

LMCO-Syracuse IFF Coordination of Mode S Test Plan:

Mode S testing scenarios: Factory Acceptance test procedures request the Mode S operation checking to consist of the following operation scenarios repeated for a 2 hour period:

- 1) Apply Interrogator Identifier "II" (or SI) code address setting (per FCC license coordinated with the FAA). Set the Probability of Reply (PR) setting to 50% to allow aircraft transponders to reply every other sweep (sweep is equivalent to Pulse Repetition Interval typically listed in FCC Operating licenses in Hz) . This allows aircraft transponders time to reply to other IFF's in the controlled airspace.
- 2) The maximum detection range of the highest power IFF system used at LMCO in Syracuse is 250 nmi. Mode S "All-Call" will be interrogated at a PRF of 164 Hz (corresponding to 164 interrogations /sec). 250 Hz PRF is the maximum specified under the DoD AIMS IFF Equipment Specifications. Mode S features a variable RF output control that reduces RF power automatically as a function of the aircraft range.
- 3) Once aircraft are acquired with the "ALL Call", they are switched over to Mode S "Roll Call". The IFF systems used in Syracuse will interrogate a given aircraft in Roll Call at a rate of 1 per scan. Once acquired in Roll Call, A Multi Site Lockout Protocol is provided to lock out aircraft transponder replies to our future All/Call interrogations from our assigned II (SI) code.