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NASA

LEWIS RESEARCH CENTER

***ALLOCATIONS BY THE
1992 WORLD ADMINISTRATIVE RADIO CONFERENCE***

***NAPEX XVI
MAY 29, 1992***

ANN O. HEYWARD

COMMUNICATIONS SYSTEMS BRANCH

THE 1992 WORLD ADMINISTRATIVE RADIO CONFERENCE: AN OVERVIEW

- **WARC-92 CONVENED FEBRUARY 3-MARCH 3, 1992, IN TORREMOLINOS, SPAIN**
- **ATTENDED BY MORE THAN 1400 DELEGATES FROM 140+ NATIONS/ORGANIZATIONS**
- **FIRST FREQUENCY ALLOCATION CONFERENCE SINCE 1979**
- **COMPLEX AGENDA SPANNED WIDE RANGE OF RADIOFREQUENCY SPECTRUM:**
 - **ALLOCATIONS TO MOBILE SATELLITE SERVICE (LEO), BELOW 1 GHz**
 - **ALLOCATIONS TO MOBILE, MOBILE SATELLITE SERVICES IN 1-3 GHz**
 - **ALLOCATIONS TO BROADCAST SATELLITE SERVICE (SOUND) IN 0.5-3 GHz**
 - **ALLOCATIONS TO BROADCAST SATELLITE SERVICE (HDTV)**
 - **DEFINITION OF, AND ALLOCATIONS TO, NEW SPACE SERVICES ABOVE 20 GHz**
- **PROTECTION OF EXISTING SERVICES, HIGH DEMANDS FOR SPECTRUM FOR NEW SERVICES MADE DECISION MAKING BY CONFERENCE EXTREMELY DIFFICULT, PARTICULARLY IN 1-3 GHz PORTION OF SPECTRUM**
- **MANY ALLOCATIONS DECISIONS REACHED ONLY AT "ELEVENTH HOUR" OF CONFERENCE**
- **DECISIONS OF WARC-92 WILL AFFECT SATELLITE COMMUNICATIONS SERVICES THROUGHOUT REMAINDER OF THIS CENTURY AND BEYOND**

WARC-92: SELECTED RESULTS

MOBILE SATELLITE SERVICE

LEO SYSTEMS BELOW 1 GHz

- 137-138 MHz, DOWNLINK, PRIMARY/SECONDARY
- 148-149.9 MHz, UPLINK, PRIMARY
- 149.9-150.05 MHz, UPLINK, SECONDARY UNTIL 1997
- 312-315 MHz, UPLINK, SECONDARY
- 387-390 MHz, DOWNLINK, SECONDARY
- 400.15-401 MHz, DOWNLINK, PRIMARY

GEO, LEO SYSTEMS IN 1 - 3 GHz

- 1492-1525 MHz, DOWNLINK, PRIMARY, REGION 2 (EXCLUDING U.S.)
- 1525-1530 MHz, DOWNLINK, REGIONS 2,3, "GENERIC"
 - 1610-1626.5 MHz, UPLINK, PRIMARY, LEO
 - 1613.8-1626.5 MHz, DOWNLINK, SECONDARY, LEO
 - 1626.5-1631.5 MHz, UPLINK, PRIMARY, REGIONS 2,3, LEO
 - 1675-1710 MHz, UPLINK, PRIMARY, REGION 2, LEO
- 1930-1970 MHz, UPLINK, SECONDARY, REGION 2, LEO/GEO
- 1970-1980 MHz, UPLINK, PRIMARY, REGION 2, LEO/GEO
 - 1980-2010 MHz, UPLINK, PRIMARY, LEO/GEO
- 2120-2160 MHz, DOWNLINK, SECONDARY, REGION 2, LEO/GEO
- 2160-2170 MHz, DOWNLINK, PRIMARY, REGION 2, LEO/GEO
 - 2170-2200 MHz, DOWNLINK, PRIMARY, LEO/GEO
 - 2483.5-2500 MHz, DOWNLINK, PRIMARY, LEO/GEO
- 2500-2520 MHz, DOWNLINK, PRIMARY, LEO/GEO, 2005
 - 2670-2690 MHz, UPLINK, PRIMARY, LEO, 2005

**WARC-92: SELECTED RESULTS
BROADCAST SATELLITE SERVICE****SOUND BROADCASTING IN 0.5 - 3 GHz**

1452-1492 MHz, SECONDARY UNTIL 2007 IN SEVERAL ADMINISTRATIONS
2310-2360 MHz, UPLINK, PRIMARY, U.S. ALLOCATION

2535-2360 MHz (SEVERAL EUROPEAN, ASIAN ADMINISTRATIONS)

ALL ALLOCATIONS: UPPER 25 MHz IMMEDIATELY AVAILABLE PRIOR TO PLANNING, 1998

HIGH DEFINITION TELEVISION

17.3-17.8 GHz, DOWNLINK, PRIMARY, REGION 2

21.4-22.0 GHz, DOWNLINK, PRIMARY, REGIONS 1,3

18.1-18.4 GHz, UPLINK, PRIMARY

24.75-25.25 GHz, UPLINK, PRIORITY, REGIONS 2, 3

27.5-30.0 GHz, UPLINK, ALLOWABLE

NEW SPACE SERVICES ABOVE 20 GHz**GENERAL SATELLITE SERVICE**

19.7-20.2 GHz ALLOCATED TO MSS, DOWNLINK, PRIMARY, REGION 2

29.5-30.0 GHz ALLOCATED TO MSS, UPLINK, PRIMARY, REGION 2

20.1-20.2 GHz ALLOCATED TO MSS, DOWNLINK, PRIMARY, REGIONS 1,3

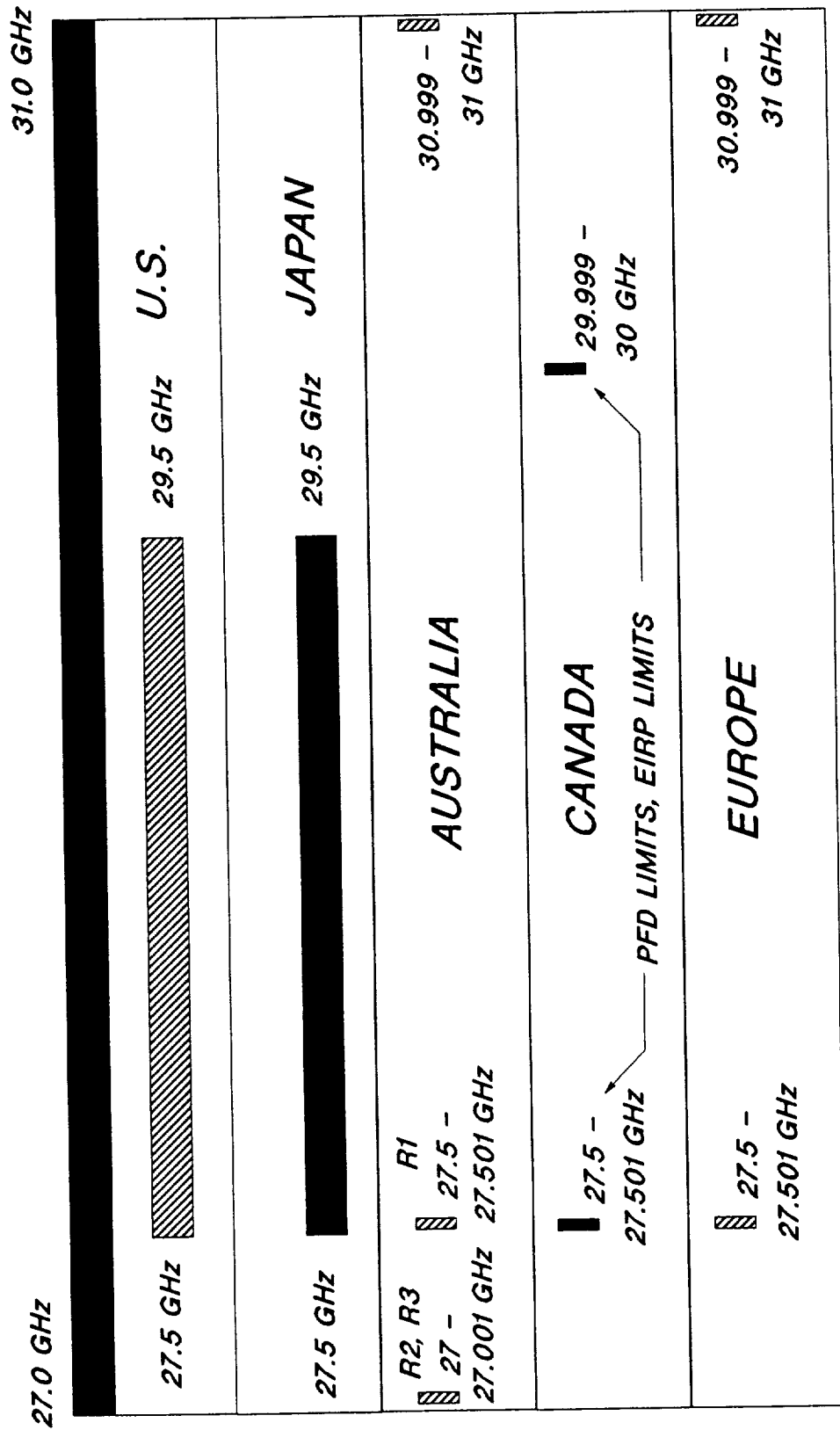
29.9-30.0 GHz ALLOCATED TO MSS, UPLINK, PRIMARY, REGIONS 1,3

UPLINK POWER CONTROL BEACONS

27.5-27.501 GHz, 29.999-30.0 GHz, PRIMARY, SUBJECT TO PFD, EIRP LIMITS

27.501 - 29.999 GHz, SECONDARY

WARC-92 PROPOSALS: UPLINK POWER CONTROL BEACONS



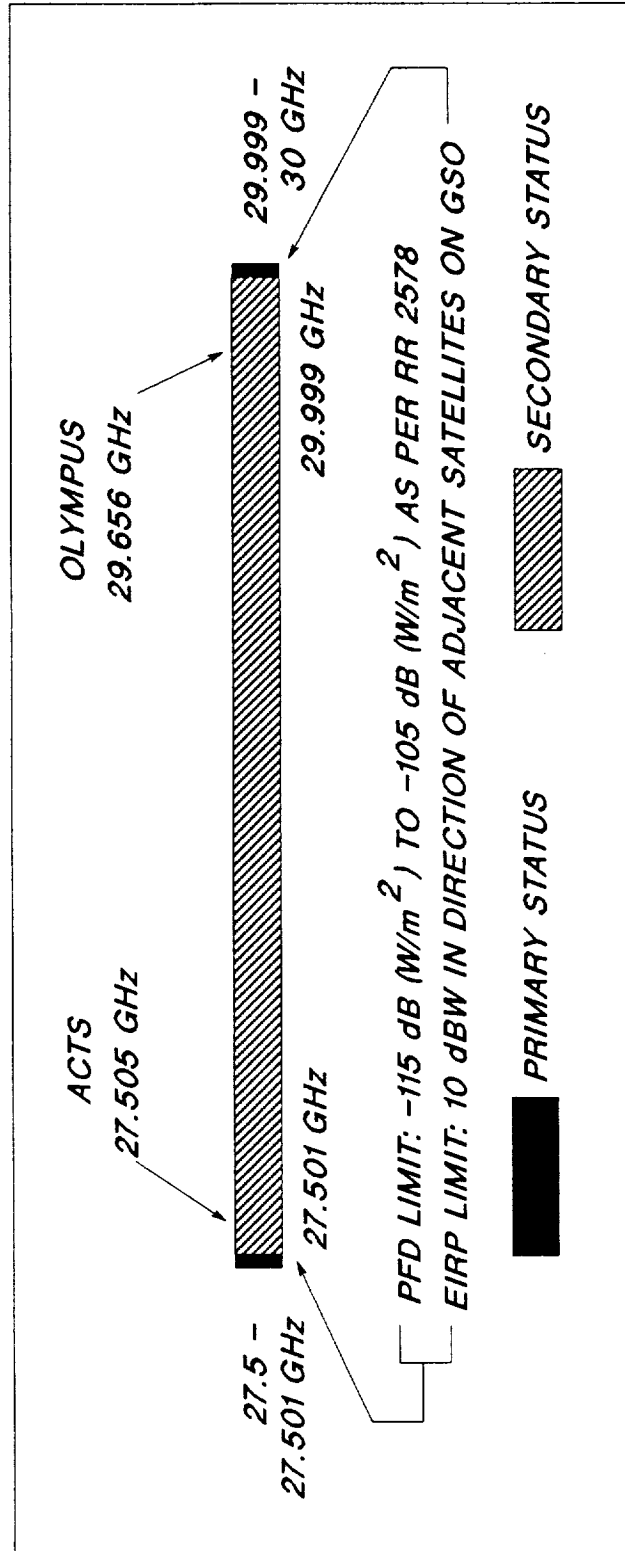
"ALSO PERMITTED" STATUS



PRIMARY STATUS

WARC-92 ALLOCATION
FOR UPLINK POWER CONTROL BEACONS

- PROPOSALS REPRESENTED TRADE BETWEEN SPECTRUM EFFICIENCY, SYSTEM FREQUENCY PLAN FLEXIBILITY



- ALLOCATIONS PROVIDE BOTH EFFICIENCY, FLEXIBILITY FOR USE OF UPLINK POWER CONTROL BEACONS IN EXPERIMENTAL, FUTURE COMMERCIAL KA-BAND SYSTEMS

NAPEX XVI

Session 2

**OLYMPUS PROPAGATION MEASUREMENTS
AND RESULTS**

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