

TRANSPORTATION APPEAL TRIBUNAL OF CANADA

BETWEEN:

**John Alexander Baker**, Applicant

- and -

**Minister of Transport**, Respondent

**LEGISLATION:**

*Loi sur l'aéronautique*, L.R.C. 1985, c. A-2, art. 6.71(1)(b)

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**Review Determination**  
**William H. Fellows**

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**Decision: June 28, 2006**

*I uphold the Minister's decision to refuse to issue a C1 (multi-engine) instrument rating on June 2, 2005 in accordance with paragraph 6.71(1)(b) of the Aeronautics Act.*

A review hearing on this matter was held Wednesday, June 7, 2006 at 9:30 a.m. at the NOR-ONT Court Reporting Services Conference Room, at Sudbury, Ontario.

**BACKGROUND**

Pursuant to paragraph 6.71(1)(b) of the *Aeronautics Act*, the Minister issued the applicant, John Alexander Baker, a notice of refusal to issue an instrument rating.

This is a compliance issue, in that Mr. Baker was not granted a C1 instrument rating as a result of his failure to meet departmental standards for technical and proficiency requirements during a certification flight test conducted by a Designated Flight Test Examiner, Donald J. Currie, on June 2, 2005, at Sault Ste. Marie Airport.

**THE LAW**

Paragraph 6.71(1)(b) of the *Aeronautics Act* states:

**6.71 (1)** The Minister may refuse to issue or amend a Canadian aviation document on the grounds that

...

(b) the applicant or any aircraft, aerodrome, airport or other facility in respect of which the application is made does not meet the qualifications or fulfil the conditions necessary for the issuance or amendment of the document; or

Subparagraph 401.06 (1)(b)(v) of the *Canadian Aviation Regulations* (CARs) states:

**401.06** (1) Subject to section 6.71 of the Act, the Minister shall, on receipt of an application submitted in the form and manner specified in the personnel licensing standards, issue a flight crew permit or licence to the applicant or endorse the applicant's flight crew permit or licence with a rating if the applicant provides documentation to the Minister that establishes

...

(b) that the applicant meets the applicable requirements set out in the personnel licensing standards in respect of

...

(v) skill.

## **PRELIMINARY ISSUES**

There were no preliminary issues raised by either party, nor any pre-hearing conferences between the parties.

Both parties gave opening statements. The Minister's remarks focused on the Minister of Transport's rationale for flight testing standards. The applicant gave reasons for requesting a review hearing, primarily his wish to have the refusal rescinded to allow his graduation from the Sault College flight training program.

## **THE MINISTER'S CASE**

The Minister's representative, Duncan Chalmers, produced photocopied excerpts from the *Aeronautics Act*, the CARs, and Transport Canada's *Flight Test Guide - Instrument Rating*.

These documents cannot be considered evidence as they are public knowledge. They provide information regarding rules and standards applicable to the matter but do not speak directly to circumstances in the Minister's allegations. Mr. Chalmers referred to certain relevant portions of these documents as each was produced.

## **Minister's Witness**

Mr. Chalmers called **Mr. Currie**, the examiner for Transport Canada who conducted the instrument rating flight test for Mr. Baker, and who assessed his performance as unsatisfactory.

Mr. Currie presented a summary of his experience in aviation as an instructor, a chief flying instructor, Sault College Flight Program Manager, and currently Designated Flight Test Examiner with Transport Canada.

Mr. Currie reviewed procedures involved in conducting an instrument rating flight test, and his role as the examiner in such tests.

Mr. Chalmers produced five photocopied documents, admitted as exhibits M-1 to M-5. As the originals were available for authentication at this hearing, I allowed each document as a true copy of the original. Mr. Chalmers asked Mr. Currie to provide an explanation of each of the five documents, after which I allowed them as evidence appropriate to this matter.

Exhibit M-1 is a photocopy of Transport Canada's Flight Test Report - Instrument Rating, dated June 2, 2005, and filled out by Mr. Currie at the time of Mr. Baker's instrument rating flight test.

Mr. Currie explained results of Mr. Baker's flight test, with attention to several written comments on this report. He reviewed all exercises which an instrument rating candidate must perform during this test. Several exercises are comprised of more than one element. All elements are listed on this report and each is rated according to the candidate's performance. Mr. Currie explained that each element is rated on a numerical scale, where "4" is an above standard score, "3" is standard/average, "2" is basic standard, and "1" is a failure. Mr. Baker achieved "4" on five elements, "3" on six elements, "2" on four elements, and "1" (a failure) on one element.

This report includes Mr. Currie's written comments on the failure, which he explained. The failed element involved a simulated engine failure during an approach to landing, when one of the two engines on the aircraft is reduced in power so as to simulate an engine failure. The candidate must comply with emergency checklist procedures and demonstrate proper and safe control of the aircraft during that exercise. In this instance, Mr. Baker failed to open cowl flaps on the operating engine, thus allowing engine oil and cylinder head temperatures to become excessively high.

Attention to cowl flap adjustment for proper engine cooling is part of the emergency procedures checklist, and Mr. Baker was not observed to be adhering to checklist procedures at this time. Mr. Currie noted the trend toward excessively high temperatures, reminded Mr. Baker of the condition, and then opened cowl flaps on his own initiative to avoid potential damage to the operating engine. Upon completion of the test, Mr. Currie debriefed results of all elements of the test with Mr. Baker, including his reasons for failing the simulated engine element.

Exhibit M-2 is a photocopy of a Flight Test Control Sheet, a form used by Mr. Currie to record observations of performance by instrument rating candidates during flight tests. This contained written comments concerning elements of Mr. Baker's instrument rating test.

Mr. Currie explained this document is used as a discussion aid during the debrief with candidates following the actual flight test. This document was written as the test was in progress at Sault Ste. Marie Airport on June 2, 2005. He explained his observations on page 4 of this document, where they referred specifically to

11.A. Engine Failure (Multi-engine) . . .

No verification of completed items on checklist . . .

No monitor of eng instruments - cowl flaps both closed.

High c/h & oil temps. Examiner intervened.

Oil 75°-275°/235°; cyl. hd. 200°-500°/425°.

Mr. Currie confirmed that he discussed reasons for failing this exercise with Mr. Baker during the debrief session following the flight, and also advised Mr. Baker that he would be given an opportunity to nullify the failure by successfully completing a retest for that specific exercise within two days.

Exhibit M-3 is a photocopy of a Piper Seminole aircraft checklist, which is published by the manufacturer of the twin-engine aircraft used in Mr. Baker's instrument rating flight test. It contains a comprehensive list of pilot checks and required actions for all activities a pilot might encounter in operating this model of aircraft for both normal and emergency conditions.

Mr. Currie made reference to a specific excerpt in this extensive checklist as it pertains to "Clean up" following an emergency engine failure. This states, in part, "Cowl flaps: Operative engine . . . as req'd" and "Inoperative engine . . . closed". Mr. Currie again confirmed he debriefed Mr. Baker on this part of the checklist, and Mr. Baker did not question the validity of the checklist procedure.

Exhibit M-4 is a photocopy of a second Transport Canada's Flight Test Report - Instrument Rating dated June 4, 2005. It is filled out by Mr. Currie and records results of a partial flight test for Mr. Baker on that date.

Mr. Currie explained that Transport Canada allows a partial flight test for candidates deemed eligible by an examiner to give the candidate an opportunity to demonstrate proficiency by repeating a failed exercise experienced during a first attempt. Mr. Baker was given a partial flight test for the "Engine Failure (Multi-engine)" procedure two days after his first test, and was again assessed a "failed", as noted by Mr. Currie in this second Flight Test Report. Mr. Currie explained his written comments on this report that Mr. Baker verified the checklist as completed, but had opened cowl flaps on the simulated dead engine and did not open cowl flaps on the operating engine. Engine temperatures on the operating engine were again not monitored, had risen significantly, and the examiner again intervened to ask Mr. Baker to open cowl flaps on that engine.

Exhibit M-5 is a photocopy of Mr. Currie's notes made during the partial flight test for Mr. Baker on June 4, 2005. Mr. Currie explained that his notes corroborate the failed exercise and are his observations during the exercise. They state ". . . [check]list verified complete -- cowl flap opened on dead eng -- good eng cowl flap remained closed . . . temps higher than normal. No observation by candidate -- examiner intervened . . ." Mr. Currie discussed these notes with Mr. Baker in a debrief at the conclusion of the partial flight test.

### **Cross-examination**

Mr. Currie confirmed Mr. Baker's contention that engine temperature levels as noted in exhibit M-2, recorded as "Oil . . . 235°" and cyl. hd. . . . 425°", were still within the green operating range on the aircraft gauges.

Mr. Baker requested clarification that the partial flight test was not a second of two mutually exclusive tests. Mr. Currie explained that they were both part of the same examination of Mr. Baker's instrument rating candidacy; the partial test was a repeat of an earlier exercise which failed.

### **Re-direct**

Mr. Currie again confirmed that oil and cylinder head temperatures were within the green range on instruments, but that he observed them to be climbing quickly and approaching dangerous levels. He further explained that the outside air temperature during the test was 28°C, and need for proper cooling airflow is of greater importance when outside air temperatures are so warm.

## **THE APPLICANT'S CASE**

### **Applicant's Testimony**

Mr. Baker produced a document admitted as exhibit A-1, a photocopied excerpt entitled *9.3 Emergency Procedures Expanded Checklist* from a textbook entitled *Sault College Standard Operating Procedures*. As the original text was available for authentication, I accepted it as a true copy of the original, and after Mr. Baker explained the document, I allowed it as evidence appropriate to the matter.

Mr. Baker referred to a section of exhibit A-1 captioned *9.3.3 Clean Up*, wherein it states ". . . Adjust cowl flap on operative engine as required to keep temperatures in the normal range . . ." He further referred to section 9.3.1 which states ". . . The CAUSE checks may also be omitted if on an IFR approach with the approach checks previously done".

Mr. Baker then referred to a section of the information document *Flight Test Guide - Instrument Rating* of Transport Canada, and asked Mr. Currie if paragraph (h) on page 21, which states "monitor all functions of the operating engine and make necessary adjustments", formed part of the criteria upon which his failed exercise was based. Mr. Currie confirmed this was true.

Mr. Baker quoted another section of the *Sault College Standard Operating Procedures* which stated, in part, that in a descent, cowl flaps should be closed for a Piper Seminole aircraft; however, he did not present documented evidence in this regard.

Mr. Baker then referred to the Seminole Checklist (exhibit M-3), wherein the section *One Engine Inop. Go-around* states ". . . Cowl Flap (operating engine) . . . as required [*sic*]".

### **Cross-examination**

Mr. Chalmers asked Mr. Baker to confirm that operating temperature limits for oil and cylinder head were 275°F and 500°F respectively, and that both gauges show green all the way up to those limits. Mr. Baker agreed this was true.

### **Re-direct**

It was declined by the applicant.

### **THE ISSUE**

Was the Minister justified in refusing to issue a C1 instrument rating based on a failed exercise assessed during Mr. Baker's instrument rating flight test on June 2, 2005, and again during his partial flight test on June 4, 2005? Were both Mr. Baker's flight tests conducted fairly and professionally, in an objective and unbiased manner, and were there any extenuating circumstances not taken into consideration by the examiner?

### **DISCUSSION**

There is no dispute in testimony by either side that circumstances occurred as alleged in both flight tests on June 2 and 4, 2005, and which resulted in the examiner refusing to grant Mr. Baker an instrument rating.

Further, there is no dispute in testimony by either side concerning scores assessed for all other exercises conducted during either of Mr. Baker's flight tests.

The examiner, Mr. Currie, failed the first flight test "Engine Failure (Multi-engine)" exercise because he assessed that Mr. Baker (a) did not act in accordance with the emergency procedures checklist, (b) did not monitor rising operating engine temperatures, (c) did not open cowl flaps on the operating engine to provide adequate cooling airflow, and (d) it became necessary for him to intervene and prevent further engine overheat to dangerous levels.

Mr. Baker contends that (a) both the Seminole Checklist and the *Sault College Standard Operating Procedures* suggest only opening cowl flaps "as required" on the operating engine, (b) engine oil and cylinder head temperatures on the operating engine were within "normal" operating range, and (c) the *Sault College Standard Operating Procedures* also suggest that certain checklist items "may be omitted" if on an instrument flight rules (IFR) approach.

Exhibits presented by both the Minister of Transport and Mr. Baker, exhibit M-3 (Seminole Checklist), and exhibit A-1 (*Sault College Standard Operating Procedures*) speak to operation of cowl flaps during an engine failure (multi-engine) situation. Both exhibits are consistent in that cowl flaps on the operating engine should be operated "as required."

Questions therefore arise as to whether or not engine temperatures were high enough that cowl flaps needed to be operated "as required" during the failed exercise in Mr. Baker's flight test.

It is a caveat in this type of aircraft that pilots know and understand how cowl flap operation influences correct engine temperatures. It is also clear that stated guidelines in both exhibits M-3 and A-1 imply that pilot judgment based on this knowledge is necessary when operating cowl flaps "as required" to control engine temperatures.

In order to apply judgment applicable to cowl flap operation, a competent pilot must be constantly aware of engine temperatures and how they respond to changing circumstances. This is especially true in a twin-engine aircraft "engine failure" situation, where the remaining engine is operating under vastly increased load, at slower airspeed (reduced airflow), and thus increases potential for an overheat condition of the remaining engine, especially when outside air temperatures are high. Monitoring temperatures is also critically important at low altitudes during an approach to landing situation.

It is my opinion that in spite of what might, at first glance, seem as a difference of interpretation between the parties about the intent and implications for "as required" and "normal operating temperatures", Mr. Currie acted correctly in assessing Mr. Baker's June 2, 2005 instrument test flight as a "fail". I believe that engine temperatures had climbed well above normal operating range, and if Mr. Currie had not intervened, temperatures would have reached unacceptable levels in very short order.

Furthermore, the examiner conducted a constructive debrief of the flight test, including the failed exercise so as to provide Mr. Baker with information needed to correct his error. I believe the examiner's expectations with respect to that exercise were made clear to Mr. Baker during that debrief. In testimony, Mr. Currie stated that his debrief was not questioned in any way by Mr. Baker, and this was not challenged during the hearing.

That said, Mr. Baker was granted an opportunity to repeat the failed exercise at a second retest of the "engine failure" scenario. This was done on June 4, 2005. Had Mr. Baker passed this retest, he would have been granted an instrument rating.

During this retest, Mr. Baker did complete the required checklist, but failed to operate cowl flaps correctly "as required". In fact, Mr. Baker incorrectly opened cowl flaps on the failed engine, and did not open cowl flaps on the operating engine, thus forcing Mr. Currie to intervene a second time to prevent a further rise in engine temperatures.

In my opinion, in the context of the examiner's overall assessment, two failures of the same exercise were therefore sufficient to warrant the examiner, Mr. Currie, in taking the action he did, namely a refusal to issue an instrument rating for Mr. Baker.

## **DETERMINATION**

I uphold the Minister's decision to refuse to issue a C1 (multi-engine) instrument rating to Mr. Baker on June 2, 2005 in accordance with paragraph 6.71(1)(b) of the *Aeronautics Act*.

The Minister has proven that Mr. Baker failed to meet the flight test standard during his flight test conducted at Sault Ste. Marie Airport on June 2, 2005.

June 28, 2006

William H. Fellows  
Member  
Transportation Appeal Tribunal Of Canada