

**Helicopter Safety Enhancement (H-SE) 125:
Pre-flight risk assessment for student flights.**

Helicopter Safety Enhancement Action:	Training: FAA and industry to provide recommended practices to instructors for pre-flight risk assessment of student flights.
Expected Implementers:	<ul style="list-style-type: none"> • FAA – AFS-810 • FAA Safety Team (FAAST) • USHST Special Emphasis Area (SEA) Training Team • Helicopter Association International (HAI) – Training Committee (TC) • Training-related industry organizations (<i>e.g.</i>, University Aviation Association (UAA), Society of Aviation and Flight Educators (SAFE), National Association of Flight Instructors (NAFI), Aircraft Owners and Pilots Association (AOPA)) • USHST Outreach Team
Statement of Work:	<p>To help prevent fatal helicopter training accidents resulting from inadequate pre-flight risk assessments, this H-SE should provide recommended practices for pre-flight risk assessment guidance and advisory information specific to the training environment.</p> <p>In the USHST’s 2009–2013 dataset of 52 fatal accidents involving LOC-I, UIMC, or LALT, one fatal accident involved inadequate or lack of pre-flight risk assessments as a contributing factor. Analysis and scoring of the event led to high prioritization of this issue and the working group concluded that pre-flight assessments could be improved across the helicopter training industry. This H-SE is intended to provide both flight instructors and new pilots alike with guidance on the accepted best practices to conduct a full and comprehensive risk assessment prior to a training flight, identifying inherent risks and therefore allowing mitigation to be implemented to reduce the risk as low as reasonably possible (ALARP) prior to and during the training flight.</p> <p>Project:</p> <ol style="list-style-type: none"> 1. Review existing flight training pre-flight risk assessment material. Identify gaps between recommended practices and findings from USHST fatal accident analysis. Consolidate recommended practices. 2. Develop guidance for the inherent risks associated with the flight training environment, thereby allowing mitigation to be implemented to

	<p>reduce the risk as low as reasonable possible (ALARP) prior to and during the training flight.</p> <ol style="list-style-type: none"> 3. USHST SEA Training Team deliver suggested pre-flight risk assessment guidance to the FAA for possible development into an Advisory Circular to support establishing a standard for pre-flight risk assessments on training flights. 4. If an AC is developed, then promote the contents of the AC to flight instruction organizations. <p>The following fatal accident prompted development of this H-SE: WPR10FA277</p>
<p>Relation to Current Aviation Community Initiatives:</p>	<ul style="list-style-type: none"> • There are many sources that provide general guidance on pre-flight risk assessments on the IHST and USHST websites: http://www.ihst.org/Default.aspx?tabid=3251&language=en-USS • The Flight Risk Assessment Tool (FRAT) available from HAI is one of the many risk assessment tools and guidance available to the industry. www.rotor.org/FRA; https://www.rotor.org/fox/mission/overview.htm • FAA and other FRAT sources: https://www.faa.gov/news/safety_briefing/2015/media/SE_Topic_15-08.pdf; https://www.faa.gov/news/safety_briefing/2016/media/SE_Topic_16-12.pdf; https://www.faasafety.gov/gslac/alc/lib_categoryview.aspx?categoryId=31 https://flightsafety.org/asw-article/thats-frat/. https://play.google.com/store/apps/details?id=com.techperspect.application.pfrat&hl=en.
<p>Performance Goal Indicators:</p>	<ul style="list-style-type: none"> • Consolidation of recommended practices for pre-flight risk assessment on training flights for use in student training. • Guidance developed. • The FAA accepts for incorporation into an Advisory Circular (AC). • AC successfully promoted to the training industry of helicopter community.

Key Milestones:	<u>Total Months</u>	<u>Start Date</u>	<u>End Date</u>
	Output 1: 6	Jan. 1, 2018	July 1, 2018
	Output 2: 12	July 1, 2018	July 1, 2019
	Output 3: 18	July 1, 2019	Jan. 1, 2021
	Output 4: 6	Jan. 1, 2021	July 1, 2021
Completion:	42 months		
Potential Obstacles:	Funding related to all aspects of H-SE development; FAA resources and prioritization to incorporate industry’s recommended practices on pre-flight risk assessments into an Advisory Circular.		
Detailed Implementation Plan Notes:			
CICTT Code:	LOC-I		
Output 1:			
Description:	Review existing flight training pre-flight risk assessment material, identify gaps between recommended practices and findings from USHST fatal accident analysis, and consolidate recommended practices.		
Lead Organization:	USHST SEA Training Team		
Supporting Organizations:	<ul style="list-style-type: none"> • HAI TC • UAA • Flight training organizations 		
Actions:	<ol style="list-style-type: none"> 1. USHST SEA Training Team to review existing material from sources listed in the “Relation to Current Aviation Community Initiatives”, for Pre-Flight Risk Assessments. 2. Identify gaps between reviewed material and findings from USHST fatal accident analysis. 3. Identify inherent risks associated with the flight training environment. 4. Consolidate findings and recommendations into a format conducive to developing guidance. 		
Output Notes:			
Time Line:	6 months		

Target Completion Date:	July 1, 2018
Output 2:	
Description:	Develop guidance for the inherent risks associated with the flight training environment, thereby allowing mitigation to be implemented to reduce the risk as low as reasonable possible (ALARP) prior to and during the training flight.
Lead Organization:	USHST SEA Training Team
Supporting Organizations:	FAA AFS-810, HAI TC
Actions:	<ol style="list-style-type: none"> 1. USHST SEA Training Team is to develop and issue guidance based on the information obtained from Output 1. 2. USHST SEA Training Team to promote the pre-flight risk assessment guidance to flight training organizations.
Output Notes:	
Time Line:	12 months
Target Completion Date:	July 1, 2019
Output 3:	
Description:	Deliver suggested pre-flight risk assessment guidance to the FAA for possible development into an Advisory Circular to support establishing a standard for pre-flight risk assessments on training flights.
Lead Organization:	USHST SEA Training Team
Supporting Organizations:	<ul style="list-style-type: none"> • FAA (AFS-800) • HAI TC
Actions:	<ol style="list-style-type: none"> 1. USHST SEA Training Team to meet with FAA (AFS-800) to review results of the recommended practices consolidated by industry and discuss development of an Advisory Circular (AC) supporting pre-flight risk assessment guidance for training. 2. AFS-800 should consider AC development using the results of the USHST's work.
Output Notes:	<p>Key items of the AC would be to include suggested mitigation strategies to reduce training risks to as low as reasonably practical (ALARP).</p> <p>The actions are intended to result in future flight instructor (FI) courses incorporating the recommended practices for pre-flight risk assessment for use during primary phase training. Optimally, this will invoke primacy for student pilots when they see their FI using a risk assessment tool.</p>

Time Line:	18 months
Target Completion Date	January 1, 2020
Output 4:	
Description:	If an AC is developed, then promote the contents of the AC to flight instruction organizations.
Lead Organization:	USHST Outreach Team
Supporting Organizations:	<ul style="list-style-type: none"> • FAAST • USHST SEA Training Team • HAI TC • FAA AFS-600 • FAA AFS-800
Actions:	<ol style="list-style-type: none"> 1. FAA to use FAAST and other outreach to brief AC to all Parts 61 and 141 Flight Schools. 2. FAA, through DPEs, to put special emphasis on AC during CFI checkrides. 3. USHST SEA Training Team and industry organizations involved with previous Outputs should assist the USHST Outreach Team's with development of an outreach plan and attempt to highlight the new AC at every opportunity (<i>e.g.</i>, Heli-Expo, AMTC, Heli Offshore, regional FAAST conferences, other safety conferences). 4. If there are principles from the AC that extend beyond the instruction community, USHST Outreach Team should ensure their dissemination to the the broader helicopter community. 5. Document progress of outreach effort (who contacted, number of attendees, etc).
Output Notes:	
Time Line:	6 months (<i>for initial outreach; would be ongoing effort after initial outreach</i>)
Target Completion Date:	July 1, 2020