



## VSG Aviation Safety, Safety Management System

### 1. Safety Policy

- a. Vision Services Group is committed to implementing and maintaining a *Safety Management System (VSG-SMS)* in accordance with the purpose and intent of the Federal Aviation Administration sponsored Aviation Safety, Safety Management System (AVSSMS). The implementation of this SMS reflects a commitment to safety not only because it is an aviation best practice and the most effective method of ensuring the endurance and safety of our equipment and personnel, but because it is an efficient method of optimizing the safety of the National Airspace System.
- b. As part of the VSG-SMS, a designated safety committee, which will be defined in this document, will regularly review company safety practices and identify methods for improving safety practices including, but not limited to, those recommendations made by the FAA and NTSB.
- c. The key process by which most safety related incidents could be avoided or mitigated is through a comprehensive risk management plan. This document outlines the safety risk management strategy employed by all employees of the company and any contractors or sub-contractors in executing the VSG-SMS.
- d. VSG, its employees, subsidiaries, contractors and sub-contractors shall, at all times, comply with all federal, state and local statutes and regulations applicable to company activities.
- e. It is the responsibility of all employees to report violations of this VSG-SMS or any other unsafe practices. Employees may report directly to their supervisor, the company safety representative or any member of the executive management team if they encounter a seemingly unsafe situation. These reports will be treated completely in a non-retribution manner and employees are assured that the reporting of unsafe conditions will under no circumstances be detrimental to their employment, career progression or relationship within the company. Whenever possible, the reporting employee should offer a suggestion to bring the unsafe situation into a state of compliance or make recommendations for better practices. Safety is everyone's responsibility.
- f. Acceptable employee behavior is outlined in the company policy document regarding employee dress and behavior and included in the employee handbook. VSG expects its employees to act in a professional manner at all times on the job to include refraining from behavior that may create an unsafe environment or



condition. While all risk cannot be removed from our operations, the unnecessary risk associated with certain unprofessional behavior is unacceptable and will not be tolerated.

- g.** In creating the VSG-SMS, all safety objectives should reflect the following guidance
  - i.** Ensure the safety of all human participants in flight activity to include operators, observers and bystanders.
  - ii.** Ensure the protection of real & personal property to the greatest degree possible.
  - iii.** Ensure the safety of aircraft and other associated equipment to the greatest degree reasonable.
  - iv.** The order of precedence for these objectives should be preservation of life, prevention of injury, protection of property and then protection of VSG equipment/aircraft.
- h.** All managers shall ensure their subordinates review the safety objectives once quarterly and/or when changes to safety policies or objectives are implemented. Executive management is responsible for the support of this VSG-SMS and will provide managers with the means to disseminate and review safety objectives with their team.
- i.** The company safety officer shall be appointed by and report to the Chief Executive Officer for all safety related duties. The safety officer is responsible for the execution and monitoring of the VSG-SMS but the executive management team is ultimately responsible for its success through their commitment and support. The safety officer's duties include:
  - i.** Executing the VSG-SMS
  - ii.** Leading the annual review of safety procedures and objectives
  - iii.** Receiving incident reports and conducting the ensuing investigations
  - iv.** Monitoring operations for VSG-SMS compliance
  - v.** Issuing warnings and letters of reprimand which become part of an employee's permanent record for safety violations
  - vi.** Making recommendations for safety procedure improvement



- vii. Reporting the overall condition of the VSG-SMS and company compliance
- j. The safety committee, which includes at a minimum the safety officer, Chief Operating Officer and Director of Training, shall review annually the statutory and regulatory applications to the VSG-SMS to ensure its compliance with all federal, state and local requirements. The committee shall use the resources at its disposal to include in-house research, company counsel, company flight insurance representatives and any relevant government documents, notices or websites to ensure compliance with up to date regulations.
- k. The safety committee shall maintain and the safety officer shall implement, procedures to measure the effectiveness of the VSG-SMS. These procedures will include statistics around quarterly reports of:
  - i. Number of safety incidents
  - ii. Incident investigation findings (human, environmental or mechanical error)
  - iii. Number and severity of safety violations, warning and reprimands
- l. All incidents or accidents must be reported to the safety officer following the incident reporting guidelines found in the employee handbook. Forms for all ground & air safety reports can be found on the company server. All incidents shall be investigated by the safety officer. Depending on the severity of the incident, the safety officer may choose involve the aircraft manufacturer, company maintenance or training director for diagnostic evaluation of the flight telemetry and aircraft/vehicle condition to aid in the investigation. Results of the investigation, if they lead to a new finding regarding best practices, may be incorporated into a technical advisory or service advisory distributed to, at a minimum, all company flight operations and maintenance personnel, but also may be distributed to the manufacturer for further dissemination. The safety officer, Chief Operating Officer or company counsel may use their discretion on whether wider dissemination is necessary.

### **Safety Risk Management**

- m. The Pilot in Command (PIC) shall complete a Pre-Flight Risk Management Worksheet prior to flight commencement at each operating location for the day.



- n. This worksheet endeavors to describe the environment in which flight operations will take place, identify hazards present and use this information to analyze the level of risk for any given flight.
- o. The worksheet gives clear instructions on when supervisors or more senior members of the operations team must give approval for flights based on the risk level. This is meant to mitigate the risk of a less experienced operator taking unnecessary risks.
- p. Although a PIC is forbidden to fly if a supervisor or other senior member of the operations team directs them not to fly because of safety concerns or other reasons, a PIC has the authority to choose NOT to fly, regardless of approval by supervisors or other senior members of the operations team, if the PIC feels that conditions are such that safe operation of the aircraft is impossible and that flight would endanger the safety of the crew, observers, other people or property or the VSG-owned equipment.
- q. The attached Pre-Flight Risk Management Worksheet uses figures based on the safe operating characteristics of the Bramor fixed-wing aircraft and the Octane multi-rotor aircraft. If using a different platform, this form should be modified according to the operating handbook of that platform and any applicable supplemental guidance from VSG.



Pre-Flight Risk Management Worksheet						
Date:	PIC:		Location:			
<b>CRM Risks</b>	3		2		1	
Crew Rest prior to duty	<6hrs		6-8hrs		>8hrs	
Crewmembers ill?	Yes				No	
PIC experience	<50hrs		51-100hrs		>100hrs	
Mission type	No notice		Routine		Training	
<i>CRM Sub-Total</i>						
<b>Environmental &amp; Terrain Risks</b>	3		2		1	
Visibility	<1sm		1-3sm		>3sm	
Clouds	OVCST		SCT		CLR	
Wind conditions	>7 m/s		4-7 m/s		<4 m/s	
Heat (leave blank in winter/fall)	>100F		90-99F		<90F	
Cold (leave blank in summer/spring)	<35F		35-44F		>45F	
Launch/Land area	<100yd		100-150yd		>150yd	
Obstacles within 0.5nm (height)	>400ft		150-399ft		<150ft	
Population Density	Urban		Suburban		Rural	
Topography	Mountain		Hilly		Flat	
<i>Environmental &amp; Terrain Sub-Total</i>						
<b>Risk Management Total</b>						

<p><b>If CRM sub-total is:</b>          &lt;8; proceed                      8+; requires supervisor approval</p> <p><b>If Environmental sub-total is:</b>          &lt;16; proceed                      16+; requires supervisor approval</p> <p><b>If Risk Management total is:</b>          &lt;24; proceed                      24-28; requires supervisor                      &gt;28 requires Dir, Flight Ops</p>
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This information is accurate to the best of my knowledge. \_\_\_\_\_

PIC Signature



## 2. Safety Assurance

- a. While safety is everyone's responsibility, the company safety officer is the primary point of contact for all safety related questions within the company. This officer is also responsible for continually monitoring the company's activities and ensuring compliance with safety policy. The company safety officer sits as a member of the safety committee as described in section 1.b. and 3.b. of this document. The safety officer shall submit a safety compliance report quarterly to the safety committee and the CEO.
- b. The VSG safety committee shall consist of no less than three (3) individuals to include the company safety officer, a Director or equivalent from the Operations division, and a member of the senior executive team (C-level). The safety committee shall be responsible for reviewing current company safety policy, the VSG-SMS, safety records and reports to determine if the company is operating under ideal safety practices. The committee will use current practices, industry standards and federal, state and local statutes/regulations to decide if changes or amendments to current practices need to be implemented. The committee shall meet twice annually to review the company safety policy and may be called to special session to address immediate safety concerns.
- c. It is the responsibility of all employees to report violations of this VSG-SMS or any other situation that appears unsafe. Employees may report directly to their supervisor, the company safety officer or any member of the executive management team if they encounter a seemingly unsafe situation. These reports will be treated completely in a non-retribution manner and employees are assured that the reporting of unsafe conditions will under no circumstances be detrimental to their employment, career progression or relationship within the company. Whenever possible, the reporting employee should offer a suggestion to bring the unsafe situation into a state of compliance or make recommendations for better practices. Safety is everyone's responsibility.
- d. All incidents or accidents must be reported immediately as outlined in the Operator Handbook.
  - i. The first priority is to assess injury to any people and take appropriate steps to treat the injury. The next priority is to assess damage to non-VSG property. The on-scene responder should then secure and document the accident site, notify the company safety officer and the flight operations supervisor.



- ii. Accident investigations may be carried out in the field, by analysis of flight telemetry, interviewing the witnesses or any combination of the above. It is crucial for the PIC to secure and evidence (including flight telemetry, pre-flight worksheets and any other documents) for proper investigation into the incident.
- iii. The intent of accident investigations is not to assess blame but rather to determine the contributing factors and make changes to policies and procedures, training or operations to mitigate the risk of these types of incidents occurring in the future.
- iv. The safety officer shall be responsible for completing a detailed incident report for any Class B or higher incident (refer to VSG Incident Classification System) and shall decide if immediate action is required to mitigate future risks. If immediate attention is required, a special meeting of the safety committee may be called. If not required, the report shall be included in the quarterly safety report.



### **3. Safety Promotion**

- a.** VSG, its officers, management and shareholders all deem safety to be a top priority for the business. Safety is important to the company and its managers not only because of the high value VSG places on its personnel’s safety and that of other people’s property, but also because safe operations lead to lower maintenance and repair costs, higher employee morale and more effective overall operations, as well as the safe integration of unmanned aircraft into the U.S. NAS. The commitment to safety by the senior executive management team is clear and actively supported at all times through clear and regular communication and training.
- b.** Company safety policy is communicated quarterly in a formal fashion, and regularly in an informal fashion, by the company safety officer as well as during required annual safety training. The annual safety training is a requirement for all employees, contractors and sub-contractors. New employees receive training on the company’s safety policies and procedures within 30 days of hire, regardless of position or capacity. Amendments to company safety policies are disseminated to all personnel immediately after publication.
- c.** The regular reports to the senior executive management team of safety statistics and issues reaffirms the company’s dedication to safe operations. The tracking of these statistics and their use in shaping safety policy is essential to VSG’s commitment to continued safety improvement.
- d.** The safety officer and other members of the safety committee (as detailed in 3.b.) shall be senior personnel in the company who have demonstrated the competency required to fulfill such an important role. The safety officer shall be a senior UAS operator with a minimum of 500 hours total flight time and a strong history of safe operations. This individual will be required to complete an accident investigation training course as well as demonstrate a thorough understanding of VSG-SMS and VSG safety policy and procedures.
- e.** The safety officer is responsible for making budget recommendations to the various operations directors for safety related issues. The company is committed to allocating appropriate resources to safety programs, training and equipment. This allocation of resources includes budgeting time off for “safety days” and additional continuing training to improve and reinforce personnel safety practices.





- f. The safe operation of unmanned systems is a great concern to VSG. The company is committed to cooperating with the FAA, other governmental entities and private industry to ensure that the safety best practices and lessons learned are shared and implemented whenever possible to foster a safer overall air environment and to build and maintain the reputation of unmanned aircraft systems and the aviators who operate them.

**This publication outlines the official VSG-SMS and is considered the source document for safety policy structure within Vision Services Group. In the event of any conflict between this document and FARs or CFRs, user should follow the FAR/CFR. Any questions or concerns related to this document or its contents should be addressed to the office of the Chief Executive Officer, Vision Services Group, LLC. –CAO: 06/01/2014**