

## **REPORT ON THE PREPARATIONS FOR THE YEAR 2000 TRANSITION**

This document described activities and plans to ensure the readiness of EUMETSAT operations systems for the Year 2000 Transition.

# REPORT ON PREPARATIONS FOR THE YEAR 2000 TRANSITION

## 1 INTRODUCTION

This document describes the approach that has been adopted to prepare the EUMETSAT operational satellite system and the users of that system for the Year 2000 transition.

The document addresses, in particular:

- The general approach adopted by EUMETSAT to achieve Year 2000 compliance on the operations system
- Current status of activities
- Testing involving the user community
- Contingency planning

## 2 APPROACH ADOPTED TO ACHIEVE YEAR 2000 COMPLIANCE

In order to structure the activities necessary to achieve Year 2000 Compliance for the operations system, a formal project was established with the following project phases:

- Inventory and audit check
- Assessment
- Transformation of systems
- Testing

In addition to the phasing described above, the area of supply chain management was also seen as an area, which had the potential to cause serious impact on the organisation. Reliance on external parties for the delivery of services, goods and data meant that even if the organisation declares itself compliant, it cannot be sure that everything will run smoothly over the millennium. Therefore, every step had to be taken to ensure that external parties addressed the issue and, where possible, compliance statements were provided.

### 2.1 Inventory Phase

This phase included the definition of the Year 2000 compliance requirements, the creation and population of a system inventory, the assignment of items from the inventory to work packages, the establishment of a configuration baseline and, finally, a review of the inventory phase.

### 2.2 Assessment Phase

The work for this phase involved the auditing of customer maintenance and service contracts and code analysis for non-compliance, analysis of system interfaces, identifying which upgrades, code rewriting, software replacements, etc. are required, and then the preparation for the transformation phase.

### **2.3 Transformation Phase**

This phase included making any changes to the various systems to make them compliant. During this phase care had to be taken to ensure that the configuration of the systems remained consistent and well-documented. This phase also included the analysis for the testing phase identifying the system and end-to-end tests required.

### **2.4 Testing Phase**

During the testing phase, all operations systems are being tested for Year 2000 compliance. This involves the use of simulations and development environments. The testing is carried out internally within systems, between systems within EUMETSAT and also with external agencies. After the end of this phase, any new item to be incorporated into the EUMETSAT systems must also be checked for Year 2000 compliance.

## **3 CURRENT STATUS**

The inventory, assessment and transformation phases are all completed and all required modifications to hardware, firmware and software items have been carried out. A large proportion of the testing is also completed, with much of it carried out already in the latter part of 1998 and early 1999. During 1999 testing activities have continued with in-depth testing involving the ground segment as well as service providers and the user community. Several end-to-end tests were carried out to test the Meteosat data flows in the areas of telecommunications, image acquisition and processing, image dissemination, DCP message collection and distribution, and MDD transmission. The latter three areas (dissemination, DCP, MDD) involved a representative cross-section of the users, including equipment manufacturers. More recently, tests were carried out at the Back-up Satellite Control Centre in Fucino, Italy, and the three MDD up-link stations.

In conclusion, all critical system have now been successful tested.

## **4 TESTS INVOLVING THE USER COMMUNITY**

During the assessment phase of the project, several areas of testing with the user community were identified, namely:

- Internal testing of EUMETSAT's systems, where the impact on the user community had to be kept to a minimum;
- Testing with user groups external to EUMETSAT, which involved the testing of data exchanges between EUMETSAT and other users, for instance ECMWF or the GTS and the provision of aged data, either from the EUMETSAT ftp-server or directly through the satellite.

### **4.1 Test Transmission of aged PDUS and SDUS Data**

Following requests from several NMS and other users, EUMETSAT performed a series of tests resulting in the transmission of dissemination formats time-stamped over the millennium through the operational spacecraft. Tests took place on 17 June 1998, 5 August 1998, 2 December 1998, 12 May 1999, 19 May 1999, and 24 August 1999. Tests were announced well in advance via the Web pages, Newsletters and satellite broadcast announcements.

The primary objective of these tests was to allow users to check how their systems would behave over the Year 2000 transition. It had to be made clear to the users, of course, that the tests would in no way guarantee that users' systems would function correctly over the year boundary. Users were, therefore, advised to contact equipment manufacturers to check if their equipment was Year 2000 compliant.

## 5 CONTINGENCY PLANNING

At the beginning of 1999 the EUMETSAT Year 2000 project team began to analyse what measures need be taken across the Year 2000 transition period and also what contingency planning was required. Preventative measures include extra operations and maintenance personnel on duty at the EUMETSAT main control centre and at the Primary Ground Station and, for safety reasons, placing the satellites in a "safe" mode. **These measures mean that images from slot 48 on 31 December and slot 1 on 1 January will not be scanned or disseminated.** In addition to preventative measures, specific contingency procedures are being written to address potential failure scenarios. A full rehearsal of the preventative measures and contingency procedures is planned for 19 – 20 October 1999.

## 6 OTHER EUMETSAT SYSTEMS

The EUMETSAT Year 2000 project team not only addressed potential problem areas that might affect the Operational System, but also assessed the degree of risk and measures to be taken to ensure compliance of the building infrastructure, the Office Computer Network, the Financial System, the Ground Segment Division maintained systems and the future MSG systems. The same strategy adopted for the Operations system was followed for all other functional areas, namely Inventory, Assessment, Transformation, Testing and Contingency Planning.

Most other areas are nearing completion of upgrades and testing and the first issue of a Transition and Contingency Plan has been produced with an integrated approach to the transition.

## 7 EXTERNAL REVIEW

In August 1999, a second Year 2000 external review took place with the participation of experts from France, UK and the WMO. The review looked in depth at EUMETSAT's preparations for the transition and contingency plans. The review concluded that there was a high degree of confidence that EUMETSAT will be ready for the Year 2000 transition.

A Final Readiness Review will take place in November 1999.