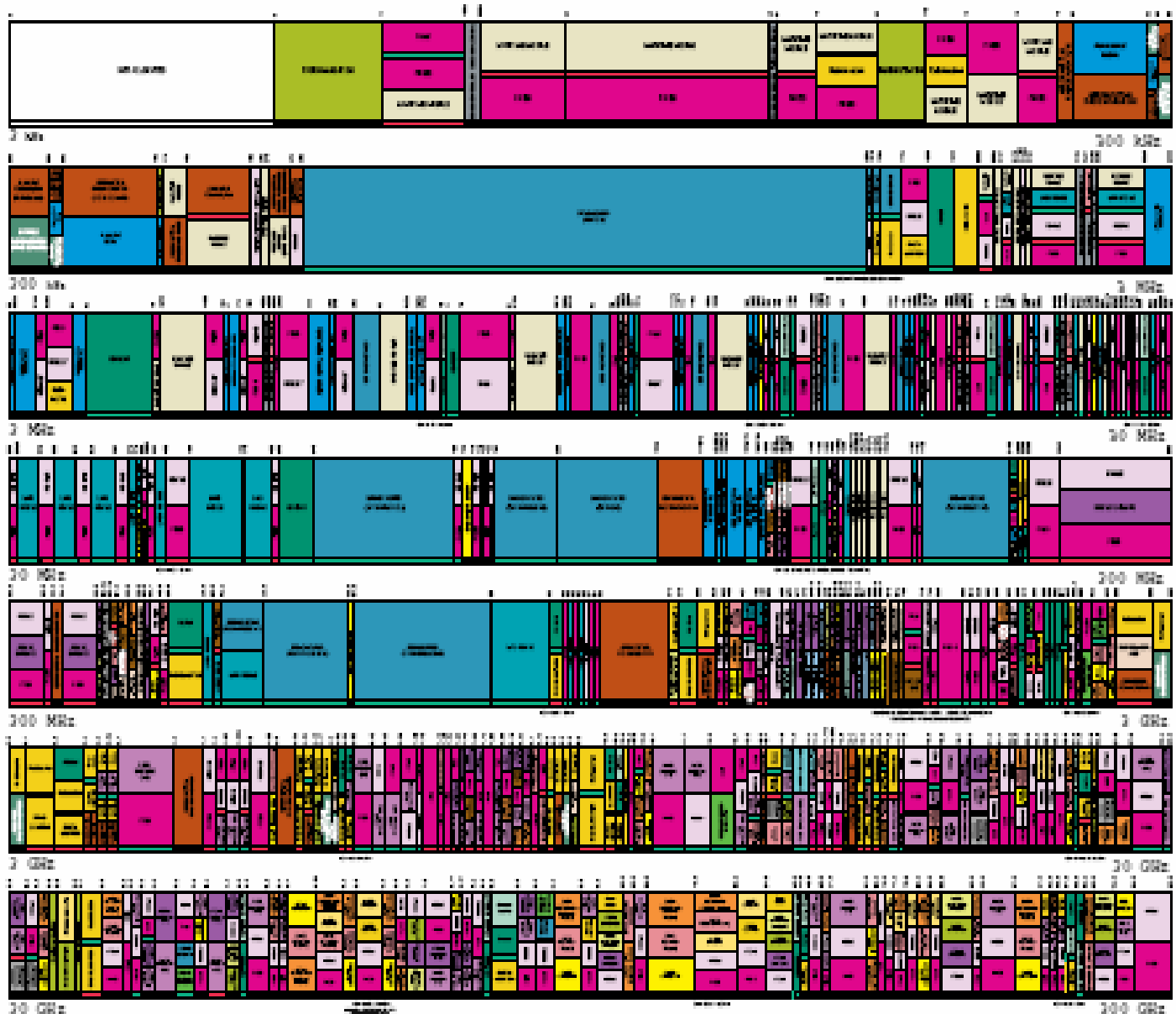
ACTIVITY CODE

INTERNATIONAL	INTERNATIONAL (EXCEPT)
NATIONAL	

ALLOCATION USAGE DESIGNATION

USE	NOTE	REMARKS
Res	Res	Reservé
Rad	Rad	Radiodiffusion
Rad	Rad	Radiodiffusion

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 ITU-T
 Frequency Allocation Table
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WHAT IS SPECTRUM MANAGEMENT ?



DEFINITION

THE MANAGEMENT OF THE USE OF A VERY FINITE RESOURCE CALLED RADIO FREQUENCY SPECTRUM IN AN EFFICIENT AND EFFECTIVE MANNER WITHIN THE FRAMEWORK OF INTERNATIONAL, REGIONAL AND NATIONAL OBLIGATIONS.



Public Utilities Commission

WHY MANAGE THE RADIO SPECTRUM?



- TO ENSURE THAT ITS USE IS GOVERN BY ORDER AND CONTROL SINCE IT IS A VERY IMPORTANT AND LIMITED RESOURCE
- TO ENSURE THAT IT IS UTILIZED EFFICIENTLY AND EFFECTIVELY MANAGED AVOIDING WASTE
- TO MINIMIZE OR ELIMINATE CONTAMINATION OF THE SPECTRUM AND THE EFFECTS OF HARMFUL INTERFERENCE
- TO ENSURE THAT RULES AND REGULATIONS GOVERNING THE USE OF THE RADIO SPECTRUM ARE CARRIED OUT AND ADHERED TO.



WHAT IS INVOLVED IN MANAGING THE RADIO SPECTRUM?



- *MANAGING THE RADIO FREQUENCY SPECTRUM INVOLVES FROM A TECHNICAL PERSPECTIVE*
 - MAINTENANCE OF FREQUENCY SPECTRUM DATABASE
 - ASSIGNMENT OF RADIO FREQUENCIES
 - MONITORING OF THE RADIO FREQUENCY SPECTRUM
 - INSPECTIONS OF RADIOCOMMUNICATION EQUIPMENT
 - DETECTION OF HARMFUL INTERFERENCE
 - ENFORCEMENT FOR REGULATIONS AND POLICIES



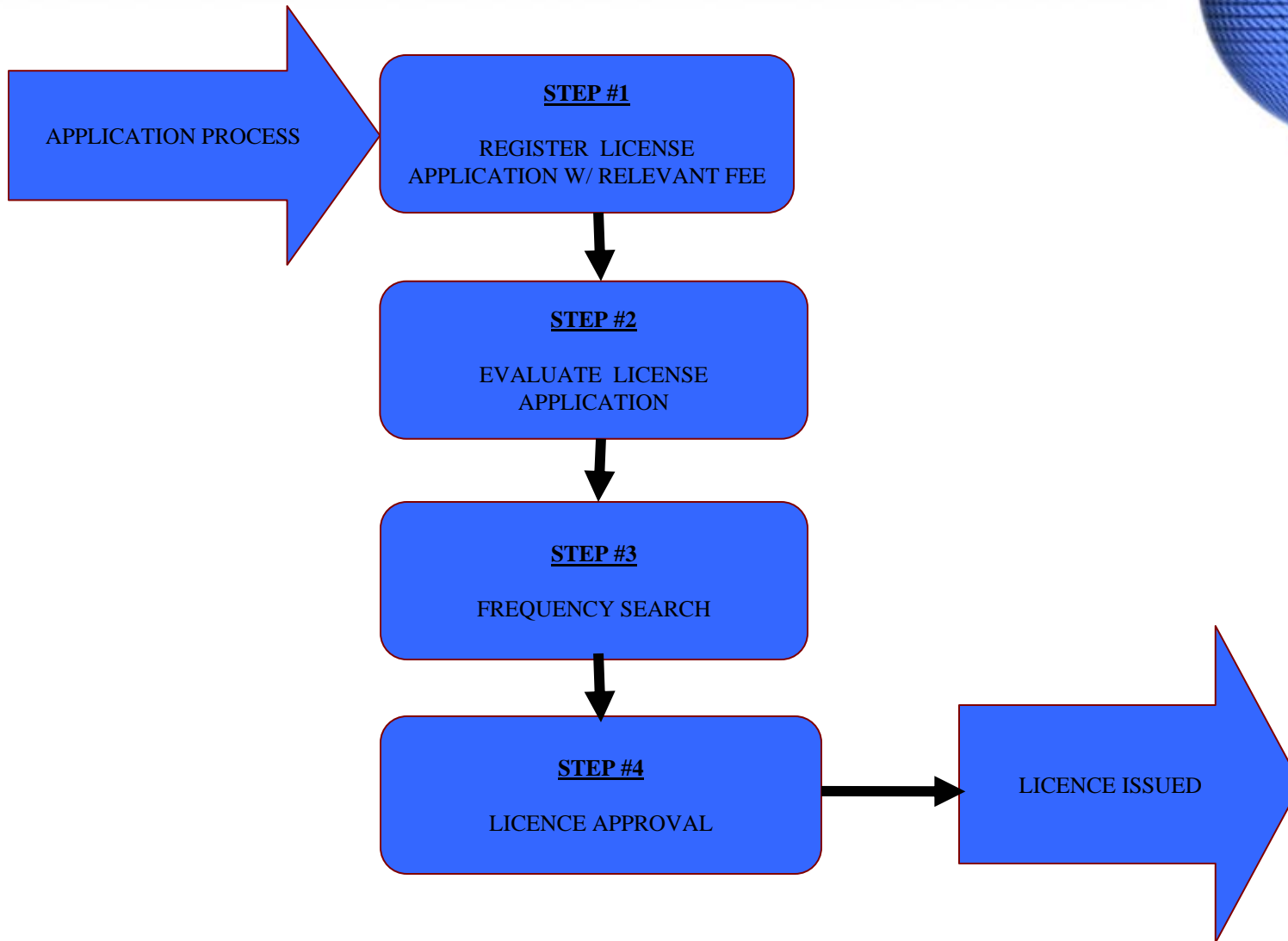
SERVICES THAT RADIOCOMMUNICATION FACILITATES UTILIZING THE SPECTRUM



- CELLULAR
- PAGING
- AM & FM BROADCAST
- MARITIME
- SURVEILLANCE & ALARM RADIO SYSTEMS
- DISPATCH MOBILE RADIO SYSTEMS
- DATA TRANSFER SERVICES
- WIRELESS NETWORKS
- SATELLITES
- AERONAUTICAL
- TWO-WAY TRUNKING (SMR) SERVICES



SPECTRUM LICENSE APPLICATION PROCESS



PUC MONITORING VEHICLE



MONITORING EQUIPMENT



MONITORING VEHICLE



VEHICLE W/ ANTENNA MOUNTED



VEHICLE W/O ANTENNA MOUNTED

GEOGRAPHY OF THE BAHAMAS



- **Location:**

- *The Bahamas is*

- A 750 mile long chain of islands in the Caribbean in the North Atlantic Ocean
 - Stretches from the Southeast of Florida to within 50 miles of the Caribbean islands of Cuba and Hispaniola (includes Haiti and the Dominican Republic).
 - It covers approximately 100,000 sq. miles of water.

- **Geographic coordinates:**

- *latitude: 24 15 N*
 - *longitude: 76 00 W*

- **Area:**

- *total: 13,940 sq km/5,382 sq miles*
 - *land: 10,070 sq km /3,888 sq miles*
 - *water: 3,870 sq km /1,494 sq miles*



The Commonwealth of The Bahamas





THE END

