

**Airport Operating Plan
Burning Man 2004**

Black Rock City Airport 2004 Operating Plan

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A. Overview

The Black Rock City Airport is an FAA recognized public airport, which exists for the sole purpose of accommodating aviation traffic during the Burning Man festival. It is therefore an annual, temporary airport, probably the only one of its kind in the US.

The Airport accommodates fixed-wing aircraft, rotorcraft, ultralights, hot air balloons, and skydiving. The Airport contains a single landing strip, two helipads for medevac and private helicopters, a tiedown area, and camping areas. The runway and tiedown areas are outside the trash fence which surrounds Black Rock City. A gate is staffed to provide entry to the event for ticketed participants arriving by air. The gate also allows access to and from the tiedown area, and access to the playa for Burning Man participants who are landsailers.

Aviation activity in 2003 included 95 overnight aircraft, a couple dozen “transient” aircraft dropping off passengers and departing, a private helicopter, ultralights, and skydivers. Activity in 2004 is expected to be similar. Approximately 150 participants camp at the Airport. These are pilots and passengers camping with their aircraft in the tiedown area, and those camping inside the perimeter fence (trash fence).

This operating plan is a supplement to the Burning Man 2004 Operating Plan and was prepared with reference to a draft copy of the stipulations identified for permit #NV025-04-02.

B. Background

This section contains aviation information for non-pilots, historical information, and comparison information between the Black Rock Airport and other nontowered airports.

1. Terminology

The Federal Aviation Administration (FAA) creates and administers the rules governing airspace. These rules are set forth in the Federal Aviation Regulations, known as the FARs. Many of these definitions are from the FARs and from the Aeronautical Information Manual (AIM).

MSL: a measure of altitude referenced to mean sea level. The playa is 3904 feet MSL.

AGL: a measure of altitude referenced to the ground directly below.

Aircraft: a device that is used or intended to be used for flight in the air (includes everything except parachutes).

Registration Number: Also called the “tail number” or “N-number” because in the U.S. all registration numbers begin with “N”. Canadian aircraft begin with “C”. This is an identifier equivalent to the license plate number on a car.

Ultralight: This is a special class of aircraft with limits on weight, power, stall speed, etc. These aircraft are not required to be registered (no tail number) and pilots are not required to have aviation certificates.

NOTAM: NOTICES TO AIRMEN are issued by Flight Service Stations to pilots who request

flight briefings. NOTAMs contain aeronautical information that is of a temporary nature or a recent change.

VFR/IFR: Visual Flight Rules/Instrument Flight Rules; there is no IFR approach to Black Rock City Airport (no flying in the clouds) and all traffic is conducted according to VFRs.

CTAF: Common Traffic Advisory Frequency; every nontowered airport has a published frequency for pilots to advise others of their actions.

UNICOM: used for air-to-ground communications of an advisory nature.

PIC: normally means Pilot In Command, used in this document to mean

Customs Agent: The airport is not a U.S. Port of Entry, and does not provide U.S. Customs Service. Black Rock Customs Agents are volunteers who staff the Airport Gate. Their tasks include gate control, box office, greeting, and information duties.

2. Airspace

The airspace over the Black Rock Desert is Class G, uncontrolled airspace up to 14,500 feet MSL. This does not mean there are no requirements for aviation, only that limits such as minimum visibility and clearance from clouds are set for Class G, and are less stringent than in other airspace classes. The southwestern portion of the Black Rock Desert underlies the Reno MOA (Military Operations Area).

MOA: A Military Operations Area (MOA) is airspace established outside Class A airspace to separate or segregate certain nonhazardous military activities from IFR Traffic and to identify for VFR traffic where these activities are conducted.

3. Nontowered

The Airport is “nontowered” which means there is no air traffic controller directing the flow of traffic. There are about fifteen thousand airports in the U.S., about five thousand open to the public, and fewer than 500 have control towers. Pilots are trained to follow standard, published procedures while operating at nontowered airports. Every two years, pilots are tested and receive additional training in standard procedures.

BRC Airport is VFR traffic only. Radios are not required for VFR traffic at nontowered airports.

4. Traffic Levels

The traffic levels are quite typical for an active, nontowered airport. Each takeoff or landing is counted as one operation. A single plane taking off, circling, and then landing counts as two operations. No records of operations were maintained in 2003, but a rough estimate is 100 operations per day average. Reno Stead averages 170 per day. Carson City averages 229, and Watsonville in California has 260 per day. Note that these are averaged throughout the entire year and include the slow days when the weather is poor. A pleasant weekend day at these airports might easily exceed 500 operations, and none of them have control towers. Pilots follow standard operating procedures for nontowered airports.

Figure A – Airport Layout

5. FAA Recognized

Officially, the name of the airport is the Black Rock City Airport, because that's what went on the paperwork to the FAA. A Notice of Landing Area Proposal was filed in 1999, which resulted in aeronautical study No. 99-SFO-79-NRA, which found no objection to the establishment of the landing area proposed on condition that only VFR operations are conducted.

C. Physical Attributes

The Airport facilities can be divided into two categories; aviation-side and land-side. See Figure A for the airport layout and placement of physical structures.

1. Aviation-Side Facilities

The aviation-side facilities are; runway, windsocks, signs, participant helipad, medevac helipad with lights, tiedown area, and UNICOM radio.

The runway is 5,280 feet long and about 50 feet wide. The strip is placed outside the pentagonal trash fence and oriented southwest to northeast to take advantage of the prevailing winds. It is placed to allow a traffic pattern which does not overfly any camps on approach or departure. See Section D for more information on flight operations.

The surface in the vicinity of the Airport is covered with transient dunes. These dunes are removed, and the runway is watered prior to application of the markings. The runway markings are applied using a biodegradable agricultural colorant. The colorant is sprayed directly on the playa surface. The runway is watered as needed during the event to fix fugitive dust. Markings are reapplied if the colorant fades too rapidly, or is washed away by rain or watering.

Windsocks are placed near each end of the strip. They provide information regarding wind velocity and direction to pilots, and also a visual indication to ground traffic that aviation operations are nearby. Reflective traffic barricades with flashing yellow lights are placed to warn ground traffic of the guy wires supporting the wind sock poles. Signs warning of aircraft activity are placed along two desert trails; the trail parallel to the runway, and the crossing trail. These signs are installed with a reflective traffic barricade for day/night visibility.

A UNICOM station with shade is placed to provide the operator with visibility of the runway and surrounding areas. A transceiver on 122.9 MHz is connected to an antenna to provide a transmission range of at least 20 miles.

A tiedown area is designated adjacent to the trash fence and gate. Colorant is used to mark rows wide enough for aircraft to taxi safely. Pilots and passengers are allowed to camp with their aircraft.

There are no provisions for night operations (no lights of any type) with the exception of the helipad reserved for medical evacuations. The medevac helipad is outlined with reflective material, and steady red lights in addition to the outline of a cross created with colorant. This helipad is placed to allow flights in and out without interference with fixed-wing traffic using the runway.

Figure B – Airport Diagram

A feature new for 2004 is hoped to greatly assist in on-site communications with pilots. A two-sided bulletin board will be placed prominently at the Airport Gate. The side facing the tiedown area is the arrival side, and will contain information needed by new arrivals. The departure side will contain information for pilots taking off; for example “the hot springs are off-limits”, or “skydiving between 4 and 6 pm today.

2. Land-Side Facilities

The land-side facilities inside the trash fence include a staffed gate, office trailer, cargo container, shade structures, chemical toilets, camping area, and road to the edge of the main camping area of Black Rock City. About 150 participants camp either with their aircraft or in the land-side camping area just inside the fence.

D. Aviation Operations

Aviation operations are similar to operations at thousands of nontowered airports across the county. Standard general aviation procedures are in effect. The runway placement allows for a traffic pattern away from the main encampment for noise abatement and safety.

Additional designated flight paths are suggested to accommodate helicopters, ultralights, and photography flights. Figure B shows the recommended flight paths. This information is provided to pilots via the website, the aviators email list, handouts during the event, and is posted at the airport gate.

Volunteers staff the radio to provide UNICOM advisories. The multicom frequency 122.9 MHz is the appropriate CTAF. UNICOM standard advisories consist of altimeter setting, density altitude, wind direction and velocity, and known traffic in the vicinity. Additional information such as surface conditions, runway length and placement relative to the city are provided as needed. UNICOM advisories will be available 24 hours a day.

Announcements of activities of an unusual nature, such as skydiving, arrival of a dirigible, or aerobatic performance, are prominently posted at least one hour before initiation of the activity. Advisories are given over the radio by the pilot involved or the UNICOM operator.

One person (the Runway Manager) physically present at the Airport during daylight hours is responsible for immediate decisions affecting aviation safety. The Runway Manager decides when to call for emergency assistance, when to recommend an alternate landing area, when to close the runway, or when to recommend any non-standard maneuvers to pilots in the air. The Runway Manager will typically be the Airport Manager, who will delegate the task whenever she is away the Airport during the day.

In addition to the Airport Manager's radio, one organization radio is assigned for use by the Runway Manager or UNICOM operator. The Airport Manager is available via pager (through 911) 24 hours a day through the event.

NOTAMs are filed with the local FSS (Flight Service Station). Skydivers file their own NOTAMs with the information required by FAR 105. A NOTAM for the airport in general is filed. The information contains the runway specifications and information about the unusual level of activity that occurs during the event. This information is given by the FSS to all pilots requesting briefings for the Black Rock Desert.

E. Safety

New safety features are being implemented for the first time in 2004. Improvements to existing practices will also result in more orderly and safe airport operations. Safety features not covered in other sections are 1) pilot education pre-event, 2) pilot on-site briefings, 3) air safety awareness, 4) training for UNICOM radio operators, and 5) emergency plans.

1. Pilot Education

Pilot education pre-event covers all aspects of aviation activities at Burning Man. Pilots are given information on mountain flying, desert landings, weather hazards, and planned operating procedures for the event.

Existing communications media will be used to distribute the information; the website and the aviators email list. Efforts will be made through all available media (web, bulletin board, email list, and printed materials) to encourage Burning Man pilots to access the educational information available. Pilots are also encouraged to take advantage of outside resources for safety seminars on mountain flying or to make arrangements for personal instruction pre-event.

On-site education will take place through pilot briefings (see below), and the use of approach/departure bulletin board described in Section C.

2. Pilot Briefings

Mandatory briefings prior to take-off will be required of all aircraft pilots including but not limited to; airplanes, helicopters, ultralights, powered paragliders, gliders, and hot air balloons. This will allow pilots to arrive at the event and land without receiving a personal briefing in advance, but will provide control over those who wish to takeoff and return.

The briefings will cover approach and departure procedures, areas that are off-limits (such as local hot springs), general airport operations, and high altitude safety procedures. A written record of who has received briefings will be kept at the gate. Pilots who have been briefed will receive some ready identifier such as a special wristband.

Pilots who are not returning to the event (non-participant pilots dropping off passengers) will get an abbreviated briefing covering just departure protocols. These transient pilots will be encouraged in advance to get the information available on the website before their arrival.

Skydivers will receive specialized briefings from their jumpmaster or the Airport Manager.

3. Air Safety Awareness

An Air Safety Officer oversees the safety aspects of aviation operations. The purpose is to correct inappropriate, illegal, or unsafe behavior. The Air Safety Officer supervises a team which provides the briefings and enforces the guidelines for aviation operation during the event. The team will give special guidance to anyone who appears to be a safety risk, or is exhibiting inappropriate behavior. They will also identify ways to improve safety during the event, and for next year.

Enforcement levels vary from a warning, to impounding the aircraft, to eviction from the event, to a report to the FAA. The impound procedure involves putting a fence around the aircraft and will be used for cases where the good neighbor policy is ignored, but the participant is not doing anything illegal.

4. UNICOM Training

A UNICOMmander oversees the necessary equipment, training, and operation of UNICOM services. The UNICOMmander for 2004 has a great deal of aviation and radio experience, and is a Certified Flight Instructor (CFI). Guidelines and training are given to the volunteers providing UNICOM advisories. Aviation experience is mandatory for UNICOM operators, but most pilots have no experience giving advisories instead of receiving them, so additional training is desirable.

The UNICOM operator has reference to the recommended flight paths, weather information, and guidelines to handle emergency situations. Training materials will be made available pre-event, and on-site training will supplement the pre-event training.

5. Emergency Plans

Detailed emergency plans will be defined and documented with the help of other Burning Man departments. These plans will include procedures to follow:

- when a runway is unsafe such as after a rainstorm (covers when and how to close a runway)
- when an alternate emergency landing area is needed (identification of emergency sites in advance, when and how to implement them)
- immediately after an accident (how to call for help, what to say to aircraft in the air)
- in the aftermath of an accident (runway status, decision process, crowd control and guarding wreckage, fuel leakage, notification of appropriate personnel)
- when an overdue aircraft is reported or other unusual event.

F. Miscellaneous

1. Wind-Powered Vehicles

The airport gate is designated to provide access to the playa outside the trash fence for wind-powered vehicles. All landsailers receive a briefing on their way out. The briefing includes how to avoid the landing strip and helipads, and where to sail. Landsailers are provided with an identifying mark such as wristband to allow access back through the Airport gate into the event and to indicate they received a briefing.

2. Ultralights

Ultralight pilots have a separate takeoff and landing area to keep them out of the faster traffic using the runway. Each pilot receives a briefing to advise them of traffic conditions,

regulations, requests for noise abatement and so on. No takeoffs or landings are permitted within the trash fence without prior permission from the Airport Manager and notification to the Unicom Operator one hour in advance of the activity. Permission to land within the fence is given only in exceptional cases. The ultralight pilot must have a ground crew to secure a safe takeoff and landing area.

3. Good Neighbor Policy

All pilots receive mandatory briefings which include noise abatement, locations that are off-limits (such as the hot springs), and areas covered by closures. Behaving responsibly and considerately is emphasized. All pilots are strongly advised that activities such as flying to the nearby hot springs will result in immediate grounding of their aircraft until the end of the event.

4. FAA Violations by Nonparticipant Aircraft

Non-event aircraft operating in an unsafe manner are reported to the FAA when sufficient evidence is available (witnesses and registration number).

5. References

Federal Aviation Regulations (primarily parts 1, 91, 93, 103, 105)
<http://www.faa.gov/>

Aeronautical Information Manual
<http://www.faa.gov/ATpubs/AIM/>

Aircraft Owners and Pilots Association (AOPA)
<http://www.aopa.org>

Flight Safety Foundation
<http://www.flightsafety.org/home.html>

Black Rock City Airport
http://www.burningman.com/on_the_playa/airport/