



Meeting Announcement

Technical Working Groups

Thursday, March 8, 2018
1:00 p.m. – 4:00 p.m.

David Chetcuti Community Room – Millbrae City Hall
450 Popular Avenue – Millbrae, CA 94030

Note: To arrange an accommodation under the Americans with Disabilities Act to participate in this public meeting, please call (650) 363-1853 at least 2 days before the meeting date.

AGENDA

1. **Introductions, Brief Overview of Framework for Review/Analysis Process**
2. **Complete Review/Analyze of Topic 1 – Nighttime Operations**
3. **Review/Analysis of Topic 2 - Near Bay Daytime Operations (RWY 1 Departures)**
4. **Review/Analysis of Topic 3 – Near Bay Daytime Operations (RWY 28 Arrivals)**
(time permitting)
5. **Review/Analysis of Topic 4 – Near Bay Daytime Operations (RWY 28 Departures)**
(time permitting)
6. **Review/Analysis of Topic 5 – Near Bay Daytime Operations (RWY 10 Departures)**
(time permitting)
7. **Summarize Action Items**
8. **Discuss and Set Next Technical Working Group Meeting Date(s)**
9. **Public Comments on Items NOT on the Agenda**
**Speakers are limited to two minutes. Roundtable members cannot discuss or take action on any matters not included as part of the agenda.*
10. **Adjourn**

Agenda Item #1 – Finish Review/Analysis of Topic 1 - Nighttime Operations

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

11. Runway 10 Departures to Use NIITE

FAA's Update on Phase 2 Initiative Document Reference: Page 27 – Item 21, Page 28 – Item 23

Summary of Recommendations: Determine if Runway 10 take-offs can be authorized to use the NIITE. If not, create a departure to allow Runway 10 take-offs to make a left turn up the Bay to NIITE. While waiting authorization for this, request made that aircraft are vectored to mirror the NIITE departure procedure.

Summary of FAA Responses: The NIITE departure procedure once contained a transition for both Runways 01 and 10, but Runway 10 was removed for safety concerns. Some pilots were not correcting their FMS when the runway changed and thus were turning in the wrong direction. Concerns regarding opposite direction operations as well.

Summary of TWG Discussion:

12. QUIET Departure to GOBBS

FAA's Update on Phase 2 Initiative Document Reference: Page 28 – Item 22

Summary of Recommendations: Determine if aircraft can file for SFO QUIET departure or the OAK SILIENT departure and then be vectored in accordance with NCT SOPs out to GOBBS and southbound from there.

Summary of FAA Responses: SFO QUIET departure is no longer a published procedure. Refer to Page 102 – 3.23 for route discussions to route via the Pacific Ocean and GOBBS.

Summary of TWG Discussion:

13. Raise 3,000' Altitude Straight Out Departure Limit

FAA's Update on Phase 2 Initiative Document Reference: Page 28 – Item 25, Page 44 – Item 43

Summary of Recommendations: Is there any ability to eliminate or raise the 3,000' altitude limit on straight-out departures?

Summary of FAA Responses: The GNNRR and WESLA contain a 3,000' altitude restriction for Runway 28 departures that may be required for safety. This altitude restriction can be waived by ATC if there is no traffic conflicts. The GAP procedure, which does not have a 3,000' altitude restriction, is used as much as possible. However, when traffic dictates, these aircraft must also be stopped at 3,000'.

Summary of TWG Discussion:

14. Use Decommissioned DUMBARTON Procedure

FAA's Update on Phase 2 Initiative Document Reference: Page 29 – Item 27

Summary of Recommendations: Using the decommissioned DUMBARTON procedure, either create a RNAV overlay of this procedure or create a new procedure with the same fixes used as waypoints for Runway 10.

Summary of FAA Responses: FAA does not support creating a departure procedure off Runway 10 for nighttime operations. This would counter the current FAA criteria for opposite direction operations.

Summary of TWG Discussion:

Agenda Item #3 – Begin Review/Analysis of Topic 2 – Near Bay Daytime Operations – Runway 1 Departures Only

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. CNDEL

FAA's Update on Phase 2 Initiative Document Reference: Page 30 – Item 30, Page 47 – Page 54, Page 48 – Item 57, Page 56 – Item 4, Page 57 – Item 7, Page 59 – Items 14-15

Summary of Recommendations: The procedure should be flown as charted including over the flyover CNDEL waypoint and flying to the PORTE fly-by waypoint. If vectoring over the Bay and Ocean, use NIITE and GOBBS for routing. Avoid vectoring for non-safety reasons prior to CNDEL waypoint.

Summary of FAA Responses:

Summary of TWG Discussion:

2. STTIK

FAA's Update on Phase 2 Initiative Document Reference: Page 31 – Item 37, Page 51 – Items 66-67, Page 53 – Item 75, Page 55 – Item 2, Page 57 – Item 6, Page 57 – Item 8, Page 58 – Items 10-12, Page 64 – Item 37, Page 67 – Item 49

Summary of Recommendations: Avoid non-safety vectoring prior to SEPDY waypoint. Avoid vectors down the Peninsula to waypoints beyond PORTE. Use the Bay and ocean for overflight as much as possible. Utilize existing areas of compatible land use for overflight. Provide community input to FAA for moving STTIK waypoint to east and north of its current location; using SEPDY as a guide. Aircraft should be directed to fly as high as possible over SEPDY waypoint. Fly as charted to PORTE waypoint instead of clearing aircraft to subsequent waypoints downstream, bypassing PORTE. Delay assigning a southbound heading toward PORTE as long as feasible including flying to the ocean before turning south.

Summary of FAA Responses:

Summary of TWG Discussion:

3. NIITE

FAA's Update on Phase 2 Initiative Document Reference: Page 27 – Item 18, Page 39 – Item 20, Page 40 – Item 25

Summary of Recommendations: The procedure should be flown as charted including flying over the NIITE flyover waypoint. Keep on NIITE procedure as much as possible to reduce vectoring. Provide input regarding the new southbound transition and elicit community input.

Summary of FAA Responses:

Summary of TWG Discussion:

4. SEPDY

FAA's Update on Phase 2 Initiative Document Reference: Page 50 – Item 63, Page 50 – Item 64

Summary of Recommendations: Avoid issuing any non-safety vectors to aircraft for as long as feasible and no earlier than when an aircraft is over the SEPDY waypoint. Continue flight up the Bay to attain higher altitude. When left turn made, use a wide dispersion of flight paths to ocean. Fly as high as possible over the SEPDY waypoint and before turning over land.

Summary of FAA Responses:

Summary of TWG Discussion:

5. PORTE

FAA's Update on Phase 2 Initiative Document Reference: Page 48 – Item 58, Page 51 – Item 65

Summary of Recommendations: Assigning southbound vectors should be delayed until aircraft has reached the ocean and PORTE waypoint. Avoid vectoring aircraft down the Peninsula direct to waypoints beyond PORTE.

Summary of FAA Responses:

Summary of TWG Discussion:

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

6. CNDEL

FAA's Update on Phase 2 Initiative Document Reference: Page 29 – Item 29

Summary of Recommendations: Use Bay and ocean for overflights as much as possible. From CNDEL, direct aircraft to COBBS and then south.

Summary of FAA Responses:

Summary of TWG Discussion:

7. NIITE

FAA's Update on Phase 2 Initiative Document Reference: Page 39 – Item 23, Page 61 – Item 25

Summary of Recommendations: Add a transition to the NIITE departure for southbound aircraft. Once implemented, the 050-degree heading is still preferred. Request timeline from FAA for implementation (NIITE, GOBBS, WAMMY, PORTE), factoring in requirements to run through FAA Order JO 7100.41A.

Summary of FAA Responses:

Summary of TWG Discussion:

8. PORTE

FAA's Update on Phase 2 Initiative Document Reference: Page 64 – Item 39

Summary of Recommendations: Define airspace limitations over the Golden Gate and ocean to the west of the peninsula for placement of a waypoint to replace or augment PORTE.

Summary of FAA Responses:

Summary of TWG Discussion:

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

9. SSTIK

FAA's Update on Phase 2 Initiative Document Reference: Page 31 – Item 34, Page 32 – Item 38, Page 52 – Item 72, Page 53 – Item 74, Page 54 – Item 79, Page 56 – Item 5, Page 57 – Item 9, Page 58 – Item 13, Page 64 - Item 38

Summary of Recommendations: Use Bay and Pacific Ocean for overflights as much as possible. From STTIK, direct aircraft to GOBBS and then south. Determine if minimum altitude required at STTIK can be raised before a left turn. Determine if a reduced airspeed (~220kts) can be required until after established in the left turn from STTIK so aircraft climb at a higher angle of climb approaching land. Move STTIK waypoint north and east as much as feasible to allow maximum altitude gain, using SEPDY waypoint as guide. Create SSTIK transition to GOBBS and then GOBBS to WAMMY. Determine any conflicting airspace issues, which would not be available for the location for new SSTIK waypoint.

Summary of FAA Responses:

Summary of TWG Discussion:

10. CNDEL

FAA's Update on Phase 2 Initiative Document Reference: Page 30 – Item 31, Page 30 – Item 32, Page 48 – Item 55, Page 49 – Items 59-60, Page 59 – Item 16

Summary of Recommendations: Determine if a revised southbound transition (over water) for the CNDEL procedure, could "contain" the flight paths further west (GOBBS and south) to allow expanded clear space for possible modification of the SSTIK departure. Use the Bay and ocean for overflight as much as possible. From CNDEL waypoint, go to GOBBS and then WAMMY.

Summary of FAA Responses:

Summary of TWG Discussion:

11. TRUKN

FAA's Update on Phase 2 Initiative Document Reference: Page 51 – Item 69, Page 54 – Item 78

Summary of Recommendations: For aircraft with southeast destinations use TRUKN departure with at transition at TIPRE or SYRAH. Work with noise office and NCT to research legacy LINDEN transition to determine why it has not been used and determine which aircraft can utilize this corridor via TIPRE or SYRAH.

Summary of FAA Responses:

Summary of TWG Discussion:

12. SEPDY

FAA's Update on Phase 2 Initiative Document Reference: Page 52 – Item 70

Summary of Recommendations: Determine feasibility of depicting the SEPDY waypoint on the scopes in an effort for aircraft to stay over the Bay as long as possible.

Summary of FAA Responses:

Summary of TWG Discussion:

Agenda Item #4 – Review/Analysis of Topic 3 – Near Bay Daytime Operations – Runway 28 Arrivals Only

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. BDEGA

FAA's Update on Phase 2 Initiative Document Reference: Page 23 – Item 1, Page 23 – Item 4, Page 34 – Item 1, Page 35 – Item 7, Page 36 – Item 11, Page 36 – Item 12

Summary of Recommendations: Return to historical use of the BDEGA East downwind prior to May 2010. Use all available opportunities to assign arrivals from the north and oceanic flight plans to an east downwind “down the Bay”. Compare current BDEGA arrival to previous Golden Gate arrival. Research reasons for continued increased use of BDEGA west from May 2010 to present.

Summary of FAA Responses:

Summary of TWG Discussion:

2. Utilize Runway 28R

FAA's Update on Phase 2 Initiative Document Reference: Page 25 – Item 12, Page 26 – Item 13, Page 36 – Item 13, Page 37 – Item 14, Page 60 – Item 18, Page 60 – Item 21, Page 62 – Items 26-28

Summary of Recommendations: Whenever there is a single stream operation to only one runway, aircraft should approach and land only on Runway 28R. Aircraft landing 28R should be assigned noise friendlier approaches such as FMS Bridge Visual 28R, Quiet Bridge Visual, or RNAV (RNP) Y 28R. Increase controller awareness and pilots on keeping aircraft over water as much as possible, especially when aircraft are operating in a single stream and using Runway 28R.

Summary of FAA Responses:

Summary of TWG Discussion:

3. Dual Offset Approaches

FAA's Update on Phase 2 Initiative Document Reference: Page 38 – Item 18

Summary of Recommendations: Roundtable will provide information and community input to FAA regarding process of creating, if feasible, dual satellite-based Runway 28 offset approaches closer to middle of the Bay.

Summary of FAA Responses:

Summary of TWG Discussion:

4. Vectoring

FAA's Update on Phase 2 Initiative Document Reference: Page 61 – Item 24, Page 65 – Item 41

Summary of Recommendations: Roundtable requests to work with the FAA to determine where aircraft can be vectored with least noise impact and identify locations that have most compatible land uses. FAA should use FAA Initiative phase 1, Appendix B as a baseline to compare improvements in decreasing vectoring.

Summary of FAA Responses:

Summary of TWG Discussion:

5. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 55 – Item 1

Summary of Recommendations: Roundtable requests that the agreement stay in place (between noise office and NCT) where aircraft cross MENLO intersection during visual conditions at 5,000' AGL and 4,000' AGEL during instrument conditions.

Summary of FAA Responses:

Summary of TWG Discussion:

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

6. BDEGA

FAA's Update on Phase 2 Initiative Document Reference: Page 24 – Item 6

Summary of Recommendations: FAA should study whether an increase in in-trail spacing on BDEGA arrivals will result in a decrease in vectoring over Peninsula.

Summary of FAA Responses:

Summary of TWG Discussion:

7. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 17

Summary of Recommendations: Create a visual approach for Runway 28L with a MENLO crossing altitude at or above 5,000; MSL.

Summary of FAA Responses:

Summary of TWG Discussion:

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

8. BDEGA

FAA's Update on Phase 2 Initiative Document Reference: Page 23 – Items 2-3, Page 24 – Item 5, Page 34 – Item 4, Page 36 – Item 10, Page 46 – Item 49, Page 62 – Item 30

Summary of Recommendations: Explain the limitation of using BDEGA East downwind. Reinstate the FNISH transition in order to facilitate use of the BDEGA East downwind and create a connection between FNISH waypoint and a turn on to Runway 28R. Determine if BDEGA West downwind can be flown at a higher altitude or over compatible land uses. The BDEGA TWO procedure include the waypoints for a down the Bay procedure as done in BDEGA ONE.

Summary of FAA Responses:

Summary of TWG Discussion:

9. DYAMD

FAA's Update on Phase 2 Initiative Document Reference: Page 25 – Item 11

Summary of Recommendations: FAA should increase the in-trail spacing of aircraft on the DYAMD arrival to allow additional opportunities for aircraft to use the BDEGA east arrival, down the Bay.

Summary of FAA Responses:

Summary of TWG Discussion:

10. Dual Offset Approaches

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 15, Page 37 – Item 16, Page 60 – Item 19

Summary of Recommendations: Determine feasibility of creating dual offset RNAV, RNAV (RNP) or other types of approaches to Runway 28.

Summary of FAA Responses:

Summary of TWG Discussion:

11. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 16

Summary of Recommendations: Aircraft should cross the vicinity around the MENLO waypoint at or above 5,000' MSL. Aircraft within the vicinity of MENLO should use the 5,000' altitude when able.

Summary of FAA Responses:

Summary of TWG Discussion:

12. Vectoring

FAA's Update on Phase 2 Initiative Document Reference: Page 63 – Item 31

Summary of Recommendations: Determine altitudes to turn aircraft for vector purposes that minimizes noise.

Summary of FAA Responses:

Summary of TWG Discussion:

13. Utilize Runway 28R

FAA's Update on Phase 2 Initiative Document Reference: Page 35 – Item 8

Summary of Recommendations: Airlines file routes from the south to a point east of the Bay in order to use a noise-friendlier approach to Runway 28R.

Summary of FAA Responses:

Summary of TWG Discussion:

Agenda Item #5 – Review/Analysis of Topic 4 – Near Bay Daytime Operations – Runway 28 Departures Only

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. 3,000' Altitude Restriction

FAA's Update on Phase 2 Initiative Document Reference: Page 29 – item 28, Page 42 – Item 33

Summary of Recommendations: Determine if existence of a VFR flyway or other conflicting airspace use off the coastline in the vicinity of the extended Runway 28 centerline, leads to Runway 28 straight-out departures being required to level off at 3,000'.

Summary of FAA Responses:

Summary of TWG Discussion:

2. GNNRR

FAA's Update on Phase 2 Initiative Document Reference: Page 63 – Item 35

Summary of Recommendations: Remove GNNRR TWO in references to flying aircraft over less noise-sensitive areas and the associated inclusion in procedures used over less noise-sensitive areas that total 88%.

Summary of FAA Responses:

Summary of TWG Discussion:

3. WESLA

FAA's Update on Phase 2 Initiative Document Reference: Page 56 – Item 3, Page 65 – Item 40

Summary of Recommendations: WESLA procedure should be flown as charted and allow aircraft to climb unrestricted when there are no other conflicts.

Summary of FAA Responses:

Summary of TWG Discussion:

4. TRUKN

FAA's Update on Phase 2 Initiative Document Reference: Page 66 – Item 47

Summary of Recommendations: When conditions permit and aircraft use TRUKN departure off Runway 28, the Roundtable request the FAA conduct controller outreach to educate them about staying east of Highway 101.

Summary of FAA Responses:

Summary of TWG Discussion:

5. GAP

FAA's Update on Phase 2 Initiative Document Reference: Page 64 – Item 36

Summary of Recommendations: When available, use the GAP SEVEN departure to avoid any top altitude restrictions for aircraft departing Runway 28 out the gap.

Summary of FAA Responses:

Summary of TWG Discussion:

[Recommendations Requiring Further Analysis/Information for the FAA to Address](#)

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

[Recommendations the FAA Determined They Will Not Address](#)

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

6. OFFSHORE

FAA's Update on Phase 2 Initiative Document Reference: Page 31 – Items 35-36, Page 51 – Item 68, Page 52 – Item 73

Summary of Recommendations: Create a RNAV overlay of the OFFSHORE ONE procedure to guide aircraft higher over the Bay before turning to a waypoint located in the ocean. Higher altitude over water is preferred. Use OFFSHORE ONE departure for Southern California destinations.

Summary of FAA Responses:

Summary of TWG Discussion:

7. 3,000' Altitude Restriction

FAA's Update on Phase 2 Initiative Document Reference: Page 52 – Item 71

Summary of Recommendations: Determine if a reduced climb airspeed can be assigned until reaching 3,000' MSL or other higher altitude; a slower airspeed will allow the aircraft to climb to a higher altitude in a shorter distance before overflying noise-sensitive land uses.

Summary of FAA Responses:

Summary of TWG Discussion:

8. GNNRR

FAA's Update on Phase 2 Initiative Document Reference: Page 66 – Item 48

Summary of Recommendations: Aircraft climb unrestricted on the GNNRR procedure. Aircraft depart without a top altitude restriction when flying "out the gap" on Runway 28 and consider the use of the GAP departure that has no altitude restriction instead of GNNRR.

Summary of FAA Responses:

Summary of TWG Discussion:

Agenda Item #6 – Review/Analysis of Topic 5 – Near Bay Daytime Operations – Runway 10 Departures Only

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. SAHEY

FAA's Update on Phase 2 Initiative Document Reference: Page 43 – Item 38, Page 65 – Item 42

Summary of Recommendations: Roundtable to work with FAA to redesign the SAHEY departure to mirror historic flight tracks that keep aircraft over the Bay. When using, do not vector and fly procedure as charted.

Summary of FAA Responses:

Summary of TWG Discussion:

2. Create New Departure Procedure

FAA's Update on Phase 2 Initiative Document Reference: Page 42 – Item 36

Summary of Recommendations: SFO Roundtable will provide information to the FAA to assist in a review of options for aircraft to use Runway 10 that does not use same flight path as a Runway 28 arrival.

Summary of FAA Responses:

Summary of TWG Discussion:

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

3. NIITE

FAA's Update on Phase 2 Initiative Document Reference: Page 40 – Item 24, Page 46 – Item 48

Summary of Recommendations: The NIITE departure and all transitions be amended to include authorization for its safe use by aircraft taking off from Runway 10.

Summary of FAA Responses:

Summary of TWG Discussion:

4. 330 Degree Heading – Up the Bay

FAA's Update on Phase 2 Initiative Document Reference: Page 39 – Item 21, Page 41 – Item 29

Summary of Recommendations: NCT use its longstanding noise abatement procedure to vector Runway 10 departing aircraft up the Bay then vector as needed for routes of flight such as NIITE to GOBBS.

Summary of FAA Responses:

Summary of TWG Discussion:

5. FOGGG

FAA's Update on Phase 2 Initiative Document Reference: Page 63 – Item 34

Summary of Recommendations: When weather conditions dictate the use of Runway 10, we encourage the use of FOGGG as published and not vector off the procedure.

Summary of FAA Responses:

Summary of TWG Discussion:

6. Create New Departure Procedure

FAA's Update on Phase 2 Initiative Document Reference: Page 42 – Items 34-35, Page 65 – Item 43, Page 66 – Item 46

Summary of Recommendations: Create a procedure that includes the ability of aircraft to depart Runway 10 on a heading that is not a direct path of aircraft arriving on Runway 28. Create a Runway 10 departure that mirrors the decommissioned DUMBARTON procedure.

Summary of FAA Responses:

Summary of TWG Discussion:

The following is a list of recommended future meeting topics, in priority order, that were agreed upon to be discussed at upcoming TWG meetings.

Recommended Future TWG Meeting Topics

- Other Procedures
 - SERFR (Santa Cruz)
 - HUSSH (Oakland)
- Pilot Outreach Program
- Upgraded Radar Display Equipment
- Land Use and Terrain Height Data to Assist NCT
- Noise Modeling or Other Tools
- Backblast Noise