Exemption No. 10598

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC 20591

In the matter of the petition of

BELL HELICOPTER TEXTRON CANADA LIMITED

for an exemption from § 27.1 of Title 14, Code of Federal Regulations

Regulatory Docket No. FAA-2012-0123

DENIAL OF EXEMPTION

By letter dated January 16, 2012, Mr. M. Peryea, VP BHTCL Engineering, Bell Helicopter Textron Canada Limited (Bell Canada), 12,800 rue de l'Aenir, Mirabel, Quebec, J7J 1R4, Canada petitioned the Federal Aviation Administration (FAA) on behalf of Bell Canada for an exemption from § 27.1 of Title 14, Code of Federal Regulations (14 CFR). The proposed exemption, if granted, would allow type certification of the Bell 429 model helicopter, with an increase in the maximum gross weight from 7,000 pounds to 7,500 pounds, as a normal category rotorcraft.

The petitioner requests relief from the following regulation:

> 14 CFR section 27.1(a), as amended by Amendment 27-37, specifies, in pertinent part, that this part prescribes airworthiness standards for the issue of type certificates, and changes to those certificates, for normal category rotorcraft with maximum weights of 7,000 pounds or less.

The petitioner supports its request with the following information:

This section is a summary of the relevant information from the petitioner's request.

> The petitioner states that granting an exemption to Bell Canada would permit owners and operators of Bell 429 helicopters to carry more fuel or additional equipment, which would increase the level of safety of the Bell 429. The petitioner further states that the ability to carry more fuel would afford operators opportunities for practical instrument flight rules

(IFR) operations, avoiding the perceived necessity to fly in marginal visual meteorological conditions in order to meet operational commitments.

The petitioner states that the Bell 429 is certified for single-pilot IFR (SPIFR) and includes a dual autopilot system in the basic aircraft design. The petitioner further states that the stability and control augmentation system function included in the autopilot provides inherent stability and facilitates better situational awareness. The petitioner adds that the autopilot can be coupled to the navigation functions to include the global positioning system (GPS) wide area augmentation system (WAAS) and with the WAAS approach feature, operators will be able to accomplish departures and approaches to previously unavailable landing sites such as hospital heliports or pre-arranged rural pick up points.

The petitioner states that the Bell 429 is IFR certified and includes equipment that is in addition to the minimum equipment required under part 27. The petitioner adds that the Bell 429 is certified for use with specialized equipment that can be added in order to minimize risks encountered for specific mission profiles. This includes a protected tail rotor system, traffic collision avoidance system (TCAS), certification for ditching, weather radar, and a supplemental type certificate (STC) for health and usage monitoring system equipment. The petitioner notes that other equipment that can be installed includes an enhanced ground proximity warning system (EGPWS), helicopter terrain awareness system (HTAWS) and an automatic deployable emergency locator transmitter. The petitioner further states that an additional weight capability will permit the addition of such equipment without the need to trade off equipment for payload/fuel.

The petitioner states that the additional weight increase for the twin-engine Bell 429 SPIFR is 628 pounds. This weight considers not just the engine weight but the additional structural requirements. In addition to the structure, there is a cascading weight increase associated with the category A installation. The additional structure requires more fuel to provide operationally suitable range. The additional fuel requires additional structure and the Bell 429 must meet the crash resistant fuel tank design. Thus, the Bell 429 is penalized more than previous part 27 designs in meeting the new rules.

The petitioner states that there is a positive impact both from new job creation and dollars into the economy. The petitioner estimates that 400 additional Bell jobs will be created and that 75 percent of those jobs will be in the United States. The petitioner estimates that Bell 429 ship sales in the next five years will go from 150 to 500 ships and 150 million dollars in direct supplier sales will be generated to support production. The petitioner further estimates that an additional 1,600 indirect jobs will be created and long term spares and support would yield Bell and suppliers additional jobs and significant revenue on the order of 3.3 billion dollars over a twenty year period.

The petitioner states that an additional maximum weight capability would minimize operational risks for all Bell 429 operators. The petitioner further states that currently, the Bell 429 at 3,125 kg (7,000 lbs) is not capable of carrying a full load of fuel with 8 occupants

(the maximum number of occupants certified for the Bell 429) and for operations the amount of fuel carried is calculated to meet the mission requirements to maximize payload available for passengers. The petitioner states that with additional weight capability, the Bell 429 would have the ability to carry more fuel and hence provide for greater fuel margin for missions, resulting in an increased level of safety and benefit to the public.

The petitioner states specific types of operations that utilize the Bell 429 such as helicopter air ambulance; oil and gas exploration, production and support; public safety operations; and utility and the public benefits that are derived from such operations. These benefits of greater weight capability, noted by the petitioner, for these types operations can be summarized as enhancing the operational mission capability of the Bell 429 by improving operational safety and efficiency and by increasing payload and range capability. The petitioner contends that the benefits associated with enhancing the operational mission capability of the Bell 429 will be realized by the public.

In concluding, the petitioner reemphasizes that the more appropriate certification focus for part 27 rotorcraft should be on technical complexity and safety. The petitioner further emphasizes that the safety level of the Bell 429, based on current designs, is a significant improvement and in some cases exceeds the design level of current part 29 rotorcraft.

Summary of Comments Received:

A summary of the petition was published in the Federal Register on March 6, 2012 (77 FR 13385). Numerous comments were received. The majority of the commenters were Bell 429 operators or those associated with the product and are in favor of the exemption. Among the commenters opposed to the exemption were other rotorcraft manufacturers, a foreign part 29 rotorcraft producer, and the European Aviation Safety Agency (EASA).

This section is a summary of the relevant information from the comments received in the federal docket management system.

Many of the commenters in favor of granting the exemption point to the Bell 429's design and performance capabilities to operate at the 7,500 pounds maximum gross weight (MGW). Some of these commenters believe the aircraft has exemplary performance, especially in hot climates and high elevations, and is not meeting its full mission potential and marketability because of the 7,000 pound MGW limit. Some commenters also believe that the Bell 429 airframe, avionics, and certain safety features exceed or are comparable to other part 29 rotorcraft currently in use.

Other commenters in favor of granting the exemption pointed to the expanded mission or operational opportunities and increased safety margins for the Bell 429 the additional 500 pounds of allowed weight would provide. This includes, the capability to operate under both visual flight rules and IFR, carry extra mission equipment and additional passengers (operational or patient), and carry additional fuel for longer range flights (e.g., to service

additional areas), extended on-site loitering, and reduced en route refueling during missions (for example, emergency medical services, law enforcement, utility and gulf oil platform transport). A commenter also stated that added onboard fuel also reduces costs of enroute refueling and noise abatement at airports used for remotely managed fuel cache sites. Another commenter believes the current weight restriction directly compromises the quality of patient care. A congressional commenter encouraged the approval of the weight increase to increase service capability in a safe and cost effective way, and to serve his state's constituents through air ambulance and emergency medical service providers.

Another commenter was in favor of the exemption since it provides the ability to install additional flight safety equipment in the Bell 429, such as, HTAWS, twin engine full authority digital engine controls, latest glass cockpit technology, dual automatic flight control system, radio altimeter, GPS supported WAAS, night vision goggles, wire strike protection system, cockpit voice recording and flight data recorder system, etc. Some commenters also recommended the FAA require installation of the equipment contained in the similar exemption granted by Transport Canada Civil Aviation (TCCA).

There were additional comments for the need to consider increasing the weight limit for part 27 rotorcraft above the current 7,000 MGW, partially because of the technological advances in this category of rotorcraft.

Comments in opposition to the exemption stated that Bell Canada did not provide sufficient evidence to support their claim that this exemption, if granted, would be in the public's interest.

Also, from the opposing comments, there was an argument that approving this exemption would favor one company and provide a special favor by the FAA to this one manufacturer, resulting in unfair competition by benefiting economically the one manufacturer (Bell Canada).

Some opposing commenters argued that approving the exemption is contrary to the public interest, is an attack on the current FAA and EASA harmonized type certification and airworthiness standards, implying a lower level of safety for a part 27 product, would undermine the integrity and fairness of the airworthiness standards of part 27 certification and safety protections, and would create a terrible precedent for the FAA. There was an added comment that this exemption would also compromise the safety objectives of distinct airworthiness standards between parts 27 and 29.

In opposing the petition for exemption, there was an argument that it was Bell Canada's decision to certify the Bell 429 model under part 27 rather than part 29. Also, that a grant of this petition for exemption would be tantamount to Bell Canada obtaining a benefit of transport category certification without the added cost of meeting the more stringent part 29 airworthiness standards.

A commenter also suggested that if the FAA wanted to consider a generally applicable change in the part 27 rotorcraft maximum weight limit, there should be a working group convened comprised of representatives from industry and other major national airworthiness authorities.

In addition to comments received during the public comment period, a comment was received shortly after the close of the comment period, well before deliberations on the petition's merits, commenter submissions, and the FAA's decision. This submittal, which has been placed in the docket, did not affect the FAA decision in this matter, or alter any of the discussions that appear in this document.

The FAA's response to the commenters summarized points above:

We agree that the installation of certain equipment that has already been FAA approved and other equipment that Bell Canada proposes to have approved may increase the operational level of safety of the Bell 429. However, other normal category rotorcraft similar to the Bell 429 have been configured for helicopter emergency medical services, offshore, law enforcement, and other operations with similar safety enhancing equipment approved that did not require an exemption to increase the MGW beyond the 7,000 pound maximum weight limit. While the advantages of the additional equipment may increase the level of safety, the support for the increase in gross weight of the aircraft appears to primarily be for economic reasons, thus the perceived benefit to the public.

Further, the fundamental philosophy in the evolution of the FAA airworthiness standards is a continued enhancement in safety with an accepted different level of safety based on gross weight. Currently, rotorcraft that exceed 7,000 pounds MGW are expected to meet the higher levels of safety prescribed by Part 29, transport category rotorcraft. To allow a rotorcraft to be certified at a higher weight than allowed by the regulations undermines the very philosophy that has served the United States aviation community since the beginning. Comments did not indicate that the community at large believes the 7000 lb limit is inappropriate. However, the FAA will issue a notice in the future to seek public input on this topic.

We agree that the operational capability of the Bell 429 could be enhanced with an increase in MGW. However, that is true for any normal category helicopter. Further, there are other normal category helicopters currently available in the market that can achieve similar operational capabilities proposed by Bell Canada that did not require an exemption for increased gross weight.

While we appreciate the commenter submissions, the comments have not provided sufficient rational to *support the overall safety benefit of the exemption requested*. Nor have the commenters' submissions demonstrated that a grant of the relief sought would provide a level of safety at least equal to that provided by the rules from which exemption is sought (compliance with part 29 transport category rotorcraft airworthiness standards).

Any change to the current philosophy of rotorcraft airworthiness standards needs to be done in a public forum. Therefore, the FAA will issue a notice in the future to seek public input on the appropriateness of 7000 lb as the current MGW of Part 27. Additionally, we will seek public input as to whether there are more appropriate certification focus areas, such as "technical complexity and safety" as suggested by Bell Canada.

The FAA's analysis is as follows:

The type certification standards for normal category rotorcraft in 14 CFR part 27 are "minimum" standards. While the FAA agrees that the level of safety may be enhanced by the approved installation of additional certified equipment in the Bell 429, the FAA does not agree that this can or should be accomplished through the grant of a blanket exemption from the applicability of part 29 for a rotorcraft weighing more than 7,000 pounds.

An increase in MGW could allow Bell 429 operators to improve their operational capabilities primarily benefitting those operators and their customers. This would present Bell Canada, Bell 429 operators, and their customers with an economic advantage over their part 27 competitors since their competitors are limited to a 7,000 pound MGW. Comparable helicopters at a similar weight class that are part 29 certified would also be at a disadvantage since they were required to meet more costly part 29 certification requirements. Further, there are other normal category helicopters currently available in the market that can achieve similar operational capabilities proposed by Bell Canada that did not require an exemption for increased gross weight.

Obtaining category A approval for the Bell 429 was strictly a Bell Canada business decision. This decision enhances the marketability of the Bell 429 when compared to non-category A helicopters.

The additional safety enhancing equipment offered as part of the basic Bell 429 helicopter or as optional equipment was a Bell Canada business decision to allow the Bell 429 to be a competitive aircraft in the market place. Much of the operational safety enhancing equipment identified in the petition is common in respect to what is already installed and in use by other part 27 helicopters (e.g., radar altimeter, TCAS, wire strike protection, EGPWS/HTAWS, and weather radar).

We agree that jobs in the United States could be created with the sale of more than 300 new helicopters. If there is a demand for that many helicopters, then helicopter manufacturers will fill that need. Like Bell Canada, most of the non-domestic manufacturers also have facilities in the US. Therefore, we believe that jobs will be added regardless of the manufacturer if there are additional helicopter sales as suggested by the petitioner. However, it is important to remember that a decision to exempt an applicant from FAA safety standards is, and should remain, primarily a safety decision.

The FAA acknowledges that granting an exemption from § 27.1 would probably increase the potential usefulness of the Bell 429, to the current operators. However, we anticipate that there will be very minimal economic benefit to the overall public if the petition for exemption is granted. We anticipate that most of the economic benefits will be realized only by Bell Canada, Bell 429 operators, and their customers.

It is currently possible for Bell 429 operators to seek and obtain approval for installation of additional equipment, if the mission dictates. This could necessitate the removal of some equipment to comply with the part 27 weight limitation. Other normal category helicopters accommodate similar type equipment. The availability of these other part 27 helicopters remains an option for operators. While realizing that not granting the relief sought could have an economic impact on existing Bell 429 owners and operators, for the reasons stated above, we do not see the overall public benefit to the entire community.

The certification procedures for aeronautical products and parts together with the airworthiness standards in the 14 CFR (Federal Aviation Regulations) are intended to establish varying levels of safety for different aeronautical products. As these regulations developed over time, the FAA has based the distinction between normal and transport category rotorcraft certification requirements, in part, on the maximum certified gross weight of the aircraft. The gross weight of aircraft provided a meaningful indication of the number of people and the amount of cargo likely to be carried, as well as the design complexity and performance capabilities of the aircraft. At each stage of the incremental adoption of the airworthiness standards in 14 CFR parts 27 and 29, the FAA met the procedural and legal burdens of establishing a compelling safety rationale for each additional safety requirement. Parts 27 and 29 each establish an appropriate minimum level of safety for the design of normal and transport category rotorcraft, respectively. The effect of granting Bell Canada's petition would be tantamount to a de facto rulemaking action to amend part 27 by increasing its applicability weight. In addition, the effect of a grant would be tantamount to exempting the Bell 429 from the application of part 29.

The FAA has received a number of petitions for exemption to increase the gross weight of specific helicopters to exceed the weight limitation of § 27.1. Typically, the FAA has denied these requests. The FAA has only granted exemptions to § 27.1 in one situation, directly related to rulemaking that increased the weight limitation for all part 27 helicopters. In 1995, the FAA established an Aviation Rulemaking Advisory Committee (ARAC) effort to recommend new or revised requirements for increasing the gross weight and passenger limitations for normal category rotorcraft. This ARAC included representatives from the FAA, Joint Aviation Authorities, and TCCA as well as US and European helicopter manufacturers.

This ARAC agreed that a gross weight limitation increase of part 27 to 7,000 pounds was appropriate. This was primarily because the evolution of the rotorcraft design standards (including the implementation of new crashworthiness regulatory requirements intended to improve occupant survivability in the event of a crash) had driven an increase to the gross weight of modern day part 27 helicopters and impacted the entire helicopter community. In conjunction with this increase, the ARAC agreed to certain increased design standards for part 27. Shortly

after the ARAC recommendations were accepted by the FAA, but prior to final rulemaking, the FAA granted three exemptions to allow an increase in gross weight to specific helicopters. In all three cases, the FAA imposed all of the newly proposed rules, including the enhanced crashworthiness regulatory requirements.

The only other similar part 27 petition for gross weight increase was received in 2007. After reviewing the reasons for that request, the FAA found the request did not differ materially from previously denied requests. The FAA denied that request without public input because the denial was not precedent setting. Similarly, this petition for exemption does not differ materially from previously denied requests.

The argument made by the petitioner that an increase in gross weight for the Bell 429 is needed to accommodate the installation of safety enhancing equipment is not valid justification. An increase in gross weight for any normal category helicopter would accommodate the installation of additional safety enhancing equipment.

Designation of applicable type design airworthiness standards affect more than a product's level of safety. Under part 21 type certification procedures, the first step in establishing the certification basis for a rotorcraft is to refer to the rotorcraft's MGW. An early design consideration for a rotorcraft type certificate applicant is whether to design for compliance with part 27 or part 29. The development and manufacturing costs and market viability of a rotorcraft hinge largely on its type certification basis. The applicability sections in parts 27 and 29 create a level playing field for rotorcraft designers so that from an engineering, investment and marketing perspective, all applicants work to the same regulatory expectations. The exemption relief sought for the Bell 429 would, if granted, place the Bell 429 at a competitive advantage to other rotorcraft over 7,000 pounds already required to meet part 29. Said differently, the relief sought would, if granted, put existing part 29 rotorcraft manufacturers at a competitive disadvantage owing to the greater costs to certify and produce their products.

As indicated previously, the FAA will issue a notice in the future to seek public input to determine if 7000 lbs is the correct MGW for part 27. Further, we will seek to determine if the current parameters (i.e., maximum weight and number of passenger seats) are the appropriate ones for the future, or if any other criteria may be more meaningful to establish the safety targets for the rotorcraft airworthiness standards. We will also welcome entirely new ideas and concepts, if those are supported by the rotorcraft community consensus.

The FAA's Decision:

In consideration of the foregoing and the fact that this petition does not differ materially from other petitions that have been denied in the past, the FAA finds that a grant of exemption would not be in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, the petition of Bell Helicopter Textron Canada Limited for an exemption from 14 CFR § 27.1 is hereby denied.

Issued in Fort Worth, Texas, on August 13, 2012.

/s/
Kimberly K. Smith
Manager, Rotorcraft Directorate
Aircraft Certification Service

Project No.: ASW-12-214-E

Project Officer: Sharon Miles, ASW-111
ARM-207:FShaver:04/19/12:Doc# 34045
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