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To be discussed in Plenary

LRIT SYSTEM TRANSITION AND TEST PLANS

This document provides an overview of the USA schedules for the transition and implementation of the LRIT service.

LRIT SYSTEM TRANSITION AND TEST PLANS

1.0 Introduction

The USA has developed a transition and implementation plan for the LRIT that will commence on a GOES I-M spacecraft other than the operational satellites. Testing of the LRIT data stream on the current GOES series were conducted in April 2001. Further tests of the new digital data stream are planned on non-operational satellites.

1.1 System Transition and Testing Plans

At the WEFAX User's Workshop, see <http://www.noaasis.noaa.gov/WEFAX/>, NOAA discussed the lead times for the LRIT transition. It was acknowledged that close coordination and planning was required before publicly announcing the implementation date and transition plan for LRIT. A consensus of the attendees confirmed there should be a multi-year overlap of the current WEFAX service and LRIT to facilitate the transition. The LRIT service is likely 2+ years away from implementation and NOAA must work on the development and implementation of a rigid transition plan and this must start immediately.

During the transition period, the USA will require the use of a GOES I-M spacecraft. The new ground equipment at the Wallops CDA stations and the LRIT test schedules allow an orderly transition to LRIT without the need to be sensitive to the specific GOES-N launch date.

NOAA developed and evaluated three (3) transition alternatives. These choices were:

1. Timesharing between WEFAX and LRIT on individual spacecraft for a limited time period (e.g., 1 to 2 years) followed by a total transition.
2. Providing a third overlapping satellite (e.g., GOES Central) to transmit LRIT or WEFAX during a transition period (e.g., 1 to 2 years).
3. Immediate and total transition to the LRIT service for either GOES East or GOES West, followed by a later (e.g., 2 to 3 years) total transition of the other satellite.

The transition from existing WEFAX services to the new LRIT services has considered the requirements and concerns of the existing user population as well as the availability of NOAA resources (e.g., satellites, ground communications and control systems, personnel).

The final recommendation for the transition to LRIT services is 'Alternative 1'. Further, Alternative 1 is described as a period of parallel operations for each of the two GOES satellites where both WEFAX and LRIT services would be simultaneously broadcast (i.e., timeshared GOES I-M transponder) for a specified transition period, followed by a full and permanent transition to full LRIT services.

The current assessment of the three transition alternatives is as follows:

1. Alternative 1 is recommended because it provides the capability for an extended transition period without imposing significant demands for additional space, ground, and personnel resources. Current assessments of alternative 1 are encouraging in the ability of the GOES I-M series to simultaneously accommodate both WEFAX and LRIT data through time-sharing techniques.
2. Alternative 2 (i.e., third operational GOES satellite) has considerable uncertainty on the availability of additional space, ground, and personnel resources. This study conservatively estimates that the required space, ground, and personnel resources will not be available to support this alternative.
3. Alternative 3 (i.e., total transition for individual satellites) would necessitate a sudden and difficult transition phase for WEFAX users. Most users, including Department of Defense (DOD) users, have a strong need for a relatively long transition period when both the old and new services are provided. The inherent characteristic of this alternative is that there is essentially no transition period.

The current plans for LRIT implementation and transition testing is as follows:

- Initial ground testing of simultaneous LRIT and existing EMWIN transmissions were positive (i.e., acceptable performance) at the 64 kbps data rate and negative at the 128 kbps data rate.
- Testing began in April 2001 to include space segment (i.e., transponder) testing. Additional testing started in July 2001 to validate FEC performance.

