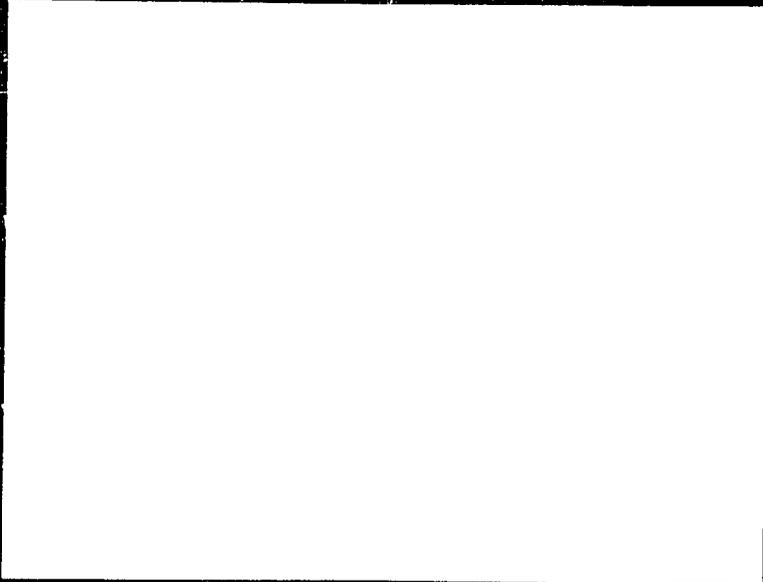


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*Price Waterhouse L.L.P.*



**INSITUTO NICARAGUENSE DE  
TELECOMUNICACIONES Y CORREOS  
(TELCOR)**

**Telecommunications Sector Analysis  
and Regulatory Recommendations**

**October 29, 1993  
FINAL REPORT**

**Price Waterhouse**  
International Privatization Group



October 29, 1993

Mr. Tom McAndrews  
Private Enterprise Officer  
USAID/Nicaragua  
Managua, Nicaragua

RE: Privatization and Development Project  
Contract Number: DPE-0016-Q-00-1002-00  
D.O. No. 22 (PIO/T Nos. 524-0317-3-10190 and 524-0317-3-30032)  
D.O. No. 56 (PIO/T No. 524-0317-3-30013)

Dear Mr. McAndrews,

Here are three copies of Price Waterhouse's (PW/IPG) Final Report, Telecommunications Sector Analysis and Regulatory Recommendations. This report satisfies Task 2 from Delivery Order No. 22 and Task 1 from Delivery Order No. 56.

The regulatory component of this report was originally envisioned as a critique of the Venezuelan firm Gerasin's regulatory work. However, given the dynamic nature of developing the regulatory framework, the increased number of groups involved in that process, and the importance of the regulatory framework to the success of the transaction, PW expanded its role in the process.

PW/IPG played an important role in these discussions by representing the telecommunications investor/operator's perspective. The objective of this participation was to ensure that the regulatory framework does not impede the privatization process. This report documents the most important recommendations which the PW/IPG team put forth. It should serve as a compendium of these recommendations while the drafting process continues.

It has been a pleasure working with USAID/Nicaragua on this important component of the TELCOR privatization project. We look forward to discussing this report with you.

Sincerely,

Andrew Fyfe

cc: Ing. Rolando Rivas, Ministro-Director de TELCOR  
Ing. René Gutiérrez, Secretario General de TELCOR

# INSTITUTO NICARAGUENSE DE TELECOMUNICACIONES Y CORREOS (TELCOR)

## TELECOMMUNICATIONS SECTOR ANALYSIS AND REGULATORY RECOMMENDATIONS

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## **EXECUTIVE SUMMARY**

### Introduction:

Instituto Nicaragüense de Telecomunicaciones y Correos (TELCOR) is a state-owned-telecommunications company mandated for privatization through a Presidential Decree issued in March 1993. The Price Waterhouse International Privatization Group (PW/IPG) has been contracted by the United States Agency for International Development (USAID) to assist the Nicaraguan Government (GON) in the privatization of TELCOR. PW/IPG's scope of work is comprehensive, entailing the following components: 1) review of the regulatory framework, 2) analysis of the company, and valuation, 3) preparation for transaction, and 4) completion of transaction. This report focuses on the first component.

### Objective:

As the transaction advisor to the GON, PW/IPG's overall objective in this component is to provide recommendations for the establishment of a regulatory environment which allows private telecommunications operating companies to effectively operate while successfully protecting Government objectives and sector development. This objective entails maximizing the 1) long term development of the telecommunications infrastructure, 2) effectiveness of the regulatory process and implementation of a sound telecommunications policy, 3) stability of the sector, and 4) transaction price. This report represents the most important recommendations which the PW/IPG team put forth.

### Methodology:

PW/IPG reviewed the telecommunications regulatory framework study prepared by Gerasin, a Venezuelan telecommunications consulting group contracted by TELCOR. In addition to Gerasin and PW/IPG, two other organizations worked on the development of the regulatory framework. They are the Organization of American States (OAS) and Latham & Watkins, a law firm. The OAS was contracted by TELCOR to critique Gerasin's work and make recommendations. The team consisted of two OAS representatives and three independent consultants from Chile, Peru and Venezuela. Latham & Watkins (L&W) is a Washington based law firm contracted by PW/IPG to assist in the TELCOR privatization and review of the regulatory framework. L&W was also contracted by the OAS to provide advice on its critique of the Gerasin regulatory work, and to review the Telecommunications Law.

The involvement of the aforementioned organizations contributed to the comprehensive and dynamic nature of developing the regulatory framework. The on-going dialogue between PW/IPG and these organizations during the period of July through October 1993 incited discussion on many regulatory issues. These issues were also discussed with TELCOR representatives and Government officials. The objective was to prevent the duplication of work and conflicting recommendations which could potentially delay the privatization process.

### Recommendations:

Following is a list of the most important topics, objectives and recommendations which PW/IPG presented to TELCOR representatives and Government officials:

1) **TOPIC:** Presidential Decree (Regulatory Entity) and National Assembly (Telecommunications Law).

**OBJECTIVE:** Establish synergy between the Presidential Decree creating the Regulatory Entity and the Telecommunications Law passed through the National Assembly.

**RECOMMENDATIONS:**

- a) Analyze allocation of issues between the two documents to avoid duplication and ensure consistency.
- b) Draft the Telecommunications Law first and base the Presidential Decree on the Law.
- c) Ensure that the Telecommunications Law is the primary legal document, providing detail regarding the sector and the Regulatory Entity. The Presidential Decree should provide only the requisite information as required by the Constitution to establish the Regulatory Entity.
- d) Determine how to legally clarify potentially different interpretations of similar issues in the two documents.
- e) Determine what strategies could be pursued to ensure that both documents continue in legal force and that any modifications to one will be consistently reflected in the other and equivalently enforced.

2) **TOPIC:** Regulatory Entity Components

**OBJECTIVE:** Ensure the following components of the Regulatory Entity are properly developed:

- A. Internal Structure
- B. Financial Resources & Auditing
- C. Authorizations for Provisions of Telecommunications Services

**RECOMMENDATIONS:**

A. Internal structure

- a) Establish the Entity through Presidential Decree and outline its broad organization and structure in the Telecommunications Law. Internal details should be developed by the Regulatory Entity.

- b) Define in detail the structure for the Regulatory Entity when final agreements are reached on functions to be performed.
- c) Keep the number of the staff small, relative to the size of the Nicaraguan telecommunications market being regulated. Relate the actual size of the staff to the volume of work anticipated.
- d) Maintain a Regulatory Entity flexible and small enough to adjust to changing technologies and evolution of the telecommunications sector.
- e) Review and refine the Regulatory Entity's internal procedures after fundamental policies are established. The decision-making procedures of the Regulatory Entity should be kept simple for Nicaragua at this point in time. More detailed procedures could be established as the Regulatory Entity evolves.

#### B. Financial Resources & Auditing

- a) Prepare an initial budget, initial funding program, and an annual operating plan for the Regulatory Entity considering the above recommendations in 'Internal Structure'.
- b) The Regulatory Entity should have autonomy over its financing. Future funding should be provided by fees from concessions, licenses and permits, and royalty fees from operating companies for approximately 2 to 4% of invoiced revenue.
- c) The National Comptroller Office (Contraloría General de la República) should audit the Regulatory Entity.
- d) The Regulatory Entity is subject to the January 1993 Presidential Decree which requires budgets of autonomous entities be administered through and approved by the Ministry of Finance (MOF). If this is implemented, the MOF should not maintain ownership of Government shares in telecommunications companies. A combined ownership and budgetary control could present a conflict of interest.
- e) All revenue surplus to annual operating budgets should be remitted to the Government annually after allowance for working capital.

#### C. Authorizations for Provisions of Telecommunications Services

The Telecommunications Law should define an authorization structure for telecommunications services and facilities which will be implemented by the Regulatory Entity. The Regulatory Entity should maintain the right to establish the application, review, and issuance of

concessions, licenses or permits. A general authorization scheme for telecommunications in Nicaragua should be as follows:

Concession:

An agreement allowing the offer of a public service to an eligible provider.

License:

An agreement allowing the offer of a non-public service to an eligible provider. The terms 'public' and 'non-public' will be defined in the Telecommunications Law. For detail refer to Appendix A: Regulatory Functions and Control in the GON.

Facilities Permit and Assignment:

An agreement allowing the construction and operation of a facility, in particular a radio facility, and providing permission to use a frequency in order to operate the services.

Registration:

A Notice of operation of a particular service filed with the Regulatory Entity.

Non-Licensed Services:

Services which do not require any authorization, as stipulated by the Regulatory Entity.

Interconnection:

An agreement which allows other companies to connect to NEWCO's facilities and systems on an equal and non-discriminatory basis. Access and service charges should be identical for users of the same interconnection agreement.

3. **TOPIC:** Regulatory Entity's Relationship with other Governmental Bodies.

**OBJECTIVE:** Define the relationship of the Regulatory Entity with other governmental entities.

**RECOMMENDATIONS:**

A. Ownership of Government Shares Separate from Budgetary Control:

Since the MOF will administer and approve the Regulatory Entity's budget, it must not hold the Government shares in jointly-owned telecommunications service providers. PW/IPG recommends that the GON designate another Government entity to hold the Government shares. It should have a representative on the Board of telecommunications service providers in which the Government has ownership. The number of Government representatives should be defined in the relevant shareholders agreement.

## B. Formation of Telecommunications Policy in the Government

- a) The Infrastructure Cabinet (IC) in the GON should coordinate national economic policy issues and communicate them to the Regulatory Entity strictly on an advisory level.
- b) Although the Regulatory Entity should coordinate with the IC, it should develop the regulation rules and Telecommunications Policy independently.
- c) The Regulatory Entity should use best efforts to find and implement solutions to Government needs while respecting concessions and other existing authorizations.
- d) As an autonomous institution, the Regulatory Entity should serve as an Ad Hoc member of the Infrastructure Cabinet and provide operational insight to address issues and concerns.
- e) Develop a mechanism to enable the IC to coordinate national economic objectives with other Ministries (e.g. Ministry of Economy and Development (MEDE, MOF, etc.), and to communicate it to the Regulatory Entity.
- f) Develop legal procedures to provide a mechanism to properly manage potential conflicts and discrepancies between the IC and the Regulatory Entity.

## C. Tariff Structure

PW recommends that the sole responsibility for approving and reviewing tariffs for all regulated services lie with the Regulatory Entity. PW/IPG has prepared a separate report containing a recommended tariff, a price cap formula for a basket of services, and a procedure for application of tariff changes.

Tariff policies must be very specific as to the:

- 1) Services requiring tariff approval,
- 2) Procedure for changing tariffs,
- 3) Required supporting documentation which must be filed with tariffs, and
- 4) Tariff initiation and rejection procedures, and
- 5) Price rebalancing.

#### D. International Organizations

**INTELSAT:** As the signatory for INTELSAT, the NEWCO will maintain financial and operational responsibility. As the signatory it will provide other operators with access to INTELSAT on a resale basis with a reasonable markup. However, if an operator requests direct access to INTELSAT, the NEWCO will be obliged to allow it under the terms of its concession and the Telecommunications Law.

**COMTELCA:** Privatization of one or more of the Central American telecommunications companies would change the nature of COMTELCA, most likely requiring the development of a settlements process. The privatized telecommunications of Nicaragua will have to redefine its relationship with COMTELCA.

4) **TOPIC:** Concession Agreement

**OBJECTIVE:** To create a Concession Agreement that obligates NEWCO to meet certain service objectives while protecting the company's investment within a period of exclusivity.

#### **RECOMMENDATIONS:**

PW/IPG will define the principal elements of the concession for NEWCO. The final elements will be negotiated at the same time as the Shareholders and Investment Agreements to be entered into with the strategic investor.

## I. INTRODUCTION

Instituto Nicaragüense de Telecomunicaciones y Correos (TELCOR) is a state-owned-telecommunications company mandated for privatization through a Presidential Decree issued in March 1993. The Price Waterhouse International Privatization Group (PW/IPG) has been contracted by the United States Agency for International Development (USAID) to assist the Nicaraguan Government (GON) in the privatization of TELCOR. PW/IPG's scope of work is comprehensive, entailing the following components: 1) review of the regulatory framework, 2) analysis of the company, and valuation, 3) preparation for transaction, and 4) completion of transaction. This report focuses on the first component.

As the transaction advisor to the GON, PW/IPG's overall objective in this component is to provide recommendations for the establishment of a regulatory environment which allows private companies to effectively operate while successfully protecting Government objectives and sector development. This objective entails maximizing the 1) long term development of the telecommunications infrastructure, 2) effectiveness of the regulatory process and implementation of a sound telecommunications policy, 3) stability of the sector, and 4) transaction price.

PW/IPG reviewed the telecommunications regulatory study prepared by Gerasin, a Venezuelan telecommunications consulting group contracted by TELCOR. PW/IPG also worked with the Organization of American States (OAS) and Latham & Watkins Law Firm in the development of the regulatory framework. The involvement of these organizations contributed to the comprehensive and dynamic nature of this process. The on-going dialogue between PW/IPG and these organizations during the period of July through October 1993 incited discussion on many regulatory issues. The objective was to prevent the duplication of work and conflicting recommendations which could potentially delay the privatization process.

This report documents the most important recommendations which the PW/IPG team communicated to TELCOR representatives and Government officials.

## II. NICARAGUAN TELECOMMUNICATIONS SECTOR ANALYSIS

### A. TELCOR's Services

Currently TELCOR is both the operator of the majority of telecommunications services in Nicaragua and is also the regulatory body that grants licenses and frequency assignments to other players in the sector.

TELCOR's operating entity provides the national telecommunications transmission infrastructure through microwave, copper and fibre cable. TELCOR also provides switched local, national long distance and international telephone service. In addition TELCOR provides telegraph, telex and data services both nationally and internationally. Data services are provided by a national packet switched data network connected to overseas packet networks. A store and forward fax service is in operation providing national and international service.

Public telephone service is provided through TELCOR offices where customers book and pay for national and international phone calls. There are at present no working public telephones due to the lack of coinage to operate them. TELCOR does not provide cellular service, paging nor trunked radio services. Private line service is provided on a local, national and international basis.

### B. Other Providers' Services

#### Cellular Radio Mobile Service:

In December 1992, TELCOR licensed a cellular operator, NICACEL, for the Departments of Chinandega, Leon, Managua, Masaya, Granada, Carazo and Rivas in Nicaragua. An interconnect agreement defines how NICACEL exchanges traffic with TELCOR and what settlements are to be paid. It also provides for installation of NICACEL equipment at TELCOR sites.

#### Private Leased Line Service :

In June 1992, TELCOR authorized the establishment of a company called 'Industrias Telepuertos Nicaragüenses, S.A.' to operate a teleport to provide international leased line services by satellite. All connections between the teleport and its customers must be connected using TELCOR lines within the country. Interconnection with the public switched telephone network is prohibited.

#### Paging Service:

In February 1991, TELCOR issued a paging system license to NICACOM S.A. in order to operate in VHF and UHF. There are presently 430 subscribers.

#### Trunked Radio Service:

Three licenses have been issued and include the following:

- 1) NICACOM, S.A. received a license to operate on February 6, 1991. It presently has 70 subscribers.
- 2) A Nicaraguan individual received an operating license on December 6, 1991 and presently has 30 subscribers.
- 3) CASA TERAN, S.A. received a license on March 3, 1992, and operates two frequency bands with a total of 150 subscribers.

Public Telephones:

In 1993 TELCOR entered into a joint-venture, in which it holds 60% of the equity and two individuals hold 40%. This company, known as 'Telefonía Pública de Nicaragua', is allowed to provide communication services, principally focusing on telephone systems. It will focus specifically on public card reading telephones, the first of which are expected to be installed in November 1993.

C. Competitive Status Recommendations

NEWCO will be established to take over the services currently provided by TELCOR. The assets and liabilities deemed appropriate for the provision and operation of those services currently part of TELCOR will be transferred to NEWCO.

The company should receive a period of exclusivity for certain basic services to meet Government objectives in the development of the national telecommunications infrastructure. Once those objectives are reached, and the exclusivity period has elapsed, the Regulatory Entity will license competitors to provide the services required in the new national telecommunications development objectives.

PW/IPG will determine the exclusivity period within the concession issued to NEWCO through testing various scenarios in its cash flow model. The company will not be prohibited from the provision of any telecommunications services except if they were already exclusively granted to other operators. The only exclusive service currently granted is cellular.

Exclusivity should be given to NEWCO for the territory of Nicaragua. The provision of these services should be made under terms and conditions established in the concession and regulated by the Regulatory Entity. They include:

- 1) Point to point fixed transmission infrastructure (but not within buildings, compounds and single agricultural and mining complexes) including cable, fiber, optical, radio (excluding military and national security services), and satellite
- 2) Public Circuit Switched Telephone Network (Circuits switched for telephone, data, video and other services)

- 3) Cellular radio mobile service in the parts of the country not exclusive to NICACEL
- 4) Personal Communication Services

NEWCO should be allowed to provide the following services on a non-exclusive basis:

- 1) Telex and telegraph
- 2) Store and Forward Facsimile service
- 3) Packet switched data services
- 4) Public telephone service by card, coin or token
- 5) Trunked radio
- 6) Paging
- 7) Radio data services
- 8) Customer premises equipment (eg PBX's telephone sets and wiring, terminals etc)
- 9) CT2
- 10) Information services (eg audiotext, electronic yellow/white pages, transaction networks, e-mail, news/stock quotes, etc.)

Special conditions during the period of exclusivity include:

- 1) NEWCO will not provide dark fiber service
- 2) NEWCO's exclusive services will not be resold unless NEWCO agrees
- 3) Interconnection of leased lines to the public switched telephone network will not be permitted

### III. LEGAL STATUS

#### A. Introduction

The telecommunications sector in Nicaragua is concentrated into a single government agency, the Instituto Nicaragüense de Telecomunicaciones y Correos (TELCOR). This decentralized autonomous agency was created by law in June 1982 to provide both national and international telecommunications services for Nicaragua. It has the legal monopoly of all telecommunications activities and has the right to authorize other public or private enterprises in any telecommunications operation. This law also established TELCOR's regulatory responsibilities. These include the authorization of concessions, licenses and permits for services and establishing its own quality standards as well as setting its own tariff rates.

Operational telecommunications and regulatory functions should be separated. The Incorporation Law TELCOR, which delegates both of these roles to TELCOR, requires modification to allow the creation of: a) a new company (NEWCO) to which assets and personnel currently used to provide telecommunications services within TELCOR will be transferred, and b) a new Regulatory entity formulated within TELCOR which will assume the functions of DIGETEL (the transitory regulatory body) and ANDER (the radio frequency division of TELCOR).

#### B. Legislative Process

The implementation of legislation to create the new Regulatory Entity and Telecommunications Law will have an effect on the consistency established in the regulatory environment. Presently, the GON plans to create the Regulatory Entity through Presidential Decree, and pass the Telecommunications Law through the National Assembly.

To create synergy, the two separate legal documents must be carefully constructed. They must be drafted to reflect exactly the same basic principles, definitions, and the administration of rights and obligations on behalf of the government, industry and users. Although this can be accomplished during the drafting stage, the documents must not be amended or changed during the passage stage. Ambiguities in interpretations and possible overlaps in jurisdiction could pose a potential problem for the strategic investor, as well as other private sector participants in the industry.

PW/IPG recommends that the GON take the following precautions to maintain consistency, limit ambiguities in interpretations, and avoid overlapping jurisdiction in the two documents:

- 1) Analyze allocation of issues between the two documents to avoid duplication and ensure consistency.
- 2) Draft the Telecommunications Law first and base the Presidential Decree on the Law.

- 3) Ensure that the Telecommunications Law is the primary legal document, providing detail regarding the sector and the Regulatory Entity. The Presidential Decree should provide only the requisite information as required by the Constitution to establish the Regulatory Entity. This should help minimize the possibility of contradicting interpretations of the two documents.
- 4) Determine how to legally clarify potential different interpretations of similar issues in the two documents.
- 5) Determine what strategies could be pursued to ensure that a) both documents continue in legal force and b) any modifications to one will be consistently reflected in the other and equivalently enforced.

### C. TELCOR Authorizations: Concessions, Licenses and Permits

TELCOR has issued a variety of authorizations, ranging from cellular and public phones concessions to trunking licenses. PW/IPG recommends that all authorizations are legally reviewed to determine the effect of the corporate transaction on each document. Adjustment will most likely be required after the privatization transaction in order to legally transfer responsibility to NEWCO, and conform to the new regulatory framework. PW/IPG recommends that if TELCOR or NEWCO continues issuing authorizations, it should be accomplished in a manner consistent with the proposed regulatory framework.

## IV. LEGAL AND REGULATORY FRAMEWORK

### A. Principles of Regulation

Historically, the GON has delegated its public telecommunications services to the autonomous entity, TELCOR. This same entity has been responsible for telecommunications policy, has issued licenses and set the conditions for the issue of such licenses. As a government entity TELCOR is subjected to all the controls that can be imposed on such an entity.

With privatization and the delegation of management of telecommunications public services to the private sector, government must adopt a more 'hands-off' approach to the development of telecommunications policy.

A private company can function best when it operates in a stable environment which enables it to plan and develop with minimal interference. In the telecommunications sector, investment in network development is a long term process, so stability is important.

As NEWCO will be given a clear set of service objectives to follow as part of its concession, and subjected to sanctions for non-performance, it will be important to give the company the latitude it needs to meet those objectives.

As NEWCO will have a monopoly of certain public services, it is important that the Government and the general public are given a fair deal on both price and availability of services. This is detailed in the concession.

It is the duty of the Regulatory Entity to be the referee and enforcer of the execution of the obligations placed upon NEWCO. Thus the public and the Government are assured that their interests are protected.

### B. Regulatory Entity Components

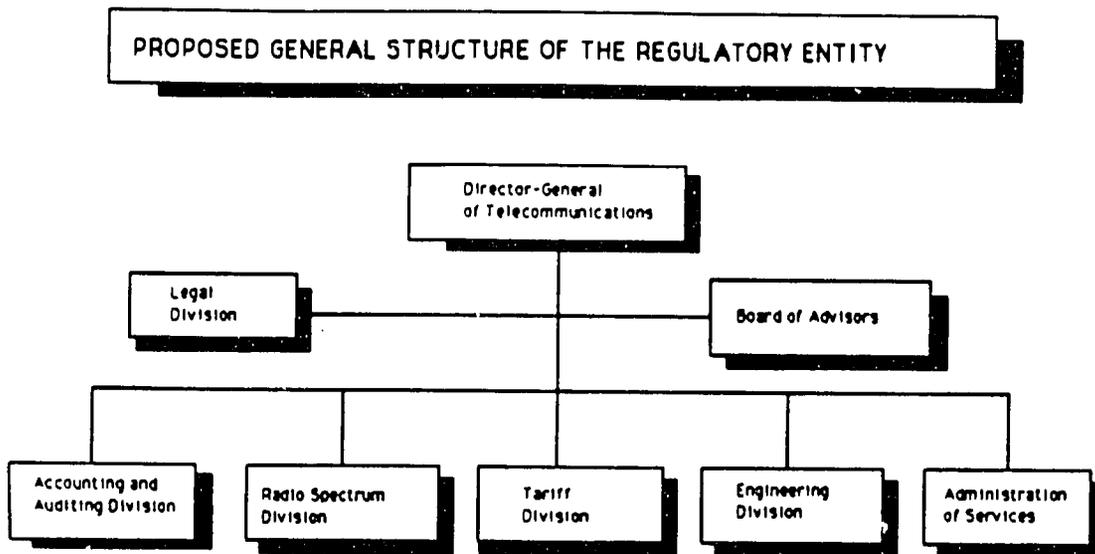
PW/IPG recommends that the Regulatory Entity create the rules that allow companies to flourish operationally and financially and meet the Government's telecommunications sector development objectives. The internal structure of the Regulatory Entity should be flexible and small enough to adjust to changing technologies and evolution of the sector. The Entity should consist of the following components:

- 1) Director General of Telecommunications
- 2) Board of Advisors
- 3) Legal Division

- 4) Accounting and Auditing Division
- 5) Radio Spectrum Division
- 6) Tariff Division
- 7) Engineering Division
- 8) Administration of Services

1. Radio Spectrum

PW/IPC recommends that the Regulatory Entity manage the radio spectrum of Nicaragua. Therefore the functions of ANDER should be incorporated into the Regulatory Entity as a separate department titled Radio Spectrum Division. This Division would maintain the national frequency register, issue frequency allocations, monitor compliance with allocation conditions, investigate and resolve interference, and coordinate with similar entities in neighboring countries and the International Frequency Registration Board (IFRB) in Geneva.



a. Internal Structure

PW/IPG recommends that the Telecommunications Law should outline the broad organization and structure of the Regulatory Entity, while the Presidential Decree create solely the Regulatory

Entity shell. The Regulatory Entity should determine the details of the internal organization. The final structure should be based on the functions it will perform.

PW/IPG recommends that the Entity prepare a work-load analysis help formulate a strategic plan, and budget for the efficient allocation of staff resources. The actual size of the staff should also be related to the size of the Nicaraguan market and therefore be quite small (less than 45 people). This should help keep bureaucracy to a minimum while allowing the Regulatory Entity to respond to the needs of the sector. Managing a few employees at the beginning should help avoid inefficiencies and duplication of functions.

The Regulatory Entity should anticipate the need for substantial reliance on external expert advisors and training for approximately two to three years in the early phase of the regulatory process. This will require competitive salaries, not subjected to Government salary constraints. At the end of the initial period, the Regulatory Entity should have a core of few well-trained and efficient staff.

PW/IPG recommends that the Regulatory Entity establish basic decision-making procedures to for internal coordination within the Regulatory Entity. The procedures should start out simple and avoid being overly bureaucratic and detailed for a market the size of Nicaragua's. More detailed procedures could be established as the market evolves. The Entity should review and refine its procedures after fundamental policies and the internal structure are established.

The Director-General's role in the Regulatory Entity is pivotal. It should be well protected from political forces and maintain a term of service of approximately five to seven years. He should maintain overall responsibility for the Regulatory Entity and interface with the Infrastructure Cabinet (IC) regarding establishment of telecommunications policy. The IC will be discussed in more detail in a subsequent chapter.

The Board of Advisors should function as an informational resource to the Director-General, providing broad-based input into the decision making process. It should be a non-voting Board in order to preserve its advisory role. The members should be of the highest intellectual qualifications representing different constituencies in the telecommunications field, including business, academia, and consumer affairs. Members should be compensated on a capped-fee basis related to the number of meetings attended and time allotted to the Regulatory Entity while continuing with their regular work.

#### b. Financial Resources & Auditing

The Regulatory Entity will require sufficient financial resources to maintain facilities and personnel as well as to hire advisors to develop and implement new policies. Thus budget and financial resources comprise a critical component of regulatory success. The National Comptroller Office (Contraloría Nacional de la República) should audit the Regulatory Entity.

PW/IPG recommends that DIGETEL prepare an initial budget and annual operating plan for the Regulatory Entity. Annual Reports, including financial statements and all principal activities, should be directed to the President and made available to the public. PW/IPG proposes two sources of funding for the Regulatory Entity: a) Fees from concessions, licenses and permits, and b) Royalty fees from operating companies in concession agreements. It is expected that there would be a substantial surplus that will require a procedure to transfer it to the Government.

c. Authorizations for Provisions of Telecommunications Services

PW/IPG very strongly recommends that the Telecommunications Law define an authorization structure for telecommunications services and facilities which will be implemented by the Regulatory Entity. However, the Regulatory Entity should maintain the right to set the application, review and issuing processes for the services which are subject to concessions, licenses or permits. The general authorization scheme for telecommunications in Nicaragua should be as follows:

Concession:

An agreement allowing the offer of a public service to an eligible provider.

License:

An agreement allowing the offer of a non-public service to an eligible provider. The terms 'public' and 'non-public' will be defined in the Telecommunications Law. For detail refer to Appendix A: Regulatory Functions and Control in the GON.

Facilities Permit and Assignment:

An agreement allowing the construction and operation of a facility, in particular a radio facility, and providing permission to use a frequency in order to operate the services.

Registration:

A Notice of operation of a particular service filed with the Regulatory Entity.

Non-Licensed Services:

Services which do not require any authorization, as stipulated by the Regulatory Entity.

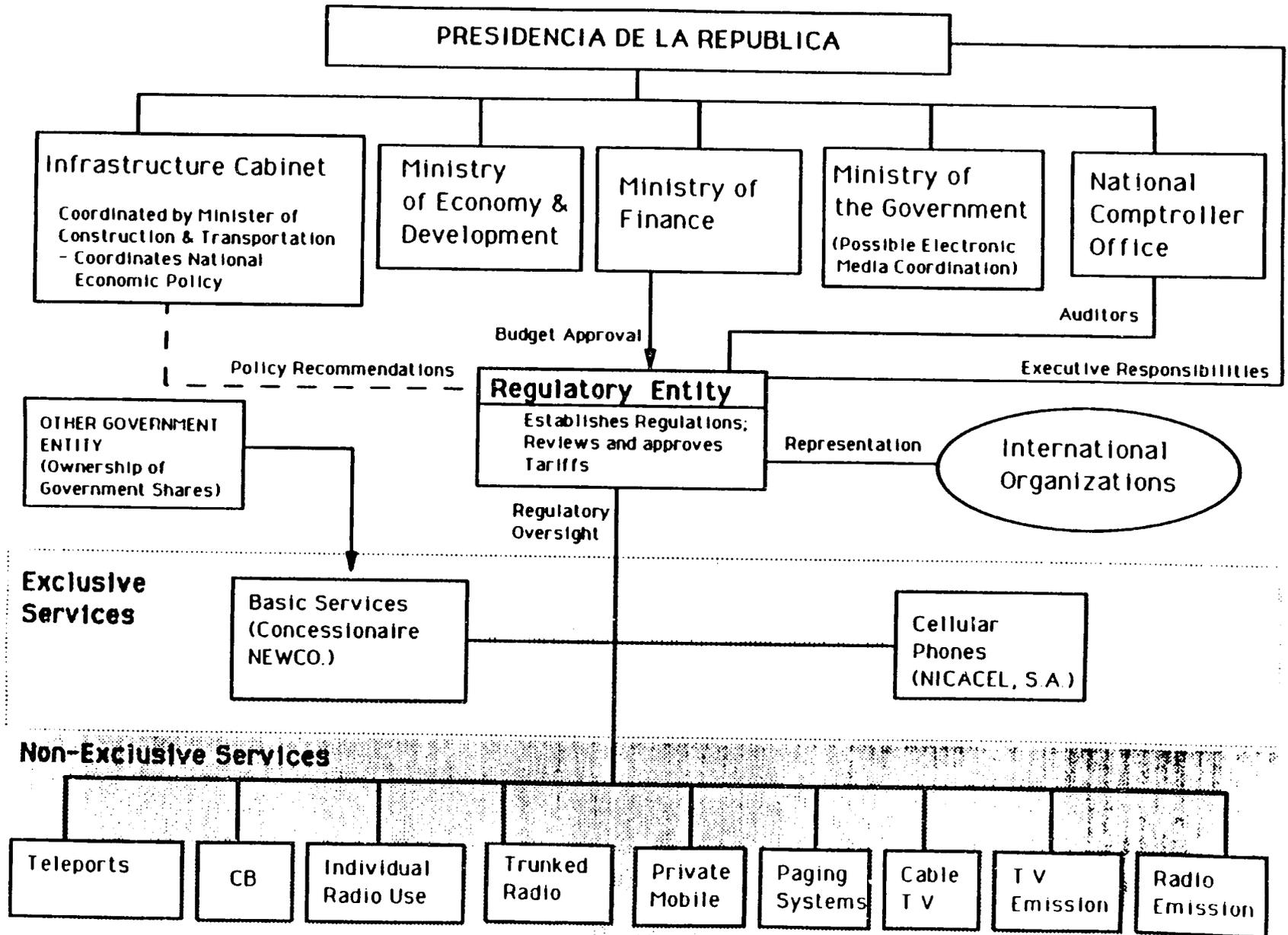
Interconnection:

An agreement which allows other companies to connect to NEWCO's facilities and systems on an equal and non-discriminatory basis. Access and service charges should be identical for users of the same interconnection agreement.

### C. Relationship of the Regulatory Entity with Other Governmental Entities

PW/IPC recommends that the Regulatory Entity's position within the Government structure and coordination on policy issues be clearly established and understood. Relationships between the Regulatory Entity and other Governmental authorities must not result in confusion or impasses in decision-making. Its declared role and functions must allow for a separation of Government ownership and the realization of regulatory functions. It is important to ensure transparency of decision-making and insulation from political pressure. The flow chart on the following page delineates PW/IPC's proposal for the Regulatory Entity's relationships with other Governmental bodies.

# REGULATORY ENTITY'S RELATIONSHIP WITH THE GOVERNMENT



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a. MOF Executes Broad Budgetary Authority & Simultaneously Holds Government Shares

PW/IPG recommends that the Entity exercise self-control over budget preparations and financing mechanisms. Autonomy will help insulate it from political influences. However, the Entity's autonomy may be limited by a Presidential Decree. According to Decree Number 2-93 of January 11, 1993, budgets of autonomous entities must be administered and approved through the Ministry of Finance (MOF).

In addition to its budgetary control power, the MOF normally holds shares owned by the Government. This would create a conflict of interest if the MOF is involved in approving the Regulatory Entity's budget and is also the owner of Government shares in one of the telecommunications operating companies regulated by that Entity. This conflict is generated by the agency's desire to enhance the value of its equity holding in a future divestiture by reducing the effectiveness of the Regulatory Entity through restriction of resources available to it.

PW/IPG strongly recommends that the GON designate another government entity to hold the Government shares in jointly-owned telecommunications service providers. It should have a representative on the Board of telecommunications service providers in which the Government has ownership. The number of Government representatives would be defined in the relevant shareholders agreement.

b. Formation of Telecommunications Policy in the Government

Telecommunications policy is integrally related to and should be combined with technical regulatory functions. The Regulatory Entity will have the most detailed knowledge of the market and the industry. Therefore, it should develop and implement specific telecommunications policies such as the authorization for new services and new entrants to promote sector development.

PW/IPG recommends that the Regulatory Entity coordinate with Government authorities involved in economic development issues in order to develop telecommunications policy. The Infrastructure Cabinet (IC), established in January 1993 as a Government forum for coordination of infrastructure development and national economic planning, should provide this coordination.

A mechanism to communicate Government concerns through the IC must be formulated. PW/IPG recommends that the IC coordinate with other Ministries, such as the Ministry of Economy and Development (MEDE) and the Ministry of Finance (MOF) to address divergent development concerns. The IC should be responsible for communicating development concerns to the Regulatory Entity solely in an advisory capacity. This would reduce the likelihood of potential conflicts resulting from the Regulatory Entity responding to different directors (e.g. Ministers).

As an autonomous institution, the Regulatory Entity should serve as an ad hoc member of the Infrastructure Cabinet and provide operational insight to aid in addressing issues and concerns. The Regulatory Entity should participate in IC meetings and receive official notification of national policy objectives. Although the Regulatory Entity should coordinate with the IC, it should develop the regulation rules and telecommunication policy independently. This will reduce the politicization of the Regulatory Entity.

### c. International Organizations

#### INTELSAT:

PW/IPG recommends that the NEWCO be the Signatory for INTELSAT and maintain financial and operational responsibility. As the principal user of INTELSAT in the country, it can make available its expertise dealing with INTELSAT to other users of the space segment. The Signatory should provide other operators with INTELSAT space segment on a resale basis and with a reasonable markup. However, if an operator requests direct access to INTELSAT, NEWCO should be obliged to allow this under the terms of its concession and the Telecommunications Law. Allowing other operators access to INTELSAT will ensure that NEWCO will not overcharge for space segment.

#### COMTELCA:

COMTELCA, headquartered in Honduras, is a Central American regional telecommunications organization jointly owned by the Governments of Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua. Currently, the Head of each country's Government-owned telecommunications entity represents his country and is supported by an alternative representative who usually possesses technical skills. The main function of COMTELCA has been to design and develop the regional microwave transmission network, agree traffic routing arrangements, inter-member payments and historically obtained funding for the Central American Regional microwave network.

The microwave network, while designed to provide a network interconnecting the five members, also serves as the national backbone in several member countries. Each member owns and operates the section of the Central American microwave network that is within its own borders. The current 960 channel microwave system is being replaced by a 1920 channel digital microwave system being supplied by Telettra.

Members have agreed to exchange switched voice telephone traffic on the basis of 'sender keep all'. Circuits are provided over each section of the system for a charge of \$ 0.40 per circuit/kilometer/month. End users of leased circuits on the system are charged \$ 4.00 per circuit/km/month. There is an agreement to provide transit services on behalf of other members for switched voice services to certain European destinations to which no individual country could justify direct service. Further, it is agreed by members to keep collection rates for traffic to member countries at or close to \$ 0.50/minute.

On the basis of current payments, TELCOR profits to the extent of approximately \$2,000 per month (i.e. receives more than it pays to other members). If it were not so, NEWCO might decide it would prefer a settlements process. If NEWCO were controlled by a strategic investor who also operated another Central American telecommunications company, issues of transfer pricing might be raised by tax authorities by one of the member countries. This may only be resolved by a transparent system of settlements. An analysis of the traffic from and to each country would determine whether the sender keep all is fair or not for Nicaragua.

Privatization of one or more of the Central American telecommunications companies would change the nature of COMTELCA. Already some of the interdependence is less necessary as each nation has become more able to design and forecast its own network requirements. The historical need to combine to negotiate supplier credits and finance is now not necessary.

#### d. Electronic Media Coordination

PW/IPG recommends that the GON consider establishing standards for broadcast content. It is normal for some government entity to exercise broad responsibility for setting standards that apply to the content of electronic media. These standards are normally included as conditions in a broadcaster's permit. It appears that no such entity nor standards exist in Nicaragua at this time and that issuing a broadcasting permit is solely dependent upon the availability of frequencies in the appropriate broadcasting bands. Typically, standards are established for the following: a) advertisement content (eg. truthfulness of assertions), 2) amount of advertising allowed per hour, 3) adherence to an agreed standard for public morals and decency, and 4) the prescription of certain hours for particular types of programming (eg. children and adults). Responsibility for these matters often reside in a Ministry of Information or the equivalent of a Ministry of the Government (Ministerio de Gobernación).

#### D. Granting of Concessions

The concession agreement and basic services regulations are a complex and integral component for the development of the sector and the provision of investor incentives. The concession, a contract between the Government and the operator, ensures that the nation obtains a reasonably developed telecommunications infrastructure financed out of its operation. The concession provides protection for the operator and creates the framework in which the operator can operate and perform service obligations. It should specifically define what services the operator will provide, and under what conditions they will be provided. These services should be provided to the general public at economically viable prices.

PW/IPG recommends that the following issues be addressed in the concession agreement for NEWCO:

- 1) Definition of Services
- 2) Concession Term
- 3) Exclusivity Rights
- 4) Services to be Provided
- 5) Quality of Service Objectives
- 6) Tariff Regime and Regulation
- 7) Tariff Review Procedures
- 8) Interconnection
- 9) Participation of Basic Network Operator in Competitive Markets
- 10) Customer Relations
- 11) Inspection by and Reports to the Regulatory Entity
- 12) Infractions and Sanctions for Non-Performance
- 13) Administrative Provisions
- 14) Fees and Royalties Payable
- 15) Taxation Concessions (if any)

#### E. Tariff structure

PW/IPG recommends that the sole responsibility for approving and reviewing tariffs for all regulated services lie with the Regulatory Entity. PW/IPG has prepared a separate report containing a recommended tariff, a price cap formula for a basket of services, and a procedure for application of tariff changes.

In Nicaragua, tariffs are presently set by TELCOR in consultation with the Ministry of the Presidency and are periodically adjusted. There has been a high level of cross subsidy among services. In particular, the international telephone service has subsidized all national telephone services.

Tariff policies must be very specific as to the:

- 1) Services requiring tariff approval.
- 2) Procedure for changing tariffs.
- 3) Required supporting documentation which must be filed with tariffs, and
- 4) Tariff initiation and rejection procedures, and
- 5) Price rebalancing.

Providers of tariffed services should file tariff schedules with the Regulatory Entity for review and modification, indicating all price charges, related practices, and classifications together with appropriate supporting data. It is essential that the Regulatory Entity be empowered to approve appropriate cost accounting rules and depreciation schedules in order to ensure an accurate review of tariffs (even under price caps), limit cross-subsidies, and provide reasonable cost-based pricing, bearing in mind competitive market conditions.

Appropriate reporting processes to allow review of costs of services will be agreed with operating companies. Tariffs will be reviewed on a periodic and an on-going basis according to the indexing mechanism of the price cap formula.

The price cap formula comprises a basket of services linked to cost of living factors and weighted to obtain a specific revenue goal. Thus the lower the production costs, the larger the margin received by the operator. This should provide the operator with an incentive to efficiently provide services and to deter cross-subsidization.

The formula's link to the costs of living should compensate the pricing mechanism in terms of inflation changes, less an efficiency factor. This has the effect of reducing cost to users in real terms in line with efficiencies obtained by the operator. Tariff adjustments will occur according to specific changes in the retail price index. The private company will handle exchange rate fluctuations through a variety of mechanisms, such as hedging and buying on the forward market. A rebalancing mechanism is inherent in the price cap formula, allowing for a change in prices according to the a) change in the indexes, and b) services within the weighted basket. Therefore, only the Regulatory Entity and the private companies should be involved in setting the tariff structure.

## F. Classification of Services

PW/IPG strongly recommends that the Telecommunications Law define the foundation for the classification of services. This will provide guidance to the GON in the issuance of concessions for services.

The Regulatory Entity should review service classification on an on-going basis in order to keep pace with marketing and technological developments in the telecommunications field. Classification of services will probably become more complex as the sector develops, thus requiring close coordination among the regulator, operating companies and international telecommunications standards committees. The Regulatory Entity should also coordinate with the IC to determine which services will be granted a monopoly. Monopolies and exclusivities should be defined in individual concession agreements which will specify their extent and nature, and the period of duration. For detail refer to Appendix A: Regulatory Functions and Control in the GON.

## G. Competition

A monopoly of basic services will be granted to NEWCO for a period of time to facilitate the development of the basic telecommunications infrastructure. However, competition will eventually be desirable because it encourages efficiencies in the sector and consequently better value for consumers. The development of competition in the various segments of the telecommunications market in Nicaragua should be a managed process, focusing on minimizing market disruption and encouraging innovation.

PW/IPG recommends that the Telecommunications Law address competition and provide the Regulatory Entity with the authority to introduce competition. The Regulatory Entity should coordinate with the IC to determine which services will be granted a concession for exclusivity (e.g. Nicacel, NEWCO).

## V. SUMMARY

PW:IPG has studied and analyzed regulation documents from Gerasin, Latham & Watkins and the OAS. The investigation addressed several regulatory issues related to the creation of a successful regulatory environment, allowing private companies to effectively operate while successfully protecting Government objectives and sector development. PW:IPG advises the GON to focus on the following objectives/issues and recommendations to limit the risk of reducing regulatory effectiveness, decreasing sector stability, and discounting the transaction price:

### *SUMMARY OF OBJECTIVES*

- 1) Establish synergy between the Presidential Decree creating the Regulatory Entity and the Telecommunications Law passed through the National Assembly.*
- 2) Ensure the following Regulatory Entity components are properly developed:*
  - Internal Structure*
  - Financial Resources & Auditing*
  - Authorizations Provision for Telecommunications Services*
- 3) Define the relationship of the Regulatory Entity with other Governmental Entities:*
  - MOF Executes Broad Budgetary Authority & Simultaneously Holds Government Shares*
  - Formation of Telecommunications Policy in the Government*
  - Tariff Structure*
  - International Organizations*
- 4) Create a Concession Agreement for NEWCO.*

**APPENDIX A:**

**PROPOSED**

**DISTRIBUTION OF TELECOMMUNICATIONS REGULATORY FUNCTIONS AND CONTROL IN THE GOVERNMENT OF NICARAGUA**

		Private Companies		Regulatory Infrastructure		Ministry of Finance		Other Ministry		National Assembly		Courts		President	
		NEWCO	Others	Entity	Cabinet	COPRTEL	Finance	Ministry	Comptroller	Assembly	Courts	President			
<b>I.</b>	<b>Operations</b>														
A.	telephone/telecomm														
B.	radio & TV														
C.	postal														
<b>II.</b>	<b>Government Shareholdings</b>														
A.	Newco														
B.	radio & TV														
C.	other enterprises														
<b>III.</b>	<b>Policy</b>														
A.	advice to President regarding telecom policies and decrees														
B.	"macro" telecom policies (overall telecom policy framework in coordination with national economic policy)														
	1. set targets for service expansion														
	2. develop concepts of "universal service"														
	3. establish general classifications of services														
	4. establish qualification criteria for granting concessions														
	5. set goals and schedule for price reform for basic services														
	6. determine competition policy for basic services														
	7. determine basic market rules and standards of fair competition														
	8. determine international policies consistent with trade policy														

Source: Latham & Watkins Law Firm

Note: COPRTEL responsibilities & participation prior to privatization includes advice from TELCOR.

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	Private Companies NEWCO	Others	Regulatory Entity	Infrastructure Cabinet	Ministry of COPRITEL	Other Ministry	Comptroller	National Assembly	Courts	President
C.	Routine telecomm policies (daily telecomm policy decisions within overall framework)									
D.	determine radio and TV content policy									

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Private Companies    Regulatory Infrastructure    Ministry of Other    National  
 NEWCO Others    Entity    Cabinet    COPRITEL    Finance    Ministry    Comptroller    Assembly    Courts    President

		Private Companies	NEWCO	Others	Regulatory Infrastructure Entity	Cabinet	COPRITEL	Ministry of Finance	Other Ministry	Comptroller	National Assembly	Courts	President
<b>VII.</b>	<b>Enforcement and Adjudication</b>												
A.	routine monitoring of operations												
B.	Investigation of complaints												
C.	arbitration or adjudication of disputes												
D.	Imposition of fines and other penalties												
E.	modification of termination of concessions												
<b>VIII.</b>	<b>Regulatory Oversight</b>												
A.	Appointment of Director General												
B.	Removal of Director General												
C.	Appointment of Board of Advisors												
D.	Removal of Board of Advisors												
E.	Appointment of ad hoc advisory comtee												
F.	review of annual report												
G.	modification of laws												
H.	adjudication of appeals of regulatory decisions												
<b>IX.</b>	<b>Consumer Affairs</b>												
A.	establishment of policies re consumer rights												
B.	monitoring/manag. of consumer complaints												
<b>X.</b>	<b>Regulatory Fiscal Matters</b>												
A.	develop budget												
B.	approve budget												
C.	control/approve procurement												
D.	audit financials												
E.	approve retention of surplus												
F.	authorize appropriations												

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**APPENDIX B:**

Nicaragua  
Proposed Outline of Service Classifications

I. Regulated Telecommunications

A. Telecommunications

1. Public: "Necessary services for which the Government of Nicaragua undertakes the responsibility of assuring reasonable access on a non-discriminatory basis to all Nicaraguan citizens"
  - a. Exclusive nationwide (to NEWCO)
    - (1) "Basic voice" (transmission of live voice without message modification from the sender to the receiver) and low speed data:
      - (a) transmission: local loop, inter-urban and international
        - i) wire
        - ii) fiber
        - iii) cable
        - iv) microwave or other fixed radio
        - v) mobile radio (not otherwise designated as a separate device)
        - vi) satellite
      - (b) public network switching (non-packet)
    - (2) Basic voice and low speed data private line
  - b. Exclusive by region
    - (1) Cellular
      - (a) Managua, Chinandega, Leon, Masaya, Gremada, Carazo and Rivas: Nicacel
      - (b) non-Managua: Nicacel
  - c. Non-Exclusive
    - (1) Payphones (coin or card)
2. Non-Public: "Discretionary service to which the public is not guaranteed reasonable access, but for one or more public interests reasons require regulatory oversight"
  - a. General Interest: "Services available to the general public"
    - (1) video transmission (other than over-the-air radio and TV broadcasts)
    - (2) telex and telegraph
    - (3) paging
    - (4) radio data
    - (5) packet switching
    - (6) protocol conversion
    - (7) Subscription video services (cable TV, MMDS)
    - (8) CI2

- (9) PCS
- (10) trunked radio
- (11) fleet radio and dispatch
- (12) citizen's band
- (13) VSATs
- (14) amateur radio

b. Private: "Services provided by an owner/operator to itself"

(1) private networks

(a) permitted

- i) intra-building transmission
- ii) intra-compounds transmission
- iii) single agricultural or mining complexes

(b) not permitted

- i) inter-site or inter-compound
- ii) inter-urban
- iii) interconnections with public network

c. Military or other governmental uses (particularly of radio frequencies)

B. Other: Radio & TV broadcasting

## II. Unregulated

A. Terminal equipment manufacture and sale

B. Data processing

C. Customer-interactive value added or information services

- 1. store and forward fax
- 2. store and forward voice
- 3. audiotext
- 4. electronic yellow/white pages
- 5. e-mail
- 6. dial-up data base services
- 7. multi-media
- 8. credit card authorization
- 9. reservations and transactions services

**APPENDIX C:**

## DOCUMENTS ANALYZED BY PRICE WATERHOUSE

### GERASIN, C.A.:

#### Modulo A:

- 'Organización: Informe Final', Mayo 1993
- 'Organización: Informe Final', Julio 1993
- 'Experiencia en Otros Países', Mayo 1993
- 'Marco Regulador: Informe Final', Mayo 1993
- 'Razones para la Regulación: Informe Final', Mayo 1993
- 'Demanda: Informe Final', Mayo 1993
- 'Resumen Ejecutivo: Informe Final', Julio 1993

#### Modulo B:

- 'Resumen Ejecutivo' and 6 annexes, August 1993
- 'Lineamientos de Políticas', Julio 1993
- 'Lineamientos para Reglamentos', Julio 1993
- 'Regulación: Informe Final', Julio 1993
- 'Organización del Ente Regulador de Telecomunicaciones', Julio 1993
- 'Demanda SVA y Otros: Informe Final'

#### Procedimientos (Julio 1993):

- 'Procedimiento Básico para la Solicitud de Concesiones y Licencias de Redes Privadas con Soporte Satelital'
- 'Procedimiento Básico de Control de la Operación de los Servicios por Concesión'
- 'Procedimiento Básico de Reclamos Usuarios y Operadores'
- 'Procedimiento Básico de Renovación de Licencias de Telecomunicaciones'
- 'Procedimiento Básico de Certificación de Equipos'
- 'Procedimiento Básico de Acceso y Difusión de Información de Interés Público'
- 'Procedimiento Básico de Planificación Sectorial'

#### Other:

- 'Politica Sectorial', Junio 1993. Author: Dr. Alejandro López Toledo
- 'Proyecto de Ley de Telecomunicaciones de Nicaragua', August 1993. Author: Gerasin, C.A.

### ORGANIZATION OF AMERICAN STATES:

- 'Administración y Supervision del Proyecto Estudios para la Creación del Ente Regulador: Informe Final (Draft)', Agosto de 1993

Appendix C:

## DOCUMENTS ANALYZED BY PRICE WATERHOUSE

### LATHAM & WATKINS LAW FIRM:

Author: Aileen A. Pisciotta, Esq.

1. 'Draft Communications Law', June 10, 1993
2. 'Nicaragua: Creation of a Telecommunications Regulatory Entity -- Report for Modules A and B (OAS Contract No. WSC10042)', August 24, 1993
3. 'Draft Nicaraguan Telecom Law', September 29, 1993
4. 'Proposed Service Classification', October 6, 1993
5. 'Distribution of Telecommunications Regulatory Functions and Control in the Government of Nicaragua', October 6, 1993

**APPENDIX D:**

**LIST OF INTERVIEWS HELD WITH GERASIN, LATHAM & WATKINS,  
AND THE ORGANIZATION OF AMERICAN STATES**

Price Waterhouse team members met with the following people from Gerasin, C.A., the Organization of American States, and Latham & Watkins law firm to discuss the development of Nicaragua's regulatory framework for telecommunications:

Gerasin, C.A.:

1. Hector Martinez, General Director of Gerasin, C.A.
2. Dra. Judith Bentata, drafter of Nicaraguan Telecommunications Law
3. Dr. Alejandro Lopez Toledo, Consultant to Gerasin

Organization of American States (OAS):

4. Alvaro López Cayzedo, Department of Economic Affairs
5. Maria Monnes, Telecommunications Specialist
6. Dr. Ricardo Melo, Consultant to OAS
7. Dr. Alejandro Maraví, Consultant to OAS
8. Dr. Alejandro Lopez Cayzedo, Consultant to OAS

Latham & Watkins:

9. Aileen Pisciotta, Telecommunications Specialist
10. David Levy, INTELSAT expert