

CENSOL INC. *Canadian Environmental Solutions* International Projects Experience

CENSOL Inc., through its amalgamation with Pollutech International Limited, has taken an active interest in the development of international activities, working closely with a number of the Canadian provincial and federal departments, as well as direct work with Canadian multinational companies and foreign owned corporations and/or utilities. CENSOL's operational strategy is to work internationally with a number of "Strategic Alliances", including both Canadian and Foreign companies. CENSOL Inc. is responsible for the supply of all services of the Pollutech alliance partner companies *Pollutech Environmental Limited*, *Pollutech Enviroquatics Limited* and *Pollutech Geoenvironmental Limited*, for international clients. On the international level we have undertaken projects in concert with Industry Canada, Environment Canada, Transport Canada (Canada Coast Guard), Department of Foreign Affairs and International Trade, and Energy Mines and Resources Canada (CANMET).

Typical examples of international projects include:

Worldwide Assignment

In 2002 CENSOL was selected by the Canadian Department of Foreign Affairs and International Trade (DFAIT) to execute the project for the preliminary environmental assessment of federal properties and Canadian missions in 27 overseas countries. This work required field investigations and reporting, including the uploading of daily reports to a specific Internet site. In addition to standard site investigations, CENSOL staff executed the work for the MPMP (Mission Property Management Plan), AES Database, and completed a number of NCS Management Plans (National Contaminated Sites). The work was undertaken in Europe ([Italy](#), [The Netherlands](#), [Belgium](#), [Switzerland](#), [Spain](#), [Portugal](#)); throughout the African Continent ([Algeria](#), [Cote d'Ivoire](#), [Democratic Republic of Congo](#), [Ghana](#), [Kenya](#), [Nigeria](#), [Senegal](#), [South Africa](#), [Tanzania](#), [Zambia](#), [Zimbabwe](#)); and within Latin America and the Caribbean ([Barbados](#), [Colombia](#), [Costa Rica](#), [Cuba](#), [Guyana](#), [Jamaica](#), [Trinidad & Tobago](#)). The project clearly demonstrated CENSOL's capabilities to coordinate a complex project within a limited time in a number of overseas countries.

China

We have been involved in two major projects in China, one in Hong Kong and one in the mainland area of Ningbo. In both instances we were involved in the development of waste treatment and product recovery operations, one in the chemical industry and one in the textile industry. Both projects involved extensive sampling, analysis, treatability studies and process engineering to arrive at cost effective solutions for pollution abatement. Both of these projects lead to the construction of new manufacturing facilities and treatment works. CENSOL has been expanding on this work to develop a relationship with a leading Chinese research facility for the joint evaluation of environmental technologies.

Korea

CENSOL was called upon in short notice to implement an "emergency response program" to deal with serious environmental problem at a Korean tanning facility. This plant faced impending closure as a result of government regulations and their inability to meet the stringent effluent requirements. CENSOL mobilized an investigation, complete with the necessary equipment to study and resolve the concerns at the plant. The problem was solved in a matter of weeks and the plant continued in operation. This project lead to our

acceptance as a qualified firm for other major Korean investigation and remediation projects.

Germany

CENSOL's initial entry into Germany was the company's first international project, which came about as a result of our status as a "Recognized Marine Test Facility" for MSDs (Marine Sanitation Devices). This initial project required the evaluation of a German technology to Canadian Standards under the Shipping Act, on behalf of a joint Environment Canada and Transport Canada initiative. The development of the alliance partnership with research facilities in Germany led to future projects dealing with on-site evaluation of fluoride emissions from clay brick manufacturing plants and the decommissioning of contaminated sites. The fluoride project, conducted on behalf of CANMET was unique in that it involved technical resources from across Canada, over a dozen manufacturing plants in Canada and Germany, and state and provincial research institutes in both countries. The project led to the adaptation of the developed technology at Canadian manufacturing facilities.

Spain

As a direct result of CENSOL's international presentations on Canadian environmental technologies at an international exhibition, CENSOL was asked to participate with the Department of Public Works for the State of Catalonia (Barcelona), Spain, on the resolution of environmental matters. CENSOL was working with two local engineering firms and the University on problems affecting Barcelona for the 1992 Olympics, all of which collapsed as a result of the political change in Catalonia at the time. Working with the Canadian Embassy in Madrid and the Ontario International Corporation (now Ontario Exporters Inc.) CENSOL also presented a number of training seminars in the Catalan and Basque areas of Spain.

Turkey

Working with a major Canadian engineering design and construction firm, on behalf of a consortium of international hotel operators, CENSOL was asked to participate and complete the process evaluations at five (5) sewage treatment plants in the Antalya - Kemer area of Turkey, on the southern Mediterranean coast. CENSOL mobilized a field plant optimization team and worked "hands on" at the facilities to identify the existing operational problems and to make recommendations. As a result of the intensive program, CENSOL was able to identify a number of design deficiencies and provide immediate relief to handle these problems. Most of the major issues were sorted out as part of the program and recommendations for future modifications or upgrades were provided to the client.

Uruguay

As part CENSOL, the *Canadian Environmental Solutions* consortium, CENSOL undertook to complete a detailed field sampling, analysis and treatability project for the resolution of nitrate contamination in 73 communities in Uruguay. The work undertaken and led by CENSOL involved cooperation between the Canadian team, our three local partners, CIDA, DFAIT and the State Water Authority (OSE). The technical aspects of the project were significant in that CENSOL was able to develop a technology, with the assistance of leading Ontario manufacturers, that had previously eluded leading firms from France and Spain. CENSOL was responsible for the set up and operation of field scale treatability trials across Uruguay and the associated training of the local teams. The information collected from the field studies was used to map out a plan for the resolution of the problem within Uruguay.

Venezuela

When a crisis struck a major international chemical firm, CENSOL was summoned to Venezuela to undertake a detailed investigation of the environmental consequences. Work completed over the past few years, continuing for at least the next two years, involves the use of CENSOL's expertise in marine diving and underwater environmental investigations. CENSOL staff are providing on-site sampling and analysis under harsh environmental conditions, toxicity testing and impact analysis and support to the companies involved in a gruelling legal battle. CENSOL is working with leading international firms to provide a technically sound impact statement leading to development of a realistic remediation program. Prior to working on the site remediation project, CENSOL had gained experience working in Venezuela as a sub-contractor on a CIDA INC project in the Maracaibo area. CENSOL was retained to complete a field evaluation of five (5) existing waste water treatment plants, to determine what immediate changes could be made to improve operations and what enhancements should be incorporated into future plants. Subsequent to the field work, CENSOL worked with the design engineering firm to develop and evaluate the alternatives for regional treatment plants, all of which were based on "hands on" operational optimization of the plants by CENSOL staff. For the design firm, this project ultimately became one of Canada's largest municipal projects with EDC support in South America.

Nicaragua

Since 1989, CENSOL has been involved with the implementation of environmental projects in the beverage industry in Nicaragua and Honduras. As this work expanded in 1997 to include detailed studies of Canadian technologies for the resolution of environmental problems, CENSOL undertook to initiate an alliance with a leading Nicaraguan consulting firm. This group also had close alliances to the local university, which further expanded on the alliance's capabilities. This group has been active in the implementation of environmental management systems at a brewery, distillery and sugar mill, all of which is expected to lead to a major Canadian equipment supply in the immediate future. This additional "teaming initiative" brought together many of Canada's leading environmental manufacturers to present a "One Stop Shop" for Canadian environmental technologies (Ontario, New Brunswick, Quebec), in the multi-million dollar range. CENSOL coordinated all aspects of the technical studies and financial evaluations, including the dealings with EDC and the IFI's (World Bank, Inter American Development Bank, Central American Bank for Economic Integration). In addition to working closely with the industries in Nicaragua, we have developed an intergovernmental relationship that involves the Canadian Cooperation Office in Managua, CIDA INC, Industry Canada, the Ontario Ministry of the Environment and the Nicaraguan State Environment Agency (MARENA). Completed details on the project in Nicaragua, as well as many of our other international projects, is available in the form of electronic presentations posted to our web site at:

Bermuda

CENSOL was retained to represent a major electrical power authority in Bermuda that had problems with the discharge of process waters. Working closely with the operating authority, CENSOL undertook a series of process optimizations studies that showed the client that they could meet the stringent effluent discharge criteria using their existing equipment. The client, which felt it was facing a major cost penalty and legal battle, was thrilled that they were in fact able to get the existing system to work properly without the addition of capital assets. CENSOL continued to work on the assignment to provide "hands on" training and operational guidance.

South Africa

Working as a Canadian team with a political economist (Meritum Consulting), CENSOL assisted in the review and development of a regional waste discharge charge system. The work that was completed as part of this project dealt with the key questions that the "international best practices review" had to answer, such as (1) are there one or more of the international systems that uses an economic instrument to encourage the water users to internalize the costs associated with discharging or disposing of the waste in the wastewater; and (2) does the system effectively result in the reduction of the total amount of waste that is disposed of into the environment? The review of international case studies allowed the project team in South Africa to view the various systems in place and to determine whether there were merits of these systems on an interim or long term basis. How the different jurisdictions decided on their systems, as well as the changes made over time, could be more important than specific knowledge about the final system selected. CENSOL has continued to work with Canadian teams active in South Africa, including the Canadian Alliance for Business in South Africa (CABSA), as managed by the Canadian Manufacturers and Exporters (CME). CENSOL continues to work on the development of projects to meet Canadian obligations to Africa.

United States

Although not an active "target market" of CENSOL, United States companies have become clients of CENSOL in response to inquiries made to CENSOL's Internet site. Typical projects include our assistance to a major American electronics firm that wanted to benefit from CENSOL's experience with the recovery of caustic wastes, American oil companies that were interested in our capabilities in controlling marine oil pollution, compliance testing for industrial air emissions and representation for a major financial institution that wanted environmental audits completed as part of investments in Canadian companies. CENSOL has also represented a number of large multinational companies from the United States with the management of their facilities in Canada, such as environmental audits at 27 facilities for a major automotive parts supplier, environmental compliance and site remediation at 3 large production plants for an American printing and packaging company, and the design and optimization of product recovery and waste treatment plants for an American conglomerate with holdings in Ontario and Quebec. CENSOL maintains a "*Strategic Alliance*" with Geosphere Environmental Management, Inc. for the provision of services in the USA.

Costa Rica

CENSOL is an active member of the SCI Team (Sustainable Cities Initiative) in San Jose, Costa Rica. Working with their local partner *Grupo Integra*, CENSOL has signed an agreement with the Municipality to undertake a "Stormwater Risk Management Study", for which an application for assistance is being presented to CIDA-INC. As part of the development work in the SCI project, Industry Canada retained CENSOL to prepare the scoping study for water, wastewater and stormwater in Costa Rica. This information was included in the Road Map for San José prepared by Industry Canada and submitted to the municipality of San José.

India, Pakistan and Malaysia

CENSOL was retained by an international distiller to investigate and report on waste water treatment processes that were being used in Southeast Asia. CENSOL executed a comprehensive site investigation program and prepared a report on the design, operation and trouble shooting of the facilities. A number of samples of the various waste streams were collected and subsequently analyzed. On the basis of the investigations and testing, recommendations were made to the client on the suitability of the various technologies.

CENSOL also took the opportunity to meet with the Asian Development Bank as part of the CENSOL program to develop an EDC-ADB financing package for projects in Southeast Asia.

Argentina

CENSOL participated as a sub consultant to *Contemporary Information Analysis (CIAL)* on a project related to pollution prevention in a number of industrial sectors. This work was completed in conjunction with Industry Canada's program for sustainable industrial development in this area of Latin America. As a result of this program, CENSOL is also working with local industries to evaluate alternatives for water and waste treatment. To enhance project development in Argentina, CENSOL is working with the OAS (*Organization of American States*) to evaluate financial assistance to the projects in Argentina.

Italy

To respond to an immediate need for an environmental consultant to participate in a multimillion dollar M&A project (merger & acquisition), the client turned to PIL because of our extensive experience working with the legal community, our familiarity with international environmental assessments, and our rapid response capabilities. CENSOL undertook to review all of the environmental issues, prepared briefs for the legal teams, respond to the contaminant issues, identify issues missed by others, and to work as part of the team on a daily basis. CENSOL used its experience with the Internet to develop a project web site that was used by the legal team to keep abreast of the issues on a real time basis.

Mexico

Since the early 1990's, CENSOL has pursued market opportunities in Mexico first focusing on the petroleum and petrochemical industries as well as water recycling in rural municipal facilities. CENSOL is continuing to work with teams from the Government of Canada on these developments, including contracting objectives with the state owned PEMEX. In 2001, CENSOL refocused its initiative in Mexico to apply the success that had been attained in other Latin American countries with the food and beverage sector, concentrating on the tequila industry in the Guadalajara area. Currently, work is also focusing on opportunities in the Maquiladora area, that being the border area of the United States and Mexico, guided by the Border Environmental Cooperation Commission (BECC) and the North American Development Bank (NADB).