



COMMISSION OF
INQUIRY INTO THE
AIR ONTARIO CRASH
AT DRYDEN, ONTARIO

Final Report

Volume III

The Honourable Virgil P. Moshansky
Commissioner



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**COMMISSION OF
INQUIRY INTO THE
AIR ONTARIO CRASH
AT DRYDEN, ONTARIO**

This Final Report consists of three volumes: I (Parts One–Four), II (Part Five), and III (Parts Six–Nine and the General Appendices). The table of contents in each volume is complete for that volume and abbreviated for the other two volumes. Seven specialist studies prepared for this Commission have been published separately in a volume entitled Technical Appendices; the contents of the Technical Appendices are given at the end of this volume.



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Volume III
Parts Six-Nine

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Commissioner

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This volume has been translated by the translation services of the Secretary of State, Canada, and is available in French.

The aerial photograph reproduced in the endpapers was taken by CASB investigators on March 11, 1989, the day following the crash of Air Ontario flight 1363. It depicts the area of the Dryden Municipal Airport (upper right), surrounding road system, and crash site. McArthur Road runs vertically up the middle of the photograph, curving to the right at about the centre of the book on the right-hand page. (The cleared straight line is a hydro right of way.) Middle Marker Road angles to the left off McArthur in the lower left-hand section. The path of Air Ontario flight 1363 through the trees begins not far from the end of runway 29, and the crash site can be seen just above Middle Marker Road. Many survivors walked out to Middle Marker Road immediately after the crash.

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PART SIX

TRANSPORT CANADA

27 ORGANIZATION

Transport Canada Mandate

The Civil Aviation Role of Transport Canada

Transport Canada is the federal agency responsible to the people of Canada for ensuring that commercial and private aviation activity in this country is carried out effectively at an acceptable level of safety. To quote from Transport Canada's 1990-91 estimates, part III, one of the department's key objectives is "to ensure a safe National Civil Air Transportation System, to attend to the development and operation of the National Civil Air Navigation System for the efficient and safe movement of aircraft and to contribute to the safety and efficiency of Canadian aircraft operating in international and foreign airspace." In simple terms, Transport Canada sets and applies civil aviation safety standards and provides an infrastructure in the form of airports, navigation, radar and communication facilities, and air traffic control services in addition to a number of other facilities and services for both commercial and private aviation.

The Aeronautics Act

The *Aeronautics Act*, R.S.C. 1985, c.A-2, in section 3.2 states: "the Minister [of Transport] is responsible for the development and regulation of aeronautics and the supervision of all matters connected with aeronautics." The Act empowers the minister to administer the air regulations made pursuant to the *Aeronautics Act*. These include the licensing of pilots, aircraft maintenance engineers, and air traffic controllers, the certification of air carriers and airports, and the registration and airworthiness certification of aircraft.

The Act also empowers the minister to take appropriate enforcement action where provisions of the Act, the Air Regulations, or Air Navigation Orders have been violated. Such enforcement action could take the form of a licence suspension, withdrawal of an operating certificate, an administrative fine, or court action. Conspicuous by its absence from the *Aeronautics Act*, however, is specific mention of the minister's responsibility for aviation safety.

The 1981–82 report of the Commission of Inquiry on Aviation Safety by Mr Justice Charles L. Dubin pointed out the lack of specific delineation of responsibility within the *Aeronautics Act* with respect to aviation safety. The report prepared for Transport Canada by the consulting firm of James F. Hickling in September 1990, "Evaluation of Aviation Regulation and Aviation Safety Programs," again addressed this apparent anomaly at some length.

A reading of the various orders and regulations in their entirety reveals an implicit intent, however, that the minister and Transport Canada are responsible for aviation safety. Indeed, this acknowledgement is reflected in the role and mission statement of the department's Aviation Group: "The mission of the aviation group is to provide a safe and efficient civil aviation system." Further, in a recent judgement of the Federal Court of Appeal in *Swanson et al. v. The Queen in Right of Canada*, 80 D.L.R. (4th) 741 (also known as the "Wapiti" case), Linden J.A. agreed with Justice Walsh of the Federal Court of Canada, Trial Division, when he stated:

The *Aeronautics Act* and Regulations made thereunder if not explicitly imposing a duty of care of the general public, at least do so by implication in that this is the very reason for their existence. The flying public has no protection against avaricious airlines, irresponsible or inadequately trained pilots, and defective aircraft if not the Department of Transport, and must rely on it for enforcement of the law and regulations in the interest of public safety.

I am of the view that such an important duty should be clearly delineated and, accordingly, that the *Aeronautics Act*, which is the foundation of ministerial responsibility for civil aviation in Canada, should be specific in defining the minister's responsibilities for aviation safety. This is a flaw that should be remedied by appropriate amendments to the *Aeronautics Act*. A finding and recommendation in that regard is contained in chapter 37, Safety Management and the Transport Canada Organization.

The Air Regulations and Air Navigation Orders (ANOs)

The *Aeronautics Act* authorizes the minister, through Transport Canada, to perform certain functions pertaining to civil aviation. It also enables the Governor in Council and the minister to make regulations and orders that will assure that the provisions of the Act are addressed. These are called the Air Regulations and the Air Navigation Orders (ANOs).

Part VII of the Air Regulations sets out the rules that define the conditions under which a commercial air service may be operated. For example, Air Regulation 700 states that "No person shall operate a commercial air service in Canada unless he holds a valid and subsisting certificate issued by the Minister certifying that the holder thereof is adequately equipped and able to conduct a safe operation as an air carrier." This rule requires that before a carrier can operate in Canada as a legally sanctioned commercial airline, it must meet the requirements set out by Transport Canada in the Air Regulations and Air Navigation Orders. Transport Canada has a corresponding obligation to ensure that the applicant carrier meets the required standards prior to issuing an appropriate operating certificate.

The Air Regulations enable legal standing to other documentation that is too voluminous or technical to be contained in the regulations. For example, Air Regulation 211(1) states that the minister may initiate publication of an airworthiness manual and an engineering and inspection manual. These documents set out airworthiness, maintenance, and inspection standards that must be complied with before an airworthiness certificate for an aircraft may be issued and retained. Air Regulation 403(2) states that every person applying for the issue or renewal of a licence as a flight crew member, an aircraft maintenance engineer, or an air traffic controller shall comply with the requirements applicable to that licence that are set out in volumes 1, 2, and 3 of the Personnel Licensing Handbook.

Air Navigation Orders are generally structured in a form analogous to the Air Regulations but, like the manuals referred to above, provide greater technical detail. Of particular interest to this Inquiry was ANO Series VII, No. 2, which sets out standards and procedures for air carriers using large aircraft. This was the primary operating standard or benchmark that Transport Canada applied to Air Ontario's F-28 operation.

The director-general, aviation regulation, Mr Weldon Newton, testified that efforts are being made by Transport Canada to merge the existing Air Regulations and Air Navigation Orders into one level of legislation. A great deal of evidence was heard, however, pertaining to an apparent lack of progress in the decade-long period since the 1981 recommendation of the Dubin Inquiry for the adoption by Canada of the United States design and operating rules as a model for the Canadian regulatory framework.

Structure of Transport Canada

Major organizational changes and associated changes in reporting relationships occurred within Transport Canada on April 1, 1991. These changes are discussed in relevant sections of my Report.

Transport Canada is one of the largest federal government departments in terms of size and it is one of the more complex in terms of areas of responsibility. Some idea of the size and scope of this department can be gleaned from the evidence given by Mr Ramsey Withers, the department's deputy minister from 1983 to 1988:

- A. While it is correct to say that the department itself was about 20,000 individuals, one is dealing with the national transportation system and, therefore, there are many others involved, an extensive number of Crown corporations.

If I recall accurately at my time about 20 Crown corporations that formed part of the whole system.

(Transcript, vol. 164, p. 4)

Transport Canada has responsibility for the regulation and, in some cases, the actual operation of various transportation components encompassing air, surface, marine, and even pipelines. This Report will focus attention on that area of the department responsible for civil aviation and, in particular, aviation safety.

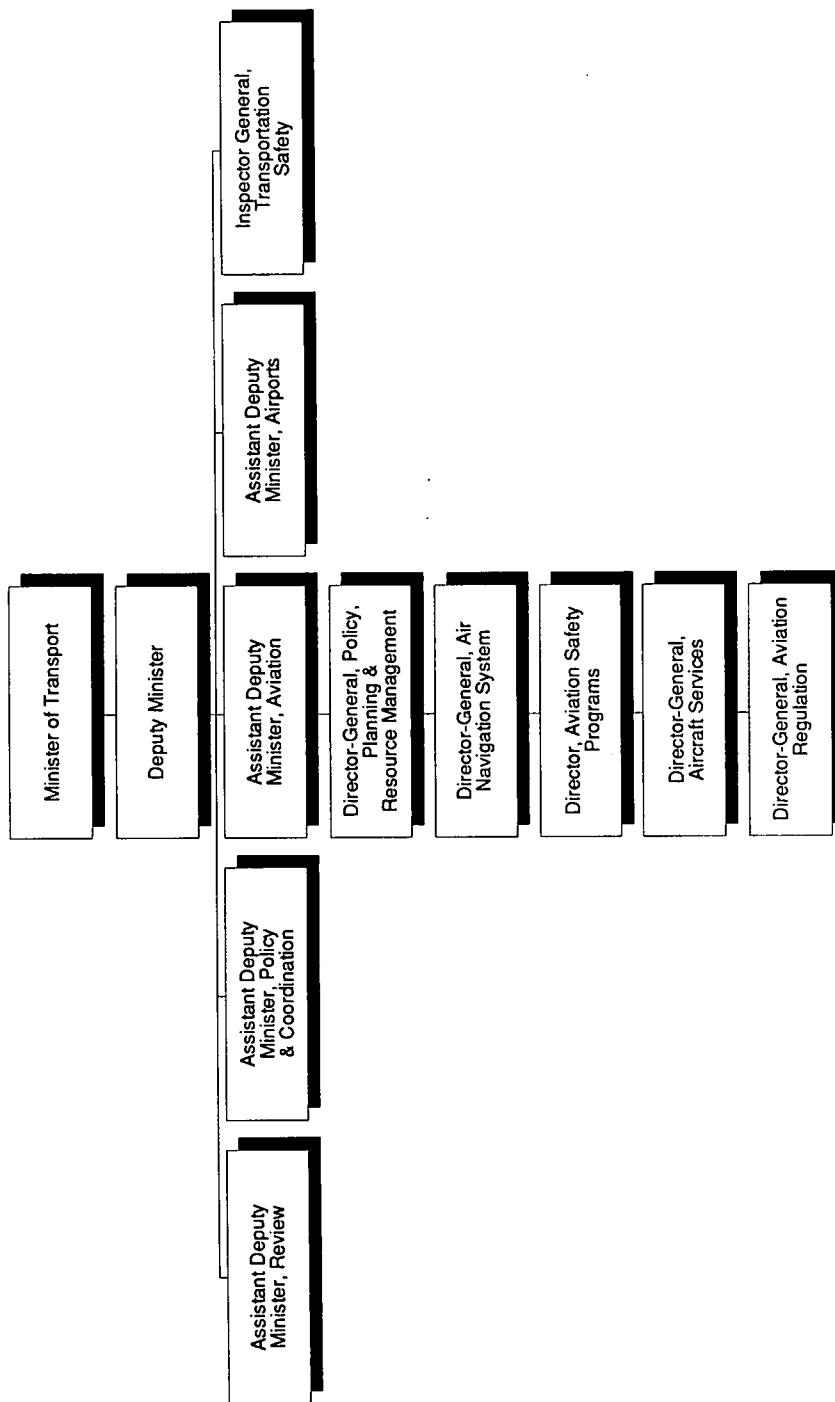
On March 10, 1989, there were two groups within Transport Canada that were of particular interest to this Commission: the Aviation Group, reporting to an assistant deputy minister, aviation, and the Airports Authority Group (Airports Group), reporting to an assistant deputy minister, airports. Within the Aviation Group there were four principal directorates, namely policy, planning, and resource management; air navigation system; aviation regulation; and aircraft services; as well as one branch – that of aviation safety (figure 27-1).

Of primary interest during the Inquiry was the Aviation Regulation Directorate, particularly the Flight Standards and Airworthiness branches at both the headquarters and the regional level. Figure 27-2 sets out the organizational structure and the reporting relationships of the Aviation Regulation Directorate.

Aviation Group

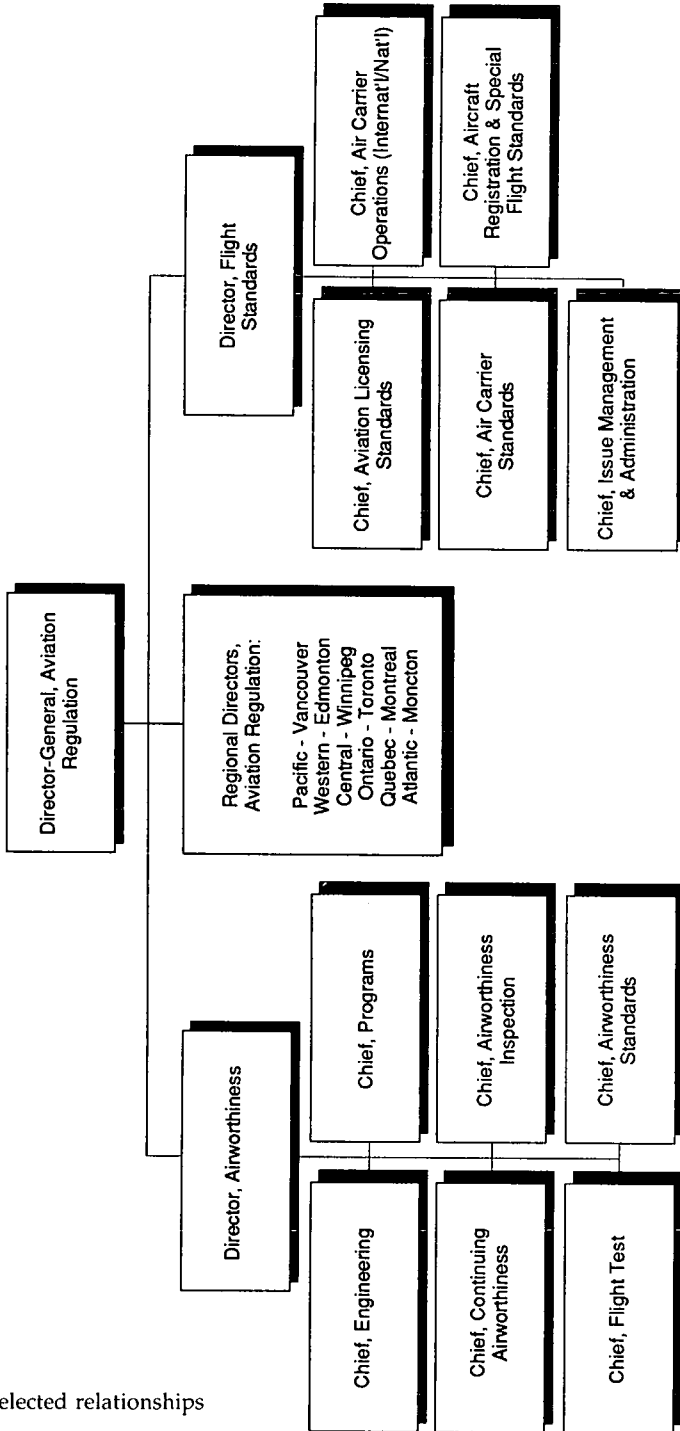
The objective of Aviation Group is "to ensure a safe National Civil Air Transportation System, to attend to the development and operation of the National Civil Air Navigation System for the efficient and safe movement of aircraft and to contribute to the safety and efficiency of

Figure 27.1 Transport Canada Organization, March 10, 1989*



* Depicts selected relationships

Figure 27.2 Transport Canada: Aviation Regulation Directorate, March 10, 1989*



* Depicts selected relationships

Canadian aircraft operating in international and foreign airspace."¹ Aviation Group, then, has three main functions: safety regulation, safety promotion, and the provision of facilities and services to allow for the operation of aircraft in both visual and instrument weather conditions.

From the perspective of safety regulation, the Aviation Regulation Directorate develops and promulgates safety-related legislation, regulations, and standards. It licenses pilots, aircraft maintenance engineers, and air traffic controllers. It certifies aircraft and aeronautical products that meet the required standards of airworthiness. It certifies commercial air carriers and airports that meet safety standards. Finally, it enforces the *Aeronautics Act*, Air Regulations, and Air Navigation Orders through investigations, warnings, licence or certificate suspensions, administrative fines, and prosecutions.

Aviation Regulation Organization

The structure and activities of the Aviation Group were assessed in the course of this Inquiry. Following the conclusion of the hearings, it was learned in May 1991 that Mr David Wightman, the assistant deputy minister, aviation, was restructuring Aviation Group at both the headquarters and the regional levels. The effect of successive structural changes from a safety standpoint, including the April 1, 1991, reorganization, are addressed in chapter 37, Safety Management and the Transport Canada Organization.

Within the Aviation Regulation Directorate there are two branches whose responsibilities are linked most directly to the Transport Canada issues with which this Inquiry was primarily concerned: Flight Standards and Airworthiness.

Flight Standards Branch The headquarters Flight Standards Branch has responsibility for personnel licensing standards for flight crews, the registration of aircraft, as well as certification and operating standards for air carriers. In addition, the Air Carrier Certification Manual, the Personnel Licensing Procedures Manual, and related guidance material are produced by staff from the Flight Standards Branch. Other specific functions of the Flight Standards Branch include approval of air carrier flight operations manuals; minimum equipment lists; training programs for both flight and cabin crews; as well as setting policy related to passenger safety, pilot proficiency checks and in-flight inspection procedures, and air carrier audit procedures. The above list of responsibilities and duties is by no means exhaustive.

¹ Transport Canada, *1990-91 Estimates*, part III, p. 2-51

In a general sense, Flight Standards headquarters is responsible for setting the policy and uniform standards that are applied by the regional offices in the day-to-day regulation of civil aviation. An exception to this general rule occurred in 1988, with the establishment under the Flight Standards Branch of the Air Carrier Operations (International/National) Division, commonly referred to as the Seventh Region. This division performs direct inspection duties, using air carrier inspectors based in Ottawa, Vancouver, Toronto, and Montreal who are qualified on large transport aircraft. In addition to their hands-on inspection duties, these air carrier inspectors are required to approve flight operations manuals, minimum equipment lists, and air carrier training programs. The rationale that led to the introduction of this operational headquarters division was described in evidence by Mr Donald Sinclair, a former Ontario Region manager of air carrier operations:

- A. Well, I believe it was done to establish one contact point only with the people who had the expertise resident with them to provide the surveillance and the service.
- Q. Whereas previously they [the carriers] may have come under your jurisdiction, but you would have to then borrow expertise from headquarters to service them properly; is that right?
- A. That's correct.

(Transcript, vol. 142, p. 13)

This blending of staff and line functions proved to be less than satisfactory as air carrier certification demands increased substantially in the latter part of the 1980s. A great deal of evidence focused on Economic Regulatory Reform (ERR), introduced in 1984-85, and its effect on staff work, including the examination and approval of operations manuals and minimum equipment lists.

Airworthiness Branch Like their Flight Standards counterparts, the headquarters Airworthiness staff develop airworthiness standards policies and procedures. The areas addressed by this branch include standards and procedures for approval of air carrier maintenance programs, as well as inspection and approval of maintenance organizations and facilities required by a carrier applying for an operating certificate. The branch also sets standards and policy pertaining to the approval of organizations designing and manufacturing aeronautical products.

A major operational role performed by the Airworthiness Branch is the examination, testing, and certification of new aircraft types either designed and manufactured in Canada or imported into Canada. Airworthiness inspectors from headquarters also conduct audits on companies that manufacture aviation products and on major repair and

overhaul facilities. In both the Airworthiness and Flight Standards branches, headquarters inspectors also participate in national audits of air carriers. The inability of such inspectors to perform all of their duties during the post-ERR era was the subject of much evidence.

Airports Authority Group

The objective of the Airports Authority Group is "to ensure the availability and reliability of a safe, secure and efficient national civil airports system in Canada."² Transport Canada operates 8 major airports and 97 national, regional, and local airports. The primary function of the Airports Group is the formulation of policy and standards for airports and the operation and maintenance of airport facilities and services in Canada, including the provision of terminal facilities. Of particular interest to this Inquiry relating to Airports Authority Group were those areas of responsibility associated with crash fire rescue, aircraft refuelling standards and services, and de-icing facilities.

Regional Organizations

There are six Transport Canada regional offices in Canada (see figure 27-2). The regional director and his managers were responsible for Transport Canada air carrier operations and airworthiness programs that affected carriers residing in their region. The exceptions to such regional responsibility were the operations of the major carriers assigned to the headquarters Air Carrier Operations (International/National) Division. Airworthiness responsibilities for those same major national and international carriers, however, continued to rest with the airworthiness inspection organization in the region in which the carrier resided.

In the course of the Commission hearings it became increasingly obvious that the lines of responsibility in air carrier inspection and certification were fragmented. This fragmentation precluded effective coordination between the overlapping operations and airworthiness areas.

District Offices

District offices, reporting to regional offices, were created to provide improved services to and surveillance of the aviation industry in areas where the level of aviation activity was high but where there was no Transport Canada civil aviation presence. As the licensing and certifi-

² *Ibid.*, p. 2-71

cation demands escalated dramatically during the latter part of the 1980s in response to deregulation of the airline industry in Canada, the number of district offices was increased to approximately 20. These offices are located in such places as Victoria, Kelowna, Calgary, Saskatoon, London, Timmins, Quebec City, and Halifax.

These district offices deal primarily with airworthiness issues, and district office managers report to the regional managers of airworthiness. In some centres where demand requires it, air carrier and licensing inspectors are also resident in the district offices. These inspectors report to the regional manager of air carrier operations or the regional manager of licensing.

In summary, Transport Canada is a complex organization serving a dynamic industry which experienced tremendous growth during the 1980s. Concurrent with such growth was the introduction of government policies designed to bring about deregulation and deficit reduction. The aviation sector of the department undertook organizational changes intended to meet the associated challenges. It is beyond the scope of this Inquiry to assess the effectiveness of such organizational changes except as they may have had an impact on aviation safety. My remarks in the following chapters of Part Six are limited to that extent.

28 CONDITIONS AT TRANSPORT CANADA IN THE EARLY 1980s

Concerns about unmanageable workloads generally, and insufficient numbers of air carrier and airworthiness inspectors and support staff specifically, were raised as far back as 1982 by the Canadian Air Transportation Administration (CATA), the predecessor before the 1985-86 reorganization of Transport Canada's Airports and Aviation groups.

The Commission of Inquiry on Aviation Safety headed by Mr Justice Charles L. Dubin was established in 1979 with a broad mandate to advise the minister of transport on issues relating to the safety of the civil air transportation system. The Commission's report, issued in three volumes in 1981-82, pointed out the need for increased staffing in several areas in Transport Canada, particularly in the inspection of air carrier maintenance and operations.

A document released by Transport Canada in November 1984, Final Report, A-Base Review, Volume II, Regulatory (TP 5876E), provides insight into the capacities and capabilities of the Aviation Regulation Directorate in the aftermath of the Dubin Inquiry. The document resulted from the concern of the Treasury Board that CATA's Human Resources Requirements Plan, submitted to the Treasury Board at its meeting of October 28, 1982, did not demonstrate clearly that the staffing requirements (person-years) specified in that plan represented the minimum number of people needed to carry out the program.

In response to these concerns, Mr Gordon Sinclair, administrator of CATA, put in place an A-base review (a review of all ongoing programs within the air administration) to identify the most efficient and economical level of resources required by CATA to meet its mandate, taking into account the changes initiated in response to the report of the Dubin Inquiry. A project review committee was set up to oversee and review the recommendations of the A-base review team. The members of this committee consisted of a director from the Treasury Board secretariat, Transport Canada's assistant deputy minister, personnel, and the director-general, review. In other words, with the exception of Mr Sinclair, the management of the review process was attended to by individuals external to CATA.

The process of examination to which CATA was exposed was exhaustive. The authority and mandate that CATA claimed for each task

was checked and validated by aviation law experts from McGill University. Task times were established and challenged by the review team members through comprehensive on-site evaluations, audits, comparisons, and recordings.

The review team found that the Aviation Regulation organization had significant shortages in resources and that these shortages were adversely affecting the organization's ability to conduct its affairs efficiently and to ensure an adequate level of safety. It also noted a number of activities where efficiency and effectiveness could be achieved through changes in existing practices. The A-base review team recommended that the Aviation Regulation organizational unit for fiscal year 1983-84 be allocated an additional 117.5 person-years. For those groups reviewed within the Aviation Regulation Directorate, using fiscal year 1984-85 as the base, an additional 52 person-years were recommended.

These recommendations did not include additional resources that would be required as a consequence of the deregulation that allowed a dramatic increase in activity in the air carrier industry. The section of the A-base review dealing with the inspection of air carriers offers significant findings as to the state of Transport Canada's capability in this area in 1983 and 1984. It cited the following results:

- a) The resource allocations to the regional Air Carrier Operations divisions have been insufficient to meet the required workload. The shortfall has, to varying degrees, affected the quantity and quality of most tasks. Bases have been inspected only 70 per cent of the required number of times and only by omitting certain procedural steps.
- b) The initial inspections of new carriers are frequently delayed and the initial inspections of new aircraft and equipment are often postponed until the next annual inspection. As a result, aircraft can be operated in commercial transport service without meeting all the required standards ...
- ...
- d) The level of administrative support provided to the function results in professional staff spending significant amounts of time on clerical and stenographic activities. This, of course, aggravates the problem of insufficient time to perform primary tasks.

(From para. 2.8.17, pp. 61-62)

The review team also identified shortfalls in resources that generated flight safety concerns: "Lack of an adequate increase in resources will adversely affect aviation safety through continuation of unsatisfactory performance as detailed in paragraph 2.8.17 above" (p. 62). They warned that "[c]ontinued provision of insufficient resources for this function will result in a perpetuation of the undesirable if not unacceptable, situation

which exists as a result of 'corner-cutting' by inspectors. Their attempts to cope with an unmanageable work-load, and in continued non-completion of required inspections all of which could have an adverse effect on flight safety" (p. 64).

Specific findings and expressions of concern about the lack of resources and its impact on aviation safety made by the review committee in 1984 in relation to the situation in 1983 can be repeated, word for word, to describe the situation that has existed in the Aviation Regulation Directorate since 1984, and, in fact, as it is in 1992. As early as 1983-84, Transport Canada's Aviation Regulation body and, in particular, the air carrier certification and inspection groups were unable to fulfil effectively their mandated tasks. The evidence shows that during the 1980s Transport Canada did not have sufficient human resources to discharge its mandate. Further, the evidence demonstrates that Transport Canada had been repeatedly warned at the highest levels of bureaucracy about this unsatisfactory state of affairs.

29 ECONOMIC DEREGULATION AND DEFICIT REDUCTION

Throughout the hearings of this Inquiry into the Dryden accident, I heard repeated concerns expressed by Transport Canada witnesses regarding their inability to respond effectively as regulators to an increasing demand for air carrier certification, inspection, and surveillance services. According to the witnesses, the certification, inspection, and surveillance workload created by a rapidly changing air carrier industry was not matched by a commensurate increase in resources for Transport Canada's regulatory agency. The resource squeeze stemmed from the almost simultaneous introduction of two federal government policies in 1984, namely Economic Regulatory Reform of the air carrier industry and deficit reduction, a program imposing fiscal restraint on federal government services. The combined effect of these two policies created a difficult set of circumstances for the Transport Canada personnel responsible for air carrier safety.

Economic Regulatory Reform

The changes in regulation of the air carrier industry in Canada followed similar activity in the United States by several years. In 1978 the United States embarked upon a program of deregulation of its aviation industry, removing air carrier route protection as a regulatory requirement and opening the marketplace to any domestic carrier desiring to compete. The United States government's objective was to allow increased competition within the air carrier industry that would result in substantially lower air fares for the consumer.

A similar move was contemplated in Canada when the minister of transport, the Honourable Lloyd Axworthy, on May 10, 1984, announced a new Canadian domestic air policy appropriately termed "Liberalization of the Canadian Air Transportation Industry." Mr Ramsey Withers, who was then deputy minister of transport, gave evidence before this Commission. He summed up the policy proposal as follows:

- A. And, really, the gist of the announcement was that the Minister would change, alter or vary any decision that the Canadian Transportation Commission might take with respect to denying the right or the authority for an air carrier, Canadian air carrier,

to serve two points in Canada. New Section 64 of the National Transportation Act [sic] [was] to do that.

And so this had the impact of then saying, all right, carriers, away you go. You can, if you want, these routes that are, you know, designated between city pairs in Canada for one carrier that in the future, two, three or four even might be able to provide service. So that happened in 1984.

(Transcript, vol. 164, p. 8)

Transport Canada's Ontario Region office reacted to the Axworthy proposal on deregulation by initiating an independent assessment into the potential impact of the policy. Of particular concern was the ability of the Aviation Regulation division to fulfil its mandate of ensuring that the air carrier industry was operating in compliance with safety standards. This assessment, entitled "Impact of Deregulation" (May 10, 1984), cited a number of expectations as a consequence of the new policy that, in retrospect, were remarkably accurate.

On July 24, 1984, these concerns were communicated to Transport Canada in Ottawa in a memorandum titled "Deregulation - Regional Impacts" from the Ontario regional administrator, Mr Douglas Lane. One of the conclusions of the accompanying assessment report was that there were already, in 1984, some indications of a heavier workload associated with deregulation due to a greater number of air carriers, mergers of existing carriers, and increases in the number of aircraft types being operated. The report warned that significant further increases in workloads were almost certain to be experienced in air carrier certification, airworthiness inspection, personnel and aircraft licensing, and enforcement and surveillance.

Mr Lane's memorandum to Transport Canada senior management was a clear warning that certain steps needed to be taken immediately to deal with the escalating workload, beginning with staffing of the regulatory function to the A-base level. He stated in his memorandum:

[T]here needs to be discussion and decision at the most senior levels on the priorities of accommodation and tasking together with acceptable levels of staff diversions in all elements of the organization from certification through surveillance in the regulatory functions to CFR in the airport functions for each of new, expanding and existing services. As an immediate and minimum first step, however, staffing the Regulatory function to the accepted A-Base levels should be authorized.

(Exhibit 1147)

On August 21, 1984, the administrator of CATA, Mr Gordon Sinclair, responded to Mr Lane's memorandum by congratulating him and citing it as "an excellent managerial effort to cope effectively with change"

(Exhibit 1146, pp. 2-3). Mr Sinclair went on to say that he agreed that obtaining adequate regulatory resources was a top priority:

I agree strongly with several of your key points ... Specifically, I agree that:

- (1) Obtaining adequate additional regulatory resources is a top priority. We must maintain adequate surveillance and we must process carrier applications and proposals sufficiently quickly that CATA does not become the bottleneck obstructing quick implementation of the new Canadian air policy, yet without lowering our standards.

While the headquarters reaction was positive, I could find no substantive response to Mr Lane's proposal. In fact, the Ontario Region was left with its existing staff to cope with ever-increasing demands for certification and inspection services as the air carrier industry sought to reorganize itself in an economically deregulated operating environment.

In late 1984 a change in government occurred. The new transport minister, the Honourable Donald Mazankowski, modified not only the name of the air carrier deregulation policy, which now became Economic Regulatory Reform or ERR, but also its scope, which was expanded to include rail and the trucking industry. In the summer of 1985 the government produced a White Paper called *Freedom to Move: A Framework for Transportation Reform*. The essence of the paper is as follows:

The Government wants a new legislative framework for Canadian transportation that will minimize government control over shippers and carriers while ensuring that the public interest is met. Competition will be emphasized. Dispute resolution will be streamlined and made less cumbersome. A new Regulatory Agency will be smaller and more accessible. The emphasis will be on providing transportation services at the lowest possible cost, subject only to the overriding priority of a high level of safety.

(Exhibit 933, p. 2)

In response to concerns expressed by groups such as the Canadian Air Line Pilots Association that ERR would have a detrimental effect on safety, the minister of transport offered the following commitment in his opening statement in *Freedom to Move*:

I would like to indicate unequivocally that the Government will neither propose nor permit any economic regulatory reform that might be detrimental to safety standards.

In a December 1985 brief submitted to the House of Commons Transport Committee, the Canadian Air Line Pilots Association predicted that under deregulation, efficiency and profit would become all-important to the carriers and that the self-policing aspect of the industry would fade. The brief stated:

The level of aviation safety in Canada is, ostensibly, the responsibility of the Minister of Transport, who, through his Department, is charged with establishing certain standards and monitoring the industry to ensure compliance. In practice, the level of safety we have enjoyed in Canada has been dependent on air carriers' willingness and ability to operate to standards well above the minimum demanded by the Department of Transport, and on the efforts of dedicated individuals. Under deregulation, the Department of Transport will, of course, continue to monitor and enforce the same minimum safety standards, but as "efficiency" and profit become all important, the self-policing aspect of the industry will fade. Capital will be forced to trade as closely to the marginal line of safety as the enforcement agency will permit.

The brief further cautioned that the airlines' efforts to reduce costs in order to compete effectively would put negative pressure on safety standards:

In Canada, "Freedom to Move" anticipates new entrants in the airline industry, all of whom will require an operating certificate from the Department of Transport after investigation as to their fitness. "Freedom to Move" also anticipates that airlines will have to reduce their costs to compete effectively, which will put negative pressure on safety standards. At the same time we see a reduction in air inspectors - but are assured that safety will not suffer.

It is noteworthy that the auditor-general, in his report to the House of Commons for the fiscal year ending March 31, 1985, stated that "none of the (Transport Canada) regions was able to inspect all carriers in its jurisdiction at least once a year."

Deficit Reduction: Downsizing

A major factor that contributed to the difficulties encountered in the Aviation Regulation Directorate during the latter part of the 1980s can be traced back to late 1984, shortly after deregulation of the air carrier industry had first surfaced as a government policy. A restructuring of the industry was by then beginning to get under way. Over the next three to four years demands for increased certification, inspection, and

surveillance resulting from mergers, realignment of routes, and the introduction of new carriers and new equipment would be unprecedented. When questioned on the witness stand about the implementation of the policy set out in the *Freedom to Move* paper, Mr Withers, former deputy minister of transport, referred to the dilemma facing the Aviation Regulation Directorate as a result of the two incompatible government policies, ERR and deficit reduction:

- A. You can't talk about it [ERR] without talking about another government policy because while I said a moment ago that, yes, we would implement the policy laid down to us by the Minister of Transport, one is essentially saying in these major policy initiatives, that one is implementing the policy of the government, of the Ministry, of the decisions, the policy decisions of the government.

Yet, another high priority policy decision of the government was deficit reduction. And the first blush of deficit reduction measures hit in Mr Wilson's economic statement of November 1984. And these - these measures that were in that impacted upon the department.

The department took a second blow in terms of deficit reduction targets in the May 1985 budget which was, in financial planning terms, is hard on the heels of November '84.

(Transcript, vol. 164, pp. 18-19)

Memorandum of Understanding, 1985

A memorandum of understanding (MOU) reached in 1985 between Transport Canada and the Treasury Board was to have great influence on operational groups within the department over the long term. Mr Kenneth Sinclair, assistant deputy minister, policy and coordination, in his testimony before this Commission described the MOU as follows:

- A. Yes. The Memorandum of Understanding which emerged from the budget of early 1985, I believe, the M.O.U., sir, was an agreement, an accountability agreement, between the Deputy Minister and the Treasury Board - and the Minister, I would say, and the Treasury Board that in return for the necessary discretion and authority to manage within its resources in a more unrestricted manner than is normal in the public service, the department would be asked over a five-year period to reduce its annual expenditures by approximately \$400 million.

So that at the end of the fifth year our operating reference level would be \$400 million less than at the beginning and you would gradually work down. And that the department in terms of person-years would have reduced its size by approximately

1680 person-years, and that would represent about – approximately 7 percent of the department's resources.

(Transcript, vol. 165, pp. 44–45)

Program Control Board

Mr Withers testified that he became deputy minister of Transport Canada in 1983. The secretary of the Treasury Board advised him at the time that Transport was considered to be a "fat" department with substantial room for overhead reduction. A subsequent consolidation of the department's financial and administrative services was undertaken. In 1984 the Program Control Board (PCB) was set up under the direction of Mr Withers.

Through the deputy minister, the Program Control Board managed the resources of Transport Canada, a department that in early 1991 involved some 21,000 person-years with an annual budget of some \$3.2 billion.

The evidence of Mr Withers highlights both the origins and the intended function of the PCB. Mr Withers stated that in his previous position as Canada's chief of the defence staff, he had used a similar mechanism to appropriate resources at the Department of National Defence (DND). Referring to the DND Program Control Board, he testified:

- A. And the Program Control Board had the task of taking reference levels which were never enough to meet the operational requirements, and making them fit within the envelope, if you will, of that – of the money that was going to be provided to Defence.

That has been an extremely successful method of resource allocation. And, of course, having chaired the board for three years and then as Chief of Defence Staff, having had it – its work serve me, I was very interested in doing exactly the same thing in Transport when I saw, number one, we were faced with substantial overheads; number two, we got a hit November 1984 with the economic statement; number 3, we got a bigger hit in May 1985. Then we – we did set up the Program Control Board, and if I recall correctly, I think we had it running by – about the time that the first hit came out, the November '84 statement.

And its role was to – well, I want to back up again a bit from that. Knowing the status or, if you will, the image that we had in Treasury Board, one of the things that we definitely wanted to achieve was credibility. In large measure, we had advocated the responsibility to challenge to the Treasury Board.

National Defence had done that 15 years previously, and National Defence rebuilt credibility with its Program Control Board to show that anything that was coming forward from

National Defence was really a requirement, and you can count on it being valid and bang. We wanted to use the same devices to get our credibility, to take our responsibility in-house.

(Transcript, vol. 164, pp. 20-21)

Mr Kenneth Sinclair, who has long experience on the PCB both as a member and as chairman, described in his evidence the purpose of the PCB:

- A. To ensure that the department was establishing and maintaining its credibility in terms of the justifications and the ... qualifications required in putting forward submissions to the Treasury Board through the Minister to get the Department the resourcing it requires.

The Deputy Minister also expected the group to – this being the Program Control Board and the secretariat, to be of assistance to the groups in ensuring that all of the elements required in satisfying the central agency were, indeed, fully put forward on a best-case basis.

The Deputy made it very clear that he had an order of priority that was to be used in the assessing of all submissions put forward by the various groups, and that the most pressing priority that was to be given top consideration for the allocation of resources was firstly, safety, security and the health of Canadians.

Recently, we would add to that the environment.

(Transcript, vol. 165, pp. 9-10)

Nielsen Task Force Recommendations, September 1985

In the fall of 1984, one of the government's first actions was to set up the Ministerial Task Force on Program Review under Mr Erik Nielsen to review all government programs and to recommend cuts and consolidations. Nineteen study teams were established to look at different areas. The task force study report dealing with transportation programs recognized the air safety concerns brought out in the A-base review. It recommended as follows:

- a. Immediately increase the resources devoted to licensing, certification and enforcement in the regulation of air safety to the levels advocated in the recent A-base review so as to ensure that the travelling public is protected, and that the industry is offered a reasonable level of service having regard for current and proposed economic regulatory reform.

- b. Pursue the development of meaningful workload determinants to ensure resources keep pace with requirements.

(Economic Growth: Transportation, A Study Team Report to the *Task Force on Program Review* (1985), p. 64)

The study reiterated the need for additional funding of the regulatory arm to assure aviation safety in a deregulated environment:

It seems apparent that the commitment by the federal government to assure aviation safety, particularly in light of the initiatives to reduce economic regulation, will require additional resources. The availability of these resources within the department's proposed budget, i.e. after the significant reductions mentioned in the May 1985 budget paper, has not been obvious. Moreover, the department is going through an internal downsizing exercise that has the potential for exacerbating the shortage in resources that currently exists.

(Exhibit 1145, tab 4, p. 127)

Federal Aviation Administration (FAA) Experience, September 1985

By September 1985 there was, within the Aviation Regulation Directorate in Ottawa, sufficient awareness of a potential problem to cause its management to undertake a number of field trips to the United States. The purpose of the trips was to obtain the benefit of the experience gained by their FAA counterparts after six years of United States air carrier deregulation. The results of these visits are reflected in a trip report prepared by Mr Donald Douglas, then Transport Canada's director of licensing and certification.¹ Mr Douglas's testimony before this Inquiry vividly reflects the FAA perception of the impact of deregulation on that organization, including a doubling or tripling of its certification workload:

- Q. Now, generally, what did they tell you?
- A. They told me that there was a very, very big workload thrown on them in the certification area, and there was real urgency to expedite things, new people were wanting to start up airlines without any notice, some of the people that wanted to start up new airlines had never been in the airline business before, and they didn't really know what was involved.

¹ "Notes on a CATA Visit to the FAA Headquarters in Washington, D.C. - September 20, 1985" (Exhibit 1104)

And the FAA workload doubled or tripled in certification and trying to educate new carriers as to what was required. A very heavy workload.

(Transcript, vol. 143, p. 42)

The observations contained in the report prepared by Mr Douglas on his Washington trip are revealing. The biggest mistake that the FAA made, according to one of their managers, was its failure to anticipate the tremendous increase in certification and inspection workload that would be generated by deregulation. In addition, the substantially lower experience and competency levels of new entrants to the air carrier industry imposed a tremendous extra workload on the air carrier inspectors:

In [the view of the FAA], "bottom line" drives the operator [carrier] today. This was not the case prior to deregulation ...

... Instances of operators moving into equipment [aircraft] that they were not prepared to handle exist. This resulted in problems with maintenance management. In many cases, it was not possible for the many carriers to find maintenance people with the proper background. It was somewhat easier to find pilots, however, this also resulted in a great need for training.

The demand for training and monitoring of training became very time consuming for FAA people and combined with this, many management people in the new companies were not familiar in any way, shape or form with aviation operations and this created a tremendous work load for air carrier inspectors.

(Exhibit 1104)

Mr Douglas's focusing of attention on the doubling and tripling of the certification workload experienced by the FAA after deregulation should have been a clear and salutary warning to senior management in Transport Canada who were charged with the responsibility of fulfilling the minister's commitment not to permit ERR to compromise safety standards.

It is interesting to note that Mr Douglas makes the following statement in his report on the Washington trip: "At the time of deregulation in the United States, there was a major political thrust to reduce the size of government and this complicated the work of the FAA." There is no doubt that the situation in Canada to a large extent paralleled the American experience. The fact that the FAA experience, as reported by Mr Douglas, did not trigger alarms in the upper management strata of Transport Canada is incomprehensible. The two policies, Economic Regulatory Reform and deficit reduction, produced predictable side effects. A substantial escalation in new air carrier certification activity and a greater need for surveillance of existing air carriers created

workload increases of as much as 400 per cent. At the same time, there were insufficient and diminishing numbers of qualified certification inspectors and support staff.

Mr Ian Umbach, superintendent of air carrier operations, large air carriers, in his testimony made reference to the Douglas Report and provided graphic insight into the problems facing air carrier inspectors, as seen at the working level:

Q. And were you making submissions to your superiors saying, look, I need more staff?

A. Yes.

Q. So your numbers were a part of that 1,150 [person-years] requested?

A. Yes.

Q. And what signals were you getting from above, from your superiors?

A. Other than losing a PY [person-year], we were getting no response.

Q. And what were the reasons – what was your understanding?

A. We were downsizing.

THE COMMISSIONER: You were what; you were downsizing –

THE WITNESS: Downsizing.

THE COMMISSIONER: – in staff?

THE WITNESS: Yes, sir.

Q. So in effect, you were asking for more inspectors, but in fact, they were taking inspector positions away from you?

A. Yes.

Q. And what about your workload? Were they reallocating your workload or requesting you to do less work?

A. No.

Q. What was happening?

A. We were doing more with less.

Mr Umbach went on to say:

A. And we were increasing our overtime. We were waiving more PPCs [pilot proficiency checks] than we used to do. We were paying less attention to certain areas than we used to.

I was trying to offload some of our normal surveillance responsibilities. And we, in effect, were trying to do as much as we could with the people we had.

(Transcript, vol. 138, pp. 80-82)

Mr William Slaughter, director of Transport Canada's Flight Standards Branch, when questioned as to the transport minister's commitment that ERR would not adversely affect safety, expressed his view that the minister of transport never at any time retreated from that commitment.

Mr Slaughter, however, acknowledged that at least one level of aviation safety had been compromised:

- Q. So the Minister has never backed down from that particular commitment; has he?
- A. Not that I am aware of, no, sir.
- Q. But isn't it a fact that the evidence we have before this Commission from Mr Umbach, from Mr MacGregor, from the Douglas report and from your own agreement, in general, with those reports that safety has been compromised by economic regulatory reform, that it has stretched your resources to the point where you cannot assure the public that the same level of safety is being maintained as was being maintained before?
- A. Yes, sir, we certainly have indicated that we can't maintain the monitoring of the industry that we would intend to in the interests of safety, yes.

(Transcript, vol. 147, p. 88)

30 THE EFFECTS OF DEREGULATION AND DOWNSIZING ON AVIATION SAFETY

“Aviation Safety in a Changing Environment,” May 1986

By May 1986 the warnings generated by the Federal Aviation Administration (FAA) experience with deregulation, combined with the already present effects of Canadian Economic Regulatory Reform (ERR), prompted the Aviation Regulation Directorate to prepare a report, “Aviation Safety in a Changing Environment,” for the department’s senior management. This report, referred to throughout the Inquiry as the Douglas Report, after the principal author Mr Donald Douglas, warned of the impact of ERR on the Canadian air carrier industry. It recommended measures for Transport Canada to take in order to cope with the anticipated increased workload resulting from ERR. It is of significance in this review of the effects of ERR to recall Part Five of my Report wherein I examined in detail the experience of Air Ontario as it positioned itself to meet the challenges and opportunities of a deregulated Canadian air carrier industry. The Douglas Report of May 28, 1986, outlined a number of already occurring and anticipated consequences of ERR, many of which appear prophetic in their application to the Air Ontario scenario:

- Higher rate of formation of new companies;
- Expansion of the number of bases of operation of existing companies, especially in geographic regions outside of their existing field of operations;
- Introduction of new and larger aircraft into existing companies;
- Increased leasing of foreign aircraft;
- Sharing of aircraft between carriers;
- New management personnel for expansion of companies;
- Thinning of existing management;
- Hiring of personnel who may not be fully qualified;
- Rapid expansion into unfamiliar areas of operation;

- Rapid acquisition of new equipment;
- Increased contracting out of services (training, maintenance, etc.);
- Fixed wing carriers following the lead of rotary wing carriers in becoming more migratory.

All of the above make the regulatory task far more complex than it was prior to 1984.

(Exhibit 1057, p. 11)

In addition, in 1985, following certain accident investigations shortly after deregulation in the United States, the FAA undertook a full-scale inspection program that it called the National Air Transportation Inspection Program (NATI). From NATI, the FAA produced the following list, which was included as Annex B in the Douglas Report.

DEFICIENCIES ENCOUNTERED IN 1985
NATIONAL AIR TRANSPORTATION INSPECTION PROGRAM

1) OPERATIONS

- a) Improper weight and balance control procedures and inaccurate or incomplete records and/or computations.
- b) Inaccurate or incomplete flight and duty time records.
- c) Lack of, inaccurate, or incomplete flight and cabin crew training records.
- d) Lack of, inaccurate, or incomplete flight crew qualification and currency records, including medicals.
- e) Non-compliance with approved manual procedures and checklists.
- f) Flight crews not recording maintenance deficiencies in aircraft log books.
- g) Inexperienced, unqualified, over-extended, and/or ineffective management personnel.
- h) Lack of control of carry-on baggage.
- i) Non-compliance with approved training programs.
- j) Use of training programs inappropriate for the aircraft being used or the operation being conducted.

- k) Flight and cabin crews not having required certificates, charts, equipment, and current manuals in their possession.
- l) Lack of current company manuals at stations.
- m) Lack of knowledge and improper application of the intent of the Minimum Equipment List (MEL).

2) **AIRWORTHINESS**

- a) Personnel not properly trained or authorized to perform Required Inspection Items (RII) procedures.
- b) Improper or lack of performance of RII work.
- c) Lack of or inadequate training programs.
- d) Lack of, inaccurate, or incomplete training records.
- e) Unfamiliarity with company policy, procedures, and maintenance manual requirements.
- f) Continuing analysis and surveillance programs improperly implemented.
- g) Lack of knowledge and improper application of the intent of the Minimum Equipment List (MEL).
- h) Maintenance programs inappropriate or incompatible for the aircraft being used or the operation being conducted.
- i) Inappropriate or absent checklists for maintenance tasks performed or for type of maintenance concept approved for the air carrier.
- j) Incomplete, inaccurate or lack of records of Airworthiness Directive compliance or time control requirements.
- k) Aircraft not properly equipped with required emergency equipment.
- l) Unauthorized or improper modifications and/or repairs.
- m) Inexperienced, unqualified and/or ineffective management personnel.
- n) Open discrepancies after performing major maintenance.

- o) Stations not properly equipped.
- p) Special tools and equipment not available or out of required calibration.

Once again, a number of the items listed in Annex B find direct application in the study of Air Ontario.

The expectations outlined in the Douglas Report proved to be accurate and were realized over the next three years as the Canadian air carrier industry, in response to ERR, underwent a major restructuring. Mr Douglas, in his report, summarized the profound effect of ERR on the Canadian situation as follows:

Economic Regulatory Reform, combined with earlier reform measures and the rebound from the recent economic recession, is having a profound effect on our safety regulation system. These effects are not only in terms of increased workload, with some 80 new air carriers being certified annually, but also in the complexity of the task at hand. Mergers, inter-airline leases, contract maintenance and training are all relatively new phenomena that make the inspectors job more difficult and time consuming. We face these challenges along with the Minister of Transport's public directive that safety will not be compromised by any changes in economic regulation.

(Exhibit 1057, p. 30)

Among the report's 28 recommendations is a call for a detailed review of current resources. The report pointed to the need for increased resources to cope with the demands of the larger and more complex Canadian air carrier industry. The report received wide distribution and was used as a basis for briefing the deputy minister of the day, Mr Ramsey Withers, as well as Commons and Senate committees examining the various implications of ERR.

The Lafleur Memorandum, May 1986

The rapid changes occurring within the air carrier industry had a significant influence on Aviation Regulation personnel, particularly in the Ontario and Quebec regions. On May 22, 1986, some six days prior to the release of the Douglas Report, a comprehensive memorandum produced by R.S. Lafleur, director-general, aviation regulation, to Claude LaFrance, his superior and the assistant deputy minister, aviation group, indicated that the Aviation Regulation Directorate was already in serious difficulty:

I am writing to apprise you of the resource situation in the Aviation Regulation Directorate. As you know, the Directorate carries out the Regulatory Program on the basis of safety standards which require specific numbers of certificates and licences to be issued each year, and specific numbers of inspections and audits to be carried out. Over the past eighteen months, the Minister has made a number of public statements that regulatory reform would not be allowed to compromise safety. In order to ensure that this is the case, the Regulatory Program must be carried out in accordance with the established safety standards. I am concerned that due to resource limitation, particularly as a result of staffing freezes, the Aviation Regulation Directorate is not able to fully carry out the Regulatory Program. For some time now, my managers have brought to my attention increasing curtailment of program activity made inevitable by resource limitations.

(Exhibit 1157, p. 1)

Mr Lafleur pointed to a substantial shortfall in Aviation Regulation Directorate personnel that was being exacerbated by a staffing freeze:

Based on established safety standards, the total requirement of the Directorate is therefore slightly over 1200 person-years. With a current strength of 859, the total shortfall in actual people carrying out the program is 341.

This year, an interim allocation of 909 is being delegated to the Directorate. While this is substantially less than the total requirement of the Directorate, it nevertheless represents an increase over the allocation in previous years. However, with recurring staffing freezes, it has not yet been possible for us to make use of the increase and every time a position becomes vacant, the staffing freeze prevents us from staffing it in a timely fashion. As a result, the Program is losing strength rather than gaining it.

(Exhibit 1157, p. 2)

Given the aviation safety implications contained in Mr Lafleur's memorandum, one would expect it to have been accorded a formal response. I believe it is significant that, despite vigorous investigative efforts on the part of Commission staff, a reply to this forceful and urgent memorandum was not discovered in Transport Canada records, nor could its recipient, Mr LaFrance, while on the witness stand, recall a specific response. The fact that there was no response to the memorandum can only be regarded as a serious omission on the part of senior management in Transport Canada.

Preliminary Review of Aviation Regulation, June 1987

In the months following Mr Lafleur's memorandum, the assistant deputy minister, review (ADMR), conducted a preliminary review of the Aviation Regulation Directorate. A report was not published until June 1987. The objectives of the ADMR preliminary review were:

- to assess the impact of ERR on the Directorate's activities vis-a-vis the American experience with deregulation; and
- to provide a planning base for the upcoming comprehensive audit (1987-88) of the departmental regulatory activities, of which Aviation Regulation comprises an important element.

(Exhibit 1158)

The 1987 report confirmed the fears expressed in the original deregulation impact assessment carried out independently by Ontario Region almost three years earlier. The rate of change within the air carrier industry resulting from the new air policy began in 1985, increased steadily through 1986 and 1987, and peaked in 1988 and 1989. Concerning the explosion of activity in the Canadian aviation industry that began in 1985-86, Mr Withers testified as follows:

- Q. In any event, although the legislation ... was promulgated and became fixed in '88, the activity, the allowance to deregulate in Economic Regulatory Reform, when would that happen and start to affect your department?
- A. Well, the impact started to be felt, to the best of my recollection, in about the '85-'86 time frame, in there, we started to see the emergence of new carriers. We started to see mergers taking place. We started to see what is today for Canadian Airlines International its Canadian Partner system. We had Air Canada's connector system, all of these started to move during that period.

(Transcript, vol. 164, pp. 56-57)

This evidence, indicating that the impact of ERR started to be felt in 1985-86, echoed that given previously by virtually all of the Transport Canada witnesses involved in Aviation Regulation and is confirmed by a large body of Transport Canada internal correspondence provided to the Commission.

If Aviation Regulation was to be in a position to respond to the escalating aviation industry demands upon its regulatory and certification areas, it would have had to take urgent measures to have the required resources and procedures in place in 1985 or 1986 at the latest.

The evidence is clear that this was not done and that the air carrier certification and inspection personnel of the Aviation Regulation Directorate, despite their best efforts, were unable to cope in an effective way with rapidly increasing certification and inspection workloads. When the ADMR Preliminary Review report was published in June 1987, the time for preparation for the onslaught of industry activity had long since passed and the regulators had already been overcome by the events. The executive summary to the report emphasises that this was in fact the case and that the senior management of Transport Canada was, in effect, paralysed by reason of the incompatible policies of ERR and fiscal restraint:

Regulatory Reform of the domestic airline industry was introduced at a time when the department possessed neither sufficient trained resources, the required planning and operational processes nor the necessary enforcement capability required to effectively monitor and foster aviation industry compliance with established safety legislation, regulations and standards. In this respect, the Department has generally paralleled the American experience with deregulation.

The 1984 decision to relax the regulation of the domestic airline industry, combined with an improved economic situation and the expansion of the Aviation Regulation mandate, have all served to amplify problems which have compromised the Directorate's effectiveness in the past. Specifically, the following major areas of concern were noted during the preliminary (1987 ADMR) review:

- a) The shortage of trained, experienced inspection staff and other personnel has seriously impacted on the Directorate's ability to effectively perform its mandated tasks;
- b) The increase in certification workload under ERR, resulting from the need to service new and expanding air carriers, is affecting the Directorate's ability to effectively complete its ongoing inspection program, and thereby assure industry compliance with established legislation, regulations and standards;
- c) The Directorate's current program of monitoring air carriers and related maintenance organizations is inadequate to assess the level of compliance of the commercial aviation industry with established legislation, regulations and standards;
- d) The lack of a sufficiently integrated enforcement program and comprehensive system of administrative fines may negatively impact on the Directorate's ability to foster commercial aviation compliance with safety legislation, regulations and standards;
- e) Concerns regarding the system of actioning departmental responses to CASB findings, combined with the possible legal implications arising from the performance of confidential safety surveys, may also implicate the Department should a serious accident occur. Limitations in the area of aviation occurrence

analysis and the perceived need for a more coordinated regional effort in the performance of safety analysis and promotional tasks, may involve some duplication of effort and could preclude the most effective allocation of limited resources to areas of greatest aviation risk.

The report went on to state:

Meanwhile, a vast array of studies of various organizational issues have been completed or are in progress, addressing other management concerns, not necessarily directly related to regulatory reform.

Despite these initiatives, it would appear reasonable to assume that the Directorate is presently unable to provide senior management with sufficient assurance that the aviation industry is in compliance with existing safety legislation, regulations and standards.

(Exhibit 1145, tab 7)

This was the first sign of recognition within the department's corporate body that the warnings of 1984, 1985, and 1986 had become reality and that Transport Canada's Aviation Regulation Program was in serious trouble. That conclusion, drawn in 1987, certainly was supported by evidence before this Inquiry and, indeed, the situation has further deteriorated since that time.

The Inspection/Monitoring Function

As deficiencies in the operation of the Air Ontario F-28 program and in Air Ontario operations and procedures were revealed during the hearings, questions arose as to why these shortfalls had not been identified by the regulator through its inspection process. The Airworthiness and Flight Standards organizations direct the regulatory function of Transport Canada as it applies to the air carriers, and the actual hands-on monitoring of that sector of the aviation industry is performed by inspectors. Compliance with regulations, orders, and standards pertaining to flight operations is monitored by air carrier inspectors and by cabin safety and dangerous goods inspectors. Similar monitoring pertaining to airworthiness and maintenance is conducted by airworthiness technical inspectors.

The testimony of numerous witnesses revealed that many of the inspection programs were in serious trouble during the time leading up to the Air Ontario F-28 accident at Dryden. There was a high turnover of inspectors and a shortage of qualified applicants for replacement, particularly in the Ontario Region. As a consequence of the explosive demands upon Transport Canada, the training of inspectors was

sporadic, inspector competency became questionable, and workloads associated with the increasing aviation activity were excessive.

Air Carrier Operations Inspection

The duties and responsibilities of air carrier operations inspectors are outlined in the Air Carrier Inspection Manual, which sets out the policies and procedures for monitoring air carrier flight operations conformance with the Air Regulations and Air Navigation Orders. The inspectors monitor air carrier operations by conducting in-flight inspections, check rides, audits, and reviews. They also participate in the approval process associated with company certification, including operations manuals as well as flight and cabin crew training programs.

The allocation of responsibility for the inspection of companies utilizing large aircraft was in the process of change at the time of the introduction of the F-28 aircraft to Air Ontario. This transfer was occurring as a result of increased activity associated with ERR whereby regional carriers that were previously equipped with smaller aircraft were in many instances acquiring large aircraft. As a result, some of the responsibility for inspecting companies equipped with large aircraft was transferred from the headquarters heavy air carrier inspector group to the regions. Mr Donald Sinclair, former Ontario Region manager of air carrier operations, reviewed the changes in the operational structure of commercial air carriers as far back as 1980. He advised that these changes had been brought about by a number of companies acquiring larger and more advanced aircraft. Previously, air carriers such as Air Canada, Wardair, and Canadian Pacific were the only companies operating large jet transport aircraft. As companies like Air Ontario and Bradley First Air acquired aircraft such as the F-28 and the B727, regional inspectors had to have type qualifications to conduct check rides on those aircraft. Mr William Slaughter, director of Transport Canada's Flight Standards Branch, explained in his evidence:

- A. So now we have gotten away from weight of aircraft [as a criterion for assigning inspection responsibility]. In fact, some of the traditional regions have large aircraft. Witness Ontario region has First Air as one of their carriers, and First Air, of course, is flying 727s.

(Transcript, vol. 144, p. 24)

Another change at the organizational level was the formation of the headquarters-based Air Carrier Operations International/National Division (Seventh Region). As Mr Slaughter described it:

- A. Fundamentally, the regions apply the operational standards and do the inspections and the headquarters develop the programs.

The seventh region, or the international organization, although they were located in Ottawa, really had regional responsibilities, because they were applying the standards to the specific carriers that were assigned to them.

(Transcript, vol. 144, pp. 22-23)

The changeover in responsibility between region and headquarters was occurring at a time when the full impact of expansion in activity was being experienced. Implementation of such a jurisdictional changeover presented its own problems. Mr Donald Sinclair indicated that the intent of these changes was to consolidate responsibility for the operators of the large air carrier aircraft within the Seventh Region. The process became unwieldy, however, in dealing with companies that operate several types of aircraft; for example, Bradley First Air operated not only the large B727 and the HS-748, but also the smaller Twin Otters; Air Ontario operated not only the large F-28 and Convair 580, but also the Dash-8 and the smaller Beech 99 aircraft.

The reorganization, although designed to improve the regulatory monitoring capability, experienced some difficulty in its early stages. Mr Donald Sinclair addressed the situation:

Q. When is the first time, sir, that you heard of this new, if I can call it, the new methodology going towards the seventh region concept? When did that first come to your attention?

A. It would be some time in the fall of, I believe, 1988. It would have been passed on to me by the regional director, having been discussed at the aviation regulation management board that met four times yearly.

Q. Mr Sinclair, would it be fair to say that in the years '88, '89, when this evolution was ongoing, that the lines of jurisdiction between regions, headquarters, seventh region were fuzzy, to say the least?

A. That is a good description.

(Transcript, vol. 142, p. 16)

The regions were also expected to become more directly involved in inspection processes involving more advanced equipment. In order to deal with the large aircraft now in use in the Ontario Region, Mr Donald Sinclair created the Air Carrier Inspection, Large Aeroplanes Division, in his branch in January 1988. Mr Martin Brayman, superintendent of the section, explained his understanding of its establishment:

- A. ... all the existing regional carriers were moving up into bigger equipment. Several new carriers had made applications for

operating certificates. And I believe Don's idea was to develop a shop in the Ontario region, parallel to heavy air carrier in Ottawa, in order to speed up the certification and inspection process so that we could meet the requirement.

Q. So it was an attempt to meet the perceived and actual expansion of air carrier activity in your region, being Ontario region?

A. That's true.

(Transcript, vol. 131, p. 9)

In this transitional period, the Ontario Region was faced with the introduction of the F-28 operation into Air Ontario.

Ontario Region, Air Carrier Inspection, Large Aeroplanes Division

Mr Brayman assumed the position of superintendent, air carrier inspection, large aeroplanes, in the Ontario Region in January 1988 and shortly thereafter was assigned two new inspectors. Mr Randy Pitcher joined Transport Canada in mid-February 1988 and Mr William Brooks arrived in March 1988. Mr Brayman described the background of these new inspectors as follows:

A. Bill Brooks was an extremely qualified captain. He had been flying Dash 8s for quite some time with City Express and because of that background and experience, fitted in very, very well because, as you know – or don't know – at that time, Air Ontario was undergoing a terrific expansion in London and ... our Dash 8 inspector had left the department, and Bill fitted in and took up the slack.

... Randy's background was somewhat limited. We needed ... someone to go on the F-28.

(Transcript, vol. 131, pp. 10-11)

Mr Pitcher's flying background included time on the Grumman G2 aircraft and the BAC 1-11, which were somewhat similar to the engine output and weight classification of the F-28.

Mr Brayman explained his plans for these two new inspectors. Mr Pitcher was to proceed on the F-28 course as soon as possible, so he could become lead inspector for the F-28 operation with Air Ontario, a position forecast to commence in the summer of 1988. Mr Brooks was to become the principal company inspector for Air Ontario. Air Ontario at that time was commencing its transition to the Dash-8 aircraft, which would eventually replace the existing Convair 580s.

It is symptomatic of the pressures of the times that plans were being made for these two new inspectors to assume such responsibility within the early months of their employment with Transport Canada. Mr Brayman testified that the time required for an inspector to be fully

qualified in all respects was from two to two-and-a-half years. Similar estimates were provided by Mr Donald Sinclair and other inspectors. One of the contributing factors to this fast-tracking of neophyte inspectors into positions of full responsibility was the difficulty encountered by Transport Canada in keeping experienced inspectors. Mr Brayman addressed that subject as follows:

- A. Every time we got a well-qualified inspector, he would either disappear off to the airlines or be snatched up by heavy air carrier in Ottawa. So we went through a lot of inspectors.
- Q. So there was competition for some of your well-qualified people?
- A. During that period, there was competition everywhere. Industry was competing for more qualified people, we were competing for more qualified people. Ottawa, and I refer to air carrier in Ottawa, they were competing. It was a very difficult time for the whole industry.

(Transcript, vol. 131, pp. 25-26)

Operations Inspector Training

As this Inquiry heard of the rapidity with which new inspectors were assigned to responsible positions, I came to doubt the adequacy of their preparedness to assume such authority. Applicants for inspector positions must have certain qualifications, including pilot licences, instrument ratings, endorsements of proficiency on certain types and classes of aircraft, and, in some cases, instructor ratings. There is, however, no available course of instruction or study external to Transport Canada that provides the special skills, knowledge, and techniques peculiar to and necessary for inspection duties.

On March 11, 1991, Mr Richard Peters, chairman of the Aircraft Operations Group (AOG), submitted a brief to this Commission. The AOG represents the civil aviation inspectors of Transport Canada. Mr Peters was granted observer status to this Inquiry. At appendix G of the brief is a memorandum dated February 28, 1991, from the senior inspector of the Vancouver Air Carrier Operations Branch addressed to the superintendent, Air Carrier Operations (International/National). The memorandum emphasizes the importance of training for air carrier inspectors and the inadequacies of present systems:

- 8. Among new inspectors and CCPs [company check pilots] the most often heard remark concerns being thrown to the wolves without adequate training. While Transport Canada has a basic inspectors course, it does not have a program other than OJT [on-job-training] to prepare inspectors for the pitfalls inherent in working with the large aircraft segment of the industry. Similarly, while CCPs

receive training of an ICP [instrument check pilot] nature they are not well informed or aware of their legal responsibilities towards the Crown, nor are they formally advised of pitfalls, or of the support which the Crown would provide in event of challenge or legal proceedings resulting from their actions. These things need to be addressed. We believe that a proper instructional program professionally taught would be of benefit and suggest that a full time person could be employed to develop and instruct a program designed to meet the specific needs of inspectors and CCPs operating on large aeroplanes.

9. Since Air Carrier Inspectors sit in judgement of, and make decisions which can seriously effect the livelihood of others it is important that they have and be perceived as having the full right of and qualification for such authority. Nothing could be more counter-productive to a safety inspection program than to have unqualified people making the observations and decisions. It is, therefore, imperative that the training and qualifications of all of our inspectors be of the highest order (both in the field and at headquarters) and that it be perceived as such. Surely, only the very best people with the best training, would be acceptable for advising the Minister regarding the duties assigned to him by the people of Canada.

During the Inquiry, Mr Pitcher, who joined Transport Canada in mid-February 1988, was questioned about his training with Transport Canada:

Q. ... I just want to narrow down this issue of the delegation of authority first.

If you can recall generally when you received your delegation of authority?

A. I don't recall. I believe it likely was the latter part of March 1988 or April. I really don't remember.

Q. So it would have been within a couple of months, perhaps, of your starting in the position?

A. Yes.

Q. At the time that you received your delegation of authority, was there any explanation or briefing given to you as to the significance of the delegation of authority?

A. I believe I was briefed on what not to do. I can certainly tell you that I was not encouraged or sent out into the field to, sort of, you know, wear my black hat, as it were.

(Transcript, vol. 126, pp. 155-56)

Mr Pitcher provided the Inquiry with an air carrier inspector's work diary (Exhibit 982), which included the following significant items:

1988

- April 22 Received authority to conduct instrument rating and renewal check rides on behalf of TC
- May 9-13 Attended audit training course
- May 19 Conducted aircraft inspection on F-28 aircraft at Air Ontario
- July 29 Commenced training on F-28 aircraft with Piedmont Airlines
- October 17 Commenced TC orientation course and enforcement course
- November 7 Conducted first check rides as check pilot on F-28 aircraft

1989

- January 16 Commenced air carrier inspectors specialist course

The points of concern here are that Mr Pitcher had been delegated inspector authority and was conducting flight checks for instrument rating renewals and pilot proficiency checks on candidates within ten weeks of joining Transport Canada. The instrument flight check instruction he received to qualify him for conduct of check rides was done through a monitoring system with the Transport Canada flight operations organization based at Lester B. Pearson International Airport. The training he had received by that time did not include the Transport Canada basic orientation, introduction to enforcement, or the air carrier inspectors training courses. The remainder of the job-related knowledge he acquired prior to performing these functions was obtained through self-study or by accompanying other inspectors on their routine duties. Most importantly, by November 7, 1988, he was conducting check rides on F-28 pilots, was designated the lead inspector for that aircraft, and was therefore the primary Transport Canada authority for Air Ontario regarding operation of their newly acquired F-28s. He did not, however, attend the air carrier inspectors formal training course until January 1989.

Mr Brooks's training was provided in a similar manner. In fact, Mr Brooks, although appointed Air Ontario principal inspector in the spring of 1988, took the orientation and enforcement courses at the same time as Mr Pitcher. Neither inspector received his air carrier inspector specialty training course until January 1989, yet both had been performing inspection functions since early 1988. They were placed in highly responsible positions during that critical transitional period in which Austin Airways was merging with Air Ontario Limited to form Air Ontario Inc.

I doubt very much that the air carriers and the travelling public were adequately served considering the level of knowledge, training, and inspector competence acquired by inspectors under such circumstances.

The aviation industry and the fare-paying customer are entitled to expect that the inspectors representing the regulatory authority are adequately trained and qualified to perform the duties expected of them, and that they are capable of providing sound judgement in the discharge of their responsibilities. In the case of Mr Pitcher and Mr Brooks, however, there was no formal scheduled training and no certification program provided by Transport Canada to assure the competency that should be a prerequisite to the all-important air carrier inspection responsibilities.

Air Carrier Airworthiness Inspection

Mr Ole Nielsen, airworthiness superintendent of air carrier inspection for the Ontario Region, explained in evidence before this Inquiry that while the region is responsible for the direct monitoring of air carrier maintenance programs, there is ongoing contact by the region with headquarters for policy direction and guidance for unusual situations. Principal airworthiness inspectors are assigned to specific air carriers to monitor carrier operations and to ensure compliance with airworthiness standards.

At the time of the introduction of the F-28 aircraft into Air Ontario's operations in June 1988, Mr Nielsen, as principal inspector for that carrier, was directly involved in the formulation and approval of the initial Air Ontario Maintenance Control Manual (Exhibit 319). He had also participated in the initial airworthiness inspection of the F-28 aircraft being leased by Air Ontario from Transport Aérien Transrégional (TAT) in Europe. In early 1988 Mr Nielsen was promoted to his position as superintendent and was succeeded by Mr Wesley Watson as principal airworthiness inspector for Air Ontario. The inspector filling this position is responsible for followup action with respect to deficiencies identified in audits carried out on Air Ontario's operations. Shortly after Mr Watson's appointment, he too was replaced as the principal inspector by Mr Alexander Brytak of the London District Office. This lack of continuity in the position of principal inspector of the Air Ontario F-28 program was not, in my view, conducive to proper monitoring of that critical program by Transport Canada.

In addition to these personnel and organizational changes in the Ontario Region, Mr Nielsen explained that the Airworthiness Branch of the Ontario Region was beginning to suffer from a lack of experienced inspectors. He said that the more senior inspectors were being attracted to positions with industry, which in effect doubled the salary they were offered by Transport Canada. As a result, less experienced inspectors were expected to assume fairly senior positions because there was no one more qualified left to fill their jobs. Mr Nielsen described the inspection situation in 1988:

- A. We were seven or eight, and so we lost three ...

So Mr Watson ended up taking over as sort of the odd man out, because we didn't have anybody else at the time to handle that, because the other inspectors were already charged with their workloads.

(Transcript, vol. 129, p. 74)

Mr Nielsen confirmed that Mr Watson had, at that time, been less than a year with Transport Canada and had not, to Mr Nielsen's recollection, completed his training or received full delegation of authority. He agreed that Mr Watson had been "sort of thrust into this job in June 1988" because the more experienced inspectors were leaving Transport Canada for higher-paying jobs.

Airworthiness Inspector Training

Mr Nielsen's description of the cursory and unstructured training program that was provided by Transport Canada for its airworthiness air carrier inspectors bears similarities to that provided for air carrier operations inspectors:

- A. So the majority of the training for the first year was on the job. I took a five-week course in Oklahoma City. At that time, it was called the air carrier avionics inspector indoctrination course, and it dealt mainly with the Federal Air Regulations and the application of those regulations in the U.S. It had limited application in Canada, but it was certainly of great benefit to me.

And then the next training we had over that first year – or that I had over that first year was an in-house course on flight authorities, and following that course, and the on-the-job training that I had taken for that first year, I was issued delegation of authority at which time I became responsible for Bradley Air Services, and ... my responsibility for Bradley evolved either concurrently with my delegation of authority or slightly before, I just don't recall.

(Transcript, vol. 129, p. 18)

Mr Nielsen, in addition to his qualifications as an airworthiness inspector, was an experienced albeit not current pilot, a training officer, and a supervisor before he joined Transport Canada. Notwithstanding his previous experience, he testified that it was one-and-a-half to two years before he "felt comfortable in making any relevant regulatory decisions" (Transcript, vol. 129, p. 73).

Both the Airworthiness and Operations branches, then, were having difficulty in the deregulated environment obtaining candidates to be trained as inspectors. At the same time, Transport Canada failed to

provide a consolidated and timely training program for its inspector-trainees to enable them to acquire the competency necessary for credible inspection and surveillance of the air carrier industry.

Inspector Training: General

The entire subject of inspector competency and training has been studied on numerous occasions by internal Transport Canada organizations and through external studies. A preliminary review of the Aviation Regulation Directorate was conducted by the Internal Audit Branch in June 1987. With regard to training, its report stated:

Historically, the Aviation Regulation Directorate has lacked a comprehensive internal training program. Progress is being made but currently there exists no national data base to capture training backlogs and to identify who has been trained and who requires what training. Most of the work to date has been performed without the benefit of a formal comprehensive training policy, with the regional managers being primarily responsible for the identification of training requirements. The development of such a training policy is, however, scheduled for completion in December 1987.

(Exhibit 1158, p. 8)

This report clearly documented the Aviation Regulation Directorate's lack of attention and dedication to training, particularly in view of the increasing shortage of experienced inspectors. It pointed out that, as a result, mandated tasks were performed with "a significant number of new, inexperienced staff."

In 1988 a special report was prepared for the director-general, aviation regulation, that was intended to assess the impact of the issues raised by the Internal Audit Branch. Following are excerpts from that document with respect to training:

Although recruitment provides candidates with basic qualifications there is no source-market of fully trained and qualified inspectors. The aviation industry has the right to be assured that inspectors, who will assess its performance, have the necessary skills, knowledge and experience. Failure to provide that assurance leads to reduced credibility, distrust and eventual disdain of the regulatory function. It is imperative therefore that sound training be provided and inspectors be certified as having achieved accepted levels of competency prior to assuming an official inspection role.

...

[Transport Canada should] [d]esign a comprehensive training policy to address the entire training needs of Aviation Regulation from entry-to-retirement. The policy should assure certification and

recertification of competencies throughout careers thereby ensuring technical knowledge and expertise at a level which should be expected by industry and consistent with a clear role statement.

(Exhibit 1313, pp. 10, 14)

In August 1989 the Management Consulting Services Branch of Transport Canada issued the Review of Civil Aviation Inspector/Engineer Technical Training Program, which reiterated many of these recommendations, particularly with regard to basic training:

The initial basic training for all Civil Aviation inspectors/engineers, with the exception of Air Worthiness inspectors, should be provided in a single segment course string consisting of the Introduction to Enforcement Course followed by the Basic Specialty Course. This training should be provided to new inspectors/engineers within the first three to six months of employment.

(p. 39)

The study called attention to the delay in providing a sound training policy for the Transport Canada aviation organization:

A Civil Aviation Inspector/Engineer Technical Training Policy has been in draft form for over two years. This policy endeavours to specifically describe the key mandatory elements of the inspector/engineer technical training program and the role of AARE [Director Inspector/Engineer Training and Development] and the other organizations in support of them.

The policy has never been fully developed to categorically define the technical training program and the associated roles and responsibilities of not only AARE but the other Aviation Group organizations supporting the program. A recent revision to the policy has been proposed for senior management approval. This policy is a basic statement identifying the framework and sequence for technical training courses for inspectors/engineers.

The policy should cover the total technical training lifecycle in terms of structures, process and associated roles and responsibilities, to ensure that all critical elements of an effective training program are clearly enunciated. The policy should also address other areas of inspector/engineer training to ensure the organizational mandate for each aspect of the total program is well understood.

(p. 55)

The subject of inspector training has been studied over a considerable period of time, but with little result. Inspector training that ensures the operating integrity of our nation's air carriers is in my view essential. The time has come for Transport Canada to take positive action to provide clear policy in this vital area and to implement an effective inspector training program.

Delegation of Authority

The minister may delegate authority to approved individuals and agencies, both within and outside the government. A document, known within Transport Canada as "The Delegation Document" (Exhibit 958) dated May 28, 1990, contains 58 schedules, each of which indicates the authorities that may be delegated to the incumbent of a specific Transport Canada position. The document contains a proviso that "This authorization may be limited by superior officers in respect of subordinates who lack the knowledge, experience or training needed to exercise the powers listed in the schedule or who are not required to exercise responsibilities related to such powers." A statement on an individual inspector's identification card indicates which of these schedules of authorities have been so delegated. Inspectors also receive credential cards identifying them as persons authorized to make inspections and inquiries in accordance with the provisions of the Air Regulations.

Delegation may also be made to appropriate segments of industry such as designated flight-test examiners, company check pilots, and approved maintenance organizations. These persons or agencies may be approved to provide services, perform inspections, and conduct check rides, and their authorities are usually provided in the form of written letters of authorization.

These two aspects of delegated authorities were addressed in some detail during the hearings. Points of concern were raised regarding the apparent inability of Transport Canada to provide enough qualified inspectors to perform all of the inspection duties demanded of them. Time and again, when faced with questions why a certain regulatory function, such as an inspection, was not performed or a Transport Canada check ride waived, the responses were that there were insufficient qualified personnel available to meet such demands. Inevitably, questions arose as to alternative methods to provide such surveillance and the possibility of delegating further authority to qualified sectors of the aviation industry. Questions also arose as to the competence of inspectors to perform their delegated functions as well as their availability to conduct such activities.

Delegation of Authority to Inspectors

Transport Canada was experiencing obvious post-deregulation problems in attracting suitable applicants for inspector positions, retaining them, and providing adequate and timely training. Inspectors Brayman, Donald Sinclair, and Nielsen expressed the view that inspectors were not qualified to conduct all of their inspection duties until they had been on the job for anywhere from 18 months to two-and-a-half years. Nevertheless, these witnesses testified that inspectors such as Mr Pitcher and Mr

Brooks were issued credentials authorizing their delegation of authority as trained and competent inspectors prior to completion of their formal training. The training that was planned or proposed for these inspectors seems to have been designed to prepare them, in terms of knowledge of their duties and the regulations, to a level that would support the delegation of authority. However, evidence indicates they were assigned these tasks and responsibilities before they were properly trained to fulfil them.

I have concluded, therefore, that the Transport Canada training policy and program for such inspectors was inadequate and, as a consequence, the organization was not able to assure the competency of inspectors at the time they were issued their delegated authority. In view of these inadequacies, the workload expected and demanded of the Aviation Regulation Directorate exceeded the capability of its workforce. Other means should have been devised to provide surveillance at a level necessary for the assurance of aviation safety. Further delegation of some regulatory functions was one option.

Delegation of Authority to Industry

Additional delegation of aviation regulation authority to external agencies has been the subject of previous studies conducted by or on behalf of Transport Canada in 1982, 1986, 1987, and 1988. Although each of these studies recommended additional delegation, there is little evidence of any consequent action. The latest study, conducted by Transport Canada's Management Services Branch in 1990, examined the present system of external delegations, alternatives of additional delegations, and their impact on the regulatory programs and its resources. Recommendations were, once again, made for further delegation of certain authorities to persons or agencies external to Transport Canada.

The 1990 Management Services study concluded that a potential exists for delegation in several areas that would yield an annual estimated savings to Transport Canada in the range of 86 to 90 person-years. The study warns, however, that its specific recommendations should form only a basis for discussion and that detailed risk assessment must be made as part of the analysis process. Many of the proposed delegations would require the cooperation of industry and considerable consultation. The report suggests there is potential for additional delegation of the following regulatory functions:

- Expansion of the check pilot program to individuals outside of air carriers (e.g., qualified freelance training organizations);
- Registration of aircraft and approval of markings;
- Development, administration, invigilation of certain functions of personnel licensing;

- Expansion of the airworthiness inspection representatives' (AIR) authorities;
- Expansion of the designated flight test examiner (DFTE) program to include foreign-based IFR flight tests for renewal of Canadian pilot licences; and
- The designated amateur-built inspection program.

(Based on Exhibit 1315, pp. 2-3)

The study also recommends in-depth consideration of the possibility of delegating flight standards and airworthiness audits to third parties.

The study observes there is a need for consensus within Aviation Regulation as to the desired focus of Transport Canada programs for the future. The questions raised by the study include the extent to which the focus should be on service versus regulation; the extent to which service activities contribute towards improved compliance; and what the implications for safety will be.

Mr Weldon Newton, then director-general of aviation regulation, expressed his views on this subject as follows in his testimony:

- A. The delegation document focuses primarily, if not exclusively, on the level of service to the industry. Can we structure our programs that are services to the industry so that they can basically self-serve, get our resources out of these delegated areas and put them into the discretionary areas of monitoring and surveillance and investigation.

In other words, can we extricate ourselves from the service areas and put these into the more hard-core regulatory activities. That is the madness in the method if you will.

- Q. The madness is or the rationale I take it then is if industry can do it, and you can monitor the industry's activity, you can do so with less inspectors and less PYs [person-years]; is that fair?
- A. Well, I can take those PYs and put them into other activities. The activities like audits, surveillance and those types of things. I'll reprofile them. I won't let those people go. If I can delegate an activity and I save 14 PYs, the objective is not downsizing, the objective is to take them out of that activity and put them into these discretionary things like surveillance and vigilance and monitoring of the industry.
- Q. Recognizing that you still have to monitor what you have delegated out?
- A. Correct. That is ... in the model.

(Transcript, vol. 161, pp. 93-94)

In summary, Mr Newton supported the proposal of further delegation of some inspection duties he considered non-critical, thereby allowing more dedication to surveillance and monitoring of safety-sensitive activity.

Mr Slaughter expressed views which, if accepted, would see further delegation of authority to industry. In his opinion, there would not be any further loss in safety assurance, provided there was adequate monitoring. He explained his priorities in a memorandum of October 9, 1990, outlining operational priorities:

More and more the Air Carrier Inspectors will change from active and direct participation in conducting PPCs [pilot proficiency checks] on air carrier pilots to a function of overseeing and monitoring the safety of the air transportation system by ensuring that designated Check Pilots are closely monitored to ensure that they are providing the highest possible standard of operational safety, and by monitoring and evaluating the air carrier operational activities on a continuing basis.

(Exhibit 1119, p. 2)

One section of the AOG brief mentioned above outlines the regulatory functions performed by the air carrier inspectors and their concerns regarding possible further delegation of such inspection authority to the private sector. The brief addresses the conduct of proficiency checks and the conditions under which those checks could be delegated to air carriers. The submission represents the concerns of the civil aviation inspectors at present engaged in such operations and points out the pitfalls of further delegation. Particular emphasis was placed on possible conflict of interest, pressures of an economic nature, lack of proper training courses for company check pilots (CCPs), and the likely pressures of additional duties usually assigned to persons to whom the CCP authority might be delegated. The consensus of this group is that the delegation of CCP authorities to industry has reached its maximum effective and safe limit and that any further delegation would have an adverse effect on the assurance of aviation safety. There is a case to be made for both sides of the argument on further delegation of inspection authority to the private sector.

In September 1988 the deputy minister of transport initiated an Evaluation of Aviation Regulation and Safety Programs. The consultant firms of James F. Hickling and Sypher-Mueller International were engaged to assist with that study. On receipt of their final reports to the deputy minister's committee, the staff of Transport Canada's assistant deputy minister, review, produced a consolidation of those studies that was provided to the Commission. In regard to delegation of authority, that review stated in part:

In view of the shortage of experienced trained inspection staff, it is suggested that much more regulatory activity be delegated to appropriate segments of the industry: for example, initial and

renewal PPCs to Designated Flight Test Examiners (DFTEs); IFR checks (to the extent they are still needed) to DFTEs; greater approval authorities for DARs [design, approval representatives], and Approved Maintenance Organizations (AMOs); more delegation to Company Check Pilots; etc.

(Exhibit 1323, p. 10)

The review recommends "more effective use of resources through delegations and training" (Exhibit 1323, p. 27). It suggests a number of other areas for further delegation, with the proviso that emphasis would then be placed on a Transport Canada role of checking-the-checkers. The document proposes careful selection of agencies to be granted such authority, based on demonstration of a high level of competence over several years. Programs that delegate authority to outside agencies have been in effect for years and have been quite successful. In fact, some of these programs were implemented and delegated to industry.

Witness Views Regarding Delegation of Authority to Industry

In general terms, there seem to be two opinions that evolve from the evidence received. At the working level – the inspectors, lead inspectors, principal inspectors who deal with the air carriers on a regular basis, and those members of the regulatory group involved in enforcement – there is concern about further delegation. Mr Brayman was not averse to further delegation of pilot proficiency check authority to company check pilots, provided the check system assured their competency. Mr Umbach, however, expressed the view that the maximum practicable level of delegation had been reached and that further delegation would degrade the level of safety assurance. The inspectors who testified before this Inquiry in general were of the view that more hands-on participation by Transport Canada inspectors in the ensuring of conformity with regulations is necessary to improve the effectiveness of the regulatory program.

At the more senior levels, which are more directly subjected to pressures to manage better with fewer resources, there is a tendency to favour more delegation to industry. Numerous studies support delegation under responsibly controlled conditions.

It seems certain that economic restraint will limit available resources even for the important Aviation Regulation program. Further delegation seems the only reasonable alternative to a desirable but unattainable increase in resources. I am convinced that such additional delegated activity can be conducted in a satisfactory manner, provided vigilant monitoring of the process is sustained and supported by prompt and firm enforcement action where warranted. Care must be taken, however,

to redirect resultant resource savings to bolster safety assurance programs that require additional resources.

Inspection Performance

Discretionary/Non-Discretionary Tasks

The tasks performed by aviation regulation inspectors are described as being either discretionary or non-discretionary. The classification of these tasks has bearing on the priorities that are allotted to them and the weight factors applied to their value in the formulas used for identification of human resource requirements.

During the testimony of various witnesses from Transport Canada, the use and interpretation of the terms "discretionary" and "non-discretionary" received considerable attention. Witnesses Mr Ronald Armstrong, Ontario Region's director of aviation regulation, and Mr Weldon Newton, Transport Canada's director-general of aviation regulation, both described discretionary activities as those such as audits, surveillance, and ramp inspection. Non-discretionary activities were described as those that were required by regulation to allow an air carrier to operate. For example, activities pertaining to the issuance of an operating certificate would be non-discretionary.

Mr Newton explained the implications of this requirement to give priority to non-discretionary tasks versus those classified as discretionary:

- A. So what you tend to do is you will take your resources from the audit, the surveillance and those activities and you put them into the certification activities. You know, as the client is screaming at the door and saying, I want you to certify my carrier, that you will add the necessary resources from – you will basically take them from the discretionary surveillance side and put them into the level of service side to certify that carrier.

It is a short-term solution to serve the industry but on a sustained basis, it becomes a problem because you then are taking your resources and you are reprofiling them into these service areas at the cost of the surveillance of the industry.

(Transcript, vol. 161, p. 95)

This statement succinctly described the dilemma Mr Newton faced as the senior aviation regulator providing direction and stating priorities for his staff. Federal legislation requires that certain standards of certification and licensing be observed by the air carriers. These regulations include applications for and issue of operating certificates, operational specifications, manufacturing and maintenance procedures, pilot licences, instrument rating tests and renewals, and pilot proficiency checks.

Having legislated such requirements, it follows that the Aviation Regulation organization is bound to provide the inspectional and administrative services required by those regulations. Such services must be delivered as a matter of priority. Other inspection functions of surveillance and monitoring of the performance of the industry through audits, ramp inspections, and in-flight inspections, although high in safety assurance value, fall into the category of non-discretionary tasks.

This is the dilemma that the regulator must confront in the allocation of priorities to workloads. The problem is particularly acute when periods of high demand combine with deficit reduction and associated resource limitations.

Inspection/Surveillance Priorities

The value of various forms of air carrier surveillance and inspection became a contentious point during the Inquiry. A memorandum dated October 9, 1990, from Mr William Slaughter, director of flight standards, to the air carrier inspection group outlining operational priorities was introduced as Exhibit 1119. A number of witnesses expressed disagreement with the order of those priorities, which placed air carrier audits ahead of in-flight inspections.

Mr Ian Umbach, superintendent of air carrier operations, offered the opinion that in-flight inspections provide the greatest value in assuring industry compliance with safety-related regulations and practice:

- Q. Now, as an inspector, what is the best way to maintain what I will use as safety assurance? Your knowledge that you have a good feeling for safety assurance?
- A. I feel the best is in-flight inspections, what we call in-flight inspections.

(Transcript, vol. 138, p. 51)

Mr Umbach stated that he and other inspectors on his staff had become increasingly uneasy because of their inability to monitor a broad enough spectrum of the industry. He pointed out the fact that some of the pilot proficiency checks were being waived and that in general the regulator was unable to provide the safety assurance monitoring required during that period. He was emphatic in his support for in-flight inspection, pointing out that it is the most effective means, in his view, of monitoring the entire company. On Mr Slaughter's priority list, however, in-flight inspections ranked number 10 on the list of 12 priorities.

Mr Martin Brayman, another very experienced inspector, commented on the value of in-flight inspections as follows:

- A. A flight check [in-flight inspection] is different. A flight check is carried out by an air carrier inspector, and it not only checks on

the conduct of the flight by the pilots but it checks upon all other aspects of the company operation. And in fact, could almost be classed as a mini-audit en route.

Q. A mini-flight audit?

A. Exactly. But more than just a flight, because you are checking – you are checking their bases and the way they turn airplanes around. You are checking quite a list of areas.

Q. So I take it, then, there's a lot of value in doing a flight check by Transport Canada inspectors?

A. It's probably the primary method of establishing compliance.

(Transcript, vol. 131, pp. 161–62)

Mr Newton stated that there had been a difference of opinion within the aviation regulation program, for as long as he had been director-general, as to the relative merit of in-flight inspections and audits. He said there was no unanimity or solidarity among the inspectors that in-flight monitoring is of high value. Mr Newton's evidence indicated his disagreement with the inspectors who regarded in-flight inspections as an in-depth examination and an excellent method of assessing a company's overall operation:

A. ... I am talking of an inspector that walks in an aircraft, sits in a jump seat for two legs of a flight, okay, and just simply observes crew coordination and walks off at the end of the flight without filling out any test failing anyone, okay.

(Transcript, vol. 161, p. 106)

Mr Newton expressed his preference for audits of air carriers rather than in-flight inspections:

A. ... I tend to favour audits.

Q. Which looks at the system?

A. Which looks at the system. But with audits there's bureaucracy, there's reports, there's controversy, there is a whole process.

An inflight inspection, you get on the aircraft, you get off after two legs, there is very little bureaucracy.

(Transcript, vol. 161, p. 108)

If Mr Newton's perception is correct, then one would be hard pressed to disagree with him. There would be little value in an in-flight inspection conducted in such a manner. However, Mr Newton's concept of how these inspections are conducted is at conflict with the actual inspection process as delineated in the Air Carrier Inspection Manual. Further, Mr Newton's opinion is clearly in conflict with the opinions of technical experts in his directorate. Having heard all of the evidence, and not in any way discounting the value of audits, I am convinced that a

properly executed in-flight inspection provides the best opportunity to view all components of an air carrier's operating system in a day-to-day operation. Mr Brayman described such inspections as "mini audits." Surely, if properly conducted, there can be no better way to monitor a flight operation.

Mr Newton's preference for the accounting precision provided by the inspection and systems examination inherent in audits is understandable. They are, however, resource intensive, and may not provide the most cost-effective method of safety measurement within existing resource constraints. In the case of Air Ontario, the Transport Canada audits clearly did not provide better safety measurement within the limits of existing resource constraints. It appears that the values of audits may be more appreciated by the senior management of Transport Canada, who may use the results to indicate work accomplished. Perhaps that viewpoint is understandable in an atmosphere of continual pressure to demonstrate greater productivity with diminishing resources.

Workload

Mr Donald Sinclair, Ontario Region's air carrier operations manager, explained at considerable length the serious effects resulting from the lack of trained inspectors in his area of responsibility:

- Q. Now, with the kind of experience that you have had during the years '87, '88, '89, do you think that aviation regulation could deliver safety assurances with the kind of staffing that was available?
- A. Not what we had in the Ontario region, in my particular area, no.

(Transcript, vol. 142, p. 100)

Mr Martin Brayman, superintendent of heavy air carrier inspection in the Ontario Region during the period of transition of Air Ontario, made several references in his testimony to the seriousness with which he viewed the increased workload and shortage of personnel. He explained that there was a continually increasing demand on inspector time and that the lack of experience and the dearth of qualified inspectors seriously affected the ability to monitor the industry. He expressed the opinion that during the expansion period 1987-88, no inspector "kept up with all the areas that he was responsible for" (Transcript, vol. 131, p. 105) and that "telephones in those days were melting down going from morning till night" (Transcript, vol. 131, p. 20).

Mr Ronald Armstrong, Ontario Region's director of aviation regulation, provided a concise description of the background and "explosion

of activity" affecting the regulatory workload during this period of expansion:

Q. ... So would you agree that there was a fair amount of expansion, aviation expansion, in '88, '89?

A. I'd say before that. '88 '89, I think, were just at the end of the expansionary, pretty well at the end of the expansionary period. The big bulk would have been '86 to mid '88, early '89.

Q. And what was going on in region at that time, your understanding?

A. Basically, an explosion of activity. The *National Transportation Act* had been amended so the filter that the Canadian Transport Commission used to give the department had been removed.

Previously you needed to prove public need and necessity and go through the challenge process there and then the successful candidate would come over to us for an operating certificate.

Well, that filter was removed, and anybody who wanted to start an air carrier service and could find the funding for it could apply.

So ... that was what was happening. Charter companies came and have subsequently gone. Some even tried to come, Regent comes to mind, and although a lot of activity gets put into it, it never comes to fruition and never is issued the operating certificate and got up and running and that.

So there was a lot of certification activity taking place. New companies coming on stream, changes in equipment of the companies, and a general lessening of the experience level at the regional carrier as ... the pilots tended to get drawn up the hierarchy. Had probably its most dramatic effect on the flying training industry where the senior people there were taken into the regionals.

Coincident loss of experienced inspectors within the region, not necessarily the department as a whole. Changeover in management, new route structures.

Q. And mergers?

A. Mergers, failures.

Q. What sort of workload was this placing upon your region?

A. A very heavy one. The activities rather dramatically increased in the number of pilot proficiency checks that went on. Air carrier branch would have gone, from '84-'85, from 782 PPC instrument rides to '89-'90, 1,921. Almost threefold increase in PPCs.

Inflight inspections doubled during that period, '84-'85 to '90. The basic number of companies pretty well stayed static. As somebody would come in, somebody else would drop off. So it wasn't per se the number of air carriers, it was the activities that those air carriers were getting up to and then the workload involved with bringing somebody on and somebody dropping off the bottom.

Pretty steady, about 30 new companies – 30 to 40 new companies every year, but 30 to 40, almost, companies failing every year.

Q. And I take it a lot of this activity was occurring right in your region?

A. Yes.

(Transcript, vol. 124, pp. 115–17)

Mr Ian Umbach, superintendent of air carrier operations, large air carriers, described the demands on workload, particularly the similarity of effects in Canada with the introduction of ERR to those experienced in the United States during deregulation:

Q. Now, did this similar circumstance happen in Canada?

A. Indeed it did, yes.

Q. Can you comment on it, what was happening?

A. It presented us with an enormous workload that we had great difficulty coping with. We had to virtually lead each carrier by the hand into the jet transport world, starting with top management right down to the flight crews.

We ended up, in many cases, including me, going 30 days at a stretch without a day off.

(Transcript, vol. 138, p. 29)

And similarly:

Q. Can you describe to us your experience in Canada as a result of ERR and the rapid expansion of the carrier industry?

A. It was – as described here, it was an extremely difficult time for us. We – as I pointed out earlier, it was not uncommon for us to go 30 days at a time without a day off.

We were losing inspectors to new carriers, usually our most experienced and most capable inspectors. Recruitment was extremely difficult.

The atmosphere was one of constant crisis, increase in pressure, incessant and strident demands for our services from industry, from the regions and internally.

...

Q. ... what do you mean by incessant and strident demands?

A. The phone would never stop ringing. Carriers needed approvals immediately for a training program. We had sometimes little or no notice for PPCs. The schedule would change. A new carrier would appear out of nowhere saying, I want to start flying.

The regions were experiencing exactly the same problem we were and they would come to us for help. We had a large number of flight operations manuals that required approval, a large number of training programs that had to be approved, and a large number of MELs that required approval.

Each of those, naturally, to the carrier, was a priority. To the region, it was a priority. And we would get priority on top of priority, and ... I can truthfully say it was probably the worst experience of my professional life. I would never want to go through that again.

(Transcript, vol. 138, pp. 41-42)

Perhaps the best example of the frustration levels reached by the inspection groups because of their inability to meet increasing workload demand was expressed in the memorandum from Mr Neale MacGregor, acting chief, air carrier operations, to the director of flight standards, aviation regulation directorate, January 20, 1989. The memorandum states in part:

Prior to ERR the Section was staffed with 30 Air Carrier Inspectors (ACIs) and it was established that an additional 11 were required to meet workload expected to result from increased certification requirements. Since ERR, the workload has increased by over 400%, the Section has lost 5 PYs [person-years], and presently has 3 vacant positions. Of the 22 ACIs on strength, 3 are new-hires and will not be effective until completion of their 2 year training period. This leaves 19 ACIs, including Supervisor staff from an original strength of 30, and a required strength of 41.

As a consequence, we have virtually ceased all monitoring and surveillance of the industry to concentrate exclusively on initial type ratings, captain upgrades, CCP monitors, and certification of new carriers.

The strain on the ACIs is illustrated by accumulated overtime and it is not uncommon to work 30 days without a break. This pace cannot be sustained. To illustrate this point, the Section's overtime budget for FY [fiscal year] 88/89 was \$85,000. In December 1988, authority was received for an additional \$100,000 merely to cover overtime for the remainder of this fiscal year. The overtime equates to 8 PYs, and the problem will become more acute as ACI burnout takes its toll. One Regional ACI is now on extended sick leave (3 months) to recover from overwork, and a Headquarters ACI is also on sick leave due to stress.

(Exhibit 1106, pp. 1-2)

In summarizing the overall situation, Mr MacGregor's memorandum continued:

As one can see, Air Carrier Inspection is no longer capable of meeting even minimum requirements necessary to ensure safety. In fact, it is no longer able to assure the Minister of the safety of large air carrier commercial air services in Canada.

(Exhibit 1106, p. 5)

Seven weeks before the Dryden crash Mr MacGregor warned in the same memorandum that the situation had reached the point where "every ACI [air carrier inspector] and an increasing number of industry pilots are convinced that a major accident is inevitable in this country." He called for an urgent application of resources to correct a rapidly deteriorating situation:

It should also be noted that Air Carrier Inspection is in a similar situation to the ATS crisis currently in media focus at L.B. Pearson International. The situation is to the point where every ACI and an increasing number of industry pilots are convinced that a major accident is inevitable in this country. The trends towards such an occurrence are no doubt irreversible, but the urgent allocation of additional resources to Air Carrier Inspection would at least be the first step in correcting a rapidly deteriorating situation.

It is our contention that any plan to proceed with the National Audit Program should take the foregoing into consideration.

(Exhibit 1106, p. 5)

The reaction to Mr MacGregor's memorandum within Transport Canada, particularly at the senior management levels, was no doubt stimulated by the fact that the memo was leaked to the media. Subsequent internal correspondence within the department tended to discredit the concerns expressed by Mr MacGregor as inflammatory in nature. In that respect, I must say that I have heard evidence regarding rushed introduction of aircraft into service, rushed training without adequate flight simulator access, lack of available spare parts, inadequate flight manuals and amendment services, and inexperienced personnel. These factors, when considered against the existence of a regulatory agency that by its own admission was incapable of assuring senior management that carriers were operating in compliance with regulatory safety standards, lead me to believe that Mr MacGregor's actions were justified, and, indeed, I commend him for his courage.

Clerical Support Staff

A number of Transport Canada witnesses before this Inquiry complained of the apparent lack of understanding at senior levels in Transport Canada of the importance of providing adequate clerical support staff. As a consequence, frequently when staff reductions or staffing freezes are imposed, the support positions are the first to be affected. Situations were described whereby staffing levels did not allow adequate support staff and, consequently, the inspectors ended up doing clerical work at the sacrifice of their regulatory and inspection duties.

Mr Donald Sinclair explained this situation at some length during his testimony. He pointed out that, particularly during staffing freezes, he would on occasion have one clerk to meet the clerical requirements of a staff of about 28 (Transcript, vol. 142, p. 105). In such circumstances, when temporary staff were allowed to fill the position, their lack of knowledge of the administrative process further complicated the situation. His office was responsible for mandatory certification work, including approvals of MELs, flight operations manuals, and recommendations for check pilot authorities, in addition to the inspection/surveillance duties expected of the branch.

This situation was addressed by a series of documents from the Ontario Region (Exhibits 1142, 1143, and 1144). These documents were passed to the assistant deputy minister, aviation, in June 1986. One of these documents, a memorandum from the regional director of aviation regulations, described the situation as "completely intolerable," and added:

Those problems are not simply a lack of staff but include additional workloads imposed by the freeze; compilation of forms, preparation of statements of justification; attempts to interpret circulars, letters, messages, phone calls and discussions on implementation of the restrictions; proceeding with staffing actions, cancelling those actions, re-activating the actions; attempting to overcome critical support staff shortages with a parade of untrained temporary support staff, students and persons from special consideration groups; waste of effort of highly capable clerical staff in training short term help; and finally, serious diversion of the efforts of Managers and supervisors away from their operational and management duties to deal with crises attributable to staffing-freeze-related problems.

(Exhibit 1143)

Based on the evidence I have heard, I find that the conduct of necessary administrative tasks by the inspectors caused a reduction in their ability to discharge their surveillance responsibilities. I view this as particularly critical at a time of obvious increased activity in the aviation industry.

Staffing Problems, Ontario Region: Toronto Area

Ontario Region was more directly affected by regulatory reform than others. Toronto was the centre of the activity associated with expansion in the industry and the base for many new companies entering the business. This situation placed excessive demands on the region's Airworthi-

ness and Air Carrier branches. The staff were subjected to overwork, stressful conditions, and remuneration that did not match the soaring living costs of the area or bear reasonable comparison to private industry. The qualifications and experience of this group were desired by industry, and the inspectors became targets of air carriers' recruiting programs. Mr Ole Nielsen, airworthiness superintendent of air carrier inspection, indicated in his testimony that two of his senior inspector colleagues were enticed into accepting positions with startup airlines offering remuneration half again or double their salaries as senior airworthiness technical inspectors. Similar situations were occurring with pilots and air carrier inspectors.

This increasing demand for talent affected the recruiting programs for the Toronto offices in particular. Mr Armstrong, in his testimony, indicated the difficulty faced in attracting qualified pilots into civil aviation inspector positions, primarily because of the high cost of living in the Toronto area. Mr Sinclair gave similar evidence regarding civil aviation inspectors and Mr Nielsen confirmed that such constraints also applied to airworthiness technical inspectorate candidates. It was shown, by way of example, that it was practically impossible to attract candidates for heavy air carrier inspector positions of the Seventh Region Toronto office. In normal times those positions were considered quite attractive in that they offered upgrading of inspectors to high-performance aircraft of the B747, L1011, or the new B767 classification.

Public service pay rates are based on a classification system without location consideration; thus an inspector or clerk in Toronto receives the same rate of pay as those in similar positions in Moncton or Winnipeg. In such circumstances, recruitment in and for Toronto-based positions was unable to compete with the high wages of the private sector necessary to meet spiralling living costs.

Findings

- Based on the information before this Commission, the Aviation Regulation Directorate was not adequately prepared to perform its functions in the latter 1980s.
- The warning flags raised early in the 1980s and repeatedly thereafter had seemingly negligible effect. The forecasts of safety assurance deficiencies were soundly based and progressively confirmed, yet there was no proper response by the senior management of Transport Canada in the form of urgent planning or action to meet the inevitable challenge.

- It was known that significant increases in personnel would be required to meet demand, yet such increases were not authorized, let alone acquired.
- Inadequate training policy and supporting programs failed to ensure inspector competency and placed new inspectors in positions of responsibility for which they were not qualified.
- Forecasts of inspector workloads predicted that the directorate would be overwhelmed, yet there is little evidence of effort to manage the crisis either through further delegation of tasks, contracting out or withdrawal of non-critical services, or other innovative programs to reduce resource requirements. Such lack of planning, preparation, and managerial direction placed junior managers and staff in the position of being unable to perform adequately all of their duties.
- Had the Transport Canada Aviation Regulation Directorate been in a position to discharge all of its responsibilities in an effective and timely manner, some of the factors that contributed to the Dryden accident may not have arisen.

RECOMMENDATIONS

It is recommended:

- MCR 110 That the Aviation Regulation Directorate focus adequate resources on surveillance and monitoring of the air carrier industry, with emphasis on in-flight inspections and unannounced spot checks.
- MCR 111 That Transport Canada establish a policy that identifies surveillance of existing air carriers as a non-discretionary task.
- MCR 112 That Transport Canada establish a contingency policy in order to meet unusual resource demands without jeopardizing adequate staffing of inspection and surveillance functions.

- MCR 113 That Transport Canada pursue extension of the delegation of authority to industry in accordance with the recommendations of Transport Canada's Management Consultant Branch studies completed in 1990 on this subject. Where additional delegation of authority to industry can be achieved safely, such delegation should be authorized in order to allow more effective use of Transport Canada inspectors.
- MCR 114 That Transport Canada establish a policy to ensure that required support staff will be provided so that inspector staff will not be misdirected from their operational safety-oriented surveillance duties in order to perform tasks more appropriately conducted by support staff.
- MCR 115 That Transport Canada establish an air carrier inspector training policy to be put into force without further delay, and that the policy ensure the following:
- (a) A clear statement of the requisite competencies for each inspector position in the Airworthiness and Flight Standards directorates of Transport Canada.
 - (b) A statement of the training courses required to be completed successfully by inspectors before they are delegated authority and before their probationary periods end.
 - (c) Successful completion of training to be required before air carrier inspectors are delegated their authority credentials.
 - (d) Establishment of a recurrent training program for each discipline of inspection to ensure continued competence.
- MCR 116 That Transport Canada improve staffing and recruiting programs to enable aviation regulation requirements to be filled on a high-priority basis. The capability to fast-track such staffing requirements should be achieved as soon as reasonably possible.
- MCR 117 That Transport Canada, in consultation with the air carriers, work out an arrangement to accommodate the requirement of no-notice in-flight cabin safety inspections and surveillance on charter flights.