

## **STATUS OF THE LRIT**

### Summary and Purpose of Document

An overview of the NOAA LRIT implementation activities.

Action Requested: None

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### Introduction

At CGMS XXVII, NOAA announced its plans to implement the LRIT format in the timeframe of GOES-N, October 2002. Further, NOAA stated that several key factors needed to be addressed to ensure a successful and graceful transition from the analog WEFAX to the new digital service. The implementation plan deals with the product and format processing capabilities, data uplink and user receive stations.

The new system will replace the old analog WEFAX information and may combine with other digital information onto a single higher capacity broadcast (64 to 128 kbps) that can contain significantly more meteorological data, imagery, charts and other meteorological information.

Transition to the new digital format will require either upgrading or replacement of existing WEFAX user terminals. One of NOAA's objective is to minimize the impact of these upgrades and replacements and maximize the cost effectiveness of the new digital service. NOAA plans to obtain information on the needs, interest and concerns of the WEFAX user community concerning the LRIT service. On November 14, 2000, NOAA will hold a workshop to solicit comments.

### NOAA LRIT Planning

NOAA has continued its plans for implementing LRIT service, beginning in time for the GOES-N spacecraft, currently planned to be launched no earlier than October 2002. Three major issues are currently being assessed and discussed to ensure the successful implementation and utilization of NOAA's LRIT services:

- 1) The design and implementation of NOAA LRIT ground systems
- 2) The validation and testing of LRIT communication parameters
- 3) The development and offering of affordable LRIT user terminals

NOAA has begun the development of LRIT ground system specifications to serve as the basis for a detailed implementation and transition plan in the support of the GOES LRIT broadcast service. The current NOAA assessment is that NOAA LRIT ground systems will be implemented and ready for testing by early 2002.

NOAA is currently completing plans for LRIT testing, utilizing a GOES spare spacecraft to validate the acceptable performance of its planned GOES-N downlink. Planned LRIT system specifications will be evaluated and validated during these tests. Users will be encouraged to participate. In addition, NOAA is currently completing coordination and studies with industry to help ensure the availability of affordable LRIT user terminals. Preliminary results from these ongoing studies indicate the US industry will be capable of developing and offering affordable (e.g., less than \$5,000) LRIT user terminals, based on the planned LRIT user terminal specifications.

The US LRIT implementation activities provide the opportunity for ground station vendors to test the digital systems for reliability and allow users to receive the digital broadcast in an environment that supports the current analog service. The NOAA LRIT implementation plan includes the following activities with these targeted dates:

- NESDIS will complete a study to determine the resources necessary to produce the LRIT service. (December, 2000)
- NESDIS will develop a prototype LRIT receiver and then provide these specifications to manufacturers. (January, 2001)
- NESDIS will make information available on LRIT hardware equipment to the WEFAX Community. (January, 2001)
- NESDIS will determine the products and software necessary to establish a digital WEFAX service. (June, 2001)
- NESDIS will provide improved up-to-date schedules on GOES operations to include periodic testing of the LRIT service. (October, 2001)
- NESDIS will provide users with information about vendors providing new systems capable of acquiring the LRIT data. (September, 2001)
- NESDIS will develop and implement the hardware and software necessary to uplink the digital data stream. (October, 2001)
- NESDIS will coordinate the transition to LRIT with the WEFAX vendors and users. (November, 2001)
- NESDIS will inform the WMO and the WEFAX user community on its plans for implementation, operation and transition of the LRIT format. (December, 2001)
- NESDIS currently projects a test of the LRIT through a spare GOES spacecraft. (January, 2002)

## Summary

Current GOES spacecraft (GOES 8, 9, 10, 11, M) have the capability of transmitting either analog WEFAX or digital LRIT data streams. The GOES N-Q series can transmit only the digital LRIT signal. NOAA's transition plan allows an orderly transition to LRIT without the need to be sensitive to the specific GOES-N launch date. In the January 2002 time frame, a test signal will be provided for a few weeks through a GOES satellite other than the operational GOES-East or GOES-West. During that period, GOES-East and GOES-West will continue to provide routine WEFAX data. This LRIT test signal will allow users to test new or modified receiver equipment without disrupting normal WEFAX transmissions. Circa November 2002,

GOES-East will be converted from WEFAX to LRIT transmissions and will cease transmitting WEFAX data. One month later, GOES-West will be converted to LRIT.

The LRIT digital WEFAX product list will be similar to the current analog service. LRIT is planned to provide improved quality for these current WEFAX products as well as additional meteorological products and information.

NOAA will help the users to get access WEFAX and LRIT broadcast schedules, end-users receive equipment availability and data transmission schemes. NOAA has scheduled a WEFAX User's Workshop on November 14, 2000 to inform the user community of NOAA's plan to migrate to the new digital format. Information pertaining to the NOAA LRIT implementation can found at <http://140.90.207.25:8080/EBB/ml/nic00.html> .