



July 1, 2011

Re: National EMS Pilots Association White Paper

J. Randolph Babbitt
Federal Aviation Administration
Orville Wright Bldg. (FOB10A)
FAA National Headquarters
800 Independence Ave., SW
Washington, DC 20591

Dear Administrator Babbitt,

Subject: Heliport Advisory Circular

The National EMS Pilots Association (NEMSPA) represents both rotary wing and fixed wing pilots operating in the air medical industry throughout the United States and around the world. NEMSPA is dedicated to being a leader and innovator for safety in all operations within the air medical, health care, helicopter, and aviation industries. Our primary goal is to insure the air medical industry prospers in a safe manner while correspondingly enhancing the delivery of critical care to all those in need within our communities.

On behalf of all of the aforementioned industries, the National EMS Pilots Association has completed the enclosed White Paper on the **“Recommendation For The Utilization Of An Independent Industry Task Force For The Review And Rewrite Of The FAA/DOT Heliport Advisory Circular”**. NEMSPA believes it is vital all relevant industry and government agencies come together under one independent task force and invest the required time and effort to more thoroughly examine the critical role heliports play in the overall development of an integrated and safe helicopter infrastructure. To insure safety, longevity, efficiency, and to avoid prohibitive costs, NEMSPA believes the latest version of the FAA Heliport Advisory Circular (2C) must be a fully vetted, industry responsive, and an industry-wide accepted document prior to its publication.

NEMSPA further recommends the Administration give serious consideration to FAA Order Number: 1110.141 and recommends the reinstatement of Vertical Flight Committee (VFC). Though the VFC was designed to be an intra-FAA committee, NEMSPA believes this committee, if reconstituted in a modified industry inclusive format of equal partnership, could be the Joint FAA/Industry task force described within the attached White Paper. NEMSPA and our affiliate organizations and associations feel there have been monumental positive strides achieved under the current International Helicopter Safety Team (IHST) structure comprised of both FAA and broad industry representation. The success of the IHST process is a model for expansion of the VFC is the next logical step in the process for insuring a solid foundation for the future. Through this process all issues and ideas could be truly vetted by helicopter professionals from both industry and government to insure the commensurate expertise, knowledge, and experience necessary to accurately correlate and quantify flight operational data and information is always in place for future opportunities.

NEMSPA strongly encourages the FAA to fully consider and support these recommendations to insure the safety and functionality of our industry now and well into the future. Please feel free

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to contact me at your earliest convenience for further discussion and any desired background on this or any other segment of the air medical or helicopter industries.

Respectfully,

A handwritten signature in black ink, appearing to read "Rex J. Alexander", is written over a light gray rectangular background.

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WHITE PAPER

RECOMMENDATION FOR THE UTILIZATION OF AN INDEPENDENT INDUSTRY TASK FORCE FOR THE REVIEW AND REWRITE OF THE FAA/DOT HELIPORT ADVISORY CIRCULAR

Executive Summary

An Overview of the Vital Role Heliports Play as the Foundational Building Blocks for the Future of a Safe Rotorcraft Infrastructure and the Critical Need for an FAA Appointed Independent Industry Task Force to Assist in Developing and Validating the FAA/DOT Heliport Design Advisory Circular A/C 150/5390-2 to achieve the FAA/IHST vision of an 80% Accident Reduction Rate in the Helicopter Industry.

July 1, 2011

**From the
National EMS Pilots Association**

**Co Authors
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**For the
Federal Aviation Administration
International Helicopter Safety Team**

INTRODUCTION:

This paper discusses the vital roll that heliports play in the overall development of an integrated and safe industry infrastructure, and the criticality of a Heliport Advisory Circular that is fully vetted by all appropriate divisions of the FAA and by expert representatives of those organizations within the helicopter industry who regularly utilize the heliport facilities throughout the United States covered by the A/C.

PREMISE:

A high quality well thought out infrastructure that both supports and enhances safe helicopter operations is essential to the realization of the International Helicopter Safety Team's (IHST) goals in any effective accident reduction and prevention plan for the future. It is the opinion of the National EMS Pilots Association (NEMSPA) that the heliports themselves are the foundational building blocks on which infrastructure enhancements and advancements for the future of the helicopter industry will be built. Hospital heliports are contemporary "front doors" for patients in need of critical care and are the common element in every emergency medical evacuation. As such, heliport design and safety management, together with improvements in the availability and dissemination of low level weather are critical to safe operations. Improving the low level flight environment is essential to meet the IHST, FAA and NTSB vision of reducing helicopter accidents by 80%. Heliports are the cornerstones of a system supporting the creation of a low level IFR infrastructure designed to accommodate and enhance the safety of helicopter operations by decreasing the need for VFR flight in marginal VFR conditions. Improving the low level flight environment is essential in improving safety. This enhanced infrastructure will allow helicopters to avoid the low altitude, obstacle-rich environment that has claimed so many lives in the past. The design of a low level IFR infrastructure to accommodate helicopter arrivals at and departures from hospital and other EMS facilities rests on a foundation of carefully designed and managed heliports. And, any flaws in the establishment of design standards for heliports could jeopardize the utility of any associated low-level IFR infrastructure.

Therefore, it is the recommendation of NEMSPA that the FAA designate an independent industry Heliport Design Task Force (HDTF) to assist in assuring that any revision to A/C 150/5390-2 will result in design and implementation standards that insure the safety of operations on the heliport as well as both VFR and IFR departure and arrival operations. Such a task force would require the involvement of federal regulators, pilots, helicopter operators, and original equipment manufacturers, as well as subject matter experts from safety, accident prevention, meteorology, and heliport construction. In addition, consultants for the design of special procedures and issues of performance-based navigation should be involved to insure that a unified and coherent infrastructure is ultimately achieved.

The National EMS Pilots Association, its members and associates would like to offer the FAA its broad and diverse depth of knowledge, expertise and experience in a collaborative effort with other industry groups, helicopter operators and pilots in the current and any future rewrite/update efforts of the Heliport Design Advisory Circular, A/C 150/5390-2. NEMSPA believes that the processes used in developing and

updating the FAA Heliport Advisory Circular should be a vehicle for education and guidance which is inclusive of all parties involved in and exposed to the helicopter industry. It is vitally important that the foundation of this A/C be based on good aviation common sense which incorporates the expertise and experience from those who make up the industry that will be affected, to include the heliport planners, designers, regulators and most importantly the pilots that will ultimately utilize the heliports governed by this document.

HISTORY:

By way of background, the full January 4, 1988 and January 20, 1994 versions, and some small initial elements of the September 30, 2004 edition of the A/C were the result of an FAA/Industry "Task Force" that represented not only major industry associations but, more importantly, helicopter and heliport manufacturers, heliport designers and other consultants, along with a broad selection of pilots, and operators. Also in attendance at these "Think-Tank" meetings was full representation from the FAA to include Standards, Airports, the Vertical Flight R & D Office, NASA Management and Researchers, along with the U.S. Army, Transport Canada, the FAA Tech Center, and FAA flight test pilots from the FAA research facility at Atlantic City, NJ. The major national and international helicopter manufacturers and personnel from the FAA Southwest Region were all allowed a vested interest and equal voice in the overall process.

During these meetings dealing with the integration of the Tilt-Rotor vertical lift into the FAA A/C system, the most experienced test and development pilots for the XV-15, predecessor to the AB609 and the V-22, were also involved. Essentially, this Task Force gathered around one table a true cross-section of management, regulators, pilots, researchers, designers, developers and users that embodied literally hundreds of years and tens of thousands of flight hours of the highest level of helicopter, heliport and operational expertise in the world in order to develop the best guidelines possible for everyone involved.

Due to the utilization of the all-encompassing task force forum adopted in the 1988, 1994, and to a lesser degree the 2004 review iterations, several shortcomings that were in the previous 1977 version of the A/C were identified and ultimately rectified. For example, one critical element that was brought to the table was the recommendation to discontinue the use of the term "Frangible" in the heliport A/C when talking about lighting fixtures at heliports. Frangible structures are those designed to break away when struck by a vehicle or aircraft at speed to help reduce the severity of impact damage. While this may be an important concept for airplanes at airports, even break-away fixtures remain a hazard to hovering helicopters at heliports due to the inherent dangers of dynamic rollover and the low tolerance of high speed tail rotors for impact with any kind of obstacles. The removal of that inappropriate element from the A/C now insures that we do not allow the introduction of hazardous "runway" lighting into the heliport environment that may essentially destroy a helicopter or worse yet cause a fatality. However the current A/C along with the new proposed A/C still allows for these dangerous frangible objects to exist within the FATO and safety area of heliports. This

is an oversight in the 2004 edition that due to the lack of industry involvement failed to get corrected. *In fact, from a historical perspective, one of the greatest challenges to the safe and efficient design of heliport facilities has been that they have been treated in the same manner as airports.*

For reasons that are unclear and beyond the scope of this summary, when the development work for the 2004 edition of the A/C started, the effective Task-Force-Think-Tank approach which produced such excellent results in the past was preempted before the process could be completed. This disenfranchisement caused interest in participation from the industry to wane significantly as the task force was replaced by a single industry representative who became the sole conduit between the FAA and the vertical flight community. Despite this individual's extraordinary job in opposing what many members of the then disbanded task force felt to be unjustified and unsupported by sound research data for the increase size of heliports and the associated airspace, the result was to ultimately negotiate a compromise document which remains in force.

But this change in process came at a significant price: the loss of helicopter aviation expertise and experience from the industry in reviewing and updating heliport standardization. This lack of industry involvement produced an A/C that fell far short of its ultimate potential in enhancing safety of helicopter operations and hospital heliports. The end result was that the 2004 edition of the heliport A/C incorporated several flaws and items needing further study as many opportunities for improvement safety and efficiency based on lessons learned from the field were never examined and capitalized on in the development of the A/C. As concerning, the failure of a collaborative process also allowed for the transport category and general aviation standards sections written into the current A/C to be devised without the benefit of the expertise and experience that was a feature of the previous task-force approach.

CURRENT:

Even though the internal structure and scope of interest in helicopter operations has evolved and changed within the FAA since the last iteration of the A/C, communications and coordination concerning the latest changes and updates to the A/C have not included involvement by the majority of the helicopter industry. The significant body of knowledge based on lessons learned in the field that was disregarded in previous revisions to the Heliport A/C has grown even larger and more valuable due to the intense focus in recent years on the safety of air medical helicopter operations. At the time of this writing, while the FAA has recently announced an opportunity for industry input, it appears that this valuable source of experience will again be overlooked in the process of setting standards for the design and safety of heliport facilities. There is concern across the industry that this un-vetted approach to regulating heliport facilities by agencies who can claim only an indirect knowledge of operating a helicopter into, out of, or on those heliports, may lead to facilities that fall short of optimum in terms of safety and economy, and may even hinder the delivery of life-saving patient transport services to hospitals.

NEMSPA believes that the magnitude and far reaching effects that the Heliport A/C will have on the industry requires that, as in the past, a joint FAA and industry Heliport A/C "Task Force" HDTF be re-created to assure that any changes incorporated do not result in unintended consequences that could have adverse effects on safety and operations for any members of our industry.

HELIPORT ACCIDENT STATISTICS:

Based on a review of NTSB & NASA Reports from 1964 thru February 7, 2011 there were a total of **175 accidents** involving heliports with over 98 having involved the striking of obstacles with the following breakdown.

- Structures & Vegetation i.e. Buildings, Fences (18) wires, vent pipes, safety nets railings, curbs, tower, derrick, boulder, cranes & a tool box.
- Other Helicopters (17) airplane (1) five ground meshing of blades Including the Arizona and Homestead Mid-air accidents.
- Pad Surface and Defects (19) excessive slope, "hatch door" protruding bolts, ship deck valve, tie down rings etc.
- Heliport Operations and Training (9) people struck by rotors, passenger issues with helicopter. Snow bank took out tail rotor.

The above accidents though do not reflect the true number of incidents which have occurred at heliports. Many incidents involving on site property damage or personal injuries as they relate to the public are never reported because in the majority of these cases there are no requirements to file an NTSB or FAA accident report. This coupled with the fact that many of the above incidents turn into legal cases which are then settled out of court means that the information surrounding these incidents becomes undiscoverable due to legal requirements. Over the years heliport owners and helicopter operators have paid out millions of dollars in legal fees and medical coverage for these types of incidents due to inadequacies of heliports. This has been perpetuated by an advisory circular that has not always been based on good aviation common sense which should be provided by industry.

RECENT CHANGES:

The recent safety enhancement action taken by the National Fire Protection Association (NFPA) in January, 2011 concerning NPFA 418, Standards for Heliports was in direct relationship to valuable lessons learned by the NFPA in heliport accidents and their prevention. The fact that the FAA Heliport Design A/C is voluntary for private heliports which has allowed some notably high risk heliports to evolve over the years was undoubtedly a factor considered by the NFPA in this regard. The effects of the defects and risks at those heliports extend far beyond the occupants of the helicopter itself to many others, including those in the immediate vicinity of the heliport and the fire-rescue personnel who may respond after a mishap occurs. It is a double tragedy when an

accident occurs which was predictable and preventable by following good heliport design and safety practices.

In making compliance with the FAA Helicopter A/C mandatory for obtaining local building and fire permits for all new and upgraded heliports, this new NFPA standard now raises the A/C to the level of regulatory oversight in essentially all of the United States and in many other countries. This places a much greater burden directly on the FAA and the industry to insure that any mandatory fire and safety code that incorporates the FAA Helicopter Advisory Circular is based on a document that is fully vetted by and responsive to the needs of the helicopter industry and the population that it serves.

OTHER INITIATIVES:

At this time significant advancements are being achieved by the FAA with their recent commitment towards developing an education and training course on heliport safety for inspectors in the field. The new heliport evaluation course instituted at the Transportation Safety Institute in Oklahoma City, Oklahoma embodies knowledge and skill sets from the entire helicopter industry in order to provide inspectors with the in-depth knowledge needed to make good decisions and recommendations regarding heliports in the field. This advancement, coupled with some of the latest industry-driven grass-roots safety initiatives such as the National EMS Pilots Association's *Helicopter Risk and Liability Assessment Tool*, are expected to have a major impact on safety across the entire industry. The single loose end attached to these and any other initiatives that purports to insure the safety of heliport operations is the thoroughly vetted content and implementation of the revised Helicopter A/C, especially given the potential for the NFPA Standards to elevate the A/C to a regulatory status.

CONCLUSION:

As the heliport design A/C review is essentially a once in a decade process, the National EMS Pilots Association strongly believes that the early and ongoing involvement of experienced aviation experts and helicopter pilots from every sector of the helicopter industry is essential to revising this important guidance document for the future of our industry. As such, the National EMS Pilots Association greatly encourages and recommends to the Federal Aviation Administration and the International Helicopter Safety Team that the developmental process of the A/C be brought back to a point where the input of what needs to be evaluated and reviewed in the current A/C utilizes the proven task force methodology and process referred to within this document. The National EMS Pilots Association looks forward to continuing its successful relationship with the FAA and the industry in bringing the collective hands-on experience of its members, associates, affiliated industry representatives, and experts together for improving the safety of the aviation industry.