Operating SOIA at SFO with New, Lower Weather Minima

New SOIA weather minimums were published earlier in 2012 and lowered the required ceilings from 2100' to 1600' at SFO airport. Though this allows greater opportunities to run SOIA it does not relieve the pilot on the SFO LDA PRM RWY 28R from sighting traffic on the SFO ILS PRM RWY 28L prior to the fix DARNE as instructed on the approach plate. For reference, though DARNE does not have a crossing restriction the fix GOBEC, which is 2 miles prior to DARNE on the approach, has a crossing restriction of 1800 (at or above 1800'). In actual practice this means that although the weather at SFO allows for SOIA to be in operation the weather on the final approach course still needs to allow the pilots on the SFO LDA PRM RWY 28R approach to sight adjacent approach aircraft and maintain visual separation.

The lowered ceiling allows SFO and NCT to "gear up" sooner than in the past. Whereas, with the higher ceiling of 2100' the controllers and TMCs would begin checking the weather conditions and forecasts as ceilings approached 1900' to 2000', the lower ceiling now allows them to begin checking much sooner and gives the possibility of commencing SOIA sooner. On the other end of the operation it may also be possible to continue to run SOIA for longer periods as conditions deteriorate at the airport but not in the approach zone.

One of the tools used to judge whether or not the weather is conducive to running the SOIA approaches is the San Mateo Bridge Automated Weather Observing System (SMB AWOS). The SMB AWOS is located approximately 5 mile east of SFO along the final approach course and provides weather information (ceilings, winds, etc.) that is constantly updated. Thus, the weather at SFO may have ceilings that are at or above 1600' yet along the approach course the ceilings may be well below that height. In such a case, SOIA approaches may not be able to be utilized.

The other tool that is used is the pilots themselves. As the weather begins to improve to SOIA minimums at SFO and the SMB weather indicates that the ceilings may have improved enough to allow SOIA to operate, controllers will query pilots for reports on the conditions on final to judge if SOIA approaches can be used.

There is also a requirement for OAK airport to also be in a west configuration (Runways 29/27L/R). This is due to the conflict that exists when the OAK runway 11 departures are in a right turn during southeast configuration (Runways 11/9L/R) into the missed approach path of the SFO LDA PRM RWY 28R. For reference, the current missed approach procedure for the SFO LDA PRM RWY 28R is a "climbing right turn to 6000 via heading 030 and SFO VOR/DME R-035 and OAK VORTAC R-060 to SALAD INT and hold…" As you can imagine, this situation can easily put the OAK departures and the SFO arrivals in conflict with each other during SOIA operations.

There was a time when SOIA was not available while SJC airport was in a southeast configuration (Runways 12L/R). After several discussions an agreement was reached that enables SOIA to be conducted while SJC is in this configuration but only under certain weather criteria. The weather minimums are 2300' ceilings and 3 miles visibility. This allows the SJC final controller the option of turning onto the 12L final approach course at the approach gate, if needed. By having this option the final controller can turn in much sooner and minimizes the impact of SJC arrival aircraft on the SFO SOIA aircraft.

Along with the above items and the collective weather forecasts the prudent FLM in collaboration with the OM can usually make a fairly informed call as to the viability of the SOIA approaches. It should be noted here that SOIA, just like any other approach, cannot be advertised as available until the weather

minimums are present. Unlike other approaches, SOIA is required to be advertised on the SFO ATIS for 30 minutes prior to commencing the approaches. The 30 minutes is required due to required special pilot training and the aircrew requirement to brief a very complex procedure.

The efficiency gains while using SOIA approaches are noteworthy. Without the availability of SOIA the weather would normally allow for a 30 Airport Acceptance Rate (AAR) per hour. On October 11, 2012, NCT ran SOIA for 8 hours and 50 minutes. This resulted with the maximum arrivals in one hour of 38 and an overall average of 33 arrivals per hour. On October 12, 2012, NCT ran SOIA for 12 hours. This resulted with the maximum arrivals for one hour of 43 and an overall average of 35 arrivals per hour. Also, on this date the GDP was cancelled after 5 hours and 10 minutes of operation because the objectives were met and NCT could continue to run SOIA operations for the remainder of the day at a higher AAR of 36 to 40. The above gains are typical for this operation.

Respectfully Submitted,
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