U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Electronic News Gathering Operations

Date: 6/28/16 **AC No:** 91-88
Initiated by: AFS-800 **Change:**

1 PURPOSE. This advisory circular (AC) provides recommendations to ensure the safety of electronic news gathering (ENG) operations. Like all advisory material, this AC is not mandatory and does not constitute a regulation. It is issued to provide guidelines. This AC was developed in consideration of ENG industry standards and recommended practices.

2 CANCELLATION. This AC does not cancel or amend any previous AC.

3 APPLICABILITY. This AC applies to all ENG operators. It focuses primarily on helicopter ENG flight operations; however, the basic tenets of safety, communication, and collision avoidance can be applicable for airplane operations as well. All pilots involved with ENG flight operations are strongly advised to review the information in this AC and apply best practices as appropriate. This AC does NOT cover Unmanned Aircraft Systems (UAS) operations because the UAS guidance and regulations have not yet been finalized at the time of publication of this AC. Once those are complete, an update can be made to this guidance.

4 WHERE YOU CAN FIND THIS AC. You can find this and other ACs on the Federal Aviation Administration's (FAA) Web site at http://www.faa.gov/regulations_policies/advisory_circulars.

5 RELATED READING MATERIAL.

5.1 FAA ACs (current editions):

- AC 20-172, Airworthiness Approval for ADS-B in Systems and Applications.
- AC 90-48, Pilots' Role in Collision Avoidance.
- AC 90-114, Automatic Dependent Surveillance-Broadcast Operations.
- AC 91-32, Safety In and Around Helicopters.
- AC 91-63, Temporary Flight Restrictions (TFR) and Flight Limitations.
- AC 120-92, Safety Management Systems for Aviation Service Providers.

5.2 Other Guidance:

- Aeronautical Information Manual (AIM).
- Helicopter Association International E-N-G Aviation Safety Manual.
- Information for Operators (InFO) 07015, Flight Risk Assessment Tool.
- FAA-H-8083-25A, Pilot's Handbook of Aeronautical Knowledge.

5.3 Web Sites:

- Helicopter Association International (HAI): https://www.rotor.org.
- Interagency Airspace Coordination: http://www.airspacecoordination.net.
- International Helicopter Safety Team (IHST): http://www.ihst.org.
- National E-N-G Helicopter Association (NEHA): http://www.neha.rotor.com.
- Notices to Airmen (NOTAM): https://pilotweb.nas.faa.gov/PilotWeb/.
- United States Helicopter Safety Team (USHST): http://ushst.org.

6 BACKGROUND. While no definition exists in Title 14 of the Code of Federal Regulations (14 CFR) part 1, ENG flight operations are generally classified as those operations where an aircraft uses electronic recording devices such as video cameras and broadcast transmitters to aerially gather and report news events and traffic conditions for dissemination to the public. Historically, the development of relatively low-cost gyroscopically-stabilized camera systems increased the use of ENG aircraft by news stations. In some markets, small economical airplanes are used for traffic watch duties. The majority of ENG flight operations covering the scene of a developing news story utilize helicopters due to their ability to hover or orbit over a small geographic area. In certain markets it is common for several helicopters to orbit a news scene simultaneously, increasing the potential collision hazard. While there are no specific regulations for ENG operations, voluntary safety standards and guidelines are recommended by both the FAA and industry operators.

6.1 ENG Aviation Safety Resources. ENG operations have a unique mission. Their contributions to reporting are important, providing a vantage point for events not otherwise available to the public. ENG Aircraft operate in a challenging environment with risks that can be mitigated with an emphasis on safety culture, quality training, experience, and communication. Since 1984, the National Broadcast Pilot's Association, now also known as the National E-N-G Helicopter Association (NEHA) for airborne ENG professionals, has promoted safety guidelines for ENG operators and encouraged better communication among ENG operators as well as between operators and local entities. Additionally, the HAI has an ENG committee dedicated to the enhancement of ENG aviation safety. Both of these organizations have useful ENG safety information available on their Web sites. The HAI ENG Committee developed the E-N-G Aviation Safety Manual, published in 2009, outlining safety management guidelines for ENG

operators, which is available for download at no cost through the Web sites of both organizations. The FAA recommends that all ENG operators utilize these publicly available resources as well as the guidance outlined in this AC.

7 FEDERAL REGULATORY REQUIREMENTS.

7.1 Title 14 CFR. Title 14 CFR now contains what were previously known as federal aviation regulations (FAR). This paragraph describes the 14 CFR parts that are of interest to ENG operators. Current regulations, ACs, and other documents may be downloaded from the FAA's Web site at http://www.faa.gov/. Since the Federal regulations and other publications may be amended at any time, ENG operators should keep up with changes to comply with current requirements.

7.1.1 Commercial Operations. Under 14 CFR part 119, § 119.1(e)(4)(iii), aerial photography or survey flights can be conducted as a commercial operation under 14 CFR part 91 provided the operation does not take on a dual purpose.

7.1.2 General Operating and Flight Rules. ENG pilots must comply with all applicable sections of part 91. Select key requirements of part 91 that ENG pilots and operators need to remember include the following:

7.1.2.1 Part 91, § 91.3 states the pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft. Within the safety culture of an ENG organization this should be part of system safety basic tenets to ensure undue pressure is not placed on the pilot to fly when the decision is made to not fly.

7.1.2.2 Section 91.103 provides preflight duty requirements. ENG pilots must be very familiar with hover out of ground effect (OGE) capabilities for the environmental and loading conditions for the flight as part of the regulatory requirement to become familiar with all available information concerning that flight.

7.1.2.3 In accordance with § 91.111, no one may operate an aircraft so close to another aircraft that it creates a collision hazard. Under § 91.113 aircraft operators are required to maintain vigilance to "see and avoid" other aircraft. Pilots of any aircraft should always remember that the safety of the aircraft, crew, and passengers is their primary responsibility. ENG pilots should enlist the aid and assistance of all persons aboard to help find and track other aircraft in close proximity to avoid collisions.

7.1.2.4 Applicable sections pertaining to the rules regarding TFR pilots must be aware of, as further discussed below in paragraph 13 of this AC.

7.1.2.5 Section 91.151 requires there to be enough fuel, considering wind and weather conditions, to fly to the first point of intended landing plus 20 minutes reserve fuel. This requirement to operate in visual flight rules (VFR) conditions assumes normal cruising speed. Due to the nature of operations, ENG pilots should also include hover time in their calculations.

7.1.2.6 Basic VFR weather minimums are outlined in § 91.155. Special VFR weather minimums are outlined in § 91.157. ENG operations routinely involve aircraft flying in close proximity to each other, therefore pilots should adhere to weather minimums required by their operators or recommended by HAI and the FAA. Preplanned weather minimums should consider airspace, terrain, and hazards.

7.1.2.7 Section 91.205 requires approved flotation gear on board for each flight if the aircraft is operated over water and beyond power-off gliding distance from the shore. This gear must be readily available to each occupant. In addition at least one pyrotechnic signaling device must always be kept on board the aircraft.

7.1.2.8 ENG pilots must also comply with applicable sections of 14 CFR part 93 when operating in certain areas unless otherwise authorized by air traffic control (ATC).

8 RECOMMENDED SAFETY EQUIPMENT. In addition to safety recommendations by the FAA and HAI that aircraft have dual very high frequency (VHF) radios, instrumentation to support recovery from inadvertent instrument meteorological conditions (IIMC), weather avoidance system, altitude hold monitoring and alerting equipment, flight data and cockpit recording systems (such as those noted in 14 CFR part 135, § 135.607), satellite tracking systems, and (Helicopter) Terrain Awareness and Warning System/ground proximity warning systems ((H)TAWS/GPWS), the following equipment is specifically recommended for helicopters conducting ENG operations:

8.1 High-Visibility Rotor Blades. The FAA recommends that helicopters used in ENG flight operations be equipped with main and tail rotor blades that have high-visibility blade paint schemes. Most helicopter manufacturers offer these blades as optional equipment. For existing aircraft modification, a Supplemental Type Certificate (STC) can be obtained for installation of new high-visibility blades. High-visibility paint schemes include the use of alternating stripes of color variations such as white and orange. Refer to paint schemes and color variations specified by manufacturers in Service Bulletins (SB) or other manufacturer published documents. While black and white have been recommended in the past for use in high-visibility paint schemes, some manufacturers do not authorize the use of black on upper surfaces of fiberglass blades. Refer to manufacturer recommendations.

8.2 High-Visibility Anticollision Lighting. Current Federal regulations require aircraft be equipped with an operable anticollision lighting system. In accordance with AC 90-48, the FAA recommends that aircraft used in ENG flight operations also be equipped with

high-visibility anticollision lighting, including white strobe lights visible from all directions and pulse light system for the aircraft landing lights. If supplementary strobe lighting is installed in addition to the required anticollision lighting system, the FAA recommends its use during the day, especially in high volume traffic areas.

8.3 Traffic Advisory Systems (TAS). All TAS systems are transponder based. These systems actively monitor the airspace surrounding the aircraft and detect intruder aircraft based on performance guidelines for TAS. TAS is a lightweight cost-effective derivative of a Traffic Alert and Collision Avoidance System (TCAS) to provide "real-time" collision alerts. Detection is determined by algorithms to calculate relative altitude, distance, and bearing of the intruder aircraft to alert the pilot where to look for nearby aircraft. Please note that in areas where multiple ENG aircraft operate in close proximity, TAS effectiveness may be compromised by a large number of TAS targets in a small area. Rapidly repetitive TAS alerts from multiple directions and altitudes can increase difficulty in identifying actual collision threats.

8.4 ADS-B. ADS-B enables properly equipped aircraft to broadcast their identification, position, altitude, and velocity to other aircraft and to ATC. This is known as ADS-B OUT. The receipt by an aircraft or vehicle of ADS-B data is known as ADS-B IN. On January 1, 2020, when operating in the airspace designated in § 91.225, aircraft must be equipped with ADS-B OUT avionics that meet the performance requirements of § 91.227. All aircraft operating within Class A, B, and C airspace, and some portions of Class E airspace, and around those airports identified in part 91 appendix D, will be required to meet the prescribed performance standards for positional integrity and other criteria associated with ADS-B avionics. If an operator chooses to voluntarily equip an aircraft with ADS-B IN avionics, a compatible display in the cockpit is also necessary to see the information. ADS-B IN broadcast services do not require subscription or usage fees. If choosing to equip with ADS-B IN, ADS-B traffic, weather, and aeronautical information services are available free of charge. Refer to AC 20-172 for information on ADS-B IN installation and certification. Refer to AC 90-114 for further information on operations with ADS-B.

9 PILOT QUALIFICATIONS AND TRAINING. Pilots engaged in ENG operations must be capable of handling multiple tasks and prioritizing those tasks when necessary to ensure the see-and-avoid function is preserved as the primary responsibility. The ENG pilot's multiple responsibilities are challenging, but with proper training and sufficient experience, he or she can perform them safely. The FAA strongly recommends that ENG operators, whether news stations or contractors, have established and implemented training programs specific to ENG operations because of the unique challenges flying in the ENG environment. ENG pilots should clearly understand operational control and their rights and responsibilities, the aircraft they fly, and the local areas in which they fly. Minimum pilot qualifications, as recommended by the HAI ENG Committee E-N-G Aviation Safety Manual, provide a solid foundation for safe flight in complex ENG operations.

9.1 Comprehensive Training. Comprehensive training includes, but is not limited to:

- Safety Risk Management (SRM) basic tenets regarding the pilot's right to decline a flight request;
- Safety Management Systems (SMS);
- Aeronautical decision-making (ADM);
- Crew Resource Management (CRM);
- Operational training in the environment for which the pilot will be operating;
- Aircraft-specific ground and flight training with an emphasis on performance, fuel management, loss of tail rotor effectiveness (LTE), critical wind azimuths, settling with power, and advanced maneuvers such as zero-airspeed autorotations;
- Visual scanning techniques with ENG-specific equipment training; and
- Broadcast-specific training by the respective broadcast station if engaging in reporting tasks.

9.2 Recurrent Training. It is recommended that current pilots receive annual recurrent training with an emphasis on SRM, ADM, SMS, techniques for avoidance of flight into reduced visibility, IIMC recovery techniques, performance planning, fuel management, and local flight environment issues in addition to aircraft-specific recurrent training on normal and emergency procedures. A review of the height-velocity curve and Rotorcraft Flight Manual (RFM) specific to the aircraft should be included, as well as aircraft-specific training in zero-airspeed autorotations due to the extended length of time and frequency that ENG pilots spend in hovering flight, typically in a single-engine aircraft.

10 VISUAL SCANNING. Pilots new to the ENG flight environment must be vigilant of the increased risks of becoming distracted and fixated.

1. Pilots experienced in ENG operations must be aware of the pitfalls of complacency. Midair collisions most often occur during the day in VFR weather conditions. An inexperienced ENG pilot without sufficient training or mentoring may become distracted by internal monitors or become fixated on positioning the aircraft above a news scene so that the photographer can get a good shot. As a result he or she may not pay sufficient attention to the see-and-avoid function of aviating. Effective visual scanning techniques and discipline in prioritizing aircraft control and collision avoidance must be primary, regardless of any broadcasting needs, for new and experienced pilots alike. This includes disengaging from ENG duties as required to maintain safety first.
2. ENG pilots should maintain a scan of the visual field with a series of short, regularly spaced eye movements that bring successive areas of the sky into the central visual field. ENG pilots should use caution to look for anything that could be a collision hazard, including other ENG aircraft, transient aircraft,

Unmanned Arial Vehicles (UAV), towers, wires, and birds. Established training programs should include instruction and review on visual scanning techniques such as observing each area of the sky for at least one second and avoiding fixation on the scene.

10.1 Ambient Lighting. Flight discipline is imperative when working with internal monitors and equipment inside the aircraft as these can draw a pilot's attention away from the external operating environment at times when attention should remain outside the aircraft. New ENG pilots should receive instruction on how to deal with distracting internal monitors. When transitioning visual focus between the cockpit and distant points, pilots should be aware that it may take several seconds to refocus. A helpful technique to consider is to gradually shift focus via intermediate points such as the rotor tip path or skid toes before returning to the instrument panel. In unfavorable conditions such as haze and smog, effective scanning also helps avoid empty field myopia, when the eyes tend to relax to a comfortable focal distance (10 to 30 feet) due to a lack of discernible distant focal objects. Empty field myopia is a dangerous condition of looking without seeing, especially in the multi-aircraft ENG operational environment.

11 COMMUNICATION. Good communication begins well before the aircraft even leaves the ground. All personnel involved in the ENG operations, including crewmembers and news producers, should be knowledgeable in established communications policies and procedures. Communications with the broadcast station should be secondary to pilot communications with ATC and other aircraft. Broadcast station ground personnel must readily accept the pilot's request to standby during other priority communications with ATC or other aircraft. Safety is paramount above any news story. Pilots and personnel onboard should adhere to sterile cockpit procedures during critical phases of flight to include takeoff, landing, and operating in the vicinity of other aircraft. This does not preclude onboard personnel from communicating locations of other aircraft or important scene information to the pilot when necessary. Sterile cockpit procedures are meant to ensure minimal distractions by eliminating extraneous conversation unrelated to the flight in progress. Helpful guidelines and best practices on effective communication while en route and on scene covering a news event are outlined below.

11.1 Planning. In multiple aircraft operations, it is especially important to maintain communication between all aircraft in close proximity to each other, as well as emergency response aircraft involved at the scenes. Coordination and planning meetings with other media aircraft operators, air ambulance operators, public aircraft operators, and ATC representatives should occur regularly (at least annually) to review local procedures, airspace issues, best practices, and precautions. The FAA encourages more frequent ENG community meetings, especially in markets with higher flight volume and more complex operating environments. Local procedures should include specification of vertical and horizontal separation between aircraft, common radio frequencies and appropriate callouts, circumstances for hovering versus orbiting, and special procedures for moving scenes. Communication planning with news managers and station personnel should be completed on the ground prior to departure whenever possible. Specific guidelines for scene communications are outlined below.

11.2 Safety Briefing. A thorough safety briefing is an important part of an effective communications program. In addition to safety procedures and items required by regulations, the pilot should ensure that all on board understand their role in the see-and-avoid function and collision avoidance.

12 SCENE PROCEDURES. Aircraft in the ENG environment often operate in relatively close proximity to each other due to the nature of the operations, requiring additional vigilance for collision avoidance. When multiple agencies are operating aircraft at a scene, coordination is imperative between ENG aircraft and those agencies. Local procedures and any unique requirements specific to the area should be discussed among operators, agencies, and ATC. Discussion of local procedures should include:

- Vertical and horizontal aircraft separation minimums,
- Communication frequencies and appropriate/expected callouts,
- Circumstances conducive to hovering and orbiting,
- Loss of contact procedures, and
- Special precautions and procedures for aerial coverage of moving scenes.

12.1 Aircraft Separation.

12.1.1 Aircraft Separation Minimums. While aircraft separation minimums are best established during local coordination meetings, due diligence should be applied in ensuring the requirements of §§ 91.111 and 91.113 are met while also allowing adequate separation for necessary maneuvering in the event of an inflight emergency. In accordance with § 91.111, no one may operate an aircraft so close to another aircraft that it creates a collision hazard. Under § 91.113, aircraft operators are required to maintain vigilance to "see and avoid" other aircraft. ENG aircraft are responsible for remaining clear of emergency response aircraft which will be at a lower altitude to support personnel on the ground. ENG aircraft should be above law enforcement aircraft by at least 500 feet.

12.1.2 Aircraft Separation Determination. When an ENG pilot is the first media aircraft to arrive at a scene, that pilot should determine whether to hover or initiate an orbit. Subsequent arriving ENG aircraft should join the flight profile established by the first arriving aircraft, maintaining the orbit or a hover position in coordination with the other aircraft. All participating aircraft should adhere to established operating procedures for safely sharing the airspace around an event.

12.2 Effective Communications. Workload associated with the see-and-avoid function can be reduced, and aircraft separation minimums maintained, by coordinating between aircraft at a scene with positive communication. Effective communication guidelines include:

1. Use 123.025 megahertz (MHz) for all air-to-air communications, unless local published procedures specify otherwise.
2. Communicate all position information immediately when requested by other aircraft or ATC, without regard for competitive considerations.

3. Configure radio volumes for optimal communication prioritization, isolating to one frequency as necessary for safety.
4. Exercise sterile cockpit procedures during critical flight especially when operating near other aircraft.
5. En route to a scene, make an initial radio call prior to 2 nautical miles (NM) out. State present position, distance, direction approaching from, and altitude.
6. Do not enter a scene unless positive communication exists and visual contact is made with all other participating aircraft.
7. Announce arrival on scene, position, altitude, and whether joining an established orbit or hover.
8. Announce any changes in flight path/position.
9. Advise emergency response aircraft on the ground of the number and location(s) of all ENG aircraft overhead.
10. Announce any time visual contact with other participating ENG aircraft is lost.
11. Announce intention to depart from scene and when departing, stating heading and altitude.
12. Maintain departing heading until ½ NM outside of scene area unless ATC requirements, airspace requirements, or local procedures dictate otherwise.

12.3 Lost Contact Procedures. In accordance with the HAI E-N-G Aviation Safety Manual, if multiple aircraft are orbiting a scene and an ENG pilot loses visual or communication contact with other participating aircraft, the pilot should execute a 90-degree turn away from the scene to exit the orbit. If multiple aircraft are hovering at the scene location and an ENG pilot loses visual or communication contact with other participating aircraft, the pilot should, if possible, make a level 360-degree pedal turn in the hover to visually clear the area before exiting in a direction away from the scene. When exiting from an orbit or a hover, the pilot should announce position, departure heading and altitude and use caution to avoid the flight paths of other aircraft. As a general guide, departure heading should be maintained until ½ NM away from the orbit or hover area to ensure adequate separation from participating aircraft. Once positive contact with other scene aircraft is attained, the aircraft can coordinate safely returning to the scene orbit or hover. These best practices for exiting an orbit or hover at a scene location should also be exercised anytime a pilot leaves a scene location.

12.4 Moving Scenes. ENG pilots participating in aerial coverage of moving scenes should adhere to special procedures which should be determined in advance through the regular local meetings described above. Additional precautions are necessary due to the dynamics of a rapidly changing scene in motion. The need for ample separation and clear communication between public aircraft operations and ENG aircraft is imperative throughout the event. Best practices during moving scene coverage include:

1. Remain clear of emergency response aircraft at all times.
2. Maintain communication with all media and emergency response aircraft.
3. Remain alert for hand-offs from one law enforcement air unit to another when events cross jurisdictional boundaries.
4. Climb up in altitude and away from a concluding event to provide law enforcement airborne units adequate space for directing ground unit movements and containment activities as needed.

13 ADDITIONAL GUIDELINES FOR PILOT-REPORTERS.

13.1 Reporting Responsibilities. Each ENG operation is unique and while there are benefits to having the pilot also conduct reporter duties on the air, there are also hazards. Safety can be compromised if a pilot has too many duties or an inability to effectively manage them. The pilot holds primary responsibility for avoiding collisions with other aircraft and obstacles. Aviation tasks are critical to flight safety, and thorough completion of these tasks can be compromised when pilot attention is diverted to non-aviation tasks. An accident or mid-air collision can result. Because of this, the FAA strongly recommends that ENG operators assign reporting responsibilities to someone other than the flying pilot unless it can be determined that the pilot's workload would remain manageable under all conditions.

13.2 Pilot-Reporter Operational Safety Guidelines. When an operator and station identifies a need for a pilot to also manage reporting duties, the pilot should have additional training and experience in determining whether it is safe to report and whether to stop reporting or reposition when safety is compromised. A trained observer should be aboard as well. SRM and the use of a risk assessment tool can aid in identifying hazardous conditions and mitigations to improve operational safety of the pilot-reporter. The FAA also recommends higher pilot qualifications for an ENG pilot-reporter based on industry guidance, as well as broadcast-specific training on reporting from the helicopter. The following guidelines should be considered and should identify circumstances when reporting should not be done by the pilot:

- Broadcast station requests for live reports should be declined when ATC communication needs and safe aircraft operations preclude the pilot from safely reporting.
- Broadcast station managers should have a clear written policy in place that acknowledges the pilot's authority and judgment in determining when it is safe to narrate a report, and pledges to refrain from pressuring and questioning that authority.
- Compensation should not be based on number of narrated reports done during a flight.
- Talent lights should not be installed or used in the cockpit.
- Talent cameras should not be used during flight by the flying pilot unless there is a co-pilot or trained observer in the co-pilot seat.

- Report narrations by a pilot-reporter during flight should be limited to a maximum duration of 45 seconds or less.
- Observers, photographers, or reporters in the aircraft should inform the pilot of scene details and surface movements whenever possible, without interfering with ATC or air-to-air communications.
- A pilot-reporter should move outward and/or upward from the scene for narrating a report and then rejoin the established flight pattern after reporting duties conclude.

14 SPECIAL EVENTS AND TFR. Additional consideration is needed for special circumstances such as wildfire scenes, law enforcement tactical operations, disaster scenes and other major incidents, and natural disasters. A TFR is a regulatory action that temporarily restricts certain aircraft from operating within a defined area. Pilots must obtain the NOTAM issued by the FAA that establishes a TFR and understand what is and isn't allowed within the restricted airspace. ENG operators and media stations should work with other agencies and operators in the area to obtain letters of agreement (LOA) when appropriate for further standardized procedures of aircraft participating in aerial news coverage of events.

14.1 Wildland Incidents. All wildland incidents, such as wildfire scenes, will have a Fire Traffic Area (FTA) with specific communication procedures in surrounding airspace. The FTA at a wildfire scene is not a TFR. The FTA is a communication protocol. Detailed FTA information can be found at http://www.airspacecoordination.net and a printable FTA procedures card can be found at http://gacc.nifc.gov/sacc/logistics/aircraft/PMS505_FTA-Card-2013_FINAL-2up.pdf.

Note: Pilots should assume there will be a TFR and seek coordination prior to arriving on any scene, regardless of whether a TFR was in effect at the time of departure.

14.2 Disaster Relief. When a TFR is established under § 91.137(a)(2) to provide a safe environment for the operation of disaster relief aircraft, aircraft carrying properly accredited news representatives may enter the area in accordance with § 91.137(c)(5) if prior to entry a flight plan is filed with the appropriate Flight Service Station (FSS) or ATC facility specified in the NOTAM and the operation is conducted above the altitude used by disaster relief aircraft. ENG aircraft should initiate radio contact at least 12 NMs from the incident and remain above the highest incident aircraft or at an altitude and position assigned by the controlling aircraft. As stated in the U.S. Department of the Interior Bureau of Land Management's (IASG) Interagency Aerial Supervision Guide, "News media often make requests for flights through the Agency or Incident Information Officer. Media aircraft should be informed of incident radio frequencies, who to contact before entering the incident airspace and be given an incident airspace briefing by the aerial supervisor."

14.3 Unsafe Congestion. When a TFR is established under § 91.137(a)(3) to prevent an unsafe congestion of aircraft above an incident or event generating high public interest, aircraft carrying properly accredited news representatives may enter the area in accordance with § 91.137(d)(4) if, prior to entry, a flight plan is filed with the appropriate FSS or ATC facility specified in the NOTAM.

14.4 Special Circumstances. Additional special circumstances may also warrant the issuance of a NOTAM establishing a TFR in the State of Hawaii under § 91.138 for humanitarian reasons within a declared national disaster area; in the vicinity of Presidential or other parties under § 91.141; in the proximity of space flight operations designated under § 91.143; and in the vicinity of an aerial demonstration or major sporting event such as those listed in § 91.145. Various factors are considered when deciding whether a TFR is necessary. Pilots should obtain a thorough preflight briefing prior to any flight in the National Airspace System (NAS).

14.5 Sensitive Emergency Incidents. If arriving on a scene before responding incident aircraft, ENG pilots must be vigilant for the arrival of incident aircraft and other ENG aircraft arrival as well. Position and altitude should be regularly announced on the assigned incident frequency and the common air-to-air frequency for that area. If a TFR is not established for a sensitive emergency scene, the ENG pilot should maintain an adequate distance from the incident that will result in minimal noise, rotor downwash, and interference with emergency personnel to conduct operations safely.

14.6 Special Requirements. ENG pilots should also be cognizant of any special requirements to operate in a Special Flight Rules Area (SFRA) or an area designated in part 93. In some cases additional special awareness training such as that required by § 91.161 may be required. For further information on TFRs see AC 91-63.

15 ASSESSING RISK AND MANAGING SAFETY IN ENG OPERATIONS. Every flight has hazards and some level of risk associated with those hazards. Understanding the risks and cumulative effect of multiple hazards is important in establishing a review process and developing effective risk mitigation strategies. Regardless of the size of the operator, the FAA recommends all operators consider the implementation of risk management and a SMS. Tools and guidance for establishing an SMS are available through the joint industry-FAA initiative of the IHST at http://www.ihst.org where links to Safety Tools and SMS Toolkits can be found. An effective SMS scaled to the operator’s needs is simply an operational tool for management to address safety issues before an accident happens. Effective SRM, one component of an SMS, in any organization involves risk assessment. Several risk assessment models are available for assistance in determining risk before departing on a flight. These models all share commonality in assessing risk objectively.

15.1 Risk Matrix. For pilots, one of the most basic risk assessment tools is the risk matrix. With adequate training and experience pilots can learn to recognize hazards quickly and assess the associated risks. In the changing and often complex environment of ENG operations, it is imperative that ENG pilots understand the risks involved for each flight in advance and as an event such as a moving scene develops. After determining the level of risk, the pilot can then mitigate the risk.

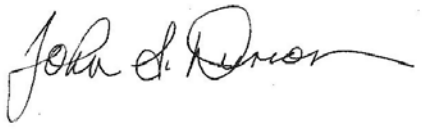
15.2 Preflight Risk Analysis. Each operator conducting ENG operations should establish and document a preflight risk analysis that includes at least the following:

1. Flight considerations, to include obstacles and terrain along the planned route of flight; landing zone conditions, if applicable; and fuel requirements.
2. Human factors, such as fatigue, life events, and other stressors.
3. Weather, including departure, en route, destination, and forecasted.
4. Pilot workload associated with ENG flight profile.
5. Strategies and procedures for mitigating identified risks. These include procedures for obtaining approval of operator's management personnel to release a flight when a risk exceeds a level predetermined by the operator and procedures for determining conditions under which workload will remain manageable, particularly during pilot-reporter ENG operations.

15.3 Further Information. More information on SMS can be obtained from the FAA Web site http://www.faa.gov, AC 120-92, and InFO 07015. Appendix A, Sample Risk Assessment Tools, provides ENG operators an example of how a risk assessment tool can be customized for use by ENG pilots.

Note: The risk assessment tool cannot guarantee a safe flight; safety is ultimately the responsibility of the pilot and operator. However, it does provide an additional tool to help in making sound safety decisions.

16 AC FEEDBACK FORM. For your convenience, the AC Feedback Form is the last page of this AC. Note any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this AC on the Feedback Form.



John S. Duncan
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APPENDIX A. SAMPLE RISK ASSESSMENT TOOLS

A.1 PURPOSE OF THIS APPENDIX. The samples below are provided to assist those organizations developing and implementing Safety Risk Management (SRM) or Safety Management System (SMS). They provide examples of potential risk factors for electronic news gathering (ENG) operators but should be customized based on the unique operational environment. The operator must determine the risks and the specific weighting of risks on a risk assessment form for its particular operation in making a go or no-go decision. The unique operational and environmental needs will drive the relative weight of each identified risk for each operation and/or location. The examples given are for reference only; the FAA does not endorse the use of one tool over another.

RISK ASSESSMENT MATRIX				
	Severity			
Likelihood	**Negligible**	**Marginal**	**Critical**	**Catastrophic**
Frequent	**Medium**	**Serious**	**High**	**High**
Probable	**Medium**	**Serious**	**High**	**High**
Occasional	**Low**	**Medium**	**Serious**	**High**
Remote	**Low**	**Medium**	**Medium**	**Serious**
Improbable	**Low**	**Medium**	**Medium**	**Medium**

Severity Scale Definitions	
Catastrophic	Results in fatalities and/or loss of the system.
Critical	Results in severe injury and/or major system damage.
Marginal	Results in minor injury and/or minor system damage.
Negligible	Results in less than minor injury and/or less than minor system damage.

Likelihood Scale Definitions		
Frequent	Individual	Likely to occur often.
	Fleet	Continuously experienced.
Probable	Individual	Will occur several times.
	Fleet	Will occur often.
Occasional	Individual	Likely to occur sometime.
	Fleet	Will occur several times.
Remote	Individual	Unlikely to occur, but possible.
	Fleet	Unlikely, but can reasonably be expected to occur.
Improbable	Individual	So unlikely, it can be assumed it will not occur.
	Fleet	Unlikely to occur, but possible.

SAMPLE RISK ASSESSMENT MATRIX: Day Operations

RISK ASSESSMENT MATRIX: DAY OPERATIONS				
Use this tool to assess the potential for links in the safety chain				
	Applicable Weather for Flight			
Apply Operational Factors	**WEATHER Well Above Minimums and Stable**	**CEILING Within 200' of Minimums**	**VISIBILITY Within 1 mi. of Minimums**	**CEILING & VIS Within 200' and 1 mi. of Minimums**
DAY Normal ops				
AIRCRAFT No high-intensity lighting VFR-only cockpit Nav/Radio MEL items				
SCENE/ENVIRONMENTAL Multi-ship ENG Moving scene TFR in effect				
DUTY/FATIGUE Late in shift? Pilot-Reporter?				

Risk Assessment Value:

	Normal Ops
	Caution
	Extreme Caution
	Critical Safety Decision Required

Note: This example is for reference only. Each operator should consider its own operational and environmental needs in developing its risk assessment tool(s) and plans. The operator will have to determine how to manage the identified risk by transferring, eliminating, accepting, or introducing a mitigating action. The operator may assign different values based on its operating environment.

SAMPLE RISK ASSESSMENT FORM

STATIC RISK FACTORS		SCORE
PILOT-"Without" Reporting Duties		
External Stresses (illness, fatigue, family/work issues or conflicts)	+1	
Less than 1500 Hours Total Time PIC	+3	
1501 – 2500 Hours Total Time PIC	+2	
> 2500 Hours Total Time PIC	+1	
PILOT-"With" Reporting Duties		
1000-2500 Hours Total Time PIC	+5	
Greater than 2500 Total Time PIC	+4	
< 350 Hours or 1 Year as PIC in ENG	+1	
Last Night Flight > 30 Days (night requests only)	+1	
Pilot New to Base Location	+1	
DUTY LIMITATIONS		
14 Hours Duty	+3	
10-14 Hours Duty	+2	
8-10 Hours Duty	+1	
AIRCRAFT EQUIPMENT		
No High-Intensity Anticollision Lighting (strobes, pulse lights) or Inoperative	+1	
No High-Visibility Main/Tail Rotor Blades	+1	
TAS or ADS-B Inoperative or Not Equipped	+2	
Cockpit Not Configured for Instrument Flight	+2	
Navigation or Radio Item Inoperative	+3	
Backup Aircraft	+1	
Total Static Score		
DYNAMIC RISK FACTORS		
WEATHER		
Ceiling within 200 ft of Company/Pilot Minimums	+1	
Visibility within 1 mi of Company/Pilot Minimums	+2	
Ceiling < 1000 ft and Visibility < 3 mi	+3	
Deteriorating Weather Trend	+3	
Ground Reference Low	+1	
SVFR Clearance Required	+4	
FLIGHT PROFILE		
Local (<25 nm)	+1	
Cross-Country (>25 nm)	+2	
Night Flight	+2	
Mountainous or Hostile Terrain	+2	
Landing at Alternate Airport/Improved LZ	+1	
Landing at Alternate Off-Airport/Unimproved LZ	+3	
SCENE ENVIRONMENT		
Single-Ship ENG	+1	
Multiple-Ship ENG	+3	
Moving Scene	+2	
TFR in Effect	+1	

CONTROL MEASURES		
Delay Flight	-2	
Decline Reporter Duties During Flight	-2	
Utilize Co-Pilot or Observer	-1	
Avoid Mountainous/Hostile Terrain	-1	
Area Familiarization Training (self-directed)	-1	
Intermediate Fuel Stop Planned	-1	
Total Dynamic Score		

Grand Total of Static and Dynamic Scores			
RISK CATEGORY	**COLOR CATEGORY**	**ACTION**	**TOTAL SCORE**
Normal	GREEN		0–10
Caution	YELLOW		11–14
Extreme Caution	ORANGE	Consult Supervisor, Consider Canceling Flight	15–19
Severe	RED	Cancel Flight	20 or Greater

Note: This example is for reference only. Each operator should consider its own operational and environmental needs in developing its risk assessment tool(s) and plans. The operator will have to determine how to manage the identified risk by transferring, eliminating, accepting, or introducing a mitigating action. The operator may assign different values based on its operating environment.

Advisory Circular Feedback Form

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by contacting General Aviation and Commercial Division (AFS-800) at 9-AFS-800-Correspondence@faa.gov or the Flight Standards Directives Management Officer.

Subject: AC 91-88, Electronic News Gathering Operations

Date: _____

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

_____

_____

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

_____

_____

☐ Other comments:

_____

_____

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____