Eddie Kemp
Bright Star Aviation, Inc.
2200 Pleasant Street
DeKalb, IL 60115
Ph: (815)-761-6910
Fax: (815)-899-0230

February 18th, 2005

Deepak Joshi
Lead Aerospace Engineer
National Transportation Safety Board
Room 5235
490 L'Enfant Plaza, SW.
Washington, DC 20594

Dear Sir,

The purpose of this letter is to express my opposition to the NPRM 427. The attached fact sheet contains very compelling data as to why the proposed changes are not warranted.

Your time and consideration are greatly appreciated.

Sincerely,

Eddie Kemp
Chief Pilot

INFORMATION SHEET on NTSB NPRM 427 **1 February 2005**

The following is information related to the limited value of the NTSB Notice of Proposed Rulemaking (NPRM 427) posted in the Federal Regulation pages 77150 to 77152 on December 27, 2004, that proposes to eliminate ground rotor blade strike exemption from the "Substantial Damage" definition of 47 CFR 830.2. A copy of the NPRM is attached.

Presently, when a ground strike of a rotor blade occurs that damages the rotor blade but nothing else on the aircraft and no one is injured, the event is called an incident. This is due to the present exemption in the "substantial damage" definition that ground strike rotor blade damage does not constitute "substantial damage" for the purpose of reporting. The NPRM removes the blade strike damage exemption, thus ground strike damage becomes "substantial damage" and therefore is an "accident". By removing this exemption per the NPRM, this same incident event of today would be called an accident and involve all of the actions and costs of a "real" accident. Everyone affected if the new rule is implemented, should respond to the NTSB Docket prior to February 27, 2005 with your comments (supportive or against). The NTSB should have to respond publicly to address all comments received as part of their final rule as do other federal agencies. Your response should be mailed to:

Mr. Deepak Joshi
Lead Aerospace Engineer (Structures)
National Transportation Safety Board
490 L'Enfant Plaza, SW
Washington, DC 20594

For additional information or clarification of this Information Sheet regarding the NPRM issue, contact Roy Fox at rfox@bellhelicopter.textron.com or (817) 280-5372.

1. **NTSB not likely to do field investigation of a ground rotor blade strike if strikes are redefined as "accident".**

NPRM Preamble states:

This amendment is intended to enhance aviation safety by providing the NTSB direct notification of these events so that we can investigate and take corrective actions in a timely manner.

This Preamble implies that the NTSB would actually go to the accident site or incident site and investigate these new ground rotor blade strikes (with no other aircraft damage and no injury), which is highly unlikely due to the continuing NTSB serious manpower shortage. Ten years (1995 through 2004) of U.S. Registered helicopters accidents from the NTSB accident reports on their Internet website were analyzed by Bell. Table 1 shows the number of these 1,862 accidents by the highest accident injury severity in

which the NTSB actually conducted either a field investigation or just a limited (e.g. the NTSB accident investigator (AI) does not go to field for the investigation). Field investigations to the accident site are critical in thorough accident investigations to understand the clues found from site and wreckage components conditions (e.g. before any wreckage movement/recovery, wreckage debris paths, ground and vegetation scars, and terrain effects).

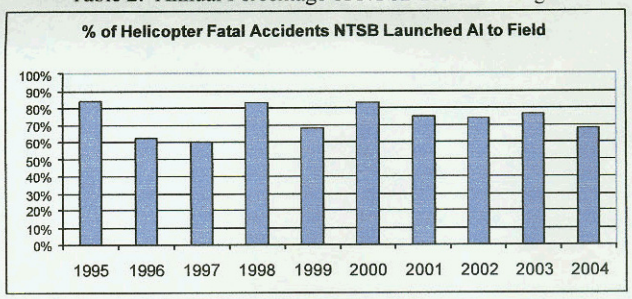
Table 1. NTSB Field vs. Limited Investigations

Accidents by Injury Severity	Total Helicopter Accidents	NTSB Field Launched AI	Percentage of NTSB Field Launched AI	Percent NOT Covered by NTSB Field Launched AI
Fatal Accidents	313	230	73.5%	26.5%
Serious Injury Accidents	229	36	15.7%	84.3%
Minor Injury Accidents	375	24	6.4%	93.6%
No Injury Accidents	945	39	4.1%	95.9%
Total Accidents	**1862**	**329**	**17.7%**	**82.3%**

The NTSB does not even go to the field on all fatal helicopter accidents, thus 26.5% of all fatal accidents were only limited investigations. This study shows that the NTSB was not able to make a thorough field investigation in 82.3% of ALL helicopter accidents of which they are presently being notified. The proposed change to make ALL rotor blade ground strikes with no other components damage or injury, to be now classified as "accidents", would just add to the "No Injury Accidents" group of which the NTSB only goes to the field on 39 of them in 10 years. Said differently, 95.9% of all No Injury Accidents were not field investigated by the NTSB before the proposed change to add in ground rotor blade strike as accidents.

Table 2 shows the annual percentage of U.S. Registered fatal helicopter accidents for the last 10 years (1995-2004) in which the NTSB accident investigator went to the field for the accident investigation. The shortage of NTSB field accident investigators has been apparent for years and little improvement is expected in the future. Thus it is highly likely that not all fatal helicopter accidents will get a field investigation. Conducting field investigations of all fatal helicopter accidents should be a NTSB priority and not dilute their investigative capacity with rotor blade ground strike incidents (with no other damage or injury) if this NPRM goes into effect.

Table 2. Annual Percentage of NTSB Field Investigations



2. Costs versus Benefit

U.S. government agencies operate under many rules and regulations. One of which is Executive Order 12866 entitled "Economic Analysis of Federal Regulations Under Executive Order 12866". This Executive Order states in the Introduction:

"In accordance with the regulatory philosophy and principles provided in Sections 1(a) and (b) and Section 6(a)(3)(C) of Executive Order 12866, an Economic Analysis (EA) of proposed or existing regulations should inform decisionmakers of the consequences of alternative actions. In particular, the EA should provide information allowing decisionmakers to determine that:

> *There is adequate information indicating the need for and consequences of the proposed action;*
>
> *The potential benefits to society justify the potential costs, recognizing that not all benefits and costs can be described in monetary or even in quantitative terms, unless a statute requires another regulatory approach;*
>
> *The proposed action will maximize net benefits to society (including potential economic, environmental, public health and safety, and other advantages; distributional impacts; and equity), unless a statute requires another regulatory approach;"*

It further states:

> *"The "Regulatory Flexibility Act" (P.L. 96-354) requires Federal agencies to give special consideration to the impact of regulation on small businesses. The Act specifies that a regulatory flexibility analysis must be prepared if a screening analysis indicates that a regulation will have a significant impact on a substantial number of small entities."*

The FAA provides Cost-Benefit Studies when they propose federal rule changes, which is consistent with this Executive Order. The cost-benefit study provides the cost of implementing the proposed change, which is typically borne by the pilot, operator, or manufacturer. The societal benefits gained by the proposed change must be greater than the cost to society, to allow implementation of the regulation change.
It is not known if the NTSB (a federal agency) is required to do a cost-benefit study of their proposed rule change (e.g. this NPRM). If a cost-benefit study of the effects of this NPRM had been done, it would have been apparent that there is little actual benefit and large costs associated with the rule change of reclassifying ground rotor blade strikes as "accidents". The following is a preliminary cost-benefit study related to the rotor blade ground strikes classification change from an incident to an accident.

Cost to the Operator

The rotor blade strike reclassification causes a helicopter operator to have more accidents on his record. His safety record (least number of accidents, etc.) is valuable to him especially in the highly competitive environment of today. The effect on his insurance cost is unknown but is likely to be higher because he has more accidents under the NPRM. When the operator goes to sell the helicopter, the inflated accident history

(including ground rotor blade strikes with no other damage) will decrease the value of his aircraft.

A large cost to the operator is incurred when the ground rotor blade strike (no other damage) occurs. This "accident" requires immediate notification to the NTSB exactly like reporting a fatal accident. The helicopter must be left exactly where it is at the time of the ground rotor blade strike and security maintained at that "accident" site until the NTSB arrives, does their field investigation, and releases the "accident aircraft" back to the operator. The few days that the NTSB keeps the "accident aircraft" out of service while it does it's field investigation, cost the operator (e.g. lost revenue).

Cost to the Manufacturer

The safety record (e.g. accident rate) of a manufacturer's model helicopter is very important to him and to potential customers. Inflated accident rates (due to ground rotor blade strikes being called accidents), is detrimental to a manufacture in today's competitive market in the US and abroad. If manufacturers petition a reclassification for each ground rotor blade strike "accident" back to the proper "incident" classification, the cost to the manufacturer and to the NTSB staff will increase.

The helicopter manufacturer accident investigator will spend valuable time supporting the NTSB field accident investigation on each of these ground rotor blade strike "accidents". That time by both the NTSB and manufacturer accident investigator could be spent more productively, on investigating more fatal accidents.

Cost to the Pilot

The pilot has a personal interest in his safety record as it affects his employment. Additional rotor blade ground strike "accidents" are counted the same as "real accidents" so his safety record appears worse. This poor safety record is serious to a pilot trying to get a job. It is not known if he will report these ground rotor blade strikes (with no other damage or injury) or not. It is possible that he might just change out the rotor blade per the maintenance manual without reporting the "accident".

Cost to the Helicopter Industry

For years, the helicopter industry has been having great difficulty in getting and retaining heliports in urban areas. Some people don't want helicopters flying over their cities and use helicopter noise and safety as reasons to keep heliports out. These new "accidents" due only to ground rotor blade strikes will just make the helicopter accident rates higher and likely to be used by these naysayers.

International rules changes related to helicopter operations over the years have tended toward what is required in the USA by the FAA because the U.S. Registered helicopter accident rates, in general, are better than the helicopter accident rates in most countries.

Inflated accident rates by inclusion of ground rotor blade strikes, will make that situation worse.

Benefit to Society

It is difficult to find any benefit of changing ground rotor blade strikes (no other damage) to be called "accidents". There is no benefit to the pilot. There is no benefit to the operator. There is no benefit to the helicopter industry. There is no benefit to the helicopter manufacturer.

The only possible benefit is to the NTSB who can claim that they are investigating a larger number of accidents. To make reasonable operational rule recommendations from ground rotor blade strikes, will require that the NTSB actually go do field accident investigations on these occurrences which is unlikely due to their severe manpower limitations.

Every helicopter manufacturer has very distinct maintenance instructions in the event the helicopter strike something (ground or in the air). It is typically called a sudden-stoppage inspection and calls out specific inspections. If the blade passes the inspection or can be repaired per the manual, the blades can be reinstalled. If that sudden stoppage damage extends into the drive train, the drive train damage falls within "substantial damage" and the event is properly classified as an accident anyway.

Alternate Approaches

Executive Order also requires federal agencies to investigate alternate approaches. In regard to the "accident" classification of ground rotor blade strikes events being used to ensure "direct NTSB notification" (re preamble), the real issue should be the notification, not the classification. Notification of "incidents" is already required by 830.5(a) and this NPRM is adding additional specific "incidents" to be reported. The proper place to require reporting of ground rotor blade strikes (with no other damage or injury) is as an "incident" under 830.5(a). This would provide the NTSB desired reporting without all of the penalties of being called an "accident".

3. NTSB Limited Use of Existing Incident Reporting

Bell Helicopter is already reporting accidents and incidents of all civil helicopters of all makes and manufacturers that occur in all countries. This electronic Rotorcraft Occurrence Notification (RON) occurs on a daily basis to the NTSB, Transportation Safety Board of Canada, FAA, and Transport Canada. Bell started this notification in January 2001 and not all of the accidents and incidents in which the NTSB has been notified have been introduced into their database. The NTSB has investigative responsibilities for U.S. Registered helicopters accidents worldwide, as either the State of Occurrence (NTSB conducts the investigation for those accidents occurring on US soil) or supports an accident investigation in a foreign country as the accredited representative for the State of Registry under ICAO Annex 13. Table 3 shows the comparison of

accidents and incidents of U.S. Registered helicopters of which NTSB has included (or not) in their computer database. During this period, the NTSB was notified of 38 ground rotor blade strike incidents (soon to be called accidents) but only 6 were included in their accident/incident databank.

Table 3. Bell Provided Notifications to NTSB of US Registered Helicopters

	NTSB Computer Databank	Additional Notifications Supplied by Bell (RON)
Accidents	765	32
Incidents	22	166
Rotor Strike Incidents to become Accidents per NPRM definition change	6	32

A good example of this issue is a Bell-operated 206L4 helicopter (N2036F) "incident" that occurred on October 7, 2003 during a student training flight. Bell immediately called the NTSB regional office and informed them of the "incident". At the end of that day, the electronic Rotorcraft Occurrence Notification (RON) was sent to the NTSB Headquarters and the other agencies noted above. In this particular case, the NTSB was notified twice on the same rotor ground strike incident. The actual aircraft damage was to the main rotor blade tips and deformed landing gear as noted in Figure 1. This incident under the NPRM new definition would be considered an accident. This incident reported twice to the NTSB on the day of its occurrence, is still not included on the NTSB computer database as of February 1, 2005.

Figure 1. 206L4 Rotor Blade Strike "Incident"

Thus the NTSB is receiving reports from a secondary source (beyond the operator who is required by law to report accidents/incidents) of all civil helicopter accidents and incidents worldwide but is not acting on them enough to include the US Registered ones into their computer database. The NTSB is understaffed and adding new accident reporting requirements will not improve the quality of serious accident investigations. This proposed change is a hardship on the helicopter industry with little to no gain in safety.

4. Vague Definition

Ground Strike is too vague for this "special accident". It is assumed that this would include a rotor blade striking anything on the ground, attached to the ground like a pole/wire, oil/gas platform, heliport, helidecks, railing, top or side of a building, a fence, tree, bush, rock, snow, or any terrain feature except water. It could include striking another aircraft as long as one of them was on the ground, stationary or taxiing. It obviously does not include Foreign Object Debris (FOD) in flight from the helicopter itself or midair collision with birds or other flying objects. A nick or scratch beyond the maintenance manual limits will require either repair or replacement. If the blade is removed for strike damage and is repaired, it can go back on a helicopter for the remainder of it's useful life – why is this an accident? This deletion of "rotor blade" from the ground strike exemption of the substantial damage definition does not make sense and will cause many requests for reclassification back to an incident.

5. Summary

The proposed change in 830.2 to eliminate ground rotor strikes from the exemption portion of the definition of "substantial damage" is not appropriate, and is strongly opposed. These incidents are being reported to the NTSB now and no field investigations are occurring. The NTSB is extremely understaffed and only goes to the accident site on 17.7% of all U.S. Registered helicopter accidents under the present definition thus it is extremely unlikely the NTSB will actually do a field investigation of these new ground rotor blade strike accidents. This proposed regulatory change would increase the number of accidents and increase costs to the operators with no significant safety gain.

6. Recommendations

Recommend that there be NO change to the 14 CFR 830.2 definition of "substantial damage".

If the NTSB feels it must have more regulatory reporting, it is recommended that ground rotor blade strikes be reported as "incidents" under 830.5(a) by adding a new incident paragraph (11) as is done with NPRM adding paragraphs (8), (9), and (10). Such a paragraph could read: "(11) a main or tail rotor blade ground strike."