

No. 9335

**INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT
and
MEXICO**

**Guarantee Agreement — *Second Power Sector Program*
(with annexed Loan Regulations No. 4, as amended,
and Loan Agreement between the Bank, the
Comisión Federal de Electricidad and the Nacional
Financiera). Signed at Washington, on 28 June 1968**

Official text : English.

*Registered by the International Bank for Reconstruction and Development on
9 December 1968.*

**BANQUE INTERNATIONALE POUR
LA RECONSTRUCTION ET LE DÉVELOPPEMENT
et
MEXIQUE**

**Contrat de garantie — *Deuxième programme relatif à
l'énergie électrique* (avec, en annexe, le Règlement
n° 4 sur les emprunts, tel qu'il a été modifié, et le
Contrat d'emprunt entre la Banque, la Comisión
Federal de Electricidad et la Nacional Financiera).
Signé à Washington, le 28 juin 1968**

Texte officiel anglais.

*Enregistré par la Banque internationale pour la reconstruction et le développement
le 9 décembre 1968.*

No. 9335. GUARANTEE AGREEMENT ¹ (*SECOND POWER SECTOR PROGRAM*) BETWEEN THE UNITED MEXICAN STATES AND THE INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT. SIGNED AT WASHINGTON, ON 28 JUNE 1968

AGREEMENT, dated June 28, 1968, between UNITED MEXICAN STATES (hereinafter called the Guarantor) and INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (hereinafter called the Bank).

WHEREAS by an agreement of even date herewith between the Bank and Comisión Federal de Electricidad and Nacional Financiera, S.A. (hereinafter called the Borrowers), which agreement and the schedules therein referred to are hereinafter called the Loan Agreement, ² the Bank has agreed to make to the Borrowers a loan in various currencies equivalent to ninety million dollars (\$ 90,000,000), on the terms and conditions set forth in the Loan Agreement, but only on condition that the Guarantor agree to guarantee the obligations of the Borrowers in respect of such loan as hereinafter provided ; and

WHEREAS the Guarantor, in consideration of the Bank's entering into the Loan Agreement with the Borrowers, has agreed so to guarantee such obligations of the Borrowers ;

NOW THEREFORE the parties hereto hereby agree as follows :

Article I

Section 1.01. The parties to this Guarantee Agreement accept all the provisions of Loan Regulations No. 4 of the Bank dated February 15, 1961 as amended February 9, 1967 ³, subject, however, to the modifications thereof set forth in Section 1.01 of the Loan Agreement (said Loan Regulations No. 4 as so modified being hereinafter called the Loan Regulations), with the same force and effect as if they were fully set forth herein.

¹ Came into force on 30 August 1968, upon notification by the Bank to the Government of Mexico.

² See p. 16 of this volume.

³ See p. 16 of this volume.

Section 1.02. Wherever used in this Guarantee Agreement, unless the context shall otherwise require, the terms defined in Section 1.02 of the Loan Agreement shall have the same meanings as therein set forth.

Article II

Section 2.01. Without limitation or restriction upon any of the other covenants on its part in this Guarantee Agreement contained, the Guarantor hereby unconditionally guarantees, as primary obligor and not as surety merely, the due and punctual payment of the principal of, and the interest and other charges on, the Loan, the principal of and interest on the Bonds, the premium, if any, on the prepayment of the Loan or the redemption of the Bonds, and the punctual performance of all the covenants and agreements of the Borrowers, and each of them, all as set forth in the Loan Agreement and in the Bonds.

Section 2.02. Without limitation or restriction upon the provisions of Section 2.01 of this Guarantee Agreement, the Guarantor specifically undertakes, whenever there is reasonable cause to believe that the funds available to the Borrowers will be inadequate to meet the estimated expenditures required for carrying out the Project, to make arrangements, satisfactory to the Bank, promptly to provide the Borrowers or cause the Borrowers to be provided with such funds as are needed to meet such expenditures.

Article III

Section 3.01. It is the mutual intention of the Guarantor and the Bank that no other external debt shall enjoy any priority over the Loan by way of a lien on governmental assets. To that end, the Guarantor undertakes that, except as the Bank shall otherwise agree, if any lien shall be created on any assets of the Guarantor as security for any external debt, such lien will *ipso facto* equally and ratably secure the payment of the principal of, and interest and other charges on, the Loan and the Bonds, and that in the creation of any such lien express provision will be made to that effect; provided, however, that the foregoing provisions of this Section shall not apply to: (i) any lien created on property, at the time of purchase thereof, solely as security for the payment of the purchase price of such property or (ii) any lien arising in the ordinary course of banking transactions and securing a debt maturing not more than one year after its date.

As used in this Section (a) the term "assets of the Guarantor" includes assets of the Guarantor or of any of its political subdivisions or of any Agency and (b) the term "Agency" means any agency or instrumentality of the Guarantor or of any political subdivision of the Guarantor and shall include any institution or organization which is owned or controlled directly or

indirectly by the Guarantor or by any political subdivision of the Guarantor or the operations of which are conducted primarily in the interest of or for the account of the Guarantor or any political subdivision of the Guarantor.

Section 3.02. (a) The Guarantor and the Bank shall cooperate fully to assure that the purposes of the Loan will be accomplished. To that end, each of them shall furnish to the other all such information as it shall reasonably request with regard to the general status of the Loan. On the part of the Guarantor, such information shall include information with respect to financial and economic conditions in the territories of the Guarantor and the international balance of payments position of the Guarantor.

(b) The Guarantor and the Bank shall from time to time exchange views through their representatives with regard to matters relating to the purposes of the Loan and the maintenance of the service thereof. The Guarantor shall promptly inform the Bank of any condition which interferes with, or threatens to interfere with, the accomplishment of the purposes of the Loan or the maintenance of the service thereof.

(c) The Guarantor shall afford all reasonable opportunity for accredited representatives of the Bank to visit any part of the territories of the Guarantor for purposes related to the Loan.

Section 3.03. The principal of, and interest and other charges on, the Loan and the Bonds shall be paid without deduction for, and free from, any taxes imposed under the laws of the Guarantor or laws in effect in its territories; provided, however, that the provisions of this Section shall not apply to taxation of payments under any Bond to a holder thereof other than the Bank when such Bond is beneficially owned by an individual or corporate resident of the Guarantor.

Section 3.04. This Guarantee Agreement, the Loan Agreement and the Bonds shall be free from any taxes that shall be imposed under the laws of the Guarantor or laws in effect in its territories on or in connection with the execution, issue, delivery or registration thereof.

Section 3.05. The principal of, and interest and other charges on, the Loan and the Bonds shall be paid free from all restrictions imposed under the laws of the Guarantor or laws in effect in its territories.

Section 3.06. The Guarantor shall not take or permit any of its political subdivisions or agencies to take any action which would prevent or interfere with the performance by the Borrowers of any of the covenants, agreements and obligations of the Borrowers or either of them in the Loan Agreement contained or of Centro under the Subsidiary Agreement and shall take or

cause to be taken all reasonable governmental action (and all reasonable action by reason of its ownership or control of the Power Sector) which shall be necessary in order to enable the Borrowers and Centro to perform such covenants, agreements and obligations and meet such conditions.

Section 3.07. (a) The Guarantor, by reason of its ownership or control of Mexlight, covenants that, unless the Guarantor, the Bank and the Borrowers shall otherwise agree, the Guarantor shall prevent Mexlight from (i) issuing any bonds under the Indenture, or (ii) selling, pledging or otherwise negotiating or exchanging bonds of Mexlight amounting to about \$ 3,370,000 which are now held by Mexlight.

(b) Except as the Guarantor and the Bank shall otherwise agree, the Guarantor shall, by reason of its ownership or control of the Power Sector, prevent any of the entities of the Power Sector or any of the subsidiaries of any such entity from disposing of the control of any of its subsidiaries or of the ownership or control of the property or assets of any such entity or subsidiary required for the efficient carrying on of its business and undertaking except to another entity of the Power Sector or to a subsidiary of any such entity, provided that any such subsidiary is also included in the Power Sector.

Section 3.08. (a) The Guarantor covenants that indebtedness incurred by the Guarantor or by Comisión in respect of :

- (i) the purchase of the assets of Industrial Electrica Mexicana, S.A. de C.V., and
- (ii) the purchase after the date of this Agreement of assets of any other entity included or to be included in the Power Sector

will not be met out of the revenues of the Power Sector (including the Power Consumption Tax) except to the extent that such funds constitute excess funds set aside in accordance with Section 3.09(a) (B) of this Guarantee Agreement.

(b) The Guarantor will assist the Power Sector in refinancing, on more adequate terms and conditions, any debt of the Power Sector which, because of the amount or term originally contracted for or otherwise, interferes with the soundness of the Power Sector's financial situation and prospects.

Section 3.09. Except as the Bank and the Guarantor shall otherwise agree :

(a) The Guarantor will set and maintain or cause to be set and maintained rates for the sale of electricity (including the Power Consumption Tax) at such levels as shall be required to provide the Power Sector with revenues sufficient to : (i) cover all operating expenses of the Power Sector, including adequate maintenance and straight-line depreciation (calculated on the basis of the useful lives of major categories of assets) of its gross fixed

plant in operation, and (ii) produce an annual return of not less than eight per cent on its total net fixed plant in operation, such eight per cent to be determined, on the basis of consolidated figures for the Power Sector, by dividing the estimated consolidated net income from operations of the Power Sector for the year in question arrived at after deducting from the estimated consolidated operating revenues of the Power Sector (including the Power Consumption Tax) the estimated operating expenses (including adequate maintenance and straight-line depreciation of the Power Sector's gross fixed plant in operation) by the value of the net fixed plant in operation at the beginning of the year in question increased by 4 % as an allowance for completion of plant during the year ; provided, however, that : (A) if the eight per cent rate of return shall have not been achieved during any one year the deficit will be recovered in the next following year ; and (B) if the rate of return shall be higher than eight per cent for any one year the Power Sector may, at its option, set aside any such excess funds to compensate in later years, insofar as possible, for any deficit then ensuing or to meet any indebtedness in respect of the purchase of assets referred to in Section 3.08(a) of the Guarantee Agreement, or both.

(b) The Guarantor will cause the agency or agencies of the Guarantor responsible for the setting and adjustment of such rates to effect, when necessary, but in any case at least once not later than March in each year, a review of such rates in order to verify that such rates are adequate to provide the Power Sector with such revenues.

(c) For the purposes of this Section :

- (i) With respect to the assets of Comisión, straight-line depreciation will be determined on the basis of the table of useful lives of major categories of assets contained in the CFE Fixed Assets Study prepared by Comisión in 1967. Comisión will review such table annually in consultation with the Bank.
- (ii) The term " net fixed plant in operation " means the gross value of such assets, determined in accordance with methods of valuation or revaluation acceptable to the Bank, less accumulated depreciation

Section 3.10. Except as the Guarantor and the Bank shall otherwise agree, the Guarantor shall take all action required to ensure

- (a) the timely completion, under the direction of Comisión, of all of the detailed planning and other preparatory steps, satisfactory to the Bank, as shall be necessary to begin, not later than September 1, 1969, the conversion of the 50-cycle system of Centro to 60-cycle and

- (b) the completion in the peripheral area of Mexico City of (i) the construction by Comisión of the Puebla-Cuernavaca 230 kV transmission line and related substations not later than September 1, 1969 and (ii) the conversion by Comisión and Centro in their respective zones of connected load equivalent to not less than 282 MW of maximum demand to 60-cycle not later than August 31, 1971.

Section 3.11. Except as the Guarantor and the Bank shall otherwise agree, the Guarantor shall cause Comisión to plan and coordinate (i) the frequency unification of the electric power systems of Mexico and (ii) the expansion of the Power Sector (including its budgeting), in addition to the requirements of Article 1 of the Decree of the Guarantor of January 11, 1949 establishing bases for the functioning of Comisión, in accordance with sound engineering, business, financial and public utility principles and practices.

Article IV

Section 4.01. The Guarantor shall endorse, in accordance with the provisions of the Loan Regulations, its guarantee on the Bonds to be executed and delivered by the Borrowers. Financiera and such person or persons as Financiera shall designate in writing are designated as the authorized representatives of the Guarantor for the purposes of Section 6.12(b) of the Loan Regulations.

Article V

Section 5.01. The following addresses are specified for the purposes of Section 8.01 of the Loan Regulations :

For the Guarantor :

United Mexican States
c/o Nacional Financiera, S.A.
Isabel la Católica 51
Mexico, D.F.
Mexico

Alternative address for cables :

Nafin
Mexico City

For the Bank :

International Bank for Reconstruction and Development
1818 H Street, N.W.
Washington, D.C. 20433
United States of America

Alternative address for cables :

Intbafrad
Washington, D. C.

Section 5.02. Financiera is designated for the purposes of Section 8.03 of the Loan Regulations.

IN WITNESS WHEREOF, the parties hereto, acting through their representatives thereunto duly authorized, have caused this Guarantee Agreement to be signed in their respective names and to be delivered in the District of Columbia, United States of America, as of the day and year first above written.

United Mexican States :
By Nacional Financiera, S.A. :
By Francisco RUIZ DE LA PENA
Authorized Representative

International Bank for Reconstruction and Development :
By J. Burke KNAPP
Vice President

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

LOAN REGULATIONS No. 4, DATED 15 FEBRUARY 1961,
AS AMENDED 9 FEBRUARY 1967

REGULATIONS APPLICABLE TO LOANS MADE BY THE BANK TO BORROWERS
OTHER THAN MEMBER GOVERNMENTS

[*Not published herein. See United Nations, Treaty Series, Vol. 598, p. 270.*]

LOAN AGREEMENT
(SECOND POWER SECTOR PROGRAM)

AGREEMENT, dated June 28, 1968, between INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT, party of the first part (hereinafter called the Bank), and COMISIÓN FEDERAL DE ELECTRICIDAD and NACIONAL FINANCIERA, S.A., parties of the second part (hereinafter called the Borrowers).

Article I

LOAN REGULATIONS ; SPECIAL DEFINITIONS

Section 1.01. The parties to the Loan Agreement accept all the provisions of Loan Regulations No. 4 of the Bank dated February 15, 1961 as amended February 9, 1967¹, with the same force and effect as if they were fully set forth herein, subject, however, to the following modifications thereof (said Loan Regulations No. 4 as so modified being hereinafter called the Loan Regulations) :

(a) The second sentence of Section 3.02 of the Loan Regulations shall apply only to withdrawals pursuant to subsection (a) of Section 2.03 of the Loan Agreement.

(b) Subparagraph (i) of paragraph (d) of Section 3.03 of the Loan Regulations is deleted.

(c) The first sentence of Section 4.01 of the Loan Regulations is deleted and clause (a) of the second sentence thereof shall read as follows : “ (a) expenditures prior to April 1, 1968 or ”.

(d) Subparagraph (c) of Section 5.02 of the Loan Regulations is amended to read as follows :

“ (c) A default shall have occurred in the performance of any other covenant or agreement on the part of the Borrowers or either of them or the Guarantor under the Loan Agreement, the Guarantee Agreement,² or the Bonds, or under the prior Loan Agreements between the Bank and the Borrowers dated January 6, 1949,³ January 11, 1952,⁴ May 5, 1958,⁵ June 20, 1962⁶ and December 15, 1965⁷ or under any bonds issued thereunder, or under the prior Guarantee Agreements between the Guarantor and the Bank dated January 6, 1949,³ January 11, 1952,⁴ May 5, 1958,⁵ June 20, 1962⁶ and December 15, 1965.”⁷

(e) Paragraph 6 of Section 10.01 of the Loan Regulations is amended to read as follows :

“ 6. The term ‘ Borrower ’ means the Borrowers, except that as used in Sections 5.02(b), 5.02(c), 5.02(d), 5.02(e), 5.02(f), 7.01 and 7.02 such term means the Borrowers or either of them. The term ‘ Guarantor ’ means United Mexican States. ”

(f) Paragraph 11 of Section 10.01 of the Loan Regulations is amended to read as follows :

“ 11. The term ‘ Project ’ means the Expansion Program of the Power Sector or the projects included therein (or any of them, or such groupings of

¹ See p. 16 of this volume.

² See p. 4 of this volume.

³ United Nations, *Treaty Series*, Vol. 154, p. 3.

⁴ United Nations, *Treaty Series*, Vol. 159, p. 129.

⁵ United Nations, *Treaty Series*, Vol. 309, p. 3.

⁶ United Nations, *Treaty Series*, Vol. 468, p. 109.

⁷ United Nations, *Treaty Series*, Vol. 568, p. 125.

them as the context may require) for which the Loan is granted, as described in the Loan Agreement and as the description thereof shall be amended from time to time by agreement between the Bank and the Borrowers."

Section 1.02. Unless the context otherwise requires, the following terms wherever used in the Loan Agreement shall have the following meanings:

- (a) The term "Comisión" means Comisión Federal de Electricidad.
- (b) The term "Financiera" means Nacional Financiera, S.A.
- (c) The term "Mexlight" means The Mexican Light and Power Company, Limited, and Mexlight's subsidiaries and successors.
- (d) The term "Centro" means Compañía de Luz y Fuerza del Centro, S.A., a subsidiary of Mexlight, and Centro's subsidiaries and successors.
- (e) The term "Power Sector" means Comisión, Mexlight and Centro, and any other entity which the Guarantor, the Bank and the Borrowers shall agree to include in the Power Sector.
- (f) The term "Indenture" means the Indenture of Mortgage dated as of February 1, 1950, between the National Trust Company, Limited, as Trustee, and Mexlight, and includes any indentures supplemental thereto.

(g) The term "Subsidiary Agreement" means the agreement of the Borrowers with Centro referred to in Section 5.02 of this Agreement.

(h) The term "Power Consumption Tax" means the tax established by law of December 31, 1938 of the Guarantor, as amended up to the date of this Agreement, payable by consumers of electricity on the amounts of their billings, and the proceeds of which are paid over to Comisión for the purposes of Article 5 thereof, and includes any other tax on the use of electricity the proceeds of which are made available to the Power Sector for the same purposes.

(i) The term "Joint Loans" means loans obtained by the Borrowers from financial institutions outside of Mexico in member countries of the Bank and Switzerland, under the terms of which the respective financial institution agrees to share, in conjunction with the Bank, in the financing of payments for certain goods eligible for financing under the Loan and procured from a supplier within the country where the financial institution is located, substantially in accordance with the arrangements described in the Memorandum, *Joint Financing of Projects in Colombia and Mexico* (JF 68-2 of January 24, 1968) prepared by the Bank, copies of which have been furnished to the Borrowers.

Article II

THE LOAN

Section 2.01. The Bank agrees to lend to the Borrowers an amount in various currencies equivalent to ninety million dollars (\$ 90,000,000).

Section 2.02. The Bank shall open a Loan Account on its books in the name of the Borrowers and shall credit to such Account the amount of the Loan. The

amount of the Loan may be withdrawn from the Loan Account as provided in, and subject to the rights of cancellation and suspension set forth in, this Agreement and the Loan Regulations.

Section 2.03. Except as the Bank and the Borrowers shall otherwise agree, the Borrowers shall be entitled to withdraw from the Loan Account :

(a) such amounts as shall have been paid or, if the Bank shall so agree, as shall be required to meet payments to be made, for the reasonable foreign exchange cost of goods to be financed under the Loan Agreement ;

(b) the equivalent of 50 % of such amounts as shall have been paid, or, if the Bank shall so agree, as shall be required to meet payments to be made, for the reasonable cost of equipment procured in Mexico (the distribution of equipment eligible for financing out of the proceeds of the Loan between imported equipment and equipment procured in Mexico being dependent upon the awards of contracts and orders on the basis of international competitive bidding as specified in Section 3.02 of this Agreement), such percentage being a reasonable estimate of the foreign exchange component of such equipment ; and

(c) the equivalent of 25 % of such amounts as shall have been paid for the cost of civil works.

For the purposes of subsections (b) and (c) of this Section, clause (b) of Section 4.01 of the Loan Regulations shall not apply.

Section 2.04. Withdrawals from the Loan Account pursuant to subsections (b) and (c) of Section 2.03 of this Agreement shall be made in dollars or such other currency or currencies as the Bank shall from time to time reasonably select.

Section 2.05. The Borrowers shall pay to the Bank a commitment charge at the rate of three-fourths of one per cent ($3/4$ of 1 %) per annum on the principal amount of the Loan not withdrawn from time to time from the Loan Account.

Section 2.06. The Borrowers shall pay interest at the rate of six and one-quarter per cent ($6\ 1/4$ %) per annum on the principal amount of the Loan so withdrawn and outstanding from time to time.

Section 2.07. Except as the Bank and the Borrowers shall otherwise agree, the charge payable for special commitments entered into by the Bank at the request of the Borrowers pursuant to Section 4.02 of the Loan Regulations shall be at the rate of one-half of one per cent ($1/2$ of 1 %) per annum on the principal amount of any such special Commitments outstanding from time to time.

Section 2.08. Interest and other charges shall be payable semi-annually on June 1 and December 1 in each year.

Section 2.09. The Borrowers shall repay the principal of the Loan in accordance with the amortization schedule set forth in Schedule 1 to this Agreement ; provided, however, that to the extent that Joint Loans referred to in Section 5.15 of this Agreement are obtained and the proceeds thereof utilized by the Borrowers prior to September 30, 1971, the Bank shall adjust instalments in the column headed " Payment of Principal " in the said Schedule 1 so that, insofar as practicable and

without reducing any principal repayments to the Bank on any scheduled repayment date below one million dollars (\$ 1,000,000), during each six-monthly payment period payments of principal on the Loan (plus payments of principal on such other Joint Loans) shall be equal to payments of principal on a principal amount equal to the sum of the principal amount of the Loan and of such other Joint Loans, the amounts of such payments to be calculated on the same basis as that used to calculate the instalments in such column of Schedule 1 ; and provided, further, that in no event shall any such instalments be payable at a date later than June 1, 1988.

Section 2.10. Notwithstanding the provisions of paragraph (a) of Section 3.03 of the Loan Regulations, the Bank and the Borrowers, with the approval of the Guarantor, may from time to time agree that any portion of the Loan, or of any other loan made by the Bank to the Borrowers, repayable in one currency may be made repayable in one or more other currencies, and from the date specified in such agreement such portion of the Loan or of such other loan shall be repayable in such other currency or currencies.

Section 2.11. All obligations of the Borrowers under the Loan Agreement and the Bonds, unless such obligations shall have been expressly undertaken by one of the Borrowers, shall be joint and several and the obligation of either of them to comply with any provision of the Loan Agreement is not subject to any prior notice to, demand upon or action against the other. No extension of time or forbearance given to either of the Borrowers in respect of the performance of any of its obligations under the Loan Agreement or the Bonds, and no failure of the Bank or of any holder of the Bonds to give any notice or to make any demand or protest whatsoever to either of the Borrowers, or strictly to assert any right or pursue any remedy against either of them in respect of the Loan Agreement or the Bonds, and no failure by either of the Borrowers to comply with any requirement of any law, regulation or order, shall in any way affect or impair any obligation of the other Borrower under the Loan Agreement or the Bonds.

Article III

USE OF PROCEEDS OF THE LOAN

Section 3.01. The Borrowers shall apply the proceeds of the Loan in accordance with the provisions of the Loan Agreement exclusively to expenditures on the Project described in Schedule 2 to this Agreement. The specific allocation of the proceeds of the Loan shall be determined by agreement between the Bank and the Borrowers, subject to modification by further agreement between them.

Section 3.02. Except as the Bank shall otherwise agree, the goods to be financed out of the proceeds of the Loan shall be procured on the basis of international competitive bidding as set forth in the *Guidelines for Procurement under World Bank Loans and IDA Credits* dated February 1968 published by the Bank and in accor-

dance with such other procedures supplementary thereto as shall be agreed between the Bank and the Borrowers.

Section 3.03. Except as the Bank and the Borrowers shall otherwise agree, the Borrowers shall cause all goods financed out of the proceeds of the Loan to be used in the territories of the Guarantor exclusively in the carrying out of the Project.

Article IV

BONDS

Section 4.01. If and as the Bank shall from time to time request, the Borrowers shall execute and deliver Bonds representing the principal amount of the Loan as provided in Article VI of the Loan Regulations. The forms of Bonds referred to in such Article VI shall be appropriately modified so as to provide that the obligations on the part of the Borrowers under the Bonds shall be joint and several.

Section 4.02. (a) The *Director General* of Comisión is designated as authorized representative of Comisión for the purposes of Section 6.12 (a) of the Loan Regulations. The *Director General* of Comisión may designate additional or other authorized representatives by appointment notified to the Bank.

(b) The *Director General* of Financiera is designated as authorized representative of Financiera for the purposes of Section 6.12 (a) of the Loan Regulations. The *Director General* of Financiera may designate additional or other authorized representatives by appointment notified to the Bank.

Article V

PARTICULAR COVENANTS

Section 5.01. The Borrowers shall carry out or cause the Project to be carried out with due diligence and efficiency and in conformity with sound engineering, financial and public utility practices.

Section 5.02. (a) The Borrowers shall enter into the Subsidiary Agreement with Centro whereby provision will be made, on terms and conditions satisfactory to the Bank, for the carrying out of Part II of the Project by Centro, for the technical and financial coordination of Centro with Comisión, for the carrying out of a study of the useful lives of major categories of assets for purposes of computing depreciation, and for action required on the part of Centro for attainment of frequency unification as provided in Section 3.10 of the Guarantee Agreement.

(b) The Borrowers shall not modify, terminate, or fail to enforce the Subsidiary Agreement or give any waiver of any material provision thereof without the prior consent of the Bank.

(c) The Borrowers shall promptly, effectively and in such manner as to protect the interests of the Bank and the Borrowers exercise every power, right and recourse available to them to cause Centro to perform all its obligations under the Subsidiary Agreement.

Section 5.03. Except as the Bank shall otherwise agree, the Borrowers shall, in the carrying out of such parts of the Project as the Bank and the Borrowers shall agree upon, employ or cause to be employed competent and experienced consultants acceptable to, and upon terms and conditions satisfactory to, the Bank.

Section 5.04. Upon request from time to time by the Bank, the Borrowers shall promptly furnish or cause to be furnished to the Bank the plans, specifications and work schedules for the Project and any material modifications subsequently made therein, in such detail as the Bank shall reasonably request.

Section 5.05. (a) The Borrowers shall at all times maintain their corporate existence and right to carry on their operations and Comisión shall, except as the Bank shall otherwise agree, take all steps necessary to acquire, maintain and renew all rights, powers, privileges, concessions and franchises which are necessary or useful in the conduct of its business.

(b) Comisión shall operate and maintain its plants, equipment and property, and from time to time make all necessary renewals and repairs thereof, all in accordance with sound engineering and public utility practices.

(c) Comisión shall at all times carry on its operations, manage its affairs and maintain its financial position in accordance with sound engineering, business, financial and public utility principles and practices, and under the supervision of experienced and competent management.

Section 5.06. Comisión shall have its financial statements (balance sheet and related statement of earnings and expenses) certified annually by an independent accountant or accounting firm acceptable to the Bank and shall promptly after their preparation and not later than four months after the close of Comisión's fiscal year transmit to the Bank certified copies of such statements and a signed copy of the accountant's or accounting firm's report.

Section 5.07. (a) The Bank and the Borrowers shall cooperate fully to assure that the purposes of the Loan will be accomplished. To that end, the Bank and the Borrowers shall from time to time, at the request of either the Bank or the Borrowers, exchange views through their representatives with regard to the performance by the Borrowers of their obligations under the Loan Agreement and other matters relating to the purposes of the Loan.

(b) The Borrowers shall furnish or cause to be furnished to the Bank all such information as the Bank shall reasonably request concerning the expenditure of the proceeds of the Loan, the goods financed out of such proceeds, the Project, and the administration, operations and financial condition of Comisión and Centro and of Financiera with respect to the Loan.

(c) The Borrowers shall promptly inform the Bank of any condition which interferes with, or threatens to interfere with, the accomplishment of the purposes of the Loan, the maintenance of the service thereof or the performance by the Borrowers of their obligations under the Loan Agreement.

(d) The Borrowers shall : (i) maintain or cause to be maintained records adequate to identify the goods financed out of the proceeds of the Loan, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect in accordance with consistently maintained sound accounting practices the operations and financial condition of Comisión and Centro and of Financiera with respect to the Loan ; and (ii) shall enable the Bank's representatives to inspect the Project, the goods, all other plants, sites, works, properties and equipment of the Power Sector and any relevant records and documents.

Section 5.08. Each of the Borrowers undertakes that, except as the Bank shall otherwise agree, if any lien shall be created on any of its assets as security, as to Financiera for any external debt and as to Comisión for any debt, such lien shall *ipso facto* equally and ratably secure the payment of the principal of, and interest and other charges on, the Loan and the Bonds, and in the creation of any such lien express provision shall be made to that effect ; provided, however, that the foregoing provisions of this Section shall not apply to : (i) any lien created on property, at the time of purchase thereof, solely as security for the payment of the purchase price of such property, or (ii) any lien arising in the ordinary course of banking transactions and securing a debt maturing not more than one year after its date.

Section 5.09. The Borrowers shall pay or cause to be paid all taxes, if any, imposed under the laws of the Guarantor or laws in effect in the territories of the Guarantor on or in connection with the execution, issue, delivery or registration of the Loan Agreement, the Guarantee Agreement or the Bonds or the payment of principal, interest or other charges thereunder ; provided, however, that the provisions of this Section shall not apply to taxation of payments under any Bond to a holder thereof other than the Bank when such Bond is beneficially owned by an individual or corporate resident of the Guarantor.

Section 5.10. The Borrowers shall pay or cause to be paid all taxes, if any, imposed under the laws of the country or countries in whose currency the Loan and the Bonds are payable or laws in effect in the territories of such country or countries on or in connection with the execution, issue, delivery or registration of the Loan Agreement, the Guarantee Agreement or the Bonds.

Section 5.11. (a) Comisión shall insure or cause to be insured with good and reputable insurers all goods financed out of the proceeds of the Loan. Such insurance shall cover such marine, transit and other risks incident to purchase and importation of the goods into the territories of the Guarantor and delivery thereof to the sites of the Project, and shall be for such amounts, as shall be consistent with sound commercial practices. Except as the Bank shall otherwise agree, any indemnity under such insurance shall be payable in the currency in which the cost of the goods insured thereunder shall be payable or in a freely convertible currency.

(b) In addition, Comisión shall, except as the Bank shall otherwise agree, take out and maintain, with good and reputable insurers, insurance against such risks and in such amounts as shall be consistent with sound public utility and business practices.

Section 5.12. Except as the Bank shall otherwise agree :

(a) Comisión shall obtain title to all goods financed out of the proceeds of the Loan free and clear of all encumbrances and the Borrowers shall transfer to Centro title to all goods required to carry out Part II of the Project and financed out of the proceeds of the Loan also free and clear of all encumbrances ; and

(b) Comisión shall not, without the consent of the Bank, sell or otherwise dispose of any of its property or assets which shall be required for the efficient carrying on of its business and undertaking, including the Project, unless the Borrowers shall first pay or redeem, or make adequate provision satisfactory to the Bank for payment or redemption of, all of the Loan and the Bonds which shall then be outstanding and unpaid.

Section 5.13. Except as the Bank and Comisión shall otherwise agree, Comisión shall take all such action as shall be necessary or advisable to cause its rates for the sale of electricity (including the Power Consumption Tax) to be set and maintained at such levels as may be necessary to provide Comisión with revenues which, together with the revenues of Centro, would be sufficient to meet the requirements of Section 3.09 of the Guarantee Agreement.

Section 5.14. (a) Except as the Bank shall otherwise agree, Comisión shall not incur any debt if the consolidated net revenues of the Power Sector during the fiscal year next preceding such incurrence or during any later consecutive twelve-month period preceding such incurrence, whichever is the greater, shall be less than 1.4 times the maximum annual requirement for servicing the outstanding consolidated debt of the Power Sector (including the debt proposed to be incurred but excluding any debt to be repaid out of the proceeds thereof) in any later fiscal year of the Power Sector (including the fiscal year in which such debt would be incurred).

(b) The Borrowers shall make provision in the Subsidiary Agreement whereby the provisions of this Section shall be made applicable as required to Centro.

(c) Except as the Bank shall otherwise agree, Financiera shall not incur debt or permit any other entity to incur debt on Financiera's behalf, the purposes of which would be directly or indirectly to finance any power generating, transmission or distribution facilities of the Power Sector.

(d) For the purposes of this Section :

1. The term " consolidated debt " shall mean all debt of the Power Sector, except :

- (i) debt incurred in the ordinary course of business and maturing by its terms less than one year after the original date of its incurrence,
 - (ii) debt owed by any entity within the Power Sector to any other such entity,
 - (iii) indebtedness in respect of the purchase of assets referred to in Section 3.08 (a) of the Guarantee Agreement, and
 - (iv) debt guaranteed by any entity within the Power Sector relating to the construction of housing for employees of such entity,
- but shall include all debt heretofore incurred by Financiera or by any other agency of the Guarantor for the purposes of financing directly or indirectly any power generating, transmission or distribution facilities of the Power Sector.

2. Debt shall be deemed to be incurred on the date of execution and delivery of the loan contract or agreement providing therefor or, in the case of guarantee of debt, on the date of execution and delivery of the contract providing for such guarantee.

3. The term "consolidated net revenues" shall mean the sum of all gross operating revenues of the Power Sector plus the proceeds of the Power Consumption Tax (but excluding public appropriations, contributions, grants and proceeds of taxes and levies other than the proceeds of the Power Consumption Tax) less the sum of all operating, administrative and overhead expenses of the Power Sector (but without deduction of any amounts for service payments on debt or for depreciation, replacement, retirement, or obsolescence of the assets of the Power Sector), such net revenues to be adjusted to take account of any increases in the Power Sector's rates for the sale of electricity or in the Power Consumption Tax in effect at the time of the incurrence of debt as if such increases had been in effect during the entire fiscal year or twelve-month period to which such revenues relate.

4. Whenever for the purposes of this Section it shall be necessary to value, in terms of the currency of the Guarantor, debt payable in another currency, such valuation shall be made on the basis of the prevailing lawful rate of exchange at which such other currency is, at the time of such valuation, obtainable for the purposes of servicing such debt.

Section 5.15. The Borrowers shall make their best efforts to obtain Joint Loans and to utilize the proceeds thereof for purposes of the Project, such Joint Loans to be for such amounts and on such terms and conditions as shall be satisfactory to the Guarantor, the Bank and the Borrowers.

Article VI

REMEDIES OF THE BANK

Section 6.01. (i) If any event specified in paragraph (a), paragraph (e) or paragraph (f) of Section 5.02 of the Loan Regulations shall occur and shall continue for a period of thirty days, or (ii) if a default shall occur in the payment of principal or interest or any other payment required under any other loan agreement between the Bank and the Borrowers, or either of them, or under any bond delivered pursuant thereto or under any credit agreement between the Association and the

Borrowers, or either of them, and such default shall continue for a period of thirty days, or (iii) if a default shall occur in the payment of principal or interest or any other payment required under any loan agreement or under any guarantee agreement between the Guarantor and the Bank or under any bond delivered pursuant to any such agreement or under any credit agreement between the Association and the Guarantor under circumstances which would make it unlikely that the Guarantor would meet its obligations under the Guarantee Agreement and such default shall continue for a period of thirty days, or (iv) if any event specified in paragraph (c) of Section 5.02 of the Loan Regulations or in Section 6.02 of this Agreement shall occur and shall continue for a period of sixty days after notice thereof shall have been given by the Bank to the Borrowers or to either of them, then at any subsequent time during the continuance thereof, the Bank, at its option, may declare the principal of the Loan and of all the Bonds then outstanding to be due and payable immediately, and upon any such declaration such principal shall become due and payable immediately, anything in the Loan Agreement or in the Bonds to the contrary notwithstanding.

Section 6.02. The following is specified as an additional event for the purposes of paragraph (l) of Section 5.02 of the Loan Regulations : demand shall have been made for repayment in advance of maturity of any of the Joint Loans referred to in Section 5.15 of this Agreement by reason of any default on the part of the Borrowers as provided in the relative contractual instruments.

Article VII

EFFECTIVE DATE ; TERMINATION

Section 7.01. The following event is specified as an additional condition to the effectiveness of the Loan Agreement within the meaning of Section 9.01 (d) of the Loan Regulations : The Subsidiary Agreement, in terms satisfactory to the Bank, has been entered into and has become effective.

Section 7.02. The following is specified as an additional matter, within the meaning of Section 9.02 (c) of the Loan Regulations, to be included in the opinion or opinions to be furnished to the Bank : That the Subsidiary Agreement is valid and is binding on the Borrowers and Centro and has become effective.

Section 7.03. If this Agreement shall not have come into force and effect by September 1, 1968, this Agreement and all obligations of the parties hereunder shall terminate, unless the Bank, after consideration of the reasons for the delay, establishes a later date for purposes of this Section. The Bank shall promptly notify the Borrowers and the Guarantor of such later date.

Article VIII

MISCELLANEOUS

Section 8.01. The Closing Date shall be (i) with respect to amounts for the Project other than for major generating equipment, December 31, 1969 and (ii) with respect to amounts for major generating equipment included in the Project,

March 31, 1971, or such later date or dates as may be agreed by the Bank and the Borrowers.

Section 8.02. The following addresses are specified for the purposes of Section 8.01 of the Loan Regulations :

(a) For the Bank :

International Bank for Reconstruction and Development
1818 H Street, N.W.
Washington, D.C. 20433
United States of America

Cable address :

Intbafrad
Washington, D.C.

(b) For the Borrowers :

Comisión Federal de Electricidad
Dirección General
Calle de Ródano 14 (séptimo piso)
Mexico 5, D.F., Mexico

Cable address :

Cefelec
Mexico City

and

Nacional Financiera, S.A.
Isabel la Católica 51
Mexico, D.F., Mexico

Cable address :

Nafin
Mexico City

IN WITNESS WHEREOF, the parties hereto, acting through their representatives thereunto duly authorized, have caused this Agreement to be signed in their respective names and to be delivered in the District of Columbia, United States of America, as of the day and year first above written.

International Bank for Reconstruction and Development :

By J. Burke KNAPP
Vice President

Comisión Federal de Electricidad :

By G. MARTINEZ DOMINGUEZ
Authorized Representative

Nacional Financiera, S.A. :

By FRANCISCO RUIZ DE LA PENA
Authorized Representative

SCHEDULE 1

AMORTIZATION SCHEDULE

<i>Date Payment Due</i>	<i>Payment of Principal (expressed in dollars) *</i>	<i>Date Payment Due</i>	<i>Payment of Principal (expressed in dollars) *</i>
June 1, 1972	\$1,595,000	December 1, 1980	\$2,695,000
December 1, 1972	1,645,000	June 1, 1981	2,780,000
June 1, 1973	1,700,000	December 1, 1981	2,865,000
December 1, 1973	1,750,000	June 1, 1982	2,955,000
June 1, 1974	1,805,000	December 1, 1982	3,050,000
December 1, 1974	1,865,000	June 1, 1983	3,145,000
June 1, 1975	1,920,000	December 1, 1983	3,240,000
December 1, 1975	1,980,000	June 1, 1984	3,345,000
June 1, 1976	2,045,000	December 1, 1984	3,450,000
December 1, 1976	2,105,000	June 1, 1985	3,555,000
June 1, 1977	2,175,000	December 1, 1985	3,665,000
December 1, 1977	2,240,000	June 1, 1986	3,780,000
June 1, 1978	2,310,000	December 1, 1986	3,900,000
December 1, 1978	2,385,000	June 1, 1987	4,020,000
June 1, 1979	2,460,000	December 1, 1987	4,150,000
December 1, 1979	2,535,000	June 1, 1988	4,275,000
June 1, 1980	2,615,000		

* To the extent that any part of the Loan is repayable in a currency other than dollars (see Loan Regulations, Section 3.03), the figures in this column represent dollar equivalents determined as for purposes of withdrawal.

PREMIUMS ON PREPAYMENT AND REDEMPTION

The following percentages are specified as the premiums payable on repayment in advance of maturity of any part of the principal amount of the Loan pursuant to Section 2.05 (b) of the Loan Regulations or on the redemption of any Bond prior to its maturity pursuant to Section 6.16 of the Loan Regulations:

<i>Time of Prepayment or Redemption</i>	<i>Premium</i>
Not more than three years before maturity	½ %
More than three years but not more than six years before maturity	1 ½ %
More than six years but not more than eleven years before maturity	2 ½ %
More than eleven years but not more than sixteen years before maturity	3 ¾ %
More than sixteen years but not more than eighteen years before maturity	5 %
More than eighteen years before maturity	6 ¼ %

SCHEDULE 2

DESCRIPTION OF PROJECT

The Project is the continuing expansion program of the Power Sector, consisting of facilities under construction on April 1, 1968 or expected to be started thereafter. Details of the facilities included in the Project, such as their type, location, capacity and scheduled completion dates, are set forth in the Exhibit to this Schedule and are subject to modification from time to time by agreement between the Guarantor, the Bank and the Borrowers. The portions of the program to be executed by Comisión and Centro, respectively, will consist of the following :

PART I

Comisión will install new generating, transmission and distribution facilities, and make capital improvements to existing facilities ; acquire and utilize special equipment ; install street lighting ; carry out a rural electrification program ; modify all of its own 50-cycle-per-second Central System frequency-sensitive equipment to operate at 60 cycles in two stages in accordance with the federal government's program ; supervise the conversion or replacement of 50-cycle frequency-sensitive consumer equipment ; and conduct training programs for operating and conversion personnel.

PART II

Centro will carry out minor improvements to its generating plants and will modify all of its own 50-cycle-per-second frequency-sensitive equipment to operate at 60 cycles in two stages in accordance with the federal government's program ; complete the 220 kV transmission line ring around Mexico City and construct new transmission lines of 85 kV and lower voltages within its operating area ; expand existing substations and build new substations ; extend its distribution networks including the electrification of workers' housing projects ; install street lighting ; and construct miscellaneous buildings and improve existing ones.

EXHIBIT

ELECTRIC POWER SECTOR — EXPANSION PROGRAM

	Generating Plants			Substation and Transmission		Transmission Lines Length (km)
	Type	No. and Size of Units (MW)	Date of Initial Operation	Line Voltages (kV)	Substations Capacity (kVA)	
A. MAJOR SYSTEMS						
1. CENTRAL						
a. Generating Plants						
Valle de Mexico						
2nd Unit	Steam	1 × 150	1970	—	—	—
Valle de Mexico						
3rd Unit	Steam	1 × 150	1970	—	—	—
Infiernillo						
5th & 6th Units	Hydro	2 × 180	1972	—	—	—
b. Substations						
Magdalena	—	—	1968	220/85	100,000	—
Pantitlan 1st. Ext.	—	—	1968	85/23	30,000	—
Naucalpan	—	—	1968	85/23	30,000	—
Barrientos 1st. Ext.	—	—	1968	85/23	30,000	—
Moctezuma	—	—	1968	85/23	90,000	—
Olivar	—	—	1968	85/23	60,000	—
Olivar	—	—	1968	85/6	30,000	—
Guadalupe	—	—	1968	85/23	30,000	—
Patera	—	—	1968	85/23	60,000	—
Careaga	—	—	1968	85/23	60,000	—
Atotonilco	—	—	1968	85/23	60,000	—
Indianilla 1st. Ext.	—	—	1969	85/23	60,000	—
Veronica	—	—	1969	85/23	90,000	—
Iguala	—	—	1969	Modifications		—
Nonoalco	—	—	1968	Rearrangement		—
Tacubaya	—	—	1968	Rearrangement		—
San Andres	—	—	1968	85/23	60,000	—
San Angel	—	—	1968	85/23	30,000	—
Indianilla 2nd Ext.	—	—	1968	85/23	30,000	—
Reforma 2nd Ext.	—	—	1969	85/23	60,000	—
Pensador Mexicano	—	—	1969	85/23	60,000	—
Jamaica	—	—	1970	220/85	200,000	—
Nonoalco	—	—	1970	220/85	200,000	—
Cuernavaca	—	—	1969	220/115	100,000	—
Toluca	—	—	1970	220/150	100,000	—
Cuernavaca	—	—	1969	85/6	30,000	—
Pantitlan 2nd Ext.	—	—	1969	85/23	30,000	—
Morales	—	—	1969	85/23	30,000	—
Aragon	—	—	1969	85/23	30,000	—
Insurgentes	—	—	1969	85/23	30,000	—
Tacuba	—	—	1969	85/23	30,000	—
Toluca	—	—	1970	85/23	30,000	—
Piedad	—	—	1970	85/23	90,000	—

	Generating Plants			Substation and Transmission Line Voltages (kV)	Substations Capacity (kVA)	Trans- mission Lines Length (km)
	Type	No. and Size of Units (MW)	Date of Initial Operation			
Toluca	—	—	1969	150/115	40,000	—
Pasteje	—	—	1969	115/23	10,000	—
Zitacuaro	—	—	1969	115/23	10,000	—
Temascaltepec	—	—	1969	115/13.8	10,000	—
<i>c. Transmission Lines</i>						
Cuernavaca-Jojutla	—	—	1968	115	—	33
Cerro Gordo-Lecheria	—	—	1968	85	—	16
Ring (North and East Branches)	—	—	1969	220	—	87
Iguala-Taxco	—	—	1969	Reconstruction	—	—
Veronica-Morales Under- ground Cable	—	—	1969	115	—	33
Toluca-Cuernavaca	—	—	1970	220	—	95
Puebla-Cuernavaca	—	—	1969	220	—	80
Nopala-Remedios	—	—	1968	220	—	3
Sta. Barbara-Tingambato	—	—	1969	161	—	18
Magdalena-Jamaica	—	—	1969	220	—	7
Cerro Gordo-Nonoalco	—	—	1970	220	—	15
Jamaica—"Metro" station	—	—	1969	85	—	5
Nonoalco—"Metro" station	—	—	1968	85	—	4
Toluca-Pasteje	—	—	1969	115	—	45
Pasteje-Zitacuaro	—	—	1969	115	—	70
Toluca-Temasaltepec	—	—	1969	115	—	50
Zictepec-Alameda	—	—	1969	85	—	32

2. PUEBLA-VERACRUZ

a. Generating Plants

Tampico	Gas	1 × 14	1968	—	—	—
Malpaso	Hydro	4 × 180	1968	—	—	—
La Angostura	Hydro	3 × 156	1973	—	—	—

b. Substations

Minatitlan II	—	—	1968	400/115	300,000	—
Panteon	—	—	1969	115/13.8	25,000	—
Veracruz	—	—	1969	230/115/ 13.8	300,000	—
Veracruz	—	—	1969	115/13.8	20,000	—
Temascal II	—	—	1968	400/230	300,000	—
Puebla	—	—	1968	400/115	300,000	—
Puebla	—	—	1968	400/230	225,000	—
Bugambillas	—	—	1969	115/13.8	20,000	—
Texcoco	—	—	1968	400/230	300,000	—
Coatzacoalcos	—	—	1968	34.5/13.8	10,000	—
Cholula	—	—	1969	115/13.8	20,000	—
Acayucan	—	—	1969	115/13.8	20,000	—
Orizaba	—	—	1968	switching	—	—
Fertilizantes	—	—	1968	switching	—	—
Aluminio	—	—	1968	115/13.8	40,000	—
Pajaritos	—	—	1969	115/34.5	40,000	—
Minatitlan I	—	—	1968	115/34.5	16,000	—

	Generating Plants			Substation and Transmission Line Voltages (kV)	Substations Capacity (kVA)	Trans- mission Lines Length (km)
	Type	No. and Size of Units (MW)	Date of Initial Operation			
Zocac	—	—	1969	switching	—	—
Volkswagen	—	—	1969	switching	—	—
Atlixco	—	—	1968	115/34.5	16,000	—
Poza Rica	—	—	1969	230/115	100,000	—
Tampico	—	—	1969	230/115	100,000	—
Tampico	—	—	1969	115/34.5	20,000	—
Orizaba Ext.	—	—	1969	115/13.8	25,000	—
San Cristobal	—	—	1968	115/34.5	20,000	—
Panteon Ext.	—	—	1969	115/13.8	20,000	—
Cordoba	—	—	1969	115/13.8	25,000	—
San Martin	—	—	1969	115/13.8	12,500	—

c. Transmission Lines

Malpaso-Minatitlan II						
1st Circuit	—	—	1968	400	—	145
Temascal II-Veracruz	—	—	1968	230	—	117
Veracruz-Aluminio	—	—	1968	115	—	6
Minititlan II-Temascal II						
1st Circuit	—	—	1968	400	—	223
Temascal II-Puebla						
1st Circuit	—	—	1968	400	—	226
Malpaso-Minatitlan II						
2nd Circuit	—	—	1969	400	—	145
Minatitlan II-Temascal II						
2nd Circuit	—	—	1969	400	—	223
Puebla-Texcoco						
2nd Circuit	—	—	1968	400	—	92
Branch to S. Veracruz	—	—	1968	230	—	15
Temascal II-Puebla						
2nd Circuit	—	—	1969	400	—	226
Tuxpango-Orizaba	—	—	1968	115	—	6
Minatitlan I-Minatitlan II	—	—	1968	115	—	5
Point P.-Panteon	—	—	1968	115	—	3
Branch to Fertilizantes	—	—	1968	115	—	4
Jalapa-Ferralvert	—	—	1969	115	—	4
Minatitlan II-Acayucan	—	—	1968	115	—	2
Puebla-Hylsa	—	—	1969	230	—	25
Puebla-Zocac	—	—	1969	230	—	60
Volkswagen-Cholula						
1st Circuit	—	—	1969	115	—	8
Cholula-Bugambilias						
1st Circuit	—	—	1969	115	—	12
Bugambilias-Puebla						
1st Circuit	—	—	1969	115	—	18
Cholula-Atlixco	—	—	1968	115	—	27
Mazatepec-Poza Rica	—	—	1969	230	—	65
Gabino-Barreda-San Cristobal	—	—	1968	115	—	50
Orizaba-Kimberly	—	—	1968	115	—	3
Dos Bocas-Tamsa	—	—	1969	115	—	2
Orizaba-Cordoba	—	—	1969	115	—	15
Volkswagen-San Martin	—	—	1969	115	—	30
Poza Rica-Tampico	—	—	1969	230	—	220

	Generating Plants			Substation and Transmission Line Voltages (kV)	Substations Capacity (kVA)	Trans- mission Lines Length (km)
	Type	No. and Size of Units (MW)	Date of Initial Operation			
3. MICHOACAN-CHAPALA-GUANAJUATO						
a. Generating Plants						
Guadalajara	Gas	1 × 14	1968	—	—	—
Salamanca	Gas	1 × 14	1968	—	—	—
Salamanca	Steam	2 × 150	1969	—	—	—
Guadalajara (Ext.)	Gas	1 × 14	1968	—	—	—
La Villita	Hydro	4 × 75	1971	—	—	—
Aguascalientes	Gas	1 × 14	1968	—	—	—
Salamanca 3rd Unit	Steam	1 × 150	1971	—	—	—
b. Substations						
Irapuato (West)	—	—	1968	115/60/13.8	20,000	—
Celaya (West)	—	—	1968	115/16.5/ 13.8	12,500	—
Queretaro (East)	—	—	1968	115/95/13.8	10,000	—
Salamanca	—	—	1968	230/161	100,000	—
Cd. Guzman	—	—	1968	161/69/22	25,000	—
Cd. Guzman	—	—	1968	69/23	12,500	—
Morelia	—	—	1969	115/13.8	25,000	—
Guadalajara	—	—	1969	161/70	40,000	—
San Luis Potosi I	—	—	1969	230/115	100,000	—
Apatzingan	—	—	1969	161/69/13.8	25,000	—
San Luis Potosi (East)	—	—	1969	115/13.8	25,000	—
San Luis Potosi (North)	—	—	1969	115/13.8	12,500	—
Aguascalientes	—	—	1969	230/161/69	133,000	—
Calera	—	—	1969	161/69	25,000	—
Salamanca	—	—	1969	230/115	133,000	—
Salamanca	—	—	1969	115/13.8	25,000	—
Leon II	—	—	1969	230/115	133,000	—
Leon II	—	—	1969	115/13.8	20,000	—
Queretaro	—	—	1969	230/115	133,000	—
Guadalajara	—	—	1969	230/70	133,000	—
Guadalajara	—	—	1969	230/161	100,000	—
Mobile	—	—	1968	115/60/ 16/13.8	15,000	—
Leon (North)	—	—	1969	115/13.8	20,000	—
Maniobras Leon	—	—	1969	115/13.8	20,000	—
Carapan	—	—	1970	230/115	66,000	—
c. Transmission Lines						
Aguascalientes-Calvillo	—	—	1968	69	—	48
Calvillo-Jalpa	—	—	1968	69	—	39
Jalpa-Sanchez Roman	—	—	1968	69	—	43
Branch to Celaya (West)	—	—	1968	115	—	2
Arandas-Irapuato (West)	—	—	1968	115	—	7
Branch to Queretaro (East)	—	—	1968	115	—	4
Salamanca-Leon II	—	—	1969	230	—	80
Salamanca-Morelia	—	—	1968	115	—	105
Texcoco-Valle de Mexico-El Vidrio	—	—	1968	230	—	60

	Generating Plants		Date of Initial Operation	Substation and Transmission Line Voltages (kV)	Substations Capacity (kVA)	Transmission Lines Length (km)
	Type	No. and Size of Units (MW)				
Carapan-Guadalajara	—	—	1969	230	—	189
Cobano-Apatzingan	—	—	1969	161	—	60
San Luis Potosi (I-East)	—	—	1969	115	—	7
San Luis Potosi (I-North)	—	—	1969	115	—	15
Calera-Fresnillo	—	—	1969	69	—	30
Carapan-Salamanca	—	—	1969	230	—	155
S. Jose Iturbide-S. Luis de la Paz	—	—	1968	115	—	28
Tepic-Compostela	—	—	1968	115	—	35
Compostela-Puerto Vallarta	—	—	1968	115	—	80
Queretaro-San Luis Potosi	—	—	1969	230	—	186
Aguascalientes-Calera	—	—	1969	230	—	130
Leon II-Leon Norte	—	—	1969	115	—	5
San Idelfonso-Jesus Maria	—	—	1969	115	—	1
San Idelfonso-San Juan del Rio	—	—	1969	115	—	30
Queretaro-Oriente	—	—	1969	115	—	12
Leon-San Francisco del Rincon	—	—	1969	115	—	25
La Villita-Infiernillo-Carapan	—	—	1971	230 (400)	—	220

4. TORREON-CHIHUAHUA

a. *Generating Plants*

None

b. *Substations*

Torreon	—	—	1968	115 /13.2	20,000	—
Avalos	—	—	1968	115 /23	10,000	—
Robinson	—	—	1968	115 /23	15,000	—
Chavez	—	—	1968	115 /13.8	40,000	—
Mobile	—	—	1968	115 /69 / 23 /13.8	15,000	—
Industrial	—	—	1968	115 /23	25,000	—
Ferroaleaciones	—	—	1969	115 /13.8	30,000	—
California	—	—	1969	115 /13.8	15,000	—
Matamoros	—	—	1969	115 /13.8	10,000	—
Poniente	—	—	1969	115	switching	—

c. *Transmission Lines*

Chihuahua-Avalos	—	—	1968	115	—	22
Chihuahua-Industrial	—	—	1968	115	—	1
Torreon-California	—	—	1969	115	—	12
Poniente-Cd. Cuauhtemoc	—	—	1969	115	—	100
Francke-Ferroaleaciones	—	—	1969	115	—	10

5. SONORA-SINALOA

a. *Generating Plants*

Guaymas II 1st Unit	Steam	1 × 75	1971	—	—	—
Topolobampo 1st Unit	Steam	1 × 41	1968	—	—	—
Guaymas 4th Unit	Steam	1 × 41	1968	—	—	—

	Generating Plants		Date of Initial Operation	Substation and Transmission Line Voltages (kV)	Substations Capacity (kVA)	Trans- mission Lines Length (km)
	Type	No. and Size of Units (MW)				
b. Substations						
Siete Cerros No. 9	—	—	1968	115 /13.8	12,500	—
Obregon 2 (Ext.)	—	—	1968	115 /13.8	20,000	—
Culiacan 2 (Ext.)	—	—	1969	115 /13.8	20,000	—
Mochis 3	—	—	1969	115 /13.8	12,500	—
Navojoa	—	—	1969	115 /13.8	12,500	—
Guaymas I	—	—	1969	115 /13.8	12,500	—
Hermosillo 2nd Extension	—	—	1968	115 /13.8	20,000	—
Point P	—	—	1968	switching	—	—
Empalme	—	—	1968	115 /13.8	12,500	—
c. Transmission Lines						
Point P-Point H	—	—	1968	115	—	40
Point P-Point A	—	—	1969	115	—	16
Siete Cerros No. 4 No. 9	—	—	1968	115	—	24
Obregon 2-Navojoa	—	—	1969	220	—	70
Hermosillo 2-Point A	—	—	1969	115	—	53
Point P-Point D	—	—	1968	115	—	30
P Guaymas I-Guaymas I	—	—	1969	115	—	10
Topolobampo-Mochis I	—	—	1968	115	—	22
Hermosillo II Benjamin Hill	—	—	1968	115	—	121
Mochis I-Mochis 3	—	—	1969	115	—	10

6. FALCON-MONTERREY

a. Generating Plants

Monterrey 4th Unit	Steam	1 × 75	1970	—	—	—
Monterrey 5th Unit	Steam	1 × 75	1971	—	—	—

b. Substations

Fundidora Ext.	—	—	1969	115 /13.8	20,000	—
Monterrey Plant Ext.	—	—	1969	138 /115	50,000	—
Reynosa Ext.	—	—	1968	138 /13.8	20,000	—
San Nicolas	—	—	1969	220 /115	133,000	—
Gomez Palacio	—	—	1969	220 /115	62,500	—
Hylsa	—	—	1969	115 /13.8	100,000	—
Celulosa	—	—	1969	115 /13.8	20,000	—
Sto. Domingo	—	—	1969	115 /34.5	20,000	—
Saltillo	—	—	1969	220 /115	133,000	—
Saltillo	—	—	1969	115 /13.8	12,500	—
Saltillo	—	—	1969	115 /34.5	12,500	—
Hylsa Provisional	—	—	1969	115 /13.8	20,000	—
Monclova	—	—	1970	220 /34.5 / 13.8	25,000	—
Piedras Negras	—	—	1968	138 /13.8	20,000	—

c. Transmission Lines

San Nicolas-Saltillo	—	—	1969	220	—	80
Saltillo-Gomez Palacio	—	—	1969	220	—	285
San Nicolas-Celulosa	—	—	1969	115	—	6
Monterrey-Hylsa	—	—	1969	115	—	4

	Generating Plants		Date of Initial Operation	Substation and Transmission Line Voltages (kV)	Substations Capacity (kVA)	Transmission Lines Length (km)
	Type	No. and Size of Units (MW)				
7. COLOTLIPA-ACAPULCO						
<i>a. Generating Plants</i>						
Acapulco	Gas	2 × 14	1968	—	—	—
<i>b. Substations</i>						
Acapulco	—	—	1970	220/69	100,000	—
Colotlipa	—	—	1968	6.6/66	12,000	—
<i>c. Transmission Lines</i>						
Ayutla-Cruz Grande	—	—	1968	69	—	30
Cuernavaca-Acapulco	—	—	1970	220	—	150
8. YUCATAN						
<i>a. Generating Plants</i>						
Nachi-cocom II	Steam	2 × 22	1970	—	—	—
Nachi-cocom	Diesel	2 × 9	1968	—	—	—
Nachi-cocom	Gas	1 × 14	1968	—	—	—
<i>b. Substations</i>						
Calle 61	—	—	1968	34.5/13.8	25,000	—
Nachi-cocom Extn.	—	—	1968	34.5/115	20,000	—
Campeche II	—	—	1968	115/34.5	12,500	—
Campeche I Extn.	—	—	1968	34.5/13.8	12,500	—
Tizimin	—	—	1968	115/34.5	12,500	—
Tizimin	—	—	1968	34.5/13.8	6,250	—
Campeche II Extn.	—	—	1970	115/34.5	12,500	—
Nachi-cocom	—	—	1968	13.8/34.5	25,000	—
Nachi-cocom	—	—	1968	13.8/34.5	20,000	—
Nachi-cocom	—	—	1968	34.5/115	20,000	—
<i>c. Transmission Lines</i>						
Nachi-cocom-Campeche II	—	—	1968	115	—	175
Nachi-cocom-Tizimin	—	—	1968	115	—	175
9. CD. JUAREZ						
<i>a. Generating Plants</i>						
None.						
<i>b. Substations</i>						
None.						
<i>c. Transmission Lines</i>						
Sub. No. 1-Sub. No. 2	—	—	1968	69	—	24
10. TIJUANA-MEXICALI						
<i>a. Generating Plants</i>						
Cerro Prieto	Geot.	2 × 30	1970	—	—	—
Tijuana 4th Unit	Steam	1 × 82	1968	—	—	—
Tijuana Desalting Plant		28387 m ³ /day	1968	—	—	—

	Generating Plants		Date of Initial Operation	Substation and Transmission Line Voltages (kV)	Substations Capacity (kVA)	Transmission Lines Length (km)
	Type	No. and Size of Units (MW)				
<i>b. Substations</i>						
Hipodromo	—	—	1968	69 /13.8	12,500	—
Ruiz Cortines	—	—	1969	Reconstruction	—	—
Ruiz Cortines Ext.	—	—	1969	161 /34.5	25,000	—
Mobile	—	—	1969	69 /13.8	12,500	—
Tijuana Plant	—	—	1969	230 /69	40,000	—
<i>c. Transmission Lines</i>						
La Mesa-Guerrero	—	—	1968	69	—	14
La Mesa-Hipodromo	—	—	1968	69	—	5
Tijuana Plant-S. Guerrero	—	—	1968	69	—	30
Branch to S. Guerrero	—	—	1969	69	—	4

B. MISCELLANEOUS SMALL SYSTEMS

a. Generating Plants

Mazatlan	Diesel	1 × 3	1969	—	—	—
Durango	Diesel	2 × 3	1968	—	—	—
Rio Verde	Diesel	1 × 1.5	1968	—	—	—
Chetumal	Diesel	1 × 1.54	1968	—	—	—
Madera	Diesel	1 × 1.15	1968	—	—	—
Cd. del Carmen	Diesel	1 × 1.54	1969	—	—	—
Pinotepa Nacional	Diesel	1 × 1.54	1969	—	—	—
Campeche	Diesel	1 × 2.5	1968	—	—	—
Matehuala	Diesel	1 × 3.0	1968	—	—	—
Arriaga	Diesel	1 × 1.0	1968	—	—	—
Tenosique	Diesel	1 × 1.54	1969	—	—	—
Caborca	Diesel	1 × 2.5	1970	—	—	—
Durango	Diesel	2 × 3	1970	—	—	—
Sta. Ma. del Oro	Diesel	1 × 0.6	1968	—	—	—
La Paz	Diesel	1 × 3	1968	—	—	—
Villa Ahumada	Diesel	2 × 0.2	1968	—	—	—
Caborca	Diesel	2 × 1.0	1968	—	—	—

b. Substations

Comalcalco	—	—	1968	115 /34.5	12,500	—
Altamira	—	—	1969	115 /13.8	12,500	—
Ebano	—	—	1969	115 /34.5	20,000	—
Tamaulipas	—	—	1968	34.5 /13.8	12,500	—
Andonegui	—	—	1968	34.5 /13.8	12,500	—
Villahermosa II	—	—	1969	115 /34.5	25,000	—
Villahermosa II	—	—	1969	115 /13.8	12,500	—
Macuspana II	—	—	1969	115 /34.5	12,500	—
Tuxtla Gutierrez	—	—	1969	115 /13.8	20,000	—
Tuxtla Gutierrez	—	—	1969	115 /34.5	6,250	—
Matias Romero	—	—	1968	115 /13.8	12,500	—
Juchitan	—	—	1968	115 /69	12,500	—
Juchitan	—	—	1968	115 /13.8	12,500	—

c. Transmission Lines

Tampico-Refineria Madero	—	—	1968	115	—	7
Malpaso-Mezcalapa	—	—	1968	115	—	53

	Generating Plants		Date of Initial Operation	Substation and Transmission Line Voltages (kV)	Substations Capacity (kVA)	Trans- mission Lines Length (km)
	Type	No. and Size of Units (MW)				
Mezcalapa-Villahermosa II	—	—	1968	115	—	80
Tuxtla Gutierrez-Arriaga	—	—	1969	115	—	120
Tehuantepec-Salina Cruz	—	—	1968	69	—	18
Mezcalapa-Cardenas	—	—	1968	115	—	40
Cardenas-Comalcalco	—	—	1968	115	—	40
Tampico-Altamira	—	—	1969	115	—	20
Mazatlan-Escuinapa	—	—	1968	115	—	86
Malpaso-Tuxtla Gutierrez	—	—	1969	115	—	72
Matias Romero-Juchitan	—	—	1968	115	—	56
Acayucan-Matias Romero	—	—	1969	115	—	27