



Review of SAR

Response Services

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Date: June 30, 1999

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SYNOPSIS

With the harshness of the Canadian climate and the vast geographical spaces, it is not surprising that Search and Rescue (SAR) activities capture the attention of Canadians. Public attention focuses on SAR when incidents occur that involve the loss or potential loss of lives and when major equipment purchases are required. What is not widely known by the public is that the federal government's response to SAR incidents frequently engages multiple jurisdictions in a coordinated effort to find and rescue people in distress. Last year's (98-99) federal SAR program expenditure was \$287,742,000, most of which was for response to almost 7,500 incidents.

SAR has the potential to become a national issue. Shrinking resources have caused individual SAR delivery departments to make resource allocation, delivery and procurement decisions in the absence of a SAR policy/plan that would lay out overall Government priorities and performance expectations for the program.

Although the current coordinating structure, consisting primarily of the Inter-departmental Committee on Search and Rescue (ICSAR), has allowed departments to discuss SAR issues under a common umbrella, it has not been successful in addressing the government agenda as laid out in response to previous Royal Commissions, Auditor General audits and reviews of the program. The federal SAR program remains a program consisting of an aggregate of individual departments' efforts without a coherent National Search and Rescue policy/planning framework.

The lack of an overall federal policy/plan, priorities, effective management structure and a lack of stated expectations for this multi-jurisdictional program contribute to an inability by the Government to assess how much training is required, what the standby postures for SAR resources should be and what equipment compatibilities should exist amongst and between SAR service providers. It certainly creates a situation where delivery departments set response or readiness postures based on resource availability and capability rather than expressed need – Canada could be spending too much or too little on SAR readiness.

In addition to reducing the number of secondary federal resources available to respond to SAR incidents, program review reductions have seriously eroded the number of SAR strategic planning staff available in each delivery department. This has been exacerbated by the inability of ICSAR to coordinate or oversee the federal SAR program.

This report recognizes that providing SAR response services is an inter-jurisdictional activity requiring the development of horizontal policy and plans. The emphasis in this report is not on the performance of individual SAR delivery departments in providing operational SAR services that have been in many ways exemplary. Rather, the emphasis is on inter-jurisdictional policy development and delivery of SAR services. Without the development of horizontal policy/plans to lead, monitor and evaluate the program, SAR response services are likely to deteriorate over time.

This report was developed under the auspices of the review groups in federal SAR departments and incorporates the results of other approved reviews. It makes recommendations aimed at addressing long standing difficulties that have so far eluded final resolution in the federal SAR program.

Development of the solutions and recommendations was guided by the actual practices of other jurisdictions with similar problems, the Deputy Minister's Task Force Report on Strengthening Policy Capacity (1995) (the Cappe Report), and Management of Horizontal Policy Issues (1996) (the Fellegi Report). In finalizing the recommendations the advice and counsel of an Expert Panel, consisting of a former Deputy Minister, a former Chief of Defence Staff and eminent experts were sought.

INTRODUCTION

1. This report provides findings, conclusions and recommendations derived from a study of search and rescue (SAR) response services approved for review by the Interdepartmental Committee on Search and Rescue (ICSAR) in a document entitled “Planning Report – Review of the Response Component, National SAR Program (NSP)”, dated 8 September, 1998. The Planning Report outlined eight issues for review and authorized the use of a multiple lines of evidence approach to provide information against these issues, including a document review, interviews, case studies, an expert panel and data review.
2. At the implementation stage of the review, it was recognized that, given the nature of some of the issues, qualitative information would be of primary importance in providing answers to identified problems. It was also recognized at the planning stage that SAR review studies approved in the past two years had created a strong foundation of information and acceptance of prior recommendations for use in the 1998 SAR Response Review. The following report has been written as a summary of this foundation and all the evidence collected during the review period. Detailed citing and substantiation of evidence were provided to departmental SAR staffs but have not been provided in this Report in order to give summary findings, conclusions and recommendations in as readable a form as possible.
3. Equally important, as the review study progressed, it was recognized that solutions to identified operational issues could only be addressed if there was an overall policy regime or framework governing this multi-jurisdictional service and any future management information collected on SAR response services should be in recognition of the requirements of an overall policy(ies) and plan for the program. Solving the operational issues could only be accomplished after the management issues were addressed.
4. With this critical logic point in mind, the Review Team, with the support of the Expert Panel, wrote the final Response Review report in a different order and detail than the order described in the Planning Report. Two of the original management issues (strategic management and program structure) outlined in the Planning Report are addressed towards the end of this report in the Strategic Management and Program Structures section. The remaining original management issue (performance measurement) and four operational issues approved in the Planning Report (standby posture, training, equipment and resources) are described in the final report as symptoms of the lack of a horizontal policy/planning regime and supported by effective mechanisms and structures. The final issue approved for review, the Major Air Disaster Plan (MAJAD) has been prepared as a separate report.

5. Throughout the review and the writing of the report, the Review Team recognized that departmental efforts to provide operational SAR response services to Canadians have been outstanding. The high level of cooperation and effort provided at the operational response level of SAR was outlined in the 1997 Intergovernmental Cooperation Review study, approved by ICSAR in May, 1998. The Cooperation Review noted that the high level of cooperation exhibited by operational SAR personnel to provide a multi-jurisdictional service was not as evident as one ascended to higher levels of management in the SAR program.
6. The Response Review Report also builds on the experience of senior managers' acceptance and approval of the 1996 SAR Prevention Review recommendation to create a vision, objectives and strategies (a policy and planning framework) for SAR prevention and it builds on the 1997 Deputy Minister's Task Force on Horizontal Policy.

KEY FINDINGS:

7. SAR response services are inherently multi-jurisdictional in nature, relying on a range of primary, secondary and voluntary resources. Jurisdictions involved in providing this service are primarily federal departments, but over the years, formal and informal agreements have been established to mutually request assistance from provinces, territories, municipalities and other countries. There is a clear understanding amongst response services that no one jurisdiction can provide a complete response – particularly given the size of the country and the harshness of the Canadian environment.
8. Program Review seriously impacted the overall capability of the Canadian SAR response system. Fewer federal SAR resources are available than in the past. Personnel reductions have eliminated most of the strategic planning staff of federal SAR departments, including the National SAR Secretariat.
9. There is a documented history of over thirty years of attempts to put the management of the federal SAR program in order. Since 1976, 'horizontality'¹ has allowed departments to discuss SAR issues under the umbrella of ICSAR. However, limited progress on developing coordinated policy has been made and there is no evidence of issues or advice ever being passed from this committee to the Lead Minister for Search and Rescue (LMSAR).
10. ICSAR is an advisory body and it has neither a legislative nor a consensual mandate to manage or direct improvements to overall SAR services. Individual departments retain autonomous control of SAR resources. For over a decade the government has been committed to developing program plans and policies with as yet no success. This lack of success has not

dramatically impacted operational SAR services. However, in recent years, with fewer federal resources, there is a greater need for strategic management. Previously, operational services were able to cope whereas now more coordination and collaboration are required.

11. There are no tools to assess the cost, efficiency or effectiveness of the program or to identify the impact of resourcing decisions on overall program response services. As a consequence, program managers are operating without the essential information they need to manage the program and decisions are being made without sufficient analysis of the overall service being provided.
12. The absence of program coordination at the federal level has resulted in departments purchasing SAR response equipment that may not be compatible with the SAR equipment of other departments. Two examples taken from Rescue Coordination Centre (RCC) case studies include radios that cannot intercommunicate with other agencies and litters that are not suitable for hoisting by helicopter.
13. Training has not received adequate funding. Some departments lack defined training and training proficiency standards. In some instances, a lack of standardized training and procedures creates incident management and responder integration problems at the scene of emergencies.
14. The federal readiness-standby posture is determined primarily by resource availability, not by user demand. Additionally, all departments occasionally task resources that do not meet the training or equipment standards set by that department for critical SAR missions (see, for example, “Kluane vs. Denali” case study, and “Closing Accident Report CH146421” case study prepared for the review study).
15. Given the above findings regarding resources, cutbacks and the documented history of fruitless debate on program management and structure there is now a risk that the SAR program will become a public policy issue.

“...if we wait until a policy problem moves onto the public agenda – until there is public pressure or urgency for problem resolution – there is often insufficient time for the reflective work needed to make real progress.”

Task Force on Horizontal Issues, p 21, October 15, 1996

KEY RECOMMENDATIONS

16. The following key recommendations summarize those detailed further on in this Response Review report. They are listed below in an order of suggested priority for consideration by senior managers.
17. The primary focus for improvement in federal SAR response services should be on the development of program level horizontal policy and plans. Federal policy and plans should recognize and relate to the interdependencies of services with non-federal and international jurisdictions. Federal policy should lay out the Government's expectation for federal SAR response services.
18. Committed leadership of the SAR program is necessary if SAR services are to solve current problems and meet future challenges. The present structure and mechanisms – in particular the NSS and SAR HQ staff – need to be augmented with more, not fewer, resources and need to improve and increase policy development work. ICSAR as a body of senior level decision-makers needs to consider improving its level of representation, perhaps by being elevated to a Deputy Minister Council with specific horizontal management responsibilities. An advisory group of prominent Canadians should be established from which the senior level SAR committee can take counsel on SAR policy/plans.
19. Given an established policy and planning framework for managing such a program and, given a renewed and committed leadership for developing SAR horizontal policy and plans, operational issues such as appropriate training of responders, standby postures, equipment purchases and resources have a far greater chance of being resolved. Each of these particular operational issues, as enunciated in the following report, should be addressed within the stated expectation of program policy and actions resolving these issues should be laid out in a SAR Plan.

OPERATIONAL ISSUES

“The pooling of resources in a partnership will have a synergistic effect in that the combined impact will be greater than the efforts of each partner acting alone...”

Kenneth Kernaghan, Canadian Public Administration Journal, 36(1), 1993

20. The following four sections of the Report review the findings, conclusions and recommendations on the SAR response issues of resources, equipment, training and standby posture. The information was derived from extensive interviews; document, literature and file searches; case studies; and an Expert Opinion Panel.

RESOURCES

21. The issue of resources is key for any operational service – obtaining and maintaining human or capital resources can be a challenge at the best of times. The Planning Report outlined the need to assess the effects of downsizing and determine what practical measures might be introduced to inhibit the loss of trained staff and to recruit new responders to the service. The review team found that the issue of downsizing was paramount and there was evidence that could be brought to bear to illuminate this problem and suggest solutions. Little information was available on the issues of retaining trained staff and of recruitment. The following findings relate to what was seen to be the priority issues in the area of resources.

Findings

22. Resources involved in responding to federal SAR incidents are obtained from a variety of departments and other jurisdictions, depending on the severity and location of the incidents and the availability of the resources. For example, while DND, DFO/CCG and Parks maintain dedicated SAR resources for their respective areas of responsibility in the SAR Program, secondary (or multi tasked) resources are an important part of the response to all federal incidents. Secondary resources are defined in this context as resources not principally dedicated full-time to SAR. As well, the Rescue Coordination Centres (RCCs) can use reciprocal agreements with other countries and some provinces to call on each other's resources when and if required.
23. In the past few years, reductions of personnel and equipment, particularly "secondary" SAR resources, have placed additional pressure on the federal SAR system. This is best illustrated in a case study undertaken for this review, "Statement of Deficiencies, Victoria Search and Rescue Region", which states that:
- a. reductions to resources, particularly marine resources, were sudden and severe; and
 - b. no strategic planning took place to mitigate the effects of Program Reviewⁱⁱ.
24. Although primary SAR resources were not impacted directly by Program Review, secondary SAR resources were. The use of secondary SAR resources such as Canadian Forces aircraft and ships, multi tasked Canadian Coast Guard vessels, RCMP marine units and general duty Park Wardens all fall into this "secondary" category. The availability of all these types of resources has been seriously affected by Program Review cuts – in one department up to approximately 35 % nationally. During the review period,

it was noted that RCMP vessels on the West coast were tied up due to a lack of dollars to buy fuel. Overall program review cuts to the DFO/CCG fleet resulted in an inability for most of the DFO/CCG regions to fund ship days for SAR coverage.ⁱⁱⁱ

25. In addition, Program Review cuts that have led to the loss of many federal planning and management positions have eroded departmental ability to coordinate and manage the program.
26. Historically, efforts to improve SAR capability have come from “bottom up” initiatives within departments rather than from any “top down” coordinated program development. While this did achieve some success in past years, such initiatives have little chance of success in today’s fiscal climate. The net result is program stagnation at a time when the program is being severely challenged and innovative solutions are required.
27. The resources allocated to SAR by federal departments do not relate to an overall expectation stated by the Government of Canada, nor to an obligation to provide SAR services according to established standards. Individual departments independently determine the resources they allocate to SAR (and in most cases resource allocation is based on what the department can afford). This is not to say that SAR organizations within some departments have not attempted to rationalize how their resources should be allocated. Over time, the production of analytical computer simulations, environmental scans, needs analyses and coverage scenarios have been attempted. None of these initiatives have been geared to the logic of an overall program with contributing jurisdictions providing resource contributions or resource tradeoffs. The consequence of this situation is that no assurance can be given that the overall response to SAR incidents is adequate or reliable.

Conclusions:

28. The Review Team concluded that:
 - a. there has been an overall reduction in the SAR response capability of the federal government due to fiscal pressures. The greatest impact has been in the loss of secondary resources; and
 - b. the capability of departments to devote sufficient staff effort to analyze the impact of reductions and to propose management solutions has been significantly reduced. Competition for program monies within departments is such that SAR is but one of a number of competing interests. The evidence shows that in some departments SAR is not being afforded the priority that the public may assume it should.

Recommendations:

29. The following recommendations are made:

- a. the government should address shortfalls in SAR resources. This should be done primarily from a program perspective rather than from individual departmental perspectives. A program perspective will allow for consideration of various options and resource trade-offs among departments.
- b. allocating resources from a program perspective should ensure that SAR resourcing is brought to the Government's attention as a priority. Public expectation and need should also be part of this consideration.

EQUIPMENT

30. The Review Team was tasked to identify ways in which the acquisition process could achieve program efficiencies and improve equipment compatibility among departments.

Findings:

31. The majority of those interviewed acknowledged the reality of the procurement rules of the federal government and did not believe that much could be done to 'fast-track' SAR related purchases. Many responders interviewed felt that SAR purchases should be coordinated with other partners in the NSP. Most interviewees did not envision interdepartmental funding, but did see a role for compatible specifications for SAR equipment, acquisition, priority setting and joint purchases of common equipment within a SAR Plan.
32. Most responders indicated that the funding problems within their departments are having an impact on SAR delivery. The Coast Guard noted a significant reduction in its funding allocation for fleet units from 1994 to that proposed for 2000, and interviewees were unanimous in indicating concerns with the Department's ability to purchase equipment against future needs.
33. Many saw that the problem of equipment compatibility was linked to the lack of national standards and the vagaries of the acquisition process. There are numerous examples in the RCC case studies of repeat 'lessons-learned' that are yet to be resolved by the purchase of specific equipment.

Conclusions:

34. The following conclusions were reached:
 - a. many SAR purchases made by departments are linked to overall departmental activities rather than specifically to SAR needs and established standards, and this has exacerbated the NSP equipment compatibility problem;

- b. fiscal pressures are making it more difficult for individual departments to fund their portion of the NSP; and
- c. departments do not generally attach high priority to resourcing their portion of the NSP.

Recommendations:

- 35. The Review Team recommends that:
 - a. the priorities for the purchase of SAR equipment should be established in a federal SAR Plan and should be reflected in the acquisition priorities established by individual departments; and
 - b. a committee should be struck with the purpose of setting common standards for equipment for federal SAR departments.

TRAINING

- 36. During the planning phase for the review there were several concerns raised on the issues of alternative training for SAR responders, increased risk management training and the need for common training. Lines of evidence used in the review study indicated, however, that the individual issues on training tended to be difficult to analyze without overall program expectations/objectives/ standards against which responders should train. The following findings and conclusions reflect the above-noted context.

Findings:

- 37. The Review Team found that:
 - a. wide variation in the adequacy of SAR standards and training programs was found within and among departments. DND has the most comprehensive and thorough training programs, while at the other end of the scale, Parks Canada SAR training is locally developed and delivered and is highly variable from site to site. Part of the reason for the variation is the culture and management context of each of the federal departments. Parks, for example, have a highly decentralized structure with Chief Park Wardens having a great deal of autonomy and authority. In addition, the training regime for wardens is such that they receive basic skill training in the early years of being recruited into the service. DND, in contrast, have basic training for working in the military but additional specialized training for SAR and a standard training regime for all staff.
 - b. there is a need to improve the design, content and delivery mechanisms of federal departments' SAR training programs;

- c. in some departments, there are no defined training and proficiency standards for front line responders, incident commanders or program managers. In departments where proficiency standards do exist, they are not always met;
- d. the absence of accepted standards for SAR incident command, crossover technologies (e.g. communications) and technical proficiencies for federal and volunteer responders can create serious problems when coordinating multi-jurisdictional SAR incidents;
- e. there is a need for common, multi-jurisdictional training exercises to prepare responders for working together during an actual incident and to achieve a seamless integration of program elements;
- f. funding of SAR training is a major concern for some federal departments; and
- g. there is a near universal need for improved technical training for front line responders (including volunteers), risk management training for SAR responders and incident commanders and professional development for SAR program managers.

Conclusions:

38. The Review Team concludes that:

- a. in an NSP based on multi-jurisdictional response, lack of common systems or standards for incident command, technical training and equipment can create unnecessary obstacles to effective SAR response for people in distress;
- b. effective SAR training and multi-jurisdictional exercises are essential for the conduct of safe and successful SAR missions and should be a key accountability item for program managers; and
- c. development of SAR training programs is a necessity and should begin with an evaluation of mission requirements, available resources, and desired outcomes. From this, task analysis would identify proficiency standards for knowledge, skills and attitudes required to conduct and manage SAR operations to identified standards.

Recommendations:

39. The Team recommends that:

- a. performance measurement should include periodic audits of SAR mission response and operational and managerial training programs to ensure training standards are realistic and attainable, and that evolving best practices are being integrated into SAR training programs;

- b. departments with primary responsibility for SAR should work with agencies and stakeholders to develop compatible standards, equipment, training and SAR incident management;
- c. periodic, multi-jurisdictional exercises sponsored by a central horizontal coordination agent should be conducted to develop the techniques, teamwork and trust necessary for a seamless NSP. These exercises should occur at the local, regional and national levels;^{iv} and
- d. all federal SAR departments should develop training plans for inclusion in a federal SAR Plan and should report upon these annually.

READINESS – STANDBY POSTURE

40. The standby postures of SAR departments were reviewed and it was found that there are significant variations among departments. DND has prescribed a 30 minute readiness capability during “working hours” and a two hour readiness capability during “quiet hours”^v. DFO/CCG maintains a 30-minute response standard 24/7/365 for primary SAR vessels. Parks Canada readiness levels are site- specific. RCMP SAR posture is no different from their police posture - 24/7/365 coverage. Given the vastness of and differences in the Canadian geography, climate and environment and the various types of SAR incidents that occur, a common standby posture may not be appropriate.

Findings:

41. The Team found that:
- a. resource availability is the primary driver that determines the standby postures for all NSP departments;
 - b. DND usually meets the standby/readiness target. However, working hours do not necessarily coincide with the days or times of peak SAR activity;
 - c. DFO/CCG met standby/readiness targets a high percentage of the time in 1997, but expected a substantial decrease in 1998^{vi};
 - d. Parks Canada standby/readiness is determined through historical operational requirements, available resources and through visitor risk management analysis. However, although more than 70% of parks have public safety plans in place, many have not conducted the analysis for standby/readiness posture.
 - e. RCMP meet targets for receiving SAR reports; there are no data on their performance;

- f. for critical SAR missions, all departments occasionally task resources that do not meet their training or equipment standards, thereby putting their staff at increased risk.
- g. along with the Parks Canada efforts to develop risk assessments, in the past year DND has attempted to study standby postures for two of its squadron. In the past year, DFO/CCG has utilized the International Maritime Organization (IMO) Formal Safety Assessment Guidelines to assess SAR coverage within its area of responsibility. However, there is a lack of an overall indicator(s) for what should be a standby posture (or postures) for combined efforts of the federal SAR program. The result is that no assurance can be given that the program is responding as it should.

Conclusion:

- 42. A lack of strategic management within the SAR program has resulted in each department developing standby postures in isolation, without consultation with other SAR departments. As a result, there is no common rationale driving standby postures.

Recommendations:

- 43. The Review Team recommends that:
 - a. the standby postures of primary SAR resources should be determined principally through an analysis of demand for services; and
 - b. federal primary resources that fail to meet training, equipment or delivery standards, as described in a federal SAR Plan, should not be viewed as primary resources and should likely not be tasked.

PERFORMANCE MEASUREMENT

- 44. Performance measurement is essential for achieving desired results and for managing and improving performance. This is particularly important in the current era of fiscal restraint.
- 45. The Response Review Planning Report made five observations on performance measurement on SAR response:
 - a. there is no formal performance measurement framework in place to evaluate federal SAR response activities;
 - b. performance measurement that is occurring is carried out in an ad hoc, informal manner;
 - c. current performance measurement processes have no results/outcomes statements against which to measure performance;

- d. data are not being collected with performance measurement in mind; and
- e. the data currently being collected is inadequate for program evaluation purposes.

Findings:

- 46. The majority of the lines of evidence used in this study generally validate the five observations on performance measurement. At the field level, operators use a simple criterion, “what could have been done better” as their measure of mission performance.
- 47. The majority interviewed saw performance measurement as a useful management tool and one interviewee noted that there was no “link between the business plan, the evaluation of the business plan and the financial plan”. Difficulty in measuring SAR performance is noted in all lines of inquiry (e.g. subjectivity, confounding factors) and observations were made that performance measurement should focus on process more than the outcome.
- 48. Many useful strategies for better performance measurement were provided to the review team from interviews, documents and case studies. Generally, the most useful of these focused around:
 - a. the need to relate performance to outcome statements and program objectives;
 - b. the need to recognize the multi-jurisdictional nature of the program; and
 - c. the requirement that indicators be simple, clear, measurable, standardized, useful, attainable, meaningful, easily incorporated into SAR business plans and provide value added. An essential factor highlighted by one executive was the difference between data and information.
- 49. Interviewees and experts had no difficulty suggesting performance indicators. The most frequently mentioned indicators were: timeliness of response; response performance against existing or developed standards by incident type; nature and type of incidents (causes, class, severity rating); number of lives at risk/lost/saved; type of response; resources used; human resources used; SAR program costs; and risk assessment analysis.

Conclusions:

- 50. From an analysis of the above, the team concluded that:
 - a. There is an extensive history of the issue of performance measurement within operational departments but no recent, detailed analysis on the performance of the overall federal SAR response program. There are no published expectations or outcome statements for the program, thereby

hindering departments in their ability to assess the impact of downsizing on the program;

- b. good work is being done at the tactical level (e.g. mission reports, incident reviews, identification of best practices/lessons-learned) in measuring performance, but a more structured formal process is needed for broader program management at the strategic level;
- c. some consensus exists regarding what indicators would constitute performance measurement. An appropriate performance indicator would be one upon which senior managers can base program decisions. Any analysis of an indicator must also consider the impact of confounding factors that will influence response performance (e.g. weather, time of day, environmental conditions, victim preparedness, etc);
- d. there is a need for better measurement of SAR response performance and generally better analysis of the impact of resourcing decisions on the program. Significant efforts are under way in all response departments to improve the quality of data upon which such analyses could be conducted. However, the present lack of central SAR coordination for strategic information and analysis will likely result in incompatibilities and inconsistencies in the data elements collected. This limits the usefulness of the efforts; and
- e. a SAR Plan would provide the basis for the development of a framework for performance measurement. The framework must be applicable and acceptable to all providers of NSP SAR services and must identify indicators for which the department can be held accountable.

Recommendations:

- 51. It is recommended that:
 - a. a framework for performance measurement for the federal response component of the National SAR Program should be developed and included in a SAR Plan; and
 - b. annual reporting of the SAR program performance is identified as an expectation within a SAR Plan.

MAJOR AIR DISASTER (MAJAID) PLAN

The review of the Major Air Disaster Plan was the subject of a separate report for the Department of National Defence.

STRATEGIC MANAGEMENT AND PROGRAM STRUCTURE – “WHAT” NEEDS TO BE DONE, “HOW” IT SHOULD BE DONE AND “WHO” SHOULD DO IT

52. The review of the operational issues in the study revealed a consistent theme – without a policy/planning framework that governs SAR response activities, it is impossible to evaluate whether the current response system is efficient, effective or economical. Thus, the most fundamental issue of the SAR Response Review became the examination of the effectiveness of the strategic management of federal SAR services and the review of the adequacy of the management structures supporting the strategic management of the SAR Program. Equally important, it was evident to both the Review Team and the Expert Panel that the public will judge SAR response service by its shortcomings and not by its many operational successes.
53. To address these related issues, the Review Team focused on researching the history of past multi-jurisdictional SAR management efforts with particular attention to reports, findings and recommendations that materially affected the structure, responsibilities and accountabilities of the federal SAR service. For example, the approved 1997 SAR Cooperation Review Report and the approved 1996 SAR Prevention Review Report provided useful guidance in reviewing these issues. The Team also relied on case studies and interviews that were coordinated with SAR staff at all levels and discussions that were held with past and present SAR managers involved with the management of federal SAR. The information from these lines of evidence was reviewed with the Expert Panel and various approaches and solutions discussed with a view to recommending an optimal course of action.

Findings:

Strategic Management

54. The Review Team found that there is a documented history of discussion and debate concerning the strategic management of federal SAR services spanning nearly three decades. The major milestones in this debate include:
- a. the 1976 Inter Departmental Review of Marine Search and Rescue :
 - i. ICSAR was established to provide advice on policy, planning, resources, effectiveness and to develop a SAR Plan for annual review by Treasury Board and by an Ad Hoc Committee of Ministers on Oceans Management; and

- ii. the MND was named as LMSAR and spokesperson for the government on overall SAR matters. ICSAR reported to the MND through the Ad Hoc committee.
 - b. the 1982 Evaluation of Search and Rescue (Cross Report):
 - i. Ministers were judged not to be receiving information they required to make informed decisions;
 - ii. the ICSAR Secretariat needed to be strengthened;
 - iii. a management model requiring that accountability for planning, implementation, monitoring and evaluation should run from the LMSAR to a single ICSAR Chairperson; and
 - iv. the departments were to develop proposals for inclusion in an integrated SAR program.
 - c. The Royal Commission on the Ocean Ranger Marine Disaster of 1985:
 - i. observed that LOS had not been established nor criteria determined for evaluating the quality of the service rendered;
 - ii. recommended that a national SAR program be established;
 - iii. resulted in the formation of the NSS, headed by a senior official reporting to the LMSAR with no line responsibilities for SAR; and
 - iv. resulted in the determination that ICSAR was to continue as an advisory body to the NSS.
 - d. a 1989 LMSAR letter to the Executive Director of the NSS stated that:
 - i. the close cooperative working relationship between the NSS and the two main delivery departments (DND and TC), which was essential to the management concept of the NSP, had not taken place; and
 - ii. ICSAR was to be revitalized to become the primary forum for the development of advice on all matters related to SAR.
 - e. a comprehensive audit by the OAG reported in 1992 that:
 - i. previous studies had made detailed recommendations to improve the management and accountability for search and rescue; and
 - ii. a principal conclusion was that the program, as endorsed by Cabinet, had not been fully implemented.
55. Both the review team and the Expert Panel found that throughout this period of time the debate and discussion has centered on several key concepts. For

example, accountability for departmental responsibilities versus accountability for a multi-jurisdictional response service has been a major debating point among all parties. A second and related debate is the discussion of what a “management” activity in this “program” was and/or should be. Departments have been uncomfortable with words such as “direct”, “control” or “manage” as they relate to program management of SAR. For the Departments, these words are appropriate solely for their own internal activities.

56. Researching evidence of policy and planning activities encompassing the overall program revealed that little activity of substance has occurred. Under international agreements, Canada has committed to develop and implement a SAR Plan. However, such a plan does not currently exist. In addition, agreement on what the “plan” should be does not exist within federal SAR circles. What does exist is recently developed government guidance on what the “management” activity for this type of program should be and how this type of activity should be carried out.
57. The 1997 Deputy Minister’s Task Force on Strengthening Policy Capacity and the 1996 Fellegi Report on Managing Horizontal Policy Issues became key references for the review team. Both these reports cite useful criteria for improving and strengthening interdepartmental policy processes. The Fellegi Report notes that coordination in the management of strategic and major horizontal management issues include the following functions:
 - a. ensuring that there is an identification of strategic and major horizontal issues;
 - b. setting system wide priorities for developmental work on such issues;
 - c. establishing mechanisms for interdepartmental collaborative work as and when needed;
 - d. providing needed support to the functioning of such mechanisms;
 - e. providing substantive stimulation and challenge for departmental policy work; and
 - f. encouraging the evolution of system wide consensus, wherever possible, in problem definition and eventual assessment of options by providing mechanisms for substantive interactions, exploration of competing views, and timely resolution of dissention.
58. The above noted functions seem to amplify well the planning and policy activities that should occur at the strategic level of a horizontal program like SAR response. Past review studies on SAR (i.e. both the 1997 SAR Cooperation Review Study and the 1996 SAR Prevention Review), other references and documents, interviews and discussions with the experts all

support the thrust of the two horizontal policy reports. The focus in such a program is the setting of horizontal policy.

“A fundamental truth is that organizations have a greater chance of success if they are clear about what operating principles are important. Strategic management for any organization, or government program, focuses on the development and maintenance of strategic plans based on clear statements of their business (mission), where they wish to be (vision), and objectives for attaining the vision. Often organizations clarify the values and principles they hold important, and articulate the standards of performance that clients can expect.”

David W. Hutton, Change Agent's Handbook p. 112, ASQ Quality Press, Milwaukee WI 1994

59. Lines of evidence during the review also highlighted other strategic management factors for consideration. For example, it was found that:

- a. a strategic management model of SAR in Canada must not ignore the reality that the federal SAR service is inherently multi-jurisdictional and multi-faceted in nature. Often, the response to an incident will involve resources from more than one jurisdiction. If this is the reality of SAR operations, it is equally logical that the management of SAR should reflect this reality and be multi-jurisdictional;
- b. resource poor times demand better strategic management; and
- c. several nations sharing similar values and similar SAR realities are lockstep with Canada in attempting to reach management solutions that are practical, efficient, effective and acceptable. Sweden, for example, recognizes the intrinsic truth that all public safety organizations from the federal to the municipal are constituted to achieve the government's objectives of 'saving life, alleviating human suffering and preserving property'. The Swedish Rescue Act is designed to provide a legislated mandate for these objectives. In the past year, the United States has developed a SAR Plan and the United Kingdom is in the process of developing such a plan for their country.

Findings

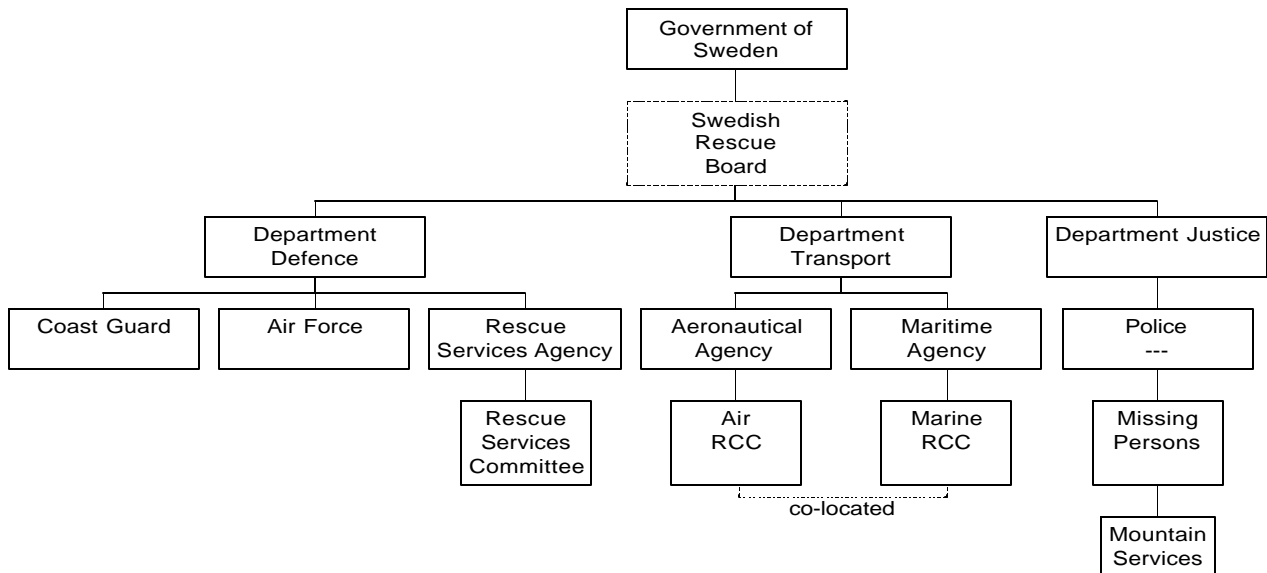
Program Structure

60. For the review team, a first and important step was understanding that strategic leadership and managing horizontal policy development is the basic work required to solve operational problems identified during the planning and review of SAR response services. A second logical step was to question whether the federal government has the most effective, efficient and economical mechanisms and structures in place to do this work. For federal SAR services, two key mechanisms have remained the focus for central coordination at a program/policy level – ICSAR and the NSS.

61. Review findings reaffirm the need for central agents such as ICSAR and the NSS to act as a coordinating body and to provide a forum for federal, provincial and volunteer SAR response services. None of the interviews conducted for the review viewed either body as being particularly effective. Discussion with departmental officials indicated they were in support of a need for the NSS and ICSAR. Views on just what they are currently doing and should be doing varied widely, with no discernable patterns emerging among or within departments. A majority of officials polled supported (with some reservations) greater roles for these bodies in representing the needs of the SAR response community. Some of those representing the SAR community indicated that they would like to see ICSAR and the NSS play a greater role in representing the needs of the response community to government and in bringing federal, provincial, territorial and volunteer agencies together to train, exercise and share resources. However, during the review, the Team found that:
- a. ICSAR has rarely, if ever, worked on SAR response issues. It did begin to develop some strategic policy and planning documents in the early nineties, including the development and approval of an NSP Concept (1991) and supporting strategic documents, but no real action has been taken to implement them. There is no record of a response issue being brought to the LMSAR by ICSAR;
 - b. the terms of reference for ICSAR and for the Executive Director NSS include specific responsibilities for strategic planning and coordination that are not being fulfilled. More importantly, there was no evidence to show that the terms of reference for either ICSAR or the Executive Director had ever been viewed or approved by the LMSAR; and
 - c. SAR coordination activities at the middle management level have improved (for example in the area of the ICSAR Subcommittees' activities) but there is no evidence that senior departmental managers have been involved in policy/planning decisions at the inter-jurisdictional level. The historical inability to produce a plan for the overall SAR program and the lack of agreement on what the policy and plan(s) should be for the SAR program may be due in part to a lack of commitment by departmental managers to give up departmental control to any central authority. Interviews and the document analysis indicated that for some departmental managers, SAR could be more or less of a priority as it suited the department. Equally important, the regional structure of some SAR departments, that sees Regional Directors General reporting directly to Deputy Heads, may prohibit horizontal functions such as SAR from progressing in an effective and economical manner. For some departments, progressing the horizontal function of SAR can be a direct challenge to their own internal structures. Without an overarching document that sets out the business of the SAR program, individual departmental obligations and the government's overall expectations for the service, it is unlikely that some departments will undertake to assume anything more than the minimum responsibility for the provision of SAR.

d. The Review Team researched best practices in other countries with a view to identifying lessons learned in the area of SAR program structures. The UK was reviewing their ICSAR structure and mechanisms in 1998 and SAR staff provided some insight into the history of this body. The Swedish Rescue Service Board staff was particularly helpful with regard to how their structure had been developed to ensure that a horizontal program was developed and maintained. The Swedish experience is relevant as it is a good example of a “top down” model – that is - a model driven from the “top” (a legislated act of government, with a management board of senior officials (similar to the Canadian SAR Secretariat) who have specific responsibilities for a national plan). Issues of who is accountable to whom and what comprise individual jurisdictional responsibilities are spelled out in their policy and plan. Inter-jurisdictional working committees are an important part of Swedish structure as is a formal process for developing the national plan (the plan must first be approved by each of the operating departments, then consolidated, through their Rescue Services Centre (similar to ICSAR), by the Board and submitted to the legislature for funding approval. Approval signals that the jurisdictional responsibilities will then be given resources for SAR). The following organization chart outlines the basic structure of the Swedish model.

Figure 1: Organization of the Swedish SAR System



62. It is important to note that after reviewing study findings on these issues, the Expert Panel noted the important public policy nature of search and rescue and the need to convey to Deputy Ministers responsible for SAR services that committed leadership of the strategic management aspects of the program would lead to timely resolution of operational problems.

Conclusions:

63. From an analysis of the evidence, under the current ‘understanding’ between the NSS and ICSAR on the one hand, and among the operating departments on the other, the system has failed to deliver effective strategic management of the NSP. In a number of ways, the establishment and development of both ICSAR and the NSS two decades ago set precedents for horizontal cooperation at the federal level. The Deputy Minister’s Task Force of 1996 highlighted factors for success and for failure of horizontal enterprises, three of which can be applied directly to the experience of these agencies:

- a. ICSAR was constituted as an inter-jurisdictional committee for the provision of advice to the LMSAR. However, it does not hold any accountability for any specific item(s) of work. Unfortunately, this committee has been unable to bring to the table issues with a potential to substantially affect the National SAR Program. As a result, the committee has concerned itself with issues that were not of a scope or significance to merit the attention of the LMSAR;
- b. early in the process, the LMSAR recognized that operating departments must not be deprived of their right to make decisions affecting resources. However, departments avoided bringing issues related to operational capability to the ICSAR table as they interpreted these to be strictly departmental matters. The result is an unofficial ‘understanding’ that ICSAR has a limited mandate and no ability to deal with critical operational issues surrounding search and rescue. As evidence of this, ICSAR was not involved in a resolution of the “Statement of Deficiencies – Victoria Search and Rescue Region” nor was it involved in determining a course of action after the safety related grounding of the country’s primary SAR helicopter fleet; and
- c. members of ICSAR do not appear to have a clear understanding of their relative roles and responsibilities. Three members have obligations under international convention to provide SAR services, but only one of the three has a statutory obligation under Canadian legislation. The remaining NSP partners have no formal responsibility to provide SAR services. The mismatch of responsibilities at the ICSAR table results in a stalemate where members with clear obligations are generally pursuing objectives that are different from those with less defined obligations. It was noted by the Review Team that the elements of the SAR program that are rooted in international convention and federal legislation have managed resource reductions better than elements that are only grounded in domestic policy.

64. Data gathered from the lines of evidence suggest that the current model fails to achieve ‘management’ of overall federal SAR services. ICSAR, as the primary forum for development of advice to the Lead Minister for SAR, is specifically charged with identifying existing SAR requirements and advising on how government can best respond to these requirements. The evidence clearly suggests that there is a requirement for more proactive horizontal policy management, and better strategic direction and coordination of the federal SAR program. In other words, managerial requirements for programs that deliver emergency services to Canadians require integrated multi-jurisdictional planning, maintaining, reviewing and decision making.
65. Overall, there continues to be a lack of SAR program coordination, planning and direction at the program level. The result is a federal program that has been, and continues to be, the aggregate of the programs of individual participating departments. Effective multi-jurisdictional strategic management is the first and most fundamental step towards improving SAR response services. SAR forces have to know what is expected of them and what their obligations are. The study has shown that there is compelling evidence for a need to move SAR management to a new level where coordination, accountability and direction can be achieved.

Recommendations:

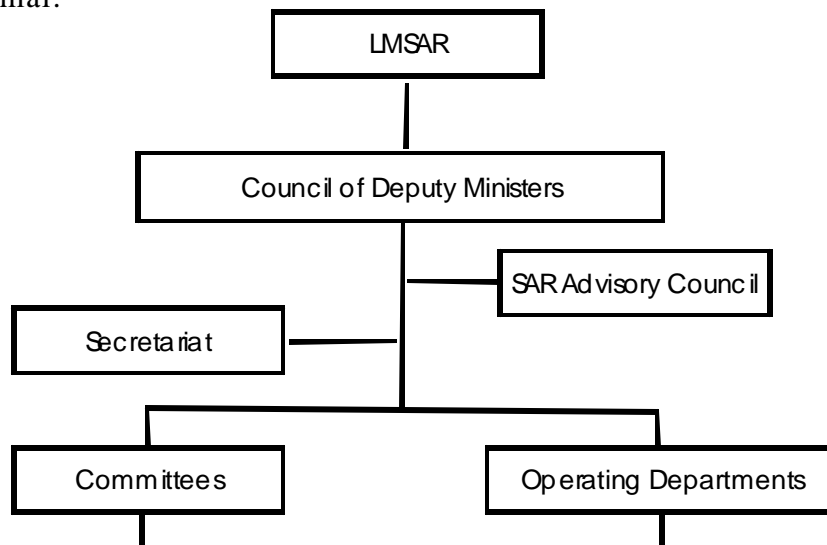
66. It is recommended that strategic management of the federal SAR services “program” be improved. A policy framework similar to the basic model developed to date for SAR prevention activities consisting of a vision for federal SAR response services, related objective(s) and overall strategies for accomplishing the objective should be developed. A basic ingredient in formulating the service expectations for the overall program/policy should be an objective analysis of the actual needs in federally mandated areas of SAR responsibility. Consideration should be given to linking this overall policy framework (including the SAR prevention vision, objective and strategies) to formal departmental mandates – the ideal being a legislated act.
67. The policy framework should be implemented through the establishment of a plan. The plan should be strategic in nature, developed in concert with jurisdictional stakeholders and outline the federal government’s expectations and priorities for the federal SAR program. The plan should include objective performance indicators for the program, related information to support the indicators, annual reporting against the indicators and annual highlighting of substantive issues. It should be the primary vehicle for federal requests for and justification of resources and in implementing the SAR policy expectations. It should also demonstrate how departments are establishing training and standby postures (both in common and independently), equipment standards and purchases. While the plan should be the formal vehicle for coordinating the program, it should be recognized that once the plan is approved and updated, accountability for the resources assigned rests with the departments. Reporting on the plans, performance indicators and regular reviews should be the formal

control measures that the plan is implementing the vision, objectives and strategies outlined in the policy framework. A key aspect of establishing the federal SAR Plan should be consideration of how it relates to other non-federal jurisdictions. Regional arrangements with provinces and territories as well as arrangements with other countries and international bodies should be taken into consideration in formulating the plan.

68. Establishing the policy framework and plan for the federal program represents two sides of an improvement triangle. The third side of improving federal SAR response services is to improve the structures and mechanisms involved in the policy and planning activity. Based on many suggestions, options and insights provided from interviews, case studies, documents and reports and Expert Panel opinion, it is recommended that improvements to the structures and mechanisms for the federal SAR program contain the following elements:

- a. a mechanism that represents and can champion SAR at the highest possible levels in the federal service. This mechanism should have representation from the stakeholder departments. It should hold specific accountabilities for SAR program plan and policies. Its focus should be on directional and strategic leadership of the horizontal program;
- b. a mechanism that supports the leadership by providing the staff coordination, facilitation, communications, analysis and review activities for the horizontal policy and planning activities of the program. A key part of its activities should be coordinating working committees on priority areas such as training, exercise development, information management and equipment standards;
- c. a mechanism that provides advice from outside government circles to the Government. This mechanism should consist of eminent and respected Canadians known for their humanitarian interests.

69. With these mechanisms in mind, the following structure is considered optimal:



The following roles and responsibilities for this structure and mechanisms are suggested:

- a. The Council of Deputy Ministers** should:
 - i. consist of Deputy Ministers with departmental interests in search and rescue;
 - ii. approve the annual SAR Plan and coordinate individual departmental search and rescue programs with the intent of ensuring the federal program meets the expectations of the Government of Canada as defined by the Plan; and
 - iii. review recommendations of a strategic nature received from the Secretariat, the Advisory Council and the Operating Departments and provide advice to the LMSAR and the Privy Council on how obligations for providing SAR services should be mandated (i.e. through legislation or other means).

- b. The SAR Advisory Council** (Constituted for the Provision of Advice Only) should:
 - i. consist of eminent Canadians with no previous political, government or interest group background;
 - ii. assist the LMSAR (and Ministers in Council to the LMSAR) by providing independent advice to the Council of Deputy Ministers from a humanitarian and Canadian public viewpoint;
 - iii. provide direct input from the public to the Council and to provide a level of transparency to the process; and
 - iv. be the primary tool for expressing public expectations and needs for SAR.

- c. The Search and Rescue Secretariat** should:
 - i. consist of an Executive Director, Directors and support staff;
 - ii. provide secretariat support and advice to the Council of Deputy Ministers and develop, in cooperation with other SAR responders, the federal SAR Plan. The Secretariat should have specific responsibility for the collation of information to support the plan, monitor regular reporting against the plan and review performance at regular intervals. It should also assume coordinating responsibility for facilitating multi-jurisdictional exercises involving federal, provincial, volunteer and municipal organizations; and
 - iii. facilitate cooperation among federal SAR departments, federal and provincial/municipal/commercial/private response groups, manage the New SAR Initiatives Fund (NIF), chair committees, inform the public and represent multi-jurisdictional management of the federal SAR program internationally.

d. Committees should:

- i. consist of specialist representatives from operating departments, contractors and experts working in support of the Secretariat;
- ii. provide standing and special working groups; and
- iii. represent operating departments in the conduct of SAR business related to program management (currently the ICSAR Coordination Subcommittee), program review (currently the ICSAR Review Subcommittee), prevention, response, training, equipment standards, special projects and studies. In addition, committees would provide reports as directed by the DM Council through the Secretariat.

e. Operating Departments should:

- i. continue to be any department that provides direct SAR response to the public (and direct support to responders);
- ii. provide specialized SAR resources to the NSP in support of a SAR Plan
- iii. be responsible for SAR resource allocation, operations, tasking, procedures, training and standards.

70. It is recommended that the principles outlined in the Fellegi and Cappe Reports be used to measure and monitor these structures and that, as a minimum, the Council of Deputy Ministers be held accountable for the effectiveness, efficiency and economy of the SAR program.

Annex A to SAR Response Review

GLOSSARY

CCG	Canadian Coast Guard
CF	Canadian Forces
DFO	Department of Fisheries and Oceans
DM	Deputy Minister
DND	Department of National Defence
FTE	Full Time Equivalent
ICAO	International Civil Aviation Organization
ICSAR	Interdepartmental Committee on Search and Rescue
IMO	International Maritime Organization
LMSAR	Lead Minister for Search and Rescue
LOS	Levels of Service
MND	Minister of National Defence
NIF	New Initiatives Fund
NSP	National Search and Rescue Program
NSS	National Search and Rescue Secretariat
OAG	Office of the Auditor General
RCC	Rescue Coordination Centre
RCMP	Royal Canadian Mounted Police
RRC	Review of the Response Component
SAR	Search and Rescue
SRR	Search and Rescue Region
TC	Transport Canada
VRM	Visitor Risk Management

Annex B to SAR Response Review

**SAR Response Review Team and Expert Panel
Brief Biographies**

The Review Team

LCol (ret'd) Keith Gathercole

- Extensive military SAR experience, including Deputy Commander, Air Transport Group Headquarters; Senior Staff Officer, SAR Air Transport Group; Commanding Officer 424 SAR Squadron; Commanding Officer 103 Rescue Unit
- Recipient of Star of Courage; Order of Military Merit; Canadian Forces Decoration; Chief of Defence Staff Commendation; NSS Outstanding SAR Achievement Award
- extensive consulting experience specializing in SAR

Ms Paula Hale

- Co-op student with the NSS, completing her Master's degree in Public Administration from the University of Victoria (BC)

Mr. Clair Israelson

- Parks Canada Public Safety Specialist 1990-1997; Park Warden – Public Safety Supervisor 1971-1990
- Expertise in mountain rescue; avalanche control; project management; design and delivery of emergency response programs and training

Ms Erin McArdle

- Co-op student with the NSS, in her fourth year in the Arts program at the University of Victoria (BC)

Ms Amanda McDonald

- MSc from the University of Western Ontario
- currently Senior Analyst at the NSS
- was Chief, Management Information Systems with Veteran's Affairs, Charlottetown
- experience in developing data and information on the National SAR program, analyzing SAR data and providing advice on the use of SAR data

Mr. Kyle McIntyre

- BA Queen's University, MA Royal Military College Kingston
- Experience in research, planning, communications, media liaison, education and training, museum exhibit design, editing of educational material, public relations

Mr. Tony Patterson

- Diploma in Nautical Sciences, Canadian Coast Guard College; completed Coast Guard Command Course and holds a Master Mariner's certificate
- Commanding Officer on CCGS Sir Wilfred Grenfell and DFO/CCGC Hood
- Superintendent, SAR Research & Development at DFO/CCG Headquarters
- Is currently Officer in Charge at Marine Rescue Sub-Centre (MRSC) St. John's NF

Mr. Nelson Strang

- 31 years' experience in the Federal Government, including:
 - Review and Audit Manager in the Corporate Review, Evaluation and Audit Directorate, DFO;
 - Director Planning and Reporting, Finance and Planning Directorate, DFO;
 - Director Internal Audit, DFO
- Currently runs a management consulting practice specializing in strategic planning, process improvement, performance measurement, productivity improvement, evaluation, audit, research and analysis.

Colonel (ret'd) David Walters

- 41 years' service in the Canadian Forces and the federal public service with experience in policy, operations, audit and program evaluation
- Operational field experience, including direction of land SAR operations; training as fixed and rotary wing pilot; experience in flight safety and survival
- NSS Director of Audit and Evaluation 1988-1991

Ms Louise Crone

- employed full time at the NSS in the Program Review and Federal Coordination directorates

The Expert Panel**Mr. Ron C. Corbeil**

- Former Chief of Performance Measurement at Treasury Board Secretariat; Senior Evaluation Analyst with the Office of the Comptroller General (OCG);
- Extensive experience in program evaluation, program design, logic charts, program alternatives, service standards and quality

Mr. Ian Glen

- former Deputy Minister of Environment Canada; former Deputy Secretary to the Cabinet (Operations) in the Privy Council Office; former Associate Deputy Minister of Citizenship and Immigration

Mr. Derek Nequest

- Helicopter pilot for the Royal Air Force. Commanding Officer of No. 22 SAR Squadron, RAF St. Mawgan, Cornwall
- Commander of one of five UK Coastguard regions, comprising 4 RCCs and 88 Coastguard rescue teams
- Currently flying SAR helicopters in Ireland

Mr. Leslie Rowbottom

- Extensive flying experience both in the UK and Canadian military
- As a civilian, was Special Assistant to Deputy Chief of Defence Staff and Special Assistant to Commander Air Command
- Experience in future trends analysis and in civil-military cooperation projects in flying training and aerospace technical training

Dr. Gerald Wilde

- Psychology professor at Queen's University, Kingston
- Experience in accident causation and prevention; study of risk-taking behaviour and its safety implications
- Author of numerous books, journal articles, technical reports, book reviews, papers

General (ret'd) Ramsey Withers

- Thirty-five years' military experience, culminating in Vice-Chief, then Chief of Defence Staff
- Was Deputy Minister of Transport, then joined the private sector as president of a government relations firm; became director of an aerospace technology company; a consultant to the Office of the Auditor General and is currently Chairman of the Industry Government Relations Group

ENDNOTES

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- ⁱ As defined by the Deputy Minister's Task Force on Managing Horizontal Issues, page 7.
- ⁱⁱ The severe reduction in West Coast resources was not discussed outside DFO until the Victoria Search and Rescue Region Commander produced correspondence decrying the loss of operational capability on that coast.
- ⁱⁱⁱ Major capital projects are an exception once they have received departmental approval. However, there is little question that major SAR projects are allocated a lesser priority within some departments as compared against "core" program needs.
- ^{iv} One role of the National SAR Secretariat, under the proposed Council of Deputy Ministers, could be that of funding, organizing and evaluating major multi-agency regional SAR exercises. At present, there is no medium to provide the impetus for federal, provincial, municipal, commercial and volunteer agencies to coordinate a major disaster together. In a world of 400 passenger aircraft and 2000 passenger cruise ships, this should be considered a major shortcoming of a federal program that is responsible for air and marine SAR
- ^v "Working hours" refers to an eight-hour period during which primary SAR helicopter and primary SAR fixed wing aircraft are on 30-minute standby. "Quiet hours" refers to the remaining time when crews are at home on a 2-hour standby. Generally, 30-minute standby is held Monday to Friday from 0800 to 1600 hrs. In the summer, peak SAR demand usually occurs between Thursday and Monday from late in the afternoon until the early morning.
- ^{vi} The reduction to secondary resources is expected to have a significant effect on the DFO/CCG ability to respond to marine incidents.