

TD 1/84

Decision rendered on January 5, 1984

IN THE MATTER OF THE CANADIAN HUMAN RIGHTS ACT;
AND IN THE MATTER of a hearing before a Human Rights Tribunal
appointed under Section 39 of the Canadian Human Rights Act;

BETWEEN:

DONALD BICKNELL Complainant.

- and -

AIR CANADA Respondent.

Heard Before: Wendy Robson
Daniel G. Hill
Raymond Robillard

Appearances: Simon Noel, Counsel for the Complainant
Victor Marchand, Counsel for the Respondent

Introduction

This tribunal was appointed December 31, 1982, pursuant to Section 39(1) of the Canadian Human Rights Act to inquire into the complaint of Donald Bicknell dated October 4, 1982. (Exhibit C1) The complaint reads as follows:

"Although I have been assessed as medically fit to hold any type of flight crew licence by the Department of Transport, subject to the wearing of glasses, and have passed the practical colour vision test given by the D.O.T., and have the highest pilot rating (A.T.R.), Air Canada refuses to hire me as pilot on the grounds that my slight colour vision defect (difficulty in distinguishing shades of red and green) could be a problem with future jet instrumentation." (Ex. C.3)

At the outset of the hearing there was some initial confusion as to whether Mr. Bicknell had also been refused employment because of his visual acuity but counsel for both parties agreed that Mr. Bicknell met the visual acuity standards of Air Canada and the matter of alleged discrimination was limited to the colour vision defect.

Air Canada admitted discrimination on the basis of Mr. Bicknell's physical handicap (Trans. p.10) but took the position that it had a defence under Section 14(a) of the Act and further argued that Section 7 and 8

of the
Bona Fide Occupational Requirements Guideline dated December 14, 1981,
and

published in the Canada Gazette January 13, 1982, shifted the onus onto the complainant to prove that Air Canada's requirement was not a bona fide occupational requirement.

The Guideline states as follows:

S.7 For the purposes of paragraph 14(a) of the Act, where an employer refuses an employment opportunity to a handicapped person, since the person's handicap would create a safety hazard to the employees of that employer or to the general public, the refusal is deemed to be based on a bona fide occupational requirement.

S.8 Where an employer finds that the performance of a job by a handicapped person would create a safety hazard to his or her employees or to the general public and before he or she refuses an employment opportunity based on a bona fide occupational requirement, the employer shall support his or her findings by establishing that the safety hazard has been evaluated on the basis of:

(a) the probability of the occurrence of accident as a result of the performance of the job by the handicapped person;

(b) evidence that the safety hazard is significantly greater than if the person were not a handicapped person; and

(c) the relation of the safety hazard to the specific physic handicap of the handicapped person.

The tribunal ruled that a prima facie case of discrimination had been admitted and therefore the onus shifted to the respondent to place itself within the provisions of S.14 (a) of the Act and that the guideline gives direction as to how that burden may be discharged.

FACTS

The complainant, Donald Bicknell, is 28 years of age with an university education and was advised in Grade 8 that he had a problem with his colour vision. He acquired his private pilot licence in 1974 and his commercial licence in 1975. Mr. Bicknell made his initial application for employment as a pilot to Air Canada on April 13th, 1978, and was advised that he did

not
meet the visual acuity standard. He re-applied on July 15th, 1978, and
was
advised by letter dated July 21st, 1978, and signed by Captain
Sanderson (Ex
A.4) to obtain an ophthalmologic report. Mr. Bicknell obtained that
report
from Dr. Ramsay (Ex. A.5) and subsequently attended a board interview
after
which he was advised that he did not meet the medical profile. (Ex. C2)
When
he attended at the office of the Chief Medical Officer for Air Canada,
Dr.
Saint-Pierre, he was advised that "with future instrumentation because
of my
colour defect I would not be able to fly the airplanes in the future."
(Trans. p. 22-23)

Since March, 1979, Mr. Bicknell has been employed as a pilot by Nordair
and had previously flown as a pilot for Green Airways, Slate Falls
Airways
and Aklavik.

LICENCING REQUIREMENTS:

Pilots are licenced by the Federal Department of Transport in
accordance
with Medical Standards for Civil Aviation Personnel
Licensing. (Ex. A7) The Colour Perception Requirement found at
p.3-28 of Exhibit A7 provides for the administering of colour test
plates
initially. If failed, a retest is done. If there is a further failure
then
the applicant must take the Canadian Forces or Civil Aeronautics colour
perception lantern test. If the applicant fails that test the final
test is
the Practical Test involving the projection of red, green and white
lights
under operational conditions.

A person who passes the latter test is given a licence marked P.
The American Federal Aviation standards vary somewhat. The first two
types of tests are similar to the Canadian ones but instead of a
practical
test a pilot may be given a waiver if he passes a medical flight test
or
signal light test. (Exhibit A.9)

The recommended International Civil Aviation Organization tests for
colour vision are the plates and the lantern test. (Ex. A.14)

PRACTICE OF AIR CANADA

The usual hiring practice of Air Canada was outlined by Captain Carl
Pigeon, who was involved in a major pilot hiring programme for Air

Canada

that commenced in 1978. He testified that once the written applications had been reviewed, candidates were invited to a base interview at one of the four major bases, Montreal, Toronto, Winnipeg or Vancouver.

The base interview was ..."primarily a document verification interview". P. 269 Trans.

"If subsequent to the base interview the interviewer felt that the pilot in actual fact had met minimal qualifications and had demonstrated during the course of the interview generally what we were looking for in a pilot, he would then be scheduled or put in a group who are now available for board interviews, which would be the second level, and this would be the more intense on a personal level where you're actually discussing a myriad of subjects with the individual." P. 269 Trans.

If he passed the board interview successfully he would be hired subject to successful completion of the Air Canada medical examination.

It is apparent from Captain Pigeon's evidence that under normal practice Mr. Bicknell would not have proceeded beyond the Base Interview and document verification because his licence was marked with a "P" indicating he had passed the practical colour vision test but had failed the plates and lantern tests.

The Air Canada standard for colour vision was outlined by Dr. Antoine St. Pierre, director for the Eastern area of medical services in Air Canada.

He has, in addition to the usual medical qualifications, a diploma of aviation medicine from the English Royal College of Physicians and is certified by the Canadian Board of Occupational Medicine. He testified that until 1978 the only test acceptable to Air Canada was the Ishihara or equivalent plates. In 1978 the medical department of Air Canada reviewed the overall medical requirements for pilots and updated various standards. After reviewing the Boeing standards and the proposed new cockpits the corporation relaxed its colour vision standard to successful completion of the lantern

test. Dr. St. Pierre also indicated that other major airlines, namely T.W.A., United, and Air France, have a similar standard. Dr. Skjenna, director of medical services for Air Canada, testified that the C.P. Air standard test was the lantern, and he believed Wardair used the plates only. It was also his view that the major American airlines would not accept waivers (the American equivalent of the D.O.T. Practical Test) and cited Delta. The evidence of these two doctors in respect of American commercial airlines' practice was not contradicted.

MEDICAL EVIDENCE

A substantial amount of medical evidence was introduced before the tribunal relating directly to Mr. Bicknell's colour vision defectiveness and generally to the area of colour vision.

The medical examinations of Mr. Bicknell being records of the Department of Transport and dated October 1973 through April 27, 1982 were filed as Exhibit 10 and explained in some detail by Dr. Edward Reynolds, regional aviation medical officer, Atlantic Region, Department of Transport. Those records indicated consistent failure of the plates and lantern tests. Mr. Bicknell did however pass the practical test in 1975.

Dr. Brian Liddy, a specialist in ophthalmology since 1965, consultant to the Institute of Aviation Environmental Medicine in ophthalmology, teacher at the University of Ottawa, member of the Special Senses Committee of the Aerospace Research and Development Board of NATO and consultant to the Aviation Medical Review Board in Ottawa, Dept. of National Health and Welfare gave extensive evidence.

Dr. Liddy began his testimony with an explanation of colour vision defectiveness at p. 233 Trans.,

"The color perception is believed, and I stress this word believed, because there is more not known about human physiology than there is known and a lot of the things that we have are based on theories which seem to have stood up the test of time but maybe later on, with biochemical discoveries they'll be altered, but basically, it appears that within these ... this particular macula fovea region and the cones of the eye there are either three different types of cones -- the same cones but three different types of

chemical in the, and if you shine a light into the eye, the absorption by these specific three types of cones will determine whether you have complete color vision or some color vision defects, and in the color vision defective

person, what appears to happen is that some of the chemical within these cones is either deficient in its quantity, or its quality or in its performance, and so that when light strikes that particular chemical or that particular cone, the normal transfer of information which is triggered off by that reaction does not occur, or it occurs at a less specific rate in time or with less intensity. So this is basically what appears to happen in color vision.

There are other things that may happen in the cortex of the brain and there have been many articles in the past couple of years about this but it's still an area that's not too well understood, but there are three areas of either different colors, perceptive chemicals or three different types of cones, but most probably chemical."

"The problem of color vision seems to be, as I've mentioned earlier, that a person who is color defective has an inability to absorb or that his cones react properly to lights of these different intensities and if the deficiency is in the red, or the green or the blue -- they are known as protans, dutans or trichromats -- absence of all three is extremely rare, but the common error is a defect in the central area of vision absorption, in the green cone, and when you make any color, from any color pattern, you have to mix these three intensities of light to produce it, quite likely a mixture of all three."

Dr. Liddy states that Mr. Bicknell's deficiency lies in the central area, the green light absorption. He was asked what difficulties Mr. Bicknell would have in distinguishing colours and he replied,

"I think it's extremely difficult to know how a color visual defective person sees. The color defective person perceives green, for example, to be green, and if you start off when you're young as a color defective, which you are, because it's a congenital error, and you come out in a Spring day and

your mother says to you look at the lovely green tree, that becomes green to you; and similarly, in the Fall, look at the leaves, they're turning colored, the browns, or the reds, you associate that particular shade of light in the particular circumstance with red, or with brown or with green." P. 236 Trans.

According to Dr. Liddy, some eight percent of the male population have colour vision defects, which may be demonstrated in three testing methods.

"The first is the spectrum test and that ... is a test using an anomaloscope. It is the only one that really truly says this person has this much of a defect, and the test is very simple. What the person does, he is projected a color, usually yellow, and he's got two knobs and he's got to match that same spectrum that same yellow by mixing the red and green about, or red or blue or whatever it might be, depending which one he's being exposed to, and it's the Nagel anomaloscope and this is the most scientific. However, it is not generally available and not widely distributed." P. 238 Trans.

Secondly there are the confusion tests.

"The confusion tests are the tests using the plates and basically ... they display a number, or form or symbol on a various background and these symbols and numbers are quite obvious to a person who is color normal and they're not so obvious to a color defective person and the various tests are named after their inventors." P. 239 Trans.

The third tests are completely pragmatic.

"They're completely pragmatic devices, and the lantern, the present lantern is designed to determine if a person can see the colors of warning in those particular environments rapidly and accurately and they're designed so that they attempt to decrease or attempt to simulate potential conditions which may occur in the normal environment. The red-green ... a person who is color defective, or anybody, anybody who sees color sees it for two reasons, they see it as a color, red or green, and they see it because red has a specific brightness and green has a specific brightness, and by adding both together

they perceive red or green or whatever it might be very rapidly from the hue and the brightness level." P. 240 Trans.

The doctor also testified that a colour vision deficiency cannot improve with time and to date there is no prosthesis that can adequately compensate for such a deficiency.

He also commented on the practical test as given by the Ministry of Transport.

"Well, it really doesn't screen pilots because the screening is done by earlier tests which involves the plates and the colored lantern test and what the practical test does is to allow flexibility, a waiver to be given to somebody who has failed the previous two tests and one assumes that under certain circumstances it's quite an adequate test, provided that the technology which the person is using remains at a low level."

He was asked whether somebody affected by a major color deficiency could still pass the practical test and he replied at P. 245 Trans.,

"I would think so, if the conditions were correct."
It is interesting to note that almost all of the doctors testifying, including those employed by the Department of Transport, shared Dr. Liddy's skepticism about the value of the practical test.

In cross-examination Dr. Liddy was asked to review all the testing that had been done on Mr. Bicknell and he confirmed, that Mr. Bicknell has "a deuteranomalous colour defect" which he later qualified as medium, and he further confirmed that the colour vision lantern test given to Mr. Bicknell in 1982 was not properly administered as he made a mistake on the first run and should have repeated the run making no errors on the second. p.246 Trans.

Finally Dr. Liddy was asked to comment on the safety aspect of colour vision defectiveness in Mr. Bicknell's situation and he replied.

"I think the answer to that is that a person with a color defect as

displayed by Mr. Bicknell has a potential, a greater potential for error than one who does not have that defect, and the safety question basically would

relate to the particular type of environments, the particular type of aircrafts and the particular type of information transmission that that aircraft demanded." P. 253 Trans.

In reply evidence, the Commission called Douglas Gordon Watt, Honours B.A. in physiology from McGill, graduate of McGill Medical School, Masters degree in neurophysiology, doctoral degree from McGill in neurophysiology. He has worked with NASA at the Ames Research Centre and is presently an associate professor at the Aviation Medical Research Unit, McGill University. He has consulted with Boeing Aerospace, National Research Council of Canada and continues his association with the Ames Research Center and also holds a private pilot's licence.

He confirmed that Mr. Bicknell is deuteranomalous with a medium defect. P. 408 Trans.

He confirmed the usefulness and accuracy of the first two sets of tests described by Dr. Liddy and raised the same doubts about the pragmatic tests saying at page 416 Trans. ... "they're fairly imprecise and have to be done fairly rigorously. I think you can get different results at different times." Dr. Watt discussed at some length the findings in Exhibits A. 12 and A. 13 being the 1976 Accident Experience of Civilian Pilots with Static Physical Defects. He felt that statistically the study was shaky and not of great value particularly in regard to colour vision defective pilots. To achieve a study with statistical validity would require having colour defective pilots flying many hours. If they are colour defective, of course, they are not allowed to fly, rendering it virtually impossible to build up a data base. He characterized the situation as a "Catch 22." In any event Dr. Watt considers the hazard involved with a colour vision defective pilot to be highly marginal. P.425 Trans., and the development of the 767 aircraft does not significantly alter his opinion. A further three witnesses were called by the Human Rights Commission; Howard Backman, Victorin Deland and Jean Trottier. Mr. Backman is an optometrist who has practiced in Montreal since 1965 and has examined a number of pilots at their own request and for the Federal Ministry of Transport. On March 22, 1982, he examined Mr. Bicknell and submitted a report filed as Exhibit C-11. He administered three tests. First was the Ishihara colour vision plates which Mr. Bicknell failed. He then administered the Farnsworth

D-15 which Mr. Bicknell also failed. The third test was a lantern test which was administered twice and which Mr. Backman considered Mr. Bicknell to have passed. At P.451 Trans.

"The results of the lantern were that he passed all the tests except for number 9. There are 11 tests and he passed all except number 9. In the one light test he called green white and the two light tests he confused white green with red green.

perception requirements and administering of the colour perception lantern test.

He was asked at P.459 Trans. ... "Now, am I to understand that identifying a white or a green light with a red is disqualifying".

A. That's what it says."

He went on to say that he filled in only one column of two because when he repeated the test with Mr. Bicknell the same errors were made on the second as on the initial one, so effectively four errors were made in all.

The Tribunal considers the evidence of Mr. Deland and Mr. Trottier to be of no probative value.

THE FLIGHT SIMULATORS

We were afforded an opportunity along with both counsel, to experience two of the Air Canada flight simulators used for the training and re-testing of their pilots. Captain David Harold Walker and his associates took us through the 767 and the D.C. 8 simulators. This exposure gave us an opportunity to appreciate the use of colour in the airport environment as well as in the cockpit. This served to confirm, in our opinion, that colour is used as yet another of the back-up safety systems in the cockpit and that colour retains a traditional importance on the airfield.

THE LAW

The leading case on bona fide occupational requirement is The Ontario Human Rights Commission et al v. The Borough of Etobicoke (nb. citation) a decision of the Supreme Court of Canada. (1982) 132 D.L.R. (3d) 14.

Mr. Justice McIntyre at page 19 of the decision first deals with the burden of proof and says "The proof in my view, must be made according to the

ordinary civil standard of proof, that is upon a balance of probabilities."

He goes on to confirm the McKay test found in Re Ontario Human Rights Commission and City of North Bay (1977), 17 O.R. (2d) 712. saying at page P. 19-20:

..."To be a bona fide occupational qualification and requirement a limitation, such as mandatory retirement at a fixed age, must be imposed honestly, in good faith, and in the sincerely held belief that such limitation is imposed in the interests of the adequate performance of the work involved with all reasonable dispatch, safety and economy, and not for ulterior or extraneous reasons aimed at objectives which could defeat the purpose of the Code. In addition it must be related in an objective sense to the performance of the job without endangering the employee, his fellow employees and the general public."

As to the sufficiency of evidence required to satisfy the second or objective test, Mr. Justice McIntyre suggested that something more than impressionistic evidence was required but not necessarily scientific evidence. Statistical and medical evidence will be more persuasive than the testimony of persons, experienced in that particular field.

In Hodgson v. Greyhound 499 F.2d 859 (7th Cir. 1974); cert.denied, 95 S.Ct. 805 (1975) the two pronged test was approved in safety related cases and referring to the nature of the occupation at page 863;

...(a) public transportation carrier, such as Greyhound, entrusted with the lives and well-being of passengers, must continually strive to employ the most highly qualified persons available for the position of inter-city bus driver for the paramount goal of a bus driver is safety. Due to such compelling concerns for safety, it is not necessary that Greyhound show that all or substantially all bus driver applicants over forty could not perform safely ... Greyhound need only demonstrate however, a minimum increase in harm for it is enough to show that elimination of the hiring policy might jeopardize the life of one more person than might otherwise occur under the present hiring practice."

In Paul S. Carson, Ramon Sanz, William Nash, Barry James and Arie Tall v. Air Canada, an appeal from a decision of Sidney N. Lederman, Q.C. released October 23, 1983, there is a review of these two cases at page 54,

"The Court's analysis in Hodgson is similar to the analysis of the Supreme Court of Canada in Etobicoke. With both the position of bus driver and fire fighter, the courts found on the evidence adduced by the employer that the concern for public safety was present in the nature of the duties to be performed. The onus was upon the employer to go further, and show an increase in risk of harm by the removal of the employer's age ceiling policy. To do so, medical and statistical evidence is to be led on the question of aging. The "nature and sufficiency of the evidence required" will vary with the circumstances of each case, but the onus is always upon the employer to adduce whatever medical or statistical evidence is available"; Etobicoke at pp. 22-23.

The review tribunal in Carson et al v. Air Canada extensively reviewed the American decisions dealing with bona fide occupational qualifications and approved the Smallwood v. United Airlines Inc., 661 F.2d 303 (4th Cir. 1981) cert. denied, 102 S.Ct. 2299 (1982) saying at page 57:

"In our opinion, this test is substantively similar to the one set forth in Etobicoke by the Supreme Court of Canada. The Court of Appeals in Smallwood rejected the several arguments of United that safety would be adversely affected by removing the age limitation finding that United had "provisions in place for the medical testing of its pilots of all ages", and thus, United had "failed to show the impossibility or impracticality of dealing with applicants individually", at pp. 308-309."

FINDINGS
CONCLUSIONS

We accept, without reservation, the proposition that Air Canada has, as its principal business, the safe carriage by air of the public. That imposes on the company a heavy duty to maintain impeccable safety standards. That proposition has been recognized by the Canadian Human Rights Commission in its acceptance of a higher visual

acuity standard for pilots than that established by the federal Department of Transport.

We also accept that a colour vision standard is essential for the safe carriage of passengers. The need for such a standard is recognized by the Canadian Department of Transport which has established colour vision as one of the criteria for the licencing of commercial pilots. It is accepted as a necessary requirement by other national and international air transport bodies. Further the Tribunal has seen the need for such a standard in the cockpit and on the airport runways.

The decision we are asked to make is not whether Mr. Bicknell is a competent pilot, but whether Air Canada's standard for colour vision is appropriate and represents a bona fide occupational requirement for this employer.

No argument was made in respect of the first prong of the Etobicoke decision. It is obvious that the Air Canada standard was established in good faith and it is worth noting again that the present standard is a lesser one than that applied by the corporation in 1978.

Our task then is to decide whether Air Canada satisfies the objective test or second prong in Etobicoke and would there be an increase in the risk of harm if the colour vision requirement were relaxed.

Our review of the medical evidence, and particularly that of Drs. Liddy and Watt, indicates that colour vision defects can be detected most accurately by the anomlascope and least effectively by purely pragmatic tests such as the practical test. The importance of the rigorous and careful application of the latter test was stressed, and in reviewing the evidence there is no indication of how Mr. Bicknell's practical test was administered in 1975.

Further, it is clear from the evidence that although a colour vision defect can be detected, we do not know the exact nature of the subject's defect because we do not know what he actually perceives and there is no certain way of testing that.

The state of medical science in this area is relatively undeveloped at this time.

That leads us to the area of scientific tests to show increase of probable danger to the public as suggested by Etobicoke and Smallwood. It is apparent that little testing has been done and the one paper available, the

1976 study previously cited, is of doubtful validity although it does raise some concerns. More to the point was Dr. Watt's comment that we are in a "Catch 22" position. People with colour vision defects are not licenced and therefore adequate testing as to their safety cannot take place with sufficient numbers to give any statistical validity.

In our view, Mr. Bicknell passed none of the generally accepted tests for colour vision and passed the practical Department of Transport on one occasion under circumstances and conditions that may or may not have been adequate. In any event, that test is not uniformly reliable and cannot be administered in exactly the same manner to every pilot applicant.

We are persuaded that the Air Canada requirement of successful completion of the lantern test is an acceptable one and brings it within the exception of S.14 of the Human Rights Act. It is a test that can be administered effectively to all pilot applicants and is not subject to the vagaries of weather, change of colour intensity or operator inexperience or inattention. The overwhelming requirement of safety in air carriage demands that degree of certainty.

Therefore the complaint is dismissed. We would like to comment on the offer made by Air Canada at the conclusion of the hearing. Without prejudice to his case, Mr. Marchand, counsel for Air Canada, offered \$500.00 to Mr. Bicknell to cover his expenses in Montreal during the board interview. We were pleased to note that such an offer was made although we might have expected a more generous figure since Air Canada did not abide by its usual practice in the processing of Mr. Bicknell's application as admitted by Captain Pigeon.

DATED this 4th day of January A.D. 1984.

Wendy Robson
Daniel G. Hill
Raymond Robillard