Docket No. SA-530

Exhibit No. 8 - Q

NATIONAL TRANSPORTATION SAFETY BOARD

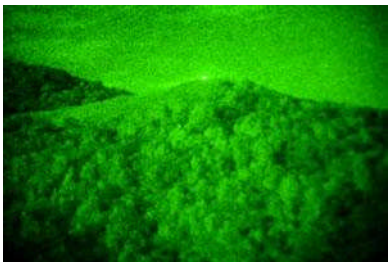
Washington, D.C.

Submission from National EMS Pilot Association (NEMSPA)

HEMS NVG Utilization Survey

(41 Pages)

Helicopter Emergency Medical Services (HEMS) NVG Utilization Survey



NEMSPA
National EMS Pilots Association

Survey designed and conducted by the National EMS Pilots Association
May 2008

Background

This report is a summary of the results of a survey conducted by the National EMS Pilots Association (NEMSPA) with the intent to help helicopter emergency medical services (HEMS) providers and the federal agencies that regulate them (primarily, the FAA) to formulate standards and policies for the use of night vision goggles in air medical transport.

As the migration of NVG technology from the military to the civilian aviation environment continues, there is increasing interest in the contribution that this technology will make to different kinds of civilian aviation services. In particular, HEMS services are using night vision goggles in increasing numbers to provide a significant improvement in safety and the ability to transport critically injured patients during periods of darkness and in areas that would otherwise be challenging and hazardous for night operations.

At the same time, there are concerns regarding how to best utilize NVG's in a way that does not introduce additional risk to night HEMS operations as a result of the limitations inherent in the design and characteristics of the current generation of NVG's. Many HEMS pilots and a number of FAA inspectors have little or no first-hand experience flying with NVG's, and are therefore cautious and skeptical about how to best deploy NVG's in the air medical transport industry.

Since there are a growing number of HEMS pilots who are gaining considerable experience flying patient transports with NVG's under varying degrees of darkness, the National EMS Pilots Association determined to conduct a survey to gather data regarding HEMS pilots' professional opinions on the efficacy and best deployment of this technology in helicopter air medical transport. Of particular concern to experienced NVG pilots are the current restrictions regarding an NVG-aided pilot's authorization to use the goggles to complete an approach to the ground using the goggles regardless of whether or not another crewmember is also using NVG's. The informed opinions of NVG qualified pilots across the United States are presented in the survey and are summarized in the conclusion of this report. The survey is presented on the following pages along with a statistical summary of the responses and some remarks regarding the significance of the survey responses. The survey gathered a total of 382 responses. All respondents were required to be currently active HEMS pilots, although it was not required that they currently be using night vision goggles in their respective air medical transport programs.

We express our sincere appreciation to each of the HEMS pilots who participated in the survey. We expect that your responses will assist EMS providers and federal regulators in implementing policies and regulations that will result in the safest and most effective deployment of night vision goggles in air medical transport.

The Survey

1) Certificate: ○ ATP ○ Commercial	2) Region in the United States where you currently fly: ○ Northeast ○ Southeast ○ Central ○ Northwest ○ Southwest ○ Outside of 48 contiguous states
3) Total flight time in helicopters: ○ Less than 2,000 hours ○ Between 2,000 hours and 5,000 hours ○ Between 5,000 and10,000 hours ○ Greater than 10,000 hours	4) Total flight time using night vision goggles ○ Less than 50 hours ○ Between 50 hours and 200 hours ○ More than 200 hours
5) Total flight time, as an EMS pilot, using night vision goggles ○ Less than 50 hours ○ Between 50 hours and 200 hours ○ More than 200 hours	6) Years of Experience as a HEMS Pilot: ○ Less than 2 years ○ Between 2 years and 5 years ○ Between 5 and 10 years ○ Between 10 and 15 years ○ Greater than 15 years
7) What percentage of your night flying is in well-lit urban areas, as opposed to poorly lit rural or mountainous areas? ○ 25% or less in well-lit areas ○ 25% - 50% in well-lit areas ○ 50% - 75% in well-lit areas ○ Greater than 75% in well-lit areas	8) As an EMS pilot I currently use night vision goggles for a significant portion of night operations. ○ Strongly Agree ○ Agree ○ Somewhat agree ○ Disagree ○ Strongly disagree (my program does not use NVGs)

For the following questions, an unimproved site is defined as a non-helipad with minimal or no lighting. 9) I prefer to utilize night vision goggles for night approaches and landings into an unimproved site. ○ Strongly Agree ○ Agree ○ Somewhat agree ○ Disagree ○ Strongly disagree ○ Not applicable	10) Utilizing a night vision goggle equipped and trained medical crewmember provides a significant safety advantage for a night approach and landing into an unimproved site. ○ Strongly Agree ○ Agree ○ Somewhat agree ○ Disagree ○ Strongly disagree ○ Not applicable
11) If an NVG equipped and trained medical crewmember were NOT available to assist with an approach and landing into an unimproved site, it would still be safer for the pilot to perform the approach and landing AIDED rather than UNAIDED. ○ Strongly Agree ○ Agree ○ Somewhat agree ○ Disagree ○ Strongly disagree ○ Not applicable	12) The use of night vision goggles has improved the safety of HEMS night operations. ○ Strongly Agree ○ Agree ○ Somewhat agree ○ Disagree ○ Strongly disagree ○ Not applicable

13) Please check any night vision systems that you fly with currently or have ever flown with in the past. Check all that apply.

☐ PVS-5 (Full face)

☐ PVS-5 (Cut-away)

☐ ANVIS-6: Currently using ○ Yes ○ No

Approx. ANVIS-6 hours: _____

☐ ANVIS-9: Currently using ○ Yes ○ No

Approx. ANVIS-9 hours: _____

☐ Other: _____

OPTIONAL: Your comments on the use of NVGs in air medical transport

Summary of Survey Data

The first 3 questions are essentially demographic and the data summary for them is just the raw numbers. The responses to the remaining questions will also include a graphical presentation of the responses.

Question 1

Certificate:

- ATP: 124
- Commercial: 256

Question 2

Region in the US where you currently fly:

- Northeast: 37
- Southeast: 88
- Central: 98
- Northwest: 60
- Southwest: 91
- Outside of the contiguous 48 states: 6

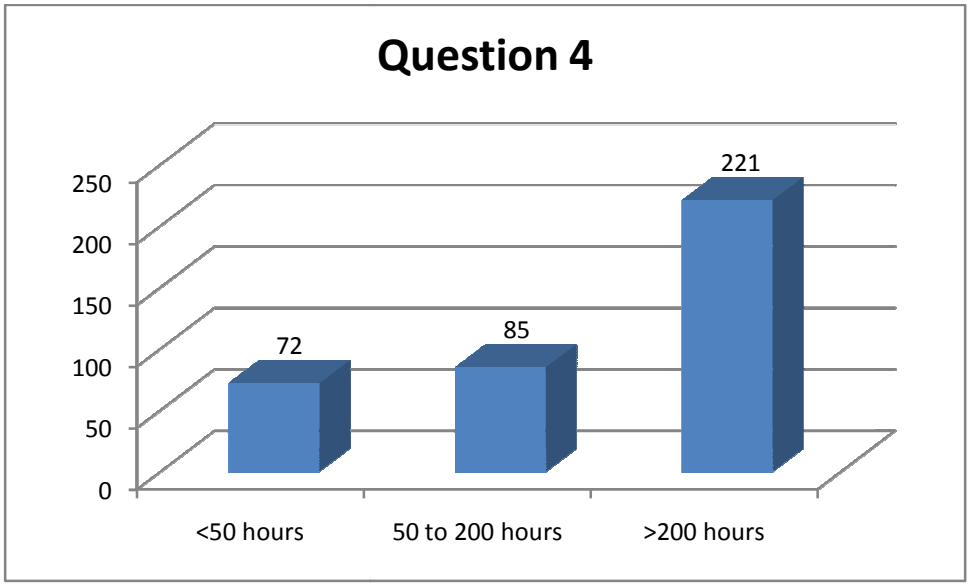
Question 3

Total flight time in helicopters:

- <2,000: 4
- 2,000 to 5,000: 177
- 5,000 to 10,000 162
- >10,000 37

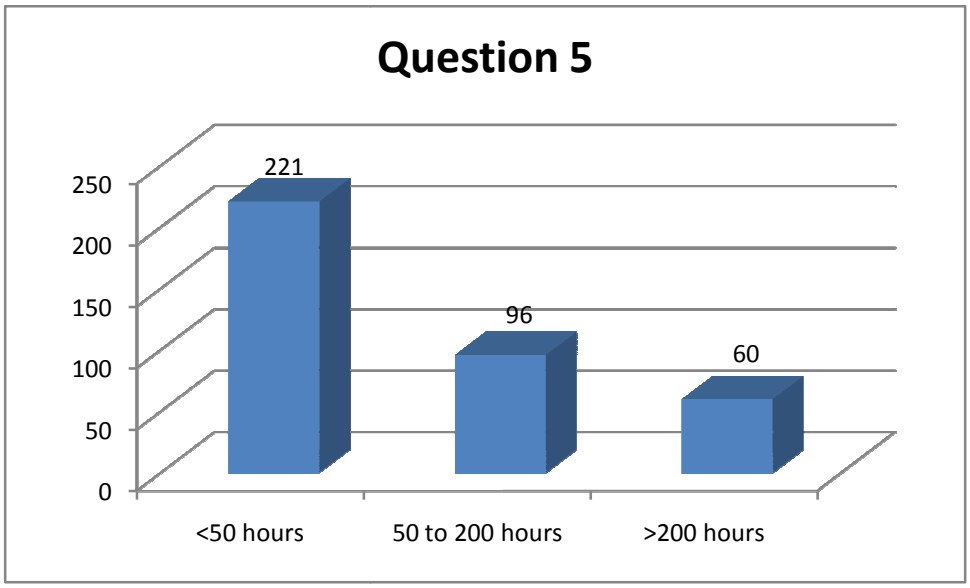
Question 4

Total flight time using NVG's:



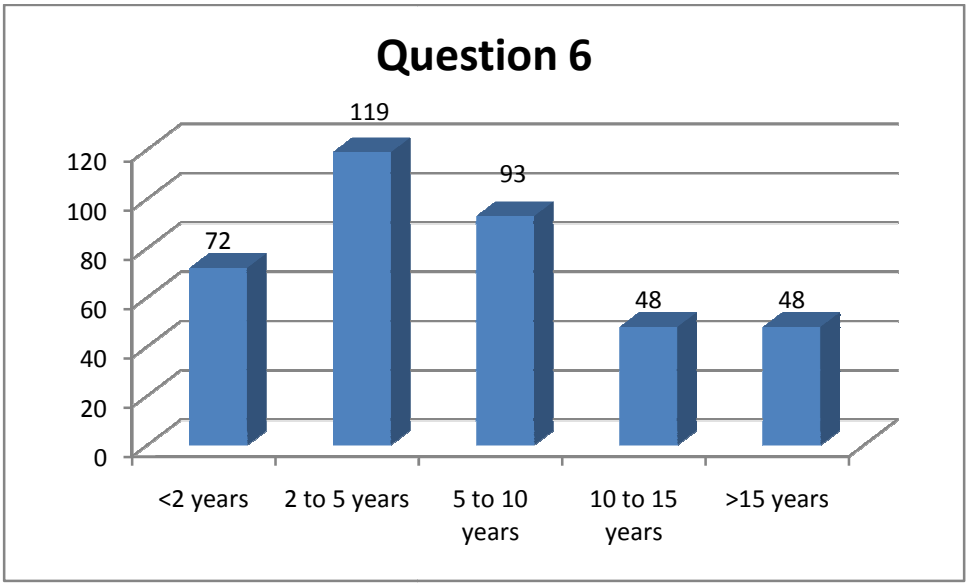
Question 5

Total flight time, as an EMS pilot, using NVG's:



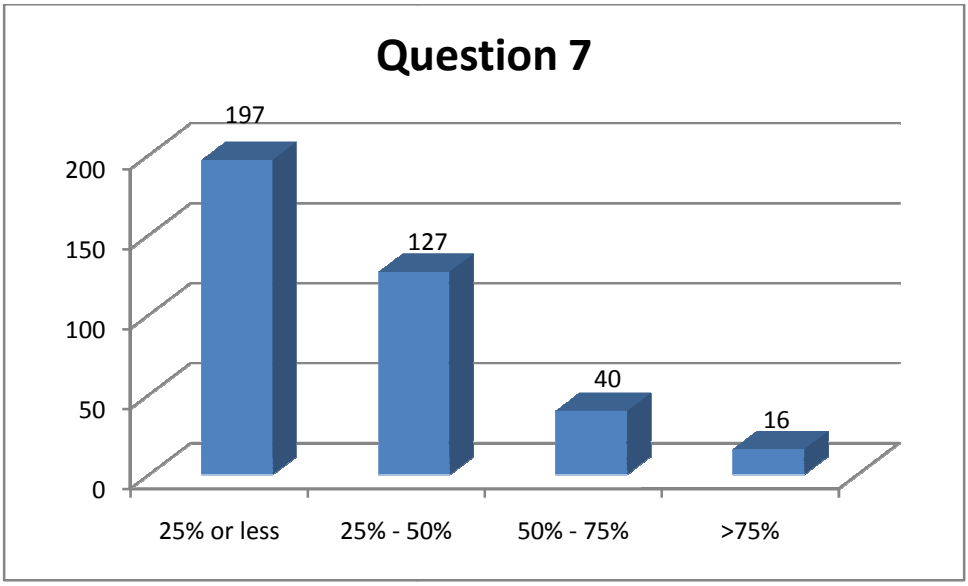
Question 6

Years of experience as a HEMS pilot:



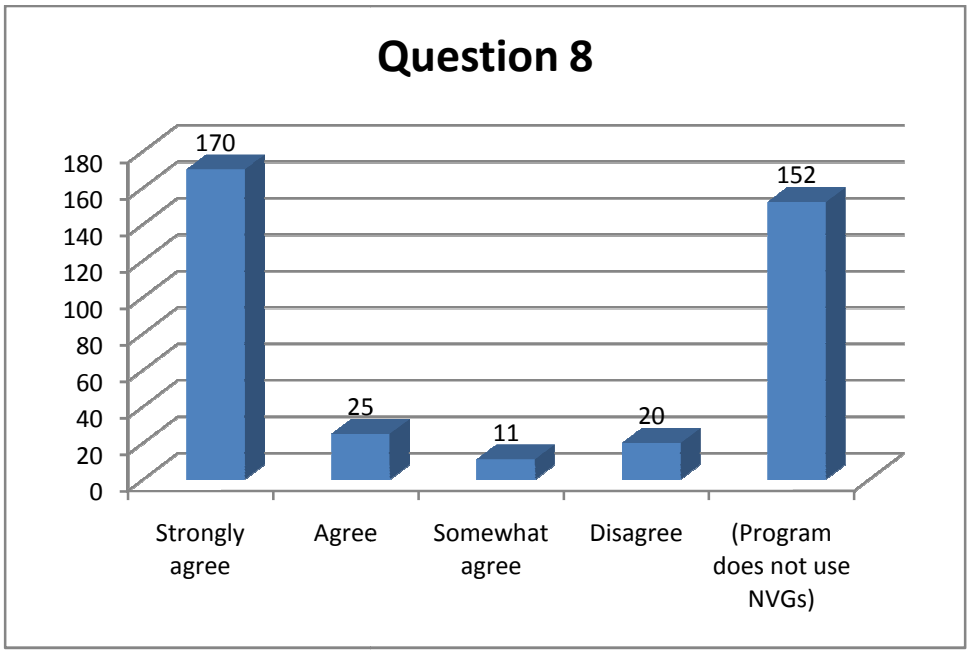
Question 7

What percentage of your night flying is in well-lit urban areas as opposed to poorly lit rural or mountainous areas?



Question 8

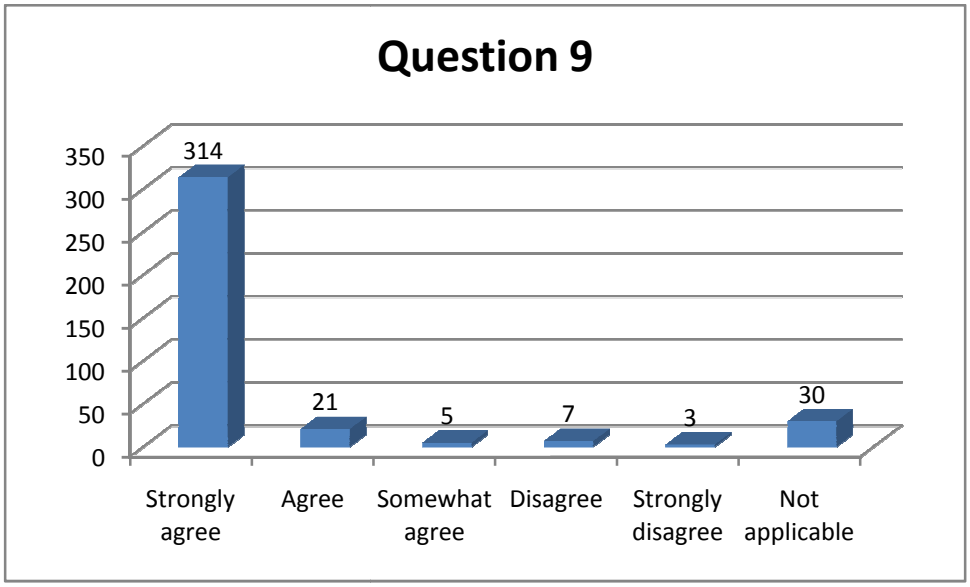
As an EMS pilot, I currently use night vision goggles for a significant portion of night operations.



For the following questions, an unimproved site is defined as a non-helipad with minimal or no lighting.

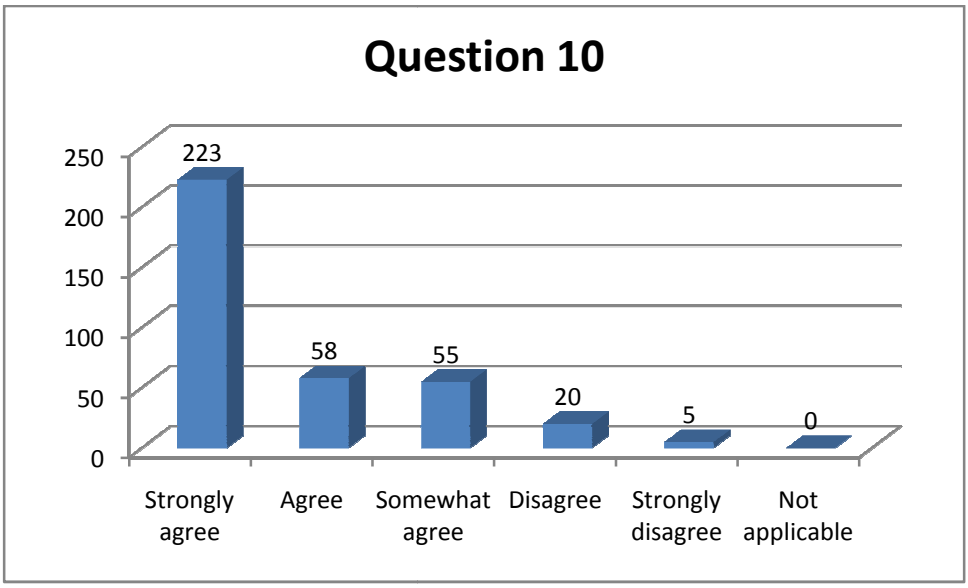
Question 9

I prefer to utilize NVG's for night approaches and landings into an unimproved site.



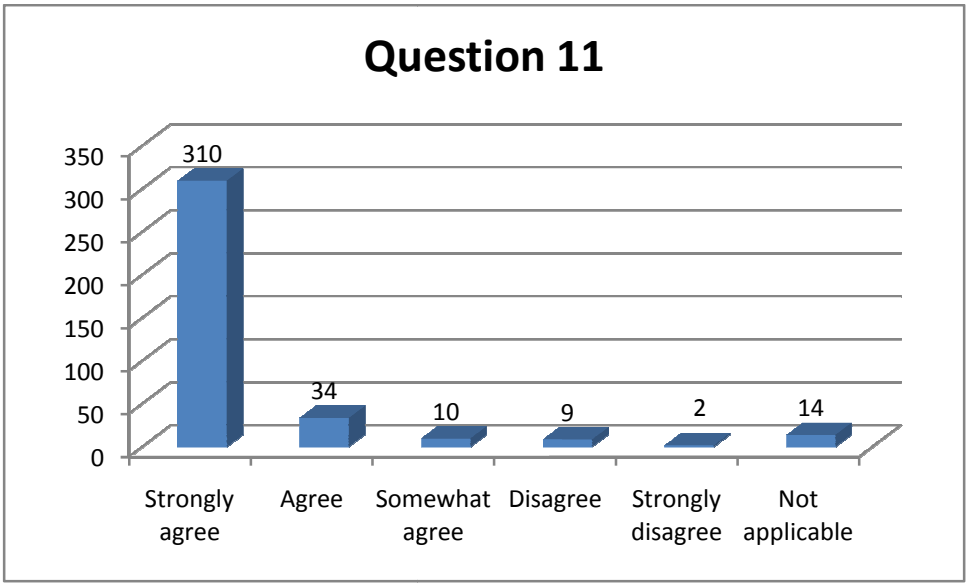
Question 10

Utilizing an NVG equipped and trained medical crewmember provides a significant safety advantage for a night approach and landing into an unimproved site.



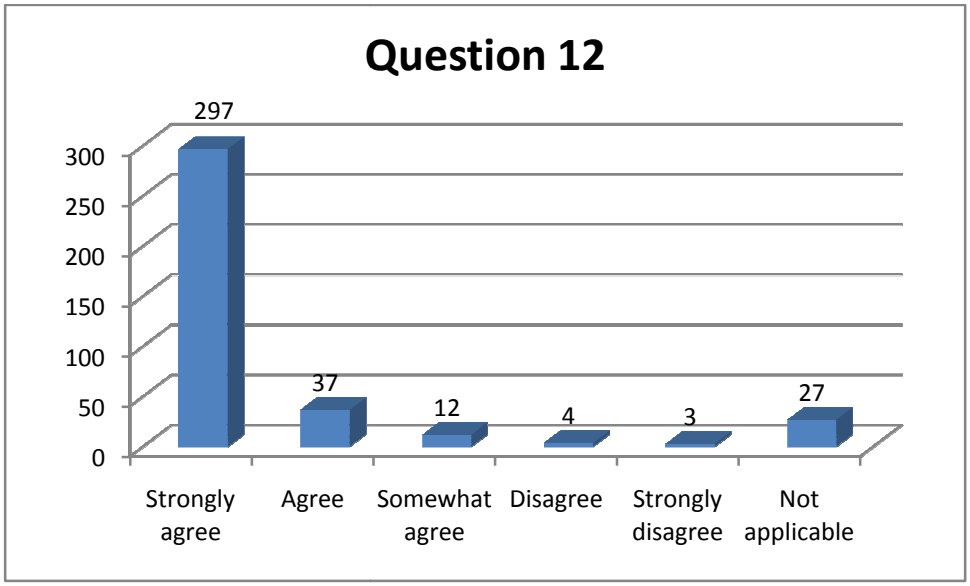
Question 11

If an NVG equipped and trained medical crewmember were NOT available to assist with an approach and landing into an unimproved site, it would still be safer for the pilot to perform the approach and landing AIDED rather than UNAIDED.



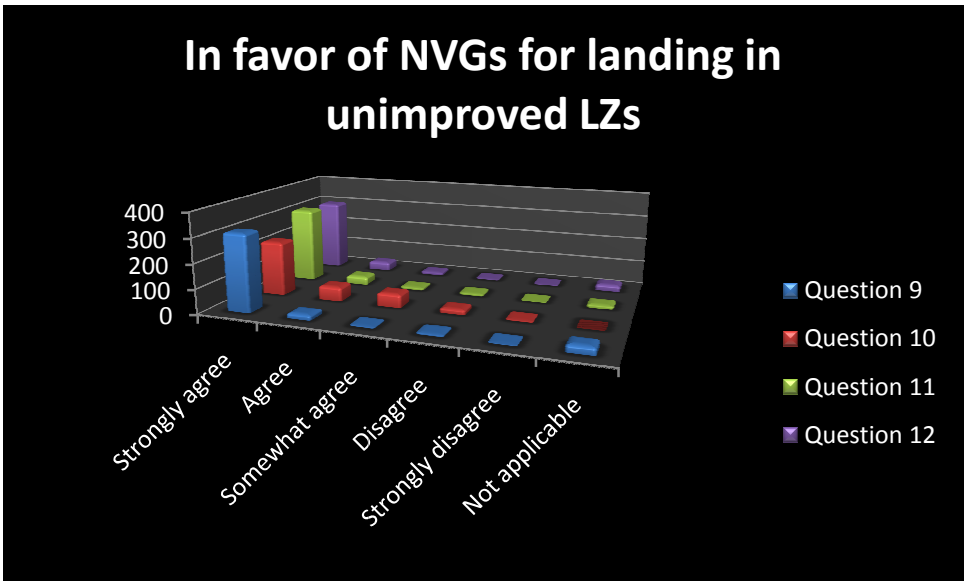
Question 12

The use of night vision goggles has improved the safety of HEMS night operations.



Question 9 – Question 12

Questions 9 through 12 were of particular interest since together they demonstrate the strong positive feelings of HEMS pilots with regard to the increase in safety of night operations afforded through the use of night vision goggles. For interest, the responses to those questions are shown below in a single graph.



Question 13

Have used PVS-5 (Full-face): 109

Have used PVS-5 (Cut-away): 186

(The two responses above are primarily an indication of how much grey hair there is in the cockpits of EMS helicopters)

Have used ANVIS-6:	204	Currently using ANVIS-6:	34	Average ANVIS-6 hours:	410
Have used ANVIS-9:	186	Currently using ANVIS-9:	186	Average ANVIS-9 hours:	154

Comments from survey respondents

Of the 382 surveys that were completed, 215 included comments regarding the use of NVG's in air medical transport operations. The comments were overwhelmingly in favor of the use of NVG's. Some were passionate in their insistence that it is safer for a pilot without an NVG equipped medical crewmember on board to perform the landing to an unimproved LZ aided rather than unaided. There has been no attempt to edit or censor any of the responses. It should also be noted that none of the respondents have seen any of the other responses to this survey until the survey was completed and this report was released. To provide an element of context, each respondent's comment is followed by whether or not (s)he is currently using ANVIS and his/her total time with ANVIS -6 or -9.

The Comments

Respondent ID	Comments
44	My answer to question 11 assumes that landing to an unimproved site without an NVG equipped and trained crewmember would be the exception rather than the rule, e.g. when the crewmember's goggles had failed. Currently using ANVIS:NO ANVIS-6 hrs:350 ANVIS-9 hrs:35
46	NVG's are the most significant improvement in night EMS history. To limit their use with unrealistic requirements just puts more Air Medical crews at risk. I hope the FAA will listen to Industry where the preponderance of the Generation 3 NVG experience is, and agree on realistic rules, regulations and guidelines that can be universally accepted and applied. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:800
47	Good job with the survey!! Currently using ANVIS:NO ANVIS-6 hrs:300 ANVIS-9 hrs:0
49	There is no substitute for a highly trained NVG crew in any type of terrain. The ability of the NVG's to enhance the night is remarkable and should be considered for all operations below 500' AGL. Which we all know is the most dangerous place for us to be at night. I have almost 1200 hours of Night vision goggle time in some of the most hazardous terrain on earth and would not be here today if it werent for the ability to see at night. Currently using ANVIS:YES ANVIS-6 hrs:1125 ANVIS-9 hrs:15
50	I feel night vision goggles have improved the saftey in our program more than any other thing I have seen in 17 years of EMS flying. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:200
52	Use of NVGs SHOULD NOT BE MANDATED. We are interested in other low-visibility systems currently available, as well as others being developed. NVGs aren't the answer to everything & in fact may INCREASE accidents in certain situations. I strongly believe each program should be allowed to determine what equipment is best for THEIR specific operational arena. I get the very strong feeling this push to MANDATE NVGs is being driven by people who work for bottom-feeder companies & aren't comfortable with THEIR situation. I have an answer for that - WORK ELSEWHERE! Don't force the rest of us to buy THEIR desired equipment to solve their problems. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0

53	We do not currently use NVG's at my base nor have I used them as a civilian pilot however I have greater than 600 hrs of flying aided and I know without a doubt even if just the pilot had these goggles we could severely increase our margin of saftey while flying in dimly lit LZ's which we routinely operate in here in northeast Ky. Currently using ANVIS:NO ANVIS-6 hrs:500 ANVIS-9 hrs:100
55	Landing in unimproved areas at night is dangerous. Landing in unimproved areas at night without NVGs is idiotic! Currently using ANVIS:YES ANVIS-6 hrs:500 ANVIS-9 hrs:0
58	I fly in mountainous terrain with winter snow conditions. Our terrain elevation is from 4,500 to 13,000. I have flown in this terrain for more than 16 years both with NVG's and without. NVG's have significantly improved our safety and crew comfort level while flying at night. Use of NVG's have improved our ability to complete more missions safely and that equates to more lives saved. We require an NVG equipped and trained crew member to be on the opposite side of the aircraft in order for us to execute a landing to an unimproved site. I believe it is essential to safety. Currently using ANVIS:YES ANVIS-6 hrs:355 ANVIS-9 hrs:300
59	At night there is no greater tool then NVG's. Incoming weather, wires, terrain, etc. Without the use of goggles these are things not apparent to the the naked eye at night. A trained crew member is an asset, no question. But, even without that asset a pilot is better off in every night situation wearing and using night vision goggles. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:250
62	The use of NVG's has been the single most significant safty improvement in helicopter night flying operations I have seen during 41 years (18,000 hours) as a helicopter pilot. Currently using ANVIS:YES ANVIS-6 hrs:200 ANVIS-9 hrs:300
63	I believe the FAA should strongly re-evaluate the requirement for a second crew member to be equipped with NVD. This requirement is overkill and it is also a barrier to allow for more EMS operators to get into this great technology. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:60
64	NVG's have signifigantly increased the safety of night flight. It also increases the comfort level of flying at night especially in low light cross country flying. One can see any weather before inadvertantly flying into obscurations. It's great to have trained crew members for landing in unimproved areas, but I would still rather land using goggles even if there were no trained crew on board (academeic for us because all are trained). The FAA many times seems to hinder rather than enhance safety with some of their rules made by out-of-touch desk jockeys. Currently using ANVIS:YES ANVIS-6 hrs:400 ANVIS-9 hrs:250
67	I believe that it is critical to have at least one other person in the cabin (besides the pilot) on NVG's during NVG ops. NVG's have increased safety dramatically at every base that we have that utilizes them. 1500 ft antennas with lights inop in poorly-lit areas are not as uncommon as you might think. Now, I would rather not fly night ops without NVG's, since our program began using them. Everyone should have them! Our pilot & crewmember NVG's have revealed obstructions and wires that were otherwise not visible, countless times- we don't leave home at night without them anymore. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:130

68	They are priceless for all the hazards and terrain I can now SEE. Whether a second crewmember uses them or not should not prevent me from being allowed to use such a vital safety tool near the ground as the pilot. Two eyes are better than NO eyes. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:150
73	I feel that the NVG have given EMS Pilots a greater measure of safety. It is not the total answer, but if you fly in the mountains the company I work for does it enhances the ability to do the job. The use of night vision in the mountainous terrain allows me to recognize situations that unaided I would not be able to. I feel that having flown offshore oil prior to EMS, IFR was a true help at night and weather conditions. With NVG, I feel that this is a better aid to avoid see problems such as weather prior to having file IFR. In the moutainous terrain area we fly, freezing level prohibit IFR in the winter time. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100
74	Do not ever want to fly at night without them. Greatest safety tool for flying at night, especially in mountainous area!!! Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:0
75	Any tool that aides a pilot's visability should always be available for him to use even if an observer is not so equipped. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:36
77	NVG's are the single biggest safety enhancement to come to the EMS market. I believe the FAA's position and reservations in regard to NVG usage is based on outdated and inaccurate data. Trying to compare and mirror our requirements to that of the military is completly misguided. (We are not conducting NOE operations with no external lighting). To restrict NVG usage to the point an operator has to conduct night approaches to unimproved areas unaided, completly undermines the safety and professionalism [we] are all dedicated to. Currently using ANVIS:YES ANVIS-6 hrs:60 ANVIS-9 hrs:20
80	One of the greatest tools for our profession but we can't become too dependant upon them. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:0
81	NVG's have evolved tremendously over the years. I started flying goggles in 1975. Pilots and Crewmembers must still utilize a lot of judgement when using them. Overconfidence can lead to complacency, and an accident. I'm so glad to see the civilian sector finally using them. Even with no moon, it's so much better with them, especially over the mountains at night with minimal lighting. Currently using ANVIS:YES ANVIS-6 hrs:180 ANVIS-9 hrs:40
83	Indispensible for night flight in sparsely populated cross country and ALL off-airport/heliport night landings. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:80
87	I believe that the use of NVG's in air medical transport is an awesome step in improving the safety of our HEMS crews. It goes without saying that most pilots would choose the use NVG's in mountainous or unimproved areas. I haven't had much experience myself with NVG's and I fly in Atlanta. I dont think it would be very beneficial in the Metro but as HEMS branches out further into the rural areas it will be a huge help. There is nothing worse than turning a flight around because of no ground reference. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
88	As an NVG instructor, I see improvememnt in safety of operations and confidence of pilots using NVG's, particularly those pilots with no previous NVD experience. Most pilots will not leave base without NVG's once trained, even of it means a flight that begins in daylight, ending after sunset. Currently using ANVIS:YES ANVIS-6 hrs:1500 ANVIS-9 hrs:100

91	I feel the use of NVGs are imperative in the HEMS industry, or any other business that makes night landings to unimproved areas. The difference is seeing and not seeing, which I think makes this an easy decision. I know everyone is concerned with cost, but what is a pair of NVGs for each aircraft compared to the loss of equipment and lives. As for training, there are a number of companies using NVGs. I feel we should take the best of them (what works well) and implement a standardized training program for all HEMS operators (with FAA approval of course). I feel the enhanced safety will save countless lives and immeasurable dollars in destroyed equipment. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
92	After just recently completing the require training for the use of NVD I would prefer to not take any flight without use of NVD. I realize that that is not availble. Even over non-mountainous terrain, there are areas that basically require the need to fly basic instruments. The goggles should be fielded at all bases throughout the US. Currently using ANVIS:YES ANVIS-6 hrs:100 ANVIS-9 hrs:5
93	I strongly believe that the use of NVGs is the greatest improvement in safety for night, VFR, HEMS operations that can be made. Currently using ANVIS:NO ANVIS-6 hrs:500 ANVIS-9 hrs:0
94	Much more cost effective than FLIR. Wider operating envelope than FLIR. A lot cheaper than FLIR. Bring on the '9's'!! Currently using ANVIS:NO ANVIS-6 hrs:600 ANVIS-9 hrs:10
96	The argument for NVG's is a simple one. Is it important that the pilot be able to see... the obvious answer is yes, any thing that will help the pilot see better is going to increase safety. This is especially true of night mountain operations, and remote scene operations. NVG's will increase safety. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
98	The use of NVGs greatly increases the ability to detect hazards during takeoff and landing phases of flight. During the enroute phase of flight use of NVGs, over rual areas and areas with little to no ground lights, allow the pilot to see the type of terrain he/she is operating over and ability to determine suitable landing areas (if any are available) in the event of a forced or precautionary landing should need to be made. I for one am 100% for the use of NVGs during night HEMES operations. Currently using ANVIS:NO ANVIS-6 hrs:700 ANVIS-9 hrs:0
99	While an NVG equipped and trained medical crewmember is a nice asset, it is paramount the pilot be allowed to use NVG even if there is no medical crew member available. It is much safer to have atleast the pilot on NVG. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:25
100	nvg use should be madatory for all ems night operatons Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100
102	We are single pilot operations. Do NOT get the passengers involved. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
103	NVG's are a great tool for EMS... Having the med crews on googles looks good and is nice on paper, but in reality the goggles are for the pilot. We should be able to utilize them for maximum effectiveness even without the med crews. Currently using ANVIS:YES ANVIS-6 hrs:500 ANVIS-9 hrs:600

105	We do not use night vision goggles at our base. I believe that NVG's should be implemented at our program. When I approached managment the reason they stated for not using them were as follows: 1. They are too expensive. 2. We do not need them. The terrain is flat here. 3. We have been flying here for twenty years without them, how can we tell our customers that we need these now. Should we tell them that we have been unsafe for the past twenty years, so why do we need them now. - The only fatal accident in our state that claimed the lives of four individuals happened at night. Deemed "CFIT". 1. NVG equipment would certainly be cheaper than the cost of an accident. 2. The terrain is relativly flat but is just as "hard" as anywhere and is very rural. 3. Why do we need GPS's and cell phones or any new technology that may improve our safety? Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
106	Anyone who thinks flying an approach unaided into an unimproved LZ is safer than with NVGs is crazy. I have been flying the mountains of Eastern KY for the past 4 years (the first 3.5 unaided). Our base began using NVGs in Oct of 2007, and all I can say is that we must have been out of our minds to have done unaided scene flights in this terrain. I welcome any critics of NVGs to come fly with me here in Middlesboro, Ky on a no moon night. One flight and they will quickly become a believer. Any misconceptions about NVGs from old experiences, such as the PVS-5s will quickly disappear after one time in the air with the ANVIS-9s. The sooner NVGs become mandatory for EMS in mountainous terrain the better. Don't wait for more crews to lose their lives before this is done. Currently using ANVIS:YES ANVIS-6 hrs:950 ANVIS-9 hrs:60
107	In a nutshell, I feel vitually blind without the aid of NVG's. Currently using ANVIS:YES ANVIS-6 hrs:500 ANVIS-9 hrs:0
108	They are an asset when working in remote areas and marginal weather. i don't like them in metropolitan areas.. at all... Currently using ANVIS:NO ANVIS-6 hrs:100 ANVIS-9 hrs:20
110	NVG's are the single most important addition to safety that an operator can implement. Although many people feel the SP IFR or Duel Pilot IFR is the answer to increasing safety in our profession, IFR does not help with dark night scene landings in the middle of nowhere where there are no NAVAIDs. NVG’s allow use the ability to see the terrain, weather, and other aircraft much better than without(20/40 next to 20/200). I can not truly understand why all operators have not implemented a NVG program for any base that works in unpopulated areas. As a side note I left my last job because they didn’t have a NVG program and two years later they still don’t. Currently using ANVIS:YES ANVIS-6 hrs:309 ANVIS-9 hrs:76
112	My program will be getting a new EC 145 in the Spring of 2009, then we will be flying NVGs using ANVIS-9 gogles. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
114	I believe that there is a high degree of discipline required to fly with NVG's. There will be young pilots expected to fly with the NVG's and with the lack of exposure/experience (low time) a single pilot operation could lead to spatial disorientation on the extreme low light/low contrast nights. With-out another pilot in the cockpit to monitor attitude of the aircraft and then be available to recover the aircraft in the event the pilot on the controls does become disoriented the result will be disasterous. I believe we as an industry will be safer with the use of NVG's in the extreme environment but it will take an enormous amouont of training and continuous training to remain safe. Thank you for allowing me to enter my opinion. you can call me at 757-329-1573. Currently using ANVIS:NO ANVIS-6 hrs:800 ANVIS-9 hrs:0

115	They are very useful in certain geographic areas. In other well lit areas they are not necessary and just add fatigue, inconvenience and a lack of peripheral vision. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:200
117	This equipment should be the standard of the industry, with additional requirements for un-aided flight. I can't imagine using NVG's to a night unimproved LZ, then having to switch to un-aided for the final approach and landing. It makes no sense to increase the stress and decrease visibility during the highest risk phase of flight. All approaches should be set up so that a wave-off/missed approach climb-out is possible. If aided flight is lost prior to landing, a climb-out should be executed to allow for a "regroup and reassessment" rather than intentionally creating this situation for every landing. All crewmembers I have flown with that have used both helmet mounted night vision goggles and hand-held night vision monocle, much prefer the versatility, ease of use, and flexibility of the monocle and are more likely to use it than the goggles if a choice is presented. Currently using ANVIS:YES ANVIS-6 hrs:100 ANVIS-9 hrs:100
118	Would not wish to go back to unaided night. Black holes on moonless nights for the most part no longer exist. Goggles are an essential safety tool. Anyone have day vision goggles in the works? Currently using ANVIS:YES ANVIS-6 hrs:50 ANVIS-9 hrs:50
119	using NVG's is the only way to fly! Currently using ANVIS:YES ANVIS-6 hrs:150 ANVIS-9 hrs:75
120	Improves chances of a good outcome in the event of an inflight emergency. Currently using ANVIS:YES ANVIS-6 hrs:2000 ANVIS-9 hrs:800
127	I have extensive helicopter IFR experience, initially gained during military tours with US Coast Guard, but I have never used night vision equipment. Am inclined, however, to believe that safety and productivity are enhanced with such equipment properly used. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
128	NVG's may be great for an inexperienced pilot and crewmember. The NVG simply enhances the ability to see but speed can outrun the NVG capability so there are plus and minus to everything. Without a well trained pilot and crew in unaided night flight the NVG are only as good as the user and what speed he flies at. Currently using ANVIS:NO ANVIS-6 hrs:200 ANVIS-9 hrs:0
130	NVG usage, with proper training, is ESSENTIAL to every low-light condition flight. No other area of technology currently on board an EMS helicopter will provide anywhere near the total increase of margin of safety for a given flight. Situational Awareness, for example, in hostile terrain is increased immeasurably! Even though I may be in solid VFR conditions with more than adequate ground lighting/surface reference to be able to control the helicopter, without NVG's I really don't know what is below me to use in the event of an immediate emergency. I believe that having one crew member unaided is helpful in assessing a truer picture of weather and other hazards. However, I think that an operator should be allowed the flexibility to not be required to have two NVG's in operation on a flight. One NVG vs. no NVG will forever be safer. Period. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:50
131	I can not stress the importance of this piece of equipment. It is an absolute must for night operations. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0

132	they should be made mandatory. We would use them every night, but someone who isn't out flying at night can't justify the cost!!! However our hospital has a disaster truck, just in case the hospital should lose all power and it is fully equipped with many sets of NVG...just in-case the lights go out in the city. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
134	Looking back I can not believe we ever did night scene calls without NVG's, and the countless near misses we had with wires that today are not even an issue anymore. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:199
135	I feel that NVG's would significantly enhance safety while decreasing our response times. Our response times would be decreased because our hazards reconnaissance would be easier, faster and more effective. I think the ANVIS-9's do not "white-out" when looking at bright lights. This would solve the problem of the ANVIS-6's "whiting-out" when on final approach to a scene landing with EMS/Fire-Rescue lights everywhere. I have used the ANVIS-6's extensively while serving as an Instructor Pilot in the US Army in several different environments, to include mountainous and desert terrains. I feel the increased effectiveness of using NVG's will have a positive 'ripple effect' with regard to flight operations and customer satisfaction (reduced flight times). Currently using ANVIS:NO ANVIS-6 hrs:1000 ANVIS-9 hrs:0
138	(HEMS) night flying in non urban areas without NVGs and Twin Engines should be prohibited Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:130
139	Any additional aid especially for night scenes is appreciated and welcomed. Currently using ANVIS:NO ANVIS-6 hrs:75 ANVIS-9 hrs:0
141	NVG should have been placed in HEMS night operations many years ago, for safety. Currently using ANVIS:YES ANVIS-6 hrs:215 ANVIS-9 hrs:200
142	I strongly recommend the use of NVG's in the HEMS industry. They add so much to safe operations, espesially in the low-light scene environment. Our base will begin training and flight with NVG's within the year. I'm looking forward to having strapped to my helmet again. Currently using ANVIS:NO ANVIS-6 hrs:1000 ANVIS-9 hrs:0
143	What are the regulatory agencies waiting for ? Lets make the use of NVG mandatory. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
144	Now that I have used them, I would not work for an operator that does not use goggles. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:40
145	I believe that most negative comments about the use of NVGs comes from pilots that have no or little experience in the NVG environment. I had over 22 years NVG/PNVS experience when I retired from the Army. When I did my first unaided EMS flight I thought to myself what am I doing out here without goggles. My program will be going to goggles in the very near future. Myself and my three other pilots anxiously await the night when we can go do a flight aided. Currently using ANVIS:NO ANVIS-6 hrs:100 ANVIS-9 hrs:0
146	NVDs will be safer, but only with proper training first. They can be distraction or give too much confidence (say for wire strike avoidance) if the user does not know how to properly utilize this tool. Also, the added inadvertant IMC possibilities should be addressed early. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:65

151	I am suprised that it it is leagal to land in an unimproved site without NVG's (rural or urban/lit). I have spotted SO many hazards with them on (which I would have missed without them) that I would not work for a company that didn't have NVG support. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:300
152	My last usage of NVG's was in the National Guard 15 years ago. We are currently just starting our use of NVG in our program. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
154	We are now doing things 1000 times safer than we were before. The FAA should mandate NVG use for ALL night HEMS operations, PERIOD! Currently using ANVIS:YES ANVIS-6 hrs:350 ANVIS-9 hrs:150
156	I don't currently have NVGs. All of my flights involve long legs over sparsely populated terrain with few ground lights. When it is a dark night it is hard to see any indication of obscurations until I run into them and the few lights I am using for reference begin to dim quickly. By then I am in the middle of the obscuration. Going into an LZ at night it is difficult to see hazards even with the search light because of the small area it lights, the airspeed of the aircraft, and how slow it moves. Also I no longer have any idea what is below me if I have to put the aircraft on the ground in an emergency. Most of my time flying at night, before flying EMS, was with NVGs. The confidence level NVGs provide is great. Currently using ANVIS:NO ANVIS-6 hrs:1900 ANVIS-9 hrs:0
160	I can not think of any situation where unaided would be better than aided. Currently using ANVIS:YES ANVIS-6 hrs:400 ANVIS-9 hrs:230
161	I have approx 1800 hours of NVG time a good portion of that in well lit urban areas. todays top of the line NVG systems have the ability to control the amount of ambient light they allow in there by preventing the NVG from shutting down. Their use in an Urban enviornment should not be an issue. The Army requires the entire crew to wear NVGS or no one this prevents disparity between what the crew members are seeing. In my opinion this is the only way to operate. In closing ill say I have flown single pilot into many tight unimproved LZ's on a moonless night under nvg's and had no reservations about it. I am more comfortable doing that then I am at times being unaided with a crew doing the same approach. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
162	I have no experience with NVG systems. Our company recently has tried a type of monocular device for the medical crew in the cabin area, but very limited units throughout the country. Where I am a base supervisor in Texas, we have none, and am not sure if this will change in the future. Maybe we could get some input from the med crews that have used such devices. Thanks for your time, Dave Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
163	I have been flying for 38yrs.+. NVG's are the most dramatic safety improving device I have used. In order of importance, my first safety priority is flying a twin engine aircraft, second place was flying a instrument capable/certified aircraft. I now place NVG in second place on airborne safety features, and still prefer and am currently flying a IFR certified aircraft. The regulations are as usual behind the operational reality. If the non-flying crews devices or the radar altimeter are not operational it is still, at least ten times safer, to fly, take off and land anywhere at night with the pilot on NVG's. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:50

164	The NVG's are a valuable tool for night operations in the EMS environment. If a company or pilot does not utilize this tool, they are overlooking a resource that enhances the safety of their people. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:40
167	They are needed. Many of the flights are dangerous and not necessarly because of mountainous terrain. Wires, poles, and trees are a big factor; of course they help greatly in a mountainous terrain too. I believe they should be required - if available. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
169	The proper use of NVGs is a huge factor is being able to safely conduct night EMS operations, especially in mountainous areas with little or no cultural lghting. The presence of a properly trained and equipped NVG capable med crew enhances the safety of the operation, but definitely not requires. Also for med crew use, for a variety of reasons, it is perhaps better for them to use a hand-held monacle instead of a binocular style NVG. Currently using ANVIS:YES ANVIS-6 hrs:150 ANVIS-9 hrs:190
170	I have 1200 NVG hours, almost all military, in a wide varity of environments. NVG use in air medical transport is a HUGE safety multiplier provided the proper training takes place. Currently using ANVIS:YES ANVIS-6 hrs:600 ANVIS-9 hrs:400
171	I'm a retired Army AH-64A/D instructor pilot flying a BH206L-1/C30. I have flown over 2500 hours using NVDs including FLIR and NVGs. A fixed forward FLIR in my opinion is of little use. The alternative of a turreted FLIR is too expensive. Flying unaided at night has worked for many years, but is it necessary to accept the risk of trying to find somewhere to land in the event you are forced down? NVGs are the most cost effective option out there, bar none. We had a 10 hour training requirement for NVG qualification in the aircraft design/type if the aviator was a school trained NVG pilot. That 10 hours was waiverable down to 4.5 hours based on the pilot's proficiency and the instructor's recommendation to the commander. I don't recall anyone ever needing more than 4.5 hours and in most cases the pilots showed proficiency after an hour or two. The company I fly for has a fledgling NVG program instituted at several bases, but not all. I think NVGs and NVG trained and qualified personnel should be in every cockpit flying in the dark of night. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
173	the use of NVG's should be mandatory for all EMS operations. The use of NVG's brings confidence to the pilots and crew, and highly enhances the safety of each and every flight. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:250
175	NVGs will make landing to unimproved LZs safer/easier for HEMS operators. It will also help with WX avoidance and prevent loss of spatial orientation. However, I don't think NVGs have to be made a requirement! HEMS have operated at night safely for years w/o the goggles and it can still be done safely with the right training and pilot mindset. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:500
176	Great asset for single engine aircraft operations, especially enroute. Additionally, extremely useful in hilly or mountainous areas. I use them for high recon and enroute, then lift for the actual approach in unimproved areas. They do not illuminate wires and often poles are located in trees and hard to see. As you know, it is easier to transition unknowingly into IMC conditions when haze/fog are the culprit to visibility. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:20

182	I would much rather have a high power lighting system. It does not have all the limitations of goggles, and requires very little training. Currently using ANVIS:NO ANVIS-6 hrs:400 ANVIS-9 hrs:50
184	I feel the use of NVGs in HEMS operations has greatly improved safety, especially when the weather is marginal. However, I do not think SOP mimimums should be lowered for NVG equipped programs. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:30
185	The use of NVG's has definatly helped decrease the pilot workload at night. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:30
188	I think that it is imperative for HEMS operations to move to NVG's as soon as possible. That alone would be one of the biggest safety improvements that the industry could make. Currently using ANVIS:NO ANVIS-6 hrs:200 ANVIS-9 hrs:0
190	If the aircrew is well trained and the equipment is properly cared for; this is the best way to improve safety when performing unimproved site landings and departures in poorly lit rural or mountainous areas. Currently using ANVIS:YES ANVIS-6 hrs:75 ANVIS-9 hrs:100
192	As in #11 above, even if a trained med crew member is not avaiable for a flight or equipment is down, I would still want to use HNVGs for operations to and from unimproved LZ's. Why leave the technology at the base if it can prevent an accident by allowing the pilot to better see hazards? That's like watching the house burn with a fire hose in your hand while you're waiting for someone to bring you an extinguisher. If you have the means to make the mission safer, use it. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:150
193	NVGs in EMS is long over due. If safety is indeed the goal, then NVGs are a part of the solution Currently using ANVIS:NO ANVIS-6 hrs:250 ANVIS-9 hrs:0
194	I feel that NVG use should be a CAMTS or FAA requirement for safety reasons. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:15
195	I have flown the Sierra Nevada mtns for almost 30 years. We use to do night landings in yosemite, and other LZ's. Without NVG'S, No moon, no illumination. It was not a pleasent experience. The use of NVG'S has made the safty factor 400% better. NVG'S enhance our ability to do a safer job, and lighten the pilot work load at night. Night vision is the most awsome tool in the helicopter business, for safty of crew and patient. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:110
197	The addition of NVG's to the HEMS community will greatly improve the safety and enhance the probability of recovering from an incident in low lit and unimproved landing areas. Currently using ANVIS:YES ANVIS-6 hrs:130 ANVIS-9 hrs:0

198	It's kind of like single pilot instruments...the workload. And to complicate things the med crew is anxiously calling out every twig, bush and fence to further distract the pilot from whats in front of the aircraft, which is where you are going. It takes a lot of time flipped down to get really comfortable and learn propper scanning techniques that which need not be constantly interrupted, especially single pilot. The fascination of inexperienced crew leads to tunnel vision. I fly out in west Texas where were it not for the red lights of the wind farms we would be IFR just for blackness, but these conditions only lead to reinforcement of basic instrument flying skills which are helpfull when batteries fail. I taught goggles at Ft. Rucker in the Army and even the thorough training we gave was just enough to allow a young pilot to get himself in trouble. I love the goggles but I also love minimum safe altitude and lots of lights for landing. Remember, if you cant see a horizon for whatever reason, you better be on instruments and headed for an airport. If you can't see the ground when landing to a scene, with all the first responders lights, you had better be orbiting in a high recon with every light you have turned on. Goggles are cool and fun but in EMS they are an encumberance. Currently using ANVIS:NO ANVIS-6 hrs:350 ANVIS-9 hrs:0
199	I changed HEMS companies just to be able to fly on NVGs again. There have been many landings I have made to unimproved areas in the mountains that would have been impossible to conduct safly without NVGs. I have been able to locate an accident scene up to 30 NM away due to NVGs. The helicopter I currenty fly is "VFR only" rated. When the weather ceiling is below 10,000 ft in my operating area I wouldn't be able to fly due to the high terrain, but with NVGs I can safly fly with ceilings as low as 1,000 ft. Currently using ANVIS:YES ANVIS-6 hrs:100 ANVIS-9 hrs:50
200	When I transitioned into civilian ems in 1999, I was suprised and dismayed that such a well known product as NVGs wasn't being used. I believe the expenses involved with the devices, the aircraft mod's, and pilot training were only part of the problem, the other part was the fact that many of my peers at that time (and the FAA's helo folks) had little or no NVG experience, and therefore didn't realize the benefits to be enjoyed by actually being able to SEE in the DARK. As more and more NVG users enter the civil helo industry, the operational and regulatory tide will change. NVG use by VFR helicopter pilots flying below 1200' at night should be required by regulation. Currently using ANVIS:NO ANVIS-6 hrs:1100 ANVIS-9 hrs:50
201	As a former military pilot who has flown about 1000 hours of NVG time, it as absolutely amazing that the civilian world is finally accepting the fact that aided flight might be a good idea. The military continues to standardize, train and evaluate pilots at a very young age in much more complex aircraft and mission requirements than their civilian counterparts. These tasks are accomplished primarily because of a need for national security and would not be achievable unless they had a strong training and standardization program. Per capita the civilian world has a much higher accident rate than does any branch of the military. We in the civilian world need to wake up and understand what we can provide to the civilian world and act accordingly. Currently using ANVIS:NO ANVIS-6 hrs:700 ANVIS-9 hrs:0

202	The cockpit NVG modification standards are much more complex and more expensive than necessary if you are using the most current goggle technology. The ANVIS-9 are extremely white light tolerant. I believe AIR and the ACO are imposing cockpit compatibility standards which were necessary for the old PVS-5 and ANVIS-6. For non-combat civil operations I know that a pilot is much better off with ANVIS-9 at night in an unmodified cockpit and aided as opposed to unaided, especially in mountainous or remote terrain. I have personally tested the goggles in unmodified cockpits and for what a civil pilot needs to know they are fully acceptable, for combat no, but we are not in combat. The modified cockpit is of course preferable but it is much safer to go unaided in an unmodified cockpit than to go unaided in the same cockpit. If a program can afford to modify then that is great but safety is not significantly enhanced. An example is, the FMS, Garmins, autopilots, ENVIS, systems are all great but are not always necessary to conduct a safe flight if IFR. Co-pilots, two or more engines, turbine engines are all nice but not mandatory. Pilots and operators are usually smart enough to know and train for specific limitations, always have and always will. There will always be those operators and pilots who use poor judgement and ignore good operating practices but they do not last long. If I was king for a day and in the insurance business I would not insure for night flight unless the crew trained and used NVGs, modified cockpit or not. Also, the redundant and excessive NVG training and checking discourages operators from getting into NVGs. A pilot should be endorsed or rated for NVG period and only needs cockpit specific familiarization training to be a safe NVG pilot. The senior FAA NVG management relative to civil NVG use is stuck in the stone age and relies on persons with only military tactical experience instead of relyinng on experienced and expert civil pilots and operators when developing NVG training, checking and cockpit requirements. The current process significantly impedes safety and does not promote safety as is required the FAA mandate to foster and promote safety. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100
203	If there is EVER going to be a movement in the EMS or any other aviation industry toward this or any other safety enhancing technology, the people that hold the purse strings have to convenced of its advantages - Not the pilots. You are preaching to the choir. Of course is a necessary part of the movement but it has to go far beyond this. In the ems company I work for, the vast majority of the purse-string holders are not even pilots and unless they can be shown the financial benefit of undertaking such a company shift toward this approach on safety, they will dismiss it without hardly a second thought. On this point, I can't even mention in their presents the obvious benefits of more stringent IFR training or even having IFR capabilities (other than for strictly emergency operations) without getting looked at like they just saw me step off of a spaceship - then followed by muted chuckles and laughter. Good Luck...We're all going to need it! Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
205	They should be required throughout the industry to reduce HEMS accidents. Statistics show that most helicopter CFIT accidents happen at night in cruise flight, not take-off or landing. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:105
207	I currently fly HEMS in Eastern Kentucky. IFR and NVG's are the only two options to fly in rural mountainous areas. I have been very disappointed in the FAA's handling of the utilization of NVG's! The FAA is making it harder for HEMS to fly in a safe manner. Currently using ANVIS:YES ANVIS-6 hrs:300 ANVIS-9 hrs:100

214	Between Feb and August 2007, all my scheduled shifts were night shifts due to rotating pilots (inexperience in the local area, we kept him on days opposite me). I exclusively flew NVGs every possible chance, and kept all the medical crewmembers current. In August, I moved to a new base, new helicopter (EC135T1), same company. The aircraft and base were new to the area, also. There was no approved NVG program for this aircraft. I felt like I was flying through mud, and had difficulty adjusting. The stress increased 100%, not that I was ever complacent. The increased safety through the use of NVGs when on approach or departure from unimproved LZ's (scene runs) is absolutely the best thing for EMS. We fly into challenging situations with poor LZ briefs, and it's absolute nonsense for the FAA to overregulate any possible safe mission multiplier that's readily available, and relatively cheap to train and equip when compared to lives and aircraft. But of course, I'm preaching to the choir. Thanks for doing this survey, Rex. I hope it helps the cause. Currently using ANVIS:NO ANVIS-6 hrs:600 ANVIS-9 hrs:0
215	Having flown NVG's in Air Medical Transport with the military I strongly feel that they are an invaluable asset and have the potential to save many lives. Currently using ANVIS:NO ANVIS-6 hrs:700 ANVIS-9 hrs:0
222	Night Vision Goggles are the single most significant advancement for Helicopter Safety, especially with respect to Emergency Medical Services, EVER. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:50
223	Purely my oppinion, NVG's are the single safest appliance to come to EMS. I am currently an NVG instructor, training EMS and Law Enforcement around the globe. I flew EMS with and without NVG's in the Northwest over the Rocky Mountains, I can say without hesitation that I would not take a flight over that terrain or any other without NVG's today. After training EMS pilots and crewmembers for 3 years I have yet to hear any of them say they would rather fly without Night Vision Goggles. Currently using ANVIS:YES ANVIS-6 hrs:550 ANVIS-9 hrs:750
225	Goggles are being implemented in our company and I welcome them to the program. They will provide a significant increase in night operations, especially at unimproved sites. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
226	I think that anyone conducting night ops should be operating with NVG's and it should be a mandatory requirement. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:120
227	NVG's are the sliced bread of HEMS. Currently using ANVIS:YES ANVIS-6 hrs:500 ANVIS-9 hrs:20
228	Don't do its dangerous.. Currently using ANVIS:YES ANVIS-6 hrs:300 ANVIS-9 hrs:75
230	NVG's are probably the most substantial advance in HEMS safety since CRM. The FAA should be actively encouraging operators to adopt NVG technology, and concurrently act to remove any unneccesary barriers to the same. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:700
234	The aspect your survey failed to address is the importance of NVG's for the enroute portion of EMS flights. The goggles provide valuable information about the location of low ceilings or areas of reduced visibility not available un-aided. I feel this provides an even higher margin of safety than the aspect of greater obstacle awareness during aided landings at unimproved sites. Thanks for your efforts. Currently using ANVIS:YES ANVIS-6 hrs:990 ANVIS-9 hrs:25

235	With the exception of twin-engine IFR, autopilot equipped aircraft, NVGs provide the biggest safety advantage in EMS flying. I would trade our ground proximity and terrain avoidance equipment for goggles. I do worry that operators will think they can abandon IFR and twin engine aircraft, adopt single engine non autopilot aircraft, and think they are improving safety. NVGs can only be used in roughly 30% of flying, autopilots and twin engine aircraft are used in all our flying. NVGs definitely do make the night a lot friendlier place. I just worry that the Lord gives and the Lord takes away, that operators, with the help of paper tiger organizations like NEMSPA, will take away gains we have made over the years in more sophisticated systems. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:0
236	Night time operations without goggles would just be scary and unsafe. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100
237	Stanford Life Flight (Air Methods Corp) is in the initial training process to utilize NVG. Thanks Pat!! James Harris Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
238	The need to have the medical crew equipped with full NVGs versus the monocle has several disadvantages with very little advantage to safet (1) The emcumberment of the crew in carrying out their medical duties. The NVG mounted on the helmets are defineitely going to hinder the movement/access around the patient in a very small space. (Two medical crew sitting facing each other in a 407) (2) The view of the monocle versus the NVGs from a limited viewing area (crew postion in the back of a helicopter) is not sufficiently different to justify the NVGs. (3) Ease of use.....the monocle is mush easier for the crew to use vice the NVG. (The NVGs require focusing for both eyes, mounting on the helmet, spearate battery pack, weight on the helmet...which the monocle does not. Monocle can be quickly picked up, focused, used , and placed quickly back in storage when not required during patient care). 99.999% of the safety increase comes from the pilot wearing NVGs. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100
239	While all of my NVD experience is military (USAF/SOF) I believe the technology has advanced to the point that NOT using the devices adds significant risk to unimproved landing areas. The added situational awareness and improved visual scene afforded the pilot, particularly in the takeoff, landing, forced landing situations would be money well spent, whether or not the medical crew is utilizing or not. Of course having the entire crew on goggles would be optimal, but it is understandable that the business side of this may not agree. These are still incredibly expensive devices to use, maintain, and repair. Late generation devices are tremendously capable, allowing for use in 'bright' conditions without the blooming/shutdown/burn in problems of earlier versions. I hope to see widespread employment sooner rather than later. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:850
240	Anvis 9's are the best N.V.G. out there. Utlization of N.V.G.'s should be mandatory for ALL E.M.S. operations.! Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:75
242	NVG's are a safety "force multiplier" EMS aviation operations. J.J. Harvey Colonel USMC(Ret) Currently using ANVIS:YES ANVIS-6 hrs:210 ANVIS-9 hrs:25
244	As a former Army NVG IP, I can attest to the significant safety advantage of aided versus unaided flight. This is a MUST for HEMS operations. Currently using ANVIS:NO ANVIS-6 hrs:470 ANVIS-9 hrs:0

245	NVG training in the HEMS environment is a fraction of what is provided and mandated for military operations. NVG's are tremendous tools to enhance the safety of HEMS operations, however, a large percentage of operators are utilizing NVG's to prosecute operations or delve into areas where they would not have otherwise been (i.e. the recent Alaskan crash in Prince William Sound). NVG's have a definitive place within the EMS environment, however the training and mandatory checks and balances to ensure the safe operations associated with NVG aided flight is not at a level commensurate with the risk of inappropriate NVG use. The minimum hours needed to acquire qualification under Part 135 for pilots without significant previous NVG experience is not adequate to effectively provide an appropriate level of safety. Currently using ANVIS:NO ANVIS-6 hrs:230 ANVIS-9 hrs:300
246	I'm the Aviation Director for STAR Flight located in Austin, TX. At STAR Flight all of the pilot utilize NVG for all EMS flight to include inter-facilities transfers. We also utilized NVG for Search/Rescue to including hoist operations. We are part 135 and our NVG Program was approved in Aug 2006. Currently using ANVIS:YES ANVIS-6 hrs:700 ANVIS-9 hrs:180
247	NVGs would greatly enhance safety.. Currently using ANVIS:NO ANVIS-6 hrs:200 ANVIS-9 hrs:0
248	I agree that NVG are appropriate for missions in low light operations. We currently operate in areas that are fairly well lit. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
249	Absolutely required!!! Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:200
250	I have not flown unaided at night in a helicopter since 1985 utilizing either NVGs or FLIR. In my opinion aided night flight in nearly all conditions increases safety exponentially. There are some possible exceptions but none that I have personally experienced. Currently using ANVIS:YES ANVIS-6 hrs:400 ANVIS-9 hrs:150
251	All HEMES operations in designated mountainous terrain should be equipped with nvg and all crews should be trained and qualified Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:150
253	From what I've heard from pilots that have used them (and I wish I were one of them), they are a huge safety tool. We fly in west Texas where there is very little surfce lighting at all and there are times when we are essentially on the gauges and hoping there is no unforecast weather out in front of us. I used to think that having an auto-pilot would be the best solution but that won't help you get into dark LZ's, NVG's are the best and most cost effective way to enhance safety in the black holes that we operate in. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
255	In our area of operation, and in others where natural light is about all that's available, the value of NVGs cannot be overstated, primarily from a safety perspective, but also in terms of enhanced operational capabilities. We have not lowered our pre-flight or operational weather minimums for aided vs. unaided flight, but aided flight in marginal or changeable weather is much more manageable. I have, only half-jokingly, stated to my lead pilot that from now on NVDs are a condition of my future employment. In our operating conditions - very little man-made light - I really don't want to go back to unaided flight. I do not think that the FAA should mandate NVGs for EMS operators, but they should be highly recommended. The insurance industry should adjust their rates to reflect the enhanced safety related to NVGs. They should effectively pay for themselves through reduced insurance costs. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100

259	I can understand the requirement for the medical crewmember(s) to use NVG's for going to an unimproved area and landing: of course, more eyes, more safety. It is also a carryover from previous inadequate NVG models: all or noone, which is not necessary with the ANVIS 9's. However, if only one set of NVG's was available, I would rather use it instead of flying unaided. It not only facilitates the landing, but also may allow me to see incoming weather (fog formations) and prevent going into Inadvertent IMC (especially on a questionable weather night) since I can see where the clouds are, which usually I cannot see unaided until they buzz by the landing light. You can also see weather a lot sooner at quite a long distance, which enables you to make a turn-around decision a lot sooner as opposed to reacting to weather you encountered. We also have to take into account that most times noone (including the pilot) is fully dark adapted until they are on their way to the hospital. - You are in a bright room. - You launch within 10 minutes. - You fly to the scene in a dark area, and because you are not dark adapted, you can barely pick out a horizon. Scene arrival 15 min. (Maybe 20-25 min into dark adaptation process). - After you land, you are looking at all the bright lights from the Law enforcement/EMS vehicles, which you sometimes cannot help (back to square one). Use of NVG for the medical crewmember after a patient is on board is not really necessary; getting out of the LZ and going to the hospital is the easy part. Let's be realistic: they have to take care of the patient. Crewmembers sometimes must move about the cabin in order to perform certain tasks and in doing so may bump and damage the NVG's, which is completely unnecessary. Also, no need to expose NVG's to blood, vomit, or even combative patients that may hit the NVG's. Currently using ANVIS:YES ANVIS-6 hrs:800 ANVIS-9 hrs:7
267	Please make it a standard. We all benifit from Aided flight. I have flown 3 Combat tours and know what dark is. NVG's are an essential tool that is already available---Lets get HEMS to adopt a 100% use in this industry. Thank you for asking. Carl Currently using ANVIS:YES ANVIS-6 hrs:300 ANVIS-9 hrs:0
268	I feel that the use of NVG greatly improves the margin of safety for night HEMS operations. I feel the greatest advantage is that the use of NVGs at night gives you options if you have to make a forced landing in a unlit area at night. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:10
272	My program doesn't currently use NVG's. I have recently transitioned to HEMS in NW New Mexico after 9 years in the Army. I have over 600 hours of NVG time. I'm really looking forward to this program obtaining them as my experience has shown me the advantages they offer. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
273	They are the single most significant step foward in night ops safety that our industry has had access to. The new ANVIS-9's have such good visual acuity (20/25) and field of view that I have had great success with low time RW pilots with no military background getting them good and solid in their use. Frankly, instrument background and solid instrument scan skills seem to contribute much more to success than prior military training. Giving the crew a set of NVG eyes is cheap backup and assistance for a pilot. I have done a tremendous amount of backcountry, mountain NVG work with two med crew trainied in our standard EMS training program, and found the margin of safety and improvement in operational ability and comfort astronomical. Currently using ANVIS:YES ANVIS-6 hrs:150 ANVIS-9 hrs:750

277	I think it is far safer to land aided at an unimproved site without a trained medical crewmember on goggles rather than going from aided to unaided at 300'. I also think it is far safer to be aided at night. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:0
278	400 plus hours of NVG time for MEDEVAC and just started flying ANVIS 9 for a LifeGuard - The idea of flipping up the goggles at 300 feet because the crewmembers in the back are not qualified is perhaps required by someone in the FAA who has no experience with NVGs. The program I fly for would only purchase goggles because of CAMTS. Goggles have significantly improved safety, especially in the mountainous area we operate in. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:25
279	This whole procedure of degoggling @ 300' agl without a NVG crewmember in the A/C is one of the riskiest activities ever. I would love for the person or persons that came up with this procedure to come out and ride with me or one of the other pilots in our program and get a feel for just how dangerous this regulation is. To degoggle at the very moment when the goggles are most needed for obstacle clearance and hazard avoidance, places the crew and A/C at extreme risk. The transition from aided to unaided with the use of the landing light causes an extreme reduction in night vision adaptation, which reduces the pilots field of vision. In addition to the visual hazards, during critical flight phase this procedure requires the pilot to remove his hands from the A/C controls to rotate the goggles. So in conclusion, this requirement places the A/C and crew in an extremely dangerous situation and should be changed immediately! Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100
281	It improves safety flying night VFR. FAA and JAR should regulate the training requirements for flight crews. Currently using ANVIS:YES ANVIS-6 hrs:600 ANVIS-9 hrs:0
282	As a "newbie" to NVG's I find that the most dramatic improvement in safety for me has been enroute operations. We're based at 7000' and routinely fly around peaks rising to 9000', to over 12,000' in almost complete black with few roads to follow. Being able to see all of those peak is a tremendous safety advantage. I've aborted missions because I the required visible horizon that is 60 to 80 nm away didn't exist. The goggles provide relief in those situations. It also helps me circumnavigate localized and unforecast cloud formations that would be undetectable otherwise. If you look at the statistics of our industry, its has been enroute operations that have claimed the most lives. The goggles dramatically improve our odds. NVG's improve landing capabilities, but as an industry, that's not where our problems have been. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:17

283	Regarding question #11: Clearly, NVG-trained & eqipped medical crewmembers can enhance situational awareness during a night approach to an unimproved LZ. But any suggestion that, without them, an additional measure of safety would be gained by requiring the pilot to make the approach unaided defies logic. If one of your secondary situational awareness tools becomes degraded, what could possibly be the advantage of intentionally disabling your primary one? It also runs contrary to accepted NVG operational norms regarding switching from aided to unaided flight. (See USA/USN operational guidance for NVG use regarding night adaptation requirements following cessation of NVG use prior to making an approach) Anyone who would advocate requiring an EMS pilot to flip up a working set of NVGs prior to making a night approach to an unimproved LZ, for any reason, should consult with the many subject matter experts and centers of excellence whose doctrines specifically warn against it. In establishing NVG regulations for EMS operations, civil authorities should be benchmarking the enormous amount of research, testing and operational experience that's already on record. Currently using ANVIS:YES ANVIS-6 hrs:150 ANVIS-9 hrs:150
284	After you use NVGs at night, it's difficult to go back flying unaided - Wonderful safety device Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:65
287	One of the best things to ever happen in HEMS. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:0
288	Night Operations to unimproved, low ambient light Landing Areas is unsafe. I'm not sure why it took so long for EMS NVG operations to be approved, but now that such operations have been approved, every EMS opeator should be required to use NVGs at the earliest opportunity. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:50
289	HEMS needs NVGS!!!! Currently using ANVIS:NO ANVIS-6 hrs:580 ANVIS-9 hrs:0
290	Despite declarations to the contrary, the FAA has NOT helped get NVGs into the industry as recommended by the NTSB. It would be good if industry had the freedom and help to make NVGs happen independently, but perhaps mandatory NVG usage is the way to go. It is unfathomable that managers and regulators aparently think that flying "aided" is somehow more dangerous than flying "un-aided" on the exact same missions we do every night already. Currently using ANVIS:NO ANVIS-6 hrs:75 ANVIS-9 hrs:25
291	Most of my EMS missions are in the dark night in the desart of Arizona, Nevada and California. Without Moon and roads, there is no surface reference at all. Just pure black. No matter how high you fly, it feels like "I'll hit something". You don't even know if we are in the clouds (IIMC) or not sometimes. I think Night Scene should not take it without NVG at all. Once you get used to NVG, actually I forget about having NVG on my head so I can fly same as day time now. However when I started to use NVG at first time, it was difficult but still much safer than used to be. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:205
294	The biggest reason to use NVG's in EMS not mentioned in this survey is during emergencies i.e. single engine helicopter (206L3) with an engine failure at night. Currently using ANVIS:NO ANVIS-6 hrs:650 ANVIS-9 hrs:50

295	I am still highly disappointed in this industry's weak attempts to make NVG's mandatory. Come on guys, lets move out of the 70's and embrace this technology. I have many hours as a military pilot, both single and duel pilot as well as 100s of hours instructing NVG's. There is no question in my mind or any of the other pilots at our base that they will increase safety ten fold. I know it is a money issue with a lot of operators, but maybe we could find some way for the them to ease the money issue with grants or some sort of break from insurance companys to ease the financial burden. Rich Nowland Lifeline Helicopter Rockford, IL Currently using ANVIS:NO ANVIS-6 hrs:500 ANVIS-9 hrs:0
296	Congress should pass legislation requiring the use of NVGs for all non-IFR HEMS operations conducted at night. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
297	As a military trained pilot in a military environment, I rarely used NVGs above 500' AHO. The majority of military mission were well planned and executed below 500' AHO. In the EMS arena, there is not adequate time to pre-plan a mission; however, I do tend to fly the same routes to and from certain operational areas, so I become quite familiar with them (pre-flying a route). The real benefit to using NVGs comes below 500' and, certainly, below 300'. Visual cues, terrain definition, and obstacle avoidance are better suited for AIDED flight. With regard to question 11: I agree with the statement for a NVG PROFICIENT pilot. If a pilot is not comfortable executing an aided approach or properly trained, he/she should not do so. The technique of flying AIDED to a LZ above 500', descending to 300' for a reconnaissance, and then transitioning to UNAIDED flight is a poor technique that should be corrected. My recommendation is to conduct the entire sequence AIDED with any additional lighting necessary to complete a safe approach. Currently using ANVIS:YES ANVIS-6 hrs:100 ANVIS-9 hrs:15
298	Our progarm does not us NVGs. They would be nice on scenes and night landings. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
300	The use of NVG's provide a safety margine in the location of forced landing areas. They assist in terrain avoidance. In many cases they assist in the ability to become more aware of weather in the area if the pilot is properly trained. NVG's should be utilized as a safety enhancment and not a tool to take flights that one would not take if weather is questionable. Currently using ANVIS:YES ANVIS-6 hrs:200 ANVIS-9 hrs:75
304	NVG's DO save lives. We will look back at these pre-NVG times as the "Dark Ages." It's now up the the powers-that-be to decide how many more will die...and at what cost. Too bad we'll have to lose a few more before getting the goggles industry-wide. Currently using ANVIS:NO ANVIS-6 hrs:400 ANVIS-9 hrs:0

307	To state that use of NVG's will improve safety is very misleading. Use of NVG's will make certain maneuvers much easier and therefore increase a pilot's comfort level. This will cause many to say there use increases safety. I feel however that NVG usage will increase the overall accident rate. Once you put on a set of NVG's, you open yourself up to an entirely new environment, one with it's own challenges and pitfalls. Depth perception, distance estimation, fatigue, and improper scanning are only some of the issues. To overcome these, a crew needs significant training and constant practice. I don't feel the schedule HEMES programs normally operate under will allow the user to have the time necessary to develope required skills. Many of the pilots may be able to rely on previous training and experience and operate effectively, however some will not. This is not to say that I would ever hand back a set of NVG's. However, the overall accident rate will go up with their increased use. Currently using ANVIS:NO ANVIS-6 hrs:800 ANVIS-9 hrs:0
308	I believe NVG's should be mandated for EMS operations. It is not a question of if we should but how quickly we should do that.The companies that take that initiative will be the companies that will be the preferred providers and also, the preferred places for EMS pilots to work at. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
309	It's a no brainer. Currently using ANVIS:NO ANVIS-6 hrs:500 ANVIS-9 hrs:0
310	Get FAA helicopter pilots qualified in the new gen NVG and use them in urban and unimproved sites and then the urban ledgends that have developed will be dispelled. Any agency that thinks that unaided night flight by a pilot is safer than one with NVG's has its collective heads up a bureacratic anal oriface. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
311	Our program will be getting NVG's within the next year. I personaly am looking forward to using them. I feel they will be a great asset for night opertions. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
313	NVG use in air medical transport should be required for any pilot or program that plans on leaving an urban environment during any phase of an EMS mission. It should be strongly recommended that NVG's be available for any non-helipad landing, i.e., any landing area other than an airport, or a purpose built, properly lit, helicopter landing pad. Additionally, the current practice of transitioning from NVG use to the naked eye at 300 feet AGL, which was poorly conceived, should be abandoned immediately, as it is inherently unsafe, and creates a much greater hazard during a very critical phase of flight. Currently using ANVIS:YES ANVIS-6 hrs:20 ANVIS-9 hrs:350
315	Sorry guys, never used them so have no basis for opinions. I'm sure they are a good tool but the extra time to add another pretake-off item will not be taken well by the program director, chief flight nurse and marketing people. Ironically they preach safety and will use NVG's as a new marketing tool when we aquire them but still demand documentation for longer response & lift times - just another stressor. Using NVG medical crew depends on their ability, personality and reliability. Some of them are responsile / trustworthy adults and others not. Nothing changes Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
317	We're not using NVG's at this time but are scheduled to start within the next few months. Having never used them in 40+ years of flying I'm a bit apprehensive. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0

319	Question #11 is the most important question since currently the policy is to degoggle which is ridiculous and dangerous. (Practicing degoggling more to gain proficiency is NOT the answer either!!!) If you've ever done this on a REALLY dark night with a high ovrcast (to eliminate starlight) and no moon in an area with no cultural lighting you'd agree that this is one of the stupidest things a pilot could ever do. Talk about inducing spatial-D! Also, we need more funding for NVG training and equipment. We currently don't hav enough sets where all our night crews can be equipped with NVGs. Currently using ANVIS:YES ANVIS-6 hrs:150 ANVIS-9 hrs:250
320	you have got to be kidding, asking me if i prefer to fly aided or unaided. after spending a considerable amount of time in the service, 20+ years, i wouldn't go anywhere without the goggles at night. this unaided stuff is for the birds and unsafe as far as i'm concerned. fred Currently using ANVIS:YES ANVIS-6 hrs:100 ANVIS-9 hrs:0
321	Question 11 is SIGNIFICANT! It is proposterous to restrict take offs and landings with NVG's to when medical crew are on board! On a similar note: Although desirable, more than one set of NVG's should not be required for NVG flight! Currently using ANVIS:YES ANVIS-6 hrs:200 ANVIS-9 hrs:200
324	I agree that having a medical crewmember equipped with NVG's as an "extra pair of eyes" in the aircraft is an added safety feature. To restict operations because a medical crewmember isn't wearing NVG's doesn't make sense to me. My current understanding is that I can go in to an unimproved landing area with less restricitons with everyone on board unaided than if the pilot alone was aided by NVG's. So stictly from the pilots reference, why is it safer to go in unaided than aided? I don't understand nor agree with that philosophy. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
325	We just got goggles about two months ago. This is my first time using them (I'm civillian trained). They are fantastic! Their use in EMS should be mandatory. However, de-goggling at 300' when you don't have a second crewmember on goggles is STUPID, STUPID, STUPID, dumb, insane, idiotic and any other such adjective that can be thought of!!!! Not to mention unsafe. You go from having a fairly bright light that lets you see all around to just a puny little spotlight hitting one area and everything else is dark. Just F....ing stupid. Currently using ANVIS:YES ANVIS-6 hrs:10 ANVIS-9 hrs:0
329	i think they would be a usefull tool if properly trained and maintained. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
332	The use of NVG's by properly-trained pilots can only increase the margin of safety, provided that they are NOT used as an excuse for (officially or unofficially) lowering weather minimums. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
333	If for whatever reason we had to stop using NVG's.....I would probably not fly at night anymore.. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:500
334	Visual reference to the environment is critical to safe helicopter operation at night, off airport. There is no more important capability than being able to "see and avoid" obstacles, terrain and weather. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
335	Universal usage of NVGs is long overdue and will enhance safety to a large degree. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
336	The goggles should be mandatory for vfr night ems ops. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:0

337	Get 'em!! Currently using ANVIS:NO ANVIS-6 hrs:100 ANVIS-9 hrs:0
340	#12 Not until they are in use in all night flights. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
342	With the technological advances in todays aviation, and in the field of Night Vision, it is my opinion that any corporation or company that is able to, but declines to utilize NVG's for their operations, is setting their program up for failure before it even begins. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:50
344	Here in the Eastern part of Iowa we have very flat terrain and plenty of lighted areas so I don't see much of a need for NVG's in our area. I do think they would be VERY beneficial in unpopulated, hilly and very wooded terrain. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
345	Flying a single engine aircraft over mountainious terrain, or any terrain with NVGs, greatly improves the chances of a successful autorotation or emergency landing. If my medical crew is not current, and my engine quits, do you think I'm going to flip my goggles up- No way, why would I not want to lose sight of where my forced landing area is. I cannot believe that the FAA doesn't understand this. I honestly believe flipping up the goggles will cause an accident in time. The most critical times are take-off and landing. What are they thinking with this restriction. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:7
346	If properly trained with recurrent training, even pilot use only, would make it a more safe flying environment. Goggles are a tool that enhanse safety. Currently using ANVIS:NO ANVIS-6 hrs:120 ANVIS-9 hrs:325
347	Get them to everyone. It will only improve service. Currently using ANVIS:NO ANVIS-6 hrs:500 ANVIS-9 hrs:0
349	There would be several people still alive if the googles had been made manditory years ago.... Currently using ANVIS:NO ANVIS-6 hrs:300 ANVIS-9 hrs:0
350	Our Program does not use NVG's. But the company says that eventually all programs will have goggles. I don't have any experience with goggles, but I am looking forword to having them. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
351	The use of NVG's in the HEMS industry will enhance situational awareness and safety with regards to terrain avoidance. Currently using ANVIS:NO ANVIS-6 hrs:1200 ANVIS-9 hrs:0
352	As this section of the helicopter industry struggles to improve it's safety record and safety capabilities, I feel that continuing to scrutinize a proven and well documented safety asset (night vision goggles) is putting those in this industry in an at risk position that could be negated. We have seen the Military and other programs continue to improve their safety record and margins of error within the night environment through the use of NVG's and training at night; Let's not allow another casualty by continuing to debate this subject and it's usefullness without implementation. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
355	Gives the pilot increased visual acuity operating to and from unimproved lowly lit areas. It is much easier to detect obstacles to terrain flight. Also gives the pilot the ability to detect deteriorating weather conditions much sooner than being unaided. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0

356	As a recently retired Army pilot with 24 years experience, I have only 1 year in EMS. I was very surprised to see the lack of utilization of NVGs which have been used extensively in the military for decades. NVGs will not only improve the safety of night operations, but will also give medical crews an added feeling of comfort with the enhanced ability to see the things that were only previously viewable within the narrow field of a search light. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
360	NVGs should be mandatory for all EMS programs, especially those that operate in poorly lit / rural environments. Note: Aided visual acuity: 20/25 - 20/40 (ANVIS-9) Unaided visual acuity: 20/200 or worse. These facts speak for themselves. Currently using ANVIS:YES ANVIS-6 hrs:90 ANVIS-9 hrs:6
362	In addition to taking off and landing in unimproved LZ's the use of NVG's would greatly enhance all enroute phases of flight (both patient and non-patient legs). The ability to deal safely with "Land as Soon as Possible" and "Land Immediately" situations that occur during night operations would be greatly enhanced if the pilot was using NVG's. During the "patient Leg" of our flights all medical crewmembers are in the back so their ability to contribute to a safe emergency landing at night would be negligible even if they did have access to NVG's. During "Non-patient Legs" one medical crewmember usually rides in the cockpit. Having this person wearing NVG's during an emergency might be helpful however, if the extra cost of equipping and training these people would limit or interfere with the equipping and training of the pilots then I don't think a requirement to NVG qualify them is worth it. Remember, their eyes are only available in emegencies 50% or 60% of the time and even then those extra eyes offer only marginal improvement of the situation. If you can equip and train everybody then it's OK to include the medical crewmembers but a program to get as many pilots equipped and trained must be paramount. Currently using ANVIS:NO ANVIS-6 hrs:200 ANVIS-9 hrs:0
366	95% POSITIVE, 5% NEGATIVE BEST VISUAL ACUITY FULL MOON UNAIDED IS 20-200 VISUAL ACUITY WITH ANVIS-9 MOST NIGHTS 20-40 WITH NVGS I CAN SEE: TERRAIN FOR FORCED LANDINGS, THE BASE OF THE CEILING TO STAY VFR, FOG/CLOUDS FORMING OR MOVING IN, TOWERS, POLES, TREES, CLEAR CUTS FOR WIRES, HIGH TENSION TOWERS, AND WIRES WITH CONTRASTING BACKGROUND, JUST LIKE DURING THE DAY. WHY IN THE HELL WOULD ANYONE WANT TO FLY WITHOUT THEM? I USE MY LIGHTING TO ASSIST MY NVGs. THEY DO NOT BLOOM OR SHUTDOWN WITH HIGH LIGHTING. YOU CAN ALWAYS LOOK UNDER/AROUND THEM OR FLIP THEM UP IF NEEDED. YOU GET A 40 DEGREE FOV OF DAYLIGHT DURING THE NIGHT. THE BRIGHTEST LIGHTS, OBSTRUCTION LIGHTING, HAS A HALO WHICH ASSISTS RECOGNITION. COLORED LIGHTS DON'T STAND OUT. Currently using ANVIS:YES ANVIS-6 hrs:100 ANVIS-9 hrs:100
367	My company currently requires that I flip the goggles up at 300 feet AGL going into a dark LZ if another crew member isn't onboard with NVGs. This seems the most counter-safety procedure I've ever heard of. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:80
369	NVG's are a great asset but the training in the use of them is way below what is required to be safe. Luckily I got my training in the military. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
370	Nest to Twin engine aircraft, the greatest safety boon that has ever come along for the industry Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100
371	FAA does not understand requirements and advantage of NVG. Military pilots should recieve credit for all NVG training. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:20

373	NVGs are, no doubt, the most significant safety device used by EMS aircrews. Currently using ANVIS:YES ANVIS-6 hrs:100 ANVIS-9 hrs:100
379	NVG will improve safety during scene flights or off heliport landings (emergencies), and inclement weather. Currently using ANVIS:NO ANVIS-6 hrs:450 ANVIS-9 hrs:0
380	everybody should have use to these. The safety alone of being able to see weather and hazards is worth it. It takes a lot of "guess work" out of flying at night. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:200
381	The use of NVGs has reduced the risks of flying in rural areas that we service. The difference between unaided and NVG flying is the difference between day and night. The days of the full face PVS 5 or cut aways are long gone. With ANVIS -9 NVGs safety is enhanced and the risks are greatly reduced. My NVG experience started in 1987 and started with cut away PVS 5s. I have flown all improved types up to the ANVIS-9. I dont understand why any one would consider flying night unaided safer than flying with ANVIS-9s. Unless they have never flown NVGs or ANVIS-9s or their experience is from the old PVS-5s which where scary. Not only do I feel NVGs have enhanced capabilites and improved safty, I also believe they should be required. They are a mission enhancer and a risk reducer. Currently using ANVIS:YES ANVIS-6 hrs:235 ANVIS-9 hrs:50
382	The use of NVGs has greatly increased the safety of night time operations with one exception. The requirement to degoggle at the critical time (300 AGL) when NVGs are needed most for obstical avoidance, and landing zone recon places the aircraft and crew in an extremely hazardous situation. Goggles can identify hazards, wires, poles, animals, fences and debris that are unseen by landing light and unaided sight. In a single pilot aircraft the medical crew are not aircraft crew members. They have limited forward visablity, and thus provide safety input and clearance input from the sides to the rear. Obstical avoidance is required forward as well, and the degoggle process in the absence of "trained" NON-FLIGHT CREWS in effects removes a maojor safety resource form the pilot. This requirement to degoggle without "Trained" medical crew also requires ther pilot to release a flight control when the pilot should be focusing on "FLYING" the aircraft and looking for final hazards. Not a smart idea!!!!!! Currently using ANVIS:YES ANVIS-6 hrs:300 ANVIS-9 hrs:100
383	Any night landing to an unimproved area IS safer using NVGs if properly trained. Any night cross-country is safer using NVGs if properly trained. Even -5PVS cutaways are better than an unaided "spotlight & bar light" approach and landing. I did it for years even touchdown autorotations. NVGs are the most important safety device available to night flying. Currently using ANVIS:NO ANVIS-6 hrs:25 ANVIS-9 hrs:0
384	NVGs have greatly increased our safety and comfort level here in the Western North Carolina mountains. I feel you should also have a good searchlight and we need to also keep up with improvements in these systems as well. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:0
386	REGA, Swiss Air Ambulance is using NVIS since 1985 without any incident. REGA is using the NVIS as a safety tool and not to reduce the current NVFR Night Limits of 2500m VIs and cloud base of 1000 ft AGL in accordance with the REGA OM. Currently using ANVIS:YES ANVIS-6 hrs:250 ANVIS-9 hrs:0

389	NVG's greatly increase safety of all night flying in low level helicopter environment. They also increase the survivablity of the aircrew in case of an emergency with a forced landing in an unimproved area. They should be mandated by the FAA for all EMS VFR night operations! Currently using ANVIS:YES ANVIS-6 hrs:100 ANVIS-9 hrs:125
391	I have almost 1,800 hours flying NVG's. In my opinion NVG's are a must have for all operators. Even if the pilot is the only one on NVG's, it is still 100% safer for everyone when landing in a remote area or any minimally lit area. When you are unaided your accuity is 20/200 (legally blind) and with the Pinnacles it can be as good as 20/40. How can the FAA argue that? Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:35
392	I feel that we should be allowed to stay goggled on then approach all the way to the ground. Why take a great tool for enhancing safety away from us? De-goggling at 300 ft AGL is a distraction, having to remove my hand from the collective to degoggle, readjust landing/search lights and try to adjust to an unaided condtion. Currently using ANVIS:YES ANVIS-6 hrs:1420 ANVIS-9 hrs:15
393	You can see A LOT MORE with NVG's than without. Enough said. Currently using ANVIS:YES ANVIS-6 hrs:500 ANVIS-9 hrs:0
394	Let me repeat what has been said before.....NVG's are HUGELY beneficial for a HEMS mission profile. To fly without is putting the aircraft, aircrew, and patient at an unacceptable risk. Currently using ANVIS:YES ANVIS-6 hrs:125 ANVIS-9 hrs:380
395	The use of NVG's in EMS has greatly enhanced the safety aspect of what we do. I would certainly not want to return to the situation we were in in the past. I am an extreme advocate to utilizing NVG's. Currently using ANVIS:YES ANVIS-6 hrs:200 ANVIS-9 hrs:150
400	By the use of the term night vision goggle trained medical crewmember, am assuming that includes the use of a monicle as opposed to the helmet mounted binocular type for the crewmembers. The hand held monocular type is a better choice for the crewmembers in the back. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:100
402	I think that un-aided night flight to un-improved landing areas is a unnecessary risk with the advancement of Night Vision Goggles. I believe that goggle should be mandated for all night flights in EMS Currently using ANVIS:NO ANVIS-6 hrs:1200 ANVIS-9 hrs:30
404	NVGs are vital to the safety of pilots and patients. Any addition to standard and recomended equipment lists that include these whould be a very important advantage. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
405	The widespread requirement to have two "crewmembers" on the goggles prior to descending to the ground is counterproductive. That is exactly the environment where obstacles occur and to require me to de-goggle during this critical phase of flight, for any reason, is ridiculous. Even if I'm the only aided crewmember, we're still better off with me having 20/15 vision vs 20/200. The FAA needs to mandate helmet mounted NVGs for HEMS. The technology will and does save lives. (Do not allow operators to substitute "Enhanced Vision" FLIR systems designed for airplanes landing straight ahead to runways...it's not the same) Currently using ANVIS:YES ANVIS-6 hrs:300 ANVIS-9 hrs:300

407	I will not take a HEMS job from an employer who does not have an active NVG program. Flying with NVG's has allowed me to see IFR weather at night that was not visible with the naked eye, has allowed me to see and avoid 2 unlit towers that were not on NOTAMS and allows for safe orbits without the risk of vertigo due to no visible horizon. To have the technology to improve safety and not utilize it in my eyes is negligant and risky. I do not know of one crash attributed to use of ANVIS 9 NVG's but continue to read about crashes that operated without NVG's. Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:750
410	NVGs provide the single greatest safety device to any pilot operating an aircraft at night. Limiting the use of the device because EMS crewmembers are not trained or equipped is the most insane idea to ever come from from the FAA. The use of NVGs provides pilots with the ability to see clouds at night prior to entering IMC. Any pilot using NVGs should never encounter inadvertent IMC. The use of NVGs should be mandated by the FAA for night EMS helicopter operations. This one saftey device is the most effective thing to combat night EMS accidents involving either CFIT or IMC. Michael W. Paul Currently using ANVIS:YES ANVIS-6 hrs:0 ANVIS-9 hrs:235
411	The Safest improvement to EMS we have ever seen Currently using ANVIS:YES ANVIS-6 hrs:200 ANVIS-9 hrs:50
417	I started flying with NVG in 1985 and have seen the evolution of the technology. NVG are essential to safety of night flying and having a crewmember in the back with NVG, or Monocle, or any type of NVG is better than nothing, but the extra crewmember should never be mandatory! Making additional crewmembers mandatory means that you would rather land with two or more people blind, rather than at least one who can see. This is contradictory to SAFETY! I am an NVG Training Captain and have been an NVG instructor since 1998. Anyway, I know what I'm talking about, so feel free to share my email with any of the FAA folks who might want to know about NVG and HNVGO. Thanks, Jim Currently using ANVIS:YES ANVIS-6 hrs:2200 ANVIS-9 hrs:400
423	looking forward to getting them Currently using ANVIS:NO ANVIS-6 hrs:900 ANVIS-9 hrs:0
424	When I first came to HEMS work I was amazed at the resistance in adopting the NVG's at the company I worked for. I received a great deal of resistance from the Medical side of the house as well but after lobbying for them over several years we now have them and virtually everyone has reversed their opinion of the NVG's. Now I hear nothing but praise for them and the repeated statement that how could we have not been using them all these years. Never be afraid of new technology, if it has the potential to save even one life its money well spent. Currently using ANVIS:YES ANVIS-6 hrs:375 ANVIS-9 hrs:223
425	I flew NVGs in military SAR and special operation for over 20 years, and I have over 1,600 hrs of NVG time. My program is starting training with them this month. It's long overdue, and I can't think of any other single way to improve night safety as much as NVG's Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0
432	I prefer NVGs over IFR for our mission here on the Hawaiian islands. Currently using ANVIS:NO ANVIS-6 hrs:0 ANVIS-9 hrs:0

434	The EMS community must be very careful to not regard NVG's as the Safety "Silver Bullet" for night operations. The Military's Safety record with NVG's is not great and is revealing if we would only study it. The military spends a great deal of time training their folks on NVG's and they still have numerous accidents using NVG's. We are giving our pilots/med crews 8-12 hours and turning them loose to go forth and do great things. Does this training include the difficulties of "seeing" low weather developing and how to handle Inadvertant IFR that NVG's can lead one into? Having not received the training yet, I have no factual answer to that question. My guess is that this type of training is minimized because of dollars. What are the "rules" about Low Light (lumens) situation. The military has some fairly strict regulations that deal with carrying of passengers in different levels of lumens. To the best of my knowledge we do not. I had one of our medical crew from Las Vegas (they are on NVG's) tell me that they will not fly anywhere that they would not have flown before without NVG's. I asked him if he really understood what he was saying and how the statement made little practical sense when everyone in the helo was wearing NVG's and could now see in the dark that they could not see in before. He acknowledged that the rule made little sense. Before anyone thinks that I am anti-NVG, let me tell you that this is not the case. I look forward to using them in conjunction with our SPIFR operation and think that they will be a good safety tool...but they are not the "Silver Bullet", and we must be very cautious with the use of the tool. We will painfully learn that lesson when we start having our on-NVG's accidents that the military has experienced. Larry Grandy 760-701-2083 Currently using ANVIS:NO ANVIS-6 hrs:3 ANVIS-9 hrs:0
448	A must for all pilots. It is assinine to think it would be safer to land an aircraft unaided simply because the crew in the back, without flight controls, was not wearing NVGs. The FAA is woefully late and backward in their NVG thinking and needs to look to their military counterparts for NVG usage rules/ideas. Currently using ANVIS:YES ANVIS-6 hrs:250 ANVIS-9 hrs:50
435	The increase in safety with good, quality NVG's and proper training is as great as the difference between night and day. Currently using ANVIS:NO ANVIS-6 hrs:60 ANVIS-9 hrs:20
440	I have just completed a tour in Iraq. The majority of my flights were conducted at night. I was very inpressed with the new ANVIS and will never understand why we are not flying with them today. I hope that the FAA will mandate the use of NVG for all night operations. Currently using ANVIS:YES ANVIS-6 hrs:500 ANVIS-9 hrs:0

Conclusion

These final remarks are in behalf of the members of the Board of Directors of the National EMS Pilots Association. We are very appreciative of all those HEMS pilots who took time to express their professional opinions regarding the use of night vision goggles in air medical transport. We think that all respondents have been forthright and honest in their responses. If some have been bitingly frank in their comments, we take that as an indication of the depth of their feeling regarding the importance of night vision technology to the safety of HEMS operations.

In particular, we note the resistance to requiring pilots, if no other crewmember on board is also using NVG's, to transition from aided to unaided flight during the final minute of a night approach to an unimproved landing zone. The consensus is that removing the pilot's ability to see in the dark at that critical juncture may significantly compromise the safe completion of the approach.

We also note a lack of recommendations for Terrain Awareness Warning System or Ground Proximity Warning System technology as a viable alternative to night vision goggles. Although these systems may well have a role in improving the safety of HEMS night operations, they only warn the pilot of hazards that he cannot see. With NVG's the pilot can see, identify, and avoid hazards in much the same manner that he does during daylight flight.

Although NEMSPA and its pilot members do not deny a desire to influence the policies and regulations that will ultimately determine the manner in which night vision technology will be utilized in HEMS operations, we hope that this survey will not be seen as an attempt to pressure any air medical operator or regulatory agency to act contrary to their own best judgment. Nevertheless, the survey responses represent the opinions of the pilots who will be most affected by those policies and rules as well as of the pilots who have the greatest amount of experience to date with flying actual NVG missions in the HEMS environment. For this reason, we hope that this survey will be studied and weighed in the formulation of such policies and regulations.

Respectfully,
Gary Sizemore
President, National EMS Pilots Association