

OAKLAND INTERNATIONAL AIRPORT

# OPERATIONS DIRECTIVE

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**Subject:** Engine Run-ups for Fixed-wing Aircraft/Ground Run-up Enclosure Use Policy  
**Date:** October 7, 2002  
**Number:** 616.5 (Supercedes all previously dated versions of this directive)

**Contents:**

Abbreviated Run-up Procedures

Directive text:

- A. Port Policy on Engine Run-ups
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- E. Approved run-up locations

Run-up Request and Report Form (Copy attached to this Directive)

**Abbreviated Run-up Procedures** The Abbreviated Run-up Procedures section is provided as a quick-reference guide; however, persons engaged in run-up operations should be familiar with the entire policy.

- **Aircraft operators must get authorization from Airside Operations prior to conducting any aircraft engine run-ups.** Contact Airside Operations at (510) 563-3361 prior to the start of any aircraft engine run-up.
- **Requirements for aircraft engine run-ups above idle power:**  
All engine run-ups for aircraft in excess of 12,500 pounds and all military/military surplus aircraft must be performed at the Ground Run-up Enclosure (GRE) or at the United Airlines and Alaska Airlines maintenance blast fences. The GRE is available 24 hours per day, 7 days a week with limitations on night use. Engine run-ups may be performed in the GRE between 2200 hrs. and 0700 hrs. only for revenue flights occurring that day.
- **GRE Engine Run-up Policy:**  
All aircraft engine run-ups above idle power must be scheduled during the hours listed in the table below.

| Hours of Operation                  | Run-ups Allowed   |
|-------------------------------------|---|
| <b>0700 hrs. to 2200 hrs. Local</b> | No restrictions   |
| <b>2200 hrs. to 0700 hrs. Local</b> | Aircraft needed for a revenue flight departing that day |

- **Requirements for United Airlines and Alaska Airlines Blast Fences:**  
All aircraft engine run-ups above idle power may be performed at the blast fences during the hours listed in the table below. Otherwise, the GRE must be used. A one-hour grace period may be authorized by Airfield Operations for engine run-ups at the blast fences that are in progress but not completed by 1900 hours.

| Day of Run-up              | Run-ups Allowed              |
|----------------------------|------------------------------|
| <b>Monday - Friday</b>     | 0700 hrs. to 1900 hrs. Local |
| <b>Saturday</b>            | 0800 hrs. to 1900 hrs. Local |
| <b>Sunday and Holidays</b> | Prohibited                   |

- Aircraft operators must provide Airside Operations the following information:
  1. Date and Time of intended run-up.
  2. Company name, caller's name, and a callback number.
  3. Aircraft tail registration number, total number of engines and % power of the run-up.
  4. Proposed duration and location of run-up.
  5. Date and time of scheduled revenue flight and flight number.
- Conflicts in scheduling of run-ups will be settled by Airside Operations. The time limit for engine run-ups is **3 hours maximum**.
- Run-up of aircraft engines at power settings above idle power within the South Terminal ramp complex will not be granted under any conditions.

**Directive Text:**

**A. Port Policy on Engine Run-ups**

1. The goal of this policy is to minimize noise impacts upon communities in the vicinity of the airport and to accommodate aircraft operators requiring engine run-ups.
2. It is the intent of Oakland International Airport to utilize the Ground Run-up Enclosure (GRE) to mitigate noise impacts to surrounding communities. Toward that end, Airside Operations staff will promote the use of the GRE for all engine run-ups for aircraft in excess of 12,500 pounds and all military/military surplus aircraft, except those engine run-ups conducted at idle power. Refusal to use the GRE for any reason may result in a denial of permission to conduct the intended run-up. Use of the GRE must conform to all aspects of the procedures set forth in this directive.
3. **No run-ups will be conducted without the prior consent of Airport Management.** Permission for run-ups may be obtained by contacting Airside Operations.
4. Maintenance engine run-ups include operation of aircraft engines for the purpose of assessing engine performance before, during, and after maintenance and/or repairs. Operations NOT INCLUDED as maintenance are engine run-ups under the following conditions:
  - A. "Warming-up" of piston driven or turbine/propeller engines (turbo-prop).
  - B. Routine engine and instrument checks prior to take-off.
5. All maintenance engine run-ups, regardless of when conducted, shall be done at locations on the airport approved by the Airside Operations Supervisor/Manager on Duty.
6. Maintenance engine run-ups will be restricted between the hours of 2200 and 0700 local time. Exceptions:
  - A. Idle-power tests of aircraft engines.
  - B. Aircraft scheduled for a revenue flight departing that day if the run-up cannot be completed between 0700 and 2200 local time.
  - C. Unscheduled maintenance operations that must be conducted to revenue aircraft that have experienced mechanical problems.

- D. Emergency flight operations and aircraft serving in an emergency capacity, such as: Police, Fire, Search and Rescue, Air Ambulance, Aerial Tankers, or transport of emergency supplies and/or personnel.
- E. Special flight operations and/or aircraft in the service of federal, state and local law enforcement, military, or a mission pertinent to national security.
- 7. Persons engaged in run-up operations must have the appropriate security identification media for the run-up location, or be under the escort (sight and control) of a person who does possess the appropriate security identification media.
- 8. The airport reserves the right to revise this policy at any time.

## **B. General Run-up Procedures**

- 1. Aircraft operators are to obtain permission from Airside Operations prior to running up turbine engines at any location of the airport, at any time of the day or night.
- 2. Aircraft operators performing approved idle power engine runs within the South Terminal ramp complex will ensure that appropriate safety measures are undertaken throughout the duration of the idle run. These measures will include, but not be limited to, spotter personnel to alert vehicular and pedestrian traffic to remain clear of intakes, tailpipes, and propellers.
- 3. Aircraft operators will contact the FAA control tower and advise the controller of their intentions to perform a run-up, and also verify that they have approval granted by Airside Operations, prior to starting the run-up operation at the assigned location. The aircraft operator will monitor the appropriate ground control frequency during the run-up, and comply with instructions and safety advisories issued by the controller.
- 4. Aircraft operators will ensure that any ground service vehicle accompanying an aircraft to a run-up location maintain direct radio contact with the FAA control tower. In the case of a non-radio equipped vehicle, it must remain with the aircraft during the entire time spent on active movement areas. All vehicles associated with the run-up operation must obey instructions provided by Air Traffic Control Tower staff, as well as airport rules and regulations.
- 5. Aircraft operators will notify Airside Operations when a pre-approved run-up will be delayed by more than 30 minutes, or when the run-up is canceled. NOTE: Lapses of time more than 45 minutes between shut-downs and re-starts of the engines being run-up will require an additional permission from Airside Operations.
- 6. Aircraft Operators will notify Airside Operations when the run-up has been completed and provide actual start and end times, and other information if necessary.

## **C. Ground Run-up Enclosure (GRE) Use Procedures**

### **Introduction**

The Oakland International Airport has constructed a Ground Run-up Enclosure (GRE) to mitigate the nuisance of ground run-up noise at noise-sensitive areas around the airport. No run-ups will be conducted without the prior consent of Airport Management. Prior to GRE use contact Airside Operations for authorization at **563-3361**. Airside Operations staff will promote the use of the GRE for all engine run-ups for aircraft in excess of 12,500 pounds and all military/military surplus aircraft, except those engine run-ups conducted at idle power. Refusal to use the GRE for any reason may result in the denial of permission to conduct the intended run-up. The GRE is available on a 24 hour, 7 day a week basis. Except for Sundays and major holidays, run-ups are permitted at the United and Alaska maintenance hangars from 0700-1900, Monday-Friday, and 0800-1900 on

Saturdays. A one-hour grace period may be granted by Airfield Operations for engine runs at these locations that are in progress, but not completed by 1900 hours. All other run-ups over idle power shall be conducted within the GRE. This section gives a description of the GRE as well as operational, inspection and maintenance procedures to be followed for the operation of the GRE. The time limit for engine run-ups is 3 hours maximum. If questions arise over operation, inspection or maintenance of the GRE, they should be addressed to:

### **Airside Operations (510) 563-3361**

#### **Description of the GRE facility and general use considerations**

1. **Location and Access** - The GRE is located near the intersection of Taxiways Bravo and Tango, South of the ARFF Building. Aircraft will access the GRE from the adjacent Taxiway Bravo, to the North West of the GRE. Vehicles will access the GRE via the access road through Bravo Gate. Vehicles should park on the paved area Southeast of the GRE.
2. **Physical Dimensions** - The GRE is a three-sided, open structure. Aircraft will face the open end at a heading of 290°. Exterior dimensions are 300' wide by 332' deep. The clear interior opening is 260'-6" wide. One window 3'-2" x 6'-0" is provided in the North-East side of the GRE near the front of the structure to view aircraft operating within the GRE.
3. **Pavement Markings** - Centerline: A 6" wide, yellow line is located in the center of the facility. It is critical that the centerline of aircraft utilizing the GRE be parallel with the centerline of the facility. Nose wheel distance marks are provided for most wide body aircraft expected to utilize the facility. Tail Position: A stripe across the facility located 35' ahead of the jet blast deflector is provided. This stripe extends 10' up the side-walls of the facility and is labeled "No Tail Closer." Engine Position: A stripe across the facility, located 60' ahead of the jet blast deflector is provided. This stripe extends 10' up the side-walls of the facility and is labeled "No Nozzle Closer." Turn around Centerlines: Offset centerlines on each side of the facility centerline are provided to guide power-in aircraft.
4. **Utility Buildings** - Location: On the North-East side of the GRE. Size: 16' wide by 18' deep. Approximately 50 percent of the building is allocated for GRE control equipment. The remaining 50 percent is allocated for restrooms. Access: The control area of the building may be accessed by a 3' by 7' personnel door on the North wall and one 6' x 7' double door on the south wall.
5. **Electrical Systems, Lighting, and Nav aids** - Low-level security lighting is provided within the GRE. The lights are on a photocell and will remain on after dark. **Operational lighting is provided within the GRE, and must be activated by ground crew staff.** These lights are also on a photocell to prevent their use during daylight hours. Obstruction Lights: Nine red obstruction lights are provided along the top of the GRE structure and are continuously lit. Exit Lights: Exit lights are provided over each egress door in the GRE and are also continuously lit. Grounding: A continuous ground is provided for steel GRE structures including the jet blast deflector. Windsock: A lighted windsock is mounted on the Northwest side of the structure near the front of the GRE. Noise Monitoring System: A noise monitor is located at the rear of the facility behind the blast deflector. This monitor is connected to the noise office monitoring system and will log the noise levels and times of all run-ups within the GRE. CCTV Camera System: A closed circuit monitor will allow Airside Operations to determine when the GRE is in use.
6. **Aircraft size limitations** - Power-in, Power-out operations: All aircraft with wingspans up to 125 feet may power into the facility using no more than breakaway thrust. They should follow

one of the offset centerlines for turn-around aircraft. Tug in, Power-out operations: Any aircraft with a wingspan of less than 214 feet may use the facility. Aircraft with wingspans of greater than 125 feet will be backed into the facility with a tug. The provided nose wheel markings should be used. Aircraft may exit the facility using minimum power.

7. ***Aircraft Position*** - Aircraft shall be positioned facing straight out of the facility (parallel to the GRE centerline). Operation of aircraft at any angle other than parallel to the GRE centerline is prohibited. Turn-around Aircraft: Aircraft may enter from either the right or left side of the facility. They shall follow the turn-around centerlines on the pavement. When the nose wheel is inside the turn box, a minimum radius turn shall be fully completed so that the aircraft is facing out of the facility and is parallel to the GRE centerline before conducting high-power run-ups. Tow-in Procedures: All aircraft with wingspans in excess of 125 feet must be towed into the GRE. The aircraft will be towed (pushed backwards) into the GRE and centered on the painted centerline. When exiting the GRE facility, the tow-tractor operator must contact FAA-ATCT prior to entering the Taxiway Bravo movement area. All aircraft are permitted to power out of the GRE facility upon completion of the engine run-up testing procedure using minimum power. The aircraft shall be positioned so that no portion of the aircraft extends aft past the "No Tail" line (located 35' ahead of the jet blast deflector). Also, the discharge nozzle of any engine which will be operated during the test must be forward of the "No Engine" line (located 60' ahead of the jet blast deflector). Aircraft shall be positioned as far as is practical into the GRE. Aircraft with designated nose wheel markings must be correctly aligned on the appropriate wheel mark.
8. ***Wing Walkers*** - Airlines shall, at their discretion, use wing walkers when positioning aircraft within the GRE to prevent damage and to assure the aircraft is correctly positioned within the GRE. It is recommended that two wing walkers (one on each side) be present during the tow-in/tow-out or power-in/power-out operations when using the GRE. The wing walkers will give visual direction to the pilot, mechanic, or tow-tractor operator until the aircraft has cleared the operational limits of the GRE. The use of wing walkers is at the discretion of the individual airlines.
9. ***Aircraft Egress and Taxiway Access*** - Following testing within the facility, all aircraft may be tugged out of the facility or may power out of the facility (using minimum power) at the operator's discretion. The FAA-ATCT must be contacted for a clearance before any aircraft or vehicles are operated on active taxiways. Runway and taxiway crossings should be kept to a minimum where possible when taxiing or towing to and from the GRE. Proper communications between the aircraft, tow-tractor, and FAA-ATCT must be maintained at all times during the taxi/tow operations.
10. ***Aerodynamic Considerations*** - Prior to aircraft operation within the GRE, the operators shall determine the usability of the GRE based on the aircraft windrose (see Attachment "A" to this manual). Operators shall lookup the windrose for the test aircraft and compare the wind reported on the current ATIS to determine if a successful test is likely. Operators shall monitor the windsock during testing to ensure the wind speed/direction does not become unfavorable while the test is underway. The operator shall consider wind gusts and changes of direction which would prevent successful testing in conditions which would otherwise be satisfactory. The operator shall closely monitor engine-operating parameters and discontinue the test if parameters exceed engine manufacturer's limits or if variances in parameters indicate unsteady engine operation.
11. ***FOD Inspection*** - Upon arrival at the GRE, but prior to taxiing or pushing in, conduct a visual inspection of the facility to ensure that nothing has been left in the enclosure that will interfere with turn around or the engine run-up. Also inspect the GRE for damage or other hazards.

Report any damage or other problems immediately to Airside Operations. Do not continue to use the facility until Airside Operations has given consent.

### **GRE emergency considerations**

1. **Fire Extinguishing Agents** - Two fire extinguishers are on-site to handle minor fires when conducting engine ground run-up operations.
2. **Communication with Fire Station** – FAA ATCT may be contacted by radio to initiate contact with the Fire Department.
3. **First-aid Kit** - A first-aid kit and eyewash are located in the facility for providing immediate care for minor injuries. Notify airside operations to report injuries and/or obtain emergency medical assistance.
4. **Phone** - A telephone is located on the outside North wall of the GRE. Emergency contact numbers are listed.

### **GRE inspection and maintenance requirements**

1. **Responsible Parties** - The Port of Oakland **Airfield Operations** is responsible for the inspection and maintenance of the GRE. The Port of Oakland will coordinate all scheduled and nonscheduled maintenance requirements for this facility. The Aircraft owner/operator assumes all liability with respect to damages to the GRE or surrounding facilities, or injuries to personnel caused by any portion of the run-up operation. Damages caused to the GRE must be immediately reported to Airside Operations by calling (510) 563-3361. Article 8 of the Airline Operating Agreement requires airlines to defend, indemnify, and hold the Port harmless against all losses that directly or indirectly arise out of an airline's occupancy or use of airport properties or airlines activities related thereto. Additionally, users of the GRE facility agree to pay for damages caused by the user to the GRE facility and any other airport owned facility or equipment. Users of the GRE agree to comply with all airport rules and regulations, and to follow the instructions of Airside Operations or their designee(s).
2. **Daily Inspections** – Airside Operations shall make daily inspections of the GRE facility. Maintenance and cleanup issues identified, which affect operation of the GRE shall be promptly **reported to A/P Facilities for correction.**

### **D. Run-up Request and Monitoring Procedures for Airside Operations Personnel**

1. Airside Operations personnel will receive and log all requests for maintenance engine run-ups using the appropriate form and asking the caller for pertinent information about the proposed run-up.
2. Airside Operations personnel will provide information about the Airport's policy on maintenance engine run-ups to the caller as necessary.
3. The Airside Operations Duty Supervisor will approve or deny requests for run-ups and assign/approve locations for run-ups.
4. The Airside Operations Duty Supervisor and/or Dispatch Coordinator will notify appropriate patrol personnel with information about the run-up and ensure that the run-up is verified and properly logged.
5. Airside Operations personnel on patrol will observe and report the run-up, check that proper safety precautions are in and report and note **when the run-up has ended.**

6. Airside Operations personnel will immediately report non-approved run-ups and take appropriate action as directed by the Duty Supervisor.
7. Airside Operations personnel will properly complete and submit all request and report forms and, if necessary, take follow-up action.

#### **E. Maintenance Engine Run-up Locations**

##### **Approved locations for maintenance run-ups of Turbo-prop and Piston engines:**

1. The North Airport run-up pad adjacent to Taxiway A at the approach end of Runways 27 Right, and 27 Left. This area is restricted to Turbo-prop and piston engine aircraft less than 12,500 pounds only.
2. The Outdoor Test Stand (Test Cell Number 2) located at the North Airport. This area is restricted to daytime operations only, with no runs between 2200 and 0700 local time.

##### **Approved locations for run-ups of all other aircraft engines are:**

1. The Ground Run-up Enclosure (GRE)
2. Alaska Airlines Hangar 6 Blast Fence. (Daytime operation only, 0700 – 1900 M-F and 0800-1900 on Saturday).
3. Ramp and apron areas for Idle power only engine run-ups.
4. Unusual operational circumstances may require Airside Operations to authorize run-ups in other safe and appropriately paved areas on the airport.
5. United Airlines Maintenance Hangar Blast Fence. (Daytime operation only, 0700 – 1900 M-F and 0800-1900 on Saturday).

**NOTE: Airport Management may disapprove, cancel or terminate any maintenance run-up for any reason without prior notice.**

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Stan Kopacz  
Airside Operations Manager  
Oakland International Airport

##### **Reference Information:**

Port Ordinance 1047, Section 7.04 and 7.05

7.04 “No aircraft engine shall be started, warmed up, or run-up except in areas designated by the Airport Manager.”

7.05 “No aircraft engines shall be run-up between the hours of 2300 and 0600 local time without special permission from the Airport Manager.”

1976 Settlement Agreement, Section 6, Subsection D

6.D “Port shall prohibit aircraft engine test run-ups between the hours of 1900 and 0700 except where the level of noise generated by such testing at the nearest present (as of July 21, 1976) residential property on Bay Farm Island does not exceed 75dBA between the hours of 1900 and 2200 and 70dBA between the hours of 2200 and 0700 the following day.”

**Attachments:**

Attachment A - Run-up Information Form

Attachment B – Aerodynamic Usability Windrose Low Bypass Aircraft

Attachment C – Aerodynamic Usability Windrose Medium Bypass Aircraft

Attachment D – Aerodynamic Usability Windrose High Bypass Aircraft

Attachment E – Aerodynamic Usability Windrose Turboprop Aircraft

**Distribution:**

Director of Aviation

Airport General Manager

North Field Manager

Airside Operations Superintendents

Airside Operations Duty Supervisors

Airside Operations Reading File

Noise Abatement Office

FAA Control Tower (2)



**Oakland** International Airport

A division of the Port of Oakland

## ENGINE RUN-UP REPORT

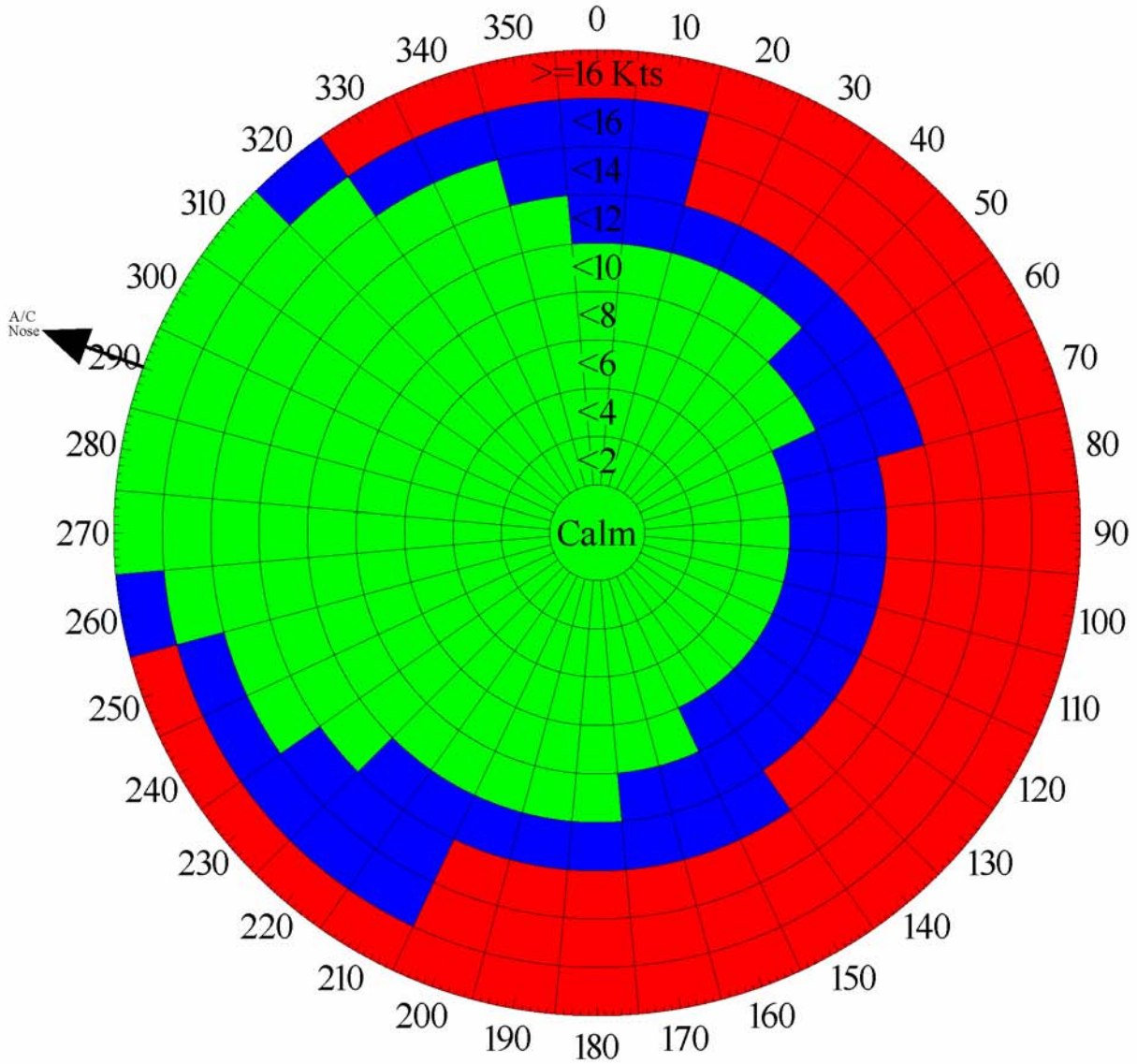
|   |                 |           |                |                 |                |                |
|---|-----------------|-----------|----------------|-----------------|----------------|----------------|
| REQUEST DATE:   | M               | D         | Y              | REQUEST TIME:   | HRS. LOCAL     |                |
| CARRIER or OPERATOR   | Alaska          | Southwest | American       | United          | FedEx          | Aloha          |
|   | UPS             | JetBlue   | North American | Kaiser          | OTHER:         |                |
| CALLER NAME   |                 |           | PHONE          |                 |                | REG. # N _____ |
| MAKE/MODEL OF AIRCRAFT  | B737            | A320      | B727           | B767            | G-4            | OTHER:         |
|   | MD80            | B757      | DC10           | MD11            | CRJ            |                |
| NUMBER OF ENGINES TO BE TESTED  |                 |           | 1              | 2               | 3              | 4              |
| ENGINE RUN-UP POWER SETTING   |                 | IDLE      | MID (50-70%)   | HIGH (80-100%)  | Other          | %              |
| LOCATION OF ENGINE RUN-UP   | GRE             | Hangar #  | Gate #         | KILO            | LIMA           | UPS Stadium    |
|   | ASA Blast Fence |           | OTHER:         |                 |                |                |
| PROPOSED START OF ENGINE RUN-UP   |                 |           |                | TIME:           |                | HRS. LOCAL     |
| PROPOSED END OF ENGINE RUN-UP   |                 |           |                | TIME:           |                | HRS. LOCAL     |
| Run-up During Prohibited Period<br>(2200 hrs. to 0700 hrs. L)<br>REVENUE FLIGHT INFORMATION |                 |           | Flight No.     | Date            | Departure Time |                |
| ADDITIONAL INFORMATION  |                 |           |                |                 |                |                |
| REPORT TAKEN BY   |                 |           |                | A/P 10 APPROVAL |                |                |
| ACTUAL START TIME   |                 |           |                | ACTUAL END TIME |                |                |

# Oakland, California GRE

Aerodynamic Usability Windrose

## Aircraft: Low Bypass

(B727, B737-200, etc.)



■ High-Power Runs Possible

■ High-Power Runs May be Possible (Dependent on Wind Stability & Engine Power Setting)

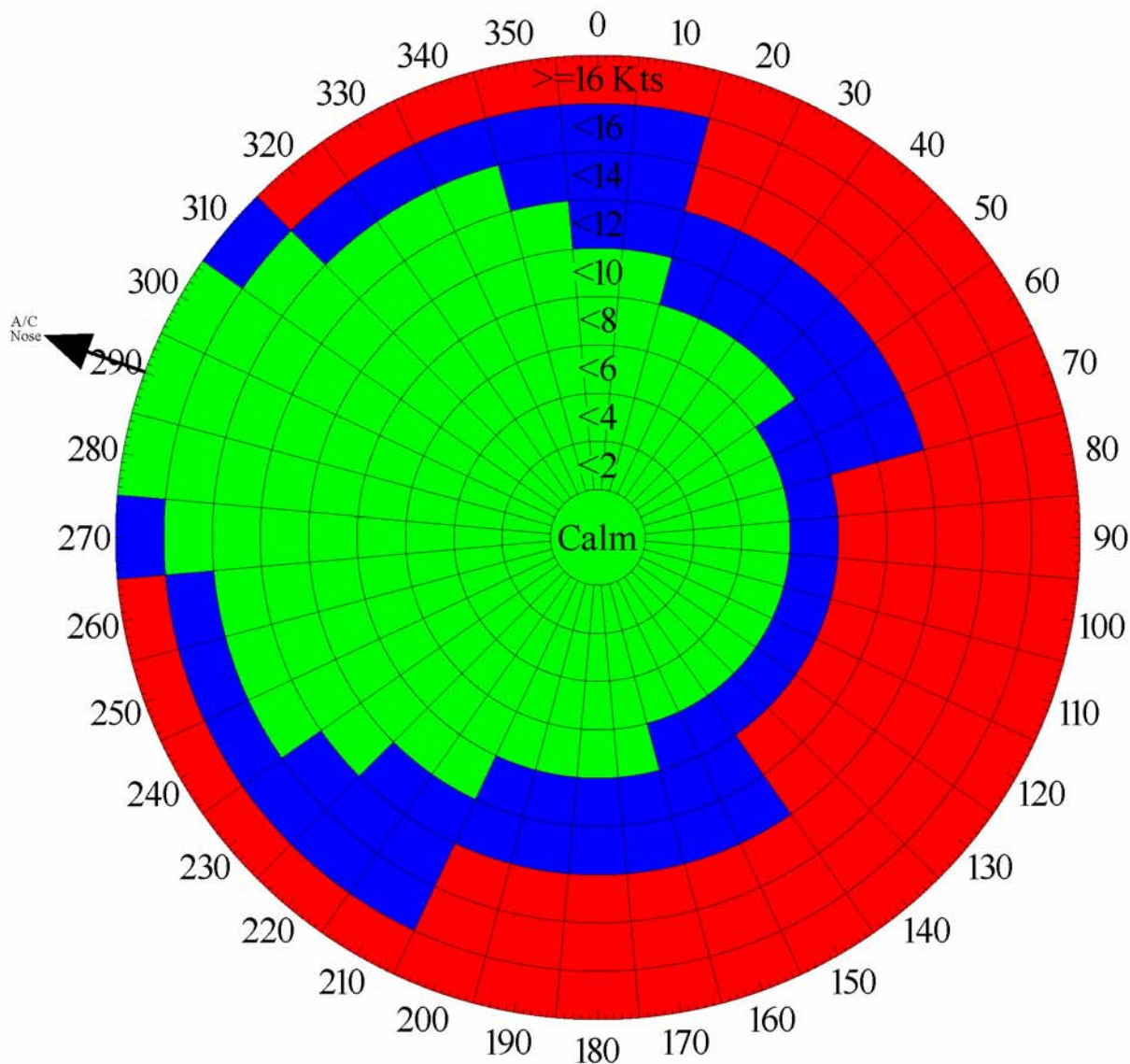
■ High-Power Runs Unlikely

# Oakland, California GRE

Aerodynamic Usability Windrose

## Aircraft: Medium Bypass

(A319, A320, A321, B737-300+, B747-200, DC-10, etc.)



■ High-Power Runs Possible

■ High-Power Runs May be Possible (Dependent on Wind Stability & Engine Power Setting)

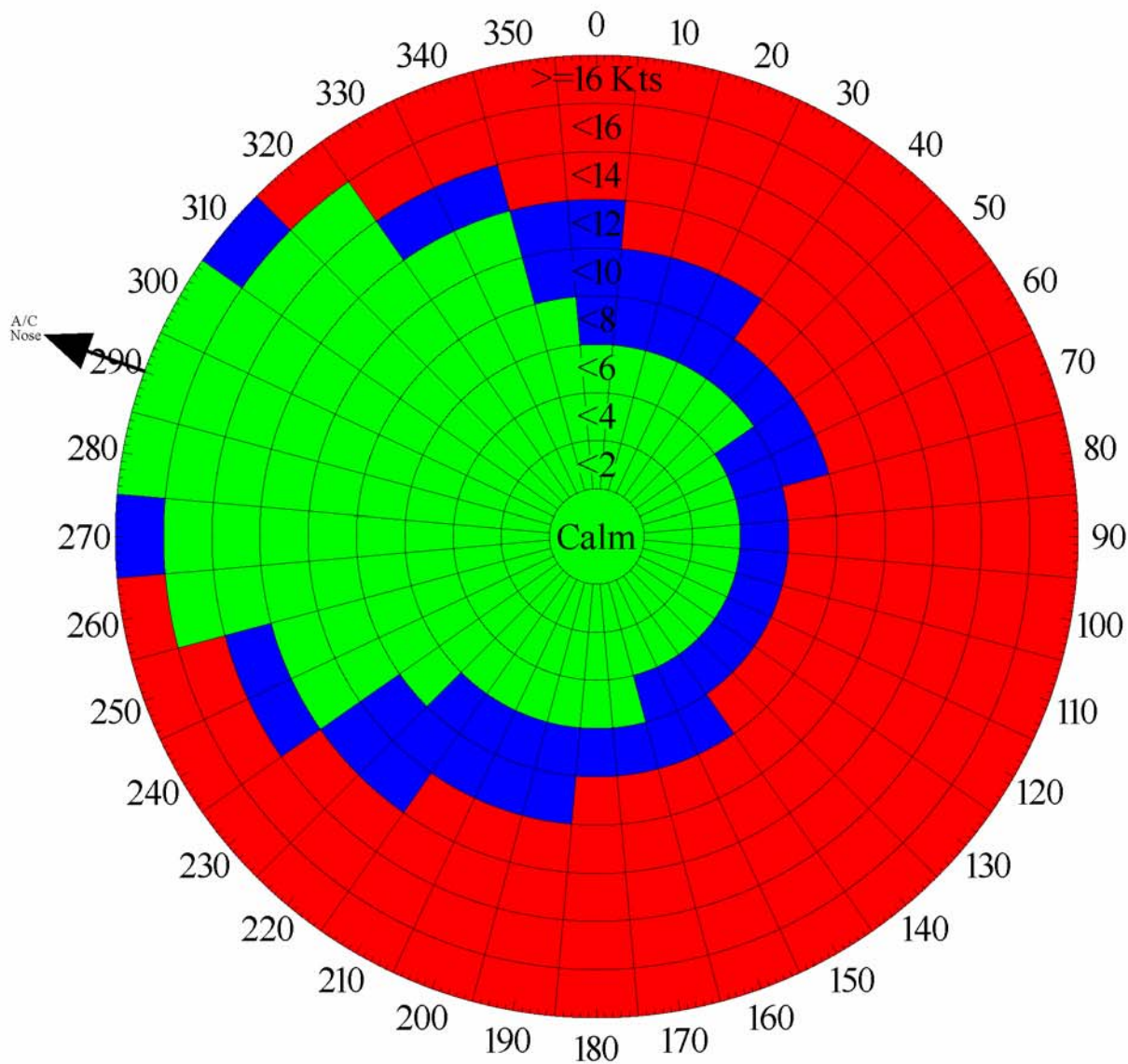
■ High-Power Runs Unlikely

# Oakland, California GRE

Aerodynamic Usability Windrose

## Aircraft: High Bypass

(B747-300+, B757, B767, MD-11, etc.)



■ High-Power Runs Possible

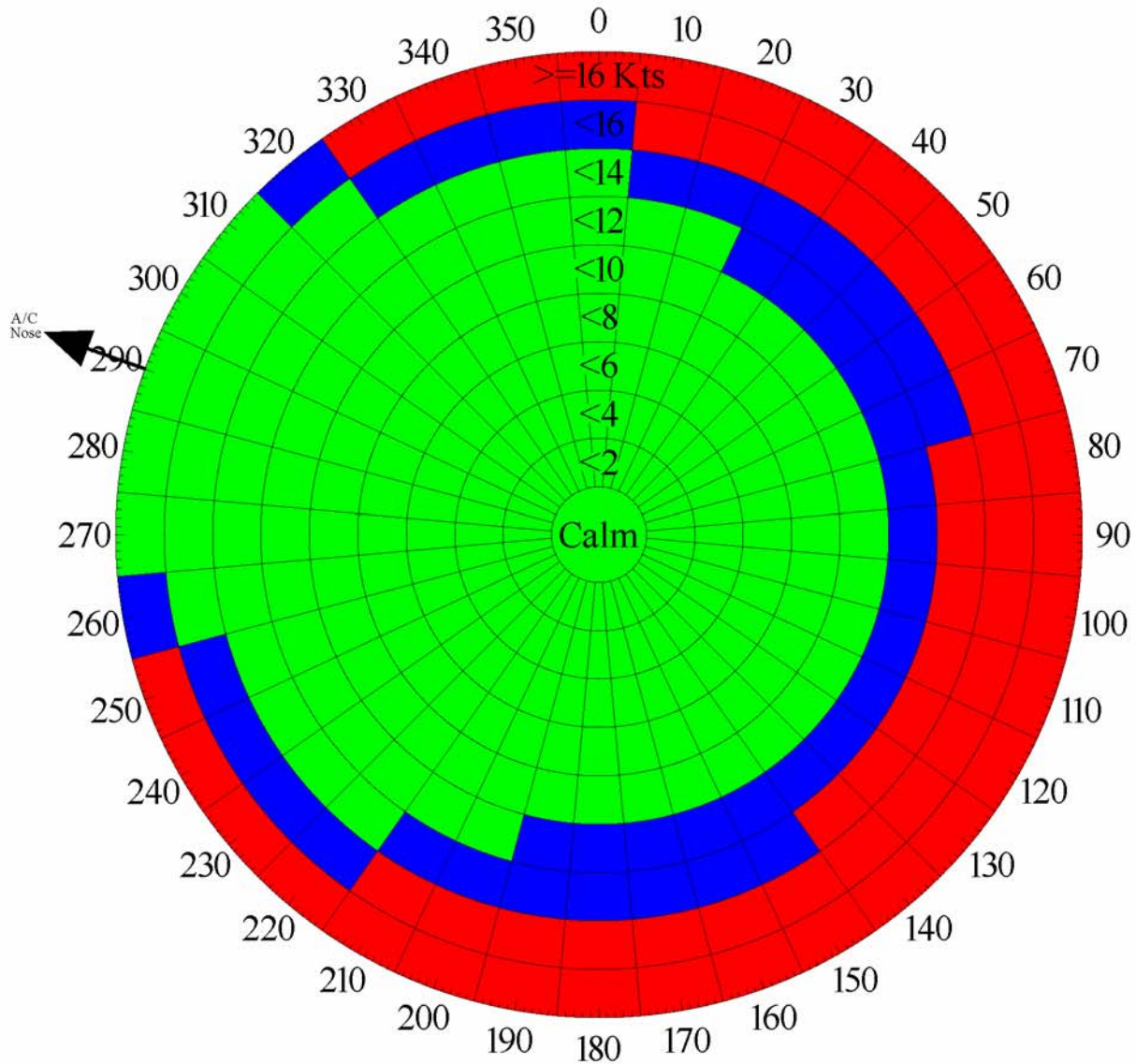
■ High-Power Runs May be Possible (Dependent on Wind Stability & Engine Power Setting)

■ High-Power Runs Unlikely

# Oakland, California GRE

Aerodynamic Usability Windrose

## Aircraft: Turboprop



■ High-Power Runs Possible

■ High-Power Runs May be Possible (Dependent on Wind Stability & Engine Power Setting)

■ High-Power Runs Unlikely