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Market study on the Mexican market
for industrial process control
instruments and equipment
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MARKET STUDY ON THE MEXICAN MARKET
FOR INDUSTRIAL PROCESS CONTROL
INSTRUMENTS AND EQUIPMENT

This market study has been prepared to assist Canadian firms interested in exporting to Mexico. While an effort has been made to examine the most important aspects of the sector, the study is not exhaustive. Companies will have to tailor their marketing approach according to their particular interests and circumstances.

43-265750
Further assistance can be obtained by addressing requests directly to the Commercial Division of the Canadian Embassy in Mexico City located at Calle Schiller No. 529, Col. Polanco, 11580 Mexico, D.F., telephone (011-525) 254-3288, telex 177-1191 (DMCNME) and fax (011-525) 545-1769 (sending from Canada); or the Latin America and Caribbean Trade Division, External Affairs and International Trade Canada, 125 Sussex Drive, Ottawa, Ontario, K1A 0G2; phone (613) 996-8625; fax (613) 943-8806.

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MARKET STUDY ON THE MEXICAN MARKET

FOR INDUSTRIAL PROCESS CONTROL

INSTRUMENTS AND EQUIPMENT

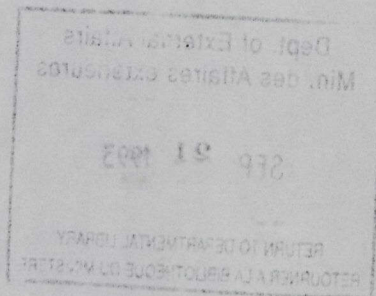
INDEX

1. BACKGROUND
2. ECONOMIC ENVIRONMENT
3. MARKET ASSESSMENT
 - 3.1 Imports
 - 3.2 Domestic Production
4. END USERS
5. MARKET ACCESS

APPENDIX I: Industrial Chambers and Associations

APPENDIX II: Useful Government Agencies

APPENDIX III: Agents and Distributors



1. BACKGROUND

Three events have been determinant in the recent growth in sales of industrial process control instruments and equipment: On the one hand, Mexico's trade liberalization policies, which have made the importation easier and relatively cheaper through the reduction in import tariffs and the elimination of prior import permits; secondly, the negotiations for a North American Free Trade Agreement, which will require the local industry to be more efficient in order to lower costs and improve the quality of its products, to be able to compete with suppliers of industrial products from abroad, both domestically and internationally; and finally, the growth of domestic consumption as a result of Mexico's economic recovery. These three factors, in particular the last two, will continue to be influential in shaping the Mexican market for process controls, and translate into future growth.

Imports have traditionally played an important role in this market. In 1986, they represented approximately 75% of total apparent consumption. At present, they are estimated to cover 83% of the market. This has been the result of a trend towards an increasing preference for electronic or high technology instruments, replacing manual instruments and equipment, together with a decrease in the use of non-specific process controls in favor of more integrated and readily identifiable systems. This again, will represent increased sales for foreign companies based in Mexico or wishing to enter or expand their participation in the Mexican market.

2. ECONOMIC ENVIRONMENT

With the objective of reducing the inflation rate, the Mexican authorities implemented a stabilization program in 1988, called the Economic Solidarity Pact, which features traditional austerity measures, entailing tight fiscal and monetary policies and unorthodox measures, such as price, wage and exchange rate controls. This program has been the cornerstone of Mexico's economic policy over the past four years and has resulted in a drastic reduction of the inflation rate, from an annual rate of 159.2% in 1987 to 51.7% in 1988 and 19.7% in 1989. Inflation rebounded to 29.9% in 1990 but the Mexican government aims to achieve a 14% inflation rate in 1991, which seems a reasonable estimate based on an annual inflation rate of 13.3% as of October 1991. Along with the objective of consolidating the progress made in price stabilization, Mexico's macroeconomic policy in the short run aims to reaffirm gradual and sustained economic recuperation, basically by establishing the necessary conditions to encourage national and foreign investment and by stimulating local demand.

After the 1986 recession, Mexico's gross domestic product (GDP) increased a moderate 1.7% in 1987 and an additional 1.3% in 1988.

Domestic economic activity recovered for the third consecutive year in 1989 with a growth rate of 3.1% and further 3.9% in 1990 to reach \$234 billion (1). With an 81.1 million population, per capita GDP was estimated at \$2,874 in 1990. Additionally, manufacturing output grew by 5.2% in 1990 in real terms, private investment and consumption expanded 13.6% and 5.2% respectively and public investment was up 12.8%. During the 1991-1994 period GDP is expected to maintain an average annual growth rate of 2.5%-3%. Preliminary figures for 1991 place GDP growth at 4.5%-5% for this year.

In an effort to revitalize and open the Mexican economy, the Mexican Government undertook a series of structural changes, including the accession to the General Agreement on Tariffs and Trade (GATT) on August 24, 1986 leading to an extensive trade liberalization process: import permits were eliminated on all but 198 of the total 11,812 tariff items based on the Harmonized System adopted in 1988. Official import prices are no longer applicable, nor the 5% export development tax, and import duties were lowered from a maximum of 100% in 1982 to 20% since January 1988. The weighted average tariff rate is now 10.4%. The automotive and computer industries have also been liberalized, through the elimination of prior import permits, to allow free entry of products in these industries. The approval of the North American Free Trade Agreement will further strengthen trade between Canada, the United States and Mexico.

According to official data from the Mexican Secretariat of Commerce and Industrial Development (SECOFI), Mexico's trade balance in 1990 dropped once again to a \$3 billion deficit from -\$645 million in 1989. Exports increased by 17.5% in 1990, from \$22.8 billion to \$26.8 billion, while imports grew 27.3%, from \$23.4 billion to \$29.8 billion in 1990, having already increased 23.8% in 1989 and 54.9% in 1988. As of August 1991, total exports for the year amounted to \$18.3 billion and imports to \$23.6 billion.

Total Mexican imports from Canada increased 24% in 1989 and decreased 1.5% in 1990. Total Canadian exports to Mexico amounted to Cdn\$594 million, while total Canadian imports from Mexico were valued at Cdn\$1,730 million in 1990. According to Mexican figures, in 1989, 1.9% of Mexico's imports came from Canada, while 1.2% of its exports were to Canada. This makes Canada Mexico's fifth largest exporter and sixth largest importer.

3. MARKET ASSESSMENT

The market for industrial process control instruments and equipment is very difficult to estimate based on existing data,

1. Note: All values in this report, unless otherwise stated (Mexican pesos, Mex\$, Canadian dollars, Cdn\$, etc) are quoted in United States dollar equivalents.

because all items in this category are also used in other areas and for other purposes. Table 1 shows total apparent consumption for process control instruments and equipment broken down into its three constituting subsectors: computers, valves and instruments. The basic assumptions underlying this table are (1) that from total computer sales, 22% are made to the industry and from those, 30% are used for process control; (2) that 50% of all valves are used for industrial process control; and (3) that 50% of instruments are used for this purpose.

TABLE 1
APPARENT CONSUMPTION OF PROCESS CONTROL
EQUIPMENT AND INSTRUMENTS
(US\$000)

	1987	1988	1989	1990	1994p million\$
COMPUTERS					
Production	14,102	19,546	20,327	13,701	24.6
+ Imports	8,698	10,764	11,720	25,360	43.8
- Exports	5,735	10,090	10,738	6,621	15.6
TOTAL COMPUTERS	17,065	20,220	21,309	32,440	52.8
VALVES					
Production	23,495	24,035	27,937	26,784	35.4
+ Imports	19,257	30,388	27,985	33,665	44.3
- Exports	5,242	9,587	12,556	14,067	20.6
TOTAL VALVES	37,510	44,836	43,366	46,382	59.1
INSTRUMENTS					
Production	15,477	15,884	18,424	22,223	28.0
+ Imports	75,907	88,792	95,457	113,005	168.4
- Exports	2,142	2,325	4,560	7,417	9.3
TOTAL INSTRUMENTS	89,242	102,351	109,321	127,811	187.1
GRAND TOTAL					
Production	53,074	59,465	66,688	62,708	88.0
+ Imports	103,862	129,944	135,162	172,030	256.5
- Exports	13,119	22,002	27,854	28,105	45.5
GRAND TOTAL	143,817	167,407	173,996	206,633	299.0

Source: Import-export data by SECOFI; author's estimates

The total market for industrial process control instruments and equipment is valued at \$206.6 million in 1990, reflecting an increase of 18.7% in 1990, 4% in 1989 and 16.4% in 1988. Two main factors have brought about this growth: Mexican economic and trade policies, as undelined in Section 2, and an increase in capital investments made by the largest end user sectors. The present administration's commitment to Mexico's modernization is based on trade liberaliaztion, the curbing of inflation, the reduction in interest rates and the stability of the peso-dollar exchange rate. These policies have translated already into a

greater availability of investment capital, and will continue to do so. In conjunction with this, the need for improved efficiency by the local industry in order to compete both in the domestic and international markets, has also encouraged investments in new equipment and instruments to modernize existing operations.

Of total sales, 62% corresponds to measuring, checking, testing, counting and regulating instruments; 22% to valves and 16% to computers used for the control of industrial processes. Total apparent consumption is expected to amount to \$299 million in 1994, after growing at an average annual rate of 9% between 1990 and 1994.

The instruments sector has experienced the most stable growth rate, averaging 13.6% annually between 1987 and 1990, and amounted to \$127.8 million the latter year. This segment is expected to continue growing at a slightly slower pace, averaging 10% per annum through 1994 and reach an estimated \$187.1 million, of which 90%, or \$168.4 million will be of imported origin.

The sector of valves, after increasing 19.5% in 1988, decreased by 3% in 1989 led by dropping imports, and increased again by 6.9% in 1990 to reach \$46.4 million. Sales in this category are expected to grow 7% annually between 1990 and 1994 and amount to \$59.1 million the latter year. Imports, which now represent 72% of total apparent consumption, will increase at a slightly faster pace than production to reach \$44.3 million in 1994, or 75% of sales.

Process control computer sales, on the other hand, had been growing steadily at an average annual rate of 11.6% between 1987 and 1989, and experienced a 52% increase in 1990 as a result of the liberalization of the prior import permit requirement for imports in this industry in April 1990. This temporary boom is expected to continue during the next two or three years, although at a smaller rate, and stabilize after that. On average, this market segment is expected to grow 13% annually until 1994, reaching \$52.8 million. The import share of the market is expected to continue increasing from the present 78% to 82% in 1994, or \$43.8 million.

3.1 IMPORTS

Imports have traditionally played a major role in apparent consumption of industrial process controls, although the import share of the market varies from sector to sector. It is in the area of instruments that imports are more significant, representing 88% of total supply. During 1990, the import share of the market for computers increased significantly, from 55% to 78% as a result of the elimination of the prior import permit requirement on computers and peripherals. In the segment of valves, imports represent 72% of the market.

The following table shows imports of instruments and equipment used for industrial process control by category. It is important to note that this table shows total imports by category, excluding domestic and non-industrial applications, whether or not they are used for process control. These figures will therefore not coincide with imports as shown in Table 1, which only reflect imports of process control related instruments and equipment.

TABLE 2
IMPORTS OF PROCESS CONTROL RELATED
INSTRUMENTS AND EQUIPMENT
(US\$000)

CATEGORY	1987	1988	1989	1990
Computers & peripherals	131,794	163,097	177,578	384,236
Valves	38,514	60,776	55,971	67,331
Mechanical properties testing eq. for materials	2,701	7,905	6,923	7,556
Thermometers, hygrometers, pyrometers, etc.	4,233	5,484	7,051	7,492
Measuring instr. for variables of liquids or gases	17,667	24,252	26,099	32,502
Physical or chemical analysis instr.	24,142	33,069	43,830	43,618
Gas/liquids/electricity supply/production meters	4,313	5,764	5,780	9,906
Speed/revolution/production counters & meters	3,136	5,170	6,952	8,340
Electrical quantity & radiation measuring instr.	26,647	26,400	29,256	37,543
Other measuring & checking instr. & appliances	25,065	35,797	37,201	41,669
Automatic regulating & controlling instr.	24,909	33,744	27,821	37,385
TOTAL	303,121	401,458	424,462	677,578
GROWTH		32.4%	5.7%	59.6%

Source: Import data published by SECOFI

In the years to come, imports are expected to grow at a faster pace than local production, because end users are increasingly buying high technology, sophisticated and state-of-the-art instruments and equipment, which will enable them to maximize and optimize their production capacity. Domestic production has been concentrated in manual, low technology, commodity instruments and equipment, while the more sophisticated, electronic and automated equipment has been sourced abroad. The latter is now in higher demand because it is more accurate, includes leading edge technology and is of a higher quality. Its benefits are presently

also better known and sought after, such as the ready availability of process-related data, which allows company management to respond more quickly to daily operating issues and to plan more effectively for the future.

At the same time, the sale of imported non-specific process control instruments is decreasing in favor of more integrated, readily identifiable and job-specific items, which are not made in Mexico because the low volumes sold locally by product do not justify the major investments needed to manufacture them, in particular in the face of international competition. Parts and accessories, which were formerly imported in large volumes in order to keep existing equipment going, no longer represent such a high percentage of sales, since end users are replacing rather than overhauling their instruments and equipment as the economy keeps growing and investment funds are more available.

The United States has traditionally been the number one supplier of process control instruments and equipment to Mexico with a 75% market share, followed by Japan with 7%, Germany with 5% and the United Kingdom with 3%. The United States is perceived to be a technological leader in the industry. Also, the quality of U.S. products and the close proximity to Mexico, which has allowed easy availability of parts and service, have played an influential role in this relationship. Last but not least has been the association of Mexican and U.S. companies through licensing and joint venture agreements. Japanese manufacturers can be considered the most aggressive after U.S. ones. Their marketing efforts include extending more liberal credit terms and, at the same time, their instruments and equipment are usually priced below comparable third country products, but are generally less sophisticated. West German instruments have a very good reputation for reliability and high quality in the Mexican market. The United Kingdom and France also sell a substantial amount of instruments to the government.

Some of the most important firms in the local market include:

AMI	Masonelian
Asea Brown Boveri (AAB)	Measurex
Bailey	Milltronics
Bristol	Neles Jamesbury
COIMSA	Perkin Elemer
Fisher Controls	Reliance Electric
Fisher and Porter	Rosemount
Foxboro	Siemens
Gould	SIMCA
Grupo ICA	Telemecanique
Hewlett-Packard	Texas Instruments
Honeywell Industrial Controls	Válvulas de Seguridad
Ionics	Varian
Leeds & Northrup	

Canada has not played an influential role in the Mexican market for process controls and exports have even shown a decreasing trend. Total Canadian exports to Mexico amounted to Cdn\$10.3 million in 1988, Cdn\$4.7 million in 1989 and Cdn\$4.2 million in 1990. They had been dominated by computer exports, which have accounted for 85%, 46.5% and 21.9% of total exports to Mexico respectively, but it is clear that instrument exports are beginning to dominate over other exports in this market. Sales of instruments to Mexico have increased from Cdn\$1.1 million in 1988, to Cdn\$2.1 million in 1988 and Cdn\$2.9 million in 1990 (see Table 3).

TABLE 3
TOTAL CANADIAN TRADE OF
PROCESS CONTROL RELATED PRODUCTS WITH MEXICO
(Cdn\$000)

CATEGORY	CANADIAN EXPORTS			CANADIAN IMPORTS		
	1988	1989	1990	1988	1989	1990
Computers & peripherals 84.5%,	8716	2165	913	84714	140721	165046
Valves	424	360	381	1250	1654	1831
Mechanical properties test eq. for materials	2	55	7	0	0	0
Thermometers, , pyrometers, etc.	20	16	51	554	922	607
Measuring instr. for liquids or gases	14	163	525	1	5	72
Physical or chemical analysis instr.	75	215	657	2	132	4
Gas/liquids/electricity supply/prod. meters	488	534	28	0	0	0
Speed/revolution/prod. counters & meters	23	2	45	2	54	3
Electrical quantity measuring instr.	29	121	285	0	788	0
Other measure & check instr. & appliances	101	104	111	38	50	44
Automatic regulating & controlling instr.	364	922	1163	510	1860	3218
TOTAL	10256	4657	4166	87071	146186	170825

Source: Statistics Canada - International Trade Division

Mexican exports to Canada, on the other hand are in their vast majority of computers, which have accounted for 97% of total exports in 1988, 96% in 1989 and 97% in 1990. Valves have played a minor role and instruments are practically not exported at all.

The most important competitive factors affecting process control sales in Mexico are leading edge technology and quality, as

mentioned earlier. Price and promotion, as well as availability of spare parts and service, are also important and will differentiate one company from another. Linking products to strategy and value, as well as to environmental control, are key factors to selling in the present market, since they are easily identifiable as being related to improved competitiveness and efficiency, important goals of the Mexican industry. Promotion of Canadian products can be made through participation in trade shows, technical symposiums, advertising in specialized magazines, direct mail campaigns and personal visits to key buyers and distributors.

3.2 DOMESTIC PRODUCTION

Local manufacture of process control instruments and equipment is limited to the more manual and less sophisticated type of instruments and equipment, such as valves, taps, cocks, thermometers, manometers and other instruments to measure water, temperature and pressure variables. Many of these are also frequently used for domestic appliances and cannot be counted as industrial process controls. High technology process control instruments, in particular electronic instruments, are practically not produced locally and if they are, they tend to be non-specific and manufactured with U.S. or other technology from abroad, by subsidiaries of foreign companies.

4. END USERS

Process control instruments and equipment are used in a very wide range of industries. Based on trade interviews, the largest user sectors were identified and are summarily described below (2).

- Petroleos Mexicanos (PEMEX) is the national oil monopoly, a decentralized agency owned directly by the State. Its activities include the exploration, production and distribution of crude oil; refining and distribution of gasoline and oil products; production and distribution of petrochemicals. PEMEX is ranked the number 36 corporation in the world among "Fortune 500" companies, as measured by its sales of \$18.7 billion during 1990. It is the largest enterprise in Latin America and employs over 250,000 people. PEMEX operates 82 exploration and development wells, 129 refining plants, 106 petrochemical plants, 59,000 kilometers of pipelines, in addition to tanks, ships, helicopters and ports.

2. Individual company names and addresses can be obtained from the industrial chambers or associations listed in Appendix I, which usually have a directory of their members for sale. Legally, all Mexican companies have to be registered with a chamber or association.

- Comisión Federal de Electricidad (CFE) is the country's sole generator of electricity and is the second largest government owned company after PEMEX and it employs 126,000 people. It has an installed capacity of 25,300 MW, a gross generation of electric energy of 107,000 GWH and electric energy sales of 85,000 GWH. Steam plants account for 45% of total installed capacity, hydroelectric plants for 30%, and coal electric plants for 5%, while combined cycle, nuclear and turbogas plants account for the balance. CFE has a total of 13 divisions and 100 coordinating offices throughout the country, and it is administratively divided into seven thermoelectric regions and five hydroelectric regions.
- Teléfonos de México (TELMEX) is Mexico's sole telephone company. It was recently privatized and the voting shares are held by Grupo Carso, a Mexican company, Southwestern Bell and Northern Telecom. Another 14% of total capital was placed in open stock houses. The state still holds 8.4% of shares. Sales of TELMEX in 1990 amounted to \$4 billion with investments of \$1.4 billion. TELMEX presently has 5.2 million lines and it plans to install another 2.3 million by 1993. During 1990 it processed 951 million local long distance calls and 160 million international long distance calls.
- The ceramics and glass industry is dominated by Vitro, a major industrial group from Monterrey, the second largest group after TELMEX, with sales of over \$3 billion in 1990. It recently made a takeover of Anchor Glass and associated with Corning Inc. through the purchase of 49% of its U.S. and world operation, while Corning acquired 49% of Vitro's Mexico and world operation in the area of kitchen and table articles, through the creation of Corning Vitro Inc. and Vitro Corning SA de CV.
- The Mexican plastics and rubber industry comprises 3,400 companies, which together have 140,000 employees. Of these, 3000 are plastics processors and the remainder includes a variety of related companies. By type of process, there are 1,050 in injection, 900 in extrusion, 450 in blowing, 180 in laminating, 105 in rotational molding, 90 in foaming, 60 in compression, 45 in thermoforming, 45 in coating and 120 in other processes. Together, they have an installed capacity of 1.6 million tons.
- Mexico's pulp and paper industry includes 65 large companies employing 32,500 workers, and covers a wide range of processes. Mexico's production of pulp amounts to an average 800,000 tons, while paper production amounts to close to 3 million tons and is growing steadily. The uses of paper in Mexico, in order of importance, are: packaging, writing and printing, other paper and cardboard, newspapers and free textbooks, sanitary and facial paper and finally, special applications.

- The mining industry consists of over 6,000 mining enterprises, of which 144 are considered large and account for 82% of Mexico's mining exports. The remaining companies are either small or medium sized and basically supply local demand. State majority owned companies still play a major role in this industry, but the massive sale of government owned companies will lead to state control of only five companies, mining minerals considered strategic: iron, coal, sulphur, phosphorous and potassium. Mexico holds first places in world production of several metals and minerals: first place in production of silver, bismuth, sodium sulphate and celestine; second in barite; third in antimony, fluorite, and graphite; fourth in mercury; and fifth in arsenic, cadmium and molybdenum. Mexico's production of non-ferrous industrial metals was 812,000 tons, that of steel related metals 12 million tons, and that of non-metallic minerals 15.4 million tons in 1990.
- Mexico's steel industry is composed of four large, fully integrated manufacturers, which cover all five basic production processes: concentration of iron ore and production of coke; production of primary iron or fusion; production of pig and sponge iron; production of steel; and production of final products. These companies are the government owned SIDERMEX complex (Altos Hornos de México AHMSA and Siderúrgica Lázaro Cárdenas - las Truchas SICARTSA), which is now in the process of being totally restructured, and the private owned Hojalata y Lámina (HYLSA) and Tubos de Acero de México (TAMSA). These together produced close to eight million tons of steel in 1990 and they account for 86% of total production by the industry and 65% of employment. Additionally, there are 23 semi-integrated firms and 44 mill rollers with a total installed capacity of 11.6 million metric tons.
- The cement industry presently consists of over 30 plants concentrated in a relatively small number of large producers, ten of which are among the country's 500 largest companies: Cementos Mexicanos, Cementos Tolteca, Cementos Guadalajara, Cementos Apasco, Cementos de Veracruz, Cementos de Chihuahua, Concretos Apasco, Cementos Tolteca, Latinoamericana de Concretos and Tubos DYSA. These companies together reported sales of one billion dollars in 1990. Total installed capacity is estimated at 30 million tons and the cement companies have projects to expand this capacity by 35% in the next four years.
- The automotive industry is concentrated in a small number of large firms, which together operate 15 plants, 10 of which are American, three Japanese and two German. Total production of cars reached 274,500 in 1989 and that of trucks 167,409. The largest car manufacturers are Volkswagen (28%), Nissan (25%), Chrysler (21%), Ford (17%) and General Motors (8%). These companies also manufacture trucks, in addition to Dina, Famsa, and Kenmex.

- The food and beverages industry accounts for 6.5% of the country's total GDP, or an estimated \$15 billion. It is one of Mexico's most steadily growing sectors, since it satisfies the most basic needs of the country's growing population of over 80 million. This industry can be divided into the following large categories, listed in order of importance: Meat and dairy products, corn grinding, wheat grinding, soft drinks, coffee, beer and malt, tobacco, sugar, oils and fats, alcoholic beverages, preserved fruits and vegetables, and animal feed. The government participates in the production, purchase and industrial transformation of food products, as well as in distribution, transportation and storage through the National Company for Popular Subsistence (CONASUPO).

5. MARKET ACCESS

As a result of Mexico's accession to GATT, the Mexican government has gradually opened the economy to international markets. Tariffs have been lowered from a maximum 100% in 1983, to 20% since December, 1988. The official price system has been totally eliminated and import permits are required on only 198 of the total 11,812 items in the Mexican Harmonized Tariff System.

The import climate for process control instruments and equipment has improved significantly as a result of this commercial liberalization. Maximum duty rates have been reduced to 20% and prior import permits are only required on imports of parts for switchboards and modems. Therefore, imports of telecommunications equipment are subject to an ad valorem duty of maximum 20% assessed on the invoice value. In addition, a customs processing fee of 0.8% is assessed on the invoice value. A 10% value added tax (recently reduced from 15%) is then assessed on the cumulative value of both taxes in addition to the invoice value. Some manufacturers who use imported inputs for their products under a Mexican Government approved manufacturing plan may have the duty and/or VAT waived or rebated.

Formerly, in order to bid on tenders and sell to a government agency or decentralized company, foreign manufacturers required having a local resident agent and to have the foreign supplier registered and accepted by the Secretariat of Planning and Budgeting (Secretaría de Programación y Presupuesto - SPP). As of July 1991, the above requirement for prior registration with SPP has been eliminated.

The new procedures now in force require the foreign supplier to have a local agent or representative and it has to be registered through his local representative as an accepted supplier with each government ministry and/or decentralized agency according to the international tender requirements under review.

International tenders financed by the World Bank or the International Development Bank are open to all member countries of these institutions. More recently, the World Bank, where its

credits are involved, has required that bid documents should also include an affidavit confirming that the Canadian company is a bona fide Canadian company with an official residence in Canada and that Canada is recognized as a contributing member to the World Bank.

There are no official metric requirements applicable to imports into Mexico. However, since the metric system of units is, by law, the official standard of weights and measures in Mexico, importers will usually require metric labeling for packaged goods, although the English system is also used. Dual labeling is acceptable. Imported products should be labeled in Spanish containing the following information: name of the product, trade name and address of the manufacturer, net contents, serial number of equipment, date of manufacture, electrical specifications, precautionary information on dangerous products, instructions for use, handling and/or product conservation and mandatory standards. Mexico adheres to the International System of Units (SI). Electric power is 60 cycles with normal voltage being 110, 220 and 400. Three phase and single phase 230 volt current is also available.

Prepared by:
Caroline Vérot for the
Canadian Embassy
Mexico City
Prepared December 1991

**APPENDIX I:
INDUSTRIAL CHAMBERS AND ASSOCIATIONS**

**ASOCIACION MEXICANA DE DIRECTIVOS DE LA INVESTIGACION
APLICADA Y EL DESARROLLO TECNOLOGICO (ADIAT)**

Eje Central Lázaro Cárdenas 152
Col. San Bartolo Atepehuacan
Phone: 567-22-62
Fax: 368-93-73 368-93-99
Contact: Ing. Fernando Manzanilla
Presidente

**ASOCIACION MEXICANA DE FABRICANTES DE EQUIPO
DE MEDICION Y CONTROL AUTOMATICO (AMFEMCA)**

Ejército Nacional 1005
Col. Irrigación
11500 México D.F.
Phone: 395-73-69 395-56-71 395-55-99
Fax: 557-26-20
Contact: Ing. Walter Bohme
Presidente

**ASOCIACION DE FABRICANTES DE PINTURAS
Y TINTAS, A.C.**

Gabriel Mancera 309
Col. del Valle
03100 México D.F.
Phone: 543-64-88
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Contact: Ing. Carlos Benítez de la Garza
Presidente

**ASOCIACION MEXICANA DE FABRICANTES DE
VALVULAS Y CONEXOS A.C.**

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Phone: 203-82-29 203-82-23
Fax: 203-02-90
Contact: Lic. José Manuel Avila Cetina
Gerente General

**ASOCIACION NACIONAL DE INDUSTRIAS
DEL PLASTICO, A.C. (ANIPAC)**

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Col. Vertiz Narvarte
03020 México D.F.
Phone: 530-72-00 538-13-02
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Contact: Lic. Italo Tajer Scavalli
Presidente

**ASOCIACION NACIONAL DE LA
INDUSTRIA QUIMICA, A.C. (ANIQ)**

Providencia 1118

Col. del Valle

03100 México D.F.

Phone: 559-78-33

575-86-16

566-10-10

Fax: 559-55-89

Contact: Ing. José de Jesús Valdéz
Presidente

**ASOCIACION NACIONAL DE PRODUCTORES
DE AGUAS ENVASADAS**

Paseo de la Reforma 195-1301

Col. Cuauhtémoc

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Fax: 535-03-74

Contact: Sr. Jorge Zindel Mundet
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Contact: Ing. José Domene Zambrano
Presidente

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Arq. Pedro Cerisola
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Director General

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