CGMS-XXX
PRC-WP-02
Prepared by CMA
Agenda Item: B.2

CURRENT STATUS OF FY-1C

Summary and purpose of paper

FY-1C was launched on May 10, 1999. It has been operating beyond the designed lifetime. This paper briefly describes the status of the satellite as of September 30, 2002.

CURRENT STATUS OF FY-1C

Launch

The polar orbiting meteorological satellite FY-1C was launched on 10 May 1999. This three-axis stabilized satellite has been in operating for 3 years.

Orbit Characteristics

The major orbital characteristics of FY-1C are shown in table 1.

Table 1. Orbit Parameters of FY-1C satellite

Orbit	Altitude	Inclination	Eccentricity	Descending node
Sun-synchronous	862 km	98.79^0	0.00188	7:16 am

Primary Instrument Payload

FY-1C carries a multi-channel visible and infrared scan radiometer (MVISR) that has 10 channels including 4 visible channels, 3 near IR channels, 1 short wave IR channel and 2 long wave IR channels. The wavelength of each channel and primary usage is shown in Table 2.

Table 2. MVISR channels and primary use

Channel	Wavelength (μm)	Primary Use
1	0.58-0.68	Daytime cloud, ice and snow, vegetation
2	0.84-0.89	Daytime cloud, vegetation, water vapor
3	3.55-3.95	Heat source, night cloud
4	103.-11.3	SST, day/night cloud
5	11.5-12.5	SST, day/night cloud
6	1.58-1.64	Soil moisture, ice/snow distinguishing
7	0.43-0.48	Ocean color
8	0.48-0.53	Ocean color
9	0.53-0.58	Ocean color
10	0.90-0.965	Water vapor

Transmission Modes

Real time picture transmission:
CHRPT format: real-time transmission

Delayed picture transmission:

GDPT Format: daily global data coverage of 4 channels (0.58-0.68 •m, 0.84-89μm,10.3-11.3•m,11.5-12.5•m) with 3.3 km spatial resolution.

LDPT Format: pre-selected local-area data coverage of 10 channels with 1.1 km spatial-resolution at nadir.

Operating beyond the Design Lifetime

FY-1C has been operating for more than three years, exceeding the design lifetime of two years.

Since last CGMS in October 2001, some significant events happened to FY-1C are recorded as follows.

On February 7, 2002, the MVISR/B was turned off. The MVISR/A was turned on. MVISR/A's degradation is less than MVISR/B.

On October 17, 2002, the satellite status was troubled and data broadcast interrupted. This interruption was attributed to the status control gas leaking from the gas bottle valve.

The status control effort was rewarded with the satellite being stabilized three days later. When the satellite regained stability, a heating process was implemented to remove contamination to the IR channels from the gas leakage.

On October 25, the data broadcasted recovered.