

Internal Audit and
Risk Management
Services

Audit Report

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Information Act*

Comprehensive Audit of Moncton Information Technology Centre

Comprehensive Audit of the Moncton Information Technology Centre

Project No. 6539/00

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1.0 EXECUTIVE SUMMARY

As part of its 2000/2001 annual audit plan, the Internal Audit and Risk Management Services (IARMS) conducted a comprehensive audit of the Moncton Information Technology Centre (ITC) in March 2001. The purpose of the audit was to assess the ITC's management framework/organization, operations, adherence to standards and security (refer to Appendix A – Objectives, Scope, Methodology).

The audit procedures used were intended to provide conclusions with a moderate level of assurance (refer to Appendix B – Level of Assurance). Based on the audit work performed, overall the Moncton ITC is well managed.

Observations have been made regarding overtime, national releases of software, 'Emergency Releases', utilization of web servers, the National Service Desk, a '7/24' policy, ISO, non-standard web tools, Business Resumption Plans, access controls for IT security, and Server farms. Recommendations have also been made with respect to management, roles and responsibilities.

Major Findings

General

Audit results show that the ITC is well managed; however, observations have been raised as noted below. Exemplary ITC initiatives include support for corporate HRDC initiatives and internal efforts to better manage operational priorities and address the ITC's approach to Human Resource issues (refer to Appendix C – Best Practices).

Overtime

While the Moncton ITC reduced overtime by approximately \$130,000, it still remains at approximately one quarter million dollars. In our opinion, more needs to be done to reduce or eliminate overtime at ITCs.

Emergency Releases (ERs) and Component Installation Request (CIR) Process

The CIR process is HRDC's norm to nationally release software; ERs are the exception. Moncton ITC's analysis of ERs revealed that they received 1.76 ERs per day during the past year. Many believe that NHQ usage of ERs is becoming the norm, not the exception. In our opinion, NHQ Systems should ensure that ERs are properly managed.

iNet

It is common to find one dedicated server for a single application resulting in many servers not using their optimal capacity. In our opinion, NHQ Systems' Operations and key stakeholders should ensure that this excess server capacity is better used.

National Service Desk

The Service Request Management Information System (SRMIS) is the primary tool used to support HRDC's National Service Desk (NSD). However, various HRDC groups still have not populated SRMIS with the required information. Some groups have not kept SRMIS' information updated. In our opinion, NHQ Systems' Operations and key stakeholders should hold these groups accountable for ensuring that SRMIS has the information it needs to properly support HRDC's employees.

'7/24' Support

There is no HRDC policy that clearly defines '7/24'. With the prominence of Government On-Line (GOL), 7/24 support will be a critical component of success. However, the concept of 7/24 varies among different groups. In our opinion, NHQ Systems and clients should establish a 7/24 policy and management framework.

ISO 9002

Moncton ITC Production Services earned their ISO 9002 certification in June 2000. There are many benefits to ISO, however, its attainment and maintenance is difficult and costly. In our opinion, with HRDC senior management support, NHQ Systems and Operations should decide on the evolution of ISO within the ITCs.

Web Application Development Tools

Many perceive HRDC's national web standards as impractical. Supporting divergent infrastructures could be costly for HRDC in terms of finances, staff expertise and skill sets and systems' incompatibility. In our opinion, web platforms deviating from HRDC standards should be approved by the IT Standards Committee.

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Security

Security for IT has expanded to include other platforms besides mainframes,

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Computer Operations

Since production platforms have evolved from mainframe operations to include servers, operational support is required now for both mainframe and servers. Computer Operations already supports mainframe operations but has not been given the mandate to support these servers. In our opinion, this expertise could be leveraged to support the server farm, potentially reducing server down time and possibly overtime, since Computer Operations are already on-site. Acknowledging this should lead to a strategy that would redefine the mandate of Computer Operations and Technical Services.

Appendix D contains the Action Plan to address the recommendations in this report.

2.0 INTRODUCTION

Internal Audit and Risk Management Services and the Evaluation and Data Development Branch of HRDC coordinated their review activities to produce an annual Audit and Evaluation Plan for 2000-2001. This Plan focused on key departmental priorities, one of which was an audit of the Moncton ITC.

ITCs are responsible for operating national applications. IARMS recognises the importance of the business delivered by these centres. Within the IARMS' audit plan, the Moncton ITC has been selected for an audit that includes an assessment of the management framework and organization, and adherence to standards, as well as security-related issues.

ITCs provide complete processing and operations for several HRDC national systems, computer operations and facilities' management support for various functions at local, regional and national levels. Also, the ITCs are responsible for coordinating implementation of national systems.

The management and use of ITCs in regional and local operations has been changing rapidly during the past few years. The evolution of technology (microcomputers, Local Area Networks (LANs), Wide Area Networks (WANs), etc.) in regional and local offices has changed requirements for planning, control and evaluation of IT management within HRDC.

The Moncton ITC, along with its partners, is responsible for providing access and operational support services to ensure that all users of HRDC's systems can rely on the most effective information processing and exchange.

3.0 BEST PRACTICES

During IARMS' visit to the Moncton ITC, a number of Best Practices were noted (refer to Appendix B), including mobilizing support for corporate HRDC initiatives, internal efforts to better manage operational priorities and address the ITC's approach to human resource issues.

Moncton ITC Production Control received their ISO 9002 certification. While certification was difficult to achieve, it has resulted in a more structured approach to processing and quality assurance within Production Control. The staff is proud of their achievement and more unified methods for addressing their jobs and responsibilities.

Our examination of the management framework revealed that overall the Moncton ITC is well managed. The communication channels between NHQ and ITC management take place through the Operational Management Committee (OMC) and daily conference calls. Within the ITC, the management team meets regularly.

4.0 FINDINGS

4.1 Management

Overtime

The ITC is responsible for operations using different hardware (Sun, Unix, NT, Unisys, Clearpath, etc.) and software (Oracle, MicroSoft, Web, network, Banyan, etc.) on a continuous and uninterrupted operation schedule (7/24). The ITC staff's expertise is specialized by hardware and software, with limited technical specialists; consequently, overtime results (refer to section 4.2 Computer Operations).

The Moncton ITC has made progress in reducing overtime. In 1999/2000, the total overtime costs for the Moncton ITC were \$351,682 out of a total salary bill of \$3,397,691. The overtime costs for FY 2000/2001 were \$220,993 (a decrease of \$130,689 = 37%).

NHQ Systems' Operations completed an analysis of overtime comparing stand-by, callback and overtime costs for all ITCs. The draft report was to be reviewed by the OMC by the end of March 2001

Recommendation 1

NHQ Systems' Operations should continue to analyze overtime, develop ways to reduce or eliminate it and assess the feasibility of implementing their recommendations.

Emergency Releases (ER) and Component Installation Request (CIR) Process

The Change Management process, using ISO 9002 standards, is well controlled. A review of Employment Insurance programs revealed that implemented versions were current.

During the past year, the Moncton ITC has been analyzing ERs. The results indicate there were 1.76 ERs per day. There is growing cynicism about the validity of ERs. One example was given of an ER that was released for four consecutive weekends before it was successfully installed. As well, both NHQ and Moncton ITC staff have informed us there are pre-signed ER forms in some Application DGs' offices to be used whenever programmers or coders feel it necessary.

ERs impact ITC overtime costs. Also, ITC staff perceives that their NHQ colleagues don't appreciate the disruption and inconvenience caused by frequent ERs. Some ITC staff believes that some NHQ Application groups use ERs as a 'norm' rather than an 'exception'.

NHQ Systems uses the CIR as the change management process to release software to the ITCs. This process is applicable to both mainframe and server applications. Not all software releases follow the CIR process. The national standard of two weeks' notification, prior to implementation, is not always followed. Some server installations bypass the CIR process when NHQ Application Groups load software (remotely or onsite) without CIRs. IARMS agrees with the opinion expressed by ITC Moncton staff that they do not gain the knowledge that comes from being involved with the implementation.

The CIR includes program documentation (R-Series and others) in hard copy format. This results in increased costs due to paper handling, storage, updating, and verification. As well, 'on call' support staff do not have access to the hard copy documentation at home, therefore they cannot 'trouble shoot' from home. In our opinion, converting the manual CIR process to on-line would reduce existing costs and expedite national program releases in a more unified manner.

Recommendation 2

NHQ Systems should review the Emergency Release process to ensure that they are properly used and also, assess the feasibility of nationally issuing R-series documentation online (e.g., Web site).

iNet

The Moncton ITC has the mandate to implement and support HRDC's national web applications. While HRDC has made significant strides in using iNet, the Department is still going through 'growing pains'. Servers from various geographical locations throughout the country continue to be moved physically to the Moncton ITC. However, the capacity of most servers is underused. It is common practice to have one server for a single application when one server could easily house several applications. In our opinion, it is expensive, both monetarily and support-wise, for HRDC to allow this to continue.

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Moncton is responsible for supporting offsite servers. While many Service Level Agreements (SLAs) have been drafted, most have not been finalized between the ITC's iNet and owners of web sites.

Recommendation 3

NHQ Systems' Operations and key stakeholders should ensure that their web servers effectively use their capacity and where feasible, amalgamate several applications onto one server (refer to recommendation 14).

National Service Desk

Using the Service Request Management Information System (SRMIS), the National Service Desk (NSD) dispatches 'trouble tickets' to the appropriate resolver groups (e.g., LAN Administrators). Resolution of trouble tickets is based on the accuracy of the information received from clients and regions (e.g., application name, user identity, Responsibility Center (RC) code) which will be entered into the SRMIS to create the trouble ticket. Further, Service Desk Agents (SDA) need to reference support specification documents so they can determine what questions to ask clients and where to assign problems for support. Some groups have not populated these support specifications and the information that is populated is not always accurate.

Therefore, when trouble tickets are created in these scenarios, they can be forwarded to the wrong resolver group. When this happens, trouble tickets can be re-directed many times until the correct resolver group is located.

The SRMIS is a well-designed tool. However, if the SDA is not supported with complete, current and accurate data, this impedes the resolution of the entire trouble ticket process, resulting in criticism of both the SRMIS and NSD.

Management and staff informed that culturally, there is resistance in some regions to use the NSD because they perceive that it takes too long to resolve problems. As a result, the NSD is sometimes circumvented and not all trouble tickets are reported. When trouble tickets are not used, a true measurement of the system's performance and the resources required to support it cannot be properly monitored.

To assist the 11 regions in educating their regional staff and resolver groups about the NSD and SRMIS, the NSD team provided various tools, documents and presentations. Each region was responsible for their own training. As a result, not all users and resolver groups received the same quality or quantity of training. Therefore, there is a belief that some end users and resolver groups do not fully understand the NSD model and the procedures to follow. Proper completion of this training would help the NSD and SRMIS to function better.

Recommendation 4

NHQ Systems Operations and key stakeholders should ensure that:

- *support specifications for the NSD are provided and tombstone data for SRMIS is populated;*
- *a change management process is implemented to keep the database current, complete and accurate;*
- *trouble tickets are reported through the NSD and captured in SRMIS; and*
- *resolver groups are fully trained to understand the workings of NSD and SRMIS.*

'7/24' Support

HRDC's reliance on servers will continue to grow particularly as GOL evolves. There is no HRDC policy that clearly defines 7/24 accountability, authority and financial responsibility. Systems and key stakeholders have to identify which applications are mission critical and require 7/24 support.

The Moncton ITC (iNet Group) receive 7/24 requests without any guidelines. Negotiations and Service Level Agreements have managed these requests so far. However, there is no evidence that a comprehensive management framework is being created which is important since 7/24 requests will increase with GOL.

Recommendation 5

NHQ Systems and key stakeholders should establish a policy and management framework that clearly defines and supports 7/24.

ISO 9002

The Moncton ITC obtained its ISO 9002 certification for Production Services in June 2000. This formalized Production Services' processes in that they were documented and quality assurance activities were incorporated. To maintain its certification, the Moncton ITC will be audited by KPMG ISO auditors, within the next three years, to ensure that Production Services has maintained its ISO standards and management has implemented ISO in other operations' areas.

Moncton ITC management intends to expand the ISO exercise to other ITC business operations. To date, this has not been supported by an overall implementation strategy with goals, objectives, priorities, schedule and resources associated with each ISO project. Moncton ITC management indicated that the future of ISO, within all ITCs, needs to be addressed by NHQ Systems and Operations.

Recommendation 6

NHQ Systems and Operations, with the support of key stakeholders, should assess the practicality of further implementing ISO within the ITCs.

Web Application Development Tools

HRDC has national web standards such as Visual Studio and Oracle Application Server. Since these standards are perceived as impractical, non-standard software and databases, such as ColdFusion and Access, are used. In our opinion, supporting divergent infrastructures may be too costly for HRDC in terms of finances, staff expertise and skill sets and systems' incompatibility.

Recommendation 7

To coordinate HRDC's approach with GOL, standard corporate web platforms should be adopted. Web platforms deviating from HRDC standards should be approved by the IT Standards Committee.

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Training and Development

The ITC created a training and development plan based upon operational priorities and recently established a Training and Development Committee. Although staff was asked to complete Learning Plans (LPs), some employees were disappointed when management did not follow-up with them and use the LPs for their career development.

Some business areas received more training than others. Although managers reported that these inconsistencies in training were based upon operational requirements (refer to section 4.2 Computer Operations), this resulted in training inconsistencies among staff.

There is no standard national training program that would enhance employees' core competencies (e.g., Work Flow Language (WFL), CANDE, analyzing computer reports, etc.) to help them do their job better. Some Moncton ITC staff perceive that staff in other ITCs have received this core competency training.

Recommendation 9

NHQ Systems' Operations should develop a strategic training and development plan to ensure that all ITC staff receive core competency training and opportunities to develop their technical skills and careers.

Contact List

NHQ's contact list does not accurately identify all required personnel and their telephone numbers (work, cell, home, pagers, etc.). As well, the contact list is not kept current or centrally located (e.g., on the web site). At this time, only the Insurance Application Group accurately maintains its list. In our opinion, without these current listings, down time is extended and ITC support staff are inconvenienced.

Recommendation 10

NHQ Systems should develop and maintain a current NHQ contact list that all ITCs could conveniently access on a 24-hour basis.

Communication

Communication between some Chiefs, Team Leaders and their staff is sporadic because some areas do not hold regular meetings.

In our opinion, lack of communication increases the probability of anxiety and insecurity among some staff, leading to potential labor problems, loss of motivation and deterioration in the quality of work.

Recommendation 11

ITC management should ensure that Chiefs and Team Leaders conduct regular meetings with staff.

Orientation Package and Process

The Moncton ITC is developing an orientation package that will contain information on roles and responsibilities, general office information, guidelines and specific human resource policies. The Orientation document is still in draft form with no completion date for implementation. Moncton ITC management is also developing an orientation process that will provide a strategy for delivering orientation sessions to both new staff, as well as those who have not attended an orientation session within the last five years. In our opinion, this orientation process will help to ensure that all staff, regardless of tenure, will always be current on ITC policies, practices and procedures.

Recommendation 12

In collaboration with NHQ Systems' Operations, ITC Management should prioritize the completion of its Orientation Package and its subject matter/Table of Contents.

4.2 Roles and Responsibilities

Security

The Moncton ITC is aware of its responsibility for security activities. Historically, these activities were concentrated within the mainframe security group but now security of IT has expanded to include other platforms.

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Computer Operations

Production platforms have evolved from mainframe operations to LAN/WAN and web server operations that will increase with the GOL initiative. Consequently, operational support is a requirement for both mainframe and web servers. These platforms are mission critical and require 7/24 support (refer to section 4.1 7/24 Support). Computer Operations staff are the only group on-site during off-hours. Even though the servers are in the computer room, this group has not been given the mandate to support them because the servers are the current responsibility of Technical Services.

Computer Operations staff already support the mainframe and associated peripherals. In our opinion, their expertise could be leveraged to support the server farm and will become more valuable when GOL increases operational requirements. Computer Operations staff need to have adequate skill sets and authority to operate the server farm. This would enrich the Computer Operations positions and potentially reduce server down time since people could be trained on basic trouble shooting procedures and initiate problem resolution and escalation, if required (refer to section 4.1 Training and Development). This would also reduce overtime (refer to section 4.1 Overtime), since Computer Operations are already on-site. Acknowledging this could lead to developing a strategy to redefine the mandate of Computer Operations and Technical Services. Likewise, Technical Services could also be part of this cross-training/re-engineering, trained to back up Computer Operations for basic maintenance and trouble shooting.

Recommendation 14

NHQ Systems' Operations should consider re-engineering Computer Operations and Technical Services (refer to recommendations 3 and 16).

Team Leaders

Several Team Leader positions exist within Technical Services, Operations and Client Services. Disparities exist among some Team Leaders regarding managerial responsibility, technical expertise and staff relationships. Differences also exist in signing authority, staff development, work delegation and supervisory duties.

In our opinion, this situation creates confusion since some staff are unsure of their reporting relationship. Also, some Team Leaders are unsure of their span of authority over staff reporting to them.

Recommendation 15

To achieve consistency across the organization, Moncton ITC Management should review Team Leaders' managerial activities in terms of their role, responsibility, accountability and authority.

Computer Operations, Warrant Dispatch and Control Groups

The Operations Manager is responsible for five groups and also acts as the team leader for the three smaller groups of Warrant Dispatch, Control and Automation. The two larger groups of Production Services and Computer Operations are both led by other Team Leaders. Computer Operations, Warrant Dispatch and Control constitute a logical operational unit. The impact of automation has reduced manual intervention in daily mainframe operations.

In our opinion, Computer Operations could assume a greater role over computer room activities. If Control and Warrant Dispatch reported through the Computer Operations Team Leaders, possible advantages could be a more centralized reporting system, better communication, immediate availability of supervisory decision making and a more streamlined span of control for the Operations' Manager.

Recommendation 16

Moncton ITC management should assess the feasibility of having Control and Warrant Dispatch (while ensuring appropriate separation of duties) report through the Computer Operations' Team Leaders. (refer to recommendation 17).

Warrant Control

Warrant Dispatch operations are generally well managed and controlled. Good practices are being followed in handling signature plates, mailing warrants, storing warrants, conducting quality assurance, etc.

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APPENDIX A**AUDIT OBJECTIVES AND CRITERIA**

This audit's objective was to provide management with an opinion on their compliance with generally accepted ITC practices and control frameworks based upon the following audit criteria:

- *Management Framework* – management processes for Accountability, Leadership, Planning, Organization, Control, Communication and Performance Indicators are implemented and practiced.
- *Human Resources Management* – human resource practices are in accordance with federal government and HRDC policies.
- *Project Management* – HRDC's Project Life Cycle and Treasury Board's Enhanced Management Framework are followed.
- *Asset Management* – Due diligence, probity and security govern the acquisition and maintenance of ITC assets.
- *Computer Operations* – the procedures used within Computer Operations are in compliance with HRDC practices and standards and in support of the ITC.
- *Network Management* – management of the ITC's technical processes support the ITC's infrastructure and adhere to HRDC technical standards.
- *Vendors Relations* – relationships with vendors were transparent and in accord with government and HRDC policies.
- *Security* – appropriate security measures (e.g. preventative, detective, etc.) are implemented in relation to the protection level required.

This audit also assessed the Moncton ITC's operation to advise the DM, HRDC and the ADM, Systems on the:

- efficiency, economy and effectiveness of managerial policies, practices and controls
- compliance of these policies, practices and controls with legislative and other authorities including those of HRDC;
- adequacy of and compliance with managerial and operational controls to ensure the completeness, accuracy and authenticity of the processed data;
- quality of ITC service delivery;
- adequacy of and compliance with HRDC's systems and procedures; and
- risks and potential problems with current practices.

SCOPE

The audit's scope included a review of:

- input/output control;
- production control/scheduling;
- tape library operations;
- computer room operations;
- software and telecommunications support;
- management support functions, specifically:
 - problem management;
 - change management;
 - database management;
 - physical security;
 - utilization reporting and control;
 - training of ITC staff;
- security and access control to national applications
- operations and control of the EI warrant production with particular attention to:
 - batch data entry, Teledec and optical character reader input;
 - direct deposit, warrants/notices/claimant reports, output and interface with the accounting and redemption processes; and
- the quality service levels provided to ITC (HRCCs, RHQ) and CMS clients (NHQ, all regions).

METHODOLOGY

The audit's methodology included a review of the economy, efficiency and effectiveness of the ITC's organization, operations and processes.

- *Economy* relates to the management of computer resources (i.e., the provision, operation and support of the hardware and systems software platforms on which application systems are built).
- *Efficiency* includes producing a given level of output at the lowest cost or maximizing outputs for any set of inputs. Efficiency includes specific issues arising from systems planning, development and maintenance and information management.
- *Effectiveness* deals with results: intended, undesirable, and unavoidable. Effectiveness issues relate to HRDC's business applications and their operation as well as the output of these various systems and how well these outputs contribute to the effectiveness of HRDC as a whole. The risk for the ITC is to avoid doing the wrong things well. For this reason, the audit included an assessment of 'client satisfaction'.

Interviews with senior executives, selected managers and staff were conducted at NHQ Systems and the Moncton ITC. IARMS reviewed logs (e.g., M/F, Easylock, Kyberpass), system standards, controls (e.g., queue structures) and security logs. Relevant data files were identified, downloaded and analyzed prior to the IARMS site visit.

The methodology used in conducting this audit was based upon criteria drawn from the following sources:

- Software Engineering Institute Standards;
- Institute of Internal Auditors Handbook;
- Treasury Board Guidelines;
- Control Objectives for Information and Related Technology Standards; and
- Canadian Comprehensive Auditing Foundation Handbook.

This audit was conducted between February 2001 and April 2001.

The audit procedures used were intended to provide conclusions with a moderate level of assurance (refer to Appendix B – Level of Assurance).

APPENDIX B

LEVEL OF ASSURANCE

Assurance is provided at one of two levels of assurance, a higher level of assurance and a more moderate level.

A higher level of assurance is provided by designing procedures so that, in the internal auditor's professional judgment, the risk of an inappropriate conclusion is low. A higher level of assurance is only attainable through utilizing procedures such as inspection, observation, enquiry, confirmation, computation, analysis and discussion.

A more moderate level of assurance is provided by designing procedures so that, in the internal auditor's professional judgement, the risk of an inappropriate conclusion is reduced to a more moderate level through procedures, which are normally limited to enquiry, analysis and discussion.

* Adapted from the Treasury Board Secretariat's Policy on Internal Audit, revised on April 1, 2001

APPENDIX C

BEST PRACTICES

- The Unisys ClearPath mainframe environment has been stable and well managed at the Moncton ITC. The Technical Support group has expanded their ClearPath expertise by securing and training three new employees.
- ITC Support of 'Operations 2004 Strategic Plan'
- 'Competency Profiles' for all ITC staff are being developed
- Amalgamation of SPO, Quanta, and OpCon statistics into one ITC report; internal ITC reports on Web (vs. paper)
- SPO, OpCon, Quanta, Symon software well integrated
- Efforts continuing to reduce overtime
- Arrangement with RHQ to deliver administrative services (HR, facilities mgmt., etc.) via Local Shared Services Unit (LSSU)
- ISO 9002 certification for Production Control
- ITC inventory itemizes all ITC Micro HW/SW/Licenses
- BRP tested in Montreal
- Training & Development Committee created
- Backup server for OpCon (mission critical) located offsite
- Tape Library updating procedures using ISO format/standards
- 'Off-Site' Facilities secure
- Good risk management: TRA/SEIT requested
- Consolidation of physical access security systems
- HRCC satisfied with service provided by ITC
 - low amount of downtime
 - National Service Desk
 - weekend availability
 - reports distributed in a timely fashion

APPENDIX D

ACTION PLAN

| IARMS Recommendations | MONCTON ITC Management Response | Corrective Action | Expected Completion Date | Contact Person/ Branch |
|--|--|--|--------------------------|------------------------|
| <p>1.0) NHQ Systems, Operations should continue to analyze overtime, develop ways to minimize/eliminate it and assess the feasibility of implementing their recommendations.</p> | <p>1.0) All Systems Branch overtime is approved by the RC manager before it is incurred (in accordance with the F.A.A.). Given HRDC and Systems Branch funding pressures, all reasonable steps are being taken to mitigate Systems Branch overtime costs. Systems overtime costs are effectively controlled, regularly monitored and reviewed by Systems Branch senior management. In fact, the Systems Branch is paying very careful attention to the reduction of overtime costs, as evidenced by the \$131K or 37% reduction in Moncton ITC overtime costs (from \$352K actuals in 1999-2000 to \$221K actuals in 2000-2001).</p> | <p>1.0) Systems will continue to be diligent in its authorization, monitoring, and analysis of Overtime and provide quarterly reports to IARMS.</p> | <p>1.0) On-going</p> | <p>Karen Cahill</p> |
| <p>2.0) NHQ Systems should review the Emergency Release process to ensure that they are properly used.</p> | <p>2.0) Systems is well aware of the number and frequency of Emergency Releases and reviews them on a regular basis. Given that Systems has to support many thousands of programs, it should not come as any surprise that there will be emergencies arising necessitating the issuance of fixes, modifications, and utilities. Nevertheless, Systems is continuing with its on-going review of Emergency Releases and will continue to attempt to reduce the number and frequency.</p> | <p>2.0) The Emergency Releases will continue to be carefully tracked and reported to the GMC. In addition Systems DGs will ensure that Emergency Releases usage is kept to a minimum and provide quarterly reports to IARMS.</p> | <p>2.0) On-going</p> | <p>Ron Ramsey</p> |

| IARMS Recommendations | MONCTON ITC Management Response | Corrective Action | Expected Completion Date | Contact Person/ Branch |
|---|---|---|---------------------------------|------------------------------------|
| <p>2.1) <i>Assess the feasibility of nationally issuing R-series documentation online (Web site).</i></p> | <p>2.1) It is agreed that the issuing of R series documentation on-line via a WEB Site would improve the process. To this end systems is actively pursuing a solution and is evaluating the potential of using WEBCDD Legacy Edition as a corporate solution for maintaining a central repository for R-Series documentation.</p> | <p>2.1) Systems will ensure that an appropriate WEB based R-Series documentation site is developed and maintained.</p> | <p>2.1) March 31, 2002</p> | <p>Rocky Kreis / Murray Jaques</p> |
| <p>3.0) <i>NHQ Systems Operations and key stakeholders should ensure that their web servers effectively use their capacity and where feasible, amalgamate several applications onto one server (refer to section 4.2 'Computer Operations' recommendation).</i></p> | <p>3.0) Systems has been extremely active in the area of Server consolidation and have a number of major initiatives planned in support of consolidation. These efforts however, can be extremely complex and sometimes very risky, thereby necessitating a careful and well planned transition. In addition the procurement of large scale RISC and Intel hosting platforms through iVolution initiatives will create an environment that will facilitate the transition of existing platforms, as well as hosting of all new systems.</p> | <p>3.0) Comprehensive Server architecture and consolidation plans will be developed once the iVolution RFP s are finalized.</p> | <p>3.0) March 31, 2002</p> | <p>Rock Kreis / Dale Ducarme</p> |

| IARMS Recommendations | MONCTON ITC Management Response | Corrective Action | Expected Completion Date | Contact Person/ Branch |
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| <p>4.0) NHQ Systems Operations and key stakeholders should ensure that: a-1) Support specifications for the NSD are provided and tombstone data for SRMIS is populated;</p> <p>b) A change management process is implemented to keep the database current, complete and accurate;</p> | <p>a-1) Support Specifications are recognized as critical elements in accurately assigning problem tickets to resolver groups, and ensuring that appropriate support is in place for products and systems. While efforts by Product Managers are ongoing to both finalize their input, and regularly review their support specifications more emphasis is required by senior management to ensure these are completed. Support Specifications have now been added as deliverables to the Project Life Cycle ensuring that they will be in place before new systems are implemented</p> <p>b) Also noted as problematic is the long list of products to be supported by the organization - the NIS system identifies 100's of products and systems based on the Y2K inventory. Many of these products should be retired, and standards selected to eliminate others. Development platforms for Unix and NT will also assist in establishing new standards.</p> | <p>a-1) The NSD has an ongoing review process for existing support specifications and will be following up with product managers, providing information on related tickets and recommendations for improvements.</p> <p>a-2) As a part of the project evaluation phase following the national implementation, regions will be asked to identify requirements for training or additional information resources, and the NSD management team will address these as required.</p> <p>b) A working group has been put in place to study all modules in NIS and make recommendations to the GMC as to what must be changed. To date, many products have been retired.</p> | <p>a-1) On-going</p> <p>a-2) December 31, 2001</p> <p>b) December 31, 2001</p> | <p>Rocky Kreis</p> <p>Rocky Kreis</p> <p>Denis Boulianne</p> |

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| <p><i>c) Trouble tickets are reported through the NSD and captured in SRMIS; and resolver groups are fully trained to understand the workings of NSD and SRMIS.</i></p> | <p>c) Implementation of the NSD is now underway in all regions and will soon be completed, ensuring availability to all staff, and use of SRMIS problem management system by all resolvers. New web based features have also been implemented which will give staff additional service delivery options.</p> | <p>c) This item is completed and it is a regional responsibility for implementing Web Services.</p> | <p>c) Completed August 29,2001.</p> | <p>Rocky Kreis / Murray Jaques</p> |
| <p><i>5.0) NHQ Systems and key stakeholders should establish a policy and framework that clearly defines and supports '7/24'.</i></p> | <p>a) Systems has developed an interim Policy and Framework for 7x24 support of GOL initiatives which is intended to address all short term requirements. In essence 1st, 2nd, and 3rd level support will be available 7x24, with employees on site during core business hours, and on-call during off hours. This will apply to mission critical systems and will be MOU based for any other specific applications. The support personnel will also leverage many existing monitoring and analysis tools to maximize detection and reporting of problems. This arrangement will be closely monitored and evaluated in an effort to determine future support requirements in support of GOL, and to develop effective performance measures.</p> <p>b) Dark Room – Architecture to support GOL mission critical services and 7X24 support long term with reduced overtime, costs, complexity and increased management, availability and reliability.</p> | <p>a) Systems has established an interim 7X24 policy in support of GOL. In conjunction with the GOL Project office and the Business Units, Systems will be defining a framework and architecture for 7X24 Service and Redundancy.</p> <p>b) In conjunction with the GOL Project office and the Business Units, Systems will incorporate the “Dark Room” architecture.</p> | <p>a) March 31, 2002</p> <p>b) March 31, 2002</p> | <p>Rocky Kreis / Murray Jaques</p> <p>Dave Adamson</p> |

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| <p>6.0) <i>NHQ Systems and Operations, with the support of key stakeholders, should assess the feasibility/practicality of further implementing ISO within the ITCs.</i></p> | <p>6.0) Many processes have already been defined in Systems according to the quality standard (ISO). For this current fiscal year, a strategic quality management approach will be developed to include eventually all the processes used inside Systems over a period of three years. Systems will be using both NQI and ISO 9000/2000 as a standard framework and tool to improve their business and processes. The National Systems Branch will focus on re-using the best practices in the current quality systems.</p> | <p>6.0) Development of comprehensive strategic approach to Quality Management within Systems.</p> | <p>6.0) March 31, 2002</p> | <p>Denis Boulianne</p> |
| <p>7.0) <i>To coordinate HRDC's approach with GOL, corporate generic web platforms should be adopted. Web platforms deviating from HRDC standards should be approved by the IT Standards Committee.</i></p> | <p>7.0) Two of the iVolution projects currently in procurement status will deliver to HRDC, robust/scalable platforms in support of WEB Hosting. These two projects will deliver UNIX and Intel based Standard Platforms which will become the HRDC Standards for the next several years. These will be horizontal standards with the aim of reducing costs. It is anticipated that all new development will be hosted on these platforms and existing services on disparate Hardware and Software will be migrated to the platforms over time. In addition Systems will be working with its partners and over the next eighteen months to move existing non-standard Software and Databases to Departmental Standards.</p> | <p>7.0) Development and articulation of new HRDC WEB Development and Hosting Standards as dictated by the results of the competitive procurement processes.</p> | <p>7.0) March 31, 2002</p> | <p>Denis Boulianne / Dave Adamson</p> |

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| <p>9.0) NHQ Systems, Operations should develop a strategic training and development plan to ensure that all ITC staff receive core competency training and opportunities to develop their technical skills and careers.</p> | <p>9.0) ITC Operations is working on a number of initiatives designed to enhance staff training and development initiatives. The issue of core competencies is being dealt with in a very structured approach with the first step being the development and introduction of comprehensive Competency Profiles for all ITC positions. It is expected that this exercise will be finalized in early fall 2001 and will be the foundation for all of our Staff Development Strategies. In addition Systems ITLS group will be continuing to develop and offer courses and programs consistent with System's Employees Operational and Developmental training needs, including Core Competency Training.</p> | <p>9.0) ITC Operations will finalize and implement a comprehensive competency based Performance Management System which will key on both Core and Technical Training.</p> | <p>9.0) March 31, 2002</p> | <p>Bob Charleau</p> |
| <p>10.0) NHQ Systems should develop and maintain a current NHQ 'contact list' that all ITCs could conveniently access on a 24 hour basis.</p> | <p>10.0) The development and implementation of a single contact list is an initiative that Systems will be tackling in an effort to streamline and enhance support operations. While there are currently several contact lists in various formats available to support personnel we have a number of initiatives under way which will lead to a consolidation and single Contact Management System. The Insurance, National Services and Labour Systems Development group have a consolidated WEB based contact list and we will be evaluating the effectiveness and applicability of this site for use by all of systems.</p> | <p>10.0) As part of the introduction of the National Operations Monitoring Centre a corporate repository for 1st, 2nd and 3rd level support contacts will be established and maintained.</p> | <p>10.0) March 31, 2002</p> | <p>Rocky Kreis / Murray Jaques</p> |

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| | <p>The site may be viewed at the following URL: http://intracom.hq-ac.prv/sys/inls-sast/in-as/beeplist_e.shtml</p> | | | |
| <p>11.0) ITC management should ensure that Chiefs and Team Leaders conduct regular meetings with staff.</p> | <p>11.0) It is agreed that communication is a critical ingredient in a successful organization and in-person meetings between leaders and their staff are important. In an effort to improve our communications the ITC Moncton has implemented regular scheduled staff meetings in all three Management areas. Meetings in these areas were being held on an ad hoc basis prior to the IARMS review but will now be scheduled in advance, have proper agendas, and deliver written minutes. In addition it should be noted that the ITC has had a monthly all Staff meeting for the past two and a half years, and these will continue. In addition we are encouraging all team leaders to have regularly scheduled meetings with all their team members.</p> | <p>11.0) As a result of the audit recommendation we have implemented regular scheduled staff meetings in all three Management. In addition Team Leaders are also having regularly scheduled meetings with their members.</p> | <p>11.0) Completed</p> | <p>Brian Henderson</p> |
| <p>12.0) In collaboration with NHQ Systems' Operations, ITC Management should prioritize the completion of its Orientation Package and its subject matter/Table of Contents.</p> | <p>12.0) Subsequent to the IARMS review ITC Moncton has had the opportunity to implement it's new Orientation process, which is as the name implies, a process. Our objective was not to duplicate work already completed in this area but to leverage information already available and implement a consistent and structured process in line with staff needs.</p> | <p>12.0) ITC Moncton has completed and implemented it's new Staff Orientation Package and has successfully implemented the new process for managing orientation. All staff hired subsequent to June 15th 2001 have been, or are currently in the process.</p> | <p>12.0) Completed</p> | <p>Brian Henderson</p> |

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| | <p>We feel we have achieved our goal and have already put several new staff through the process. New staff are provided with an introductory information kit and over the next few days, weeks, and months are months embark on an organized journey of learning and education. The key to this process is that it is controlled and consistent, with signoffs at each check point. In addition there are formal records maintained of the orientation process, which allows us to monitor progress and ensures consistency. Copies of the process, flowcharts, and associated reporting documents have been shared with all Operations Directors.</p> | | | |
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| <p>14.0) NHQ Systems, Operations should consider re-engineering Computer Operations and Technical Services</p> <p style="text-align: center;">16 2 (c)</p> | <p>14.0) The introduction of new technologies to the traditional Mainframe Computer Room environment has introduced a level of complexity to the Operations portfolio that has is changing of way of doing business. The observation is acknowledged, and Operations will be reviewing business processes and support strategies in an effort to maximize the use of existing ITC Computer Operations Human Resources in support of the newly implemented Server Farms.</p> | <p>14.0) The Operations Management Committee will be developing a long term strategy designed to address Business Line changes and associated Human Resource issues.</p> | <p>14.0) March 31, 2002</p> | <p>Bob Charleau</p> |
| <p>15.0) To achieve consistency across the organization, ITC Management should review Team Leaders' managerial activities in terms of role, responsibility, accountability and authority.</p> | <p>15.0) It is agreed that this is a valid observation and As a result of the IARMS review we have taken the Auditor's advice and have already implemented new reporting structures. In addition we will ensure all team leaders have complimentary authorities, responsibilities, and accountabilities.</p> | <p>15.0) As a result of the IARMS review we have the Auditor's advice and have already implemented new reporting structures and are diligently working to ensure all team leaders have complimentary authorities, responsibilities, and accountabilities.</p> | <p>15.0) December 31, 2002</p> | <p>Bob Charleau / Brian Henderson</p> |

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| <p>16.0) ITC management should assess the feasibility of having Control and Warrant Dispatch (ensuring appropriate separation of duties) report through the Computer Operations' Team Leaders.</p> | <p>16.0) ITC Management has assessed the feasibility of having Control and Warrant Dispatch report through Computer Operations Team Leaders and concluded that this is a viable and beneficial recommendation. In Computer Operations, Control and Distribution employees have traditionally reported to the Manager, but we agree that such a change would be beneficial to the staff involved.</p> | <p>16.0) All control and distribution staff will be assigned to a Computer Operations Team Leader Short ail have now assigned them all to a Team Leader, who in turn has been given appropriate responsibility and accountabilities for them.</p> | <p>16.0) Completed</p> | <p>Bob Charleau / Brian Henderson</p> |
| <p>16 2 (c)</p> | | | | |
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