RVSM Monitoring in the AFI Region

Flight requirement guide – Operators

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Requesting RVSM Height Monitoring

RVSM Height Monitoring must be requested through the AFI Regional Monitoring Agency directly or through ARINC, the service provider. The RVSM Height Monitoring and Information Request Form is available on the ARMA website to fill out all details for aircraft that need monitoring.

GMU Description

The GMU is a small unit weighing approximately 10 kilos and would be set up on the flight deck or in the cabin and our ARINC Staff Specialist would occupy the 'jump seat' or a passenger seat for the duration of the flight making note of assigned flight level, altimeter readings and various other parameters. There is no interference with the flight crew's normal duties at any time. Two small GPS antennae are attached to the rear cockpit windows or cabin windows prior to departure and the transponder output from the aircraft is recorded by a 'patch' antenna within the GMU. No connection is required between the GMU and the aircraft systems and the unit is fully EASA Form 1 compliant. The GMU does not interfere with any aircraft avionics or operating systems.

Flight Requirements

The requirement for GMU monitoring flights is 30 - 45 minutes level cruise at an RVSM flight level, (FL290 - FL410 inclusive). This straight and level cruise portion should be conducted within the aircrafts normal operating envelope and with an absolute minimum of heading changes. Whilst small heading changes are allowed, large deviations from track may increase the potential for invalid raw data. There is no need for a speed decrease or any other abnormal aircraft attitude. Only the altimetry system performance in the RVSM airspace is relevant for this program.
The flown profile in this section must be a horizontal flight at the same altitude without any climbs or descents.
The horizontal flight path (ground track) must not show any turns, since turns will result in an increased wing load resulting in an increased angle of attack, which might influence the airflow around the static ports. Additionally, the autopilot will be forced to increase the thrust of the engines to compensate the additional drag due to the increased attack angle. This may lead to a control process that also may influence or affect the height keeping performance of the aircraft.

For the GMU flight, there is no need to make a special flight for monitoring. A normal scheduled flight that can meet the monitoring requirements above is sufficient.

Flight Plan Requirements

It would be advisable to indicate on the ICAO flight plan, Field 18 that the flight is a GMU height monitoring flight so that this can be taken into consideration by ATC. Co-ordination with the appropriate Air Traffic Control Unit, where this is permitted, prior to departure by the air crew is advisable to assist in facilitating the GMU height monitoring flight.

Routing in South Africa

Routing for operators opting to make special test flights will be as follows:

From Lanseria/ Johannesburg International or any other local airports in the vicinity, the route should be filed westwards towards Upington on the RNAV route UZ6 and UQ11, turn around on UQ11 and route inbound on UQ 19. Routes South West or South should be filed on an appropriate RNAV route to allow sufficient time for the GMU monitoring flight requirements.

Flights may continue South/West or South West in order to achieve the optimum flight time needed.

In all other countries the routing will be negotiated prior to the flight.

Point of Contact

The point of contact for the Program Manager, Logistics Manager and Staff Specialist must be defined in the early stages of the planning process. Information regarding planning, aircraft information and height monitoring flight requirements must be passed down to the flight crew in a timely manner to ensure that everyone is aware of what has to be achieved.

MET Requirements for RVSM Height Monitoring

Flights are weather dependent. The GO/NO GO decision is made 24 hours prior to the flight taking place, based on the British MET Office forecast specifically developed for the AFI region and GMU flights in particular**.** Frontal patterns, wind speed and turbulence areas in the region are forecast enabling the GMU management organization to ensure that the route of flight does not cross or parallel too closely the area of frontal activity which can corrupt the collected raw data. Other available weather forecast charts produced by the operator have no bearing on the GO/NO GO decision as these charts may not show the required information needed for this decision.

Flights undertaken in spite of MET NO GO decisions at the operator's request may or may not be approved. If the flight is approved by the RVSM Height Monitoring program manager, the operator will be fully responsible for any invalid results and will be required to re-fly the mission at their own cost.

There will be no departures prior to 0600z unless otherwise approved by the RVSM Height Monitoring Program Manager due to the availability of the MET forecast.

The MET GO/NO GO decision will be made by the RVSM Height Monitoring Program Manager only.

Crew Information

Crew must be fully aware of what is expected of them prior to departure in order that the GMU records sufficient, quality raw data. Any required information not passed on to the crew by the operators point of contact, or not adhered to by the operator and resulting in compromised data will be the full responsibility of the operator, possibly resulting in a re-test at cost to the operator.

Invoice payment requirements for RVSM Height Monitoring

Invoicing is actioned either prior to the monitoring flight taking place or just shortly after. Invoicing may depend on the number of aircraft the operator has to monitor and when they are able to be monitored. Payment terms are 30 days. Invoicing may be requested during the planning stage if the operator requires it.

Release of Results

No height monitoring results will be released from the operational base, as they will only have raw unprocessed data which will need to be processed at the Gatwick Operational Control Centre (OCC). This raw data is of no use to the operator until it is processed.
Operators are requested to refrain from contacting ARINC directly for height monitoring results as ARINC will not release this information.
All height monitoring results will be forwarded to the ARMA by ARINC and released officially to the applicable operator by the ARMA.
Results will not be released by ARINC until payment is made in full.

Cancellation and Failure of results

It should be clearly understood that most height monitoring flights are successful however cases do occur where flights need to be reflown due to the quality of the data recorded for what ever reason. The expenses incurred will be the responsibility of the operator with ARINC doing all in its capabilities to avoid such a situation. Certain matters outside of ARINC's control which may adversely affect the integrity of data collected during RVSM Monitoring Flights necessitating their repetition may include, but are not limited to, failure of the GPS satellite signal and subsequent non-recording of GPS data by the GMU equipment, failure of the UK Met Office to provide meteorological data for the date of the flight, for the flight area, or failure of CYBIT to provide DGPS data for the date of flight. The customer shall be fully responsible for all ARINC charges in the event that the failure to collect valid RVSM data is not attributable to ARINC. In the event of a flight cancellation and/or delay for any reason whatsoever, the customer must notify ARINC not later than Twenty-Four (24) hours prior to the scheduled RVSM Monitoring Flight or Staff Specialist positioning flight, as applicable. Otherwise, the customer shall be fully liable for ARINC charges associated with the Monitoring Flight, whether or not it takes place