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## Information Resource Management at Hydro-Québec<sup>1, 2</sup>

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January 3, 2006. The time is 6 p.m. and Karl Malenfant, Head of Development and Implementation for Hydro-Québec Distribution's Customer Information Systems (CIS) project, enters his office. After more than five years of very hard work, the division is embarking on a new phase of a \$370-million project to implement a new information system using SAP's IS/U (Industry Solutions/Utilities) and CRM (Customer Relationship Management) solutions to support HQD's business processes. The three first project phases were successfully implemented, as planned. He smiles, remembering all of the work accomplished by his team, as well as the profound changes that implementing this system have wrought within Hydro-Québec. In his mind, he recalls the first small steps of the project and takes stock of just how far they've come...

### The Company

Hydro-Québec produces, transmits and distributes hydroelectricity. It also carries out innovative research in the field. Its aim is to become a world leader in energy.<sup>6</sup> Hydro-Québec operates Canada's largest electricity generation, transmission and distribution network and is one of the largest electricity producers in North America. Quebec law defines Hydro-Québec's mission as "to supply power and to pursue endeavours in energy-related research and promotion, energy conversion and conservation, and any field connected with or related to power or energy" (Article 22 of the *Hydro-Québec Act*).

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<sup>6</sup> Mission aims and quantitative data used in this study were drawn from Hydro-Québec's 2004 Annual Report and the Strategic Plan 2002-2006: [http://www.hydroquebec.com/publications/en/strategic\\_plan/pdf/plan-strategique-2002-2006.pdf](http://www.hydroquebec.com/publications/en/strategic_plan/pdf/plan-strategique-2002-2006.pdf).

In 2004, Hydro-Québec had assets of \$58 billion and generated revenue of close to \$10.7 billion. At the time, the approximately 22,000 employees working for Hydro-Québec served more than 3.5 million customers across the province. As Hydro-Québec relies, for the most part, on hydraulic power to generate electricity, it has always been able to produce and market its electricity at very competitive prices. In 2004, for example, electricity sold to customers in Montreal was one-third the rate of that sold to customers in New York.

That year, given the large discrepancy in prices between Quebec and the United States, and given occasional oversupply, Hydro-Québec made \$384 million in net electricity exports through spot trades on energy markets.

## **The Business Context**

Following nationalization of all of Quebec's electricity companies in 1963, the Quebec government became Hydro-Québec's sole shareholder. Hydro-Québec has always been economically viable and an important contributor to Quebec's coffers. Between 1998 and 2004, Hydro-Québec paid the government of Quebec \$5.3 billion. The government of Quebec, with its limited resources (taxes were already considered to be quite high), substantial debt and growing spending requirements, was grateful for the increasingly large dividends generated by Hydro-Québec.

Electricity prices in Quebec are controlled by the Régie de l'énergie (Energy Board).<sup>1</sup> As such, a good source of extra income was the sale of surplus electricity at higher prices on the U.S. market in response to short-term needs. In 1997, however, when the U.S. electricity market was deregulated, the Federal Energy Regulation Commission (FERC) established regulations requiring reciprocity among companies wanting to sell electricity on the American market. That meant that Hydro-Québec also had to open its market to American operators, thus ending its monopoly over the production and distribution of electricity in Quebec.

Strategically speaking, senior management at Hydro-Québec saw this new business context as a singular opportunity to highlight the significant energy assets and business expertise acquired in Quebec over the years. Hydro-Québec created the TransÉnergie division in 1997 in order to bring itself in line with the rules governing wholesale markets in North America. The Régie de l'énergie supported TransÉnergie's establishment following some changes to the Régie's act. In 2002, Hydro-Québec decided to go a step further and changed its vertically integrated structure by separating its production, transmission and distribution activities. Each division was given its own mandate and responsibilities, thus better enabling them to define their own aims and development strategies and to seize new business opportunities. This restructuring left Hydro-Québec with six main divisions: Production, TransÉnergie, Distribution, Equipement, Pétrole et gaz, and Technologie et développement industriel.<sup>2</sup>

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<sup>1</sup> The Régie de l'énergie (Energy Board) is a provincial body whose "mission is to foster the conciliation of the public interest, consumer protection and the fair treatment of the electricity carrier and distributors." (Source: <http://www.regie-energie.qc.ca/>; consulted September 20, 2005.)

<sup>2</sup> A brief description of each division may be found in Appendix 1.

Hydro-Québec retained its monopoly on electricity distribution in Quebec under this new model through Hydro-Québec Distribution. Its other activities, however, were opened to competition, at least in theory. Each division became autonomous, accountable, a profit centre in its own right and responsible for meeting the profitability criteria established by the board and the government of Quebec.

## **Establishment of the Shared Services Centre**

When Hydro-Québec was broken up into six independent divisions, three executive vice-president positions were created:

1. Executive Vice-President, Corporate Affairs and Secretary General;
2. Executive Vice-President, Finance and Chief Financial Officer;
3. Executive Vice-President, Human Resources and Shared Services.

In January 2003, the company's organization chart included, for the first time, a Shared Services Centre (SSC), which was placed under the responsibility of an executive vice-president. This vice-president also oversaw the procurement and services unit as well as the IT unit.<sup>1</sup>

The SSC brought together a broad spectrum of internal support services that it offered to all of Hydro-Québec's six new divisions. Shared services included, among others: IT, material management, procurement, transportation services, document management and real estate management (see full organization chart in Appendix 2). The SSC was divided into four units: IT Solutions (*Direction Solutions informatiques* – DSI), IT Operations (*Direction Exploitation des TI* – DETI), Telecommunications and Service Networks (*Direction Télécommunications et réseaux de services* (DTRS) and Office Automation Systems (*Direction Bureautique*). These units employed approximately 1,300 people who were responsible for all tasks directly related to IT.

Although the move towards transition began in the early 2000s, the SSC's launch marked a formal and major turning point in Hydro-Québec's customer relations. The shift was aimed at developing business partnerships with the divisions in order to help them reach their objectives and improve their financial performance. The SSC relied on best practices, the pooling of state-of-the-art expertise and economies of scale to provide high-quality services to the divisions at the best possible price.

Under the new organization, divisions retained full decision-making and budgetary powers on all projects undertaken in partnership with the SSC, which they would "hire" as a service provider or in-house consultant. For the time being at Hydro-Québec, divisions were not permitted to outsource services that could be provided by the SSC. The SSC itself was not permitted to offer its services to other companies.

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<sup>1</sup> Sources: Hydro-Québec: 2002 Annual Report. Hydro-Québec: *Strategic Plan 2002-2006* (consulted on 26/09/05), available at: [http://www.hydroquebec.com/publications/en/strategic\\_plan/pdf/plan-strategique-2002-2006.pdf](http://www.hydroquebec.com/publications/en/strategic_plan/pdf/plan-strategique-2002-2006.pdf)

## Reinventing IT Management

At the end of the 1990s, technology and business units' efforts to better control returns on IT-invested capital caused major changes in the way IT was organized in many companies. Hydro-Québec was also part of that trend. In the past, Hydro-Québec had embraced a variety of IT management movements, from centralization to decentralization. At the end of the 1990s, the DDMA division (*Direction Développement et maintenance des applications* – Applications Development and Maintenance), later renamed DSI (*Direction Solutions informatiques* – IT Solutions), was responsible for carrying out all of Hydro-Québec's technology-related projects, establishing norms and processes and "acting as the custodian of such norms in all technology-related activities." Within this framework, the business units played quite a passive role of "letting their needs be known" to DSI experts.

Deliberation and discussion among the IT divisions and business units made it possible to lay the foundations of a new IT management model. In the early 2000s, Hydro-Québec decentralized decisions relating to technological investments of any kind and handed decision-making over to the business units. The same approach was applied to IT budgets shortly thereafter, as they were also transferred to business units. The chief impact of the SSC's establishment was to separate governance from provision of services. Suppliers were no longer responsible for ensuring that company guidelines (in terms of strategy, policy, framework, monitoring and audits) were respected. The establishment of the SSC left decision-making in the hands of the business units, which became fully accountable for their IT investments. The SSC, through its four IT units, became an in-house consultant and supplier of IT projects to those business units.

Although the establishment of the SSC only made official changes that had already slowly been taking place within the company, those changes nonetheless caused upheaval both within the business units and the IT divisions. They now had to share the roles and responsibilities defined by the new IT management model. The SSC was given a large number of quite critical responsibilities. In a context marked by a growing shift toward software implementation, its responsibilities were increasingly tied to technological infrastructure and, more specifically, to technological architecture, security management, development of interfaces with existing systems, development of new functions in existing software and performance enhancement. For every project, the SSC now had to assess the technological impact of a given division's new needs, necessary resources (cost, time, expertise, equipment, software and infrastructure, for example) and any links between a given project and Hydro-Québec's other information systems and existing infrastructure. The SSC was now also responsible for developing the necessary technological platforms and technical competencies to provide continuous support for the strategic applications of each division, to anticipate and respond to the technical support needs of each division and to develop and enhance its in-house expertise. Last, the SSC was responsible for developing and implementing all of the technological aspects of any given solution, optimizing technological performance and maintaining and operating said solution.

These new responsibilities also brought new challenges for the SSC. The IT divisions now had to negotiate all of their technological budgets with each division. They had to answer for every dollar spent and were accountable for time and cost estimates. They had to offer one-stop service to customers in order to make their internal organization transparent. They also needed to continue to develop expertise and shared knowledge, in spite of overspecialization among IT

professionals and possible distancing in the customer/supplier relationship. The model was implanted and gradually took shape through the relationship forged between the SSC and the business units, and with Hydro-Québec Distribution in particular.

## **Hydro-Québec Distribution (HQD)**

As a result of the structural changes implemented throughout the company, in early 1999, HQD was made responsible for electricity distribution to over 3.5 million customers in Quebec. In addition to offering a range of products and services, HQD also provided secure electricity supply throughout the province. Customer service became a key factor in HQD's development (as illustrated by its 2002-2006 strategic plan) and the very nature of its activities (including, for example, billing, collection, call centres and e-commerce) required significant technological support. In December 1998, senior management appointed a new vice-president to head HQD Sales and Customer Service, Ghislaine Larocque, who had vast experience in the energy industry, and at Gaz Métropolitain, in particular.

A few months after her appointment, Ms. Larocque asked her management team a very important question: "Where are our information systems leading us? What is our IT systems strategy?"

To her great surprise, her team was unable to answer her questions precisely. Although, each year, HQD spent more than \$50 million on more than 200 IT systems, it had no clear strategy and no overall systems plan had been formally drawn up since its establishment.

The establishment of the six independent divisions transformed the organization's outlook entirely. HQD's new decision-making unit was set up and tasked with managing customer relations, as those customers were Hydro-Québec's main source of revenue. The new division now modelled itself on other North American electricity distributors and used distributor benchmarks to measure its own achievements rather than modelling itself, as it previously had, on electricity producers. HQ Distribution had given itself the means to become as efficient as a private company.

To launch this major shift, in April 1999, Ms. Larocque created three teams as part of the company's 2000-2004 strategic planning exercise. The first team was responsible for defining business strategy for business and commercial customers. The second team was to look after the residential customer business strategy. And the third, coordinated by Mr. Malenfant, was tasked with developing IT strategy to support the company's two main market segments: "business and commercial" and "residential."

In addition to defining its IT strategy for the very first time, the new HQD division was now fully responsible for its IT choices and investments. HQ Distribution now had to align "IT" with "strategy": IT strategic planning, assessment of short-, medium- and long-term needs as well as their order of priority, business process reengineering and development, IT budget management, IT project management and supervising IT implementation (including training and change management).

In September 1999, once the strategic planning exercise was complete, Ms. Larocque created a new unit called “e-commerce and customer information systems” which was responsible for the following:

1. To gather and manage the application software under the vice-president’s responsibility (which included over 200 IT systems supporting all business processes);
2. To define the needs of the vice-president’s department, more generally speaking;
3. To prioritize projects to be implemented;
4. To provide strategies for modernizing customer application software for the 2000-2004 strategic plan;
5. To allocate SSC budgets.

Mr. Malenfant was appointed head of the new unit.

Several factors pushed the division to take IT matters into its own hands. The first was the technological zeitgeist of the late 1990s. As the Internet expanded and the tech bubble grew, the new technological world aroused interest and encouraged organizations to experiment with innovation, and thus created new customer expectations. Second, huge IT investments were being made at the time to replace legacy company systems that risked being compromised by the millennium bug. The 1990s also marked the gradual development by Hydro-Québec of a more comprehensive and process-oriented view of its work. All key distribution processes, particularly those relating to customer service, relied on IT. As IT played an increasingly large role in HQD’s business outlook, so HQD gradually took on the management of its own processes and IT.

The new model developed by Hydro-Québec and its Distribution division to manage systems and IT looked very good on paper, but now, at the dawn of the new millennium, it had to prove itself in practice.

## **Evolution of IT Management through the CIS (Customer Information Systems) Project**

### **Modernization, a strategy**

In an effort to modernize customer software applications, a special team was formed to develop a strategy to allow IT to support the implementation of customer strategies.

The first finding of the planning exercise was that the company’s legacy systems, most of which dated back to the late 1970s, required urgent updating. Those systems were first developed to respond to the needs of a business context entirely unlike the one at the turn of the millennium. For example, the company used addresses to anchor information: electricity was “delivered” to addresses equipped with meters and the system would then send bills to those addresses. Migrating from managing addresses to managing customers was almost impossible with an address-based system. Today, a single customer may own several premises at several different addresses and may, for example, wish to receive a single bill. Customer segmentation is also very important. Yet notions of that kind were completely foreign to the legacy systems in use.

That finding opened up a number of possible solutions to HQD. It could:

- Develop the legacy systems;
- Purchase a set of software packages from multiple vendors, choosing the best system in each specific category, and have those systems communicate among themselves (the best-of-breed approach);
- Purchase the best integrated software package from a single vendor (the best-of-suite approach).

Following an in-depth analysis of requirements (detailed review of business processes and consideration of several distributors in the industry), senior management decided that developing the old systems was impossible given the costs and risks involved.

In the fall of 2001, and with formal approval from Hydro-Québec's board, a call for tender was issued for a solution based on a set of products. Vendors of the best products and the best suites were invited to bid. A second call for tender was issued for five professional services (functional integration: processes and parameters, technological integration, change management, training and project management) in order to find a consultancy that would become HQD's sole partner in the implementation of the chosen software package. HQD, supported by the SSC, was project manager of this large-scale project. Up until that point, the SSC's role had been to assist HQD in its preliminary studies and as it prepared the calls for tender. The SSC was also responsible for assessing the technical side of all bids made. HQD initially believed that a world-renowned consultancy would add heft to the project in terms of credibility and confidence; it would also make it possible to share risk with an outside partner by virtue of certain contractual agreements.

Insofar as choosing a software package was concerned, no "best of suite" vendor was able to develop a competitive solution that satisfied HQD's tender requirements. A consortium, which included SAP, presented the best solution to bid requirements and was awarded the contract. The solution was based on SAP's IS/U and CRM applications and its R/3 suite. Moreover, as Hydro-Québec was already using SAP's R/3 suite of software applications, strategic partnership agreements were negotiated for user licenses. Hydro-Québec became an "international model" for the use of SAP products in the energy field.

Several consulting firms submitted proposals to become professional service providers, also known as integrators. Cap Gemini submitted the best bid for four of the five services sought: functional integration, change management, training and project management.

However, HQD was not satisfied with any of the submissions regarding technological integration. Although HQD had originally hoped to have a single integrator for all five components of the project, it became clear that this would not be possible. At that point, it also became clear that the SSC, which had up to then provided support by assessing outside company bids, could be considered by HQD as a possible delivery partner for the technological integration side of the project. The SSC thus decided, with its own technological partners, to submit a bid in response to the call for tender for the "technological integration" of professional services. The SSC's bid revealed a solid understanding of existing systems and excellent SAP expertise. Indeed, as the SSC had been involved in four Hydro-Québec SAP R/3 software implementation

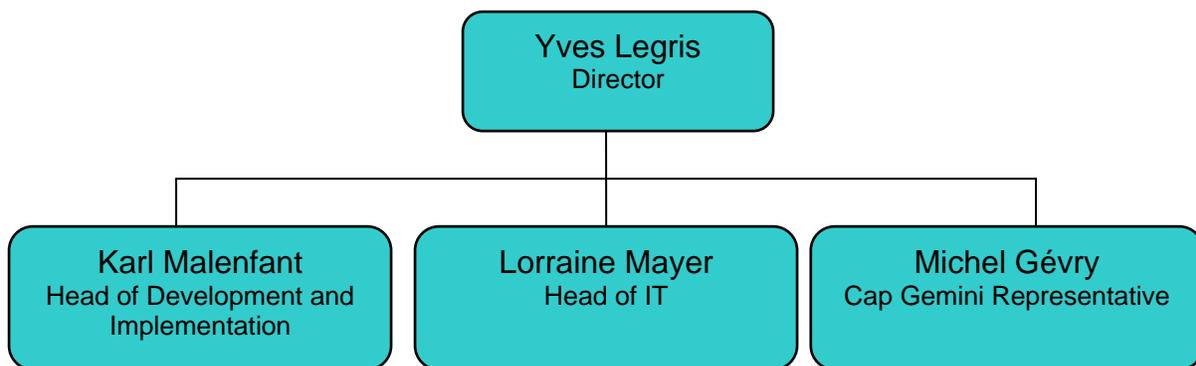
projects, it had extensive technological expertise. One such project, at the end of the 1990s, involved the IT groups in the Harmonie project,<sup>1</sup> which was a major project to implement R/3 for the management of Hydro-Québec's human, material and financial resources. The project was a great success. The SSC's bid was also satisfactory in terms of budget.

Upon the recommendation of the HQD management team, Hydro-Québec senior management awarded the technological integration mandate (infrastructure, development, interface, etc.) to the SSC and awarded to an outside company, Cap Gemini, the mandate to provide support for the four other components of the project. All contracts were signed at the end of 2002. The Customer Information Systems project was launched with a budget of \$370 million, a start date of January 3, 2003 and an end date of March 2007.

### Project organization

Yves Legris, who was Director of the Collection Services Department at HQD at the time and already had 15 years of experience at Hydro-Québec, was appointed head of the Customer Information Systems project. His duties included overall project management and, more specifically, financial management as well as management of the socio-political aspects of the project, meaning the relationship with the rest of Hydro-Québec, its board and the outside suppliers involved in the project. Karl Malenfant, who had up to that point held a number of IT positions at HQD, was placed in charge of managing the operational aspects of the project, and delivery, in particular. At the beginning of the project, HQD asked for a single point of contact within the SSC for all issues. HQD also wanted all of its main SSC colleagues to be located in premises downtown that had been leased for that purpose. Lorraine Mayer was appointed head of IT on the CIS project (see Figure 1). She worked with more than a dozen SSC partners who contributed to the project in one way or another, in addition to those colleagues who physically moved downtown.

**Figure 1**  
**Customer Information Systems (CIS) Organization Chart**



The three key players above were thus responsible for successfully leading this ambitious project to modernize HQD's principal business processes<sup>2</sup> and to implement the CIS solution. This major

<sup>1</sup> Richard Landry and Suzanne Rivard, "Le projet Harmonie," *Gestion*, Vol. 25, No. 4, 2001, p. 56-64.

<sup>2</sup> All of the affected business processes are listed in Appendix 3.

undertaking required that parameters be defined for 1,820 business functions within 47 units; including general units such as Financial Accounting (FI), Control (CO), Human Resources (HR), Sales & Distribution (SD), Customer Relations Management (CRM) and Business Intelligence (BW). Also included were more specialized units such as Service Call Management (SM), Billing Management (IS/U), Data Measurement Management (DM) and Energy Data Management (EDM). A team of approximately 450 people worked on the project, two-thirds of whom were from HQD and the SSC and one-third of whom were from Cap Gemini, the outside supplier. Installation of the integrated software package was planned to take place over a period of four years and in four distinct delivery phases:

1. **March 2004:** Updating of all infrastructure related to the printing and mailing of the 120,000 bills and inserts sent out each day;
2. **March 2005:** Implementation of all management processes regarding supply and measuring equipment (meters, for example), including the management of customer requests for assistance (new supplies or updating, for example) and just-in-time stock management;
3. **December 2005:** Implementation of all business customer processes (350,000 clients);
4. **December 2006:** Implementation of all residential customer processes (approximately 3 million customers).

Some legacy systems were abandoned during each phase and, up until December 2006, bridges had to be built between new incoming systems and the legacy systems that were not abandoned.

### **Implementing the new IT management model**

The Customer Information System project helped shape the new IT management roles of HQD and the SSC and had a major impact on all of the parties involved. Insofar as its general approach to software was concerned, Hydro-Québec chose to no longer develop its own software, but rather to purchase software package solutions. As the divisions were no longer “software producers” and given the costs and risks associated with in-house development, it is clear why the divisions chose to move towards turnkey solutions rather than risk custom software development. Thus, as in the case of the CIS project, legacy systems were replaced one by one by software packages purchased from external vendors. The result was that, to respond to customer needs, the SSC’s IT expertise had to evolve. In this project, for example, traditional programmers were increasingly less necessary. The same was true of the “functional” aspects of implementing an information system like CIS, where such functional aspects migrated to the customer. This became the responsibility of HQD. Thus, as Lorraine Mayer explained, IT Solutions’ (DSI) gatekeeper role was now entrusted to the divisions themselves:

What the SSC brought that was new was that we no longer had to police things... The SSC was customer-oriented above all else. Separating the governance role from the service role changed our customer relationships for the better. The only services provided were those that customers wanted and that they were prepared to pay for. A service culture prevailed: our job was to respond to customers’ business needs. From that moment forward, it became possible to compare like with like on the market.

Within the framework of this project, the role of business architect (or functional analyst), as it had existed before within IT Solutions (DSI), also changed, as it was integrated into Hydro-Québec's business units. Given the increasing complexity of the technological infrastructure and the highly sophisticated software packages, the SSC required new competencies, which led to the development of other fields of specialization, as Ms. Mayer explained:

The concept of functional architect no longer existed with regard to software packages. That job disappeared in the software package world, making way for application specialists and organizational process specialists. I specify "in the software package world," here, because in other fields (for example, on the web), functional architects, programmers and other more traditional IT professions are required and are essential. [...] As I was saying, assemblers of technical software tools, technological integrators and architects are all high-level professions that require people who are able to see the big picture and have a high level of understanding of the solution. But programming as a profession must evolve. And that's great! Although no one buys a software package in order to write code, few packages are delivered without at least some new functions being developed. Older programmers have to develop their competencies and become designer/developers who can interact with business analysts. Finally, we also need people who are also interested in performance, service levels, optimization... that's where there's work to be done!

Organizational and staff development plans were drawn up to ensure that such competencies were acquired and developed. Resources also had to be made available to support legacy systems until the end and to support the new systems. As Lorraine Mayer explained:

Our theme over the next few years is going to be the multi-skilling of our resources. If you aren't flexible, in IT, then all is lost. In the world of software, we now need technological resources (integrators, architects, etc.) and resources that know software well and understand the customer's business.

For some SSC employees who were used to the traditional IT model, the new approach was a huge change and a major professional challenge. Several employees, including "old school" functional architects at the SSC, were even transferred into HQD to take part in the functional aspects of the project and to develop the software package. One-off training sessions and knowledge transfers from a variety of consultants made it possible for a number of them to adapt to SSC's new role in a world of software solutions. IT Solutions' (DSI) other fields of specialization remained the same in terms of the required competencies, aside from the fact that employees now needed to be more aware of the customer's "business" side.

Clearly, all of these changes were going to disrupt human resources management in a company this size. Staff transfers, the creation and altering of positions, the development of new competencies, unions, collective labour agreements and new working hours were all factors that management had to adapt to new business realities. Union-management relations in the affected units were generally quite friendly and collective labour agreements included a clause on technological change. Employees were informed of the project's progress and impact. Transition occurred slowly and in a manner that was respectful to all.

The new model of shared responsibility also brought its share of challenges to HQD. Although HQD had been gradually developing structures and management tools since the early 2000s to align and strategically manage its technological investments, the CIS project was a huge

challenge for the whole company because of its breadth and the major changes to its structures and paradigms. As Karl Malenfant, Head of Development and Implementation said:

At some point, somebody had to step up and say, “We’ll take on these responsibilities...,” because HQD couldn’t just say “We’ll take responsibility for everything” either. We didn’t necessarily have the right competencies... We had to get organized!

The implemented solution required both an extremely sophisticated IT system and a review of business processes in line with HQD’s new direction. In order to succeed, users absolutely had to step out of their passive role of simply expressing their needs. They now had to become much more active in the software implementation process. The CIS project thus had to identify people with an excellent grasp of the business processes affected. These individual human resources had to be able to establish links between the various modules of the SAP solution. They needed to become familiar with the applications toolkit and choose the best approach. In short, they became the new “applications specialists,” replacing functional architects. An organizational development plan had to be drawn up. Thanks to training and attentive coaching provided by the consultancy, some users were able to make that leap, develop those new competencies and fully play their part. Others, unfortunately, fell by the wayside.

HQD then had to consider training the next generation of users to use and develop the new system initially developed by the integrator. This new reality disrupted job definitions, collective labour agreements and the corporate culture, as noted by Karl Malenfant:

On the HQD side, we now needed people who understood the applications, who understood the processes, who were able to decide on the best tool to manage the processes that interested us [...] That meant that there were now people around 24/7 who understood the business side. We’d never had that before. As soon as you get users establishing system parameters, then they have to be the ones to modify those parameters when the system rejects them [...] There were HQD people with pagers and computers at home acting as production support in the middle of the night.

By preserving leadership of the project and by relying on assistance from an outside company, HQD was able to develop expertise that guaranteed the longevity of both the old and new systems. A transition support centre was established with a mandate to manage the legacy systems until they were taken offline in 2006. The centre also looked after new systems once they were stabilized, meaning about three months after implementation. At the end of the project, in 2007, the transition centre became HQD’s internal CIS centre of expertise (CESSIC). This local centre of expertise dealt, of course, with DSI’s CIS centre of expertise. When business processes needed to evolve, this was the team that planned and monitored projects, redefined processes, established software package parameters and managed organizational change. In order to do so, it had to work with DSI’s centre of expertise on everything related to the impact of these new functionalities on technological factors.

When Karl Malenfant looks back on all of this change, he is proud of the IT management path taken by HQD. The CIS project is proving that the new division-based IT model and partnership with the SSC work. He is aware, however, that there is still much to do. HQD and the SSC were successful in organizing and implementing a major project, but now is the time to reflect on what will follow. How does one ensure the leadership necessary to allow the system to continue to evolve? What structure needs to be put into place, which competencies need to be acquired in order to develop and optimize all of the system’s user and support aspects? How does one achieve the flexibility required given existing paradigms and unions? How can the partnership with the SSC, as experienced during the CIS

project, be turned into a model? Through this project, HQD established significant technological leadership and helped define a new kind of partnership with the SSC. How will Hydro-Québec's other divisions react to this new IT management model?

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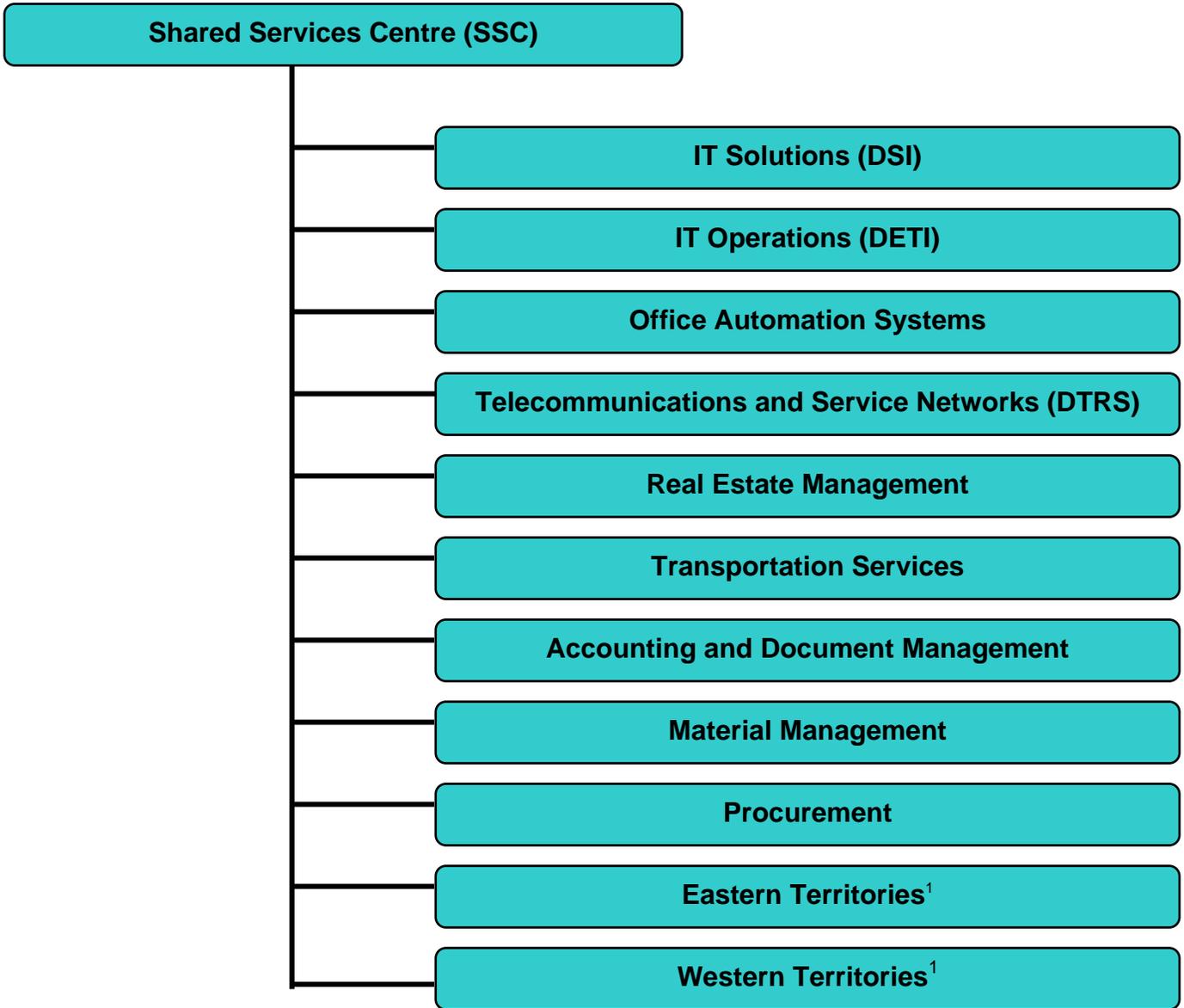
## Appendix 1

### Hydro-Québec's six main divisions

Hydro-Québec is currently organized into six main divisions:

- **Hydro-Québec Production:** Hydro-Québec Production generates electricity and sells it to distributors through firm contracts or through trading on the spot market. Hydro-Québec Production leases transmission capacity on high-voltage power lines from Hydro-Québec TransÉnergie in order to ship electricity to distributors, be they Hydro-Québec Distribution or foreign distributors.
- **Hydro-Québec TransÉnergie:** Hydro-Québec TransÉnergie is responsible for operating the electricity transmission system. Hydro-Québec TransÉnergie leases capacity on its high-voltage lines to electricity producers, particularly Hydro-Québec Production.
- **Hydro-Québec Distribution:** Hydro-Québec Distribution distributes electricity to Quebec consumers. Hydro-Québec Distribution has a network of low- and medium-voltage lines that supply Quebec's residences, companies and industries with electricity. HQD must purchase electricity from a producer (Hydro-Québec Production or a private producer) and guarantee distribution in line with customer requirements. Hydro-Québec Distribution also bills customers for electricity consumption.
- **Hydro-Québec Équipement:** Hydro-Québec Équipement is responsible for the construction and refurbishment of generating stations and transmission lines. Such projects are generally very large and are carried out, for the most part, for Hydro-Québec Production and TransÉnergie.
- **Hydro-Québec Pétrole et Gaz:** Hydro-Québec Pétrole et Gaz is responsible for all activities related to the pipeline transmission of gas and for developing Quebec's oil and gas potential.
- **Hydro-Québec Technologie et développement industriel:** The mission of Hydro-Québec Technologie et développement industriel is to lead the field in energy innovation. Hydro-Québec Technologie et développement industriel is responsible for all activities related to innovation: from research and its promotion to industrial development, by way of venture capital investment.

## Appendix 2 SSC Organization Chart (June 8, 2005)



Note 1: The Eastern Territories and Western Territories units are responsible for managing customer relations.

## **Appendix 3**

### **HQD Processes Affected by the CIS Project**

#### **Financial processes**

- Billing
- Receipt
- Collection

#### **Technical processes**

- Readings
- Monitoring
- Supply

#### **Customer processes**

- Customer service
- Management of responsibilities
- Claims and complaints management
- Sales
- Contract management

#### **Shared processes**

- Delivery management
- Correspondence management
- Document management
- Workload management
- Information management

## **Annex Acronyms**

<b>CESSIC</b>	Customer Information System Support Centre – both Hydro-Québec Distribution and DSI each have their own CESSIC.
<b>CRM</b>	Customer Relationship Management (customer relations management software)
<b>SSC</b>	Shared Services Centre
<b>DSI</b>	IT Solutions
<b>HQD</b>	Hydro-Québec Distribution
<b>IS/U</b>	Industry Solutions/Utilities
<b>R/3</b>	Name of the software purchased by Hydro-Québec Distribution and used for the CIS project
<b>SAP</b>	SAP is the company that developed the R/3 software purchased by Hydro-Québec Distribution
<b>CIS</b>	Customer Information System
<b>IT</b>	Information Technology