

CIVIL AVIATION TRIBUNAL

BETWEEN:

Minister of Transport, Applicant

- and -

2553-4330 Québec Inc. (aéropro), Respondent

LEGISLATION:

Aeronautics Act, R.S., c. 33 (1st Supp), s. 8.4

Canadian Aviation Regulations, SOR/96-433, ss. 605.18(j), 704.32 (1)

**Vicarious Liability, Preliminary motion, Overweight Aircraft, Motion to Amend
Redundancy of Equipment, IFR Flight, Disclosure**

**Review Determination
Suzanne Racine**

Decision: April 24, 2003

TRANSLATION

I find that the Minister has discharged its burden of proof. I confirm the monetary penalty of \$1,250 assessed by the Minister for each offence. The amount of \$3,750 is to be made payable to the Receiver General for Canada and must be received by the Civil Aviation Tribunal within 15 days of service of this determination.

A **review hearing** on the above matter was held January 14, 2003, at 10:00 hours at the Federal Court of Canada in the courthouse in Quebec City, Quebec.

OBJECT OF THE REVIEW HEARING

On March 14, 2002, the Minister served the Respondent, 2553-4330 Québec Inc., known by the name Aéropro, with a Notice of Assessment of Monetary Penalty pursuant to section 7.7 of the *Aeronautics Act* for a total amount of \$3,750, for contravening paragraph 605.18(j) and subsection 704.32(1) of the *Canadian Aviation Regulations* (CARs).

The Minister alleged that Aéropro permitted, on March 19, 2001, the aircraft registered as C-FGIN to make a series of flights between the airports of Waskaganish (CYKQ), Eastmain River (CZEM), Wemindji (CYNC) and Kuujuarapik (CYGW) without being equipped with sufficient radio navigation equipment to permit the pilot, in the event of the failure of any item of that equipment, including any associated flight instrument display, to proceed to the destination aerodrome or proceed to another aerodrome that is suitable for landing, contrary to paragraph 605.18(j) of the CARs. The Minister assessed a first monetary penalty of \$1,250.

The Minister also alleged that Aéropro operated, on April 12, 2001, the aircraft registered as C-FPEL from Montreal International Airport (Dorval) when the load restrictions, weight and centre of gravity of the aircraft did not conform to the limitations specified in the aircraft flight manual, contrary to the provisions of subsection 704.32(1) of the CARs. The Minister assessed a second monetary penalty of \$1,250.

Lastly, the Minister assessed a third monetary penalty of \$1,250 against the Respondent for having operated, on April 16, 2001, the aircraft registered as C-FPEL at Palm Beach International Airport in the United States (KPBI) even though during take-off, the load restrictions, weight and centre of gravity of the aircraft did not conform to the limitations specified in the aircraft flight manual, contrary to the provisions of subsection 704.32(1) of the CARs.

The Minister proceeded against the Respondent as the registered owner, pursuant to section 8.4 of the *Aeronautics Act*.

As the Respondent had not paid the amount of \$3,750 by the prescribed deadline of April 15, 2002, the Civil Aviation Tribunal duly convened this hearing.

THE LAW

Section 7.7 of the *Aeronautics Act* provides as follows:

7.7 (1) Where the Minister believes on reasonable grounds that a person has contravened a designated provision, the Minister shall notify the person of the allegations against the person in such form as the Governor in Council may by regulation prescribe, specifying in the notice, in addition to any other information that may be so prescribed,

(a) subject to any regulations made under paragraph 7.6(1)(b), the amount that is determined by the Minister, in accordance with such guidelines as the Minister may make for the purpose, to be the amount that must be paid to the Minister by the person as the penalty for the contravention in the event that the person does not wish to appear before a member of the Tribunal to make representations in respect of the allegations; and

(b) the time, being not less than thirty days after the date the notice is served or sent, at or before which and the place at which the amount is required to be paid in the event referred to in paragraph (a).

(2) A notice under subsection (1) shall be served personally or by ordinary mail sent to the latest known address of the person to whom the notice relates.

Paragraph 605.18(j) of the CARs reads as follows:

605.18 No person shall conduct a take-off in a power-driven aircraft for the purpose of IFR flight unless it is equipped with

(a) when it is operated by day, the equipment required pursuant to paragraphs 605.16(1)(a) to (h);

(b) when it is operated by night, the equipment required pursuant to paragraphs 605.16(1)(a) to (k);

(c) an attitude indicator;

(d) a vertical speed indicator;

(e) an outside air temperature gauge;

(f) a means of preventing malfunction caused by icing for each airspeed indicating system;

(g) a power failure warning device or vacuum indicator that shows the power available to gyroscopic instruments from each power source;

(h) an alternative source of static pressure for the altimeter, airspeed indicator and vertical speed indicator;

(i) sufficient radiocommunication equipment to permit the pilot to conduct two-way communications on the appropriate frequency; and

(j) sufficient radio navigation equipment to permit the pilot, in the event of the failure at any stage of the flight of any item of that equipment, including any associated flight instrument display,

(i) to proceed to the destination aerodrome or proceed to another aerodrome that is suitable for landing, and

(ii) where the aircraft is operated in IMC, to complete an instrument approach and, if necessary, conduct a missed approach procedure.

Subsection 704.32(1) of the CARs stipulates:

704.32 (1) No person shall operate an aircraft unless, during every phase of the flight, the load restrictions, weight and centre of gravity of the aircraft conform to the limitations specified in the aircraft flight manual.

PRELIMINARY MOTIONS

Mr. Paillard informed the Member that, despite a request made to the Department on November 26, 2002, he still had not received all the original documents seized from the Aéropro offices in April 2001. He indicated that it was difficult to present a defence with the copies of documents in his possession, since he did not have certain original documents. Although he had in his possession copies of the seized documents, Mr. Paillard argued, without wishing to imply anything, that we can ascribe anything we want to a copy. He wanted to have in hand all the originals, to be able to verify whether the copies of the documents the Minister was preparing to file in evidence were in fact true to the originals. He said that some documents bearing the words "true copy of the original" provided during the disclosure of evidence were not true copies of the originals.

Mr. Marcel Cossette, a Transport Canada inspector, said under oath that the documents that the Minister would be filing in evidence were copies of the original documents seized during the regulatory audit. He admitted, however, that the document respecting the planning of the flights made March 19, 2001, by C-FGIN and bearing the words "true copy of the original" was in fact only a copy reproduced from a photocopy taken from the investigation file, and not, as certified, from the original. This practice of certifying that a copy is true to the original when it is not, needlessly casts doubt on the credibility and reliability of the Minister's evidence. The originals of the other documents relevant to the case had been sent to the Respondent on January 9, 2003. During the adjournment, the Respondent had time to check its documents against those the Minister wished to place in evidence. Also, for the purposes of the hearing, the Member acknowledged that the document "true to the original" filed in evidence was a copy reproduced from the investigation file, not from the original.

The Respondent's representative also informed the Member that he had read over the disclosure documents only shortly before the morning hearing, as he had been on holiday since December 23, 2002. The Minister's representative sent, on December 20, 2002 (received by Aéropro on December 23, 2002), a first mailing of documents for the first offence, consisting of an excerpt from the journey log of aircraft C-FGIN, flight documentation related to the planning of the series of flights made March 19, 2001, the flight manual supplement for the Beechcraft Kingair A-100, an excerpt from the journey log of aircraft C-FPEL, the C-PEL passenger manifest, and two (2) fuel invoices, for offences 2 and 3. The whole was accompanied by a letter informing Mr. Paillard that he would receive the summary of Mr. Marcel Cossette's testimony once he had been reached.

A second mailing was sent to Aéropro on January 9, 2003. This mailing contained the audit findings for aircraft C-FGIN and C-FPEL, the inspection reports for the said aircraft, an excerpt from the flight manual supplement for the Cessna Citation C-550 specifying the load restrictions,

weight and centre of gravity, the summary of Mr. Marcel Cossette's testimony, and various original documents relevant to the case. Mr. Paillard alleged that he did not read over these documents until Monday, January 13, 2003. He explained that it would have been helpful for him to have the testimony of the pilot-in-command who conducted the flights of April 12 and 16, 2001, for his defence. He had been unable to reach him, as the pilot-in-command was in the United States.

The parties were notified on November 22, 2002, of the date set for the review hearing of the three offences alleged in the Notice of Assessment of Monetary Penalty dated March 14, 2002. The Respondent knew as of then that it would be called on to face the Minister's evidence pertaining to the alleged offences of IFR flight without the required equipment, in the case of the first offence, and the overloading of the aircraft, in the case of the other two. Also, Mr. Paillard needed Captain Lavallée to be present to testify about the first offence, independent of the fact that he only received the audit findings and the inspection report in the Minister's second mailing on about January 10, 2003. The Respondent's representative, who is also its operations manager, could likewise have retained the services of a member of the crew that conducted the flights of April 12 and 16, 2001, before he left on holiday, but did not. He preferred to wait until the day of the hearing to say that he would find it helpful to call on him to testify.

We agree that the Minister took some time to send the Respondent the second mailing of disclosure documents, which included, specifically, a summary of Mr. Cossette's testimony. The hearing was therefore adjourned to allow its representative to read them over.

The Minister's representative asked that an error regarding the relative time of the second alleged offence be corrected, to read 17:30 hours instead of 15:05 hours. Also, as the certificates of registration of the aircraft in question were in the name of Aéropro, the Minister asked that the company name Aéropro and the company registered as 2553-4330 Québec Inc. be considered one and the same. The Respondent's representative did not object. The Member accepted the changes requested above.

THE FACTS

The Minister's representative called Mr. Marcel Cossette, the inspector who investigated the alleged offences of Aéropro. He asked that the Member grant him expert witness standing. A review of Mr. Cossette's qualifications shows that he has held a commercial pilot licence since 1988 and has completed a total of 1,000 hours of flying time and flight simulation time on two (2) types of Cessna Citation. Mr. Paillard objected to this request.

The role of the expert witness is different from that of the "ordinary" witness. The expert witness is asked to give an opinion on matters relating to his area of expertise. Mr. Cossette does indeed have significant knowledge and flying experience on the Cessna Citation, but his professional qualifications are not so special as to qualify him for expert witness standing. The Member ruled that Mr. Cossette would testify as an ordinary witness and would be heard in his capacity as the inspector who investigated the three (3) offences alleged in the Notice of Assessment of Monetary Penalty involving the operation of Kingair and Citation 550 aircraft.

First Offence

Evidence of the Applicant

Mr. Cossette filed as Exhibit M-1 a copy of the report of non-compliance with section 605.18 of the CARs that he completed May 10, 2001, in respect of the Beechcraft Kingair A-100 aircraft registered as C-FGIN. Mr. Cossette noted that aircraft C-FGIN was equipped with only one automatic direction finder (ADF) and one VFR GPS when it made the series of flights in question between Waskaganish and Kuujjuarapik airports. He also noted in the appendix of the report that an IFR flight itinerary had been filed for the various flight segments made by C-FGIN on March 19, 2001. According to Mr. Cossette, the aircraft, in order to comply with the regulations, should have been equipped with two ADFs or one ADF receiver together with one GPS for IFR flight.

His inspection report was filed as Exhibit M-2. This report indicates that aircraft C-FGIN has the following radio navigation equipment: one (1) ADF receiver, two (2) VOR [omnidirectional range radio], two (2) ILS [instrument landing systems] and one (1) Apollo II Morrow 820 GPS. The flight manual supplement for the Kingair A-100, filed as Exhibit M-3, states unequivocally that the Apollo II Morrow 820 GPS radio navigation system is not approved for instrument flight and is to be used only in VFR flight.

The flight plan for March 19, 2001, was filed in a bundle as Exhibit M-4. It is not "true to the original" as indicated, but rather reproduced from a copy taken from the file of Aéropro or the investigation file. It shows the following itinerary:

Flight from CYUL to CYKQ Departure: 07:50 Arrival: 09:50
YUL – V 487 – YNM – V 487 – YVO – AR 17 – YNM – AR 18 – YKQ

Flight from CYKQ – AR 18 – CZEM Departure: 11:10 Arrival: 11:25

Flight from CZEM – BR 14 – CYNC Departure: 11:55 Arrival: 12:15

*Flight from CYNC – AR 16/ 17 – CYGW Departure: 12:40 Arrival: 13:20

*This flight segment had first been planned along the itinerary: CYNC – AR 16 – CYGL and CYGL – AR 17 – CYGW.

The departure and arrival times match the entries in the journey log of aircraft C-FGIN, filed as Exhibit M-5. Page 5 of the IFR flight plan (Exhibit M-4) signed by Captain Jean-Marc Lavallée, shows, in box 8, that the flight from Montreal (Dorval) to Waskaganish (YKQ) was conducted in accordance with IFR flight rules with, in box 10, SDG/C global positioning system (GPS) equipment. As the Waskaganish and Eastmain River (ZEM), Eastmain River and Wemindji (YNC), and Wemindji and Kuujjuarapik (YGW) segments did not require flight plans, being in uncontrolled airspace, they required only a flight notification, not the official IFR flight plan filed for the Montreal to Waskaganish segment. Mr. Cossette stated, however, that the series of flights was planned for IFR flight.

Mr. Cossette informed the Member that the route travelled by C-FGIN, according to the flight plan and notification of March 19, 2001, was along low-frequency ADF routes (AR 17 and 18) from Val d'Or, Matagami, Waskaganish as far as Kuujjuarapik. The dotted lines on the navigation charts for airspaces LO 5 and LO 6 (Enroute Low Altitude Charts/Canada and North Atlantic), filed respectively as exhibits M-6 and M-7, show the Member the itinerary travelled by C-FGIN. In these circumstances, the aircraft must be equipped with sufficient radio navigation equipment, i.e., two (2) ADF receivers, or one (1) ADF and one (1) GPS for IFR flight. According to Mr. Cossette, it was always possible for the aircraft to fly along a radial of the La Grande VOR, for example, to attempt to follow its route, but this could result in navigation errors, since the AR and BR routes taken by C-FGIN were planned on ADF receivers.

The Minister's representative then asked to file in evidence weather reports requested from Environment Canada for the various destination airports on March 19, 2001. He allegedly had not received these reports until January 10, 2003, at about 16:40 hours. The Member rejected the late filing of these elements.

On cross-examination by Mr. Paillard, Mr. Cossette confirmed that paragraph 605.18(j) of the CARs does not "literally" state that an aircraft operated in IFR flight must have two (2) ADF. The paragraph states, moreover, that the radio navigation equipment must be "sufficient" to permit the pilot, in the event of the failure of any item of that equipment, to proceed to the destination aerodrome or proceed to another aerodrome that is suitable for landing. According to Mr. Cossette, the presence of one (1) ADF and one (1) GPS for VFR flight only is not sufficient when the aircraft is operated in IFR flight along low-frequency ADF routes. The aircraft should have been equipped with at least one (1) GPS approved for IFR flight and certified TSOC-129, in combination with the existing ADF, since C-FGIN did not have two (2) ADF.

Mr. Cossette acknowledged that the captain could have changed his initial IFR flight itinerary for a VFR itinerary if visibility permitted. However, as the flights of March 19, 2001, were planned for IFR flight, not VFR flight, the GPS approved "for VFR flight only" in combination with the ADF present in the aircraft was not sufficient. Mr. Cossette agreed that the enroute weather entered by the captain on the back of page 1 of Exhibit M-4, at 13:00 hours at Waskaganish Z, appeared good for Waskaganish and the pilot could have landed there without any navigation aid since the conditions were VFR. When asked by the Respondent's representative whether C-FGIN could proceed to Waskaganish in the event of the failure of its ADF receiver using the Moosonee VOR, Mr. Cossette replied that it probably could, but it could not land there.

On redirect, Mr. Cossette again said that a VFR GPS could not be used in a situation of IFR flight.

Evidence of the Respondent

The Respondent's representative called Captain Lavallée to testify. He was at the controls of C-FGIN for the series of flights made March 19, 2001, between Waskaganish, Eastmain River, Wemindji and Kuujjuarapik. He stated that the flight conditions were VFR as far as Wemindji and that he could have conducted these flight segments in accordance with VFR flight rules. He chose, however, to conduct these flights in accordance with IFR flight rules as this was easier.

The flights between Waskaganish and Kuujjuarapik were made without incident. Mr. Lavallée also pointed out that he always takes his Garmin portable GPS with him when conducting flights in Northern Quebec.

On cross-examination by the Minister's representative, Mr. Lavallée said that the sky was clear all along the coast of James Bay on March 19, 2001, and that visibility was fifteen (15) miles, "if not 100 miles visibility." He admitted that his Garmin portable GPS is designed only for VFR use.

The Minister's representative again requested permission to file the weather reports obtained from Environment Canada a few days before the hearing, to establish in rebuttal the actual data on landing at the various airports on March 19, 2001. As the question of weather was raised by the Respondent and the weather conditions do not appear on the back of page 1 of the document filed as Exhibit M-4, the Member allowed the said weather reports for Wemindji and Kuujjuarapik airports to be filed. Mr. Tamborriello filed this information as Exhibit M-8. The weather report for Wemindji indicates: 15 miles visibility, 4,000 feet broken; 3,000 feet broken at 17:00Z and sky clear; 15 miles visibility, 300 feet scattered at 18:00Z. At Kuujjuarapik, the report gives a visibility at 18:00 hours of 15 miles, 6,000 feet broken and 300 feet broken, 25 miles visibility at 19:00Z.

Second and Third Offences

The Minister's representative again called Mr. Marcel Cossette, the Transport Canada inspector who conducted the investigation, to testify. Mr. Cossette filed, as Exhibit M-9, a copy of his audit findings of non-compliance with section 704.32 of the CARs bearing no. FO-10-03 and dated May 10, 2001, and as Exhibit M-11, the inspection report he prepared on aircraft C-FPEL.

According to Mr. Cossette, Aéropro operated the aircraft registered as C-FPEL on two (2) occasions, i.e., on April 12, 2001, at about 17:30 hours local time from Montreal International Airport (Dorval), and on April 16, 2001, at about 17:35 hours local time from Palm Beach International Airport in the United States (KPBI), when the load restrictions, weight and centre of gravity during take-off were not in conformance and exceeded the limitations specified in the aircraft flight manual. An excerpt from the aircraft flight manual, filed as Exhibit M-12, states that the authorized maximum take-off weight for the C-550 is 13,300 pounds.

Mr. Cossette then filed, as Exhibit M-10, the journey log of aircraft C-FPEL. It should be noted that the cover page of this journey log, mentioning the flights of April 12 and 16, 2001, on the last page, refers to a C-550 aircraft registered as C-GPEL, not C-FPEL, as stated in the Notice of Assessment of Monetary Penalty of March 14, 2002. This is surely an error in the entry on the log's cover page since inside the log, the reference is clearly to an aircraft registered as C-FPEL.

A review of the history of the flights of April 12 and 16, 2001, based on the information on the last page of the aircraft journey log and on the flight documents, allowed Mr. Cossette to do various calculations showing the offences committed on those dates. The entries in the journey log of C-FPEL show that the aircraft first left the Saint-Hubert airport bound for Dorval on

April 12, 2001, at about 15:05 hours local time with two (2) people on board (captain and co-pilot, for a total of 364 pounds), 30 pounds of baggage and 2,500 pounds of fuel.

The entries in the aircraft journey log show that the flight between Saint-Hubert and Dorval was made in about 15 minutes (Air Time: .2 / Flight Time: .4). According to the Minister's witness, the C-550 aircraft consumes about 1,200 pounds of fuel in its first hour of flight. Since the aircraft flew at a speed of about 210 knots and at an altitude of about 3,000 feet, it would have consumed, during the few minutes of flight between Dorval and Saint-Hubert, about 300 pounds of fuel. The aircraft would then have landed in Dorval with 2,200 pounds of fuel on board.

The aircraft then took on 1,346 litres of fuel at Dorval, as shown by the invoice filed as Exhibit M-13, or an additional 2,490 pounds of fuel (1,346 litres at 15 degrees Celsius multiplied by the conversion factor of 1.85 pounds/litre, accepted by the Respondent's representative), for a total of 4,690 pounds. The journey log shows, however, a quantity of 4,000 pounds of fuel on take-off from Dorval bound for Palm Beach on April 12, 2001. Mr. Cossette felt that the 4,000 pounds of fuel noted in the journey log was not enough for the four (4) hours of flight entered in the log. He said that he consulted the IFR flight plan submitted to the authorities during his investigation, which showed a cruising altitude at flight level 410, corrected to flight level 390, and an endurance of five (5) hours, 43 minutes.

Mr. Cossette said that he was very familiar with the Cessna Citation 550 aircraft, especially the aircraft registered as C-FPEL as he had flown it before during his career. He estimated the aircraft's fuel requirement, at an altitude of 39,000 feet and during take-off and landing, based on the following consumption parameters:

Fuel consumption/pounds first hour of flight: 1,200 pounds

Fuel consumption/pounds second hour of flight: 1,000 pounds

Fuel consumption/pounds/hour after the second hour of flight: 800 to 900 pounds

The fuel requirement is 3,800 pounds for the four (4) hours of flight (1,200 pounds + 1,000 pounds + 800 pounds + 800 pounds), plus 200 pounds of fuel consumption for taxiing, for a total of 4,000 pounds. This quantity of 4,000 pounds does not, however, include the operational reserves needed to permit the pilot to make a landing at an alternate airport, if need be.

Mr. Cossette also drew the Member's attention to the empty weight of the C-FPEL. He said that the empty weight of this aircraft is 8,025 pounds, increasing to 8,166 pounds after installation of a GPS on board (141 pounds). The total weight of 13,295 pounds entered in the journey log on departure from Dorval on April 12, 2001, was therefore incorrect. It should instead have read 13,436 pounds to reflect this change. At that point, this weight already exceeded the authorized maximum during take-off (13,300 pounds).

Based on the information taken from the journey log of C-FPEL and the above data, Mr. Cossette concluded that the aircraft took off from Dorval on April 12, 2001, with an excess of 626 pounds, which he explained as follows:

Empty weight C-FPEL	8,166 pounds
Weight 7 passengers	1,180 pounds
Weight of the fuel	4,690 pounds
Weight of the baggage	90 pounds
TOTAL:	14,126 pounds
	<u>- 200 pounds</u> (taxiing)
	13,926 pounds
	<u>- 13,300 pounds</u> (authorized maximum take-off weight)
	Excess of 626 pounds

For the flight of April 16, 2001 (return of the flight of April 12, 2001), Mr. Cossette again concluded that aircraft C-FPEL took off from Palm Beach Airport with excess weight, contrary to the limitations specified in the aircraft flight manual.

To explain his conclusion, Mr. Cossette indicated that the aircraft had taken on 635 American gallons of fuel, as attested by a second fuel invoice from Jet Aviation in Palm Beach, also filed as Exhibit M-13. As one American gallon weighs about seven (7) pounds, he explained to the Member that the fuel taken on at Palm Beach April 16, 2001, weighed the equivalent of 4,445 pounds, or more than the 4,000 pounds entered in the PEL journey log. Once again, the total weight of 13,295 pounds shown in the aircraft journey log was incorrect, as it reflected an empty weight of 8,025 pounds rather than 8,166 pounds (8,025 pounds + 1,180 pounds + 4,000 pounds + 90 pounds = 13,295 pounds). Aircraft C-FPEL must, then, have taken off from Palm Beach Airport with an excess of 381 pounds, explained as follows:

Empty weight C-FPEL	8,166 pounds
Weight 7 passengers	1,180 pounds
Weight of the fuel	4,445 pounds
Weight of the baggage	90 pounds
TOTAL:	13,881 pounds
	<u>- 200 pounds</u> (taxiing)
	13,681 pounds
	<u>- 13,300 pounds</u> (authorized maximum take-off weight)
	Excess of 381 pounds

According to him, this excess is a minimum, as his calculations do not take into account the fuel remaining in the aircraft's tank at the end of the flight made on April 12, 2001. He assessed this remaining fuel at about 800 pounds, which covers the 200 pounds of fuel consumed on the ground (taxiing). The aircraft, then, apparently took off from Palm Beach Airport with an excess of over 1,000 pounds (800 pounds + 381 pounds).

On cross-examination by the Respondent's representative, Mr. Cossette again explained that the captain had done the calculations noted in the journey log based on an empty weight of

8,025 pounds instead of 8,166 pounds. The notations in the log reflect this assertion, showing a total weight of 13,295 pounds (8,025 pounds + 1,180 pounds + 4,000 pounds + 90 pounds = 13,295 pounds). Mr. Paillard yielded to this mathematical evidence.

Mr. Cossette acknowledged that the flight plan of April 12, 2001, had been planned at flight level 410, then changed to flight level 390. He allowed the possibility of a subsequent change in flight level. He admitted, however, that he could not prove at what altitude the aircraft had actually flown. He also admitted not having verified the weight and nature of the passengers. Mr. Cossette said that the C-550 PEL can consume 600 pounds of fuel per hour while idling on the ground to cool the cabin temperature, and that, in his view, fifteen (15) minutes is enough to ensure a suitable temperature of 30° C on the ground.

On redirect by the Minister's representative, Mr. Cossette again stated that the number of pounds of fuel remaining in the aircraft's tank should be added to those taken on at Palm Beach. The calculation yielding an excess of 381 pounds on April 16, 2001, assumes that the aircraft was "on empty." Even so, this weight exceeded the limit of 13,300 pounds prescribed in the aircraft flight manual.

Evidence of the Respondent

Mr. Paillard presented no evidence on behalf of the Respondent.

ARGUMENTS OF THE MINISTER

First Offence

- The Minister's representative alleges that he has proven all the elements of the offence committed on March 19, 2001.
- The flights between Waskaganish, Eastmain River, Wemindji and Kuujjuarapik took place and were conducted along ADF routes under IFR flight rules, as Captain Lavallée has acknowledged.
- The Minister has proven that aircraft C-FGIN had only one ADF on board. In the event of the failure of this receiver, the aircraft did not have sufficient radio navigation equipment to permit it to proceed to the various destination aerodromes, as that aircraft's GPS was not approved for IFR flight.
- The weather conditions reported by Environment Canada 15 minutes before the landing of C-FGIN at Wemindji, show 4,000 feet and 3,000 feet broken, and the weather notations entered by the captain enroute to Kuujjuarapik, indicate 1,000 feet broken and 2,000 feet broken. In both cases, there was a ceiling and the flight conditions were not favourable to VFR flight.

Second and Third Offences

The Minister's representative alleges that he has proven all the elements of the offences committed on April 12 and 16, 2001.

- The entries made in the aircraft journey log confirm that the flights of April 12 and 16, 2001, took place.
- The calculations made in the log show that the total weight on take-off of the flights of April 12 and 16, 2001 was incorrect as it was based on an aircraft empty weight of 8,025 pounds. This weight did not take into account a GPS installed on board the aircraft, bringing its empty weight to 8,166 pounds. The excess weight on take-off was therefore equivalent to the weight of the GPS installed in the aircraft.
- The calculations placed in evidence by the Minister's witness show that on April 12, 2001, the aircraft had at least 4,690 pounds of fuel on board, not the 4,000 pounds entered in the aircraft journey log, and therefore exceeded the limitations specified in the aircraft flight manual.
- The calculations placed in evidence by the Minister's witness also showed that the 4,000 pounds of fuel entered in the aircraft log were in any event insufficient for both the four-hour flight on April 12, 2001, and the operational fuel reserve needed to ensure its endurance to an alternate airport, if need be.
- The calculations made by the Minister's witness clearly show that the amount of fuel taken on at Palm Beach on April 16, 2001, was equivalent to 4,445 pounds, not the 4,000 pounds noted in the aircraft log. This overage of 445 pounds does not take into account the unconsumed fuel after the flight of April 12, 2001, since aircraft C-FPEL was considered "on empty." The weight of this remaining fuel increases by that amount the discrepancy with the aircraft's authorized maximum take-off weight of 13,300 pounds specified in the flight manual. According to the Minister's representative, it can therefore be easily said that the excess weight of the aircraft was even higher.
- The Respondent's representative raised no valid evidentiary element on cross-examination to refute the Minister's evidence and offered no countering evidence.
- The entries in the journey log of C-FPEL are evidence of their truth as against their author.

REPRESENTATIONS REGARDING THE SANCTIONS

The Minister's representative is asking the Member to confirm the assessed monetary penalties of \$1,250 for each offence for a first penalty for the operator. These penalties prevent a repeat offence and discourage air operators from "approving" the operation of an aircraft contrary to the limitations specified in the aircraft flight manual and the Canadian aviation regulations. He indicates, moreover, that the evidence does not show that the flights of April 12 and 16 had been made under any operational constraint.

ARGUMENTS OF THE RESPONDENT AND REPRESENTATIONS REGARDING THE SANCTIONS

First Offence

- The Minister has not shown that the VFR GPS of C-FGIN was not sufficient radio navigation equipment within the meaning of paragraph 605.18(j) of the CARs.

- The Minister has not proven that C-FGIN could not land at Kuujjuarapik and the other destination airports in VFR mode.

Second and Third Offences

The Respondent's representative, Mr. Paillard, believes that the Minister's calculations do not take into account the actual altitude maintained by the aircraft during the flight of April 12, 2001, which directly affects fuel consumption. These calculations also do not take into account the fuel consumption necessary to air-condition the parked aircraft to 30 degrees Celsius on the ground at Palm Beach on April 16, 2001. According to him, these circumstances explain the calculations of the pilot-in-command who planned the flights of April 12 and 16, 2001. The captain did not make an incorrect entry in the aircraft journey log aside from the wholly unintentional error, he says, of the aircraft's empty weight, which increased from 8,025 to 8,166 pounds after installation of the GPS on board the aircraft. He states that responsibility for the excess weight rests with the pilot, not the company. He is therefore requesting that the amount of the monetary penalties assessed be reduced.

In response to the arguments of the Respondent's representative regarding the first offence, the Minister's representative reminded the Member that the use of a VFR GPS is not sufficient during flights conducted in IFR mode. He again stated that the series of flights made by C-FGIN between Waskaganish and Kuujjuarapik was conducted according to an IFR flight itinerary.

In response to the Respondent's arguments regarding the second and third offences, the Minister's representative indicated that the elements placed in evidence are sufficiently eloquent to find that the aircraft took off on April 12 and 16, 2001, in contravention of the limitations specified in its flight manual, and so in contravention of subsection 704.32(1) of the CARs. Moreover, even admitting that the aircraft consumed 600 pounds of fuel per hour while parked on the ground at Palm Beach on April 16, 2001, this explanation is still not sufficient for finding that there was no contravention. Mr. Tamborriello is asking the Member to rely on the entries in the aircraft journey log, which speak for themselves.

REASONS

First Offence

Paragraph 605.18(j) of the CARs prohibits a take-off in a power-driven aircraft for the purpose of IFR flight unless it is equipped with sufficient radio navigation equipment to permit the pilot, in the event of the failure at any stage of the flight of any item of that equipment, including any associated flight instrument display, to proceed to the destination aerodrome or proceed to another aerodrome that is suitable for landing.

This section of the Regulations applies in all cases of power-driven aircraft in IFR flight. It is important to ascertain, first of all, that the flights Captain Lavallée conducted on March 19, 2001, between Waskaganish, Eastmain River, Wemindji and Kuujjuarapik airports were in IFR mode.

Captain Lavallée admitted in his testimony that he conducted the flights between Waskaganish and Kuujjuarapik in IFR mode. He in fact said that it was "easier" to navigate at high altitude according to instrument flight rules (IFR) than at low altitude, even though the weather conditions in the region on March 19, 2001, were favourable to VFR flight as far as Nouveau-Comptoir (now called Wemindji).

The document filed as Exhibit M-4 concerns the planning of the flights covered by the Notice of Assessment of Monetary Penalty. The back of page 7 of the said document is marked "I" for IFR in box 8 of the flight itinerary between Waskaganish and Kuujjuarapik. The flights of March 19, 2001, covered by the Notice of Assessment of Monetary Penalty were consistent with a planned IFR route in accordance with instrument flight rules, originating in Quebec City (YQB) and ending the same day at Sanikiluaq (YPH), as shown on pages 1 and 2 of the document filed as Exhibit M-4. Fuel planning for these flights takes into account, notably, the IFR approach and the alternate aerodrome for all destinations planned for March 19, 2001.

Both the testimonial evidence (captain's testimony) and the documentary evidence (M-4) show that the flights made March 19, 2001, between Waskaganish and Kuujjuarapik were planned in IFR mode. The CARs provide specific rules for flights conducted in IFR mode. The captain had to meet the requirements for IFR flight rules when conducting flights along an IFR itinerary, even if he acknowledged that the conditions were VFR, at least as far as Wemindji. Instrument flight rules apply independent of weather conditions. Also, we will not dwell on the prevailing weather elements that day. Contrary to the contention of the Respondent's representative, in order to discharge its burden of proof the Minister need not show that aircraft C-FGIN could have landed in accordance with VFR rules at the various destination airports on March 19, 2001, since these flights were planned in IFR mode.

There is no question that the flights made March 19, 2001, between Waskaganish and Kuujjuarapik were conducted in IFR mode. It is now necessary to rule on the matter of whether aircraft C-FGIN was equipped with sufficient radio navigation equipment according to the regulations to make these flights in IFR mode.

The Minister's evidence has shown that C-FGIN was equipped with one (1) ADF receiver, two (2) VOR, two (2) ILS and one (1) Apollo II Morrow 820 GPS. The flight manual supplement for the Kingair A-100, filed as Exhibit M-3, states, however, that this GPS is approved only for VFR flight, and so cannot be used as a replacement in the event of the failure of the ADF receiver.

In contrast, Mr. Paillard has attempted to establish that the aircraft could have proceeded to the destinations planned in the IFR flight itinerary with the aid of a Moosonee or La Grande radial. The VOR, which is the basis of VHF airways, is a navigation aid of limited range that provides continuous bearings in the form of 360 radials, usable when moving towards or away from the emitting station, that vary according to aircraft altitude. The itinerary of the flights between Waskaganish and Kuujjuarapik shows that C-FGIN took the dotted low-frequency ADF routes (AR18 – BR14 – AR16 – AR16-17) shown on the navigation charts filed as exhibits M-6 and M-7. The ADF receiver is the radio navigation equipment for navigating along low-frequency routes. Navigating VOR along ADF routes may well result in navigation errors. The Minister's

witness stated, moreover, that the captain of C-FGIN could use the VOR for guidance, but not to land.

In conclusion, we have here an IFR flight itinerary, and the radio navigation equipment of C-FGIN must be *redundant* in order to be "sufficient" within the meaning of the regulations, in order to permit the pilot, in the event of the failure of his ADF, to proceed to the destination aerodrome. The letters SDG/C entered in box 10 of the IFR flight itinerary between Waskaganish and Kuujjuarapik show that the aircraft was equipped with an avionic GPS approved for IFR flight. This entry was incorrect. It has been shown, and not disputed, that the GPS installed in C-FGIN was not approved for IFR flight. The same is true of Mr. Lavallée's portable GPS. Aircraft C-FGIN therefore did not have sufficient radio navigation equipment.

The Minister has discharged its burden of showing, on the balance of probabilities, that the aircraft, during the flights between Waskaganish and Kuujjuarapik made along ADF routes on March 19, 2001, according to an IFR flight itinerary, was not equipped with sufficient radio navigation equipment within the meaning of paragraph 605.18(j) of the CARs. The Respondent cannot contend, as its representative has done, that the pilot could have conducted a VFR landing at the various destination airports given the weather conditions that day, since the flights were scheduled, planned and maintained along the route in IFR mode.

I confirm the monetary penalty of \$1,250 assessed by the Minister.

Second Offence / Flight of April 12, 2001

It is appropriate first to explain that the Respondent has admitted that the empty weight of the aircraft was incorrect as it did not reflect the installation of a GPS on board. In fact, the total weight of C-FPEL on take-off from Dorval on April 12, 2001, is shown as 13,295 pounds (M-10), that is, an empty weight of 8,025 pounds (13,295 pounds – 4,000 pounds of fuel – 1,180 pounds / weight of the passengers – 90 pounds of baggage = 8,025 pounds), rather than an empty weight of 8,166 pounds.

The evidence has shown that C-FPEL took on 1,346 litres of fuel at 15 degrees Celsius at Dorval, or a weight of 2,490 pounds (conversion factor of 1.85 pounds/litre accepted by the Respondent's representative). This weight is obviously in addition to the weight of the aircraft's unused fuel on its arrival at Dorval. The journey log entry, after fuelling of 2,490 pounds of fuel on departure from Dorval (M-13), shows a weight of 4,000 pounds of fuel, leaving a residual weight of 1,510 pounds (4,000 pounds – 2,490 pounds) of unused fuel.

According to the journey log of C-FPEL, the aircraft left the Saint-Hubert airport for Dorval with 2,500 pounds of fuel, consuming 990 pounds (2,500 pounds – 1,510 pounds) of fuel (including taxiing) for the 15 minutes of flight time between the two airports. It is implausible to allege such consumption, given the distance and altitude likely maintained during the flight. In fact, Mr. Cossette, who has shown he has sufficient knowledge of the C-550 aircraft, stated that this aircraft consumed about 300 pounds of fuel in its 15 minutes of flight (1,200 pounds/60 minutes x 15 minutes), plus 200 pounds for taxiing on the ground, leaving an unexplained consumption of 490 pounds of fuel (990 pounds – 300 pounds / flight – 200 pounds / taxiing).

It is entirely reasonable for the Minister to allege that C-FPEL had at least 4,490 pounds of fuel on leaving Dorval on April 12, 2001, or 490 pounds more than the 4,000 pounds entered in the journey log.

I believe that the Minister has discharged its burden of proof. First of all, the Respondent's representative has admitted that the empty weight of C-FPEL was incorrect, and secondly, the cross-examination leaves no doubt as to the validity of the Minister's calculations.

I confirm the monetary penalty assessed in the amount of \$1,250.

Third Offence / Flight of April 16, 2001

The entries in the journey log of C-FPEL show that the aircraft left the Palm Beach airport on April 16, 2001, with a stated weight of 13,295 pounds on take-off. Again, the total weight of the aircraft was established based on an inaccurate empty weight of 8,025 pounds, not its actual empty weight of 8,166 pounds. The undisputed evidence has shown that C-FPEL took on 635 American gallons of fuel at Palm Beach (M-13), the equivalent of 4,445 pounds of fuel at 15 degrees Celsius. In response, the Minister's representative acknowledged that this calculation should have taken into account a temperature of 30 degrees Celsius, bringing the fuel taken on to 4,388 pounds at that temperature. To this must be added the pounds of fuel remaining in the tanks of C-FPEL on its arrival at Palm Beach on April 12, 2001.

All the data provided by the Minister's representative refer to a planned flight at an altitude of 39,000 feet. However, the Respondent's representative suggested that the level of the flight of April 12, 2001, was subsequently changed, resulting in a different calculation for fuel consumption.

The altitude maintained during the flight of April 12, 2001, could indeed affect fuel consumption. The Minister's witness alleges there would be a difference in fuel consumption of about 50 pounds/hour of flight between levels 410 (750 pounds/hour) and 390 (800 pounds/hour) for each additional hour beyond the first two (2) hours of flight. An altitude of below 39,000 feet would have required greater fuel consumption after the second hour of flight, although no amount was specified.

The Minister's representative offered no evidence about the altitude maintained by aircraft C-FPEL on the Dorval – Palm Beach flight of April 12, 2001. I doubt that this absence of evidence has a probative impact on the other elements filed. In fact, a minimum excess of 626 pounds was proven on departure from Dorval. A drop in altitude to level 350, for example, would reduce this excess of 626 pounds noted on departure on April 12, 2001, and decrease accordingly the pounds of fuel remaining in the tanks of C-FPEL at Palm Beach on April 12, 2001. Moreover, working from the principle that the aircraft was "on empty" on arrival at Palm Beach that April 12, 2001, the calculation submitted by the Minister's witness unequivocally shows an excess, and the altitude effect is by and large of no importance. The mathematical operation may be summarized as follows:

Empty weight C-FPEL 8,166 pounds

Weight of the passengers	1,180 pounds
Weight of the baggage	90 pounds
Fuelling at 30° C	<u>4,388 pounds</u>
Total take-off weight	13,824 pounds
Maximum take-off weight	<u>13,300 pounds</u>
Excess weight	524 pounds

The Respondent's representative referred to a certain fuel consumption to keep the aircraft cool on the ground at Palm Beach, without further explanation. The Minister's witness stated on cross-examination that it was "possible" for a C-550 such as C-FPEL to consume about 600 pounds of fuel per hour while on the ground (idling). However, I have no evidentiary elements allowing me to find that C-FPEL did indeed consume this amount of fuel on the ground at Palm Beach on April 16, 2001. On the contrary, the journey log shows that C-FPEL remained on the ground at Palm Beach for about 15 minutes (Flight Time 3.7 / Air Time 3.5 = .2). I assume that the entries in the aircraft journey log are correct and evidence of their truth, for a consumption of 150 pounds of fuel on the ground.

There is no question that aircraft C-FPEL was at least 574 pounds (524 pounds – 150 pounds air-conditioning 15 minutes + 200 pounds taxiing) overweight when it took off from Palm Beach Airport on April 16, 2001, to say nothing of a certain additional quantity of fuel remaining in the tanks of the aircraft.

In my view, the Minister has discharged its burden of proof. I confirm the monetary penalty of \$1,250 assessed by the Minister.

The Respondent's representative contends that the monetary penalties assessed by the Minister against 2553-4330 Québec Inc. (Aéropro) should have been assessed against the pilot responsible for planning the itinerary. The Notice of Assessment of Monetary Penalty clearly states that the company registered as 2553-4330 Québec Inc. (Aéropro) is proceeded against in accordance with the principle of vicarious liability established in section 8.4 of the *Aeronautics Act*. This section stipulates that the registered owner of an aircraft may be proceeded against in respect of and found to have committed an offence under Part I in relation to the aircraft for which another person is subject to be proceeded against unless the aircraft was in the possession of a person other than the owner without the owner's consent. Aéropro corporation can act only through its agents, in this case the pilots to whom it entrusts the planning and conduct of the flight. Section 8.4 of the Act permits the Minister to punish the owner or operator that is liable for the actions of its pilots.

Suzanne Racine
Member
Civil Aviation Tribunal