



Tangled Web:

Intertwined international, national, state and local rules make heliport design in the U.S. more complicated than simply considering FAA "advice."

By Rex J. Alexander

When it comes to establishing a heliport in the U.S., many people will tell you that the FAA advisory circular covering its design is just that: advisory.

In fact, some local and state governments may consider that "advisory" document a regulation, depending on how each applies a web of national and international standards for building and fire safety and aeromedical operations.

The FAA clearly states that, with one exception, "the guidelines and specifications for materials and methods" recommended in that document for establishing heliports are "not mandatory." Advisory Circular (AC) 150/5390, "Heliport Design," lays out standards for designing heliports serving helicopters with single rotors. Version 2C went into effect in 2012.

(The exception is a heliport established with funding from specific U.S. programs. The FAA says the AC is mandatory in that case.)

If you are preparing to establish a heliport (a term the FAA defines as including a helipad or "helistop"), it is important for you to consider codes and standards to which local and state governments subscribe and how those codes and standards interpret AC 150/5390.

These codes and standards include the International Building Code (IBC), the International Fire Code (IFC) and the National Fire Protection Association's NFPA 418 standard, as well as the certification criteria of the Commission on Accreditation of Medical Transport System (CAMTS) and the National Accreditation Alliance of Medical Transport Applications (NAAMTA). NFPA 418 is that organization's standard of fire safety requirements for operations at heliports.

It is also important for you to consider what state and local laws and regulations (including transportation department rules) may govern the construction and operation of your heliport.

Each U.S. state and territory has different laws and regulations that provide guidance on heliports, helipads and helistops. Their contents range from essentially no criteria at all to very stringent ones.

In addition, many large cities have their own regulations and codes governing heliports. These include Chicago, New York, Newark, Los Angeles and Seattle. As is the case with the states, the cities' criteria can range from very minimal to the very stringent.

It is impossible to cover all of these in one article, so I will focus on the broader standards upon which many state and local rules are based.

AC 150/5390 is the only set of criteria published in the U.S. by the FAA regarding heliport design. It is, therefore, the de facto criteria in the country.

The FAA has conducted significant research in developing criteria that encourages safety in the heliport environment. The agency has not detailed this research as succinctly as one would hope, but it has been extensive. (The studies used in developing AC 150/5390 are available through the National Technical Information Service at <https://www.ntis.gov>).

That research includes a 1988 study on the minimum required heliport airspace under visual flight rules; a 1991 study on designing heliport VFR airspace based on helicopter performance; analyses of helicopter mishaps at heliports, airports and unimproved sites; a 1992 study of helicopter accident risk exposure near those sites; and a 1994 study on obstacle-rich environments around VFR heliports.

AC 150/5390's guidelines therefore are built on a solid foundation. Independent analysis of NTSB data on heliport accidents has found a significant link between the lack of compliance with FAA safety criteria and reported and avoidable accidents.

(Federal Aviation Regulations Part 157 requires anyone planning to establish, upgrade, alter or deactivate a heliport to notify the FAA. Failure to do so is the primary reason why most of the more hazardous heliports in the U.S. fail to meet standard safety criteria as outlined by the FAA, NFPA, IBC and IFC.)

The foundation of research is one reason other standards-setting groups rely on the FAA's guidance.

The primary standards-setting organization in this case is the International Code Council, which publishes IBC and IFC. Numerous governments throughout the U.S. have adopted these codes and require them to be followed in their jurisdictions. (The IBC and IFC documents can be reviewed online at <http://publicecodes.cyberregs.com/icod/>.)

Specific to the aeromedical industry, CAMTS and NAAMTA provide additional criteria on heliports. They are important because some states require an operator to gain CAMTS or NAAMTA certification before they will allow it to conduct aeromedical missions within their borders. These include Colorado, Maryland, Massachusetts, New Hampshire, Rhode Island, Utah and Washington. Some counties in California also require accreditation to these standards.

These state, city and county legal requirements for compliance with IBC, IFC, NFPA, CAMTS or NAAMTA standards are what effectively can transform FAA guidelines into regulations in some jurisdictions.

There is a cascade effect between the different organizations and their standards for heliports. While a municipality may have adopted one criteria set, other criteria more than likely still will apply in its jurisdiction because of the interrelationship of the standards. Consider one example. Chapter 20 of the IFC covers aviation facilities. Its Section 2007.1 states that helistops and heliports on buildings shall be maintained in accordance with the chapter and that they “shall be constructed in accordance with the International Building Code.” Chapter 4 of the IBC (in section to 412.7.4) stipulates “rooftop heliports and helistops shall comply with NFPA 418.”

NFPA 418 says, in section 4.2.2, that the “design of the heliport, including all of the aeronautical components, shall be in accordance with” AC 150/5390.

Another example is section 05.10.00 of CAMTS’ accreditation standards. It says a hospital helipad “must have at least one clear final approach and takeoff area” in accordance with AC 150/5390.

CAMTS also says an FAA Form 5010-5 “Airport Master Record” must be available for the helipad. This, in essence, requires CAMTS-accredited operators to have the heliports they serve be evaluated by the FAA and found to be in compliance with AC 150/5390 (to the extent deemed necessary by the FAA inspector).

Here’s another. Section 4.5.0 of NAAMTA’s “Medical Transport Accreditation Standards” says a hospital’s helipad and heliport must be in accordance with AC 150/5390.

All of these various guidelines and standards are intended to ensure the safety of a heliport’s operations. The risk of an accident at a heliport that does not conform to FAA and other guidelines extends far beyond the heliport’s confines and the pilots and passengers onboard the helicopter.

Other risks include hazards to the surrounding community, as well as a potential reaction from the community that could lead to a shutdown of —or severe restrictions on—the heliport and the operators who use it.

If you are considering establishing or upgrading a heliport, you would do well to understand all of the rules and codes that may apply to your project.

