31 AVIATION REGULATION: RESOURCING PROCESS

Operational Plans

Each year branch managers in Transport Canada regional offices and in the Ottawa headquarters initiate the operational planning process by identifying their resource requirements for future years. The process is long and convoluted, with resource submissions passing through numerous examinations including seven or more individual challenge processes. Mr Ronald Armstrong, Ontario Region's director of aviation regulation, described the process in the course of his evidence:

> A. The process goes, the instructions come down on how to prepare it and they may or may not change from year to year, how we prepare our operational plan that's eventually going to get wrapped up into the department's plan and submitted on to Treasury Board.
>
> The branch managers work with their staff, they develop their plans, they come to me, I perform a challenge process on them, do you really need this, do you really need that, can you put it in a different way, and then they are sent from my office to my manager, Weldon Newton, who then puts them into his resource management unit.
>
> At that point they're taken apart, the submission, and it's sent down to the functional directors, the director of flight standards, the director of airworthiness, the director of enforcement and legislation, and then they look at each of the regional submissions for the areas for which they are responsible, and they do the same thing. They question, they ask, they probe, they augment, they eliminate, as they see it, from a national perspective looking at all of the regions.
>
> They then put their submissions, their national submissions for their program back to the director general who performs the same function, and then it goes to ... our Assistant Deputy Minister who will send our resource allocation to Mr Mousseau's organization, the director general, policy planning and human resource management, who will do exactly the same thing, and in turn, then, the Assistant Deputy Minister provides it to the program control board, again for their vetting, criticism, whatever.

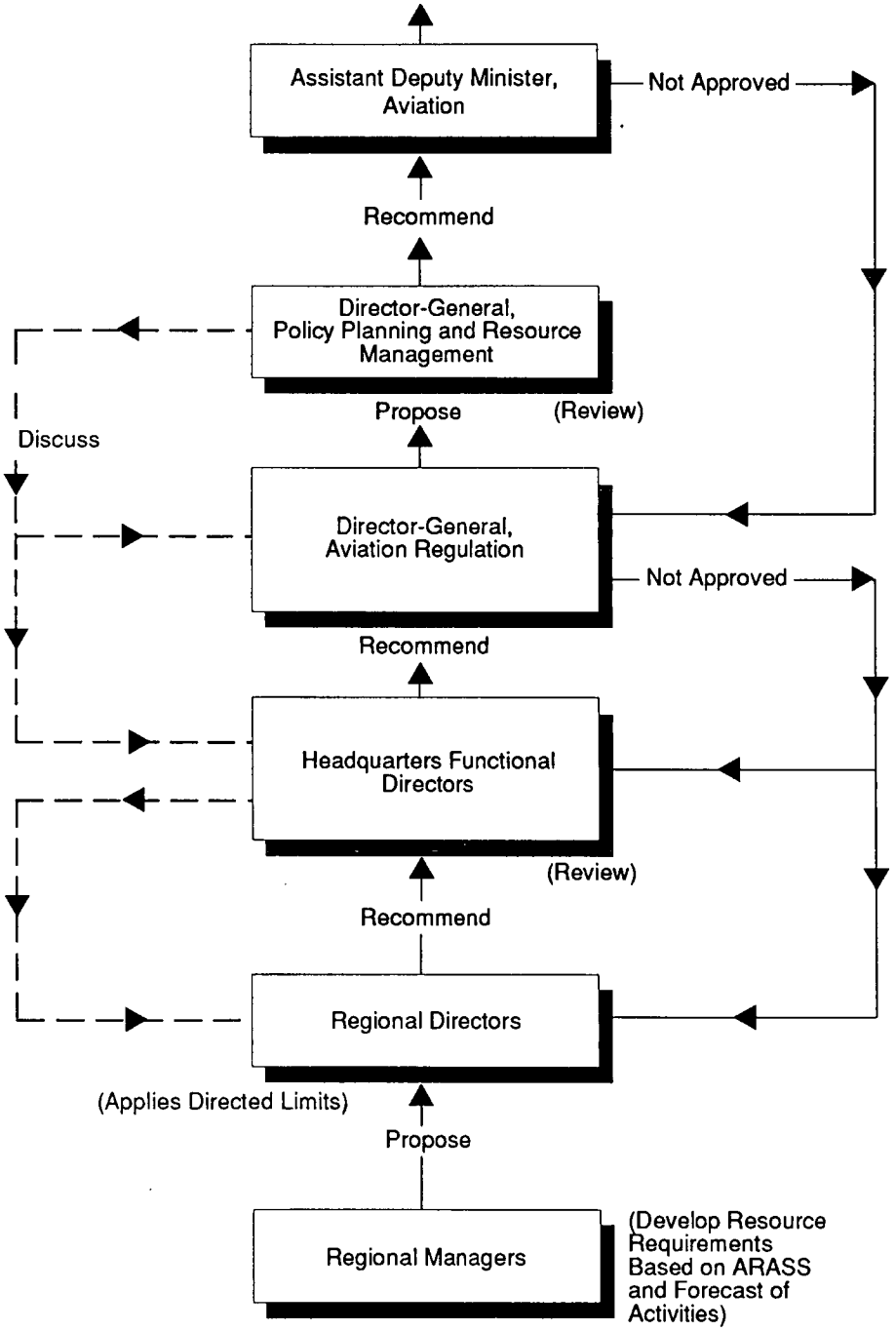
> It's modified back and forth, and then whatever's accepted at the departmental level and the program control board would be, in essence, the Deputy Minister sends it to Treasury Board whereupon they do their same evaluation, and then from that comes back the resources to the Deputy Minster, and then it's up to him to decide how many he's giving out to each of the units within his organization, and then all the way down the line. The resources are given to a manager and then they are allocated out.
>
> (Transcript, vol. 125, pp. 25–26)

The description of the resource identification and allocation process provided by Mr Armstrong outlines the numerous managerial levels of review and the complex system of challenges to which the resource requirement requests of branch managers are subjected. Figure 31-1 shows the convoluted system whereby the resource requests are subject to a minimum of eight review levels, and can be sent back to previous levels for whatever reason. The process is discussed in more detail further in this chapter.

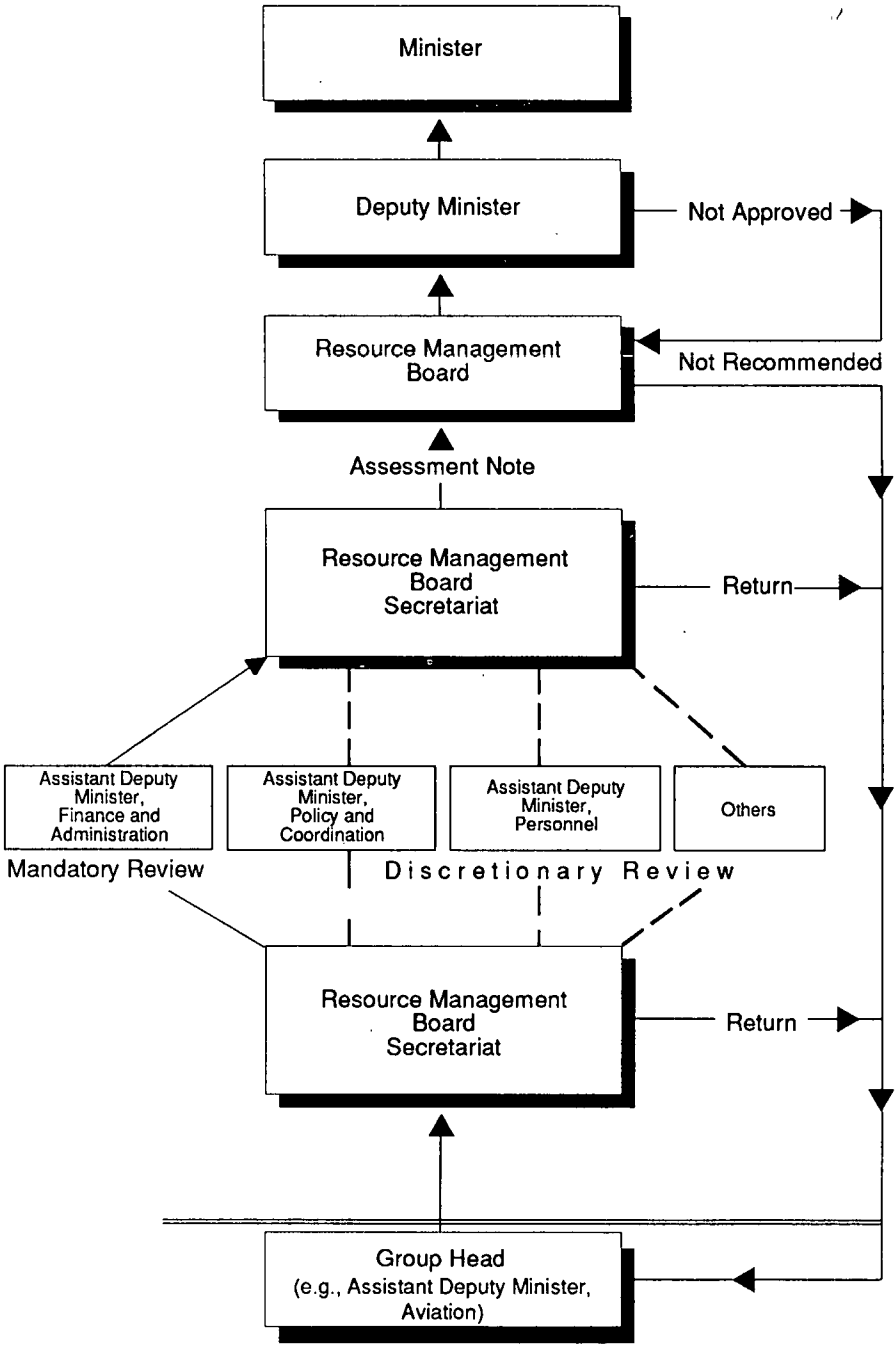
For line managers beset with their day-to-day operational commitments, the time involved in such a process, when combined with the time required to staff and train inspectors and to carry out staffing actions for vacant positions, precluded any meaningful response to demand-driven work assignments in real time. Evidence from a number of witnesses indicates that from the time an additional person-year is approved until a person is actually on the job can take in excess of two years. By the time a person is hired, trained, and qualified, the demand may well have come and gone. Mr Armstrong explained:

> Q. So you're talking from the time you make your request, it takes a year before the request has been approved?
>
> A. Yeah, we generally – well maybe six to eight months, because generally we start the new fiscal year and our years run April 1 to March 31st, so you'll hear us talking '86/'87 and it would be March 1st, '86, April 30th of '87.
>
> We generally get our allocation of how many person-years we're going to have well after the start of the fiscal year. Hopefully by the end of the first quarter, but about six months.
>
> Q. So, by my calculation, it takes two to three years from the time that you need the resource until you have somebody in your hands you can let loose to be an airworthiness inspector or an air carrier inspector?
>
> A. We would have them doing work prior to that time, yes, but completely finished all of their formalized training and experienced that they can conduct the whole gamut of responsibilities that they could be tasked with, yeah, that's a fair estimate.
>
> (Transcript, vol. 125, pp. 46–47)

Figure 31-1 The Resourcing Request and Approval Process



Source: From Exhibits 1285 and 1286


Minister
Deputy Minister
Not Approved
Resource Management Board
Not Recommended
Assessment Note
Resource Management Board Secretariat
Return
Assistant Deputy Minister, Finance and Administration
Assistant Deputy Minister, Policy and Coordination
Assistant Deputy Minister, Personnel
Others
Mandatory Review
Discretionary Review
Resource Management Board Secretariat
Return
Group Head
(e.g., Assistant Deputy Minister, Aviation)

This evidence graphically demonstrates the need for a system within the Aviation Group to fast-track additional qualified personnel into critical areas involving safety, when required.

Program Control Board

The origins and role of the Program Control Board (PCB) have been described by Mr Ramsey Withers (see chapter 29, Economic Deregulation and Deficit Reduction). The final challenge to a resource submission from within the department is carried out by the PCB or, as it is now called, the Resource Management Board (RMB). A key component of the Program Control Board is its secretariat, a staff support group of program analysts. The secretariat reviews resource submissions and provides assessment notes to the board to assist in its deliberations. There is apparently no requirement for program analysts with the secretariat to have expertise in the specific areas in which they are assessing resource requests. In my view, this is a serious weakness in the system. I am persuaded by the evidence that the lack of operational aviation expertise within the PCB secretariat contributed to the failure by Transport Canada management to recognize the aviation safety implications that would be caused by the shortage of air carrier inspector resources after 1985. Mr Kenneth Sinclair, assistant deputy minister, policy and coordination, described the role of the secretariat as follows:

> Q. [A]nd if a case has been made on paper by Mr [David] Wightman [Transport Canada's assistant deputy minister of aviation] that I need A, B, C, and D to deliver the program that I am responsible for, what steps does the secretariat take in order to review, assess, challenge this document which is put forward by a group head which represents, as we have heard from Mr [Claude] LaFrance [former assistant deputy minister, aviation], the bottom line from their perspective?
>
> A. Well, the analysts, again, as I say, would speak to the Director General or the Director level to obtain that necessary information. If there is a disagreement, they will either ... reach agreement on it through their discussions, or if they ask for additional information. In some cases that is obtained by speaking to experts outside the department, having a consultant look at things and submit a report. Quite often the consultant would be hired by the group to do the work to submit that to the secretariat.
>
> If, at the end of the day they have not reached a consensus on it, then the differing view is put forward, both views are put forward. The secretariat does not, in any way, put forward a filtered or one-sided case, they put forward the case of the

> group and their comments on it, along with the recommendations which are then submitted to the Program Control Board for the board to review independently of the working of the secretariat.
>
> (Transcript, vol. 165, p. 24)

While the principles upon which the PCB mandate is based may have merit, the evidence of assistant deputy ministers for Aviation Group and the decision records of board meetings are less reassuring. Mr LaFrance, a witness before this Inquiry, held the position of assistant deputy minister, aviation, from October 1985 to March 1989. According to Mr LaFrance, he ran his own challenge on resource submissions put forth by his managers. When asked to explain the role he played when requests for resources were put forth by his managers, he stated that he personally challenged the resource requests of his directors and he was unequivocal that all of his resource requests submitted to the PCB were absolutely minimum requirements:

> A. Yes. It was very important to get the resources that I needed. It was very important that I had full professional credibility at Program Control Board. And to do that, I challenged the resource requests that I got from my Directors General very strongly on technical operational terms on Aviation, professional Aviation terms.
>
> There was a very strong challenge and I was quite satisfied that in all my requests to PCB I was coming with requests that were, number one, fully justified in Aviation terms; and secondly, that they were the absolute minimum. I was being very frugal.
>
> (Transcript, vol. 163, p. 21)

On the subject of the difficulty of obtaining the necessary resources to fulfil his mandate of assuring aviation safety, Mr LaFrance testified that almost without exception his resource requests were not granted by the PCB. His evidence highlighted another example of the methods employed by senior Transport Canada management in order to circumvent and avoid the allocation of resources in areas impacting on aviation safety. Such methods used by the PCB were simply to require "further justification" for the resource request. The effect was to deny the resources for the year of the request. Mr LaFrance stated:

> Q. ... Did you have difficulty obtaining resources, the resources in terms of person-years and in terms of budget? Did you have difficulty in obtaining ... the amount that you wanted over the years that you were ADMA?

A. Yes, absolutely. The paper trail shows that my requests were, most of the time, not granted. There were very few instances I believe where it was an outright turndown.

It was more normal to just send me back to the drawing board and say, we need further justification. But if I'm sent back to provide further justification again and again for a period of a year, the net result is a denial of the resources for that year.

Q. And when you say you were sent back, I take it that you were sent back by Program Control Board?

A. That is right, yes.

(Transcript, vol. 163, p. 47)

The rejection or referral-back for additional justification to which Mr LaFrance refers occurred at other subordinate challenge levels, not just at PCB. The flow charts at figure 31-1 display the review and challenge process that could involve up to ten levels of management. Sending the resource requests back for further justification could become a delaying tactic precluding fast-tracking and effectively denying the requested increases. The process was extremely cumbersome and debilitating.

Mr LaFrance was sufficiently concerned about the resource situation within his organization to advocate that a memorandum to cabinet be prepared to warn about the potential safety impact of the cuts in personnel and dollars. He is quoted in the PCB minutes of August 17, 1987, as follows:

> ADMA [LaFrance] opened his remarks by noting that he wished to address those issues or areas of difference he had with the PCB Assessment Note entitled "Operational Plan – Aviation" dated August 17, 1987. Annex C ...
>
> ADMA pointed out that, with respect to the impact of the deficit reduction program, he felt it was important for Cabinet to be aware of the impact of the cuts, particularly as they may affect flight safety. He further expressed the feeling that safety programs across the Department likely would have similar impacts, and suggested that an overall strategy should be developed on an approach to Cabinet.
>
> (Exhibit 1326, tab 10, pp. 7–8)

It was subsequently confirmed in evidence by Mr Kenneth Sinclair, chairman of the PCB, that no action was taken by the PCB to present to cabinet the concerns of the Aviation Group with respect to the impact of the deficit reduction program on aviation safety programs. Instead, a Treasury Board submission covering the merged resource needs of all four transportation modes within Transport Canada was developed and forwarded to the Treasury Board for approval. Mr Sinclair testified as follows:

Q. Are you aware, sir, whether a submission, in fact, did find its way to Cabinet on safety matters?
A. This will require a short explanation.
Q. Certainly, please.
A. A memorandum to Cabinet is a document that goes to Cabinet. Cabinet is not a committee that allocates resources, it is a committee of Cabinet called the Treasury Board that allocates resources.

So, in the process of developing a memorandum to Cabinet, we realized what we really were doing was preparing a request for additional resources under the heading of ERR which we were entitled to do under the M.O.U., so, the MC became an omnibus Treasury Board submission encompassing the ERR requirements of Transport Canada in all of the modes, not just in the Aviation mode.

Q. So, it became a global submission to Treasury Board on the issue of resource allocation?
A. Affecting a – as a result of ERR. And that document did go forward to the Treasury Board.
Q. All right. Do you recall what happened with that submission to Treasury Board, sir?
A. Yes, they responded to it. They did not give us all the resources that we had requested.

(Transcript, vol. 165, p. 77)

Mr David Wightman, Mr LaFrance's successor as assistant deputy minister, aviation, fared no better in his efforts to obtain resources. When questioned on the witness stand as to the PCB secretariat's assessment of his 1990 operational plan, Mr Wightman gave the surprising evidence that approximately 70 per cent of the Aviation Group's resource submission to the PCB for 1990 was not recommended for funding by the analysts:

A. And we reached the point where we submitted our operational plan and then ... there was a period of at least a week, usually more than that, where the analysts of the Program Control Board do their business on our submission. And they then produce what is called the PCB assessment note in which they discuss each of the items that we have submitted.

And I receive that assessment note before the meeting is called to consider it, and all of the other members of the Program Control Board also receive the assessment note.

I was disappointed with the assessment note because it was clear to me, I'm just quoting numbers here off the top of my head, but approximately 70 per cent of our submission was not funded – was not recommended for funding.

Q. Seventy?

> A. Seven zero per cent of the additional resources that we were asking for over-target, including PYs [person-years] and dollars, operations and maintenance dollars, were not recommended for funding. And so, at the meeting of August 27th, I objected strongly to the conclusions of the secretariat and I also said that I thought that the process was flawed for the reasons that I have already mentioned; that it invites an open-ended submission when it's clear that most of it is not going to be able to be funded.
>
> (Transcript, vol. 166, pp. 56–57)

This phase of the hearings unmasked a deep-rooted sense of frustration among all levels of personnel in the Aviation Group, the vast majority of whom are unquestionably dedicated public servants, over the annual budgetary process. This sense of frustration was well founded.

The time has clearly come for the government to put an end to the cumbersome and costly resource challenge process required by Transport Canada, and to put in place a less cumbersome and more realistic process for assessing aviation resource requests. It is unrealistic to require the already undermanned Aviation Group to participate in an excessively time-consuming process, ostensibly designed to identify and to justify resource requirements, through a multitude of challenges, only to have the PCB analysts then arbitrarily reject as much as 70 per cent of what has been identified as the absolute minimum resource level necessary to maintain an acceptable level of aviation safety.

The upper management of the Aviation Group has shown itself to have been either unwilling or unable to persuade those public servants in charge of final resource allocation of the merits of their aviation safety-related resource requests. At the same time, the evidence leaves little doubt that the PCB, preoccupied as it was with the resource restrictions imposed upon it by the government, was insensitive to the aviation safety concerns that were brought to its attention for resourcing.

Program Needs versus Program Affordability

Mr Wightman referred to a process of identifying person-year requirements, based on a staffing formula that originated in 1984 before deficit reduction was implemented. The subsequent formula, referred to as Aviation Regulation Activity Standards System (ARASS), had been refined over a three- to four-year period. It is essentially a work-tracking mechanism based on a formula of recognized tasks, task frequencies, and completion times that identified existing and anticipated inspector and

support staff requirements to meet the needs of the Aviation Regulation Program.

The root source of Mr Wightman's disappointment in having his operational plan cut by 70 per cent is to be found in the different basis of assessment of resource needs used by his staff and that used by the PCB secretariat. Mr Kenneth Sinclair addressed the issue as follows:

> Q. It seems to me from a lay point of view that if Mr Wightman prepares a document using the same benchmarks, the same criteria, the same accepted standard, that your body, PCB uses, and comes to you and gives you a document and says, Mr Sinclair, we've done our homework. We've used the same criteria that you use. We've come up with this bottom line, why do you then have to go through this elaborate reassessment and re-inventing the wheel of what is then before you at that point in time. Could you help us with that?
>
> A. Yes. I will try ... the resourcing model that is used is based on subjective material. It is ... forecasting a future need for resources, it is not dealing with a historical requirement of a demonstrated workload. So, there are some assumptions made before you put together the model which would tell you the resourcing requirements. That is one area that you look into, are the forecasts that are used to then predict the resource requirements, are they valid, that has to be looked at and considered.
>
> And then whatever figure comes out of it, the submission would then – we would then have to deal with what resources are available to allocate to it, the affordability issue.
>
> (Transcript, vol. 165, pp. 38–39)

The fact of the matter is that the entire assessment process before the PCB is little more than a pretence. The absence of a national resource approval process is a key issue. Mr Wightman summed up his view as follows:

> A. The trouble is that the thing begins to break down when you know perfectly well that when the man who is responsible for analyzing all of these inputs, starts adding it all up and he finds that the ... total is so large that there is not any remote chance that those resources are going to be made available. So then what do you do about it?
>
> (Transcript, vol. 166, p. 49)

In other words, regardless of the legislative and regulatory requirements and the workload entailed in meeting those requirements, based on a standard developed and approved within the department, it ultimately comes down to what is affordable in the minds of a corporate

body that has little, if any, background or expertise and no accountability pertaining to aviation safety regulation.

The individuals making decisions on resource allocation at the PCB were, on the basis of the evidence before the Commission, basing their decisions primarily on affordability. The evidence indicates that these individuals had little, if any, background knowledge with respect to the minister's obligations under the *Aeronautics Act* to enable them to understand the necessity of delivering a program that ensured that air carriers were in compliance with safety standards. Nor is there any indication that they have any accountability with respect to ensuring the accomplishment of these safety requirements. I am left with the distinct impression from the evidence that the PCB and the senior managers at and above the ADM level failed to recognize that programs such as aviation regulation are not discretionary but are in fact mandatory under the laws of Canada. As Mr LaFrance indicated in testimony before this Commission: "You are not inspecting because a carrier wants to be inspected. This is a need of the government. The government has to budget" (Transcript, vol. 163, p. 85).

I concur with Mr Wightman's assessment of the futility of the present system of resolving the conflict between program needs and affordability, and with his proposal for improvement:

> A. The difficulty I have with the process is that it starts with what, essentially, is an open-ended invitation to all of the Transport Canada managers to submit their requirements. And ... this raises tremendous expectations on the part of managers. It also generates an immense amount of work. Paper is ... just generated over and over again and in huge quantities. Paper which does not have a hope of ever succeeding in what it's trying to do.
>
> So ... my contention in my proposal to the RMB when we do finally get around to discussing the process, as Mr Sinclair said we will do, will be that we need to establish a framework at the beginning of this process. We need to ... make a corporate decision and I will propose that this decision be made by the DM within the TMX committee which is the Transport Management Executive committee consisting of ADMs and the DM.
>
> And I think at that stage a strategy has to be developed, that this year we are going to go forward to Treasury Board for an increase in the overall Transport Canada budget of "X" per cent or whatever it might be. So that when that is decided at the highest level in Transport Canada, then we can give each of the ADMs a target, and we can tell them, now, develop your documentation, develop your operational plan based on this target. And do all the paper work that's necessary for that, but

> don't waste your time on the paper work of anything beyond that target.
>
> And then you've got to look at what you've got in this Operational Plan, and if there are clear safety requirements that remain unfunded after that process has been done, then you've got to do what we were hedging around about yesterday and with Mr LaFrance, you've got to state the case clearly to the Deputy Minister.
>
> (Transcript, vol. 166, pp. 51–53)

It is reassuring to have the current assistant deputy minister, aviation, make such an unequivocal statement with respect to his responsibility to go to the deputy minister with respect to unfunded safety requirements. The PCB chairman, Mr Kenneth Sinclair, was asked what right of appeal a group head (ADM) might have should he or she disagree with the PCB recommendation, with respect to the allocation of resources, to the various groups within the department. This was, obviously, an area of considerable interest in light of the apparent conflict between the need, on the one hand, to satisfy the requirement that the industry was in compliance with safety standards and, on the other, to live within the resource levels imposed as a result of budgetary restraint. His response was that it was clearly understood that the practice was for an assistant deputy minister who was not satisfied with the PCB resource recommendation to go to the deputy minister to express concerns, particularly those related to safety:

> A. The Program Control Board is a staff organization serving the Deputy Minister. It is not part of the line accountability regime in any way.
>
> It's clearly understood by all of the Assistant Deputy Ministers and the members of the executive committee that each group head, each ADM, is totally responsible and accountable to the Deputy for the conduct of the program and the mandate of the program for which they are, indeed, the ADM.
>
> The deliberations of the board are done on a consensus discussion basis, and a consensus is reached normally reflecting the general agreement of the members of the board and ... that is what is recorded in the minutes.
>
> If any ADM ... does not agree or is troubled by the decision, then it was clearly understood practice that as the accountable ADM, they would go, and they have the right to go and, indeed, are expected to go to the Deputy to express their concerns, particularly, as related to safety.
>
> (Transcript, vol. 165, pp. 11–12)

I fully endorse the views expressed by Mr Sinclair and Mr Wightman as to the obligation of an assistant deputy minister to go to the deputy

minister in situations where the safety obligations imposed on the government by federal statutes go unattended because of financial considerations. I would go one step further and recommend that it also be mandatory that the deputy minister, in such event, promptly advise the minister in writing of the safety concerns which are so communicated to him.

Communication within Senior Management

Mr Wightman, in his evidence dealing with the alternatives that a group head (assistant deputy minister) has when faced with an apparent lack of resources to meet program responsibilities, used the expression "hedging around." What he was referring to was an earlier examination of Mr LaFrance and a frustrating attempt on the part of virtually all counsel at this Inquiry to find the answer to an obvious question. That question was, Why didn't Mr LaFrance, as assistant deputy minister, knowing that his Aviation Regulation Directorate could not assure senior management that the air carriers were in compliance with safety standards and knowing that aviation safety was being jeopardized to the extent of justifying a memorandum to cabinet, not bypass the Program Control Board and go directly to his superior, Mr Withers, the deputy minister?

Mr LaFrance rationalized his actions by testifying that although he did not go directly to Mr Withers with his safety concerns, Mr Withers would have had the unfiltered information provided to him by the PCB:

> Q. ... Well, if the PCB reported to the Deputy Minister and you reported to the Deputy Minister, then when you went to the PCB to get these resources that you needed and you were denied those resources, did you then go to the DM and set out your plight to the DM?
>
> A. Well, as I mentioned in previous testimony, for a very specific purpose, the PCB and the DM were the same level, in a sense that, everything that I presented to the PCB was documented and I could review that documentation and correct it if I needed to, but I never did have to do that. And this is the documentation that was in front of the Deputy Minister
>
> Q. ... So the PCB wouldn't filter out documentation that you gave it? The presentations that you made to the PCB would go before the DM, is that right?
>
> A. There wouldn't be any filtering of the information that I provided. It was provided directly to the Deputy Minister as part

of that, and this is why I did not need to go to the Deputy Minister in a separate way.

(Transcript, vol. 163, pp. 94–95)

When cross-examined on the obligations of an assistant deputy minister to his superior, in the context of Mr LaFrance's resource situation, Mr Kenneth Sinclair was very clear on his understanding of the situation. There was absolutely no doubt in his mind as to the options that were available to Mr LaFrance if he was not satisfied with the resource allocation provided:

Q. He [LaFrance] is saying, I can tell you right now we need resources. My inspectors are overwhelmed with work. We have got all of this activity as a result of deregulation but you won't give me any resources until you've finished your study.

Isn't that what he's complaining about?

A. And he finds it's acceptable. And this is what I'm suggesting to you, sir, that as we tried to find ways and means to resource his concerns, we reached accommodation and he is saying right there, this is acceptable.

Q. Well, what choice does he have?

A. He could have gone to the Deputy Minister.

Q. All right.

A. He could have disagreed on the record.

Q. Well, ... isn't that, in fact, what he did? He said, all right, I will make the best – I will do the best I can with what you give me, but you should tell members of Cabinet that safety will be adversely affected? Isn't that what he did?

A. No, he's saying we should alert Cabinet of the potential of what is coming on and if I don't get my resources, this could affect safety and in our minutes we agreed to alert them.

(Transcript, vol. 165, pp. 123–24)

While the PCB may have agreed to alert cabinet of Mr LaFrance's safety concerns, apart from Mr Sinclair's earlier evidence regarding an omnibus Treasury Board submission, it is clear from the evidence that no such action was ever taken. The failure of the PCB to alert cabinet through the deputy and the minister of Mr LaFrance's safety-related concerns is inexcusable.

The issue of Mr LaFrance making his safety concerns known was pursued with the deputy minister of the day, Mr Ramsey Withers. Mr Withers was adamant that Mr LaFrance had not expressed these concerns to him directly:

A. The facts are these: He never complained to me about the resource allocation he was given by the Program Control Board.

> He never came and said, Look, it is not enough. I have to have more this year.
>
> He never came forward and said, This situation is extremely bad. We are going to have to stop. We are going to have to slow down, or anything of that – and that is all I can say because that is all that happened.
>
> (Transcript, vol. 164, pp. 146–47)

It is difficult to reconcile the stated actions of Mr LaFrance and Mr Withers with their apparent lack of communication on a matter about which they both claimed to be concerned. Mr Withers knew about the Douglas Report and he knew about the ADMR Review of June 1987. Yet there is no evidence that he asked Mr LaFrance for status reports on how the situation was being handled.

Mr LaFrance knew that Aviation Regulation was in trouble, yet he, by his own admission, did not go directly to his superior, Mr Withers, and put his plight on the table. He indicated that Mr Withers knew of the situation, and he inferred that there was no need for him to do more. Mr LaFrance and Mr Sinclair both testified that Mr Withers would have been provided with this information by the PCB. The mystery surrounding how or if Mr LaFrance's concerns over resource shortfalls were communicated to his deputy ministers becomes even more complex when one considers that Mr LaFrance responded to questions in this regard with conviction equal to that of his superior, Mr Withers:

> Q. Do you feel that your Deputy Ministers at that time were made clearly aware of your concerns about the lack of resources and your inability to –
>
> A. Yes ... in specific terms, they were aware of all that I formally represented through the Program Control Board, not only through discussions with the chairperson of Program Control Board, but through the minutes with all this information here would have been in front of the Deputy Minister.
>
> So – and also in my discussions with two Deputy Ministers under whom I served, there was, certainly, an understanding of our concerns around the senior management table.
>
> I didn't bring at that table the specific aspects, because the specific submissions, of course, went through this channel. But I do know that they were aware of the difficulties.
>
> How they place this in the context of their broader responsibility is something that only they can answer.
>
> (Transcript, vol. 163, p. 75)

It is unlikely that the facts surrounding the question of who told what to whom will ever be fully known. But one thing is certain, communication at the senior management level left a great deal to be desired. Mr

Kenneth Sinclair's view that each manager in the chain has an obligation to pass on any concerns that might have an impact on the safety of the travelling public is clearly the correct approach. According to Mr Sinclair and Mr Withers, no such concerns were expressed to them. However, the evidence is irrefutable that their own internal review agency (the ADMR) had indicated in its report in June 1987 that Aviation Regulation could not assure senior management that the air carrier industry was operating in compliance with safety standards. Furthermore, Mr LaFrance had asked that a memorandum to cabinet be prepared to alert cabinet ministers as to the impact of deficit reduction on flight safety. The PCB minutes corroborate Mr LaFrance's evidence in this regard. Both Mr Withers and Mr Sinclair, seized of pertinent and relevant information, should have been aware of the concerns facing the Aviation Regulation Directorate as a result of lack of resources.

In the case of the departmental responses to the Douglas Report and the ADMR Review of the Aviation Regulation Directorate, it was evident that the deputy minister and the assistant deputy minister satisfied themselves that plans to address these critical issues were being made, but they did not ensure that the action being taken was timely and appropriate in the context of the actual workload demands. A typical example, as identified in the Douglas Report, was the need for a Human Resources Study. A group formed to conduct such a study did not produce its first report until 1988. The recommendations contained therein might have produced some additional help for the Aviation Regulation Directorate in 1989. However, that help was urgently needed in 1985 and 1986.

I was concerned to hear in evidence the widely varying perceptions of Transport Canada managers, particularly at the senior levels, as to how they were to discharge their obligations to respond to expressed aviation safety concerns. I could find no departmental policy that sets out the position of Transport Canada in that regard. The lack of departmental policy and clear direction in this area was highlighted during the testimony of Mr Withers:

> Q. Well sir, I think the evidence, the sworn testimony is – it's basically uncontroverted and it is quite clear that he [LaFrance] went before PCB asking for resources that he felt he needed and he didn't get them.
>
> Now, he didn't go the step further and come to you and that is where we have got two separate sets of opinion. We have your opinion which is, gee, I'm surprised. He should have come to me.
>
> And on the other hand, we have Claude LaFrance's opinion which is, I relied upon PCB to trust my judgement; that was my forum for making my case. And I have to assume that every-

thing I said to the PCB, the Deputy Minister knew about because there was a direct link there. So, why should I waste his time going to the Deputy Minister?

Now you see that's the difference of evidence that we're getting here.

THE COMMISSIONER:

There seems to be a breakdown somewhere in the area pointed out by Mr Bailey and if you can give us some possible insight as to recommendations that might rectify such a thing happening in the future, it would be helpful, sir.

THE WITNESS:

Thank you, sir. I suppose that about the only thing I can say is reiterate the fact of the operation – the modus operandi and the body; that if at any time any person charged with one of these functions feels that he or she has not been properly dealt with or listened to, then they must ... go to the Deputy Minister.

...

THE COMMISSIONER:

Perhaps you hit the nail on the head. There should be some very clear direction to the ADMs that in such and such situation [they] should come to the DM.

(Transcript, vol. 164, pp. 191–92)

The difference of opinion on the subject of how safety concerns were to be communicated between managers at the highest levels in the department, and through their minister, is a cause for considerable concern. This kind of "misunderstanding" is unacceptable, particularly when, according to their own priorities, safety was number one. From Mr Wightman's evidence, it appears that he, as the current assistant deputy minister, has no misunderstanding of his responsibilities in that regard. Nevertheless, a clear and unequivocal policy direction should be put in place at Transport Canada to ensure that all managers, at any level, are obliged to communicate promptly and unequivocally to their immediate superior, both verbally and in writing, any significant safety concern that could affect the Canadian aviation industry and public. Furthermore, I am of the view that the failure to do so should be subject to sanctions appropriate to the gravity of the circumstances.

Changing the Scope of the Aviation Regulation Program

By the end of the hearings of this Commission it became obvious that during the latter half of the 1980s the Aviation Regulation Directorate of Transport Canada became increasingly less able to cope with the certification, inspection, and surveillance workloads being generated by

the air carrier industry. It was equally obvious that they were not receiving and were unlikely to receive the resources necessary to fulfil their regulatory mandate. The Aviation Group produced their program resource requirements based on program needs, while the Program Control Board responded with allocations based on a very limited affordability. From at least 1985 until 1990, this process repeated itself each year. It is difficult to understand why someone did not face up to the fact that the rationale upon which the resourcing process was based was not only unsatisfactory, but was unrealistic. Either the resource levels had to be increased to meet the demands of the program, or the scope of the program had to be reduced to a level consistent with the resources available. Reducing the surveillance and monitoring program to match reduced resources, however, poses a major dilemma. To do so is to jeopardize the minister's commitment that aviation safety would not be compromised. Mr LaFrance, former assistant deputy minister, aviation, was asked if he had considered the possibility of reducing the scope of the program:

> Q. During your tenure, was there any thought or any ability to reduce the scope of the program?
>
> A. No, because from an Aviation safety point of view, the least damaging reductions would have occurred in the closures of some Air Navigation installations as I have mentioned. That this can be done through a reduction of service without increasing danger to aviation. That was the least damaging one.
>
> If that was denied to me, I was certainly not going to recommend some other reductions that would decrease the margin of safety. I couldn't professionally do anything like that.
>
> Q. And such things as decreasing the number of inspections, decreasing the audits?
>
> A. No ... I was not comfortable with any decrease in that area. There was no, no evidence that would allow us to justify a decrease in the frequency of inspections to any substantial extent, certainly not in the kind of environment in which we were at the time.
>
> (Transcript, vol. 163, pp. 80–81)

Whether decreasing the number of inspections and audits could be justified or not, the evidence shows that after 1988, audits did in fact decrease in number and quality and that in-flight inspections were, at best, minimal in number. This happened not as a result of any plan set out by management, but by default, because there was no one to do the work. During the hearings of this Inquiry in January 1991, Mr Newton's evidence provided some hope that Transport Canada management has finally recognized that the problem was not going to go away and that action would have to be taken:

A. So as a manager I have, first of all, tried to get the resources to perform that additional workload. And I haven't been that successful. I have gained ... I have been able to obtain some 85 PYs in the last couple of years and if you think of that in a period of fiscal restraint, that has been a major accomplishment.

However, Mr Newton went on to say that growth continues to outstrip the allocated resources:

A. But the problem has been that the growth has outstripped the resources that we have been able to obtain to the point that as a manager, recognizing that I probably cannot get more resources, I have started to redesign the program.

In other words, I have to offload from the Aviation Regulation program about 130 PYs worth of work to protect my staff from burnout, from excessive stress and anxiety, and to ensure that ... they are performing at a level that they can enjoy sustained performance.

(Transcript, vol. 161, pp. 83–84)

Mr Newton indicated that he was looking at ways to delegate certain air carrier inspector responsibilities to industry so as to free up inspectors for work that required more of a regulatory presence. Provided that it can be shown that such delegation will not result in a degradation of the level of proficiency within the industry or a lowering of the assessment standards through a less enthusiastic application by company check pilots, this would seem to be a sensible approach.

Mr Wightman completed a strategic review of Aviation Group in 1990. This resulted in an organizational change proposal dated January 1991 (Project 1682–342). The strategic review examined a fundamental question that should have been addressed at least five years earlier: Was the Aviation Group suitably organized to deal with an air carrier industry that had totally restructured itself over the past five or six years? It can be said with little danger of contradiction that Aviation Group was not suitably organized to deal with the industry restructuring as it was taking place after deregulation. Mr Wightman's evidence in that regard offers some encouragement for the future:

A. From a strategic point of view, we felt that we were facing continuing resource constraints but, at the same time, an increase in demand for services; both the kind of services that have been referred to here as discretionary and non-discretionary services, although, I think there's been a certain amount of over-simplification there. We do, in fact, make people wait sometimes as attested to by some of the phone calls I get.

But ... we have concluded, and I will be very brief about this because a strategy can get a long time to discuss, but we have

> concluded that we need to look at other ways of doing our business because we are unlikely to see large infusions of resources into the Aviation activity in the coming years; that is my best assessment now because of the continuing emphasis on deficit reduction.
>
> (Transcript, vol. 166, pp. 68–69)

Mr Wightman, in his testimony, discussed a new approach to the development of an operational plan using a fixed financial target level. He was quite clear in his recognition that unfunded safety requirements must be identified at the highest level of management in the department. To this I would add that unfunded safety requirements must not only be identified, they must be resolved if the Canadian public is to be assured that the system remains safe. While concurring that it is necessary to make all possible effort to structure a regulatory program that recognizes economic reality, I also firmly believe that safety standards must be maintained. The evidence is clear that the present Transport Canada safety standards are minimum standards. I do not believe that the Canadian public is prepared to accept less than full compliance with such minimum standards. Such compliance can only be assured through adequate surveillance and monitoring of the air carriers by the regulator.

If monitoring and surveillance of the aviation safety standards of Canadian air carriers are to continue to give way to fiscal restraints, this properly should be accomplished by way of reduction of the scope of the regulatory program, with clear notification to the Canadian public as to what compromises are being contemplated and what is transpiring.

It should also be noted, as is reflected in a recent Transport Canada internal report entitled "Evaluation of Aviation Regulation and Safety Programs," that there would likely be a greater safety benefit if regulatory efforts were to focus on operations deemed to be of a higher risk category. The report states as follows:

> The higher risk operators or individuals, who persist in unsafe practices (as contrasted with lesser regulatory violations), would be dealt with in the most meaningful way.
>
> This finding would imply a move away from a focus of compliance with regulations, which almost of necessity has to be an across-the-board activity, to focus more directly on risk and safety.
>
> (Exhibit 1323, p. 13)

Surely the purpose of compliance is the reduction of risk and the enhancement of safety. Focusing on higher risk operators is nothing more than good management of regulatory resources. I would go one step further and suggest that consideration should be given to some

form of incentive to operators who have consistently demonstrated an exemplary safety record and a high operating standard through their in-flight inspections, audits, and the quality of their manuals and training programs.

According to the evidence of Dr Robert Helmreich during the human performance phase of the hearings, the FAA is attempting to stimulate United States carriers, through incentives, to adopt training programs based on line-oriented flight training (LOFT) in a total crew environment. An advanced qualification program (AQP) that includes LOFT as one of its components has recently been introduced in the United States. This program encourages the expansion of cockpit resource management programs to include all crew members. Based on the evidence I have heard from numerous aircraft crew members during this Inquiry, I am of the view that an AQP-type program is worthy of consideration and should be monitored by Transport Canada with a view towards its adoption in Canada. I would stress that any incentive program offered to carriers should be based on rigorous criteria carefully screened by Aviation Regulation staff to ensure that incentives granted are fully warranted. Such incentives are discussed further in chapter 39, Crew Coordination and Passengers' Safety Concerns.

Air Carrier Certification/ Surveillance Reporting Systems

As early as 1984, when the new domestic air policy was announced, there were documented concerns regarding the ability of the Aviation Regulations Directorate to respond to the anticipated increase in demand-driven certification and surveillance work. Throughout the Transport Canada phase of the Inquiry, evidence was placed on the record indicating that up to 80 new carriers were being certified annually, and that a six-month to one-year backlog in approval of flight operations manuals, training manuals, and minimum equipment lists was resulting in increasingly strident complaints from carriers. Unfortunately, there does not appear to be in place an effective reporting system that would allow senior managers to stay on top of demands being imposed on their staff.

During the testimony of Mr Ian Umbach, it was revealed that in July 1990, Transport Canada's in-flight inspections on international and continent-wide flights had virtually ceased as a result of a depleted overtime budget. Mr Umbach agreed that such a cessation of surveillance greatly reduces the margin of safety in the industry (Transcript, vol. 139, p. 60). Nevertheless, when the director-general of aviation regulation, Mr Weldon Newton, testified before the Commission on

January 16, 1991, he admitted that he was unaware that Transport Canada had ceased surveillance on international and continent-wide flights. When asked why he did not know the status of the situation, Mr Newton testified:

> A. I guess the nature of the program is such that I don't ask my directors every day about every component of their programs. I go on the basis that if they're having difficulties that they'll bring these things to my attention; be it Airworthiness, be it Licensing, be it whatever. If there's problems, I'd like to know about them.
>
> (Transcript, vol. 162, p. 7)

It appears that the flow of information available to Transport Canada's senior managers is subject to the discretion of the directors. If there was no complaint, then it was assumed that no problem existed.

It is clear from all of the evidence that a similar attitude prevailed at the highest level within the department. Even though the deputy minister, Mr Withers, had received warnings from his own internal audit review group that Aviation Regulation was in severe difficulty, he did not insist that his managers inform him of safety-related problems. As he explained in his evidence:

> Q. And, therefore, it's your evidence that you were unaware that your Aviation Group was not getting the resources that they felt they required?
> A. I want to put it the other way. I want to state that I knew that they weren't ... getting everything they wanted, but I also knew that they were getting enough to be able to do the job the way he felt he had to do it in Aviation.
> Q. Well, how did you know that, sir?
> A. Because he never –
> Q. What source did you have for that?
> A. He never complained to say that he didn't, did he?
> Q. So your touchstone is that unless he came to complain to you, he must be getting enough?
> A. That is right.
>
> (Transcript, vol. 164, p. 120)

Based on senior management's apparent lack of knowledge of the severe difficulties being faced by the inspector staff, it is obvious that reliance exclusively on the discretion and the reporting of safety concerns by immediate subordinates proved to be less than satisfactory.

It would seem almost elementary in management practices that all responsible Transport Canada managers would seek out or have at their disposal knowledge of the current demands being imposed on branches of the department for which they have responsibility. This is particularly so in those areas that have been identified as being critical to aviation safety. This expectation would have most certainly applied to air carrier certification and surveillance. Maintenance of a data base in those areas would facilitate quick identification of increased or decreased demand, which could be related to response ability. Resource needs would not then be based on perceptions alone, but on empirical data. According to the evidence of Mr Slaughter, efforts are currently being made to put in place two computerized information systems: national aviation company information system (NACIS), and audit information reporting system (AIRS). It is recommended that the data bases developed also include demand indicators that accurately reflect, on a real time basis, the workload being imposed on their own regulatory organization. These reports should be consolidated and produced for senior management consumption. In that way no one would be able to say they did not know because no one told them.

Policy Development: Impact Studies

According to an article written by Mr Lloyd Axworthy, the minister of transport in 1983-84, the first signal of government approval of a relaxation of domestic economic air policy was contained in the December 1983 Speech from the Throne. Mr Axworthy wrote:

> As CATA [Canadian Air Transportation Administration] and the CTC [Canadian Transport Commission] were opposed to reform, I built a policy unit in my own office. An official was seconded from Privy Council Office, an assistant was assigned full time to the task, a consumer advocacy lawyer was retained for counsel, and contracts were signed with several academics.
>
> (*Policy Options Politiques*, April 1985, p. 17)

The creation of such a policy unit in the minister's office may have served him well by excluding CATA and CTC opposition to reform. It may also, however, have denied him warnings of the aviation safety impact to be expected in association with such reform and about which the public servants of his department were well aware. Indeed, the impact studies produced by the Ontario Region office were completed not as the result of a request from any headquarters policy unit, but, rather, on the initiative of the region's senior management. The government announced its new air policy in May 1984. The Ontario

Region submitted its impact study to Ottawa in July of the same year, two months after the policy was in place.

With the change in government in September 1984, the policy was further developed to cover other modes of transport as well. In July 1985 the new minister of transport tabled a transportation policy paper called *Freedom to Move: A Framework for Transportation Reform*. As in the case of the Axworthy reform, this policy also carried with it implications that would be felt in many areas, not the least of which was safety regulation. Mr Kenneth Sinclair, chairman of the PCB, was examined on the need to conduct comprehensive impact studies as an integral part of the policy development process:

> Q. Sir, from your perspective and from the experience which you have, do you think that it is wise, sir, to do thorough impact studies and thorough implementation plan studies before a new policy is ventured into and implemented?
> A. Yes, I would agree – not only do I agree, it is compulsory now in the development of putting forward a policy proposal that the resource implications be included in terms of implementation costs and downstream costs.
> Q. Sir, do you think that this kind of impact study and, indeed, an assessment of an implementation plan was carried out as fully as it should have been during the years '84 and on, as we ventured into this new arena of Economic Regulatory Reform?
>
> Do you think that that was sufficiently done by the internal bureaucracy of Transport Canada?
> A. I wasn't sure. So I asked the Deputy Minister, Mr Withers, and his advice to me was that he was satisfied that there was no clear evidence that the resourcing strategies weren't adequate.
> Q. And that was the Deputy Minister's advice to you, sir?
> A. It was.
> Q. In what year, if you can recall, would that have been, sir?
> A. That was at the time of the whole ERR issue coming forward to us. And that would have been, I think, Oh, within a year of my becoming chair of the Program Control Board.
> Q. So it must have been around –
> A. About '87.
>
> (Transcript, vol. 165, pp. 71–72)

Findings

- The need for increased resources within the Aviation Regulation Directorate to meet the growth and demands expected to be generated by the policy of Economic Regulatory Reform was

predicted and well documented in several reports and studies in the period prior to 1984 and thereafter.

- The Ontario Region's impact study of July 1984, conducted on its own initiative, identified serious emerging resourcing and staffing difficulties within the Aviation Regulation Directorate.

- The Nielsen Task Force strongly recommended in September 1985 an immediate increase in resources in the area of air carrier inspection.

- The 1986 Douglas Report set out the serious difficulties encountered in the United States as a consequence of deregulation, and identified emerging Canadian resourcing and staffing problems expected as a consequence of the introduction of Economic Regulatory Reform.

- The deputy minister's internal audit review group, in June 1987, issued a report that stated that the Aviation Regulation Directorate was at that time unable to provide senior Transport Canada management with sufficient assurance that the aviation industry was in compliance with existing safety legislation, regulations, and standards. In spite of these indicators, the deputy minister remained of the opinion that the resourcing strategies for the Aviation Directorate were adequate.

- Based on the evidence before this Commission, the Transport Canada resourcing and staffing strategies, since 1984, have been inadequate to meet the needs of the Aviation Regulation Directorate.

- Based on the evidence before this Commission, there is no indication that any impact studies pertaining to safety regulation were carried out or requested by the Transport Canada policy development group that produced the 1985 transportation policy paper.

- Of equal importance was the need for Transport Canada to conduct similar impact studies on safety regulation in the context of deficit reduction.

- The effect of Economic Regulatory Reform, combined with deficit reduction or, more specifically, the five-year Memorandum of Understanding between Transport Canada and the Treasury Board, created a synergy that, in my opinion based on the evidence before this Commission, had an adverse impact on the effective application of safety standards.

- There is no evidence of any in-depth examination by Transport Canada of the effects of downsizing in the face of a major restructuring of the air carrier industry that was to take place following the introduction of Economic Regulatory Reform.

- There is an urgent need for a system within Transport Canada to enable the fast-tracking of additional qualified personnel into critical areas involving aviation safety, when required.

- The multi-level resource-request challenge process employed by the Aviation Group of Transport Canada is an unduly cumbersome and time-consuming process ostensibly designed to identify and justify absolute minimum resource requirements.

- The Program Control Board, which was faced with resource restrictions after the introduction of Economic Regulatory Reform, did not respond appropriately to aviation safety–related resource concerns that were brought to its attention by the Aviation Regulation Directorate.

- The senior management of Transport Canada, Aviation, has been shown by the evidence not to have responded adequately to aviation resource concerns being expressed by lower and middle management regarding their inability to meet program responsibilities, particularly in the area of air carrier inspections, monitoring, and surveillance.

- It is not my intent to criticize the right of a government to embark on a policy of economic deregulation of the air carrier industry. Nor would I suggest that it is improper to attempt to reduce the size of the national deficit. It is the combined effects of these policies, as they relate to the safety of the public, that causes concern. The policies are not faulted in any way, but their application and overall administration left much to be desired.

RECOMMENDATIONS

It is recommended:

MCR 118 That Transport Canada, as an integral part of any future policy development process, ensure that thorough impact studies be carried out by experienced analysts, knowledgeable in the subject matter, as a prerequisite to government acceptance and implementation of policies that could have a bearing on aviation safety.

MCR 119 That, where a potentially adverse effect on safety is identified, appropriate measures be taken by the government to preclude the effect before the policy is implemented.

MCR 120 That all senior Transport Canada Aviation Group managers have at their disposal knowledge of the current demands being imposed on branches of the department for which they have responsibility.

MCR 121 That Transport Canada encourage all Aviation Group managers, at any level, to communicate to their superiors any significant aviation safety concern that has come to their attention and that could affect the Canadian aviation industry and public.

MCR 122 That Transport Canada put in place a policy directive that if resource levels are insufficient to support a regulatory or other program having a direct bearing on aviation safety, the resource shortfall and its impact be communicated, without delay, to successive higher levels of Transport Canada management until the problem is resolved or until it is communicated to the minister of transport.

MCR 123 That an air carrier activity reporting system providing a current and reliable picture of the industry be developed and utilized by Transport Canada to determine program resource needs, levels, and direction.

MCR 124 That the process of resource allocation, including staffing standards, be re-examined by Transport Canada with the following objectives:

(a) To establish a staffing standard based on realistic and measurable task performance and frequencies and accepted standards of time required for such tasks.

(b) To reduce the challenging levels from the present seven or more to a lower, more realistic level.

(c) To establish a resource contingency factor for aviation regulation that can, at the discretion of senior management of Transport Canada, be called upon to provide additional resources to meet exceptional safety-related circumstances.

MCR 125 That Transport Canada examine the role of the Resource Management Board, formerly the Program Control Board, with a view to attaining the following goals:

(a) To ensure that the deputy minister of transport will be informed of all aviation safety implications of any resource reductions or denials recommended by the Resource Management Board.

(b) To ensure that within the Resource Management Board and its secretariat there is an individual with aviation operational expertise who is cognizant of safety implications in resource reduction programs.

(c) To ensure that members of the Resource Management Board understand the implications of personnel reductions below the minimum level prescribed by accepted staffing standards.

(d) To ensure that the deputy minister of transport be informed of each instance in which the Resource Management Board or its secretariat returns plans to Transport Canada group heads asking for further justification of resource requirements for aviation safety–related items.

MCR 126 That Transport Canada's Aviation Regulation Directorate develop a system that focuses resources on the areas of highest risk.

32 AUDIT PROGRAM

Transport Canada had conducted an audit of Air Ontario in October 1988, five months prior to the Dryden accident. As set out in Part Five, the period 1987–88 was a particularly volatile time at Air Ontario. The recent merger, pilot strike, and introduction of the F-28 were a few of the destabilizing factors at that time. Had a thorough and complete audit of Air Ontario's operations and maintenance departments been performed by Transport Canada during this critical period, it would have provided valuable insight into the health of the company, and the audit team would have been well situated to identify deficiencies.

As it happened, the Air Ontario F-28 operation was not audited in the October 1988 audit. This serious shortcoming, in concert with other problems in Transport Canada's organization and execution of the audit, severely limited its effectiveness. The inadequacy of the audit represented a significant breakdown in the safety system that should have protected the passengers and crew of Air Ontario flight 1363 on March 10, 1989. Accordingly, a thorough investigation was warranted of the 1988 audit of Air Ontario (see chapter 33), and, more generally, of Transport Canada's inability to deliver its National Audit Programme effectively.

National Audits

Transport Canada's revised Manual of Regulatory Audits (1990) defines an audit as "An in-depth review of the activities of an organization to verify conformance with current regulatory standards and practices" (Exhibit 963, p. 1-1). These audits are conducted pursuant to the *Aeronautics Act*, c.A-2 and c.33, s.4.2(K), which empowers the minister to "investigate, examine and report on the operation and development of commercial air services in, to, or from Canada."

At the time of the Air Ontario audit, the director-general, aviation regulation (DGAR), was responsible for all aviation regulation audits and inspections. This responsibility was further delegated to the director of flight standards, the director of the Airworthiness Branch, and the regional directors of aviation regulation.

An audit is one of a number of devices available to Transport Canada to monitor regulatory compliance and the general health of Canadian air carriers. In this regard, an audit program serves as an important

preventive measure in preserving the public trust in the safety of civil aviation.

Typically, audits involve a team of air carrier and airworthiness inspectors who, over a period of about two weeks, comprehensively review and monitor an air carrier's operations, including record keeping. An audit report, containing the "non-conformance" findings and recommendations of the audit team, is compiled and presented to the audited company within 10 days of completion of the audit.[1]

The regional director, aviation regulation, for Ontario Region, Mr Ronald Armstrong, capsulized in his evidence the reason for audits:

> A. The purpose of the audits is to take what you'll hear lots of us refer to as a snapshot of a particular carrier and their state of health at a particular point in time. We get the running movie picture of the state of health of that company through our day-to-day activity with those carriers, but as the inspectors are only looking at a one-of event at any given time, one PPC, testing the product of the training process via looking at the pilot's performance, or looking at a particular aircraft and testing the maintenance capabilities of that company by looking at the maintenance and airworthiness of that aircraft, we'd go in and look at a systemic approach when we're doing an audit. And that's what it's mainly about. It's to look at the company's systems and see whether there are any deficiencies in those systems.
>
> At the same time, there will be an examination of the product of that company, the pilot, the cabin attendant and the aircraft, as part of an audit – as part of a large audit, not necessarily the smaller audit.
>
> (Transcript, vol. 124, p. 167)

Under the National Audit Programme (NAP) (1983–90) it was intended, although seldom achieved, that headquarters would conduct three national audits per year and that each national carrier would be audited every three years. Under the 1990 revised Manual of Regulatory Audits (Exhibit 963), the frequency of air carrier audits depends not only on how much time has elapsed since the last audit, but also on the carrier's regulatory compliance and safety record. The manual sets out that carriers are to be audited every six to 36 months and that all carriers are to be audited six months after initial certification. In determining audit frequency within the six- to 36-month time period, the convening

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[1] Non-conformance is defined in the revised Manual of Regulatory Audits as follows: "deficiency in characteristics, documentation or procedure which renders the quality of a product or service unacceptable or indeterminate."

authority is to take account of the following risk management indicators that are intended to highlight potential problems in an air carrier:

- financial/labour/management difficulties
- poor internal audit/Quality Assurance programme
- change in operational scope or additional authority
- large change in contracting
- high turnover in personnel
- loss of key personnel
- addition to or change in product line
- poor accident or safety record
- merger/takeover, and
- previous audit history.

(Manual of Regulatory Audits, p. 1-12)

National versus Regional Audits

Transport Canada's first national audit was conducted on Air Canada in 1983. Prior to that time, audits, which were formerly referred to as base inspections, were convened and conducted solely at the regional level. In developing the National Audit Programme, Transport Canada headquarters assumed the responsibility of auditing Canada's larger carriers. This new audit program, however, did not drastically alter the status quo. National audits are basically similar to regional audits, the fundamental difference being the location of the convening authority. Mr Armstrong expanded on this distinction in his testimony:

> A. National audits and regional audits are ... the same, it just means who's doing them. Where is the convening authority located, and national audits would be conducted on those, if we're speaking air carriers, those air carriers which are regulated out of the seventh region: Air Canada, Canadian [Airlines International], Canadian Helicopters, those would be done as a national audit basis, with an audit manager and possibly team leaders from headquarters with ... working level resources coming from wherever they can obtain them in the organization, be that headquarters or regionally.
>
> Regional audit, the convening authority would be either myself [Ontario Regional manager] or the regional managers, and being resourced, again, most often out of the region but occasionally with resources from other regions.
>
> (Transcript, vol. 124, pp. 171–72)

Mr Henry Dyck, superintendent of large aircraft inspection, airworthiness, based at Transport Canada headquarters, was centrally involved in the incipient stages of the NAP. He also served as the manager of the

Air Ontario audit in 1988. Mr Dyck testified that the NAP did not establish a dedicated team to administer and conduct national audits. Instead, this substantial undertaking was added to the burgeoning workload of Mr Dyck and his staff in the Airworthiness Branch, as well as to that of his headquarters counterpart in Air Carrier Inspection. In October 1985, after the completion of five national audits, Mr Dyck aired his dissatisfaction with the NAP in an internal memo to his supervisor, Mr Roger Beebe, chief of airworthiness inspection in the Airworthiness Branch:

> I have supported these audits in concept, but I have also spoken out about the lack of availability of PYs [person-years] to carry out these audits under the existing staff allocation. We (ABMA) can no longer carry out national audits and continue to complete other work with any degree of efficiency. I cannot expect my staff to formulate policy and write staff instructions, (our main function), when they are busily engaged in national audits and the subsequent follow-up work.
>
> (Exhibit 1052)

In the same memo, Mr Dyck went on to recommend the formation of a permanent national audit team, not only to alleviate his own workload, but, as he added, "the permanent audit team would certainly be beneficial in concept to prepare and cope with the situations arising out of deregulation, i.e. the upcoming merger of CP Air, Nordair, EPA, and maintenance contracting to outside agencies, etc., etc." Although Mr Beebe responded to Mr Dyck's memo, his response did not address the proposed establishment of a permanent national audit team, nor did it satisfy Mr Dyck's concerns regarding deregulation.

By 1988 it had become clear that Transport Canada was experiencing acute difficulties in delivering its NAP. The issue came to the fore in January 1989, as a result of a series of internal Transport Canada memoranda that requested that no national audits be scheduled for fiscal year 1989/90 because of a lack of resources and an overwhelming workload. In a memorandum to Mr William Slaughter, director of flight standards, dated January 20, 1989, a memorandum commonly referred to as the "MacGregor Memo," Mr Neale MacGregor, acting chief of operations and certification, argued for a deferral of all national audits because of the "critical" situation in Air Carrier Inspection:

> The plan for the coming fiscal year was to conduct National Audits on Air Canada and Wardair. The size and scope of these two audits would completely denude AARCBA [Large Air Carrier Operations – Headquarters] of staff for up to a month at a time, and would make it impossible to review and approve the many documents required for certification (Operations Manuals, Training Manuals and

> MELs), or carry out non-discretionary commitments such as initial check-outs, captain upgrades and CCP monitorings.
>
> (Exhibit 1106)

Another serious impediment to the continued functioning of the NAP was revealed in a memo dated April 19, 1989, from Mr Beebe to his superior, Mr James Torck, director, Airworthiness Branch. What had been established as a joint venture between headquarters' Airworthiness and Operations groups had deteriorated. In his memo, Mr Beebe strongly asserted the Airworthiness Group's frustration and dissatisfaction in working with Operations and called for a rethinking of the program. As the following excerpt from the memo indicates, the audit of Air Ontario in 1988 (as discussed in chapter 33) exemplified the shortcomings of the Operations Branch:

> You may recall that the NAP was set up as a response for a uniform and consolidated approach to auditing the airline industry. At the time of its inception and to best address the administrative aspect of the program, Airworthiness relinquished the OPI [Office of Primary Interest] role to the Operations Branch. However, it would appear that this arrangement isn't meeting its intended goal. There are numerous indications pointing to the Operations Branch – falling short of delivering a quality program. Most recently the Canadian Airlines International Limited (CAIL) and Air Ontario National audits have failed to deliver their final reports within the prescribed time frames. In both instances, Airworthiness had completed their portion of the report, on time and delivered on schedule.
>
> ...
>
> ... This unwarranted delay has compromised the intent of the audit and seriously detracted from its credibility.
>
> (Exhibit 1093)

Mr Slaughter has held the position of director of flight standards since January 1988 and bears principal responsibility for the audit program. When he took up his new position, he realized that the audit program was "very poor" and in need of reform:

> A. ... I think it's become quite clear, and it was at the time, that as it progressed or immediately after the time, that the audit function that I had assumed when coming into the position was in place, was really less than ideal. In fact, it was very poor. I was most displeased with the whole audit process.
>
> And that, of course, came to light with such audits as the Air Ontario audit amongst one or two others. And for this reason, I took action to restructure the audit program to bring it into being more functionally responsible and responsive to our

> requirements as a regulatory agency and to the requirements of the industry.
>
> So that, fundamentally, that was what led to the creation of the audit program as we have it now.
>
> (Transcript, vol. 144, p. 27)

In 1989–90, in response to these and other concerns, the NAP was scrapped and audits were returned to the purview of the regions. These changes were in keeping with a new policy whereby headquarters assumed strict responsibility for development of policy and standards while the regions applied and enforced these standards. Nevertheless, the change to the audit structure does not appear to represent a significant departure from the previous order. Many of the carriers that would have been audited by the NAP now fit within the headquarters-based Seventh Region.

In addition, headquarters assigned four person-years, two each from Operations and Airworthiness, and created a permanent audit management team. Although termed audit management, this new group should not be confused in title or function with the audit manager appointed for each individual audit. Rather than participating in audits, this new group became responsible for developing the revised Manual of Regulatory Audits, reviewing the audit training of air carrier inspectors, and monitoring the regions in their conduct of audits.

Finally, in November 1989, the regional directors decided that Airworthiness and Operations should conduct their audits separately rather than jointly. This decision was commented on in a January 1990 document entitled "ADMA [Assistant Deputy Minister Aviation] Action Plan: Regulatory Audits":

> The consensus was that 80% of the aviation companies would never rate the time and effort of a combined audit and that specialist (flight standards or airworthiness) audits should henceforth be considered the norm.
>
> This approach has the advantage of allowing more resources to be directed to the problem areas, as well as increasing the number of companies that are likely to receive at least one annual check. At the same time, companies who receive a poor report in the specialist audit would be targetted for more attention, including a combined audit, if warranted.
>
> (Exhibit 1322, Annex 7)

While this policy of separating Airworthiness and Operations audits may reduce the opportunity for conflict between Airworthiness and Operations personnel, it also takes away the benefits of combined audits – most notably the ability to get a truly comprehensive picture of the

company at one time, as well as the ability to address most effectively matters of joint responsibility.

Audit Manuals

In 1986, under the auspices of the director-general, aviation regulation, work began on an audit policy manual entitled Manual of Regulatory Audits (MRA). The office of prime interest (OPI) for the MRA – that is, the responsibility for its coordination, production, distribution, and amendment – rests with the director of flight standards (formerly the director of licensing and certification). A number of draft MRAs were produced and disseminated in the intervening years but during the hearings of this Commission, in December 1990, it was disclosed that the document had never received final approval. Two versions of the MRA were tabled before this Commission: the first (Exhibit 1034), dated June 25, 1987, was most likely used by the team that audited Air Ontario in 1988; and the second (Exhibit 963), compiled in 1990 by the newly appointed audit management team, is the most recent version of the MRA. It received approval on January 23, 1991, soon after the completion of the hearings of this Commission.

Mr Dyck testified that the MRA was not used as a primary document by auditors but, rather, was used as a reference document. Another document, the Audit Procedures Handbook (Exhibit 1033), although produced as a manual for auditor training, was more often used as a field document by inspectors. It was, in fact, also used by the audit team who audited Air Ontario.

Evidence given before the Commission revealed some confusion as to the status of these documents and their co-relationship. The MRA had been in existence in its various incarnations and had been widely circulated for approximately five years, but it had never been approved. The handbook, though widely used and circulated, was a training document. While no apparent conflict in policy or procedure between the manual and the handbook came to light, the lengthy approval process for the MRA, as well as the overlap in the documentation, reflects poorly on Transport Canada's management of its audit program.

Audit versus Other Compliance Checks

Audits are an important regulatory tool for measuring the safety level of a company at a particular point in time. Because Transport Canada's audit of Air Ontario just five months before the Dryden accident did not cover Air Ontario's F-28 program, the overall efficacy of the audit was brought into question and a thorough investigation of it was undertaken.

However, the degree of attention paid to the audit by this Commission should not be interpreted as in any way minimizing the value of other regulatory checks such as in-flight inspections, pilot proficiency checks (PPCs), and instrument rating renewals.

In addressing the value of audits relative to other compliance checks, and as is discussed in chapter 30 of this Report, Effects of Deregulation and Downsizing on Aviation Safety, Mr Ian Umbach, the superintendent of air carrier operations, rated in-flight inspections as a more valuable regulatory tool than audits:

> Q. Can you describe the value of audits, in your mind?
> A. Audits have a place in our monitoring and surveillance system. They are designed to ensure that the carriers record-keeping and infrastructure is acceptable, and they do have value.
>
> However, I feel that other things, such as in-flight inspections and PPCs, have more value.
>
> Certain audits, for example in the certification process, are very high value. An audit after a merger has a very high value.
>
> But a routine audit, I consider about midway to the bottom third of our, say, a scale of our inspection priorities.
>
> (Transcript, vol. 138, pp. 101–102)

Mr Slaughter generally agreed with this:

> A. ... the point I would like to make is that I see an audit as being part of a ... program of checks on the carrier.
>
> ...
>
> I heartily agree with the testimony that indicated that an in-flight inspection is probably one of the better methods of looking at ... the operation of that particular flight. And a series of these gives a great monitoring of the industry. And I think that's a very effective tool to use.
>
> ... my own opinion is that an audit has a place in the overall surveillance program, not the only place. I don't think we can get rid of the other things and concentrate only on audits, but by the same token, I don't think the other things in isolation has quite the same impact as included audits in the overall program.
>
> So fundamentally, the reason I put it in number 5 is that I have a little ... more confidence in the audit program, and secondly, it has been a recognized part of the directorate's thrust on regulating the industry ...
>
> Q. But what you are saying, Mr Slaughter, is that the audit per se is only one piece of an entire system which you would like to see in place; am I understanding you right?
> A. Yes, that's right, sir.
>
> (Transcript, vol. 144, pp. 74–75)

To deliver an aviation safety program such as the audit effectively, it is imperative that the program be thoroughly planned, ably managed, and adequately funded. Inspectors involved in an audit must be well trained and conversant with the audit's objectives and procedures.

These necessary ingredients were rarely seen through the life of the National Audit Programme – from its inception in 1983 to its dissolution in 1989. However, it appears that the problems that were experienced in the audit of Air Ontario in 1988, and which were exposed and analysed before this Commission, have jolted Transport Canada into taking action to rectify the deficiencies in its audit program. The revised Manual of Regulatory Audits, issued by Transport Canada in 1991, provides some organizational improvements to reduce the confusion that at times characterized the 1988 audit of Air Ontario, which I address in chapter 33.

33 AUDIT OF AIR ONTARIO INC., 1988

Transport Canada's Ontario Region was, at all material times, responsible for monitoring and inspecting the day-to-day operations of both Air Ontario Ltd and Austin Airways. Soon after the two companies merged in June 1987 to form Air Ontario Inc., Ontario Region began to plan an audit of the new entity. Because mergers often result in significant and complex changes in companies and because Air Ontario Inc. was also in the process of introducing a new aircraft type, Mr Donald Sinclair, Ontario Region's manager of air carrier operations, and Mr Martin Brayman, Ontario Region's superintendent of air carrier inspection (large aeroplanes), thought that it was an appropriate time to conduct an audit. As Mr Sinclair explained in his testimony:

> A. The decision [to audit Air Ontario] was based on the fact that they were undergoing this melding process of Air Ontario Limited and Austin Airways Limited. We wanted a snapshot in time as to how the company was coming.
>
> ...
>
> We had two diversely different operations being melded into one. We had ... what started out to be a bush operation way back by the Austin family which was operating principally up and down the coast of the [Hudson] Bay, we had it melding with a very neat scheduled operation in southern Ontario with larger airplanes.
>
> Q. Why would this cause you concern?
>
> A. How the two were going to meld together under one operational control, under one chief pilot, under one director of maintenance, et cetera.
>
> (Transcript, vol. 142, pp. 63–65)

After Economic Regulatory Reform (ERR) was implemented in 1985, the workload of Transport Canada's inspectors increased dramatically (see chapter 30, Effects of Deregulation and Downsizing on Aviation Safety). Mr Brayman explained that the decision to audit Air Ontario in 1988 reflected Ontario Region's concern over its ability to execute its mandate under the strain of ERR:

> A. During this period, we were under a great deal of stress, and there is no question we were worried that there might be some cracks in the door, that something might slip by us. We were

> hoping to use the audit as a back-up tool to ensure that that didn't take place.
>
> (Transcript, vol. 132, p. 221)

Organization of the February 1988 Audit

Initially, Mr Sinclair had planned to conduct a regionally based, in-depth, joint Operations Branch and Airworthiness Branch audit commencing in November 1987. As planning for the audit progressed, however, the audit was elevated from a regional to a national audit and rescheduled to February 1988. Ultimately the airworthiness portion of the audit went ahead in February 1988 while the operations portion was further postponed until October 1988.

Mr Brayman indicated that although the proposed audit of Air Ontario was first conceived as a regional audit, Ontario Region actually favoured some degree of headquarters involvement. Such collaboration would not only ensure the independence of the auditor from the carrier (Ontario Region was involved with Air Ontario on a day-to-day basis), but would also assist Ontario Region, which did not have the personnel needed to do the job:

> A. I think at the time we were very short of personnel and we didn't feel that we could put together an audit team in region, so we turned to the national audit team and requested they do the job for us.
>
> (Transcript, vol. 132, p. 3)

The involvement of headquarters and the upgrading of the audit to a national audit was not free of conflict. Because Transport Canada did not have permanent audit staff to assign to the audit, inspectors had to be recruited from various regions, including headquarters. However, the absence of an inspector seconded to an audit for two to three weeks inflicted tremendous strain on the affected headquarters or regional office already overworked because of ERR-related demands. When Ontario Region requested that headquarters provide an audit manager to ensure that this key position was held by someone not otherwise involved with Air Ontario, the request was accepted by Mr Donald Douglas, director of licensing and certification. He then made a specific request for Mr Henry Dyck to be made audit manager to Mr James Torck, headquarters director of airworthiness, who turned down the request in a memorandum of November 26, 1987:

> We are unable to accommodate your request because of other ERR related priorities and the possible national audit of Okanagan

> Helicopters in February. We also understand that PARD [Ontario Region] is able and willing to assign an audit manager for this audit.
>
> (Exhibit 1063)

In his testimony before the Commission, Mr Dyck expressed his own disinclination to participate in the Air Ontario audit and explained why he believed Ontario Region sought to include headquarters personnel in the audit. First, Ontario Region wanted to find auditors who had not been previously involved with Air Ontario. Second, although he believed that Ontario Region had the necessary manpower to do the audit, Mr Dyck described what he perceived to be an underlying feud between the Operations and Airworthiness branches at Ontario Region that precipitated the request to headquarters to supply the audit manager (see chapter 32, Audit Program):

> A. Well, again, as I recall it, and the conversation I had with the man at the time, Mr Al Bryson [Ontario Region superintendent of air carrier airworthiness], there was a bit of conflict ... between himself and the operations people as to who was going to do the audit. Call it inter-departmental feuding or rival – friendly rivalry is the best description.
>
> ...
>
> ... I asked, well, why aren't you doing the audit if you have the time and the people and the ability. And they [Airworthiness] said they didn't want them [Operations] involved in the process of it all.
>
> (Transcript, vol. 135, pp. 107–108)

Ultimately, the planned Air Ontario audit was changed to a national audit, which was scheduled to run from February 16 to March 3, 1988. Mr William Slaughter, director of licensing and certification (which became flight standards), assumed the role of convening authority, Mr Dyck was appointed audit manager, Mr Peter Saunders, airworthiness team leader, and Mr Bruce Ingall, operations team leader. According to Mr Dyck, the audit was given national status because Ontario Region had not been able to obtain the required personnel and funds:

> A. ... To call it a national audit, that would mean that we could now recruit people from other regions to do the job.
>
> From the perspective of the Ontario regional operations, people were not available or could not do the job, so they asked for additional help.
>
> In order to do it, they elevated it to a national audit, and that way they could get additional funding and the manpower that would ... They perhaps wanted money to do it and they didn't have it.

> Like I say ... I don't really know. From the airworthiness portion of it, the side of it, the people were there and they were available. So other than that, there was not much of a reason to make it a national audit.
>
> (Transcript, vol. 135, pp. 113–14)

Audit Personnel: Selection and Training

A major shortcoming of the Air Ontario audit centred around personnel. From the start, there were difficulties in assembling inspectors to conduct the audit. The person eventually appointed as operations team leader had never before participated in an audit, let alone served as a team leader; the audit manager interpreted his responsibilities in a manner that conflicted with the Manual of Regulatory Audits (MRA); and the audit manager and the operations team leader were unable to work together effectively to complete the audit report in a timely manner.

Convening Authority

The convening authority is described in the MRA as "the manager responsible for authorizing a regulatory audit" (Exhibit 963, p. 1–3). Since national and regional audits were distinguished according to the location of the convening authority, once the Air Ontario audit became national, Mr William Slaughter, director of licensing and certification, was appointed headquarters-based convening authority by the director-general of aviation regulation.

The convening authority is responsible for convening the audit and appointing the audit manager and team leaders, approving the audit plan, and assigning audit follow-up activities. In addition, the audit manager is expected to keep the convening authority informed of pertinent audit matters (Exhibit 963, pp. 1–24 and 1–41).

Audit Manager

The MRA defines the audit manager as "an individual designated by the Convening Authority who is responsible for planning and overall conduct of the audit, up to and including production of the final Audit Report" (Exhibit 963, p. 1–1). The audit manager may be an operations inspector, an airworthiness inspector, or an airworthiness engineer, and should have the following qualifications:

- completion of the Audit Training Module provided by the Inspector/Engineer Training and Development Branch

- experience related to the type of operation to be inspected
- experience with Transport Canada administrative procedures
- no conflict of interest in relationship to the Auditee.

(Exhibit 1034, Manual of Regulatory Audits, p. 1–2)

When the audit of Air Ontario became a national audit, Mr Dyck was appointed audit manager. He brought more than adequate training and experience to the task. Although it was his first appointment to the position, he had been a team member on a number of audits as well as the airworthiness team leader on the national audits of Air Canada in 1983 and Okanagan Helicopters in 1985. Moreover, he was involved in the establishment of the National Audit Programme in 1983, and validated, or critiqued, Transport Canada's Audit Training Module. In spite of his experience, Mr Dyck could not be described as an eager or willing participant. As the following excerpt from his testimony indicates, he reluctantly accepted the appointment in order to fulfil an obligation to alternate airworthiness and operations personnel as national audit managers:

> A. ... I was directed by my boss to do it ... my boss [Roger Beebe, chief airworthiness inspector] and the other – and Mr Corkett [chief of air carrier operations] had agreed to share the responsibilities of audit manager and it was now our turn.
>
> Although I declined it the first time and tried to decline it the second time, it was my assignment.
>
> (Transcript, vol. 135, pp. 114–15)

The audit manager has the responsibility to plan, coordinate, and "maintain the integrity of the audit process" (Exhibit 1034, p. 3-1). More specifically, and as set out in the Transport Canada policy/guideline documents, the Audit Procedures Handbook (Exhibit 1033), the Manual of Regulatory Audits (Exhibit 1034), and the revised Manual of Regulatory Audits (Exhibit 963), the audit manager's responsibilities include maintaining contact with the convening authority, communicating with senior management of the auditee, exercising line authority over assigned audit staff, ensuring that all functions of the audit team have been completed prior to the release of the individual members, and preparing the draft audit report.

The revised Manual of Regulatory Audits, which was approved by Transport Canada on January 23, 1991, contains similar but expanded provisions on audit manager training requirements and responsibilities. This new MRA appears to have addressed some of the areas of concern that arose in the 1988 audit of Air Ontario and that are the subject of my commentary in this section of the Report.

Audit Team Leader

The MRA and the audit handbook set out the duties of an audit team leader: to maintain ongoing communication with the audit manager; debrief auditee management upon completion of the audit; become familiar with the company's policies, instructions, and procedures; and draft sections of the report as required by the audit manager (Exhibit 1034, pp. 3–2, 3–3). Neither manual, however, offers guidelines on required experience or training.

The revised MRA, in contrast, is far more explicit in this regard. It requires that a team leader have the same qualifications as an audit manager – that is, that he or she be a flight standards or airworthiness inspector, or airworthiness engineer, and have participated in at least two large audits as a team member (p. 1–56).

Where the audit is a joint Operations/Airworthiness audit, as was the case in the Air Ontario audit, there will be two team leaders: operations and airworthiness. At the time the Air Ontario audit team was being assembled, there was no Transport Canada policy document or guideline establishing responsibility for appointing team leaders. As a result, the appointment to this important position was carried out in a haphazard fashion and resulted in the formation of ineffective working relationships. Mr Dyck testified that he had no involvement whatsoever in the selections of Mr Bruce Ingall, and subsequently Mr Leonard Murray, to the position of operations team leader.[1] In contrast, Mr Dyck specifically requested Mr Peter Sanders, whose credentials he was familiar with, as his airworthiness team leader. Since Mr Dyck's experience was in airworthiness, he was more familiar with the pool of potential airworthiness team leaders than the corresponding group in operations. Partly as a result of these appointments, I believe, the airworthiness audit was conducted smoothly, while the operations audit was to some extent impeded by the discordant working relationship between Mr Dyck, the audit manager, and Mr Murray, the operations team leader.

The convening authority, Mr Slaughter, was also not involved in selecting the audit team members, including team leaders, preferring to delegate the responsibility to his staff. As Mr Slaughter's testimony indicates, he had no knowledge of the experience of the appointees:

> Q. How are members of an audit team selected, sir? And let's now get back to the Air Ontario situation.

---

[1] Mr Ingall was appointed as operations team leader for the February 1988 audit. Because the operations portion of the audit was postponed, and not actually conducted until October 1988, Mr Ingall was unavailable and was replaced as operations team leader by Mr Murray.

...

Did you have any input after January '88 on team members?

A. Not really, as I recall. I didn't have anything constructive to contribute at that point.

Although it was my authority, I really didn't know the individuals, didn't know the circumstances, so I went with what was offered to me, and respected the opinion of the people that offered them.

(Transcript, vol. 144, pp. 37–38)

The revised MRA improves on the previous situation in that it establishes clear procedures for the appointment of team leaders: "The Audit Manager shall select and designate Team Leaders in consultation with the CA [convening authority], and confirm their appointment in writing" (p. 1–56). Since the team leader reports to the audit manager, it is vital that the audit manager have confidence in his or her team leader. Had the team-leader selection provisions from the revised MRA been in place to guide the appointment of the operational team leader in the audit of Air Ontario, I am convinced that many of the problems that hindered the audit could have been avoided.

Audit Team Members

The MRA and audit handbook in effect in February and October 1988, at the times of the Air Ontario audit, did not outline the responsibility for or the procedure to be followed in securing appropriate audit team members. Yet, in the absence of permanent audit staff to conduct national audits, the process of assembling an audit team would necessarily be replayed for each audit. For this reason, it is in my view a glaring omission, and an invitation to controversy, that a system was not in place to ensure the orderly secondment of inspectors. When the initially appointed operations team leader, Mr Ingall, experienced difficulties in arranging a team, Mr Dyck, the audit manager, was called in to lend assistance. Mr Dyck testified as to the negative impact of this ad hoc approach:

Q. Is there any established Transport Canada procedure or policy for national audits to recruit staff – to recruit team members?

A. No, sir, there is not. It is strictly on an as-available basis. At that point it was.

The issue was addressed at the next audit, national audit meeting, and I suggested we create an on-call list. And I believe that matter was talked about further down the road as a result of this experience.

Q. Okay, and did you find that to be a satisfactory state of affairs in getting audit members?

A. No, it's not. That was one of the constraints that we had to work under for this audit and all audits up to that point.

... you must appreciate that these audits are an ad hoc project and we do not have full-time staff members assigned, so we have to solicit the help of regional staff to do the function with.

(Transcript, vol. 135, pp. 147–48)

Without question, because of the pressures created by ERR, there was a severe shortfall of available, trained personnel to serve as audit team members. This was exacerbated by an inadequate system of accessing these inspectors for audit duty. Mr Dyck commented that his greatest staffing problem was trying to acquire operations inspectors, which was described as a "beg, borrow, and steal" situation:

Q. Well, was it – to use a common expression, was it a beg, borrow and steal operation that you were on, to try and get the personnel you needed to do this operations audit?

A. Well, that was an expression I used at some time, yes.

I would phone the regional director and I would state my case, I need a body to do a certain function, and the response would go something like, yes, give me a minute, I will phone you back in a day or two and see what I can do.

And the response would come back, well, this guy is free, you can have him for "X" number of days. That type of scenario is what I encountered.

(Transcript, vol. 136, pp. 161–62)

With respect to the qualifications required of audit team members, the MRA stated that "all members of the Audit Team, with the exception of those in training status or serving as observers, shall have completed the Audit Training Module" (Exhibit 1034, p. 1–3). In the Air Ontario audit, however, Mr Dyck testified it had not been practicable to comply with the MRA. He said that members of a national audit committee meeting had resolved "that we would try to at least have team leaders have the training, as compared to the members, because insufficient training had been accomplished to this point and it would have been an impractical policy to say that everybody had to have that training" (Transcript, vol. 136, p. 164).

Postponement of the Operations Audit, February 1988

In preparation for the audit due to begin on February 22, 1988, Mr Dyck, the audit manager, and Mr Ingall, the operations team leader, were

briefed by Ontario Region on January 11, 1988, about Air Ontario's operations and maintenance (Mr Sanders, the airworthiness team leader, was absent). Then, on January 26, 1988, Mr Dyck and Mr Sanders (Mr Ingall was absent) met with Air Ontario executives to notify them formally of the upcoming audit and to apprise them generally of the audit process.

The audit teams assembled and commenced their audits as scheduled on February 22, 1988, but the operations portion was soon suspended. The merged entity, Air Ontario Inc., did not have an approved flight operations manual in place, and for this reason it was decided that it would be fruitless to conduct the audit at that time. Accordingly, the operations portion of the audit was postponed until June 15, 1988; however, the airworthiness, passenger safety, and dangerous goods portions of the audit continued as scheduled. As it turned out, the operations audit was finally conducted between October 18 and November 4, 1988, five months before the Air Ontario F-28 crash at Dryden. Ironically, the operations audit did not cover the problem-plagued Air Ontario F-28 program.

Air Ontario's Unapproved Flight Operations Manual

At the January 11, 1988, briefing from Ontario Region, the point was raised that Air Ontario's Flight Operations Manual (FOM) was not yet approved. This FOM represented the operating procedures of Air Ontario Inc., and was intended to replace the manuals that had been in use at Austin Airways and Air Ontario Ltd. An operations audit team relies on a Transport Canada–approved FOM as one of the principal standards against which it measures compliance. The minutes of the January 11, 1988, meeting state that "Bruce Ingall indicated some concern that Transport Canada may be conducting an audit without allowing the operator sufficient time to work with the new operations manual. Henry Dyck will determine the status of the operations manual as it relates to this audit" (Exhibit 1070).

Even though this warning regarding the lack of an approved FOM was raised six weeks in advance of the audit, it went unheeded by Transport Canada. Furthermore, this was not the first mention of the FOM's unapproved status. In October 1987, before the planned audit became a national audit, Mr Donald Sinclair, in a memo announcing the delay in the date of the audit, stated: "This will allow [the] carrier time to implement procedures etc. contained in the new maintenance control and operations manuals now being approved" (Exhibit 1060).

That it took as long as it did – five-and-a-half months – for Transport Canada to approve the FOM is symptomatic of the larger issue of insufficient resources to manage the ERR-generated workload. (Air

Ontario submitted its FOM to Transport Canada for approval on September 15, 1987. It was not approved until February 29, 1988.) Considering the effect that this agonizingly slow FOM approval process had on the audit, it is inexcusable that appropriate steps were not taken by Transport Canada between October 1987 and the commencement of the audit to ensure that the Air Ontario FOM was approved and in use.

Air carrier operations, the headquarters branch responsible for the FOM approval, and the audit manager, Mr Dyck, were situated in the same office building. While Mr Dyck is certainly not alone in bearing responsibility for having to postpone the Operations audit, I believe he could and should have insisted that the approval of Air Ontario's FOM be given high priority. It is clear from the minutes of the January 11, 1988, meeting that Mr Dyck was left with the responsibility of ensuring that the FOM was approved. It is also clear that the unapproved status of the manual had been brought to his attention in the audit's earliest planning stages.

Mr Dyck testified that because Air Ontario's operating certificate had already been issued, it was his understanding that all that remained in the FOM approval process was a "minor administrative task" (Transcript, vol. 135, p. 141). More important, from his perspective, was the fact that the company was still in a transitional stage and had not incorporated the procedures contained in the new FOM. Mr Dyck testified that he did not find out the company was still in a post-merger transition until he arrived in London on February 22, 1988, and began the audit, and he ascribed blame to both Air Ontario and Ontario Region for not having previously brought this to his attention:

> A. But the point I'm trying to make, in – as far as the physical act of approving the manual, that could have done, if that's all we are looking at, we could have clarified that issue very quickly.
>
> It wasn't the manual approval that was in question. It was the ability of the company to meet standards of that manual. And as Mr Nyman explained, they were still in transitionary stages, so it would have been fruitless to look at a situation that was in the stages of transition.
>
> Q. And did you attach a lot of weight to what Mr Nyman was saying to you?
>
> A. Yes, I did.
>
> Q. Well, the merger between Austin and Air Ontario Limited occurred in June of 1987, which was approximately eight months before these discussions in February of 1988.
>
> A. That is correct.
>
> Q. Do you not think that eight months would be sufficient time for the company to absorb this transition period and be in a state where ... you could conduct a valuable audit?

A. Sir, I was not party to discussions, meetings concerning the degree and the depth of the transition and the elements of the work that had to go into it.

I assumed that was already in hand with the Ontario regional office and should have been addressed by them because, after all, the Ontario region had already issued the operating certificate for the company during our preparation meeting at Toronto regional office.

We were not informed that the company was in a transition stage or was still transitioning. We were led to believe that it was already done and the company was now operating to the new manual.

(Transcript, vol. 135, pp. 171–73)

Air Ontario must also bear some responsibility for the aborted operations audit. Inexplicably, when the audit team arrived in London on February 22, 1988, Mr Robert Nyman, Air Ontario's director of flight operations, claimed he had not been forewarned of the audit. This is peculiar in light of the fact that the audit team attended at Air Ontario's corporate offices on January 26, 1988, for the express purpose of briefing the company on the upcoming audit. I find it difficult to accept that the director of flight operations would not have been aware of the upcoming audit. However, if that was the case, such an omission strongly detracts from the credibility of the Air Ontario organization at that time and is further evidence of disarray in the company. This state of affairs should have been interpreted by Transport Canada as another reason to proceed with the operations audit of Air Ontario. In his testimony, Mr Dyck expressed his surprise at Air Ontario's unpreparedness:

A. And at that time, I was informed that the operations part would be redundant to do the audit on that part because the company ... was not finished amalgamating the two elements of Air Ontario and Austin to the new company. They were still in the stages of changeover.

I asked Mr Nyman, at that time, why he didn't tell me, or I wasn't informed of this, because we had been and officially presented our audit plan to the company back in the meeting of January the 26th.

His response to me was that he was not aware – made aware of the fact that we were coming until the previous morning [February 22, 1988], he knew nothing about –

...

Q. Were you surprised by that?

A. Completely. I was completely surprised. I didn't know what to think of it at the time.

However, that was not the main issue. The issue was, was the audit feasible to conduct under the circumstances or was it not.

> And it was Mr Nyman who pointed out to me that because the company was still in the process of changing over, that to conduct the audit with the new manual would have been redundant.
>
> In other words, you would have looked at a situation that was in a transition rather than a completion state, and the efforts of the audit team members would have been somewhat fruitless at that time.
>
> (Transcript, vol. 135, pp. 167–69)

Mr Dyck went on to testify that the "main factor" in the decision to postpone the audit was Mr Nyman's representation that it would not be an appropriate time to conduct the audit:

> A. The main factor was Mr Nyman's claim that the transition elements had not been completed. It was the manual – the approval of the manual itself was of little concern to me because the manual could have been approved in a few minutes. As a matter of fact, the person who approved it was there on site.
> Q. And who is that?
> A. Mr Len Murray.
>
> (Transcript, vol. 135, p. 171)

The audit team should not have permitted themselves to be influenced by Air Ontario in this way. It is probable that a thorough operations audit conducted on Air Ontario at that point would have exposed at least some of the operational deficiencies, merger pains, and safety risks that were subsequently uncovered at the hearings of this Inquiry. It is imperative that the regulator, in the public interest, maintain at all times a healthy suspicion in dealings with air carriers. Mr Dyck agreed with this premise when it was put to him in cross-examination:

> Q. Well, let's face it. You asked Mr Nyman, have you got any problem, is there anything we can help you with while we are here, that's – and he said no, there are no problems. That's the process, wasn't it?
> A. Well, it wasn't only Mr Nyman, it was Mr Ingall as well and Mr Sinclair and Neale MacGregor, all of those people who were part of the decision process, to defer it.
>
> The point was, I said, what can we do while we are here, is there anything we can do constructive.
> Q. But the thing is, you were there to determine whether there was any problem or not. I mean, that wasn't Mr Nyman's job to tell you about problems. You were there to do an in-depth audit to verify that there were no problems; weren't you?
> A. Correct.

Q. I mean, if Transport relied upon carriers to tell them when audits need to be done, there would never be any audits, would there?
A. That's correct.

(Transcript, vol. 137, pp. 75–76)

On February 23, 1988, the day after the operations and airworthiness audit teams commenced their audits at Air Ontario's base in London, the operations team leader, Mr Ingall, advised the audit manager that he felt the operations portion of the audit should be postponed because of the absence of the Flight Operations Manual. A meeting was convened between representatives of the audit teams and Air Ontario to discuss the audit.

When informed that the audit was in jeopardy, Mr Sinclair and Mr Brayman, who were flying a Transport Canada aircraft from Toronto to Windsor at the time, diverted to London for the meeting. After this meeting, the Transport Canada officials – Messrs Dyck, Ingall, Sinclair, Brayman, and MacGregor – got together to discuss the postponement of the audit. Mr Neale MacGregor, acting on behalf of Mr William Slaughter, the convening authority, discussed the matter by telephone with both Mr Dyck and Mr Ingall, and later briefed Mr Slaughter. The convening authority acceded to the recommendations made by the on-site audit team to postpone the operations portion of the audit.

In light of the difficulty in putting together an audit team at a time when inspectors' workloads were at a maximum and resources were scarce, it is inexcusable that planning efforts among Ontario Region, the convening authority, the audit manager, the operations team leader, and the carrier were not coordinated to ensure total readiness for the audit. The valuable time of every operations team member, not to mention the taxpayers' money, was wasted as a result of the postponement of the operations audit of Air Ontario.

The further question that arises is whether the audit could have proceeded without the approved FOM. Would the audit necessarily have been redundant because the company was not yet operating to the revised FOM, or would it have been an ideal time to audit because Air Ontario was in a state of transition? Mr Ingall, the operations team leader, whose view eventually prevailed, favoured a postponement of the audit. Both Mr Brayman and Mr Sinclair, in contrast, felt that the audit could have proceeded as scheduled. As Mr Brayman said in his testimony:

A. As a matter of fact, his [Mr Ingall's] opinion prevailed. Neither Don [Sinclair] or I felt that that was a good enough reason to postpone the audit, because an audit is nothing more than a snapshot that has taken place on a given period of time.

> And since companies are continually in transition, we felt that the fact that the ops manual was in a transitional process wouldn't really affect what the audit team would see. They would just see exactly what the company was doing at that time.
>
> (Transcript, vol. 131, p. 197)

> A. In a company such as Air Ontario, which is undergoing continuous rapid growth, the manuals are in continuous review. There is never a time when you really have settled down. There's always an amendment on its way.
>
> (Transcript, vol. 132, p. 4)

I agree fully with the approach attested to by Mr Brayman, and I am of the view, for the following reasons, that the operations portion of the Air Ontario audit should have proceeded, as scheduled, in February 1988:

- Audits are conducted for the protection of the public and the assistance of the air carrier.
- The functional merger that created Air Ontario Inc. had taken place in June 1987, eight full months prior to the scheduled audit. A transition period of such length raises warning flags and warrants an in-depth inspection of the carrier.
- It is a requirement of law (Air Navigation Order Series VII, No. 2, section 31) that a carrier provide an operations manual for the use and guidance of operations personnel in the execution of their duties. In the approximate eight-month post-merger period, but prior to the approval of the new Air Ontario Inc. Flight Operations Manual, Air Ontario Inc. crews continued to use both the old Austin Airways and Air Ontario Ltd operations manuals. The protracted circumstance of the company's functioning with two flight operations manuals created a potential safety hazard worthy of inspection.
- Even though operations audit teams rely on a Transport Canada–approved flight operations manual as the standard against which to measure compliance, in the absence of the new, approved, and integrated FOM the audit team, composed of experienced air carrier inspectors, could still have conducted an in-depth, effective audit of the company at that time.
- Since the audit team was already assembled and as resources were at a premium, every effort should have been made to conduct the audit, even though some minimal time would have been spent revising the audit plan.
- Separating the airworthiness, passenger safety, and dangerous goods portions of the audit from operations dilutes the effectiveness of the audit as a comprehensive snapshot of a company at a particular time.

A joint audit would have been more effective in that there are overlapping responsibilities among these different audit teams.

Finally, the circumstances surrounding the delayed operations audit again illustrate the existence of an interbranch problem between the Airworthiness and Operations branches. It appears that Mr Dyck's inaction with regard to the Air Ontario audit in the period between January 11, 1988, and the commencement of the audit on February 22, 1988, may have been influenced by his reluctance to prod the Operations Branch for work, such as the delay in the approval of the FOM. Mr Dyck agreed with a proposition put forth by his superior, Mr Roger Beebe, that the failure of the National Audit Programme to produce a quality program was attributable to the fact that the office of primary interest was held by the Operations Branch rather than the Airworthiness Branch. Mr Dyck placed the onus for the audit's downfall squarely on the operations side:

> Q. All right. Well, Mr Beebe is pointing to the operations branch as the party who is being blamed, it seems. Would you agree with that?
> A. Yes, to a certain degree, yes, I would.
> Q. And could you provide the Commissioner with your views on this airworthiness operations discrepancy?
> A. Well, using the evidence that we have discussed in the last few days as an example, from the inception of the audit, there is a lot of discussion and to-ing and fro-ing regarding selection of team members.
>
> Then there's also a discussion and changes of audit dates and schedules and trouble obtaining the audit manual. Then there's further trouble in re-scheduling the audit without our involvement. Then we have further trouble in completing the audit report.
>
> It is that type of scenario that we are talking about in general terms as being a difference between the way the operations branch operates and the way we, in airworthiness, operate.
>
> (Transcript, vol. 136, p. 106)

The apparent ability of the Airworthiness Branch to complete audits more promptly than the Operations Branch appears, at least in part, to be due to the differences in work priorities between the two branches. In fairness to operations inspectors, pilot proficiency checks (PPCs) are deemed non-discretionary work items while audits are discretionary. As such, operations personnel, to the chagrin of their airworthiness colleagues, have often been delinquent in completing their audit responsibilities because they have had check rides to conduct that took

priority. Mr Dyck testified that he encountered that very problem in attempting to complete the final report of the Air Ontario audit:

> A. Well, again, in my experience with trying to complete the operations portion of the audit and trying to deal with Mr Murray, one of Mr Murray's other priorities was flying, for various reasons.
>
> And this other priority, of course, interfered with the completion of the audit report. That is basically, I believe, what he is talking about here.
>
> (Transcript, vol. 136, p. 109)

Conflicts between different factions exist in most if not all industries and workplaces, and the airworthiness-operations conflict might be seen as an overblown, petty rivalry. Petty or not, however, such conflicts may compromise the safety of the travelling public, as the cancellation of the Air Ontario operations audit illustrates. Nevertheless, the onus must rest with Transport Canada management to establish policies that neither conflict with one another, such as leaving discretionary work (e.g., audits) unfinished because of a non-discretionary obligation (e.g., pilot proficiency checks), nor cause conflict among the line personnel who implement the policy.

Approval of the Flight Operations Manual

Air Ontario's FOM received Transport Canada approval on February 29, 1988, a mere one week after the postponement of the operations audit. There can be little doubt that the haste with which the approval ultimately arrived was a direct result of the postponement of this audit. This view was confirmed by Mr Leonard Murray, who, on his return to Ottawa from London after the aborted audit, was assigned to finalize the FOM's approval:

> Q. And how long did it take for the manual to get its approval from the time you were dispatched into the assignment of having a look at it and providing an opinion on its – whether or not it should be approved?
>
> A. I can't give you exact – it wasn't very long. I can't, you know, it was maybe a day, two days.
>
> Q. All right. So you came back from the audit of Air Ontario on the 23rd of February, and by the 29th of February, the manual had been approved; is that right?
>
> A. That's correct.
>
> ...
>
> Q. As far as you are aware, did the cancellation of the audit at Air Ontario have anything to do with the approval of this manual within one week?

A. Yes.
Q. And could you elaborate upon that? What is your understanding of the connection between the two?
A. I'd say it speeded it up.
Q. After this memorandum of February 29th, 1988, that being Exhibit 1038, was it your understanding that you would be involved with the Air Ontario operations audit when it resumed?
A. I had a feeling that I would probably be asked to do the Convair work again on the next audit.

(Transcript, vol. 133, pp. 96–98)

Air Ontario submitted the Flight Operations Manual to Transport Canada for approval on or about September 15, 1987. As such, it took Transport Canada close to six months to approve and return the FOM. Despite the compelling evidence before this Commission of excessive workloads in the Air Carrier Branch as a result of deregulation, that alone is not a sufficient reason for failing to approve a crucial document such as the FOM in a more timely fashion.

The February 1988 Audit

Airworthiness Audit

In contrast to the operations portion of the audit, the airworthiness audit, under the guidance of airworthiness team leader Mr Peter Sanders, was planned and executed smoothly. This was also the case for the passenger safety and dangerous goods audits conducted by Ms Jacqueline Brederlow and Mr Paul Saulnier, respectively. A post-audit meeting was held on March 24, 1988, at which time the draft airworthiness, passenger safety, and dangerous goods portions of the audit report were presented to Air Ontario officials. Subsequently, the final versions of these portions of the audit report were sent to Air Ontario under a covering letter from Mr Dyck to Mr Douglas Christian, Air Ontario's chief inspector, on or about April 15, 1988. (This date is Mr Dyck's best recollection, since the covering letter was left undated.) The punctuality of the airworthiness, passenger safety, and dangerous goods inspectors in compiling their reports is in stark contrast to the five-month period taken by the operations team to complete its report.

The specific airworthiness audit findings did not reveal significant transgressions in Air Ontario's maintenance organization. It should be noted that the Air Ontario F-28 program was not audited, since the first F-28 was not acquired until May 1988. In general, Mr Dyck was satisfied with the conduct and results of the airworthiness audit, and described

the findings and non-conformances as "typical ... for a company of that size" (Transcript, vol. 136, p. 17).

Passenger Safety Audit

The passenger safety portion of the audit was conducted from February 29, 1988, to March 4, 1988, by Ontario Region's superintendent of passenger safety, Ms Jacqueline Brederlow, with the assistance of Inspector Jennifer Johnstone.

Passenger safety inspectors are responsible for inspecting and approving all matters pertinent to interior cabin safety. Transport Canada's Ontario Region is structured in such a way that the passenger safety division reports to the regional manager, air carrier operations. For this reason, and because their responsibilities overlap, the operations and passenger safety audits were originally scheduled to coincide. However, because Ms Brederlow had prior commitments at a passenger safety training course, she did not arrive in London for the audit until February 29, 1988, by which time the operations audit had already been postponed and the operations audit team had disbanded. On the decision of the audit manager, the passenger safety audit went ahead as planned.

In light of the circumstances of the postponed operations audit, and the problems in coordinating busy schedules, it is difficult to fault the decision to proceed with the passenger safety audit in February-March 1988. However, the fact that Ms Brederlow found herself conducting an audit without the support of the operations team is yet another consequence of the poor planning and resultant cancellation of the operations audit.

Although little evidence was presented on the findings of the passenger safety audit, one example did come to light of an inconsistency between operations and passenger safety that could have been prevented with effective communications between the two groups. A document used by Ms Brederlow in her inspection, entitled Audit Checklist for Air Ontario Inc. National Audit 29 Feb – 4 Mar 1988, illustrates the importance of uniform procedures for the flight and cabin crews. The checklist included the following questions:

> Is the Cabin Attendant Manual procedurally consistent with the Operations Manual, Passenger Agent Manual, Aircraft Operating Manuals? Are Emergency Procedures and signals the same for cabin attendants and pilots?
>
> (Exhibit 1077)

Beside this question, Ms Brederlow had handwritten the response, "Yes. Based on draft Ops [Flight Operations] Manual."

The clear intention of the above-noted question is to ensure that the manuals guiding the operations of flight crews and cabin crews in a given situation are consistent. However, a comparison of Air Ontario's Flight Attendant Manual (Exhibit 137) and the Flight Operations Manual (FOM) (Exhibit 146) reveals an omission and/or inconsistency in the crucial area of hot refuelling. The Flight Attendant Manual sets out the following: "When refuelling is required with one engine running, all passengers are to be off-loaded and cleared from the area during the refuelling period. Flight Attendants should also leave the aircraft" (section 2.31, paragraph 12). The FOM, in contrast, is silent on this point.

Had the passenger safety and operations audits been conducted at the same time, it is possible that this variance would have been uncovered. Had this omission in the FOM regarding hot-refuelling procedures been exposed at the audit process and become the subject of review at Air Ontario, it is possible that the crew of flight 1363 would have been better equipped to respond to the hot-refuelling situation when it occurred on March 10, 1989. (Hot refuelling is discussed in chapter 21.)

Dangerous Goods Audit

The dangerous goods portion of the audit was conducted by Mr Paul Saulnier, regional superintendent dangerous goods, Atlantic Region. On March 11, 1988, upon completion of his audit, Mr Saulnier submitted his vertical analysis sheets[2] along with a dangerous goods overview to the audit manager. The dangerous goods overview included the following points:

- This audit seemed to be untimely considering the amalgamation of the two previous companies and the absence of an approved company flight operations manual.
- Considering the size of this company, it would be a definite advantage to all concerned for the company to appoint a dangerous goods coordinator.

[2] Vertical analysis is a reporting format whereby each audit finding is recorded on a separate form. Each form identifies a problem, provides examples and probable causes, and recommends corrective action. There are two types of findings and consequently two types of forms:

i) Non-conformance findings apply where legislative requirements or authorities delegated to the company have not been followed. They require a written response from the audited company and subsequent follow-up from Transport Canada.

ii) Observations are made where existing standards, practices, or techniques can be improved, but where such items do not relate directly to a requirement. The audited company may, but is not required to, respond to observations.

- The company must establish system-wide procedures to unify the present Air Ontario Inc. program.

(Based on Exhibit 1076)

Mr Dyck testified that he took no action on receipt of Mr Saulnier's dangerous goods overview:

> Q. All right. And upon receipt of ... this summary, this overview from Mr Saulnier, what did you do with these remarks?
>
> ...
>
> Did you pass these comments on to the company?
>
> A. No, sir. I passed them on – his findings as they were spelled out in the company operations manual – or, pardon me, the vertical analysis sheets that he provided to me.
>
> Q. All right, but not as stated in this overview?
>
> A. No. I may add that since these are his personal views, that where there are findings, then they should have been substantiated in the vertical analysis forms.
>
> And I may have used them – again, without looking at the report in any detail, they may have been included in the summary at some point.
>
> In other words, if you look in the report, you will see summaries for different areas. And they may have been, I don't know. I would have to do some research to answer that question.
>
> (Transcript, vol. 136, pp. 4–6)

I believe the substance of Mr Saulnier's recommendations is important and merited further action from Mr Dyck. Bearing in mind Mr Saulnier's unique expertise as a regional superintendent of dangerous goods, it would have been potentially beneficial to forward his comments to Air Ontario, even though they may not have fit within the vertical analysis format required for the report. If the time and money required to send experienced inspectors to conduct audits are being expended, then certainly the inspectors should not be discouraged from making observations or recommendations that may be of potential benefit to the carrier and the travelling public. The alternative is to check the company's conformance with standards, specifications, or regulations and to report only the non-conformances. While this approach more clearly delineates the inspector's duties and responsibilities, it runs the risk of engendering a "checklist mentality" in the inspectors.

The Operations Audit

Rescheduling and Restaffing the Operations Audit

What had initially been a 90-day postponement of the Air Ontario audit eventually stretched to eight months, and the operations audit team did not reconvene in London until October 18, 1988. The process of rescheduling and restaffing the audit, particularly the position of operations team leader, since Mr Ingall was not available to serve on the rescheduled audit, proved the major stumbling block.

Mr Slaughter announced in a memorandum dated July 21, 1988, that Mr W.A. (Bill) McKenzie, a small air carrier inspector, had been appointed as the new audit team leader for the audit of Air Ontario scheduled for October 18 – November 4, 1988. However, Mr McKenzie's appointment was short lived. He immediately wrote back that he was not qualified or endorsed on any of the aircraft in Air Ontario's fleet (except the DC-3) and would therefore not be an appropriate choice. Surely Mr McKenzie's qualifications should have been ascertained before his appointment.

As a result, on August 23, 1988, Mr Slaughter replaced Mr McKenzie with Mr Jack Rozon as the operations team leader. Mr Dyck, who was not involved in the selection process, was advised of Mr Rozon's appointment in a memorandum from Mr Slaughter:

> Because of circumstances beyond our control, W.A. (Bill) McKenzie's designation as Operations Team leader has to be withdrawn. Mr Jack Rozon of AARCBA [Large Air Carrier Operations – Headquarters] has been nominated in his stead and will be accompanied by Mr Len Murray of the same section who will profit from the opportunity to obtain on the job training.
>
> (Exhibit 1039)

As events unfolded, the passing reference that Mr Murray would "profit from the opportunity to obtain on the job training" became more significant, if not ironic. On or about October 5, 1988, less than two weeks before the starting date of the operations audit, Mr Murray, who had never been involved in an audit, was advised that he would be replacing Mr Rozon as operations team leader. Mr Murray related the events as follows:

> Q. And the expression, "profit from opportunity to obtain on-the-job training," as written by Mr Slaughter, what was meant by that?

A. I had never done an audit before, and that was the intent of it was to give me some on-the-job training.
Q. I see. So after August 23, it's a matter of record that now that you were a part of the audit team assisting or accompanying Mr Rozon. What was the next involvement you had with the Air Ontario audit, which would eventually occur in October, November of '88?
A. I can't remember the exact dates. It was around maybe the 5th or 6th of October, '88.
Q. The 5th or the 6th of October, 1988, what happened?
A. I was advised that Jack Rozon would be taking the A310 course in Toulouse.
Q. In Toulouse, France?
A. France.
Q. Yes.
A. And that they wanted me to do the audit as team leader.
Q. And who advised you of this?
A. Mr Gilchrist advised me first.
Q. And what was your response when you heard that they wanted you to be the audit team leader?
A. I did not want to do it.
Q. Why didn't you want to do it?
A. I had no experience in previous audits.

(Transcript, vol. 133, pp. 103–105)

Undoubtedly Mr Rozon's announcement of his unavailability a mere two weeks before the scheduled start of the audit was especially disruptive since he was the third team leader to step aside. The subsequent appointment of a reluctant, inexperienced Mr Murray was a "desperate act" to prevent having to postpone the audit yet again. Not only did Mr Murray not have prior experience as a team leader, he had never before participated on an audit in any capacity. (He was to have been a team member on the postponed audit in February 1988.) He had, however, taken Transport Canada's one-week audit training course in April 1988.

Amazingly, the convening authority, Mr Slaughter, had elevated Mr Murray's position from one where he would "profit from the opportunity to obtain on-the-job training" to team leader. Mr Slaughter admitted he appointed Mr Murray because "he was the only one left":

Q. Len Murray, on the other hand, who also wasn't qualified –
...
– unfortunately didn't have the luxury of being able to turn this down?
A. That's right.
Q. Why not?

A. Because by then, I was becoming rather impatient. It was suggested that I postpone the audit again from the October period, and my patience by this time, when I was starting to get a grasp of what was happening, wore a little thin and I recognized that anyone – or at least I assumed, based on the information I gathered, that an air carrier inspector with the guidelines that were presented should be able to perform the audit – or the team leader function without too much difficulty.

And just to assist him, I ensured that, to the chagrin of the Atlantic region, a chap by the name of Roy Wilson was attached to the team, albeit for an abbreviated period of time, but Roy had been one of the founders of the audit procedures program and training package, so that I wanted him there to assist Len Murray and brief him and get him started and directed.

And then I thought that under the circumstances, he would be able to handle it himself.

Q. To cut through all the words that you have just used, what is the reason that Len Murray finally got the nod?

A. He was the only one left.

(Transcript, vol. 144, pp. 41–42)

Surely the Canadian public and Canadian air carriers are entitled to expect more.

Mr Slaughter further explained that Mr Roy Wilson, an air carrier inspector from Atlantic Region who did have significant audit experience, was not made team leader because he would not have been available for the duration of the audit. Mr Slaughter was anxious to have the audit completed and he was frustrated by the long delay, as well as the difficulties in securing a team leader. Nevertheless, I find his decision to appoint as operations team leader a person who had never before participated on an audit an error in judgement. Although Mr Murray voiced his reluctance to be team leader because of inexperience and even suggested that the audit be further postponed, his concerns were rejected by his superiors. The following excerpt from Mr Murray's testimony illustrates his reluctance to be team leader:

Q. And what did Mr MacGregor tell you?

A. He said there was nobody else left to do the Canadian audit, all the other inspectors were busy, and that I was the only one left, and had the audit course and he thought I could do it.

Q. And what was your reaction to that?

A. I told him I did not want to do it.

Q. And why did you tell Mr MacGregor you didn't want to do it?

A. As I said before, I didn't want to do it because I didn't have any experience in doing audits.

Q. And what was ... Mr MacGregor's response to that concern?

A. Well, I – before his response, I did ask if there could be a postponement to a later date and they could – when the Canadian audit got completed, then they could pick somebody for a team leader had come off the Canadian audit with experience.
Q. And what was his response to that suggestion?
A. He said that there was no postponements, that the director had stated he wanted it done now.
Q. And who was the director?
A. Bill Slaughter.
Q. So Bill Slaughter said no more postponements, the audit had to be done now. MacGregor passed that message along to you and you were it; is that right?
A. That's correct.
Q. And how did you feel about that?
A. I didn't feel too good about it, but I worked for Transport Canada.

(Transcript, vol. 133, pp. 105–106)

To his chagrin, Mr Dyck, the audit manager, was not involved in the rescheduling or restaffing of the operations audit. In fact, Mr Dyck was not consulted or even advised when the date of the audit was again delayed from July 1, 1988, to October 18, 1988. (Initially the audit was postponed from February 1988 until June 15, 1988, and then until July 1, 1988.) Mr Dyck's dissatisfaction was apparent in a letter he wrote to Ontario Region's director of aviation regulation, Mr Ronald Armstrong, on September 8, 1988:

> During the initial company debriefing and my meeting with you, and in our letter to the company we had agreed on a tentative date for July 1, 1988 to complete the operations portion of the audit. Subsequently the audit dates were changed without my knowledge, agreement or notice to the company. To preclude any further misunderstanding, can you confirm at your earliest convenience if there are any matters or issues that may interfere with the operations portion of the audit, as scheduled.
>
> (Exhibit 1086)

That the audit manager was excluded from the replanning of the audit is another example of poor communication in the administration of the audit. At the time that Mr Dyck wrote to Mr Armstrong, Mr Rozon was still the scheduled team leader. Nevertheless, when Mr Rozon stepped down, Mr Dyck was not involved in the appointment of his replacement, Mr Murray. However, in that he had previously received a letter from Bill Slaughter stating that Mr Murray will "profit from the opportunity to obtain on-the-job training," Mr Dyck was aware that Mr Murray lacked audit experience. Furthermore, it appears from Mr Dyck's

comments that the root of the problem once again stemmed from friction between the audit manager and the Operations Branch:

> Q. Did you feel that as the audit manager, you should be involved in the setting of dates and arrangements and so forth for the audit?
>
> A. Of course I should have been ... I specifically discussed the matter with the company on the very date that the initial part of the audit was cancelled. Not, pardon me, cancelled, deferred. And I specifically rescheduled it simply to avoid further embarrassment.
>
> And it was my understanding that that was an agreement, a commitment. That communication was undertaken by people, not by myself, and agreements were made without my consultation or knowledge, and the dates were changed.
>
> Q. Would it be fair to infer that you were frustrated and upset with Ontario region, how they were handling it?
>
> A. I was frustrated and upset with all of the operations side of the house, it wasn't just the Ontario region. It was a combination of the operator, the Ontario region and management on the operations side, that somebody had made this agreement and I was not informed about it.
>
> (Transcript, vol. 136, pp. 29–30)

Despite the difficulties experienced in staffing the operations audit in February 1988 and the fact that eight months were available to line up personnel for the October 1988 audit, staffing was still not attended to until the two weeks preceding the audit. The consequence of this poor management is that no F-28–qualified inspector was available at such short notice and the F-28 was not audited. Obviously, it would be far more difficult for an air carrier inspector to free up his or her heavily booked schedule for two weeks, on only two weeks' notice, than it would be on eight months' notice. It is no excuse to point to the unusual turnover of team leaders, and to claim that had there not been problems in the appointments of Mr McKenzie and Mr Rozon, a competent, qualified audit team would have been in place. Organization and competency starts at the top. In this instance, the convening authority and the audit manager, and their staffs, should have used their combined clout to assert the priority of the National Audit Programme and should have taken measures to ensure that the embarrassment of the February audit was not repeated.

Instead, the task of arranging for operation team members eventually fell to the team leader. Mr Murray, who had never before worked on an audit nor staffed an audit team, was saddled with the "beg, borrow and steal" task of staffing the audit on only two weeks' notice. Mr Dyck played no part in the selection of team members, nor did he have any

knowledge of their audit experience or even if they had taken the audit training course.

Mr Murray tried to secure Mr William MacIntyre, a qualified F-28 inspector, for the F-28 segment of Air Ontario's operations audit, but was told Mr MacIntyre was otherwise occupied doing check rides. Thereafter, as his testimony indicates, Mr Murray became frustrated and his attempts to secure a qualified F-28 air carrier inspector (ACI) ceased:

> Q. Did you elicit the assistance of Mr MacGregor to secure Mr MacIntyre as an F-28 trained ACI?
> A. No, I was getting frustrated at that time. I did phone – I needed somebody badly to do the small – on the sub-bases of their northern operation, and I made a phone call to Don Sinclair in Toronto and he said the only one he could spare, again that would be on a limited days, possibly maybe only two days, would be – he could complete most of the audit but maybe minus a couple of days, he would be unable to attend.
> Q. And who was that? Who would be available?
> A. Gord Hill.
> Q. So after speaking with Don Sinclair, you were able to get Gord Hill to deal with small aircraft in the sub-bases in the north?
> A. That's correct.
> Q. Did you seek the assistance of Mr MacIntyre again to secure an F-28 trained person?
> A. No, I didn't.
> Q. Did you look anywhere else to see if there were F-28 trained people available?
> A. No, I did not, at that particular time, I didn't.
>
> (Transcript, vol. 133, pp. 110–11)

On October 5, 1988, two weeks prior to the start of the operations audit, Mr Dyck wrote to Mr Donald Sinclair, Ontario Region's manager of air carrier operations, to arrange a pre-audit briefing meeting. Ontario Region, as the branch principally responsible for inspecting Air Ontario Inc. (and its predecessors Austin Airways and Air Ontario Limited), should have been well placed to brief the audit team on the rash of changes that the company had recently implemented. Mr Dyck provided Mr Sinclair with a list of ten items required for the meeting, including previous audit reports. It is important for audit teams to review previous audit reports to ensure that former non-conformances have been rectified and that old transgressions are not being repeated. On October 12, 1988, when Mr Dyck and Mr Murray met with Mr William Brooks, principal inspector of Air Ontario in Ontario Region, they were frustrated to find that some of the requested information, most notably the previous audit reports of Austin Airways, were not available. (The previous Air Ontario Limited audit reports were made available.)

Even though Mr Dyck's letter provided adequate advance notice of the meeting (two weeks), the requested material was not made available. I find that Ontario Region was unsupportive of the audit team in this regard.

Failure to Inspect the F-28

If there was a silver lining to the postponement of the audit, it was that it provided Transport Canada with the opportunity to inspect Air Ontario's F-28 program. Air Ontario introduced the F-28, its first jet aircraft, into service in June 1988, close to four months after the audit was originally to have been conducted. However, the F-28 was not included in the audit of October 1988 and the opportunity was missed.

The evidence is clear that the operations audit team did intend to include the F-28 operation in the October 1988 audit. Mr Dyck prepared an audit plan and circulated it to the operations team members on October 7, 1988. Attached as part of the audit plan was a listing of the "Operations Audit Areas" (Exhibit 1040) prepared by Mr Murray, in which the F-28 was included along with Air Ontario's other aircraft types as aircraft to be audited. Moreover, the F-28 was listed as the responsibility of both Mr Murray (who was also responsible for the Convair 580) and Mr Edward Mitchell (who was also responsible for the HS-748).

Nevertheless, in light of the fact that there were no F-28 qualified inspectors on the audit team, the F-28 was relegated to a low-priority, "time-permitting" item. As Mr Murray said in his testimony:

> Q. Perhaps you can clarify that for me. Were you or were you not going to review the F-28 program in the areas listed?
> A. As I said before, we had nobody that was current on the F-28 and I do not like doing an aircraft that you are not current on.
>
> So my plan was, if time permitting in the air, we would complete a line check, either myself or Ted Mitchell, on the F-28.
> Q. Now, certainly it would have been preferable to have an F-28 trained person to assist, but the fact of the matter is you didn't, and the F-28 was one of the aircraft in the Air Ontario fleet.
>
> Again, wasn't it your intention to review the F-28 in a manner as you would the Convair 580 or the HS-748?
> A. We reviewed the main part, you know, of the pilots that were flying, we reviewed all the part that the pilots flying the F-28.
> Q. When you say – you reviewed what?
> A. Well, it would be the flight crew records –
> Q. So –
> A. – which would cover all their training and where they had their course and their pilot proficiency checks on type.
> Q. But you didn't do flight inspections; did you?

A. No.

(Transcript, vol. 133, pp. 132–33)

Although Mr Murray was not adequately supported by the audit manager and the convening authority in assembling an audit team, he exacerbated his difficulties by not requesting their assistance. For example, in the last few days of the audit he unilaterally decided not to audit the F-28. He stated that his decision was due partially to the fact that Mr Mitchell, who along with Mr Murray had been assigned to audit the F-28 program, had been called away from the audit to conduct pilot proficiency checks in Toronto for Air Canada. That Mr Mitchell was permitted to leave the unfinished audit to conduct simulator rides further demonstrates the audit's low priority with the audit management. Also, Mr Murray testified that he did not have prior notice that Mr Mitchell would be making an early departure. According to Mr Ian Umbach, superintendent of air carrier operations, Mr Mitchell's early departure from the Air Ontario audit was not an isolated incident. Mr Umbach testified that air carrier inspectors would quite often have to leave in the midst of an audit to do other tasks. He cited as an example the 1988 audit of Canadian Airlines International, at which time inspectors were conducting the audit through the day and doing pilot proficiency checks in the simulator during the night. Mr Umbach added that this undesirable, double-workload situation was one of the factors that inspired his memorandum of December 1, 1988, calling for a moratorium on national audits "due to lack of resources, and an overwhelming workload" (Exhibit 1105). (See chapter 30, Effects of Deregulation and Downsizing on Aviation Safety.)

Mr Murray also indicated that his decision not to audit the F-28 was influenced by his understanding that Ontario Region would be conducting surveillance of Air Ontario's F-28 program. However, this rationale conflicts with the following view expressed by Mr Donald Sinclair, Ontario Region's manager of air carrier operations and the person who had called for the audit in the first place, who had expected that the F-28 was being audited:

Q. Did you, sir, have any concerns from your position that there were no qualified F-28 persons assigned to the audit being done at Air Ontario?
A. I wasn't aware there wasn't an F-28 person involved.
Q. Would you have assumed that there was?
A. Yes, I would.
Q. That would not be an illogical assumption?
A. No.
Q. Were you surprised that there wasn't?
A. I'm surprised now to learn there wasn't.

Q. You didn't know?
A. No. The fact there weren't any non-conformances on the F-28 would not indicate that it wasn't examined by a qualified person.

...

Q. Mr Sinclair, from your perspective, do you think that a complete and satisfactory audit can be completed with no one on a team being qualified on one of the aircraft types being audited?
A. Not if it's a large aircraft, no, it's not complete.

(Transcript, vol. 142, pp. 77–78)

Either way, this again demonstrates a striking lack of communication and coordination between Ontario Region and the audit team.

Mr Murray made an error in judgement in not consulting with the audit manager at that time and in not maintaining communication with the audit manager, as set out in the audit handbook. Had Mr Murray advised Mr Dyck or Mr Umbach (Mr Murray's superior at headquarters) that he had not been able to recruit an F-28 qualified inspector, they may have seized on the importance of inspecting the new jet aircraft and used their rank to assist in obtaining qualified personnel. Similarly, Mr Murray should have reported during the course of the audit that he had not audited the F-28.

Mr Dyck confirmed in his testimony that it was his expectation that the F-28 would be audited, but that he did not know, nor had he enquired, if Mr Murray and/or Mr Mitchell were F-28 qualified. In fact, Mr Dyck testified that he only became aware that the F-28 had not been audited sometime after the audit report had been issued. (The audit report was sent to Air Ontario on April 3, 1989.)

Just as Mr Murray bears responsibility for not passing on information of this omission to his audit manager, Mr Dyck is similarly responsible for not having taken steps independently to assure himself that the F-28 operation was being inspected. Two days after the audit commenced, Mr Dyck returned from Air Ontario's base in London to his office in Ottawa, where, as the following testimony indicates, he remained for the two-week duration of the audit:

Q. All right, and did you know if the F-28 was being audited by the team members?
A. No. I did not. I assumed it was part of the overall audit. They would have done what the company was looking or operating at that time.
Q. Did you have any discussions at all during the course of the audit with Mr Murray, Mr Mitchell, any other team members, as to whether or not the F-28 was being inspected?
A. No, as I told you earlier, I was not on site until the completion of the audit, and when the inspectors returned back to London

after they had done their series of in-flight inspections and finished doing their on-site inspections.

And no, there was no conversation specifically that I can recall about the F-28 operation itself, no.

Q. Did you do anything during the course of the audit to satisfy yourself that items that had been ... in the audit plan were, in fact, being inspected?

A. Well, as I said, I was in Ottawa while the audit was being carried out. On site, I had little or no value there. I trusted the ops team leader would, in detail, look at the area, his area of responsibility. That's perhaps the best answer I can give you.

(Transcript, vol. 136, pp. 47–48)

Mr Dyck decided that his time would be more valuably spent attending to pressing certification tasks in Ottawa. Moreover, in that he was an airworthiness and not an operations professional, Mr Dyck felt that his utility on the audit site was limited. This is only partially true. While he may not have been able to assist on technical inspection matters, he would have been in a position, as set out in the audit handbook, to "exercise line authority over assigned audit staff" and "maintain ongoing communication with senior management of the company" (Exhibit 1033). Mr Dyck's approach contrasts directly with that of Mr Umbach, himself a former audit manager on an audit of Worldways. Mr Umbach described an audit manager's responsibilities as follows: "I feel he must be there throughout the duration of the audit to handle the day-to-day problems and questions that will naturally arise from an audit" (Transcript, vol. 139, p. 147).

Instead, Mr Dyck stated that he trusted that the operations team would look at their area of responsibility in the same independent, problem-free manner that the airworthiness and dangerous goods audit teams had. In this respect Mr Dyck erred. As a novice team leader, and distinguishable from the airworthiness and dangerous goods team leaders in that respect, Mr Murray sorely needed Mr Dyck's support and experience. Since Mr Dyck and Mr Slaughter were fully aware of Mr Murray's inexperience, they had a responsibility to monitor him closely. To this extent, it mattered little that Mr Dyck was not an operations expert. By being on site he, as audit manager, would have been in a position to ensure that the audit team inspected the F-28 operations. Also, as a committee member on the Regulatory Reform/Aviation Safety Working Group, Mr Dyck had direct experience with respect to what inspectors should be aware of in recently merged companies ("Aviation Safety in a Changing Environment," Exhibit 1057). He had developed a "Merger Procedures Guide" to be used by airworthiness inspectors and

he was familiar with a similar guide for air carrier inspectors (Exhibits 1055 and 1056). These guides were not used by the auditors of Air Ontario.

Finally, it appears that the circumstances surrounding the October 1988 operations audit of Air Ontario, such as the postponements and staffing problem, served to create an environment where completing the audit took precedence over the quality and comprehensiveness of the inspection. I do not believe that this was caused by a general lack of professionalism or competence in the audit personnel but by the system itself. Rather than having dedicated audit personnel in place to fulfil the important audit function, the National Audit Programme operated by creating a second job (the audit) for inspectors who were already overburdened with their principal jobs. In the circumstances outlined above, it is small wonder that the priority and comprehensiveness of the audit suffered.

Mr Murray testified that the "heart of an audit in an operation, is the flight crew training records" (Transcript, vol. 133, p. 38) and that the training records are, in relative terms, more important than in-flight inspections or system operations control (SOC) inspections, which are usually conducted in the course of the audit. Both Mr Slaughter in his testimony (Transcript, vol. 144, p. 28) and Dr Robert Helmreich, who provided expert testimony to the Commission regarding the human performance aspects of the Dryden accident, disagreed with Mr Murray's characterization. Although audits provide a valuable opportunity to ensure that a company's training records and other paperwork are in order, the importance of the paperwork should not be overemphasized. In the audit of Air Ontario, Mr Murray testified that flight crew training records of F-28 pilots had been reviewed but that no flight inspections had been conducted. A review of the F-28 pilots' training records does not provide an audit team with any significant insight into the F-28 operation. Dr Helmreich's comment most aptly describes this point:

> The statement that examination of crew training records forms the heart of the audit certainly reflects an honest opinion. However, from the author's research experience, an alternative view can be proposed that the observable behaviour of crews in line operations is the key to understanding the level of safety and effectiveness in flight operations.
>
> (Exhibit 1270, Human Factors Aspects of the Air Ontario Crash at Dryden, Ontario: Analysis and Recommendations to the Commission of Inquiry into the Air Ontario Crash at Dryden, Ontario. See technical appendix 7.)

Had the F-28 been audited by a professional air carrier inspector, even one without F-28 qualifications, it is reasonable to assume that a number of Air Ontario's questionable practices relating to the F-28 operation would have been uncovered. According to the Operations Audit Areas list, which formed part of the audit plan, Mr Murray had planned to inspect twelve facets of Air Ontario's operation. It should be noted that the Operations Audit Areas list was derived from the Audit Procedures Handbook, and that the Manual of Regulatory Audits provides audit checklists for use by inspectors "to ensure all aspects of requirements have been audited" (Exhibit 1034, p. 4–1).

However, a retrospective look at the work of the operations audit team revealed that a number of key areas of Air Ontario's operations, although set out in the audit plan and handbook, were not audited. The following enumeration of the intended operations audit areas is adapted from Exhibit 1040; a comment follows each point, F-28 specific where appropriate, on whether the area was covered in the audit:

1 Previous Transport Canada audit
   - The previous audit reports of Air Ontario Ltd were provided to and reviewed by Mr Murray. However, Ontario Region did not have the previous Austin Airways audit reports available for review.

2 Operating certificate (OC) and operating specifications (ops specs)
   - Mr Murray testified that the OC and ops specs were inspected.

3 Manuals
   - The F-28 Operations Manual was not reviewed by the audit team because, as Mr Murray testified, he was informed "verbally by other inspectors" that Air Ontario was operating with an FAA-approved Piedmont Operations Manual, which had been approved by Ontario Region (Transcript, vol. 133, p. 134). In fact, the approval granted by Transport Canada to Air Ontario on February 15, 1988 (Exhibit 857), enabled Air Ontario to use the Piedmont Airlines F-28 training syllabus, simulator, and instructors as an interim measure while transitioning to the F-28. However, Transport Canada's authorization did not explicitly extend to Air Ontario's use of the Piedmont manual as its F-28 operations manual.
   - Had the audit team investigated the situation surrounding the Piedmont F-28 Operations Manual themselves, they would have been in a position to observe and report on the problems with the manuals (see chapter 19, F-28 Program: Flight Operations Manuals).

- Mr Murray admitted in his evidence that a typical check of the Piedmont Operations Manual used by Air Ontario's F-28 crews would have disclosed the absence of an amendment service.
- Similarly, had the audit team inspected the manuals, they undoubtedly would have discovered that some Air Ontario F-28 pilots were using USAir manuals while others used Piedmont manuals, and that the company still had not prepared its own F-28 operations manual.
- The Air Ontario Flight Operations Manual was inspected.

4 Training program and company check pilot (CCP)
- The F-28 training program syllabus and CCP information were inspected solely to the extent possible by reviewing the pilot records. The CCPs were not interviewed or monitored.

5 Flight crew training records
- F-28 flight crews' training records were reviewed.

6 Simulator evaluation
- No action had been taken to establish that the F-28 simulator had been evaluated in accordance with Air Navigation Orders Series VII, No. 2.

7 Dispatch and flight watch
- Inspector Jerry Frewen, an air carrier navigation specialist, was the auditor responsible to inspect Air Ontario's dispatch and flight watch operation. Mr Murray testified that Mr Frewen's task included the inspection of flight dispatchers' training and competence.
- However, the operations audit report did not include any observations or non-conformance findings with respect to dispatch and flight watch.
- Despite extensive evidence heard by this Commission that the training of Air Ontario's flight dispatchers was seriously deficient (see chapter 23, Operational Control), this problem was not uncovered by the audit. Mr Murray explained that since he had been advised by Mr Frewen that Air Ontario's dispatch and flight watch were "satisfactory," there was no further discussion or follow-up.

8 Flight documentation
- Journey logs, primarily reviewed by airworthiness inspectors, are cross-checked with pilots' recurrent flying sheets to ensure that pilot flight times are accurate and in accordance with minimum requirements.
- The flight documentation section of the audit report makes no reference to the F-28.

9 Flight Safety Program
- Air Ontario's Flight Safety Program was reviewed in a most cursory fashion and there is no reference to it in the audit report. According to Mr Murray, auditors reviewed "some of the circulars the company put out on safety," but did not speak with the flight safety officer, Captain Ronald Stewart. Furthermore, Air Ontario's incident - reporting procedure was not reviewed even though the Manual of Regulatory Audits states as a guideline to the inspector responsible for the Flight Safety Program, "Review incident and accident reports for previous twelve months."
- Mr Murray acknowledged that a thorough investigation of the Flight Safety Department would have given the audit team a valuable insight into the actual level of safety at the company.

10 Aircraft documentation
- Aircraft documentation refers to reviewing the validity of journey logs, weight and balance, certificates of airworthiness, and certificates of registration. There is no reference in the audit report to aircraft documentation.

11 Minimum equipment list (MEL)
- The situation pertaining to the F-28's MEL was not inspected (see chapter 16).
- Mr Murray acknowledged that a typical flight inspection of Air Ontario's F-28 operation would likely have revealed the absence of an approved minimum equipment list (MEL) as well as the practice of deferring airworthiness snags pursuant to an unapproved document.

12 Flight inspection
- No flight inspection was conducted on the F-28.

Thus, notwithstanding the stated intention of the audit plan, the Air Ontario F-28 operation was not audited. Moreover, other key areas of Air Ontario's flight operations audit, most notably dispatch/flight watch and the Flight Safety Program, were unsatisfactory to the extent that serious operational deficiencies remained undetected.

Audit of Air Ontario's Northern Operations

Mr Gordon Hill, air carrier inspector and audit team member, inspected Air Ontario's small aircraft operation at its northern sub-bases in Thunder Bay, Timmins, and Pickle Lake. (Pickle Lake and Thunder Bay bases were checked to review the DC-3 and Beech 99 operations, and

Timmins base was checked to review the Beech 200 and Cessna Citation operations.) Because of the divestiture of the Air Ontario's northern assets, it was a time of considerable flux for northern-based personnel. A serious problem in morale resulted. On November 16, 1988, Captain Ronald Stewart, Air Ontario's flight safety officer, described the situation in a memorandum to Mr William Deluce, company president, as "Safety Deficiencies – Northern Operation" (Exhibit 745). It is unclear from the evidence whether Mr Hill was aware of the context or the extent of the transitionary tensions at Air Ontario at the time he conducted his northern base inspections. Nevertheless, he observed a number of problems, particularly at the Thunder Bay base, that he passed on in a report to Mr Murray:

> Thunder Bay is a busy hub for Scheduled operations. Many problems were found here. There is no Senior Pilot on this base nor is there a functional Base Manager. Scheduled flights at this base seem to operate smoothly due to the initiatives of the Counter staff and the Pilots. Many Pilots stated that they do not know who to report to on this base; particularly in cases of illness or duty time restrictions. The pilots decide between them what to do in these cases. There is no one to review the pilots' paperwork and check it for completeness and accuracy as required by Section 5 of the Company operations manual. This flight documentation is not kept on base as required above. Pilot Time records are not kept on this base or monitored by the Senior Pilot as stated in the C.O.M. [Company Operating Manual] A current regulatory library could not be located at this base which would normally be kept by the Senior Pilot here.
>
> Training Programs
>
> There is no one in Thunder Bay to co-ordinate recurrent pilot training ... I examined the training files of eight Beech 99 pilots and found that not one pilot record showed required recurrent training.
>
> CCP [Company Check Pilot]
>
> Captain R. Hall is the principal Beech 99 check Pilot. He has conducted many Pilot Proficiency flight tests and renewed the qualifications for pilots even though the required recurrent training has not been completed. There was no evidence of a monitor ride on Mr. Hall or Capt. S. Burton the other B99 check Pilot. Mr. Hall could not present me with a valid medical when I requested his Licence Documentation for review.
>
> (Exhibit 1043)

Despite the significant concerns raised by Mr Hill in his report, Mr Dyck, the audit manager for the Air Ontario audit, testified that he had never seen the report prior to his attendance before the Commission. Mr Dyck acknowledged that the report depicted an operation that would have caused him great concern as audit manager, perhaps warranting

further inspection or follow-up action. Though unable to explain why it had not come to his attention during the course of the audit, Mr Dyck did admit that had he been in London rather than Ottawa during the audit, he would more likely have been apprised of Mr Hill's concerns.

I am also concerned by Mr Murray's response to Mr Hill's report. In notes prepared by Mr Murray for the post-audit exit briefing of company officials, he stated that "the general overall operation is considered safe and generally conducted in accordance with industry norms" (Exhibit 1044). Mr Murray when questioned on this point admitted he had not dealt with the matter as he should have:

> Q. ... Well, bearing all of these complaints in mind that your own inspector made, and bearing in mind that Thunder Bay was a busy hub, weren't you concerned when you finished reading this report about the situation in Thunder Bay?
>
> Weren't you concerned that there was a serious safety problem here? That ... paperwork was out of control, there wasn't a safety net under the pilots?
>
> A. Yeah, I guess it all points to that, yes.
>
> Q. All right. Then why, in Exhibit 1044 [Mr Murray's exit briefing notes], would you say that general overall operation is considered safe and generally conducted in accordance with industry norms?
>
> A. I guess that was a mistake on my part. That's all I can say.
>
> (Transcript, vol. 134, p. 126)

Mr Hill's report contained important audit findings that were treated too casually by an inexperienced team leader. This view is reinforced by the testimony of Mr Donald Sinclair, who has served with Transport Canada since 1956, for the last 13 years as Ontario Region's manager of air carrier operations. I attach significant weight to his opinion in this matter:

> Q. Now, do these notes, then, of Inspector Hill paint a picture of an operation in Thunder Bay which causes you great concern?
>
> A. Yes.
>
> Q. And do you believe that the concern raised by these notes should have been reflected in the audit?
>
> A. Absolutely. My own reaction in reading this for the first time is that, you know, they should not have left the audit to prepare their report without addressing the company right then and there to see whether action should be taken to shut that portion of the service down.
>
> ...
>
> It looks urgent enough that I wouldn't want to even, as I say, go back and even write my report knowing this was going on.
>
> (Transcript, vol. 142, pp. 120–21)

Delay in Completing the Audit Report

The operations audit team completed their on-site activities and conducted their post-audit exit briefing of Air Ontario management on or about November 4, 1988. Typically, exit briefings are used by audit teams to present their findings orally to the company audited. The audit handbook provides that, at the end of the exit briefing, the audit team shall advise the auditee that it will provide it with a draft copy of the audit report within 10 days (Audit Procedures Handbook, p. 69, Exhibit 1033). Mr Dyck had reminded the audit team members of this time limit before the commencement of the audit. Further, the audit plan states that "A draft report will be prepared by the audit manager and forwarded to Air Ontario Inc. within 10 working days of the completion of the audit." At the exit briefing, however, Mr Dyck advised an Air Ontario representative that he would "get the report out within two, three weeks" (Transcript, vol. 136, p. 54).

Despite Mr Dyck's good intentions and Transport Canada guidelines, it was not until April 3, 1989, that the operations portion of the audit report was submitted to Air Ontario – five months, rather than 10 days, after completion of the audit. This represents significant inefficiency, which is illustrated by the fact that the airworthiness, dangerous goods, passenger safety, and introductory sections of the report were submitted to the company in timely fashion after the February 1988 audit and make up 167 pages of the 182-page report, while the operations portion of the report accounts for merely 15 pages.

The task of compiling the operations portion of the audit report was a joint effort between the audit manager and the operations team leader. Because Mr Dyck was a maintenance and not an operations expert, he assumed a more administrative or editorial role, while Mr Murray was to compile the report in its vertical analysis format. Mr Dyck described his own role as follows:

> A. [T]o ensure that the report meets the standardized format that we already had established in the initial part of the report [the Airworthiness portion of the report], and that the readability, understandability and the format is in accordance with the procedure that we had established and in the final report that we already had set out. And ensure that all the information was there.
>
> When I say it was there, that we could read the various findings and try and understand them, edit them for obvious errors and omissions.
>
> (Transcript, vol. 136, p. 56)

The inordinate period of time expended to complete the report can be traced to three primary causes: Mr Dyck and Mr Murray did not work effectively together; they were occupied by other tasks; and they were not adequately supported by the air carrier group at headquarters.

Both Mr Dyck and Mr Murray testified that in the November 1988 to April 1989 period, their non-audit work responsibilities took them out of Ottawa (they were both headquarters based) on a number of occasions and they were also very busy with their usual duties. I have no doubt that this was in fact the case and that they were forced, yet again, to juggle the priority of the audit with other pressing matters. Nevertheless, I heard an overwhelming amount of testimony that chronicled a working relationship between the audit manager and the team leader that was unnecessarily bureaucratic, to the point of seriously delaying the completion of the report.

Mr Dyck stated that he returned Mr Murray's drafts to him a number of times because they were not in an acceptable format. However, rather than meeting directly to settle the report (their offices were in the same building), they communicated their comments to one another at times by means of cryptic "post-it" notes that stimulated more confusion than resolution. The delay was exacerbated by a serious lack of secretarial support in both Mr Dyck's and Mr Murray's offices. (Mr Dyck testified that, in his office, there was but one typist to support a group of 20 inspectors). Mr Murray admitted that the entire exercise "could have been accomplished in about a one-minute phone call" (Transcript, vol. 133, p. 211). Similarly, Mr Dyck admitted that the 15 operations vertical analysis sheets could have been completed within one to two hours.

As it became clear that Mr Murray was having difficulty completing the report in the form required by Mr Dyck, swift action should have been taken by Mr Dyck or by Mr Murray's supervisor, Mr Ian Umbach, to preserve the integrity of the report by ensuring its timely completion. As audit manager, Mr Dyck maintained line authority over Mr Murray as well as ultimate responsibility to assemble the audit report. However, in fairness to Mr Dyck, he was saddled with a most difficult predicament. Headquarters had assigned a team leader, who, through inexperience and inability, required assistance to complete the report. Mr Umbach testified that although he was surprised that a person lacking audit experience had been made audit manager, he was also surprised that Mr Murray needed help in writing the report (Transcript, vol. 139, p. 145). At the same time, as an airworthiness professional, Mr Dyck's contribution to the operations report was necessarily limited to matters of style or format as opposed to substance. Accordingly, since it was an operations audit convened by the air carrier group in headquarters, they must share in the responsibility for not acceptably supporting the audit team. In fact, Mr Dyck's frustration did prompt him, on two occasions,

to forward the draft report to Mr Umbach for his assistance in completing it.

I have considered the testimony of Mr Umbach, as well as a memorandum written by Mr Roger Beebe, sympathetic to Mr Dyck's position, indicating that the operations group were chronically slow in completing audit reports. According to Mr Umbach, even though it is no easier for airworthiness to conduct their audit than for operations, it has been his experience that "operations are often slower." Mr Umbach ascribed much of the blame for the delay in getting out the audit reports to foot-dragging on the part of upper management:

> A. My experience has been that with the operations audit, on a national audit, the [operations] report is turned in to our superiors for review, and for various reasons, it doesn't seem to get sent out for sometimes months later.
>
> ...
>
> Q. Can you give us some examples of this type of review?
> A. The report on Canadian Airlines was submitted to our superiors for review, and I believe it was in excess of six or seven months before the report was sent out.
>
> (Transcript, vol. 138, pp. 105–106)

Once again, as in the other problem areas of this audit, responsibility must be shared. In the case of Mr Dyck, as frustrated as he may have been with the operations group, he should have taken the initiative to ensure completion of the report. Similarly, if Mr Murray was unable to complete the report in the prescribed format, it was his responsibility, as a professional, to solicit his superior's assistance. Indeed, to the extent that the problem stemmed from a personality conflict between Mr Murray and Mr Dyck and/or a conflict between the airworthiness and operations groups, I would expect them to recognize that their first priority as professionals was to attend to the business of aviation safety.

The intervening period between the Air Ontario operations audit in November 1988 and the completion of the report in April 1989 was, tragically, marked by the F-28 crash. The realization that the audit report was four months old and unfinished at the time of the accident undoubtedly was an embarrassment to Transport Canada. Both Mr Dyck and Mr Murray admitted that the accident expedited the completion of the unfinished Air Ontario audit report.

Nevertheless, Mr Dyck minimized the importance of prompt dissemination of the report:

> Q. What is the importance of getting the audit report out to the company in quick order?

> A. There is no specific importance other than we try and ... adhere to an administrative process that is timely.
>
> The significance, in a safety sense, is addressed in other manners. We don't necessarily wait for the report to go out to have a safety concern issued or issue discussed.
>
> I guess that's the best way to describe that.
>
> (Transcript, vol. 136, p. 57)

I am of the view, however, that the value of the audit was severely compromised by the tardy release of the audit report. I was convinced of this by the testimony of many Transport Canada witnesses, who, in contrast to Mr Dyck, believe that the release of the report must follow the audit immediately. On this point, Mr Umbach testified as follows:

> A. Because the impact has to be immediate. A lengthy delay and the report loses its impact. The carrier has gone on to other things and so have we.
>
> I believe that for the audit to be effective, the report must be out immediately. And also to get corrective action taken.
>
> (Transcript, vol. 138, p. 107)

Mr Brayman addressed the negative effects of the late report from the perspective of Ontario Region, which had requested the audit of Air Ontario in 1987 to provide a post-merger snapshot of the company. He ventured the opinion that, because of the protracted delay in the production the report, it was virtually useless at the time of its release:

> A. They [audit reports] have to be specific and they have to be punctual. We need them at a specific time.
>
> The whole problem with this report, it was too little and too late. We needed a ... snapshot of the company at the beginning of 1988, not in the spring of 1989.
>
> ...
>
> ... But in general, events had superseded the information that came through.
>
> (Transcript, vol. 132, pp. 11–12, 15)

Later in his testimony he went on to say:

> A. ... Well, you have to realize that we had been waiting for this audit for a long, long time. And we had – in our normal course of operations, audits were used specifically to clear up problem areas, make corrections.
>
> So the audit was a valuable tool if it was delivered on time. The fact that it was delivered before or after the crash I don't think is pertinent.

> I think that the length of time from when the audit was called for to the time that the audit was actually delivered in region is the pertinent issue. And because of that length of time, the audit became virtually worthless.
>
> (Transcript, vol. 132, p. 97)

Deficiencies in the Report

Ontario Region was also dissatisfied with the substantive aspects of the report. After a detailed review, Mr Brayman concluded that it "wasn't really a very well done report ... or of significant value to us" (Transcript, vol. 132, pp. 6, 174). Speaking from the perspective of Ontario Region, he expanded on some of the report's shortcomings, including the lack of reporting on Air Ontario's northern operation:

> A. ... during the whole period this audit was going on, the company was under continuous surveillance. We had inspectors and myself and my inspection staff and inspectors from small air carrier. We were in direct contact with the company on a continuing basis, and I knew that there were certain areas that required a fair degree of surveillance.
>
> And when this report come back, it didn't seem to fit what we had experienced up to the time that the report came in. In some cases it did. It overlapped.
>
> Q. Why didn't it fit? What did you expect to see in the audit?
>
> A. Well, I fully expected to see a good deal more about the problems in the north, with the transfer of control in the north.
>
> Q. The denuding of expertise in the north, I think you called it?
>
> A. Yeah.
>
> ...
>
> I expected to see more.
>
> We were quite concerned about Pickle Lake, which had been a base where we had had a lot of problems in the past. It was in the central region, but nonetheless, it ... still formed part of this company.
>
> And when I went through the report, I saw very little on some of those activities.
>
> (Transcript, vol. 132, pp. 174–75)

To the extent, therefore, that the audit of Air Ontario was called to provide an independent review of the company at a volatile point in its evolution, it clearly appears to have failed. Not only were the F-28 program, the system operations control (SOC), and the flight safety sections not adequately audited, but there is little evidence to indicate that the audit team devoted particular attention to Air Ontario's special circumstances, such as the merger, the devolution of northern assets, and the continual changes in senior operational management positions.

Moreover, because Ontario Region had expected the F-28 program to be inspected in the audit, the lack of F-28–related non-conformances in the audit report would lead to a natural assumption that Air Ontario was operating a good F-28 program. Both Mr Donald Sinclair and Mr William Slaughter agreed that such an assumption was an "insidiously dangerous conclusion to reach" (Transcript, vol. 142, p. 113; vol. 146, p. 128). Had Ontario Region based its decisions regarding Air Ontario's F-28 program on the basis of the audit report, it may have concluded that very little surveillance was required. Based on what is now known about Air Ontario's F-28 operation, that would have been an erroneous conclusion to reach and one obviously based on misinformation.

The Manual of Regulatory Audits that was available to the audit personnel specifically contemplates a pre-audit review of the following factors that might be indicators of instability in the auditee:

- company's last audit
- high turnover in managerial personnel
- high turnover in flight crew personnel
- change in scope, size, complexity of operations, type of aircraft used, type of service or area served since last audit.

(Based on Exhibit 1034, p. 4–7)

A review of the Company Overview section of the Air Ontario national audit report reveals an inaccuracy that creates the misimpression of stability in senior management. The following list and accompanying text appear under the heading "Senior Management":

Mr. W. Deluce	–	President
Mr. T. Syme	–	Vice President of Operations
Mr. R. Nyman	–	Director of Flight Operations
Mr. K. Bittle	–	Vice President of Maintenance and Engineering
Mr. R. Mauracher	–	Director of Maintenance Production
Mr. W. Wolfe	–	Chief Pilot
Mr. D. Christian	–	Chief Inspector

> Mr. Deluce, the President, comes to Air Ontario Inc. from Austin Airways. The remainder of the senior management staff come to Air Ontario Inc. from Air Ontario Ltd. and have served in their current capacities in excess of five years.
>
> (Exhibit 1042, p. 2)

These data are erroneous. Mr Nyman and Mr Bittle came from Austin Airways and not Air Ontario Ltd; Chief Pilot Walter Wolfe was with Air Ontario for a total of 15 months – not "in excess of five years";

Mr Syme's first operational position was in 1986 and he was first made vice-president of operations in June 1987, so that at the time of the audit he had held that position for less than two years; and Mr Nyman did not become director of flight operations until April 1988. The imprecision of this section of the Company Overview is not in accord with the importance ascribed to it by the Manual of Regulatory Audits and it leaves a mistaken impression of management stability at Air Ontario. As such, it reflects poorly on its authors.

Air Canada's Reliance on the Audit

In chapter 26 I addressed Air Canada's acquisition of Air Ontario, as well as the subsequent course of their parent-subsidiary relationship. Although Air Canada was represented on Air Ontario's board of directors, Air Ontario's operations remained substantially independent from those of Air Canada.

Captain Charles Simpson, vice-president of operations at Air Canada, testified that in 1987 Air Canada had planned to conduct an operational review of its connector airlines. As circumstances unfolded, however, Air Canada put off its operational review of Air Ontario until the summer of 1989 – after the Dryden accident. Captain Simpson testified that one of the reasons for the delay of Air Canada's operational review of Air Ontario in the fall of 1988 was the Transport Canada audit; the other principal reason was an apparent lack of Air Canada personnel to assign to the project:

> A. And the straight reason we were so long was we were having – we weren't having problems but we were in the middle of some very major cutbacks at the time in personnel, and I simply didn't have the personnel to put on the project.
>
> In the fall of '88 ... Transport Canada were doing an audit on Air Ontario, and I had suggested to all our people that we shouldn't become involved until the audit was over.
>
> Q. That is, the Transport Canada one?
>
> A. The Transport Canada audit, which, incidentally, was quite a decent audit, gave the airline reasonably good marks. So, of course ... in the early winter, the accident occurred and personnel from Air Ontario were deeply involved in that, so our audit didn't take place until the summer of '89.
>
> ...
>
> Hindsight is a great privilege. Obviously, if we thought there was anything wrong with the operation, we would have taken the necessary steps. For some of the reasons I just mentioned, we did not get the operational review done as early as we would like to have conducted it.

> Then we saw the Transport Canada audit, which was relatively good.
>
> (Transcript, vol. 118, pp. 166–67, 170–71)

Captain Simpson's characterization of Transport Canada's October 1988 audit of Air Ontario as quite a "decent audit" simply is not in accord with the evidence before this Commission. It should be noted, however, that Captain Simpson testified that he had not read the audit in detail.

Air Canada did not conduct an independent inspection of Air Ontario's operation until the fall of 1989, some six months after the Dryden accident and close to three years after their acquisition of 75 per cent ownership.

Transport Canada is a custodian of the public trust to ensure the safety of civil aviation in Canada. Consequently, there is a clear danger inherent in the regulator passing off substandard work, as indeed occurred here. Air Canada's reliance on the misleading Transport Canada audit report of October 1988 exemplifies this danger and points to the benefits of a major carrier conducting its own monitoring and audits of the operational aspects of its regional subsidiaries. Had Air Canada not relied solely on Transport Canada's audit report, which indicated that Air Ontario was operationally sound, it may have conducted an independent audit of the company and uncovered the numerous Air Ontario operational problems that may have affected the F-28 program.

The audit process is a preventive mechanism designed and used to identify and rectify aviation safety deficiencies. As such, it is an important component in the system approach to aviation safety.

Although, as Captain Simpson stated, "hindsight is a great privilege," it may also be said that foresight is a great virtue.

Findings

- Transport Canada attempted to operate the National Audit Programme without provision of adequate numbers of properly trained or fully competent staff assigned to the task on a dedicated basis.

- Transport Canada management was ineffective in its control and supervision of its 1988 audit of Air Ontario.

- The Transport Canada audit of Air Ontario was poorly organized, incomplete, and ineffective.

- The process of staffing the audit of Air Ontario was neither systematic nor effective:

- The audit manager was not involved in the selection of the operations team leaders, and ineffectual working relationships resulted.
- Transport Canada's audit policy and procedures manuals in use for the 1988 audit of Air Ontario did not provide guidelines as to required training or experience of team leaders.
- The operations team leader of the 1988 audit had no prior audit experience, nor had he ever served as a team leader. He was underqualified and should not have been appointed operations team leader.
- Transport Canada's audit policy and procedures manuals in use for the 1988 audit of Air Ontario provided no system to ensure the orderly secondment of inspectors to serve as audit team members.

- The operations portion of the audit of Air Ontario scheduled for February 1988 should not have been postponed.

- Appropriate steps should have been taken by Transport Canada to ensure that Air Ontario's flight operations manual was approved and in use prior to the audit.

- Once the audit team assembled in London, in February 1988, to commence the audit, even without an approved FOM, every effort should have been made to proceed with the audit as scheduled.

- Although included in the Transport Canada operations audit plan for the October–November 1988 audit, Air Ontario's new F-28 operation was not audited. I find this to have a been a serious omission. Had the F-28 been audited, it is reasonable to assume that a number of deficiencies relating to Air Ontario's F-28 operation would have been discovered prior to the Dryden crash.

- Other key areas of the audit, most notably those covering dispatch/flight watch and the Flight Safety Program, were unsatisfactory to the extent that serious operational deficiencies remained undetected.

- Although Transport Canada policy states that audit reports are to be released within 10 working days of the completion of the audit, Air Ontario was not presented with the operations portion of the audit report until approximately five months after completion of the audit, and after the Dryden accident. This fact seriously detracted from the credibility and usefulness of the audit.

RECOMMENDATIONS

It is recommended:

MCR 127 That Transport Canada review and revise its aviation audit policy, under the direction and approval of the assistant deputy minister, aviation.

MCR 128 That Transport Canada ensure that the rationale for and the importance of the audit program be clearly enunciated to all participating departmental staff and to the aviation industry.

MCR 129 That Transport Canada ensure that the frequency of audits be based upon a formula that takes into consideration all significant factors, including safety and conformance records, changes in type of operations, mergers, introduction of new equipment, and changes in key personnel.

MCR 130 That Transport Canada policy confirm that joint air carrier airworthiness and operations audits are the accepted norm, particularly for large companies; however, other types of audits should be identified and flexibility provided to facilitate no-notice mini-audits or inspections, split airworthiness and operations audits where warranted, and audits of specific areas of urgent concern arising from safety issues that are identified from time to time.

MCR 131 That Transport Canada ensure the availability of qualified managers to manage and coordinate the audit programs.

MCR 132 That Transport Canada ensure the availability of adequate and qualified personnel to support the audit program.

MCR 133 That Transport Canada ensure that minimum training and competency requirements be established for specific positions in the audit process.

MCR 134 That Transport Canada ensure that personnel appointed to an audit have a direct reporting relationship to the audit manager from commencement until completion of the audit and the approval of the final report for that audit.

MCR 135 That Transport Canada reinforce existing policy that requires audit managers to be readily available to audit staff during the conduct of an audit.

MCR 136 That Transport Canada policy manuals provide that an air carrier document review process, including a review of prior audits, be completed prior to the commencement of an audit.

MCR 137 That Transport Canada ensure that time limitations be clearly specified and adhered to within which completion and delivery of audit reports are to be achieved.

MCR 138 That Transport Canada ensure that procedures for immediate response to critical safety issues identified during an audit be instituted and included in the appropriate Transport Canada manuals, and that such procedures be communicated to the Canadian aviation industry.

MCR 139 That Transport Canada ensure that trend analyses be produced from the results of audits and used in the formulation of decisions regarding the type, subject, and frequency of audits.