

T.D. 18/94
Decision rendered on December 20, 1994

CANADIAN HUMAN RIGHTS ACT
(R.S.C., 1985, c. H-6 as amended)

HUMAN RIGHTS TRIBUNAL

BETWEEN:

MICHAEL ANDREWS
Complainant

- and -

CANADIAN HUMAN RIGHTS COMMISSION
Commission

- and -

TREASURY BOARD
Respondent

- and -

DEPARTMENT OF TRANSPORT
Respondent

DECISION OF TRIBUNAL

TRIBUNAL: Gillian D. Butler, Chairperson
Roger Bilodeau, Member
Richard P. Noonan, Member

APPEARANCES: Dawna Ring, Counsel for the Canadian Human
Rights Commission
Ted Tax, Counsel for the Respondent

DATES AND LOCATION

OF HEARING: July 14 to 17, 1992
Sept. 15 to 18, 1992
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INDEX

PART I

The Complaint	2
The Facts	3
Practical Hearing Test	5
Health & Welfare Canada Hearing Standards	5

PART II

Hearing	8
Dr. T.J. Smith	8
Valerie Parrott	11
Dr. Brian Tansley	13

PART III

The Marine Environment	16
Captain Wayne Norman	17
Captain Mark Turner	19
Captain George Legge	20
Captain Stewart Klebert	25
Captain Philip Murdock	26

PART IV

The Practical Hearing Test	29
Development of the Test	29

Ms. Jankun's Role	31	
Mr. Murdock's Role	34	
The Dry Run and Control Group Test	35	
Administration of the Test to Mr. Andrews	39	
Comparison of the Andrew's and Control Group Tests	44	
Test Standards	46	
Mr. Boisvert's Role	49	
The Psychological Experts' Evidence on the Test	50	
- Dr. Edward Renner	51	
- Dr. Brian Tansley	58	
The Medical Witnesses's Evidence on the Test	64	
The Marine Expert's Evidence on the Test	65	
The Test's Ability to Assess Hearing	68	
Positive Aspects of the Test	80	
The Best Means Available to Measure Andrews' Ability to Hear	82	
Conclusion on the Practical Hearing Test	83	
PART V		
Bona Fide Occupational Requirement	85	
Safety Risks and the BFOR Defence	89	
The Practical Hearing Test and the BFOR Defence	94	
The Evidence as a Whole and the BFOR Defence	96	

PART VI

Tribunal Finding on the Complaint	102
Tribunal Finding on the Section 7(A) Complaint	102
Tribunal Finding on the Section 10(A) Complaint	103

PART VII

Damages/Relief Sought	104
Order of the Tribunal	108

- 2 -

PART I

THE COMPLAINT

The Complainant, Michael Andrews, (hereinafter referred to as the Complainant) formerly of Shoal Harbour, Newfoundland, claims that Treasury Board and the Department of Transport (hereinafter referred to as the Respondents) discriminated against him and therefore contravened Section 7(a) of the Canadian Human Rights Act (CHRA) on August 23, 1985 in denying him employment as a student at the Canadian Coast Guard College at Sydney, Nova Scotia. The Respondents claim that the Complainant did not meet the medical standard required of candidates for the Officer Training Plan and failed to pass the Department of Transport hearing standards for navigational officer cadets. (See Exhibit HR-1, Tab 1)

Further, the Complainant charges that the Respondents contravened section 10(a) of the CHRA by maintaining a policy of not hiring persons whose hearing ability does not meet the standards of the Officer Training Plan.

Thus, this complaint is on the grounds of physical disability (hearing impairment) but both a direct/individual discrimination and a general discriminatory policy/practice are alleged and must be considered.

- 3 -

THE FACTS

In 1984, the Complainant applied to the Canadian Coast Guard College for admission as a student and in February of 1985 he was advised that he was a good potential candidate. Shortly thereafter, the Complainant saw Dr. Russell Harper (a physician on campus at Memorial University of Newfoundland at St. John's where the Complainant was studying) and obtained from him a copy of the Health and Welfare Canada Physicians' Guide which contained the health standards for seagoing occupations including the Canadian Coast Guard. On his own initiative (because the Complainant was aware that he was deaf in one ear) he then obtained an appointment with Dr. Thomas J. Smith (an ear, nose and throat specialist in St. John's) to have an audiogram test performed.

By letter dated May 31, 1985, the Complainant was notified that he was accepted for admission to the navigational officer program at the Canadian Coast Guard College to commence studies in September 1985. (See Exhibit HR-1, Tab 6). His acceptance was however conditional on four factors, only one of which is relevant to this Complaint, namely the requirement for a medical examination certificate completed by a physician designated by Health and Welfare Canada.

Rather than seeing a Health and Welfare Canada physician, on June 4, 1985 the Complainant attended on his family doctor, Dr. E. W. Hunt in Clarenville and had the Health and Welfare Canada medical form completed by him. (See Exhibit HR-1, Tab 9). In this document, Dr. Hunt noted that the Complainant had abnormal hearing in his left ear and he enclosed the results of the audiogram test performed by Dr. Smith. This document was then forwarded by Dr. Hunt to the Health and Welfare Canada physician, Dr. R.L. Sinclair in Halifax, Nova Scotia. The Complainant testified that he did (again, on his own initiative) contact Dr. Sinclair or his office to determine the status of his application and it was in this manner that he learned of Dr. Sinclair's concern with the results of the Complainant's audiogram insofar as it appeared that he had a profound hearing loss in his left ear.

By telephone message left with the Complainant's mother on July 29, 1985, the Complainant learned that he would not be able to enroll in the Canadian Coast Guard College. This was confirmed by letter dated August 23, 1985 from Mr. Terence McCluskey of Transport Canada Coast Guard College wherein it was indicated that the Complainant did not meet the medical standard required of candidates for the Officer Training Plan insofar as he had failed to pass the hearing standards for Navigation Officer Cadets. (See HR-1 Tab 7)

PRACTICAL HEARING TEST

Following the filing of this complaint with the Canadian Human Rights Commission on December 27, 1985, the Tribunal is aware that the Complainant's file would have followed the normal course including a phase of conciliation. Although evidence of the particulars of the conciliation process is not normally brought before a Human Rights Tribunal, counsel have agreed that during this phase it was suggested that a practical hearing test be conducted for the Complainant and he agreed.

From early 1989 until May of 1990, Ms. Joanne Jankun of Transport Canada worked on the design of the individual test in consultation with the Federal Public Service Commission and Transport Canada Training Directorate officials. On May 24, 1990, the practical hearing test was conducted on a sample group of Transport Canada employees on board the Coast Guard Ship (C.G.S.) Sir Wilfred Grenfell in St. John's harbour. On May 25, 1990, the practical hearing test was completed for the control group and then performed on the Complainant. More will be said about this test in Part IV of this Decision.

HEALTH AND WELFARE CANADA HEARING STANDARDS

The August 1985 physician's guide entered in evidence as exhibit HR-1 at Tab 13 indicates the following:

"2.02.2 Physical Demands of Seagoing Occupations:

"1. Deck Officers

...

Hearing: Must clearly understand voice communication by speaking, shouting or radio."

Further in the same Exhibit the following appears:

"2.02.3 Examination Guidelines - Ships' Officers

NOTE: Includes Canadian Coast Guard Officer Cadets
Examination Pre-placement Periodic

...

* Audiogram Standard 1 Yes (Note 3)

- 5 -

*See also section 3.02 and also Annex E."

The reference to "Standard 1" is explained in Annex E to the Exhibit in which the following appears:

"STANDARDS FOR HEARING

STANDARD FREQUENCY RANGE (Hz) MAXIMUM ALLOWABLE HEARING LOSS (dB) AT ANY FREQUENCY

...

1500-3000 30"

The note 3 referred to under the heading of Periodic reads as follows:

"NOTE: ...

3. Hearing aids are not acceptable (see Annex E)."

It is important also for the purposes of this decision to set out in detail the provisions of Annex E which apply to the measurement and assessment of hearing loss:

"MEASUREMENT AND ASSESSMENT OF HEARING LOSS

Measurement of hearing by simple whispered or conversational voice tests is totally unreliable because of the number of variables which may be introduced into the tests. Moreover, such tests cannot be used to establish a baseline for determining future hearing loss. All testing is to be done by means of a reliable screening audiometer, and is not to take place within 16 hours of significant exposure to noise, except when an individual does not meet the required standard. Re-examination should take place 48 hours after such exposure. Individuals who fail to meet the required standard for their occupation are to be

referred to an audiologist or otologist for full audiometry.

No individual experienced in his occupation is to be rejected solely on the basis of pure tone audiometry, but is to be given the opportunity to prove himself by a realistic practical test to the satisfaction of his

- 6 -

supervisor." (Emphasis added is that of the Tribunal).

The standards for ships' officers are substantially different from those for ships' crews which are set forth in the same Exhibit. At paragraph 2.02.4 it is indicated that although an audiogram is required for ships' crews, both the pre-placement standard and the periodic standard are at the following level:

"Con conversationally adequate in one ear, with no more than 30 dB loss at 500-2000 Hz. Hearing aids are not acceptable. (See Annex E.) Audiogram every 6 months for Radio operators and engine room personnel."

- 7 -

PART II

HEARING

The Tribunal heard evidence from three witnesses found to be qualified as experts in various aspects of hearing.

DR. THOMAS J. SMITH

Dr. Thomas J. Smith testified on behalf of the Complainant. He is a well-known ears, nose and throat specialist practicing in St. John's and testified that he has treated thousands of patients with hearing loss since the opening of his practice in 1978. As indicated above Dr. Smith had seen the Complainant in March of 1985 for approximately 15 minutes.

Dr. Smith described the Complainant's condition as profound (severe) unilateral hearing loss in the left ear, the most likely cause of which was nerve damage resulting from mumps which the

Complainant suffered at age eight (some 10 years prior to his application).

Dr. Smith testified that the Complainant's ability to hear could be measured by a test referred to as a pure tone audiogram which test had been conducted by Dr. Smith following the Complainant's letter of conditional acceptance. Using this equipment, Dr. Smith described the Complainant's hearing loss in his right ear to be 10 decibels, which is considered to be normal. In comparison, the hearing loss in his left ear would be stated as 105 decibels which is as high as the audiometer can record. In fact, Dr. Smith explained that such a loss could be described as having no hearing at all from that ear.

As examples of daily living, the Tribunal understood from this witness that a whispered voice can be heard with a hearing loss of 5 decibels whereas a person with 105 decibels hearing loss would hear virtually nothing if a jet fighter flew over their head. Since the audiometric test is conducted on one ear at a time, these measures speak in terms of an individual's ability to hear from the one ear affected and not of the individual's ability to hear generally; however, the testimony was still helpful to the Tribunal.

The Tribunal learned from Dr. Smith's evidence that the Complainant hears in a manner different from most of the population since he has lost the binaural advantage of hearing from two ears. His hearing will therefore be described hereinafter as monaural.

When asked to compare the loss of use of one eye to the loss of use of one ear, Dr. Smith explained that the effect on vision

- 8 -

would be in the area of depth perception whereas the effect of hearing would be a diminishment in a person's ability to localize sound. The ability to localize sound is not however eliminated because it can be accommodated by the inclination of a person's head in the direction of the sound. This, he explained, is possible because humans hear not only through their ears but through the bones in their head. Further, he testified that an individual with monaural hearing learns to accommodate over time with other cues i.e. lip-reading, body language, and facial factors.

According to Dr. Smith although the Complainant has virtually no hearing from his left ear, he has normal conversational

hearing abilities. Indeed it was apparent to the Tribunal that the Complainant had no difficulty whatsoever in hearing and responding to questions asked of him directly. Further he was able to assist the Commission's counsel on questions put to and answers received from other witnesses by private conversations at voice levels which were greatly lowered and not overheard by others in the room. Although Dr. Smith was prepared to admit that the Complainant may encounter problems in detecting the source of a sound if it is brief (i.e. less than one second) and may have his ability to hear affected by background noise if the noise and the stimulus come from the same direction, there was no evidence of any difficulty in either of these areas in his testimony and general attendance before the Tribunal.

In conclusion, in Dr. Smith's opinion, although the Complainant's results on the pure tone audiogram were abnormal, in a situation where normal hearing is required, he testified that the Complainant has normal hearing. However, because the Complainant hears only through one ear, he does not hear in the same way as the majority of the population and therefore it could be said that he does not hear normally. This was Dr. Smith's explanation for what would otherwise appear to be a contradiction in terms.

MS. VALERIE PARROTT

Ms. Parrott is an audiologist who has been in practice in the City of St. John's since 1979. Her specialty involves the measure of hearing in patients using standardized tests and she was qualified to give expert opinions on the study of hearing, and the science and measurement of hearing abilities.

The Tribunal learned through Ms. Parrott that sound travels through air and objects in all directions best exemplified by the ripples that form when a pebble drops into a pond. A decibel is a measure of sound pressure and the majority of sound pressures encountered in daily living would be in the range of 0 to 60 decibels.

The pure tone audiogram is a test that has become

- 9 -

standardized over a period of 73 years. In essence it requires the individual to repeat words back to the tester at various sound pressure levels so that the tester can measure the individual's hearing of simple, two-syllable words with which he or she is

familiar. The test involves the use of prompts which Ms. Parrott explained were necessary since without them the test would or could be measuring the individual's attention and not his hearing. As a result, Ms. Parrott testified that the pure tone audiogram is neither a test of one's ability to hear in daily living situations nor a test which could be used to determine if the Complainant could safely perform the tasks of a Coast Guard Officer.

Ms. Parrott's interpretation of the Health and Welfare standard contained in Exhibit HR-1, at Tab 13 (see pages 5-6 herein) was that the employer required no greater than a 30 decibel hearing loss in either ear. Thus, in her opinion it would be acceptable for an individual to have (for example) a 25 decibel hearing loss in both ears although it was not acceptable for the Complainant to have merely a 10 decibel loss in one ear if his loss in the other was 105+ decibels. This evidence becomes relevant in view of Ms. Parrott's testimony that the Complainant is aware of sounds that a person with bilateral hearing loss in both ears of 25 decibels would not detect.

In conclusion, Ms. Parrott concurred with the opinion expressed by Dr. Smith, namely that the Complainant's ability to hear in normal circumstances of daily living is normal although his score on the pure-tone audiogram is abnormal.

- 10 -

DR. BRIAN TANSLEY

Dr. Brian Tansley was qualified as an experimental psychologist in the areas of hearing, vision and human factors or, stated another way, the design, measurement and assessment of auditory and visual signals and communications. In addition, he was qualified to give expert evidence with respect to the assessment of visual, auditory, cognitive, and psychomotor skills and performance. Because of his qualifications, Dr. Tansley was also qualified to address issues surrounding the practical hearing test completed by the Respondent and his evidence in this area will be discussed in Part IV of this Decision. Over a period of seven days, Dr. Tansley gave extremely detailed evidence about hearing and sound. His testimony addressed issues such as how humans hear, how sound is produced and measured, how speech sounds differ from other sounds, signal to noise ratios and the effect of signal to noise ratios on the intelligibility of speech. Some of these points were of particular interest to the Tribunal and must be discussed in some detail.

Dr. Tansley explained that sound is a subset of vibrations available in space occupied by atomic structures (densities) so that vibrations can be propagated. He explained that there are 140 decibels in human hearing and the measure of one decibel represents the unit of change that you can determine; that is why it is useful. The purpose of having two ears is to make possible the perception of sound sources including where the sound comes from (localization).

Although the auditory system is not well understood, Dr. Tansley explained that it involves more than our ears. Following a message given by one person, scientists know that the brain puts muscle movements in place and the message is understood.

He explained that there are many functions of hearing, namely detection, selective attention, divided attention, allocation of information, localization of objects, discrimination, differentiation and recognition. The ability to understand the message (the intelligibility of speech) is affected by factors such as background noise and visual cues. Of the nine of these factors enumerated and elaborated upon by this witness, Dr. Tansley concluded that a person with monaural hearing would lose (albeit in some cases only subtly) the benefit of three of these, namely the ability to localize sound without moving one's head, selective attention to single sound sources in the presence of other signals in noisy environments and the detection and recognition of signals (including speech) in noise.

The details of his testimony in this area centered on Exhibit R-24 which he presented using a series of overheads. He concluded that although two ears are not needed to understand speech,

- 11 -

two ears are better than one because a person with two ears has the benefit of having sound enter through two channels to be selected in or out through the various portions of the human auditory system. Since the majority of the population hears with two ears and the Complainant hears with only one, he disagreed with the testimony of Dr. Smith and Valerie Parrott to the effect that the Complainant hears normally.

Of particular interest to the Tribunal in Dr. Tansley's evidence was an opinion which he felt unable to express. When asked if binaural hearing was required for the safe performance of the duties of a Coast Guard officer, he advised that he could not answer

the question but could say that in some examples of tasks which he understood would be performed, binaural hearing would be an advantage.

Counsel for the Respondents described the evidence of Dr. T.J. Smith as being stated in broad terms and suggested that Dr. Brian Tansley's testimony was far more specific. Further, the Respondents suggested that since both his report (Exhibit R-3) and vive voce testimony were supported by authoritative and scientific literature, his evidence was to be preferred to the testimony of both Dr. Smith and Valerie Parrott. While these assertions may be descriptive (in a comparative sense) of the evidence of the three experts on the topic of hearing generally, the Tribunal concludes that it does not permit the placing of greater weight to the testimony of Dr. Tansley in this area. The evidence of all three specialists was found to be of great assistance to the Tribunal.

PART III

THE MARINE ENVIRONMENT

Seafaring is a dangerous pursuit regardless of the mission. Whether it is commercial shipping, Coast Guard, or Military operations, the environment is an unpredictable one shaped by the elements and in a constant state of flux.

The platform of seagoing vessels ranges widely and all behave differently in the aquatic environment. It is accepted therefore that many different fields of expertise are required, training is essential and these factors combined should ensure a reasonable degree of safety. In this case, it is the matter of safety in Coast Guard operations that is the primary issue.

Coast Guard operations are as varied as the geography of the country. The Coast Guard has eleven specific directorates, namely Fleet Systems, Marine Navigation Services, Coast Guard Northern, Search and Rescue, Environmental Response and Emergency Planning, Marine Pilotage, Harbours and Ports, Ship Safety,

Telecommunications and Electronics, Policy Planning and Resource Management and Regional Directors General. At the time of the hearing

in this matter, the Coast Guard had 84 operating vessels, 35 helicopters, 3 hovercraft and 1 fixed-wing aircraft.

As indicated by Captain George Legge in his testimony, Fleet Systems is the operational arm of the Canadian Coast Guard and provides ships and personnel for the other branches of the service.

Although the services and activities of the Coast Guard vary across the country, it is primarily involved in the maintenance of navigational aids to provide a safe and efficient marine transportation system for the country. Peripherally, the Coast Guard is involved in ice breaking and escort services, Arctic resupply and Search and Rescue.

The Tribunal heard from a total of five witnesses on the topic of the marine environment and some of these were also of assistance to the Tribunal in assessing the suitability of the test administered to the Complainant.

CAPTAIN WAYNE NORMAN

Captain Norman was called as an expert witness for the Complainant. He has 14 years experience teaching nautical science and 10 years (including five full years at sea) of seagoing experience. Although Captain Norman himself has not had an active command since 1975 and has never had a Coast Guard vessel under his command, he does hold a Master Mariner's Ticket. Admittedly there have been many technological changes in seagoing occupations since Captain Norman last commanded a vessel in 1975 but he testified that Coast Guard Officers would have similar qualifications to his and therefore, his training would allow him to act as a ship's officer (navigational officer) in both the mercantile marine and the Coast Guard.

Captain Norman testified that a candidate attending the Marine Institute in St. John's Newfoundland with the aim of becoming a Navigational Officer is able to obtain a Certificate of Competency provided the examiner is satisfied that the individual has conversational hearing. With this Certificate, the graduate would qualify for commercial service with the approval of the Ships Safety Branch of the Canadian Coast Guard. However, the Fleet Services Branch of the Coast Guard sets the qualifications for Navigational Officers in the Coast Guard itself and this Branch requires a higher level of hearing ability than the Ships Safety Branch has set for the mercantile marine.

Further, this witness testified that he was also aware that the non-licensed personnel (crew) aboard Coast Guard vessels do not

- 13 -

require the same level of hearing ability as do Officers, including Navigational Officers.

- 14 -

CAPTAIN MARK TURNER

Captain Turner was qualified as a Master Mariner. He is currently the Officer in Charge of the Offshore Service Centre which is a branch of the Marine Institute in St. John's, Newfoundland and it was he who was classified as the "neutral observer" present for the Complainant's practical hearing test administered on May 25, 1990.

In his testimony the Tribunal learned that he had experience in search and rescue operations through the mercantile marine and in particular, the offshore industry. It is worthy of note that Captain Turner had been involved on the lead rescue vessel in February 1991 when the oil rig, The Ocean Ranger, sank off the coast of Newfoundland. His vessel was not relieved by the Coast Guard until some 24 hours later and his vessel remained involved in this rescue operation for three days with four other ships. Captain Turner's experience also includes service on board vessels with ice-breaking capacity and he had served on vessels in the Arctic region which required assistance from the Coast Guard in navigating ice-infested waters. In total, he had experience with eight oil companies in the offshore business and testified that despite the sometimes extremely dangerous nature of the work, conversational hearing was the standard for navigational officers employed with these companies. Likewise, Captain Turner was not required to take a hearing test at the time he received his Master Mariner's Certificate. In his opinion, as a Master Mariner, he did not believe he could support a hearing standard that would exclude candidates for Navigational Officers who have conversational hearing in one ear.

In addition to confirming that the marine environment is often a very dangerous place to work, Captain Turner testified about the noises which prevail. He confirmed that engines, radios, telephones, vibrations, machinery, radio and electronic equipment in

operation, together with the natural sounds of the ocean and the wind, present a challenge to hearing and communication. Nevertheless, under questioning by the Tribunal, Captain Turner testified that he could see no reason why there were different medical standards established for Coast Guard Officers and mercantile marine officers. In fact, it was his opinion that many times the mercantile marine activities were much more involved and of higher risk than those involved in the Coast Guard particularly in the area of offshore oil drilling.

CAPTAIN GEORGE LEGGE

Captain Legge was qualified to give evidence as a Master Mariner and as a result of his 30 years of service with the Coast Guard was also permitted to testify on the management, operation and organization of the Coast Guard and its fleet. At the time of the

- 15 -

hearing, Captain Legge was Senior Manager in the Fleet Systems Branch of the Coast Guard for the Newfoundland Region.

Captain Legge confirmed that it is the Ship Safety Branch of the Coast Guard which sets the standards for Certificates of Competency applicable to commercial seafarers and that the standards set by the Fleet Systems Branch (which sets the standards for Certificates of Competency applicable to Coast Guard Officers) comply with these but in many areas they exceed these standards. As expected, Captain Legge confirmed that the Fleet Systems' hearing requirements for Coast Guard Officers exceeds the required standard for commercial (merchant marine officers) established by the Ship Safety Branch.

As a result of the different standards applicable it is possible for a candidate to obtain a watch-keeping certificate by completing the required academic courses through a recognized institution. Thereafter the candidate would qualify for work on commercial vessels by having "conversational hearing in one ear and the ability to hear warning devices" (see Exhibit HR-10). If however the candidate sought employment on board a Coast Guard Vessel he "must clearly understand voice communication by speaking, shouting, or radio" (see Exhibit HR-1 at Tab 13) which would require that he meet the pre-placement examination guidelines set forth at pages 5-6 herein.

Captain Legge described for the Tribunal the difference he perceived between the tasks performed on a Coast Guard vessel and those on commercial vessels. He advised that while Coast Guard vessels are designed for specific tasks, (i.e. navigational aids and/or search and rescue) commercial ships are usually designed for the carriage of goods from port to port for profit. Thus, in his opinion, commercial vessels have fewer tasks completed between ports whereas Coast Guard vessels normally have fewer tasks completed while in port. He made the additional observation that commercial vessels usually require the support of an independent pilot when entering pilotage waters whereas Canadian Coast Guard Officers are trained to do their own pilotage in Canadian waters thus requiring a further degree of training.

Captain Legge pointed out some of the more specific challenges that face officers in the Coast Guard. He specified the maintenance of the transatlantic cable, the use of fast rescue craft and barges for supplying and carrying cargo to the Arctic, the tending of navigational buoys, boarding vessels in distress and fire-fighting. As a result, he explained that Coast Guard ships are designed to meet their challenges and are usually equipped with bow thrusters to be highly manoeuvrable for work around shoals, reefs, narrow channels and fast currents.

- 16 -

Captain Legge indicated that the main dangers of Search and Rescue operations are environmental conditions including fog, freezing spray, and icebergs. He cited an example of conditions under which hearing may be relied upon in treacherous conditions. In certain of the waters in which Coast Guard vessels operate (for example, the Labrador coast) navigational charts are imperfect and as a result the mother ship may dispatch a fast rescue craft to venture into shallower water. If fog should set in, the personnel on board the fast rescue craft would be required to utilize all of their listening skills to assist them in returning to the mother ship. Captain Legge could not state the frequency of such situations, but he did say that these circumstances are part and parcel of the work of the Canadian Coast Guard.

Understandably, the officers and crew of Coast Guard vessels develop expertise in various activities over a period of time (ie buoy tending or ice-breaking). The Coast Guard therefore provides for cross training of its officers so that they may be updated and prepared to perform a variety of jobs and (unlike ships

crew) officers are assigned to many different vessels from a pool operated out of the main regional office which in this case would be Newfoundland.

According to Captain Legge, the two noisiest areas aboard any vessel are the engine room and on the deck; he felt that noise is less a factor on the navigation bridge. He confirmed that (even for someone whose hearing was normal) it would be fair to say that it is often difficult to hear communications or signals especially if helicopters are operating, anchors are being raised or lowered or boats and being launched or recovered. In all of these examples Captain Legge confirmed that the Navigational Officer would be responsible for the communications surrounding these activities.

This witness also explained that (with the exception of The John Cabot and ships which operate in the Arctic) very few of the Coast Guard vessels have radio operators on board. As a result, the watchkeeping officers perform the radio officer's duties and if a message is misinterpreted or missed, it can result in very serious consequences to the vessel and all on board. Another point that Captain Legge made was in relation to budgetary cutbacks. He testified that the Coast Guard is expected to perform the same operations with less manpower in the future as a result of fiscal restraint.

Captain Legge was questioned by counsel for the Human Rights Commission with respect to command responses. In this area, the Captain confirmed that there is no specific pattern for repeating orders although it is not uncommon for the wheelsperson to repeat a command received from the Captain nor uncommon for the Captain to acknowledge that the command has been heard properly. However, he

- 17 -

insisted that it is not the practice that every order be repeated three times, particularly if the vessel is in a crisis situation. He admitted however that a prudent navigational officer unsure of a message would ask that the command be repeated before taking any action. He insisted also that although Coast Guard vessels operate today using very sophisticated navigational technology, it is common practice and good seamanship for personnel to fall back on the basic principles of hearing and vision where technology fails.

CAPTAIN STEWART KLEBERT

Captain Klebert is the Senior Relief Officer for the Coast Guard in the Newfoundland Region and he has approximately 20 years experience with Canadian Coast Guard Fleet Systems. Captain Klebert was recognized as a Master Mariner holding a Coast Guard Command Certificate and able to give opinion evidence on shipboard operations, the management of Coast Guard vessels and the duties and tasks of Navigational officers and crew on Coast Guard vessels.

Captain Klebert made the point very early in his testimony that Coast Guard vessels are often expected to operate in the worst weather conditions because the vessels are called out when other vessels are in distress. In these circumstances, Coast Guard vessels must proceed to the scene at all possible speed.

He made the further point that in placing and tending buoys, communication on the bridge is essential and as such there is a small margin for error. Further, he observed that communication in Coast Guard operations is reliant on sound, much of which comes from radio communication. In receiving this communication, one type of headset used is the single ear cup which allows the person wearing the headset to also listen with his other ear to sounds in the immediate area.

- 18 -

It was Captain Klebert's opinion that a Coast Guard navigational officer must hear with both ears because of the critical importance placed upon messages, their receipt, and interpretation in order to ensure the safety of the ship and its crew. Captain Klebert described a series of incidents from his own experience which he suggested supported the vital importance of hearing for the safe operations of the Coast Guard.

CAPTAIN PHILIP MURDOCK

Captain Murdock holds the highest certificate issued by the Coast Guard, namely the Command Certificate. This certificate permits him to command a Canadian Coast Guard vessel worldwide and he testified that he had experience on board many Coast Guard vessels although not as the Commanding Officer. He was therefore qualified to give expert evidence as a Chief Officer and only in relation to Coast Guard vessels.

Captain Murdock's testimony was useful to the Tribunal in understanding the organization of the Fleet Systems Branch of the

Coast Guard. He explained that within this Branch there are five divisions, namely: Operations, Technical, Executive Services, Administration and Fleet Support Services. It is the Fleet Support Services Division to which he is assigned as acting manager of Fleet Seagoing Personnel which functions as part of what could otherwise be described as a human resources department.

The Fleet Seagoing Personnel division examines training issues, conducts human resource planning and examines medical standards in addition to taking responsibility for collective bargaining. One of the more specific tasks is to determine the appropriate crew for each Coast Guard vessel based upon its placement, size and task. Also of interest to the Tribunal, this witness indicated that the Fleet Systems Branch is currently reviewing their vision and hearing standards in an attempt to standardize the minimum requirements in the Coast Guard and the mercantile marine.

During his career, Captain Murdock served as Chief Officer aboard the Sir Wilfred Grenfell when it was primarily involved in search and rescue. Aboard the Grenfell he was responsible for the supervision of deck officers.

Captain Murdock's experience included a posting on the Sir Humphrey Gilbert which vessel was primarily engaged in the service of floating navigational aids (buoys) as well as ice-breaking. He had also been a watchkeeping officer on board the Sir John Franklin. His testimony indicated that during ice-escort or ice-breaking the watchkeeper is responsible to keep the Captain advised of the position of the vessel relative to other ships or dangers. Captain

- 19 -

Murdock also served aboard the Sir John Cabot as second officer and cable operations officer while the vessel was primarily used for the maintenance of submarine cables.

The witness's experience aboard the Sir Wilfred Grenfell was of assistance to the Tribunal inasmuch as this was the platform from which the practical hearing test was administered to the Complainant and others. In fact, Captain Murdock had been involved in the development and administration of the practical hearing test and for this reason, Counsel for the Human Rights Commission argued that Captain Murdock should not be qualified as an expert. The Tribunal, however, recognized his qualifications and indicated that

it would consider the weight to be attached to any opinion expressed by him. In fact, most of the testimony he gave before the Tribunal was not opinion evidence but rather matters of fact.

One of the experiences described by Captain Murdock was that of helicopter landing and take-off. In this exercise the officer on deck is responsible for flight deck operations and in all likelihood will be wearing a set of ear muffs to protect his ears from the roar of the helicopter engine. At the same time, however, he will be responsible for receiving communication from the helicopter and the bridge and may also be required to communicate with crew in the immediate vicinity. On occasion, according to this witness, the deck officer may be required to lift one muff off in order to receive or make communication with other personnel. In other words, one ear may be utilized in the receipt of communication from personnel in the area and the other may be utilized simultaneously in receiving communication from the helicopter or the bridge.

It was this example which presented the greatest concern to the Tribunal but the witness was also able to cite other examples of multiple simultaneous communications aboard a Coast Guard vessel most of which were typified in the practical hearing test administered to the Complainant and others aboard the Sir Wilfred Grenfell in May of 1990 and will be discussed in Part IV herein.

PART IV

THE PRACTICAL HEARING TEST

The Tribunal must determine if the practical hearing test given to Mr. Andrews in May 1990 and set forth on Exhibit R-1 was realistic and practical. It is therefore necessary to address the issue of how that test was prepared and administered.

DEVELOPMENT OF THE TEST

The Tribunal heard detailed evidence on this topic from two

Transport Canada/Coast Guard employees :

a) Ms. Joanne Jankun, a project officer in Fleet Seagoing Personnel and Fleet Systems of the Canadian Coast Guard; and

b) Mr. Philip Murdock, acting manager of the Fleet Systems Division.

Ms. Jankun joined the Coast Guard in 1988 and later in that same year, she began her involvement in the development and design of the test. In fact, she was responsible for coordinating its development and design.

Ms. Jankun's work consists mainly of managing projects involving human resources issues. She is also responsible for coordinating and responding to human rights complaints against the Coast Guard for the Fleet Systems sector. In this capacity, she is called upon to work with consultants and other experts from various organizations.

Mr. Philip Murdock assisted Ms. Jankun in the test preparation in his capacity as an operational expert having previously served on Coast Guard ships. Along with Ms. Jankun and others, he was a member of the team which administered the test to Mr. Andrews, as well as to the control group.

- 21 -

MS. JANKUN'S ROLE

Ms. Jankun's view was that she and other members of her unit were to develop a simple, practical, job-related test. To do this, she felt that the test should be administered in a shipboard environment, so that it would take into account the environment and background noises.

Ms. Jankun confirmed that there were no discussions with the Canadian Human Rights Commission regarding the test development process and its administration. In fact, the Canadian Human Rights Commission declined an invitation to assist in designing the test.

In preparing the test, Ms. Jankun consulted the following personnel in late 1988 and at various times in 1989 :

a) the Coast Guard training directorate, whose personnel assisted in the design of the test;

b) the Transport Canada training directorate, who have on staff educational and occupational psychologists, as well as specialists in organizational design; and

c) the Public Service Commission training directorate.

The main purpose of these consultations was to discuss test design, standards, test rules and role players (see Exhibit R-1, Tab 2 at page six). Ms. Jankun also consulted Coast Guard operational experts to ensure that each of the proposed test scenarios was realistic. She testified that she attended numerous meetings with the 15 to 20 experts holding various positions as captains, chief officers, deck officers and engineers. During those meetings, she sought their advice and opinions in developing the test scenarios, their dialogue and test standards.

Ms. Jankun testified that the terminology used for the test prompts was a combination of common everyday words, some nautical terms, and actual messages that would be used in the day-to-day operation of a ship. According to Ms. Jankun, a list of terms that could be used in the test and a phonetic alphabet were provided to Mr. Andrews approximately one month before the test (see Exhibit R-1, Tab 1).

Ms. Jankun was asked to give evidence on what noise simulations were considered necessary to make the test as realistic as possible. She answered that these noise simulations would be those that a Coast Guard officer could encounter during day-to-day duties on a ship and would include such things as radios, engines, machinery, electronic equipment, and verbal communication among the crew.

The test scenarios were chosen amongst various functions which are frequently carried out by Coast Guard Officers. In

- 22 -

selecting scenarios for the test, Ms. Jankun's team determined that the scenarios must represent critical or life-threatening situations which would test the candidate's ability to hear a message and his capacity to react appropriately to a message.

In settling upon the standard for each of the tests, Ms. Jankun consulted with approximately four or five of the operational experts. She told the Tribunal that the operational experts, in

assessing the standard, considered such things as the critical aspects of a message, the consequence of error on the operation of the vessel and efficiency.

Under cross-examination, Ms. Jankun freely admitted that varying standards were set for each test on the advice of the operational experts. For example, 100 percent accuracy was required for wheel orders whereas 80 percent was sufficient for buoy operations.

This was the first practical hearing test developed for a Coast Guard candidate; although other practical tests had been previously developed in other areas of Transport Canada's fields of activity, none were as extensive as this test which was developed over a period of approximately 18 months, concluding on May 25, 1990 when the test was given to Mr. Andrews.

- 23 -

MR. MURDOCK'S ROLE

Mr. Murdock testified that he became involved in the test development process in December 1989 as an assistant to Ms. Jankun. By that time, the process was already well underway.

Mr. Murdock had just come ashore from having served in the Newfoundland Region, more specifically on the ship Sir Wilfred Grenfell. At that point, that ship had been chosen as the best possible platform on which to hold the test. Mr. Murdock was obviously very familiar with the ship's layout, its operation and how best to adapt the test scenarios to the vessel.

Although Mr. Murdock was not involved in the selection of the test scenarios, he had no difficulty in seeing why they were chosen. As a mariner, he felt that they represented day-to-day situations which would be handled routinely by a deck officer on board a Coast Guard ship, or for that matter, on board any vessel. His main role was to fine-tune the test scenarios, taking into account the layout and operation of the Sir Wilfred Grenfell.

For example, Mr. Murdock pointed out that the original scenario for test number 12 had been described as being a barge work test. That test was designed to simulate a buoy operation. Mr. Murdock advised Ms. Jankun that the Sir Wilfred Grenfell did not

carry a barge and that they would have to modify the test to work with a fast rescue craft, which was in fact available on that ship.

In terms of the actual test prompts or messages, Mr. Murdock did not have any specific involvement in their selection since they had been virtually finalized by the time he became involved with the test. On the other hand, he was involved in the positioning of the various individuals, including Mr. Andrews, who would be on board the ship during the test. Based on his familiarity with the bridge layout of the Sir Wilfred Grenfell, he was able to offer advice on an appropriate and realistic positioning for the role players and all others involved in the administration of the test.

THE DRY RUN AND CONTROL GROUP TEST

Ms. Jankun and Mr. Murdock gave evidence that a dry run of the test was held in a large board room in the Ottawa headquarters of the Coast Guard. This took place approximately 3 to 4 weeks before the actual test date of May 25, 1990.

In addition to Ms. Jankun and Mr. Murdock, the operational experts were present at the dry run and acted as role players and advisers. Together, they ran through each of the test scenarios, particularly those which were to take place on the ship's bridge. The aim of the exercise was to ensure that all scenarios could be

- 24 -

carried out adequately in a reasonable amount of time and that the dialogue for each was appropriate and realistic.

A mock ship's bridge was set up. The various role players were positioned as planned in the test scenarios. One person also played the role of the candidate, moving around the room to various positions designated by the test organizers. There were no background or environmental conditions and neither were there any simulations of these. The dry run was the first time where the test was done in its entirety. Although Ms. Jankun could not recall the exact length of time required for the dry run, she did say that it took anywhere from 3 to 5 hours to complete.

Ms. Jankun discussed the desirability of having a test control group with both the Public Service Commission training directorate and the Transport Canada training directorate. The main purpose of having such a test control group was to ascertain that the

test standards which had been set by the operational experts were correct and appropriate for a deck officer's position. A second purpose was to run the test so that the role players could become familiar with their designated roles before administering the test to Mr. Andrews.

The test control group was composed of four crew members from the Sir Wilfred Grenfell who had volunteered pursuant to a request by the ship's commanding officer. The positions held by these crew members on the ship were respectively that of one quartermaster, one deck officer and two officer cadets.

The four assigned crew members were not available as a group at all times. There were sometimes only two or three who actively participated, depending on their availability and whether or not they were tied up with other duties. Ms. Jankun could not recall with certainty if two specific members of the test control group took part in every single test. She could only recall that at least two members did participate in most of the tests.

The commanding officer then designated other crew members of the same ship as role players for the test. The role players were not required to have any previous knowledge or skills since their only task was to read aloud the prompts of the various test scenarios, as set out in the dialogues provided to them. The same role players were involved in both the control group test and the Andrews test itself. These role players were told in advance that they were being asked to participate in a practical hearing test. They were also informed that their responses to some of the messages would be recorded.

Before each test, the role players were provided with a copy of the first two pages of each test dialogue, with information

- 25 -

on the objectives of the test, the expected performance standard, the planned test conditions, the estimated time required to complete the test and the instructions.

The control group test began on May 24, 1990, running during that entire day. Due to a lack of time, it was completed the next morning, on May 25, 1990, just before the actual Andrews test.

The test was administered to the control group, and to Mr. Andrews, by Ms. Jankun and Mr. Murdock. They were assisted by Mr. Roy Galarneau, a regional representative of the Coast Guard based in Newfoundland. Mr. Galarneau was mainly responsible for marking and counting time. Mr. Murdock was in charge of assigning role players to their positions and making sure that they understood their roles and instructions.

Ms. Jankun or Mr. Murdock recorded what was said by each member of the control group in response to a prompt. Mr. Murdock recalled that the sheets on which the responses were recorded were collected but he could not remember if they were brought back to Ottawa or left in St. John's.

In addition to recording the test responses, Mr. Murdock or Ms. Jankun would listen carefully to ensure that each prompt was read in accordance with the prepared dialogue of each test scenario.

When asked if any amendments were made to the test as a result of running it for the test control group, Ms. Jankun confirmed that some changes were in fact made. For example, one member of the control group said that some prompts were read too quickly. As a result, the prompts were read more slowly for the next control group member as well as during the Andrews test itself.

In addition, test no. 6 was changed slightly in that the words of the phonetic alphabet were read in reverse order during the Andrews test. This was not done for the control group. Ms. Jankun testified that the motivation for reversing the words on the phonetic alphabet test was to avoid having Mr. Andrews guessing and filling in a word if he had not heard it correctly. The test administrators wanted to know what he heard, not what he guessed. She then emphasized that the words themselves were not read backwards, but rather that the words of each phrase were read in reverse order. For example, one of the prompts in test no. 1 was read as follows to the control group : "foxtrot, alpha, India, Romeo", whereas for Mr. Andrews the prompt was delivered "Romeo, India, alpha, foxtrot."

ADMINISTRATION OF THE TEST TO MR. ANDREWS

Mr. Murdock gave evidence that the test given to Mr. Andrews got underway at approximately 10:30 or 10:45 a.m. on May 25,

1990. The test administrators were late getting started due to the fact that the test given to the control group began the previous day and continued on the morning of May 25, 1990, until just before the Andrews test itself.

This delay was not foreseen in the sense that the test administrators had originally planned to complete the control group test on May 24, 1990. The delay was due to the ship's normal operations which had to be performed when it came into port on the morning of May 24, 1990. In addition, the control group test took a bit longer than expected because each member of the control group did the test separately and the preparation time for each test had to be factored in.

In regard to the Andrews test, Mr. Murdock testified that five tests were done in the morning, ending shortly after 12 noon, just before the lunch break. According to him, these tests were of relatively short duration, each one lasting between four and six minutes. The nine remaining tests were given in the afternoon after the lunch break.

In between each test, the test administrators and role players, as well as Mr. Andrews, had to physically move from one area of the vessel to the next. In addition, the role players had to be positioned, the situation had to be set up and the props, if any, had to be put in place. As well, Mr. Andrews was given the opportunity to read the instructions and to ask any questions prior to the commencement of each test.

Mr. Murdock's main role was to monitor Mr. Andrews' responses and to indicate any discrepancies between the test prompt and Mr. Andrews's response to each. Mr. Galarneau's role was to clock and note the time lapse between the prompt being read and the point in time when Mr. Andrews finished repeating it.

Mr. Murdock explained to the Tribunal the types of background noises which were audible during the Andrews test. Since the vessel was at sea, there was the rumbling of the main engines, as well as that of the funnels alongside the wheelhouse of the Sir Wilfred Grenfell. In addition, there was the background noise resulting from the operation of the ship, such as that of the gyro compass, which produces a continuous ticking sound when a ship is at sea and moving. There was also a high-pitched humming noise being emitted by the radar units. Finally, there was wind noise resulting from a relative wind speed of between 25 and 35 knots, plus an

occasional sound coming from ocean spray colliding on the vessel's wheelhouse.

In Mr. Murdock's opinion, all of the above noises were normal in an operating context. In addition, one would have to take into account radios that may or may not have been in use at that

- 27 -

time, such as continuous marine broadcasts, other ships conversing in the operating zone and finally, messages from the St. John's sea traffic control office.

There were no records kept to confirm which person had read a specific prompt or the time intervals between each prompt. Ms. Jankun testified however that in her opinion, the prompts were not given at sporadic intervals but rather at equally spaced intervals, albeit not timed by stopwatch. It was left to the commanding officer to use his judgement with respect to the delivery of the prompts.

A decision was made in the course of the test preparation that no repetition of a test prompt would be allowed. On this topic, Mr. Murdock testified that in his experience as a Coast Guard officer, there have been occasions where he has asked that messages be repeated. On the other hand, he also pointed out that there are occasions where there is little or no room for error, and that in these circumstances, there is no opportunity for a message to be repeated.

Mr. Murdock confirmed that most of the prompts were given to Mr. Andrews over the radio by the commanding officer of the vessel and were read at a slower rate than would be the case in normal operating procedures. In regard to the prompts and Mr. Andrews' replies, Mr. Murdock stated that a note was made of Mr. Andrews' exact reply only when it varied from the prompt or the expected test response. Where there was no difference from the prompt, no notation was made.

To the best of Mr. Murdock's recollection, there was a total of eleven (11) persons on the bridge for test number one, as follows :

- two people who were responsible solely for the ship's navigation and were not at all involved in the test;
- Mr. Andrews;

- Ms. Jankun, Mr. Murdock and Mr. Galarneau;
- Captain Turner (the independent observer);
- the commanding officer, chief officer and one role-player acting as quartermaster, all of whom were involved at various times in the test administration.

In some of the test scenarios which took place on the ship's bridge, Mr. Andrews was asked to stay in a fixed position; in others, he played the role of a navigational officer and was required to move around and use different instruments on the bridge.

It was Mr. Murdock's opinion that the test administered to Mr. Andrews had been quite fair. He stressed that Mr. Andrews was only required to listen to prompts which he was then required to repeat or record and had no other responsibilities or duties during

- 28 -

the test. He reminded the Tribunal that each individual test was quite short, lasting anywhere from two to five minutes; in addition, Mr. Andrews was given every opportunity to ask questions or raise any concerns. Finally, Mr. Murdock was adamant that Mr. Andrews never indicated to the test administrators that he was uncomfortable or felt humiliated at any time during the test.

COMPARISON OF THE ANDREWS AND CONTROL GROUP TESTS

Mr. Murdock gave evidence on the differences in the environment or background sounds during the Andrews test as opposed to those which were noted during the control group test.

In regard to the Andrews test, he stated that the main engines on the vessel were running during the entire test. On the other hand, the main engines were not running at all times for the control group test, due to logistical reasons. However, the ship's generators were running instead of the main engines to provide power to the vessel. The entire control group test was conducted on the bridge of the Sir Wilfred Grenfell while it was tied up in its berth. The other environmental conditions were similar, if not the same.

In addition, the control group's test was entirely carried out within St. John's Harbour, as opposed to the Andrews test where all test scenarios conducted in the afternoon of May 25, 1990, including the bridge scenarios, were carried out on the open sea.

Mr. Murdock testified that the various test scenarios were not given to Mr. Andrews in quite the same order as that followed for the control group. This difference was due to the fact that the vessel came into St. John's in the early morning of May 24, 1990 upon completion of a search and rescue mission. Upon arrival, Mr. Murdock and Ms. Jankun had a lengthy discussion with the commanding officer about the test schedule. At the same time, the commanding officer had to look after other tasks such as fuelling and having the ship ready for future missions. Because of this, the order of the test scenarios was changed in that the channel buoy test and the boat work tests were not done until the morning of May 25, 1990, whereas all the other tests were done on May 24, 1990. Apart from that change, Mr. Murdock testified that the order of the tests was identical for both Mr. Andrews and the control group.

On another topic, a difference was noted in that the control group's bridge work tests were done inside the harbour as opposed to being conducted outside the harbour for Mr. Andrews. In Mr. Murdock's opinion, these conditions were different but there was nonetheless much similarity between the noise produced by the ship's generator during the control group test, in comparison with the noise generated by the main engines during the Andrews test.

- 29 -

Under cross-examination, Mr. Murdock admitted that the entire Andrews test could have been conducted in the harbour, just as for the control group test, but that the goal with respect to Mr. Andrews was to simulate the environment as closely as possible with all the noises that exist for a vessel at sea.

Under further questioning, Mr. Murdock stated that the main difference between steaming across the harbour and steaming outside the harbour would be the vessel's speed. The vessel would be travelling at less than five knots in the harbour as opposed to ten or twelve knots at sea. In addition, the harbour is usually very calm with the combined result that within the harbour, there would be little or no noise produced by water spraying on the bridge or by the ship's motion while steaming.

The evidence also showed another difference between the control group test in comparison to Mr. Andrews' test. During at least one of the test scenarios involving bridge work, the control group was correctly positioned at the lower chart table whereas this was not the case for Mr. Andrews.

TEST STANDARDS

Ms. Jankun was asked how the test standards were determined and why the passing grade for any given test varied as follows :

- a) "100 percent of each message must be repeated verbally without error within five seconds of the last word of the prompt being given" ; or
- b) "100 percent of the critical messages must be repeated without error and 80 percent of the remaining message must be repeated without error within five seconds of completion of each prompt."

Ms. Jankun testified that these standards had been set on the basis of the advice and opinion of the Coast Guard operational experts who based their decision on what they thought was necessary for a Coast Guard officer to carry out his/her duties safely.

In Ms. Jankun's view, the consequence of error was quite severe for those tests requiring a 100 percent passing grade and was less severe for those tests or portions of tests having an 80 percent passing grade.

Ms. Jankun then provided evidence that Mr. Andrews' performance was assessed against the standard set for each test, with each test having its own standard. In regard to the repetition of the prompts, Ms. Jankun testified that Mr. Andrews did repeat most prompts within the prescribed time limit of a given test. She then added that in any case, Mr. Andrews was not penalized for the few instances where he did not repeat the prompt within the specified

- 30 -

time limit.

Mr. Murdock and Ms. Jankun both testified that they met on the evening of May 24, 1990, to go over the data that they had recorded on that day during the control group's test. At that time, they produced a consolidation of all the control group's test results.

A similar consolidation of Mr. Andrews' test was done by Ms. Jankun following her return to Ottawa. This consolidation was based on her recordings taken during the test, as well as those taken

by Mr. Galarneau and Mr. Murdock. Ms. Jankun added her own notes and comments on Mr. Andrews' test consolidation. These comments had not previously been written but she claimed that they represent her recollection of what occurred during each test as well as what she had learned from her discussions with the group of operational experts who scored the Andrews test with her.

Ms. Jankun testified that she did not provide any thoughts, judgments or opinions to the scorers regarding Mr. Andrews' performance or ability during his test. Instead, she explained what happened during each test and following each explanation, the scoring team discussed the consequences of error on a given test and whether or not a response given by Mr. Andrews would be allowed or not.

Ms. Jankun was the only person who witnessed the entire Andrews test and who then also took part in the scoring session held in Ottawa. The other members of the scoring team relied on Ms. Jankun's explanations and the consolidated test results.

It is also important to note that after each individual test scenario, Ms. Jankun met with Mr. Galarneau and Mr. Murdock to discuss Mr. Andrews' responses. Following a short meeting of that nature, Ms. Jankun sometimes wrote comments on the test sheet. She explained that those comments would be useful to explain decisions taken during the scoring process following each test scenario. However, those comments were not included in the test consolidation which was provided to the scoring team in Ottawa.

MR. BOISVERT'S ROLE

In addition to the scoring team's role, Ms. Jankun advised the Tribunal that the final decision regarding Mr. Andrews' test results was left to Mr. Boisvert, Regional Director General (Fleet Systems) of the Canadian Coast Guard. Although Mr. Boisvert was the senior manager for the Fleet Systems Directorate in the Ottawa headquarters of the Coast Guard, he was not present in St. John's for any portion of the test given to either the control group or Mr. Andrews.

Ms. Jankun could not advise the Tribunal whether or not Mr. Boisvert was qualified as a captain in the Coast Guard. She could only say that he was an ex-ship's officer for the navigation

side of the Coast Guard and that he had also been an instructor at the Coast Guard College in Sydney.

Although Mr. Boisvert did not take part in the scoring procedure with the other operational experts, he did issue a memo (see Tab 1 of R-1, at pages 4 and 5) concerning Mr. Andrews' test results, upon completion of the scoring process by Ms. Jankun and the operational experts. Before signing that memo, Ms. Jankun recalled that the test results were presented to Mr. Boisvert. She was uncertain however whether he had been provided with a copy of the consolidated test and she could not recall whether or not she had met with Mr. Boisvert when she provided him with the test results. In any case, she was certain that Mr. Boisvert was aware of the number of tests that Mr. Andrews had passed and the number that he had failed.

Ms. Jankun then testified that it was she who had most likely prepared the memo to be signed by Mr. Boisvert. That memo was addressed to the corporate section of the Coast Guard so that its personnel could then send it on to the Human Rights Commission.

THE PSYCHOLOGICAL EXPERTS' EVIDENCE ON THE TEST

On this topic, the Tribunal received written reports submitted by two expert witnesses, namely Dr. Brian Tansley and Dr. Edward Renner. In their respective reports, both witnesses provided an assessment of the test given to Mr. Andrews. In addition, Dr. Renner's report canvassed the applicable criteria regarding test development. Both witnesses were also called upon to give lengthy viva voce evidence before the Tribunal on both of these topics.

DR. EDWARD RENNER

Dr. Renner is a psychology professor at Dalhousie University in Halifax, Nova Scotia. He was qualified to give evidence in the area of psychology and in relation to the principles of individual assessment.

Dr. Renner first testified that there are three (3) important topics which come into play in determining test validity and whether or not a given test was properly developed :

a) psychometrics, which provides the scientific foundation for the development of a test;

b) assessment procedures, which serve to collect useful and valid information about a person; and

c) criterion validity, i.e. taking appropriate measures to

- 32 -

ensure the absence of bias.

In Dr. Renner's opinion, these three topics provide essential criteria which must all be met for a given test to be valid and useful. The absence or failure of any one of them would constitute a fatal flaw.

On the basis of the above, Dr. Renner then referred the Tribunal to four fundamental standards which must be met for the development of any test:

a) item selection, i.e. collecting reasonable items which are assumed to measure the attribute which the test is designed to measure;

b) reliability, i.e. the extent to which a test would give the same score for an individual if he/she was tested at a different time or by a different examiner. Before a test can be used, it is necessary to establish the consistency with which the actual skill is estimated at different times and by different examiners;

c) construct validity, i.e. evidence that the test measures what it is supposed to measure and not something else. In this case, the test and its results were meant to determine if a unilateral hearing loss actually impairs the performance of practical Coast Guard duties on board a ship. The results should not reflect other factors such as experience in a given line of work, prior familiarity with words and phrases, or the mental capacity to focus attention; and

d) standardization, i.e. the process of administering a test to groups of people in order to create norms. For example, Mr. Andrews' test results should have been interpreted in light of the results of a group of experienced officers having taken the same test and of

those obtained by a group of persons being at approximately the same level as Mr. Andrews.

Dr. Renner made it very clear that all were essential. In addition, a given test must also have validity in some particular application, for example in predicting whether or not a person will do well in a position at sea. Tests are not just valid in and of themselves; one must demonstrate that the test works, failing which it should not be used. A test should be appropriate for predicting the performance of a potential employee/candidate in the context of a personnel selection process. Dr. Renner testified that tests must not become a tool or an act which furthers discrimination, even though they can be related to a precise criterion.

- 33 -

Dr. Renner was asked his opinion on the ideal way of constructing and preparing a test such as the one used in the present case. In his opinion, it would be best to have someone whose specialty was psychometrics, that is someone trained in mathematics, statistics and test theory, especially if original research was required to prepare a test in a new area of human performance. In addition, the testers would need to have access to people with specialized knowledge on the content of the test area.

In his analysis of the practical test, Dr. Renner came to the conclusion that there were three clear sources of bias introduced by the assessment procedure.

The main effect of bias is that it introduces an element in the assessment process such that it becomes difficult to tell whether a given score on a test item is due to the individual's performance or if it came about as a result of the bias factor. In other words, there is a question as to whether or not the test result has been contaminated by the bias factor.

He added that a good assessment does not normally introduce bias; in fact, it should guard against it. Where there is a possibility of bias, the test makers need to show that they have guarded against it. In his view, this had not been shown in the present case.

The first source of bias comes from a well-known psychological phenomenon called social facilitation and social inhibition. This phenomenon explains why professional athletes love

to play before a big crowd. The bigger the crowd, the better. It is a well-practised skill which can often bring out their best performance. However, the exact opposite applies when a person is thrown into a strange and unfamiliar situation in which responses have not been practised. This is especially so where people are watching and observing. Under these conditions, there is a much greater risk of a poor performance.

In Dr. Renner's opinion, the effect of there being a group of people observing Michael Andrews executing the tasks assigned to him during the practical hearing test exerted pressure on his performance. Such pressure tends to bring out the best in experienced people while bringing out the worst in inexperienced people.

A second source of bias consists of distractions which destroy or reduce the capacity to focus one's attention on the task at hand. These distractions will interfere with performance, at least until a person adapts to the situation and is no longer adversely affected.

- 34 -

Applying this principle to the test given to Mr. Andrews, it can be seen that there was interference or background noise in virtually all the test scenarios, such as a VHF radio, a CB radio, a radio telephone and people conversing.

A third, and very common, source of bias is the use of material that is more familiar to one group of individuals than to another. The role of familiarity is of particular importance in cases involving hearing or seeing something that is not clear or distinct, and in remembering or repeating material as it was initially presented.

In Dr. Renner's opinion, familiarity, or the lack of it, can have a direct impact on performance. He stated that most tests use material that is equally familiar to all individuals being tested so as to avoid distorted results. In the present case, it was obvious to the Tribunal that there were many examples of words and phrases with which Mr. Andrews would be less familiar than the control group against which his performance was judged.

In addition to these four factors which can introduce bias, Dr. Renner felt that clinical tests such as this one should always be

done blind, i.e. where the test administrators do not know who the candidate is and where nothing is known about him. This reduces the possibility of introducing bias in the form of the testing party's values, vested interests, beliefs or hypotheses which could distort the test findings.

In the case of the Andrew' test, as an example of how bias can work, the people who were being tested in the control group were all known in advance by the individuals administering the test to be their colleagues, fellow Coast Guard employees. On the other hand, when the test was given to Mr. Andrews, it was known that the candidate was an individual who was challenging the system; that he was not a member of the Coast Guard. This difference in status between the control group and Mr. Andrews could have introduced the possibility of bias.

- 35 -

Dr. Renner concluded this part of his evidence by stating that if an individual assessment is not going to be done blind, as in the present case, then much more attention is required to ensure the development of very rigid standards for the administration of such a test. The test procedures and rules should be absolutely iron-clad to prevent the tester from introducing any kind of bias into the situation. In Dr. Renner's view appropriate steps were not taken to prevent the possible occurrence of such bias. Dr. Renner concluded that one would expect that Mr. Andrews (or anybody in his situation) would score lower than the control group.

Although Dr. Renner was never involved in the development of a practical test such as the one used to test Mr. Andrews' hearing ability, he was firm in stating that the Andrews test was not properly developed, not properly administered, and did not have the proper documentation for use in the situation at hand. In his opinion, it could not be said that it was a practical hearing test. Moreover, no decision that affects Mr. Andrews' life, or anyone else's, should have been made on the basis of that test.

Dr. Renner concluded that the test did not meet the scientific principles required for anyone, including the Coast Guard, to make an assessment or judgment about Mr. Andrews' practical hearing abilities as a navigational officer in the Coast Guard.

DR. BRIAN TANSLEY

Dr. Tansley testified that the preparation of any test requires three basic operations: establishing an environment in which an observation is to be made, making the observation and finally, converting it to symbolic form.

Within the first basic operation, Dr. Tansley testified that a test designed to measure an aspect of human performance requires some form of task analysis so that the information obtained from the test can be related to a human task that has a valid relationship to the occupation being studied. This is a fairly involved process which can take up a significant amount of time. It effectively involves a number of steps, including observing the task, discussing what is being done with the individuals who are performing it, and finally, comparing the verbal description of what they're doing with the actual observed behaviour. One should also determine whether the observations to be made are examples of likely or optimum performance of such a task.

Following the task analysis, the second step is to develop prototype tasks which are ostensibly designed to mimic the tasks in the occupational environment. This is typically done by using a very large number of task items so that one can evaluate the utility or the usefulness of each of the items in terms of their ability to tell

- 36 -

the test-giver what he/she wants to know.

The third step is to then administer this test in a pilot study where you commit individuals to the task at hand, thereafter converting the observations taken into numerical or symbolic form, and finally, evaluating the results of this pilot collection of data. The following step consists of evaluating these results and modifying the test prototype accordingly.

Next comes the development of what is called a "normative data base". This is done by applying the test to a sample of the population group to which you intend to give the test. This is typically done with as large a group of individuals as one can afford.

After the data is collected, the next step is to develop "criterion and predictive validity assessments". According to Dr. Tansley, "validity" is simply the degree to which a given test measures what it purports to measure. "Criterion and predictive validity assessments" measure test validity in relation to some

criterion, which is typically established by a client or an individual who wants to apply the test. "Predictive validity" refers to the ability of the test to make predictions about the success of an individual who's been discriminated on the test scale in performing the task that the test was designed for.

The next step is to do "reliability assessments."

Reliability is the extent to which successive applications of the test yield the same results, assuming that the system under test has not been changed. If the system under test is a human being, then a reliable test is one in which you get the same result from that human being every time you administer the same test.

The difference between validity and reliability are important but the issue of validity is, of course, primary. It would do very little good to have a reliable but invalid test.

The next step in the process is the development of an item characteristic curve. This can be done for the entire test as well as for every individual item on the test. The item characteristic curve provides the necessary information to distinguish two groups from one another. Item characteristic curves provide information about the kinds of abilities necessary to perform a task on a given item. It is a formal mechanism for selecting items that cover the range of abilities needed for a test. Item characteristic curves also tell us something about the relationship between ability and performance on a test item since it is rare for a single item to give information about the entire scale or range of a given ability. The risk involved in preparing a test quickly and in making it more compact than it should be is that of throwing away some of the information needed to get a full evaluation of the capabilities of an

- 37 -

individual on the abilities being tested.

Thus, the main goal of the item characteristic curve is to minimize the possibility of misdiagnosing. However, Dr. Tansley was quick to point out that in most situations involving a measurement of human performance, there is always a chance of error. In his opinion, it is almost impossible to design a fool-proof test. There is always a concern that a human performance test will falsely reject individuals who actually belong to the population group who would normally pass the test.

In Dr. Tansley's opinion, one way to avoid that problem is to make the test more valid. This is done by measuring the degree by which individuals vary on a given ability score on each of the items on a test. As a result, it is logical to expect that for any item on a given test, there is a link between the ability being measured and the individual's performance on a test item. On this basis, it is safe to assume that the more ability a person has of the kind needed to successfully respond to a test item, the higher the probability that the item will be correctly responded to. However, it is unlikely, if not impossible, to find a single test item that covers the entire ability range for any given test. Consequently, the item characteristic curve for any given item typically covers only a subset of the total ability. This is why one needs a range of test items of varying levels of difficulty to cover the full ability scale.

- 38 -

In Dr. Tansley's opinion, this knowledge can be used to estimate the validity of a test. Every item that bears on the relationship between the supposed ability and the actual performance should fit somewhere on the logistic curve for every ability. It can safely be said that the more ability one has, the better the fit will be.

Dr. Tansley expressed the view that although the issues of test validity and test reliability are extremely important, being able to live by them is another matter. In fact, he does not know of any individual test that is deemed by any professional to be totally valid and totally reliable. That is why he believes that the issue is one of acceptable validity and reliability in the context of the needs and the application to which a test is put.

In addition to the issues of validity and reliability, Dr. Tansley then went on to describe three other factors which are important in any test environment, namely:

- a) sensitivity;
- b) specificity; and
- c) robustness.

Sensitivity is the degree to which the test is able to disperse abilities by its items and to capture the full range of each

ability. This is a major problem in designing most tests because of the practical need to reduce the number of items on the test so that a candidate can do the test in a reasonable time frame before factors such as fatigue or error come into play.

Test specificity is the degree to which a given test evaluates a specific ability or trait rather than a general set of properties. There are two kinds of test specificity which are relevant in this particular case.

The first is called "task-related specificity." It is intended to measure how specific a test is in assessing a person's ability to perform a given task.

The second is called "skill-related specificity." This is an attempt to assess the skill of an individual who is performing a given task. This can be done in relation to many different tasks.

Test robustness is a test's ability to give the expected information in a variety of different conditions. A robust test is one that should work no matter how and where it is administered, taking into account the other factors described earlier.

In the ideal world, Dr. Tansley agreed that a valid and reliable test will also be sensitive, specific and robust. In the real world, he added that tests are never all of these things at

- 39 -

once, but variably so, depending upon the needs of the test developer. This is what is meant by the ceiling effect in terms of test administration. In other words, the test itself does not evaluate the entire range of a person's ability, and this limits what can be said about the properties of an ability in the context of its application in the real world. According to Dr. Tansley, the way to get around this is to have a sufficient number of different items, with each one covering a different part of the ability scale.

In response to Dr. Renner's opinion that the test administered to Mr. Andrews lacked validity, Dr. Tansley testified that the validity of the Andrews test has not been determined. Dr. Tansley stated that his disagreement with Dr. Renner is based upon his analysis of the test, his knowledge of how such tests are generally developed and used, as well as his knowledge of the theory behind the development of such tests and their evaluation. In his

opinion, it has not been shown how robust or how sensitive the Andrews test is. However, there are some hints about the sensitivity of the test from the data that has been obtained.

THE MEDICAL WITNESSES' EVIDENCE ON THE TEST

Both Dr. Smith and Valerie Parrott agreed that a test will not accurately assess a person's ability to hear if the words used are unfamiliar since the examination will test the individual's attention and not his ability to hear. Further, they agreed that the lack of a response to a cue given on this particular test would not necessarily mean that the cue was not detected. Instead, it could mean that the sound was heard but that the word was unfamiliar or indecipherable.

Although Dr. Tansley was not in total agreement with the evidence of Dr. Smith and Valerie Parrott on the suitability of the test administered to the Complainant, he did agree that the tests put to the Complainant were supra-threshold tests (ie tests which reflect an individual's ability to discern differences) and he admitted that such tests are greatly affected by experience.

All three of these witnesses confirmed that persons with unilateral hearing accommodate their disability by inclining their heads towards the source of the sound. However, during portions of the test, the Complainant was unable to turn his head (see test number three) and was therefore placed at a disadvantage. For that reason, a true comparison of his scores to those of the control group is impossible.

THE MARINE EXPERTS' EVIDENCE ON THE TEST

In addition to the evidence of Dr. T.J. Smith, Valerie Parrott and Dr. Brian Tansley, the evidence of the expert mariners

- 40 -

was also useful to the Tribunal in assessing the usefulness of the practical hearing test administered to the Complainant.

Captains Norman and Turner, on behalf of the Complainant, criticized the test, but Captain Turner had the additional advantage of being present when the test was administered. Captain Norman testified that the test was unrealistic insofar as his experience at sea showed that commands and other communications are repeated and

that this practice is indeed encouraged because of the noisy environment. In this case, the Complainant was not permitted to have test commands repeated to him. Another area of Captain Norman's criticism was with the number of people present on the bridge during portions of the test conducted in that area. He indicated that as part of overall ship safety, the fewest number of people possible should be on the bridge at any one time. However, the record shows that on some occasions there were upwards of ten people on the bridge during Mr. Andrews' test. Quite aside from an issue of ship safety, the Tribunal concludes that the number of people present could impact negatively on the Complainant's performance during his test. This is a matter of common sense confirmed by the medical experts.

Captain Norman also questioned the manner in which the "buoy ringing" test was conducted. In this part of the test, his criticism centred once again on the lack of repetition inasmuch as the buoy would be rung only once or twice and the Complainant was required to identify the source of the sound whereas in a real-life scenario at sea, a buoy would ring constantly.

In conclusion, Captain Norman held the opinion that the test was conducted in a totally artificial situation and was inappropriate as a basis for rejecting the Complainant.

Likewise, Captain Turner acknowledged that he had some difficulties with portions of the test despite his many years of service at sea. However, at the end of the test he commented to Coast Guard personnel present that he felt the test had been conducted in a fair and equitable manner. In fact, he followed this up with a letter to Ms. Joanne Jankun (see Exhibit HR-13). However this letter was written before the Captain was aware that the Complainant had failed the test and in his testimony, he expressed surprise with these results.

Captain Turner did not have the same criticism for the role-play as did his colleague, Captain Norman. Instead, his criticism was directed towards the language used in the exercise (which he said would have been familiar to someone with watchkeeping experience) and to the pass/fail standard applied.

One of the expert mariners called by the Respondents was also of some assistance to the Tribunal in this area. Captain Legge

confirmed that in critical manoeuvring situations as few people as possible should be on the bridge and he also testified that he knew of no practical or academic courses taken by Coast Guard Cadets which would require 100% accuracy. Instead, 70% is the more traditional pass mark. Captain Legge also testified that in actual fact situations, a message given in the phonetic alphabet would never be read backwards as had been the case with the message given to the Complainant in test number 6. Further, the Tribunal learned that Coast Guard officers routinely hold one of a two-cup headset off their ear in order to hear other messages. However, the Complainant was not permitted to do this. (see test number 9).

THE TEST'S ABILITY TO ASSESS HEARING

Dr. Tansley testified that the assessment of human hearing stems from three kinds of concerns, namely :

- a) curiosity;
- b) the assessment of task performance where hearing ability comes into play; and
- c) for the purpose of diagnosing disorders.

The psychophysical procedures used to assess human hearing are mostly issued from the field of psychology and have been adopted by other disciplines for application purposes. These procedures can be categorized into two broad groups: those at "threshold" and those "above threshold". The term "threshold" refers to a mythical or theoretical point on a continuum above which sensation is possible and below which sensation is not possible. In this context, the word sensation means "awareness of the presence of the sound". For example, the pure tone audiogram is a threshold test. He also noted that the kinds of information that we would like to obtain from individuals relating to their hearing ability necessarily require the use of supra-threshold tests.

According to Dr. Tansley, there are many supra-threshold tests in frequent use all over the world. However, he was unaware of any standardized sets of tests that are in common use everywhere. He could only say that large numbers of standardized tests are in common use, with regional variations as to which test is preferred in which area of the country.

The methodology used to assess the performance of someone "above threshold" is similar to the methodology used to assess "at

threshold" with one exception, and that is that there are a greater range of possible responses in supra-threshold performance. Supra-threshold tests are usually more complex than threshold tests; they also tend to have a greater degree of variability.

The factors which influence the performance of an individual on a supra-threshold test are the following :

- 42 -

- a) knowledge of the sets of words that are being transmitted in the test;
- b) to a certain extent, prior experience with doing these kinds of tests; and
- c) acoustic factors, including the signal-to-noise ratio.

Dr. Tansley described how a person's hearing is measured quantitatively. He testified that all assessment tests, including hearing tests, follow the same basic process, i.e. the application of some measurement tool to an existing state, and the conversion of that measurement into a number.

In regard to telecommunications-oriented assessments, Dr. Tansley testified that it is not unusual to firstly identify the auditory task, working backwards to the development of the test. The test designer should have prior knowledge as to what information is required to be heard and how that information is to be used.

So it is that supra-threshold tests tend to start from some kind of task. Generally-speaking, it is much easier for a listener to understand what is required of him or her in the supra-threshold experiment. Also, there often are requests for additional information when threshold tests are being administered because people are confused as to what to do. On the other hand, a speech and noise-type test where one is asked to simply repeat a prompt is easier to understand. In other words, it usually has a high degree of face validity. Test candidates can normally appreciate the task without any great deal of explanation.

There is an additional technical requirement for supra-threshold tests which consists of not only controlling the production of the stimulus as a signal but also of controlling the background noises or noise in which the signal is presented. As a result, there

is a concern that the mix of these two stimuli, the noise and the signal, could create a distortion of some kind.

Dr. Tansley agreed that no threshold tests were given to Mr. Andrews; they were all of the supra-threshold nature. In his view, it was technically feasible to develop a supra-threshold test which replicated a shipboard environment although this would have required a considerable amount of effort and technical support.

In view of the detailed description of the requirements of a valid test, Dr. Tansley was asked whether there existed any pre-fabricated hearing tests which could assess all of the hearing functions required of a Coast Guard deck officer. He indicated that he was not aware of such a test and that if such a pre-fabricated test were to be developed in regard to testing Coast Guard deck officers, it would have to be assembled from a set of existing tests or a combination of them, or from scratch.

- 43 -

Dr. Tansley was asked to give his opinion on the Andrews test in terms of the factors described above. He responded that without question, the test contains major flaws which are summarized as follows:

a) test validity - he agreed that no formal attempt was made to validate the test. In his opinion, the Andrews test was a first cut, or the equivalent of a pilot level test. Dr. Tansley added that in his view, the Andrews test is an example of the typical Canadian experience in the development of these kinds of tests. The resources and the time are simply not available to go through the entire cycle. Consequently, the test development process is often interrupted at a particular point and simply applied as is.

b) sensitivity - Dr. Tansley stated that since the control group did so well in its test results, the test did lack sensitivity. It is difficult to measure the true difference between Mr. Andrews' results and those of the control group because the Tribunal does not know the hearing abilities of the control group. In Dr. Tansley's view, the difference between the two is at least 25 percent.

c) robustness - Dr. Tansley was unable to comment on this topic because the test has never been administered to anyone since Mr. Andrews.

d) Dr. Tansley agreed that no attempt was made to measure the quantitative reliability of the test. However, he stated that an attempt was made to provide a large number of items in different subtests, which in fact touches on the issue of reliability. This is supported by the fact that there were approximately 350 items on the test, spread out in 14 different tests. Although Dr. Tansley accepted Dr. Renner's criticism in this regard, he maintained that the test had some degree of reliability because of the large number of items on it. Dr. Tansley also expressed surprise in this regard because the individuals involved in the test preparation process had no formal training in that area.

e) specificity - Dr. Tansley's opinion was that the Andrews test was predominantly skill specific, as opposed to task specific. From his analysis of the test, Dr. Tansley felt that Mr. Andrews was asked to stand or to be placed in a position, and to then listen and repeat a prompt or message. In his opinion, Mr. Andrews was not assigned tasks that were specifically related to Coast Guard operations.

In Dr. Tansley's opinion, the most obvious negative aspect of the test is the incomplete development cycle. In addition, there

- 44 -

were no standardized procedures that allowed the Coast Guard to fully control the shipboard acoustic environment during either the Andrews test or the control group test. The test did not cover the full range of the abilities necessary to perform the tasks of a Coast Guard deck officer and there was a lack of standardized test administration procedures in terms of stimulus generation, the timing of some of the test items, and to a certain extent, the scoring process. Although there was in his view a clear attempt at achieving standardized test administration procedures, he agreed with Dr. Renner's criticism in this regard.

When asked to give his opinion on the difference between the control group scores and those obtained by Mr. Andrews, Dr. Tansley conceded that the true difference between the two could be greater than that shown by the data. In addition, Dr. Tansley

offered one hypothesis (impaired auditory perception) and discounted another (adverse test environment) in regard to explaining the differing test results as between Mr. Andrews and the control group.

Dr. Tansley offered the impaired auditory perception hypothesis to explain Mr. Andrews' test results. This hypothesis includes impaired sound localization, impaired speech perception in noise, impaired detection and recognition of non-speech signals in noise, as well as impaired selective attention to single sound sources in the presence of other signals and noisy backgrounds.

In support of his hypothesis, Dr. Tansley referred the Tribunal to his report (see R-3: figure 3 at page 26) which contains an analysis of Mr. Andrews' errors on the test. In the report Dr. Tansley identified the location of the signal source in relation to Mr. Andrews' head at the time when an error was made. His conclusion was that Mr. Andrews made almost as many errors when the sound came from the right-hand side as he did when the sound came from the left, and similarly when sound issued from the front as when it issued from the rear. He felt that the best explanation for this was an impaired auditory perception.

Dr. Tansley's analysis highlights the fact that Mr. Andrews performed better when he had the opportunity to look directly at the speaker. (see for example tests 10a and b). In Dr. Tansley's view, Mr. Andrews used his lip-reading ability to his advantage, as any other person would have done in the same position.

Dr. Tansley was asked his opinion on the adverse test environment hypothesis which was offered by Dr. Renner to account for the difference in performance between Mr. Andrews and the control group. This hypothesis suggests that there are factors in the test environment itself which explain the errors or the differing test results. Dr. Tansley commented on these factors in the following order.

- 45 -

For the purposes of his analysis in this area, Dr. Tansley split the tests into two categories, i.e. the five "before lunch" tests and the nine "after lunch" tests. Dr. Tansley's analysis revealed that Mr. Andrews' average test result in the "before lunch" category was 69 per cent while the average test result in the "after lunch" category was 77 per cent. He also pointed out that Mr. Andrews' best and worst scores both occurred in the "after lunch" session but that

on average, he didn't do any better or worse as a function of the time of day.

Although one could argue that Mr. Andrews actually did better "after lunch" than "before lunch" on the basis of these data, Dr. Tansley's sole point was that there was no evidence that his test results could be tied to the time of day, i.e. the fatigue factor.

Unfamiliar words and phrases were offered as another factor which could account for some of Mr. Andrews' errors. Dr. Tansley did recognize that there were tests in which numbers were called out under fairly high signal-to-noise ratio conditions on board the bridge. Dr. Tansley did not dispute the fact that there could be phrases which were unfamiliar to Mr. Andrews. His position was simply that such an explanation could possibly account for some errors, but definitely not all.

Dr. Tansley accepted the fact that Mr. Andrews had most likely never experienced a test like this one before. This was equally true in regard to the control group.

Dr. Tansley also recognized that unfamiliar test procedures are part of the currency of any testing procedure and that it is preferable that a test candidate should have the greatest possible familiarity with those procedures before the actual test. He also stated that in the ideal world, a robust, valid, sensitive, and reliable test should be available to the candidate at his/her leisure. However, Dr. Tansley's view was that a valid, reliable, and robust test would have given Mr. Andrews the same score on each occasion.

Notwithstanding the above, and even by accepting that the test had its drawbacks, Dr. Tansley could not accept the conclusion that the alleged unfamiliarity with the test procedures per se was sufficient to explain the difference in the test results as between Mr. Andrews and the control group.

In regard to the number of people present in Mr. Andrews' test environment, Dr. Tansley reminded the Tribunal that this is known as the "social facilitation/social inhibition hypothesis." He acknowledged that the presence of others can both hinder or help a

performance, depending upon the kind of performance and the surrounding conditions.

Dr. Tansley compared the tests (nos. 1, 2, 6, 7, 10a and 10b) where in his opinion, many people were present, with those where there were few (nos. 3, 5, 8, 9, 11, 12, and 13). In calculating the average test score in these two groups of tests, Dr. Tansley came to an average score of 77.25 where there were several people as opposed to an average of 75 where there were few. His conclusion was that the presence of other persons during the Andrews test did not make much difference one way or the other, at least in the context of the test's overall picture.

The issue of delay in starting the test raises the question of its potential impact upon Mr. Andrews' test performance. For one, Dr. Tansley acknowledged that his anxiety level could have grown in anticipation of the test itself. This is called the "waiting room effect." Although he recognized that effect, Dr. Tansley's view was that the impact of increased anxiety upon the performance of a test is not as simple as one might think. In his view, the anxiety can have a negative or positive effect. He could not say which had occurred in Mr. Andrews' case.

Other possible effects flowing from a delay in starting the test include an increased fatigue level (discussed earlier) or an impact on a person's annoyance level, depending upon that person's personality. Dr. Tansley was not in a position to comment further on those points.

Finally, Dr. Tansley was asked to comment on whether or not the test contained subjective scoring criteria and its potential impact on Mr. Andrews' test results. He began by stating that all scoring criteria are subjective in some way and that the only way to avoid this completely is to develop a test with a very rigid test cycle that accurately indicates the level of ability required for each task. Since this was not done for the Andrews test, the only thing left to say about the scoring criteria is that they were established in advance of the test rather than after the fact. In other words, the scoring criteria, subjective as they may have been, were established before the test was given to the control group and to Mr. Andrews. They were therefore applied equally well to both. As a result, Dr. Tansley was unable to conclude that Mr. Andrews was at a disadvantage in this regard.

Dr. Tansley felt that (from a scientific perspective) he could not personally offer the environmental hypothesis as an

explanation for the difference between Mr. Andrews' results and those of the control group. While he would not deny that the environmental factors played a role of some sort, he would not give them much weight because in his view, that would require too many

- 47 -

explanations and too many different ways of describing the results.

By contrast, he felt that the impaired auditory perception hypothesis had the advantage of explaining the difference in test results almost single-handedly. Dr. Tansley's conclusion is premised on the fact that Mr. Andrews has auditory perception, albeit the fact that it is impaired. This means that with his residual auditory perception, he was able to score correctly on several test items. On the other hand, the various factors raised in the category of the adverse test environment hypothesis do not tell us why the Complainant scored correctly on several test items. In his view, that hypothesis would only be offered to explain why Mr. Andrews was wrong.

In the final analysis, Dr. Tansley felt that the impaired auditory perception hypothesis provided a reasonable explanation for Mr. Andrews' test results.

POSITIVE ASPECTS OF THE TEST

Dr. Tansley was asked to give his opinion on the positive aspects of the test. They are listed and briefly discussed in the following paragraphs.

Firstly, he was of the view that the test had a high level of face validity because it included a wide variety of auditory tasks in its test battery. These were based on an informal task analysis obtained from operational experts who had experience in the field, who had knowledge of the role of Coast Guard deck officers and who then contributed to the establishment of the various test items.

Secondly, Dr. Tansley noted that the test acknowledged and used a broad definition of the hearing function. This allowed Mr. Andrews a greater opportunity to "show his stuff", in contrast to a test that is too specific in terms of the answer or response sought by the tester.

Thirdly, Dr. Tansley found as very positive the fact that there were fourteen different test items, with each one having a different kind of twist to it. In his opinion, this aspect enhanced the issues of test validity and reliability. Dr. Tansley felt that the test developers tried to do the right thing by affording a comprehensive assessment of what hearing functions are required and by giving the candidates an opportunity to show those functions.

Finally, another positive aspect of the test in Dr. Tansley's opinion was that the various test scenarios offered some means of comparison between Mr. Andrews and the control group as well as within each of those two groups. This was important in terms of understanding how each candidate's responses could vary across the

- 48 -

entire test and it provided some information about why those differences were evident. Dr. Tansley believed that by looking at each candidate's variations, it was possible to gain some insight into the nature of the causative agent responsible for the differing results as between the control group and Mr. Andrews.

- 49 -

THE BEST MEANS AVAILABLE TO MEASURE ANDREWS' ABILITY TO HEAR

Dr. Tansley was asked his opinion on the best means available to the Coast Guard in order to measure an individual's ability to hear in circumstances where signal and noise are both present. He responded that there are a variety of tests that function with monosyllabic or bisyllabic words, or in some cases, entire sentences presented in variable levels of noise. These tests are typically done in an audiometric booth with no additional sources of signal which require selective attention and so forth. These tests have been around since the 1920's and some of them are in more common use than others. They would be about the best that could be obtained before making the decision to create a custom-designed test.

Dr. Tansley continued on this point by stating that these off-the-shelf tests would not satisfy the "practical and realistic guidelines" without proof of some kind or some comparison with the actual test conditions. There would have to be proof of this before using such a test as a practical hearing test for the Coast Guard.

On the topic of "practical" and "realistic," Dr. Tansley was asked to indicate what those words meant to him when analyzing this test. He took the term "practical" to mean supra-threshold hearing tasks that bear some obvious relationship to the activities or tasks being performed by the occupations to which the task is pertinent. He then defined the term "realistic" to mean that the acoustical conditions under which these tasks were to be performed were represented in the test environment. In other words, "realistic" should point to a desire to reproduce in a practical hearing task the same stimuli that might be expected in a real-life situation.

Finally, when asked if he would have used the Andrews' test to measure a candidate's ability to perform the duties of a Coast Guard officer without first developing it further, he repeated that the test was not mature when it was used for Mr. Andrews and that it was at a pilot study level in the test development cycle. In that sense, it was not finished in any context that he, as a professional, would be able to justify. In fact, he could not see how he could have used it as a practical hearing test. Hypothetically speaking, if the Coast Guard had come to him prior to the administration of this test and asked him whether the test was an adequate test of hearing, his response would have been that it was a good start but that it required more work.

CONCLUSION ON THE PRACTICAL HEARING TEST

In conclusion, the evidence of the psychologists, medical experts and marine experts, as well as the documentary evidence of

- 50 -

the test itself, supports the following findings:

- (a) when the test was administered to the Complainant his most recent seagoing experience had been 3 years prior;
- (b) the test used technical terminology in an environment which was unfamiliar and in some cases unrealistic;
- (c) the test was administered to the Complainant over an unbroken period of several hours when he would have been under obvious stress, tired and embarrassed by the presence of so many observers;

(d) it is impossible to accurately compare the test group scores to those of Mr. Andrews;

(e) there were unusual restrictions placed by the Respondents upon the Complainant in answering communications or identifying the sources of sound;

(f) the test lacked an acceptable degree of validity and reliability.

- 51 -

PART V BONA FIDE OCCUPATIONAL REQUIREMENT

The issue before the Tribunal is whether the establishment of a hearing standard for Coast Guard officers requiring a maximum allowable hearing loss of 30 decibels at any frequency in either ear and prohibiting hearing aids is a bona fide occupational requirement.

In considering this issue the Respondents must meet both the subjective and objective tests established in the case of Ontario Human Rights Commission v. Etobicoke [1982] 1 S.C.R. 202 at p. 208. At the opening of Argument, Counsel for the Human Rights Commission agreed that the subjective element need not be addressed. Therefore it is accepted that the Respondents adopted the Health and Welfare hearing standard set forth at pages 4-6 herein honestly, in good faith and in the sincerely held belief that such limitation was required for the adequate performance of the work involved with all reasonable dispatch, safety, and economy and not for ulterior or extraneous reasons aimed at objectives that could defeat the purpose of the Canadian Human Rights Act.

Therefore, the Tribunal need only address the objective element of the bona fide occupational requirement test. That is, whether the hearing standard is related in an objective sense to

- 52 -

the employment concerned in that it is reasonably necessary to ensure the efficient and economical performance of the job without endangering the employee, his fellow employees and the general public.

The law concerning the BFOR defence has evolved gradually and has been associated with some confusion. The Tribunal believes, however, that a reasonable synopsis of this evolution was contained in the Decision of a Human Rights Tribunal in *Thwaites v. Canadian Armed Forces* (unreported Tribunal Decision, No. T.D. 9/93, rendered June 7, 1993) on which Tribunal, two members of this panel participated. In our consideration of this case, we accept and will be guided by the following findings of law from *Thwaites*.

1. "The BFOR defence is now only available to an employer when, as is the case before us, a direct discrimination is involved: *Central Alberta Dairy Pool* supra, at pp. 516-517, i.e. where the employer's rule or practice makes assumptions or generalizations about the capabilities of individuals because they belong to a particular group. In those cases, the BFOR defence allows the employer to justify its departure from the principle of individualized equal treatment by leading evidence in support of its general policy or the impossibility of individual assessment." (see *Thwaites*, supra at pp. 27 citing *Human Rights Commission v. Central Alberta Dairy Pool et al.*, [1990] 6 W.W.R. 193 (S.C.C.))

2. "In respect of the BFOR defence provided for in Section 15(a) of the CHRA, the Supreme Court of Canada initially held in *Bhinder v. C.N.* in 1985 that consideration of a BFOR was to be without regard to the particular circumstances or abilities of the individual in question. In the short span of five years, the majority of that Court in *Alberta Human Rights Commission v. Central Alberta Dairy Pool* [1990] 2 S.C.R. 489 reversed its position and held that in cases of adverse effect discrimination, the employer cannot resort to the BFOR defence at all. In such cases, there is now a positive duty on employers to accommodate the needs of employees disparately affected by a neutral rule unless to do so would create undue hardship for the employer. Put another way, the employer must establish that the application of the neutral rule or practice to the individual was reasonably necessary in that allowing for individual accommodation within the general application of the rule or practice would result in undue hardship. No longer, in such cases, can an employer justify its practice as a BFOR in relation to safety of employees in a general way and maintain that its discriminatory effect on certain groups of individuals is totally irrelevant." (see *Thwaites*, supra at pp. 26-27 referring to *Bhinder v. C.N.R.* [1985] 2 S.C.R. 561)

3. In finding that the occupational requirement must be "related in an objective sense to the performance of the employment", the Supreme Court of Canada has implied that "the relationship between

requirement

and employment must be proved on the basis of real facts, not on the basis of impressions." Further, in speaking of an occupational requirement that is 'reasonably necessary', to ensure the adequate performance of the employment, the Supreme Court of Canada has established "a criterion of necessity not convenience." (see Thwaites, supra at pp. 30)

4. "Moreover, if an employer is relying upon a general rule of exclusion, it must explain why as a practical alternative, it was not possible to assess individually the risk presented by each employee and thus had to impose a blanket practice. (Wardair Canada Inc. v. Cremona (F.C.A.) October 9, 1992, unreported at p. 6; Saskatchewan Human Rights Commission v. Saskatoon [1989] 2 S.C.R. 1297 at pp. 1313-1314; Central Alberta Dairy Pool supra at p. 518)." (see Thwaites supra at p. 30)

5. "The logical conclusion... is that there is very little, if any, meaningful distinction between what an employer must establish by way of a defence to an allegation of direct discrimination and a defence to an allegation of adverse effect discrimination. The only difference may be semantic. In both cases, the employer must have regard to the particular individual in question.... In both cases, whether the operative words are "reasonable alternative", or "proportionality" or

"accommodation", the inquiry is essentially the same: the employer must show that it could not have done anything else reasonable or practical to avoid the negative impact on the individual." (see Thwaites, supra at pp. 31)

SAFETY RISKS AND THE BFOR DEFENCE

It is now clear that the standard that the employer must meet is that the group of persons in question excluded by the employment practice will present a "sufficient risk of employee

failure" (Thwaites, supra at pp. 31-32). In *Galbraith v. The Canadian Armed Forces*, (1989), 10 C.H.R.R. D/6501 (CHRT) at pp. D/6513, paragraph 45819, a Human Rights Tribunal held that "sufficient risk" should be interpreted as

"a real risk, not one which is merely theoretical or based purely on speculation. If the risk is real, then whether it is a 'sufficient risk' should be determined by assessing the nature of the risk in relation to the potential harm to the prospective employee and others, including the public. Where public safety is in issue, even a modest increase in risk may establish a bona fide occupational requirement defence for the employer. In short, sufficiency will very much depend upon the activity in question, and of course can only be measured on the basis of the evidence that is led."

In *Robinson v. Canadian Armed Forces* (1992) 15 C.H.R.R. D/95, "the Tribunal concluded that in light of the decision in *Central Alberta Dairy Pool*, the criterion of unacceptable risk as stated by

- 56 -

MacGuigan, J. in *Air Canada v. Carson*, [1985] 1 F.C. 209 had again become the applicable criterion for sufficient risk. According to the Tribunal, this criterion means that proof of a slight or negligible risk is not sufficient to constitute a BFOR. It seems that the risk must be substantial." (see Thwaites, supra at pp. 32)

"The significant risk standard recognizes that some risk is tolerable in that human endeavours are not totally risk free. While this standard protects genuine concerns about workplace safety, it does not guarantee the highest degree of safety which would be the elimination of any added risk. What it does is ensure that the objectives of the CHRA are met by seeking to integrate people with disabilities into the workplace even though such persons may create some heightened risk but within acceptable limits." (see Thwaites, supra at pp. 32)

The facts outlined in recent decisions of two Canadian Human Rights Tribunals and the law applied to their facts were helpful to this Tribunal. In both *Thwaites, supra* and *Patricia Hebert v. Canadian Armed Forces* unreported Tribunal Decision, No.

T.D. 14/93, rendered August 20, 1993, the Respondents presented evidence and argument directed specifically towards the safety risk as a bona fide occupational requirement.

- 57 -

In the first of these two decisions, Simon Thwaites was medically discharged from the Canadian Armed Forces on the basis of his disability (HIV positive status); in the second, Patricia Hebert was denied enrollment in the Canadian Armed Forces on the basis of her visual acuity. In both cases, as in this case, the Tribunal was faced with two competing interests described by the Tribunal in Thwaites, at p.1, as follows:

"the legitimate concern by the Canadian Armed Forces for the health of their members infected with human immunodeficiency virus (HIV) on the one hand, and on the other, the right of such individuals to be gainfully employed in positions which they can perform to satisfactory standards but which, because of their nature, subject their safety or health to increased risks."

This Tribunal accepts the finding of the Tribunal in Thwaites that in the evolution of human rights law, increased emphasis has been placed on the individual rights enshrined in the CHRA and with it, has come a corresponding insistence that employers make every effort to give effect to the principle set out in Section 2 of the CHRA. We also acknowledge that when the bona fide occupational requirement defence is available it must be interpreted restrictively so that the larger objects of the CHRA are not frustrated, (see *University of Alberta v. Alberta Human Rights Commission* (1993), 17 C.H.R.R. D/87 at p. D/96) and because it is often the final refuge of the disadvantaged and the disenfranchised (see *Zurich Insurance v. OHRC* (1992) 93 D.L.R. (4th) 346 at p. 374; 16 C.H.R.R. D/255 at p.D/263).

The burden of proof in this case is upon the Respondents and the standard is the ordinary civil standard on the balance of probabilities. As one component to the BFOR defence, an employer must usually explain why, as a practical alternative to a blanket rule, it was not possible to assess individually the risk presented by the individual employee.

This Tribunal has accepted the Tribunal decision in Thwaites that a BFOR requires more than showing a marginal increase

of risk to public safety; "the thorny question is determining when some increased risk amounts to significant risk." (See Thwaites, supra at p. 33).

In the second of the two recent Tribunal Decisions referred to earlier herein (Hebert), the minimum visual enrolment standard acceptable to the Armed Forces was stated as a V4, which the Tribunal accepted was less than normal vision and (uncorrected) only marginally better than Ms. Hebert's vision. As a result, the Tribunal accepted this as evidence of the Respondent's willingness to accept some risk of employee failure. The question then became

- 58 -

whether Ms. Hebert presented a substantial increase in risk acceptable to the Armed Forces in its enrolment standards. (see p.62)

- 59 -

The Tribunal in Hebert then considered the corrected vision standard and considered the testimony of the Respondents' witnesses to the effect that Canadian Armed Forces' physiotherapists are always liable to be deployed to a hostile environment and in such circumstances there is risk that they will be in a position where they will be required to function in the absence of corrective lenses. However, since the Respondent in Hebert was not able to satisfy the Tribunal that there had been one single occasion when a CAF physiotherapist had been deployed in a hostile environment where contact lenses could not be worn or glasses (if lost) could not be easily replaced, the Tribunal concluded that the possibility of all of these events happening was not a sufficient justification for excluding Ms. Hebert from the CAF.

In both Thwaites and Hebert, the Tribunals applied a comparative approach to the measure of significant risk and the Tribunal in Hebert adopted the suggestion of the Tribunal in Thwaites where it was held:

"Significant risk can best be measured in the context of the particular job and then only in comparison with other risks posed by that workplace; in this way, other tolerable risks arising from the employment establish risk thresholds. If risks of comparable magnitude are acceptable in a particular work environment then risks

posed by a person (who is HIV positive) cannot be considered significant. By utilizing a comparative risk analysis, there is recognition that employers cannot expect a completely risk free work environment. Instead, the standard of significant risk seeks to eliminate those risks that pose a significant or substantial threat to health and safety. In any particular situation, one must determine when risks are deemed significant and thus unacceptable by identifying the nature and quantum of other risks that are tolerated as acceptable in that particular work environment. By applying a comparative risk analysis, one can best determine if the risk is substantial." (see Hebert pp.61-62 citing Thwaites (supra at p.34)

and the Tribunal in Thwaites' reference to the article by S.D. Watson, "Eliminating Fear Through Comparative Risk": Docs, AIDS and the "Anti-Discrimination Ideal" (1992) Buffalo Law Review 738).

THE PRACTICAL HEARING TEST AND THE BFOR DEFENCE

The Tribunal concludes that four significant findings of fact and law flow from the administration of the practical hearing test to the Complainant.

- 60 -

Firstly, in developing and administering the test, the Respondents have satisfied the requirement (which is imposed upon the employer as part of the BFOR defence to the individual complaint) that it assess the capability of each individual employee before reaching a decision about him.

Secondly, for reasons already stated in Part IV herein, the test developed by the Respondents and administered to the Complainant on May 25, 1990 either:

- 61 -

- (a) did not present a fair and reasonable individual assessment of the risk presented by the Complainant in performing the duties of a Coast Guard navigational officer; or,
- (b) if it could be said that the test itself presented a fair and reasonable individual assessment of the risk, the establishment

of a pass mark of 100% for the majority of the components and of 80% for most of the remaining components of the test was not fair and reasonable.

Thirdly, the nature of the test, the circumstances under which it was administered, and the Complainant's overall score of 75% (see Exhibit R-1, Tab 1) are factors which may and should be considered by the Tribunal in assessing whether the Complainant's disability presents a sufficient risk of employee failure.

Finally, the time and cost associated with the test clearly establishes that it is not a reasonable or practical alternative to a blanket rule.

In terms of the Section 7(a) Individual Complaint, the Tribunal finds that by administering the practical test to the Complainant the Respondents provided an opportunity to assess Mr. Andrews on an individual basis. They have therefore satisfied one of the components of the BFOR defence. On the basis of this test, the Respondents argue that the Complainant's score proves that his disability represents a real risk to the safe performance of the job. The Tribunal disagrees and finds that since he received an overall score of 75% on a test that was otherwise flawed as outlined in Part V herein, the Complainant's disability does not represent an acceptable risk to the safe performance of the duties of a Coast Guard Navigational Officer. Therefore, the BFOR defence cannot be established to the section 7(a) individual complaint on the basis of the test scores alone.

THE EVIDENCE AS A WHOLE AND THE BFOR DEFENCE

Having found that it is insufficient to say that the Complainant's overall score of 75% on the practical hearing test satisfies the BFOR defence, the Tribunal must consider whether the BFOR defence to the section 7(a) complaint has been satisfied by the evidence as a whole.

The evidence of the Respondents did not assist the Tribunal in determining in a statistical or quantitative manner the time spent by a Coast Guard officer in activities which would require the candidate to have less than a 30 decibel hearing loss in each ear. This is understandable because each individual Coast Guard officer's experience may be different depending upon the vessel to which he/she is assigned and the activities performed by the vessel. Further, an

employer should neither be required to risk the safety of others nor suffer substantial costs or other non-human resource depletion simply to provide statistical data to a Tribunal in support of a bona fide occupational requirement defence.

In assessing the health and safety risk posed by the Complainant in this case we must compare the other risks which the Respondents have been willing to take.

From the Health and Welfare Physician's Guide, we know that the Coast Guard permitted the entrance of cadets with up to a 30 decibel hearing loss in both ears. We know also from the evidence of Valerie Parrott that persons with a 25 decibel loss in both ears would not hear as well as the Complainant in certain circumstances.

Despite the prohibition against hearing aids, there was testimony before the Tribunal that some Coast Guard members had worked alongside officers with such apparatus or aids.

Further, we know that the Coast Guard accepts crew members with a hearing standard which merely requires them to be conversationally adequate in one ear. (See page 7 herein).

The Tribunal is also aware that Health and Welfare Canada recognizes that the audiometric examination is not a true measure of an individual's ability to hear and this explains (albeit only in part) why Annex E to the Physicians guide indicates that "no individual experienced in his occupation is to be rejected solely on the basis of pure tone audiometry..." (see page 7 herein). In fact Exhibit R-19, (being a letter from Karen McDonald, Medical Officer-in-Charge, Clinic Services, Health and Welfare Canada to Ms. Joanne Jankun of Transport Canada dated May 27, 1990) states as follows:

"..if someone failed the screening audiogram they should not be rejected on that basis alone since an audiogram is not an indicator of the person's true ability to hear. Thus, the person should be given the opportunity to prove himself by a realistic practical test to the satisfaction of his supervisor wearing a hearing aid if practicable."

Finally, the Respondents were satisfied with a pass mark of 80% for some of the components of the practical hearing test

administered to the Complainant and other experienced Coast Guard officers.

All of these facts indicate that the Respondents are prepared to accept some risk of employee failure in regard to hearing ability. In light of these facts, it cannot be said that the Complainant's disability (monaural hearing) presents a significantly

- 63 -

higher risk and one which the Tribunal would be able to describe as "unacceptable".

- 64 -

Accordingly, the Respondents have not established a BFOR defence to the section 7 complaint.

In terms of the Section 10(a) Policy Complaint, the Tribunal accepts that since the assessment of the Complainant through the practical hearing test cost the Respondents in excess of a hundred thousand dollars, it could not be considered a reasonable or practical alternative for all candidates who do not meet the existing standard. Viewed another way, this Tribunal would not expect the Respondents to repeat the same costly exercise for every candidate who did not meet the hearing requirements stated in the Health and Welfare Physician's Guide. Therefore, the assessment provided to the Complainant on May 25, 1990 (while satisfying a portion of the BFOR test on the section 7(a) complaint), does not represent an option for all other candidates whose hearing falls below the existing standard.

The Tribunal must therefore consider whether there is a reasonable or practical alternative to this type of assessment for all individuals. The only evidence led by the Human Rights Commission or the Complainant on this component of the BFOR defence was the evidence of several witnesses that conversational hearing should be adequate. The Tribunal accepts this evidence and finds that conversational hearing is one potential reasonable and practical alternative to the existing discriminatory rule.

Support for a finding that there is a reasonable or practical alternative can also be found in the Respondents' case. In fact, Exhibit R-19 speaks for itself insofar as Health and Welfare Canada recognizes that a candidate should not be rejected on the sole

basis of the audiogram results but rather should have the opportunity to prove himself/herself by a realistic practical test to the satisfaction of his/her supervisor. (Emphasis added by the Tribunal).

The Tribunal therefore finds that a far more simplistic test with a pass or fail determined by an experienced supervisor would be a reasonable or practical alternative to rejecting all applicants whose audiogram results show more than a 30 decibel hearing loss in either ear.

The Tribunal does not decide the Section 7 (Individual) and Section 10 (Policy) Complaints on this basis alone. In relying upon their hearing standard as a BFOR, the Respondents must also show that they have relied upon the most authoritative and up to date medical, scientific and statistical information available and not on hasty assumptions, speculative apprehensions or unfounded generalizations. (see Thwaites at p.35 referring to Heincke et al. v. Emrick Plastics et al. and other cases)

By letter purportedly dated October 17, 1985, the Complainant was advised that the auditory standards for Ships'

- 65 -

Officers were based on the standards for the Canadian Navy, which had since been raised to 40 decibels (see Exhibit HR-1 at Tab 16). However, there was no indication given to the Tribunal that the Coast Guard considered such a change to their standards between 1985 and 1992, to follow the lead of the Canadian Navy. On the other hand, the Respondents admit that their visual and auditory standards are currently under review because they are inconsistent with the standards for ship's officers in the merchant marine.

On the facts of this case the Tribunal is therefore unable to find that the Respondents relied upon the most authoritative information available, either in setting their standard (30 decibel hearing loss) or in denying the Complainant entrance to the Coast Guard College on the basis of his pure tone audiogram results without the opportunity of an individual assessment.

Counsel for the Respondents suggested in his Argument that there were four questions to be answered in this case three of which concerned the issue of liability, and a fourth, concerning the matter of damages. The first three are set out below:

1. Is the Respondent's policy of requiring no more than a 30 decibel hearing loss in either ear a bona fide occupational requirement?

- 66 -

2.a) Did the Respondents have any reasonable or practical alternatives to the Health and Welfare Standards which would allow them to deal with people on an individual basis other than the pure tone audiogram?

b) Did the practical hearing test give the Complainant a fair opportunity to demonstrate his hearing capabilities?

While helpful in focusing the Tribunal, we do not accept that the issues in this case can be stated in as simple a fashion as that suggested by Counsel for the Respondents because the Complaint is brought under both Sections 7(a) and 10(a) of the CHRA and an analysis of the BFOR defence must be considered under both sections individually.

PART VI

TRIBUNAL FINDING ON THE COMPLAINT

TRIBUNAL FINDING ON THE SECTION 7(A) COMPLAINT

Section 7(a) of the CHRA states that:

"It is a discriminatory practice, directly or indirectly,
(a) "to refuse to employ or continue to employ any individual...on a prohibited ground of discrimination" (the Individual Complaint).

For reasons already stated herein, the Tribunal finds that the Respondents contravened section 7(a) of the CHRA by declining the Complainant enrollment at the Coast Guard College. The practical hearing test was a genuine effort on the Respondents part of assessing the risk which the Complainant's disability presented to the safe performance of the duties of a Navigational Officer. However, the test was flawed and the pass scores were established at unrealistic levels. Therefore, the test itself does not satisfy the requirements of the BFOR defence. On the basis of all the other evidence, the Tribunal concludes that the Respondents have failed to

establish that their hearing standard was a BFOR for the Complainant's safe performance of the duties of a Navigational Officer.

TRIBUNAL FINDING ON THE SECTION 10(A) COMPLAINT

In comparison, Section 10(a) states that:

"It is a discriminatory practice for an employer...

(a) to establish or pursue a policy or practice,...that

- 67 -

deprives or tends to deprive an individual or class of individuals of any employment opportunities on a prohibited ground of discrimination" (the Policy Complaint).

As part of the BFOR Defence to this Complaint, the Tribunal accepts that a practical hearing test similar to that administered to the Complainant would be an impractical or unreasonable alternative to their blanket policy of requiring no greater than 30 decibel hearing loss in either ear. However, from all the evidence, but particularly that of the three hearing specialists and Captains Norman and Turner, the Tribunal accepts that a reasonable or practical alternative to the Respondents blanket policy would be to either (a) substitute conversational hearing as the auditory standard established by Health and Welfare Canada for Coast Guard Navigational Officers or (b) allow candidates whose hearing falls below the existing standard to be given the opportunity to prove themselves by a realistic practical test to the satisfaction of a supervisor, wearing a hearing aid if practicable. Therefore, the BFOR defence to the section 10 complaint also fails.

PART VII

DAMAGES/RELIEF SOUGHT

Since the Complainant's case has been successful, it is necessary to move to the issue of the relief sought.

Counsel have agreed that if the answers to questions 1 and 2 (see page 101-102 herein) are both negative, the Complainant's loss of income from the date of the Complaint to the date of the Hearing amounted to \$56,121.00. However, the Tribunal must consider whether the Complainant is entitled to all, or only a portion of these damages, in light of certain contingencies.

In this regard, the Tribunal was referred to the case of *Conklin v. Smith*, 5 C.C.L.T. 113 (S.C.C.) in which the Supreme Court of Canada was asked to consider the probable loss of income for a 20 year old man injured in an automobile accident and whose injuries ultimately required the amputation of his left leg below the knee. At the time of the injury the Plaintiff had intentions of becoming a commercial air pilot and alleged that he planned to attend Selkirk College in preparation for that career. The Court held that it was its duty to assess the Plaintiff's loss of future income as may be determined from a reasonable appraisal of all the evidence and in doing so they determined that the trial judge's allowance of \$60,000.00 was not inordinately high.

In calculating the Plaintiff's prospective loss of future

- 68 -

earnings in the *Conklin* case, the Supreme Court of Canada reiterated that its judgment given in the case of *Andrews v. Grand & Toy Alta. Ltd.* reported at [1978] 1 W.W.R. 577, had confirmed that a contingency factor of 20 per cent (although not entirely satisfactory) should be accepted. The Tribunal takes the expression of a 20 per cent contingency as a general guide and one that should perhaps be used as a benchmark in the establishment of a contingency factor that best fits the facts of each individual case.

In the case of Michael Andrews, the Complainant alleges that he had a very strong desire to pursue a seagoing career, and in particular, that of a Canadian Coast Guard Officer. We know that his potential for a career with the Coast Guard was eliminated by his rejection from the Coast Guard College on the basis of his monaural hearing. We accept also that had he chosen instead to attend the Marine Institute in St. John's, Newfoundland (or elsewhere), he may have graduated but would still be precluded from taking a position with the Coast Guard because the same Health and Welfare medical standards would be required to be met at that time. However, the Tribunal accepts the evidence of the marine experts called by both the Complainant and the Respondents that following his graduation

from the Marine Institute, he would have had the potential for employment in the merchant marine (including the offshore oil industry). In this industry, the minimum medical standards applicable are set by the Ship Safety Branch of the Coast Guard and would not have eliminated the Complainant as a prospective employee on the basis of his monaural hearing.

Further, the Tribunal is aware that following the Complainant's rejection from the Coast Guard College he attended the Marine Institute in St. John's for one semester only (August-December, 1985) and that although he obtained an average of 84% in the courses which he took, decided to leave the Institute and return to Memorial University of Newfoundland (where he had been a student for the fall and winter semesters in the 1984/85 calendar year). There, he pursued a degree in Education which he ultimately completed in the fall of 1991 and with which degree he has been successful in obtaining employment as an instructor. (see Exhibit HR-1, tabs 21 and 24)

Therefore, despite the very strong likelihood that the Complainant would have attended the Coast Guard College and graduated therefrom, the Tribunal must consider that the Complainant's plans for a seagoing career at age 18 may have changed as he matured. When this evidence is considered, the Tribunal believes that a contingency factor significantly higher than the 20% benchmark suggested by the Supreme Court of Canada is warranted. For these reasons, the Tribunal will apply a contingency factor of 35% to the damages which have been agreed upon by Counsel, and awards the sum of \$36,479.00.

- 69 -

The Complainant also seeks special compensation under section 53(3)(b) of the CHRA on the basis that he claims to have suffered in respect of feelings or self-respect as a result of the discrimination. In seeking damages under this section, the Complainant relies strongly on the circumstances of the practical hearing test. However, as the Tribunal has already ruled, the development and administration of the practical hearing test was a step which the Respondents were required to take in order to establish one of the components of the BFOR defence. The Tribunal therefore considers inappropriate to award damages in respect of that claim. Further, the Tribunal considers that the award of damages in the amount of \$36,479.00 already stated herein represents adequate compensation for the Complainant. The Tribunal, in its discretion, declines to award pre-judgment interest on this sum. The Complainant

also seeks an order under section 53(2)(a) of the CHRA requiring the Respondents to cease the discriminatory practice. The Tribunal finds it justified and it so orders.

ORDER OF THE TRIBUNAL

In summary, the Tribunal orders that the Respondents:

(a) cease the discriminatory practice of requiring candidates for the position of navigational officer/navigational officer cadet to have no greater than a 30 decibel hearing loss in either ear without giving such candidates an opportunity to prove themselves by means of a realistic and practical test to the satisfaction of a supervisor, wearing a hearing aid if practicable; and

(b) compensate the Complainant by payment of \$36,479.00 for loss of income to July 1992.

- 70 -

Submitted this day of September, 1994.

GILLIAN D. BUTLER
Chairperson

ROGER BILODEAU
Member

RICHARD P. NOONAN
Member