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LEGAL ISSUES IN THE REGULATION OF WATER SUPPLY IN MEXICO
CARLOS RAMOS MIRANDA

INTRODUCTION

Although water supply has been one of the major concerns worldwide for the past decades, it is only relatively recently that the issue has become of public concern. Water supply issues may be better understood if we are aware of the fact that only less than 1% of earth's water is usable by humans.

Mexico has its good share of water resources, and it can be safely said that it is far from facing the water shortage that many countries in the world are currently facing, except in major populated areas such as Mexico City. However, of all water resources in Mexico (approximately 4,500 cubic meters per person a year), only 5% of the water contained in Mexico's rivers, lakes, and dams is free from contamination. Indeed, most superficial water bodies within Mexico receive untreated residual water discharges and thus a great part of Mexican waters have a degree of contamination.
Further, only 23% of residual waters in Mexico receive formal treatment. According to the National Water Commission (Comisión Nacional del Agua—CNA) of the 97.5 million inhabitants, in Mexico 83.7 million receive potable water and only 72.6 million have access to a sewage system.

Consequently, one Mexico's most precious resource, water, will become unusable unless something is done, and quickly.
In this presentation, we will address the legal regime applicable to water generally, issues with regards to water distribution, the different means in which the private sector may participate in the water business, deterrents and incentives to invest in water projects, and issues to consider when investing in Mexican wastewater operations. The purpose of this presentation is not to provide you with a detailed description of each topic, but rather to pinpoint the main issues that each encounters.

**LEGAL FRAMEWORK APPLICABLE TO WATER SUPPLY IN MEXICO**

The legal regime applicable to water is extensive and complicated. Mexico regulates water both at federal and local levels. This is the result of a nationalistic approach to water resources whereby the nation is the owner of practically all bodies of water in Mexico, and a decentralization effort that has taken place in the past couple of decades allowing states and municipalities to deal with water distribution issues locally. Generally, as Abdón Hernández, (General Counsel and Vice President of Industrias Peñoles) has explained earlier today, when dealing with waters, at least the following laws need to be considered:

- Political Constitution of the United Mexican States;
- National Waters Law ("NWL") and its Regulations ("RNWL");
- Federal Fees Law;
- Law on Improvements Contributions for Federal Public Works in Hydraulic Infrastructure (La Ley de Contribución de Mejoras por Obras Públicas Federales de Infraestructura Hidráulica);
- Local State Water Laws;
- Local Municipal Codes;
- General Law on Environmental Balance and Ecological Protection; and
- Several Mexican Official Standards (NOMS).

With a few exceptions, all waters in Mexico are considered by the Mexican Constitution as national waters, and are thus owned by the Mexican nation. Consequently, waters in Mexico may not be considered as a "commodity" since in effect water is not in commerce. Thus, the use and exploitation of water, may only be made either through allocation (when a State of the Mexican Republic is granted the right to use and exploit national waters) or concession (when a private entity or individual is granted such right). There are, of course, a few exceptions to this principle, which exceptions deal mainly with the use of superficial waters for domestic use.

National waters are therefore managed by the federal government through the CNA. To this effect, the National Waters Law and its Regulations regulate all items related to the national waters, including such topics as management of water, the granting of rights to use and exploit water either through allocations or concessions, the different uses of water, prevention of pollution, and wastewater treatment among others.

Notwithstanding that national waters are owned and managed by the federal government, the Mexican Constitution requires each of the Municipalities of the different Mexican States to render the public service of potable water, drainage, sewage, treatment, and final disposal of residual waters. In order to provide these
services, the federal government, through the CNA, allocates each Municipality with a specific volume of water. It is within this scope that local laws, regulate the manner in which these services are to be provided.

Even though the federal government has promoted the efficiency of Municipal Water Systems through the recommendation of a Model State Water Law, and the granting of funds and assistance to municipalities in their operations, this effort is not yet sufficient. Municipal Water Systems continue to lack the funds, technology, infrastructure, and operational experience necessary to efficiently provide these services.

**LOCAL WATER DISTRIBUTION ISSUES**

The past two decades have been characterized by an enormous effort by the federal government to decentralize water distribution, thus requesting municipalities to be in charge of providing water distribution services. This effort commenced in the 80's through an amendment to the Mexican Constitution.

While article 115 of the Mexican Constitution provides that the Municipalities shall be in charge of providing the public service of potable water, sewage, treatment and final disposal of waters, municipalities lack the corresponding legislative authority to instrument these obligations. State governments may assist municipalities in rendering such services only when the municipalities are unable to provide such services.

However, in order to comply with this constitutional mandate, municipalities depend, ultimately, on the State legislatures to issue the corresponding legal bodies to instrument the means and manner in which such services shall be provided. Unfortunately, most local legislatures have not correctly addressed the issue and therefore have not provided sound bases for municipalities to render these services, nor allow the private sector to actively participate.

The 1980s were characterized by the creation of local water entities both at state and municipal levels that promoted the decentralization of water services. However, these entities did not have complete independence from local governments in order to instrument water services. The tendency during the 90's was to provide such water entities with the necessary resources and independence. This effort has resulted in each locality creating its own legal and administrative scheme.

Indeed, Municipal Codes and, where existent, local water laws (which are issued by the state congress) generally lack the sufficient provisions and clarity to guide Municipalities in the rendering of this public service, thus limiting the possibility for the private sector to participate in such activities whether through concessions or service contracts.

Consequently, the decentralization of water issues and services left Municipalities with a major task in their hands, which is currently very difficult, if not impossible, to comply with by many municipalities.

On the other hand, infrastructure works required for the proper rendering of water services are expensive and return on capital is lengthy. Municipalities generally lack the financial capacity to undertake the projects necessary to provide the services, let alone to improve the quality of their services.

As a result of the decentralization of water services and lack of a clear water policy, there is no uniformity in water legislation at a state level, which undermines
investment strategies in the sector. As a result, not only local governments encounter enormous problems in addressing the matter, but also, private participation, which is completely necessary in the sector, is deterred.

In our opinion, the decentralization efforts will only reach reasonable results when sound policies and legal framework allow private sector to participate in water services.

**DIFFERENT MEANS OF PRIVATE PARTICIPATION IN WATER DISTRIBUTION AND TREATMENT**

There are different means by which the private sector may participate in the water sector, which range from the channeling of waters to the municipalities, to integral water services (potable water distribution, sewage, wastewater treatment and final disposal). It is important to remember that while water services are generally considered as a public service, nothing prevents the private sector from participating in the rendering of such services, as long as the proper legislation exists to grant concessions or services contracts. While we discuss generally the most common types of private participation, each particular case is unique and needs to be analyzed from the local perspective.

**Water Supply/Sale Agreements**

Under this type of agreements, the municipality entrusts the private sector the works necessary to receive water allocated to the municipality by the CNA. Generally, under this type of agreements the private participant would build all the necessary infrastructure to receive and distribute water. The corresponding municipality would pay, as compensation, the cost of the works and variable tariffs depending on the actual volume of water received. Of course, these agreements are long term and are used to finance the municipalities.

**Service Agreements**

Services agreements may vary from a wide variety of services to be provided to local instrumentalities, such as:

- Management;
- Updating of consumer database;
- Issuance of billing statements;
- Collection of water bills;
- Rehabilitation of hydraulic systems;
- Maintenance of hydraulic systems;
- Information processing;
- Technical support;
- Installation of water meters; and
- Centers for public attention.

The major example of these types of servicing agreements are the Mexico City agreements. The then "Departamento del Distrito Federal" decided to divide the city in four sectors, and bidding various services to satisfy the needs of each sector. Mexico City’s water services lacked information on consumers, had fixed rates, the whole hydraulic system lacked maintenance, meters were either not working or not
installed at all, the system had serious leakage problems, etc. The service contracts were wide in scope and thus required to be implemented in three different stages. The agreements did not have the expected success mainly because of the 1995 financial crisis. The Mexico City government failed to acknowledge adjustment to compensation in many instances, and the volume of work turned out to be much less than expected.

Concessions

Integral concessions for the rendering of the service have been successful. Under the concession mode, the municipalities allow the private sector to provide all services related to water, including the overall management of the water system, maintenance and expansion of the hydraulic system, construction of wastewater treatment plants, collection and billing of the services, etc. Generally, the concessions include ambitious expansion plans that require major investments. Concessions are a viable option as long as tariffs are adjusted periodically and further, proper indemnities are included for the case of early termination of the concession. The two major concessions granted in Mexico are those of Aguascalientes and Cancún.

On occasion, concessions are structured as service agreements. This is the case in Nogales and Navojoa, in which almost integral services are provided.

Engineering, Construction, and Maintenance Services

This type of agreements have been used for the construction and operation of wastewater treatment facilities. We can find various examples of this type of contracts throughout Mexico, whether structured as BOT, BOOT, O&M, EPC, etc. Under these agreements contractors are generally required to construct and operate wastewater facilities in exchange for specific tariff payments. In our opinion these have been the most successful projects, although are very limited in scope.

Alternative Private Participation

In our opinion, private participation in water related services is not, and should not be limited to the existing alternatives. We believe there are many other manners in which the private sector may find sound business opportunities.

For instance, it is possible, assuming the proper local legal framework allows it, to obtain concessions to exploit wastewater still under the jurisdiction of municipalities. Such wastewater could be treated and sold to local industries for various purposes. Under structures like these, the municipalities would find a source of revenue for the granting of the concession, water would be treated, industries would pay less for water usage, water resources would be used more efficiently and investors could find a source of revenues.

MAIN ISSUES WHICH DETER PRIVATE PARTICIPATION

While there are many manners in which the private sector may participate in water services, the reality is that there are still many uncertainties around the legal structure of concessions and service agreements.
On occasion, service agreements or concessions are granted without a bidding procedure, or when such bidding procedure exists, the process lacks the necessary transparency. This is the result, again, of incomplete legal frameworks, tight political agendas and lack of careful consideration of the terms, scope and implications of the services to be provided.

It is not unusual that agreements, once awarded to the winning parties, are renegotiated. Even with such renegotiations, the agreements generally lack the necessary clarity with regards to compensation, guarantees, scope of obligations of the parties, indemnities, and dispute resolution procedures. These problems result in the impossibility of financing the projects, or at least increases the costs of such financing.

Further, in order to be in a position to attract private participation in infrastructure projects, it is important to amend the current taxing system in order to allow for immediate deductions, and special accounting for the rendering of services, according to their nature. *We can safely state that there are no tax incentives to promote private participation in the water sector.*

There are other disincentives to private participation:

- Lack of long term development programs;
- Unclear political agendas;
- Lack of municipal management continuity;
- Lack of legal security and transparency;
- Lack of technical, legal, economic, and financial information to fully evaluate the real status of water systems;
- Lack of clarity with regards to tariff adjustments;
- Lack of precision as to the scope of obligations and rights of the parties;
- Lack of definition in the scope of authority of local instrumentalities;
- Lack of proper guarantees;
- Lack of clarity with regards to return on investment and amortization of investments;
- Lack of clear terms for revocation or early termination of contracts or concessions, including compensation and indemnification; and
- Lack of transparency in the bidding processes.

The CNA published a study in 2001 stating that the lack of a clear legal system has been key in the underdevelopment of water services throughout Mexico. Thus, it is crucial that regulations both at state and municipal level are created with the following objectives in mind:

- Protection to consumers with regards to the determination of tariffs and prices;
- Protection to consumers regarding clear quality standards in the service;
- Protection to investors by providing legal certainty;
- Protection to investors with regards to operational freedom;
- Protection to investors regarding return on their investment;
- Promotion and development, where possible, of a market competition atmosphere.

Aware of this situation, the federal government through the CNA, has designed a model state water law in order to allow not only uniformity in state water laws regarding the different aspects of the rendering of the public service, but also
provide for special guidance in the participation of the private sector in water issues. The model water law acknowledges fundamental principles in order to allow for the creation of state water commissions that assist municipalities that lack the necessary funds, knowledge and assets to comply with their constitutional mandates. Further, the model water law grants full administrative and patrimonial independence to local water instrumentalities which provides them with the necessary authority to render water services and separate themselves from political agendas.

The model water law also creates a basis for municipalities to determine equitable tariffs to be charged for the service, thus ensuring their economic viability. New categories of tariffs are created by the model water law, such as tariffs for the operation, management, conservation, maintenance, improvement, and extension of water systems.

Unfortunately, tariffs continue to be a major political concern and sadly, proper tariffs that allow viability to the corresponding instrumentalities are often sacrificed for electoral purposes. Further, without a strong collection body, increases in tariffs may result in less collection. Simply put, people are not used nor like to pay for certain services provided by the government. Furthermore, the model water law includes different options to allow private participation in the water sector.

It is unfortunate, however, that in spite of the federal government’s efforts to promote the passing of the model law, few states have adopted such model law. If any, the major achievement has been to include some specific concepts in what would otherwise are considered archaic laws.

LEGAL ISSUES TO CONSIDER WHEN INVESTING IN WATER PROJECTS LOCALLY

One of the major issues to consider when evaluating a possible investment in a water project locally is the legal environment. Many aspects need to be analyzed form a local legal and practical perspective, such as procurement, contractual obligations, sovereign immunity, assurance of return on capital and early termination rights among others.

Many water projects at a local level have either not been bid, or the bid processes have been questionable. Indeed local procurement laws are unclear as to the process to be followed in the bid, and on occasion it is clear that a preference to particular bidders is given. While corruption is an issue, lack of sophistication in this type of process is another issue to consider.

When projects are sponsored partially with federal funds, the law requires that the Federal Public Works Law is applicable to the bid process and the general terms of the agreements. In such instances, FINFRA plays an important role in the bidding process, thus allowing for a much transparent and unbiased process.

While most contracts bid for the rendering of water services are supposed to be non-negotiable once the bid process commences, it is seldom the case. Most local projects contracts will be amended between the time a participant wins the bid and the time the agreement is executed. Further amendments are likely to exist during the life of the project.

Experience dictates that draft agreements provided in the bid bases are incomplete, and on occasion incomprehensible. Thus, changing the wording of the agreements in order to adapt them to the reality of the project needs, becomes an important item for private participants. Consequently, private participants usually
enter into bid processes with the expectation that once the bid is awarded, the terms of the agreement will be open for negotiation.

In addition, it is very important that the agreements clearly provide for the scope of obligations of each of the parties, timeframes for development of the works, specifications, tariff payments including adjustment, causes for early termination and mechanism to ensure the return of investment. Generally, the contracts are poorly drafted and these items are at best unclear.

Other items to consider are possible actions that private participants may have against municipalities or instrumentalities in case of breach of contract. One of the major concerns relates to possible claims and enforcement of judgments. Generally, government assets are non-attachable and therefore, failure of payment may render private parties defenseless. This is the reason why contingent lines of credit to guarantee projects have become a major incentive for investments in the sector.

When evaluating the acquisition of Mexican Wastewater Operations, it is very important to consider not only the financial success of the ongoing operation, but also the status of both the operation itself and applicable law.

Due diligence in all aspects is required. Initially, the most important item is to ensure that the corresponding agreement and/or concession has been granted pursuant to applicable law. This requires a close study of both the local law applicable at the time the contract was formed and evidence that all formalities were followed.

Once this threshold has been met, the integrity and viability of the contractual obligations is essential. Again, where the main terms of the contract, and consequences of early termination, suspension, rescission and force majeure are not clear, investors may be buying into a problem. Mechanisms for tariff adjustment are also of the utmost importance in order to ensure the economic viability of the project.

It is not sufficient, however, to be satisfied with the surroundings of the project itself, but also to perform due diligence on the company owning the project. The due diligence should be extended to proper incorporation, clear record of stock ownership, compliance with tax and environmental obligations, various contractual relationships, existence of permits, licenses, and authorizations, etc.

**Recommendations and Opportunities**

Thus far in this presentation, we have examined, on a general basis, the main issues relating to water supply in Mexico, with a certain emphasis on those areas which are troublesome and represent major deterrents for investments. However, not all is bad news. Fortunately, the issues are being addressed at national and international fora.

Even though Mexico has to work harder on the issue, the actions thus far taken have proven useful in addressing water issues, and there are many yet to come. For instance, the federal government keeps pressing for the passing of the Model Water Law at state level, and financing structures are being instrumented both by national, foreign, and international financial institutions.

As mentioned before, one of the major concerns of the private sector when dealing with municipalities and providing water related services, is payment of the corresponding tariffs. Since governmental assets may not be attached or foreclosed,
failure by the municipality to pay for the services virtually leaves contractors defenseless. This is probably, the most significant risk that the private sector encounters.

In order to promote infrastructure investment in various sectors, the Mexican government has issued and amended a number of regulations in order to provide clear rules applicable to these projects. Procurement laws and regulations have been updated, bid processes have been made more transparent, and the structuring of the projects has been made with the close aid and participation of the private sector.

This regulatory modernization, however, has taken place at a federal level. Local governments continue to have underdeveloped laws, confusing and in many cases contradicting regulations, lack of knowledge on the structuring of projects, are concerned with political issues rather than development, and most importantly, are not necessarily credit worthy. Needless to say, local water infrastructure projects are difficult to promote; however, they also present interesting business opportunities.

There is a mechanism which mitigates, to a great extent, credit and market risks associated with water infrastructure projects at State and Municipal levels. This mechanism consists of a guarantee of cash flows based on the Mexican tax regime. The structure is based on a tax sharing system created by the Mexican government through the *Ley de Coordinación Fiscal* or Tax Coordination Law-“TCL”- enacted in 1978. The basic concept is that the federal government has created a “pool” of federal taxes collected by the central government and in some instances by local governments. The pool arises from the fact that various local governments are unable to collect certain taxes, primarily on sales and income, and further, are unable to obtain enough resources from such taxes to bear all local public expenses.

The pool of taxes is distributed in an “equitable” manner among the different States and Municipalities. The amount allocable to each State and or Municipality is called a “participación” or Quota, and is delivered to such entities on a monthly basis.

The quota allocable to each State depends on a specific formula which takes into consideration, among others, direct and indirect density of population and taxes collected and contributed by such State. (Chart A)

Article 9 of the TCL provides that Quotas may not be attached nor used as collateral for a specific purpose, except for payment of Municipal or State obligations in favor of the Federal Government, banking institutions operating in national territory and individuals or entities of Mexican nationality. Using Quotas as collateral, however, requires a prior authorization from the local Congress and registration thereof with the Registry of Obligations and Loans of States and Municipalities kept by the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público* – SHCP). Municipal obligations, however, may only be registered when such obligations are jointly guaranteed by the corresponding State government.
The federal government has allowed States and Municipalities to use their corresponding Quotas as collateral in projects sponsored by local authorities. The structure is used for:

- Financing the construction and operation of facilities;
- Reducing the risks of non-payment of compensation for operating and/or managing facilities;
- Financing other urban infrastructure projects engaged by government owned utilities and Municipalities; and
- Support the private sector in obtaining financing both in national and international markets.

Projects sponsored by local authorities have little chance for success given, among others, the low credit worthiness of the entities and the lack of sophistication and political risks associated thereto.

By way of guaranteeing payment to contractors through the creation of collateral over Quotas, the private sector is assured that, upon compliance with all of its obligations, payment will come.

This mechanism lowers the risks associated with project finance because revenue streams (the only source of payment) is assured by local authorities.

Collateral over Quotas, however, is not directly for the benefit of contractors. It is rather created through a mechanism where the municipality secures a contingent
line of credit for payment of services, and in case such line of credit is used and not reimbursed, then Quotas are used as guarantee. A trust mechanism is generally used to ensure the automatic use of proceeds. (See Chart B)
1. A Contingent Revolving Line of Credit is opened in favor of the Municipality;
2. The Municipality, with the prior authorization by the State Congress, and with the joint obligation of the State, uses Quotas as collateral for lender;
3. The right to draw on the Line of Credit is contributed to a Trust; the Contractor is appointed as beneficiary;
4. Failure to pay directly to the Contractor, enables the Contractor to use the proceeds from the Line of Credit through the Trust. Failure to pay Lender matures the guarantee, and Lender may collect from Quotas.

At a national level, Banobras has promoted and implemented various programs aimed to support municipalities, particularly regarding water services. Banobras' programs include financing for the purchase of equipment and public works, the making of pre-investment studies, modernization of water instrumentalities, water infrastructure, and general institutional strengthening.

In addition, Banobras provides other types of services such as technical assistance. Indeed, Banobras works closely with municipalities in the identification of problems with regards to the quality of the services provided by the municipality,
socioeconomic conditions, determination of tariffs, efficiencies, and generally, actions necessary to promote the institutional development of municipalities.

These actions are not undertaken by Banobras solely. The CNA works closely with Banobras in the rendering of all these services. The result is the creation of multi-institutional packages of services at the disposal of municipalities.

Through this mechanism, Banobras has promoted projects to harness water, bombing stations, conduction, storage, potabilization, distribution, storage, discharges, treatment, etc.

**CONCLUSION**

Water issues are nowadays a major concern given the importance water has for the survival of humanity. As a vital natural resource, water has been taken for granted but is now becoming increasingly scarce. Important investments need to be made in the sector in order to ensure not only its conservation, but its efficient use to benefit the population.

Mexico has must urgently implement infrastructure works in order to ensure an efficient distribution and use of water and at the same time, prevent its contamination and where needed, treat residual waters. The legal framework applicable to water distribution also requires adjustment, mainly at the local level. The need is evident, the governmental support exists, and financing is readily available. The opportunity is at the grasp of our hands. However, some additional actions are needed to bring all those elements together in an efficient and economically attractive manner. Private investment will only grow significantly if the right actions/changes are implemented quickly.