Glossary of common Acoustic and Air Traffic Control terms

PORT OF OAKLAND

A

A-WEIGHTED SOUND LEVEL (dBA) - The human ear does not respond equally to all sound frequencies. It is less efficient at low and high frequencies than it is at medium or speech-range frequencies. Thus, to obtain a single number representing the sound level of a noise having a wide range of frequencies in a manner representative of the ear's response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are decibels (dB); hence, the abbreviation is dBA. The A-weighted sound level is also called the noise level. Sound level meters have an A-weighting network for measuring A-weighted sound level.

ABSORPTION - Absorption is a property of materials that reduces the amount of sound energy reflected. Thus, the introduction of an "absorbent" into the surfaces of a room will reduce the sound pressure level in that room because sound energy striking the room surfaces will not be totally reflected. The process of absorption is entirely different from that of transmission loss through a material, which determines how much sound enters a room via the walls, ceiling, and floor. The effect of absorption merely reduces the resultant sound level in the room produced by energy that has already entered the room.

ACOUSTICS - (1) The science of sound, including the generation, transmission, and effects of sound waves both audible and inaudible; (2) The physical qualities of a room or other enclosure (such as size, shape, amount of noise) that determine the audibility and perception of speech and music.

AIR CARRIER - A commercial airline with published schedules operating at least five round trips per week.

AIR CARRIER, COMMUTER - Operator of small aircraft (maximum size of 30 seats) performing service between two or more points.

AIRCRAFT CLASSES - For the purposes of Wake Turbulence Separation Minima, ATC classifies aircraft as Heavy, Large, and Small as follows:

1. Heavy: Aircraft capable of takeoff weights of 300,000 lbs. or more whether or not they are operating at this weight during a particular phase of flight.

2. Large: Aircraft of more than 12,500 lbs., maximum certificated takeoff weight, up to 300,000 lbs.

3. Small: Aircraft of 12,500 lbs. or less maximum certificated takeoff weight.

AIRPORT ELEVATION - The highest point of an airport's usable runways, measured in feet above mean sea level.

AIRPORT IMPROVEMENT PROGRAM (AIP) - The AIP program is administered to provide financial grants-in-aid for airport development projects such as runways, taxiways, aircraft parking aprons, terminal buildings and land acquisition associated with airport development including runway protection zones and approach protection.

AIRPORT LAND USE COMMISSION (ALUC) - In California, a state-authorized body existing in each county having the responsibility to develop plans for achieving land use compatibility between airports and their environs.

AIRPORT LAND USE PLAN (ALUP) - In California, the formal plan, developed and adopted by an ALUC, setting forth criteria, policies and specifications for the preservation of long-term, land use compatibility between an airport and its environs.

AIRPORT LAYOUT PLAN (ALP) - A plan (drawings) for an airport showing boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes, the location and nature of existing and proposed airport facilities and structures, and the location on the airport of existing and proposed non-aviation areas and improvements thereon.

AIRPORT MASTER PLAN - An assembly of appropriate documents and drawings covering the development of a specific airport from a physical, economic, social, and political jurisdictional perspective. The Airport Layout Plan is a part of this plan.

AIRPORT NOISE COMPATIBILITY PLANNING STUDY - A study designed to increase the compatibility of land and facilities in the areas surrounding an airport that are most directly affected by the operation of the airport. The specific purpose is to reduce the adverse effects of noise as much as possible by implementing both on-airport noise control measures and off-airport land use control programs. The basic products of an Airport Noise Compatibility Planning Study typically include:

(1) workable on-airport noise abatement actions such as preferential runway use programs, new or preferential flight tracks, curfews, etc.;
(2) off-airport land use control programs and regulations such as land acquisition, soundproofing, or special actions and programs; and
(3) policies and procedures related to the implementation of on-airport and off-airport programs.

A community involvement program is usually carried on throughout all phases of the study. Conduct of such studies are eligible for federal funding participation. (Also see FAR Part 150.)

AIRPORT SURVEILLANCE RADAR (ASR) - Approach control radar used to detect and display an aircraft's position in the terminal area. ASR provides range and azimuth information but does not provide elevation data. Coverage of the ASR can extend up to 60 miles.

AIR TRAFFIC CONTROL TOWER (ATCT) - A terminal facility that uses air-to-ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area.

AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC) - An FAA facility established to provide air traffic control service to aircraft operating on an instrument flight rule (IFR) flight plan within controlled airspace and principally during the en route phase of flight.

AIR TAXI - An aircraft certified for commercial service available for hire on demand.

AIR TRAFFIC - Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

AIR TRAFFIC CONTROL (ATC) - A service operated by appropriate authority (the FAA) to promote the safe, orderly, and expeditious flow of air traffic.

ALTITUDE - The height of a level, point, or object measured in feet Above Ground Level (AGL) or from Mean Sea Level (MSL).

AMBIENT NOISE LEVEL - The composite of noise from all sources near and far. The ambient noise level constitutes the normal or

existing level of environmental noise at a given location. (i.e., the background noise level.)

APPROACH LIGHT SYSTEM (ALS) - An airport lighting system which provides visual guidance enabling a pilot to align the aircraft with the extended runway centerline during final approach to landing.

APRON/RAMP - A defined area on an airport or heliport intended to accommodate aircraft for purposes of loading passengers or cargo, refueling, parking, or maintenance.

APU (AUXILIARY POWER UNIT) - A self-contained generator in an aircraft that produces power for ground operations of the electrical and ventilation systems and for starting the engines.

ARRIVAL - The act of landing at an airport.

ARRIVAL PROCEDURE - A series of directions on a published approach plate or given from air traffic control personnel, using fixes and procedures, to guide an aircraft from the en route environment to an airport for landing.

ARRIVAL STREAM - A flow of aircraft that are following similar arrival procedures.

AVIGATION EASEMENT - A type of acquisition of an interest in land or property which involves less-than-fee purchase. One form of avigation easement grants an airport the right to perform aircraft operations over the designated property, including operations that might cause noise, vibration, and other effects. A stronger form of easement is a deed restriction that may include (1) the right to perform aircraft operations on the property, and (2) public acquisition of a landowner's rights restricting future development of the property for any use more intensive than that existing at the time of the transaction. This easement may also include specific prohibitions on the uses for which the property may be developed. Maximum heights of structures and other objects may also be specified.

AVIONICS - Airborne navigation, data display, and communications equipment required for operation under specific air traffic control procedures.

B

BACKBLAST - Low frequency noise and high velocity air generated by jet engines on takeoff.

BASED AIRCRAFT - Aircraft stationed at an airport on a long-term or permanent basis, usually by some form of agreement between the aircraft owner and airport management.

BASE LEG - A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline. (See also **TRAFFIC PATTERN**.)

BLAST PAD - A paved area, of runway width, extending beyond the runway takeoff threshold for a sufficient distance (typically 150 to 300 feet) to prevent soil erosion caused by jet engine backblast.

C

CEILING - Height above the earth's surface to the lowest layer of clouds or obscuring phenomena that is reported as "broken," "overcast," or "obscuration" and not classified as "thin" or "partial."

CENTER - See ARTCC

CIRCLING APPROACH/CIRCLE-TO-LAND MANEUVER - A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or not desirable.

COMPUTER MODELING - An analytical process which employs an electronic digital computer to perform difficult, laborious calculations involving mathematical functions or formulas. Computation of cumulative noise exposure (DNL or CNEL) contours requires the use of computer modeling in order to process enormous quantities of data concerning aircraft traffic, performance and operating procedures.

CONTROLLED AIRSPACE - Any of several types of airspace within which some or all aircraft may be subject to air traffic control. An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification. Controlled airspace is a generic term that covers Classes A-E airspace. Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements in Part 91 (for specific operating requirements, please refer to Part 91). For IFR operations in any class of controlled airspace, a pilot must file an IFR flight plan and receive an appropriate ATC clearance. Each Class B, Class C, and Class D airspace area designated for an airport contains at least one primary airport around which the airspace is designated (for specific designations and descriptions of the airspace classes, refer to FAR Part 71).

CNEL (COMMUNITY NOISE EQUIVALENT LEVEL) - A method of predicting, by a single number rating, cumulative aircraft noise that affects communities in airport environs. As defined in the California Airport Noise Standards, CNEL represents the average daytime noise level during a 24-hour day, adjusted to an equivalent level to account for the lower tolerance of people to noise during evening and nighttime periods relative to the daytime period. Weighting factors equivalent to penalties of three decibels and ten decibels are applied to operations conducted from 7:00 PM to 9:59 PM and from 10:00 PM to 6:59 AM, respectively, to account for increased sensitivity during those periods.

CNEL CONTOUR - The “map” of noise exposure around an airport as expressed using the CNEL metric. A CNEL contour is computed using the FAA-approved Integrated Noise Model (INM), which calculates the aircraft noise exposure near an airport.

D

DAY-NIGHT AVERAGE SOUND LEVEL (DNL) - A method for predicting, by a single number rating, cumulative aircraft noise that affects communities in airport environs. The DNL value represents decibels of noise as measured by an A-weighted sound-level meter (see also). In the DNL procedure, the noise exposure from each aircraft takeoff or landing at ground level around an airport is calculated, and these noise exposures are accumulated for a typical 24-hour period. (The 24-hour period often used is the average day of the year being analyzed.) Daytime and nighttime noise exposures are considered separately. A weighting factor equivalent to a penalty of 10 decibels is applied to operations between 10:00 p.m. and 7:00 am to account for the increased sensitivity of people to nighttime noise. The DNL values can be expressed graphically on maps using contours of equal noise exposure. DNL may also be used for measuring other noise sources, such as automobile traffic, to determine combined noise effects.

DECIBEL (dB) - In sound, decibels measure a scale from the threshold of human hearing, 0 dB, upward towards the threshold of pain, about 120-140 dB. Because decibels are such a small measure, they are computed logarithmically and cannot be added arithmetically. An increase of 10 dB is

perceived by human ears as a doubling of noise.

dBA - A weighted decibels adjust sound pressure towards the frequency range of human beings.

dBC - C-weighted decibels adjust sound pressure towards the low frequency end of the spectrum. Although less consistent with human hearing than A-weighted, dBC can be used consider the impacts of certain low frequency operations.

DECISION HEIGHT - The height at which a decision must be made during an instrument approach either to continue the approach or to execute a missed approach.

DEPARTURE - The act of an aircraft taking off from an airport.

DEPARTURE PROCEDURE - A published IFR departure procedure describing specific criteria for climb, communications, and routing for a specific runway at an airport.

DISPLACED THRESHOLD - A runway landing threshold that is located at a point other than the designated beginning of the runway (where departures would begin).

DISTANCE MEASURING EQUIPMENT (DME) - Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

DNL (DAY/NIGHT AVERAGE SOUND LEVEL) - The daily average noise metric in which that noise occurring between 10:00 PM and 7:00 AM is penalized by 10 dB. DNL is often expressed as the annual-average noise level.

DNL CONTOUR - The "map" of noise exposure around an airport as expressed using the DNL metric. A DNL contour is computed using the FAA-approved Integrated Noise Model (INM), which calculated the aircraft noise exposure near an airport.

DOWNWIND LEG - A flight path parallel to the landing runway in the direction opposite the landing direction.

DURATION - Length of time, in seconds, a noise event such as an aircraft flyover is experienced. (May refer to the length of time a noise event exceeds a specified threshold level.)

E

EN ROUTE - The portion of a flight between departure and arrival terminal areas.

ENGINE RUN-UP AREA - An area on an airport where aircraft engines are serviced or tested. The noise from such servicing or testing can affect neighborhoods adjacent to the airport.

EXCEEDANCE - Whenever an aircraft overflight produces a noise level higher than the maximum decibel value established for a particular monitoring site, the noise threshold is surpassed and a noise exceedance occurs. An exceedance may take place during approach, takeoff, or overflight.

F

FAA (FEDERAL AVIATION ADMINISTRATION) - The FAA is the agency responsible for aircraft safety, movement and controls. The FAA also administers grants for noise mitigation projects and approves certain aviation studies including FAR Part 150 studies, Environmental Assessments, Environmental Impact Statements and Airport Layout Plans.

FAA NOISE POLICIES - There have many legislative efforts to help with aircraft noise over the years.

1. Aviation Noise Abatement Policy issued on November 18, 1976

outlines the responsibilities and actions that may be taken to reduce adverse effects of aviation-related noise.

2. Aviation Safety and Noise Abatement Act of (ASNAA) was enacted in 1980. The purpose of the Act is to provide assistance to airports in preparing and carrying out noise compatibility programs and in assuring continued safety for aviation.
3. Airport and Airway Improvement Act (1982) created the Airport Improvement Program. (See AIP above.)
4. Airport Noise and Capacity Act of 1990 (ANCA) mandated that aircraft weighing over 75,000 lbs. meet Stage 3 noise requirements by the year 2000. It also prohibits airports from discriminating against passenger air service carriers based on noise, type, or frequency.

FAR (FEDERAL AVIATION REGULATIONS) - Rules and regulations establishes by the FAA, which govern the operation of aircraft, airways, and airmen.

FAR PART 36 - Establishes maximum noise emissions for the civil aviation fleet.

FAR PART 91 - Governs the phase out of Stage 1 and 2 aircraft as defined under FAR Part 36. Also establishes criteria for general operating and flight rules.

FAR PART 150 - Governs noise and land use compatibility studies and programs.

FAR PART 161 - Governs aircraft noise and access restrictions.

FIX - A geographical position determined by visual references to the surface, by reference to one or more Navaids, or by other navigational methods.

FLEET MIX - The mix or differing aircraft types operated at a particular airport or by am airline.

FLIGHT PLAN - Specific information related to the intended flight of an aircraft. A flight plan is filed with a Flight Service Station or Air Traffic Control facility.

FLOW CONTROL - Measures designed to adjust the flow of traffic into a given airspace, along a given route, or bound for a given aerodrome (airport) so as to ensure the most effective utilization of the airspace.

FMS (FLIGHT MANAGEMENT SYSTEM) - A specialized computer system in an aircraft that automates a number of in-flight tasks, which reduced flight crew workload and improves the precision of the procedures being flown.

G

GENERAL AVIATION (GA) - All civil aviation except that classified as air carrier or air taxi. The types of aircraft typically used in general aviation activities vary from multi-engine jet aircraft to single-engine piston aircraft.

GLIDE SLOPE - Generally a 3-degree angle of approach to a runway established by means of airborne instruments during instrument approaches, or visual ground aids for the visual portion of an instrument approach and landing.

GPS (GLOBAL POSITIONING SATELLITE SYSTEM) - A satellite based radio positioning, navigation and time-transfer system.

GPU (GROUND POWER UNIT) - A source of power, generally from the terminals, for an aircraft to use while their engines are off to power the electrical and ventilation systems on the aircraft.

GRE (GROUND RUN-UP ENCLOSURE) - A structure built for aircraft engine run-ups that will to mitigate noise impacts to surrounding communities.

GROUND EFFECT - The excess attenuation attributed to absorption or reflection of noise by manmade or natural features on the ground surface.

GROUND TRACK - The path an aircraft would follow on the ground if its airborne flight path were plotted on the ground terrain.

H

HEAVY AIRCRAFT - Aircraft capable of takeoff weights of 300,000 pounds or more whether or not they are operating at this weight during a particular phase of flight.

HELICOPTER - Rotorcraft that, for its horizontal motion, depends principally on its engine-driven rotors.

HELIPAD - A small, designated area, usually with a prepared surface, on a heliport, airport, landing/takeoff area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters.

HELIPORT - An area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters and includes its buildings and facilities if any.

I

IDP (INSTRUMENT DEPARTURE PROCEDURE) - An aeronautical chart designed to expedite clearance delivery and to facilitate transition between takeoff and en route operations. IDPs were formally known as SIDs or standard Instrument Departures.

IFR (INSTRUMENT FLIGHT RULES) - Rules specified by the FAA for flight under weather conditions in which visual reference cannot be made to the ground and the pilot must rely on instruments to fly and navigate.

ILS (INSTRUMENT LANDING SYSTEM) - A precision instrument approach system which normally consists of a localizer, glide slope, outer marker, middle marker, and approach lights.

IMC (INSTRUMENT METEOROLOGICAL CONDITIONS) - Weather conditions expressed in terms of visibility, distance from clouds, and cloud ceilings during which all aircraft are required to operate using instrument flight rules.

INSTRUMENT APPROACH PROCEDURE - A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually.

ITINERANT OPERATION - An arrival or departure performed by an aircraft from or to a point beyond the local airport area. Also defined as all aircraft arrivals and departures other than local operations.

J

K

KNOTS - A measure of speed used in aerial navigation. One knot is equal to one nautical mile per hour (100 knots = 115 miles per hour).

L

LOAD FACTOR - The percentage of seats occupied on an aircraft.

Lmax - The peak A-weighted noise level recorded during a noise event.

LOCAL TRAFFIC - Aircraft operating in the traffic pattern or within sight of the tower, or

aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.

LOCALIZER (LOC) - The component of an ILS which provides horizontal course guidance to the runway.

LOCALIZER TYPE DIRECTIONAL AID (LDA) - A NAVAID used for non-precision instrument approaches with utility and accuracy comparable to a localizer, but which is not part of a complete ILS and is not aligned with the runway.

LOUDNESS - The judgment of the intensity of a sound by a person. Loudness depends primarily on the sound pressure of the stimulus. Over much of the loudness range it takes about a tenfold increase in sound pressure (approximately 10 decibels) to produce a doubling of loudness.

M

MARKER BEACON - The component of an ILS which informs pilots that they are at a significant point on the approach course.

MEAN SEA LEVEL (MSL) - An elevation datum given in feet above mean sea level.

MIDDLE MARKER - A beacon that defines a point along the glide slope of an ILS, normally located at or near the point of decision height.

MINIMUMS - Weather condition requirements established for a particular operation or type of operation; e.g., IFR takeoff or landing, alternate airport for IFR flight plans, VFR flight, etc.

MISSED APPROACH PROCEDURE - A procedure used to redirect a landing aircraft back around to attempt another landing. This may be due to visual contact not established at authorized minimums or instructions from air traffic control or for other reasons.

N

NAS (NATIONAL AIRSPACE SYSTEM) - The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material.

NAUTICAL MILE - A measure of distance use in air and sea navigation. One nautical mile is equal to the length of one minute of latitude along the earth's equator. The nautical mile was officially set as 6076.115 feet (100 nautical miles = 115 statute miles).

NAVAID (NAVIGATIONAL AID) - Any visual or electronic device (airborne or on the ground) that provides point-to-point guidance information or position data to pilots of aircraft in flight.

NCT (NORTHERN CALIFORNIA TRACON) - The air traffic control facility that guides aircraft into and out of San Francisco bay area airspace.

NDB (NONDIRECTIONAL RADIO BEACON) - Signal that can be read by pilots of aircraft equipped with direction finding equipment. Used to determine bearing and can "home" in or track to or from the desired point.

NEM (NOISE EXPOSURE MAP) - A FAR Part 150 requirement prepared by airports to depict noise contours. NEMs also take into account potential land use changes around airports.

NEXTGEN - The Next Generation of the national air transportation system. NextGen represents the movement from ground-based navigation aids to satellite-based navigation.

NMT (NOISE MONITORING TERMINAL) - A piece of equipment that acquires sound level and other data and transmits it to the server. Oakland has 16 permanent NMTs located in the communities around the Airport.

NOISE - Any sound or signal that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.

NOISE ABATEMENT PROCEDURES - Changes in operational procedures affecting runway use, in flight approach and departure routes and procedures, and in other air traffic procedures that are made to shift adverse aviation effects away from noise-sensitive areas (such as residential neighborhoods).

NOISE COMPLAINT - A recorded complaint concerning aircraft noise made by an individual and kept on file at an airport.

NOISE CONTOURS - Lines drawn on a map that connect points of equal noise exposure (DNL or CNEL) values. They are usually drawn in 5-dB intervals, such as DNL 75 dB values, DNL 70 dB values, DNL 65 dB values, and so forth.

NON-PRECISION APPROACH PROCEDURE - A standard instrument approach procedure in which no electronic glideslope is provided, such as VOR, GPS, or LOC (which "see").

O

OBSTACLE - An existing object, object of natural growth, or terrain, at a fixed geographical location, or which may be expected at a fixed location within a prescribed area, with reference to which vertical clearance is or must be provided during flight operation.

OPERATION - A take-off or a landing. Every flight requires at least two operations, a take-off and a landing.

OUTER MARKER - An ILS navigation facility in the terminal area navigation system located four to seven miles from the runways edge on the extended centerline indicating the beginning of final approach.

OVERFLIGHT - Aircraft whose flights originate or terminate outside the metropolitan area that transit the airspace without landing.

P

PAPI (PRECISION APPROACH PATH INDICATOR) - An airport lighting facility in the terminal area used under VFR conditions. It is a single row of two to four lights radiating high intensity red or white beams to indicate whether the pilot is above or below the required runway approach path.

PBN (PERFORMANCE BASED NAVIGATION) - Area navigation based on performance requirements for aircraft operating along an IFR route, on an instrument approach procedure or in a designated airspace.

PILOT IN COMMAND - The pilot responsible for the operation and safety of an aircraft during flight time.

PRECISION APPROACH PROCEDURE - A standard instrument approach procedure in which an electronic glide slope is provided, such as an ILS. GPS precision approaches may be provided in the future.

PRECISION INSTRUMENT PROCEDURE - A standard instrument procedure for an aircraft to approach an airport in which an electronic glide slope is provided, e.g., an instrument landing system (ILS) or military precision approach radar.

PREFERENTIAL RUNWAY - The most desirable runways from a noise abatement

perspective to be assigned whenever safety, weather, and operational efficiency permits.

Q

R

RADAR VECTORING - Navigational guidance where air traffic controller issues a compass heading to a pilot.

RELIEVER AIRPORT - An airport serving general aviation aircraft that might otherwise use a congested air carrier airport.

RNAV (AREA NAVIGATION) - A method of IFR navigation that allows an aircraft to choose any course within a network of navigation beacons, rather than navigating directly to and from beacons. This can conserve flight distance, reduce congestion, and allow flights into airports without beacons.

RNP (REQUIRED NAVIGATION PERFORMANCE) - A type pf performance-based navigation (PBN) that allows an aircraft to fly a specific path between two 3-dimensionally defined points in space. RNAV and RNP systems are fundamentally similar. The key difference between them is the requirement for on-board performance monitoring and alerting. A navigation specification that includes a requirement for on-board navigation performance monitoring and alerting is referred to as a RNP specification. One not having such a requirement is referred to as a RNAV specification.

RUN-UP - A procedure used to test engines after maintenance to ensure safe operations prior to returning the aircraft to service. The power settings tested range from idle to full power and may vary in duration.

RUNWAY - A defined rectangular strip of land or water used by aircraft to land on or take off from. Runways are normally numbered in relation to their magnetic direction rounded off to the nearest 10 degrees; i.e., Runway 01, Runway 25.

S

SEQUENCING PROCESS - Procedure in which air traffic is merged into a single flow, and/or in which adequate separation is maintained between aircraft.

SENEL (SINGLE EVENT NOISE EXPOSURE LEVEL) - The noise exposure level of a single aircraft event measured over the time between the initial and final points when the noise level exceeds a predetermined threshold. It is important to distinguish single event noise levels from cumulative noise levels such as CNEL. Single event noise level numbers are generally higher than CNEL numbers because CNEL represents an average noise level over a period of time, usually a year.

SINGLE EVENT - Nosie generated by a single aircraft overflight.

SOUND INSULATION - (1) The use of structures and materials designed to reduce the transmission of sound from one room or area to another, or from the exterior to the interior of a building, (2) the degree of reduction in sound transmission by means of sound insulating structures and materials.

SPECIAL VFR OPERATIONS - Aircraft operating in accordance with clearances within Class B, C, D, and E surface areas in weather conditions less than the basic VFR weather minima. Such operations must be requested by the pilot and approved by ATC.

STANDARD INSTRUMENT DEPARTURE (SID) - A published IFR departure procedure printed for pilot use in graphic and/or textual form. SIDs provide transition from the terminal to the appropriate en route structure.

STANDARD TERMINAL ARRIVAL ROUTE (STAR) - A published IFR arrival procedure describing specific criteria for descent, routing, and communications for a specific runway at an airport.

T

TAXIWAY - A paved strip that connects runways and terminals providing the ability to move aircraft so they will not interfere with takeoffs and landings.

TERMINAL AIRSPACE - The airspace that is controlled by a TRACON facility.

TERMINAL AREA - A general term used to describe airspace in which approach control service or airport traffic control service is provided.

TERPS (TERMINAL INSTRUMENT PROCEDURES) - Procedures for instrument approach and departure of aircraft to and from civil and military airports. There are four types of terminal instrument procedures: (1) precision approach, (2) non-precision approach, (3) circling, and (4) departure.

THRESHOLD - The beginning of that portion of the runway usable for landing.

TOUCH-AND-GO OPERATION - A practice maneuver consisting of a landing and a takeoff performed in one continuous movement—the aircraft lands and begins takeoff roll without stopping. A touch-and-go is considered as two operations.

TRACON (TERMINAL RADAR APPROACH CONTROL) - An FAA air traffic control service to aircraft arriving and departing or transiting airspace controlled by the facility. TRACONs control IFR and participating VFR flights. TRACONs control the airspace between Center down to the ATCT.

TRAFFIC PATTERN - The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach.

1. Upwind Leg - A flight path parallel to the landing runway in the direction of landing.
2. Crosswind Leg - A flight path at right angles to the landing runway off its upwind end.
3. Downwind Leg - A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg.
4. Base Leg - A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline.
5. Final Approach - A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. An aircraft making a straight-in approach VFR is also considered to be on final approach.

U

V

VASI (VISUAL APPROACH SLOPE INDICATOR) - An airport lighting facility in the terminal area used primarily under VFR conditions. It provides vertical visual guidance to aircraft during approach and landing by radiating a pattern of high intensity red or white focused light beams to indicate whether the pilot is above, on, or below the glide path.

VECTOR - A heading issued to a pilot to provide navigational guidance by radar.

Vectors are assigned verbally by FAA air traffic controllers.

VFR (VISUAL FLIGHT RULES) - Rules that govern the procedures for conducting flight under visual meteorological conditions or weather conditions with a ceiling of 1,000 feet above ground level and visibility of three miles or greater. It is the pilot's responsibility to maintain visual separation, not the air traffic controller's under VFR conditions.

VISUAL APPROACH - An approach to an airport wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of an air traffic facility and having an air traffic control authorization, may deviate from the prescribed instrument approach procedure and proceed to the airport of destination, served by an operational control tower, by visual reference to the surface.

VMC (VISUAL METEOROLOGICAL CONDITIONS) - Weather conditions equal to or greater than those specified for aircraft operations under visual flight rules (VFR).

VOR (VERY HIGH FREQUENCY OMNI-DIRECTIONAL RANGE) – A ground-based electronic navigation aid transmitting navigation signals for 360 degrees oriented from magnetic north. VOR is the historic basis for navigation in the national airspace system. The FAA has begun decommissioning VORs throughout the Country as they move toward satellite based navigation.

W

WAKE TURBULENCE - Phenomena resulting from the passage of an aircraft through the atmosphere. The term includes vortices, thrust stream turbulence, jet blast, jet wash, propeller wash, and rotor wash both on the ground and in the air.

WIND SHEAR - A change in wind speed and/or wind direction in a short distance resulting in a tearing or shearing effect. It can exist in a horizontal or vertical direction and occasionally in both.

X

Y

Z