ANNEX B

TO THE TREATY OF ITAIPU

(Brasília, 3.12.1979)

In March 12th, 1979.

G/SG/DAA/DAM-I/DAI/ 04 /241 (B46) (B44)

To Your Excellency the Sir
Doctor Alberto Nogués,
Minister of Foreign Affairs of the Paraguay.

Sir. Minister,

I have the honor of lead to the knowledge of Your Excellency that, executing the Resolution CA-018/78, from the Administration Council of ITAIPU Binational Entity, the General Director and the Adjunct General Director of the above-mentioned entity, by an official letter dated on December 12th, 1978, took to the considering of the Brazilian Government the proposal of some modifications of the described in the Annex B to the Treaty of April 26th, 1973, having present, inclusively, the Accordance for change the notes celebrated between the Brazilian and Paraguayan Governments in October 30th, 1978.

2. In view that arrange the article III, paragraph 2, of the Itaipu's Treaty and the chapter I, third paragraph, of the Annex B to the same Treaty and considering, moreover, the reasons that induced the Entity Binational ITAIPU to propose the modifications on esteem, entirely agreeing with the main propose of the Treaty of April 26th, 1973, is my responsibility to manifest to Your Excellency that the Brazilian Government, attending the terms of the Resolution cited, is in agreement in modify, in the following way, the Annex B of the Itaipu's Treaty, previously altered, by change of notes of April 22nd, 1975:

I. in the chapter II – "General Description":

Paragraph 2 - "General Disposition" - where it is read "with total development of 8,5 kilometers", it must be read "with total development of 7,7 kilometers".

II. in the chapter III – "Main Components of the Project".

a) Paragraph 2 - Spillway - where it is read "gifted of 17 stoplogs, with 414 m on large, capable of discharge until 58.000 m³/s, it must be read "gifted of 14 stoplogs, with 355 m on large, capable of discharge until 62.000 m³/s";
b) Paragraph 3 - Right lateral dam - where it is read "758,5 m on large and volume of 704.000 cubic meters;
c) Paragraph 4 - "Main dam and water intake" - where it is read "coronation on the quota 224 m, 1.406 m on large and volume of 5.100.000 cubic meters", it must be read "coronation on the quota 225 m, 884 m on large and volume of 5.200.000 cubic meters";
Where it is read "The dam will have 18 openings to water intake", it must be read "The dam will have 20 openings to water intake";
d) Paragraph 5 - "Power House"
It will have the following composition: "The power house will be located in the basis of the main dam, with 950 m on large. In the same will be installed a generator complex composed of 18 unites of 700 megawatts each. Nine of this units will be in 50 Hz and nine in 60 Hz. Besides, the Central will be able to count, utilizing the available space in the power house, with until two generator units of reserve, that will be one in 50 Hz and the other in 60 Hz.

All the units of 50 Hz will be installed in the west part of the power house and the ones in 60 Hz in the east part. The superior platform of the power house will be in the quota 144 m above the sea level";

e) Paragraph 6 - "Dam in the left border" - Give the following composition: "One dam of gravity in alleviated concrete, with 350 m on long and volume of 778.000 cubic meters";

f) Paragraph 7 - "Left lateral dam" - where it is read "2.200 m on long and 12.600.000 cubic meters" it must be read "1.984 m on long and volume of 11.400.000 cubic meters".

The present Note, and the one of Your Excellency, of identical wording and same date, constitutes an agreement between our Governments.

Using the opportunity to renovate to Your Excellency the protesting of my higher consideration.

(a) Antônio Francisco Azeredo da Silveira

(Published in the "Official Diary" of 6.7.1979, p. 8.156-57.)

ANNEX B

TO THE ITAPU OF TREATY

GENERAL DESCRIPTION OF THE INSTALLATIONS DESTINED TO THE PRODUCTION OF ELECTRIC ENERGY AND THE AUXILIARY WORKS

I - Objective

The objective of the present Annex is to describe and identify, in its main parts, the Project of Hydroelectric Exploration of the Paraná River, in a site named ITAIPU, from now on denominated Project.

This Annex was written with basis in the "Preliminary Report" submitted by the Brazilian and Paraguayan Mixed Technical Committee to the Governments of Brazil and Paraguay in January 12th, 1973.

The works described in the present Annex could suffer modifications or additions, including in its quotes and measures, by technical exigencies verified during its execution. Besides, if by exigency of the same nature be demonstrated the necessity of a substantial reduction of the quote of the coronation of the dame, will be considered the convenience of an extra execution of other hydroelectric exploration in the up stream, as foreseen in the "Preliminary Report" above-mentioned.

II - General Description

1. Localization - The Project will be placed on the Paraná River, approximately 14 Km of the up stream of the international bridge that joint Foz do Iguaçu, in Brazil, to Porto Presidente Stroessner, in Paraguay.

2. General Disposition - The project will be constituted by a main dam of gravity, in concrete, through the Paraná River with a power house in the base of the dam and in lateral dams of rack, concrete and land dikes in the river borders. The lateral dam in the right border includes the structure of the spillway with the respective stoplogs.

The works of the Project will have the general orientation east-west, on the long of an axle in a broke line, with total development of 7,7 Km. The normal maximum level of the water in the reservoir was established in 220 m above the level of the sea. The reservoir will flood an area of

approximately 1.400 Km² (800 Km² in Brazil and 600 Km² in Paraguay), and it will extend itself, in the up stream about 200 Km until and inclusive the Salto Grande de Sete Quedas or Salto de Guaíra.

III - Main Components of the Project

Starting from the right border, the Project includes the following successive main components parts:

1. Right lateral dike - A land dike with coronation in the quote 225 m, 840 m on large and a volume of 300.000 cubic meters.

2. Spillway - A spillway in concrete, gifted of 14 stoplogs, with 355 m on large, capable of discharge until 62.000 m³/s with access channel excavated in the up stream of the spillway. A gutter covered of concrete will conduce the discharge of the spillway to the Paraná River about 1.500 m down stream of the main dam.

3. Right lateral dam - A dam in alleviated concrete with coronation in the quote 225 m, 997 m on large and volume of 704.000 cubic meters, linking the spillway and the main dam.

4. Main dam and water intake - The main dam will be a structure of gravity, in alleviated concrete, with coronation in the quota 225 m, 884 m on large and volume of 5.200.000 cubic meters, being constructed through the Paraná River and the channel, in the left border, that will be excavate to the provisory diversion of the river. The dam will have 20 openings for the water intake, provides of stoplogs. Each on of this water intakes will give access for one turbine, in the power house, by means of a pen stock.

5. Power house - The power house will be located in the basis of the main dam, with 950 m on large. In the same will be installed a generator complex composed of 18 unites of 700 megawatts each. Nine of this units will be in 50 Hz and nine in 60 Hz. Besides, the Central will be able to count, utilizing the available space in the power house, with until two generator units of reserve, that will be one in 50 Hz and the other in 60 Hz. All the units of 50 Hz will be installed in the west part of the power house and the ones in 60 Hz in the east part. The superior platform of the power house will be in the quota 144 m above the sea level.

6. Dam in the left border - A dam of gravity, with 350 m on large and volume of 778.000 cubic meters.

7. Left lateral dam - A dam of rocks with coronation on the quote 225 m,1.984 m on large and volume of 11.400.000 cubic meters.

8. Left lateral dike - A land dike with coronation in the quote 225 m, 2.000 m on large and volume of 2.900.00 cubic meters.

9. Hernandárias' complementary dike - A smaller dike, of land, to be localized in the right border, about 4,5 Km of distance to the west of the main dam, in the proximity of Hernandárias. This dike will be destined to close a depression where could occur an overflow with the reservoir in the maximum level of flood.

10. Sectioning substations - Two sectioning substations, on being located one in each border, about 600 m on down stream of the power house.

11. Works for navigation - The Project will include necessary works to attend the requirements of fluvial navigation traffic, as: terminals and terrestrial connections, canal locks, channels, elevators and its similars.

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PREVIOUS

ANNEX B

TO THE TREATY OF ITAIPU

(Brasília, 04.26.1973)

GENERAL DESCRIPTION OF THE INSTALLATIONS DESTINED TO THE PRODUCTION OF ELECTRIC ENERGY AND THE AUXILIARY WORKS

I - Objective

The objective of the present Annex is to describe and identify, in its main parts, the Project of Hydroelectric Exploration of the Paraná River, in a site named ITAIPU, from now on denominated Project.

This Annex was written with basis in the “Preliminary Report” submitted by the Brazilian and Paraguayan Mixed Technical Committee to the Governments of Brazil and Paraguay in January 12th, 1973.

II - General Description

1. Localization - The Project will be placed on the Paraná River, approximately 14 Km of the up stream of the international bridge that joint Foz do Iguaçu, in Brazil, to Porto Presidente Stroessner, in Paraguay.

2. General Disposition - The project will be constituted by a main dam of gravity, in concrete, through the Paraná River with a power house in the base of the dam and in lateral dams of rack, concrete and land dikes in the river borders. The lateral dam in the right border includes the structure of the spillway with the respective stoplogs.

The works of the Project will have the general orientation east-west, on the long of an axle in a broke line, with total development of 8,5 Km. The normal maximum level of the water in the reservoir was established in 220 m above the level of the sea. The reservoir will flood an area of approximately 1.400 Km² (800 Km² in Brazil and 600 Km² in Paraguay), and it will extend itself, in the up stream about 200 Km until and inclusive the Salto Grande de Sete Quedas or Salto de Guaíra.

III - Main Components of the Project

Starting from the right border, the Project includes the following successive main components parts:

1. Right lateral dike - A land dike with coronation in the quote 225 m, 700 m on large and a volume of 103.000 cubic meters.

2. Spillway - A spillway in concrete, gifted of 14 stoplogs, with 380 m on large, capable of discharge until 58.000 m³/s with access channel excavated in the up stream of the spillway. A gutter covered of concrete will conduce the discharge of the spillway to the Paraná River about 1.500 m down stream of the main dam.

3. Right lateral dam - A dam in alleviated concrete with coronation in the quote 225 m, 800 m on large and volume of 314.000 cubic meters, linking the spillway and the main dam.

4. Main dam and water intake - The main dam will be a structure of gravity, in alleviated concrete, with coronation in the quota 224 m, 1.400 m on large and volume of 6.800.000 cubic meters, being constructed through the Paraná River and the channel, in the left border, that will be excavate to the provisory diversion of the river. The dam will have 14 openings for the water intake, provides of stoplogs. Each on of this water intakes will give access for one turbine, in the power house, by means of a pen stock.

5. Power house - The power house will be located in the basis of the main dam, with 900 m on large. In the same will be installed a generator complex composed of 14 unites of 765 megawatts each. Four of these units will be located in the part of the barrage and water taking to be constructed in the diversion channel. The superior platform of the power house will be in the quota 139 m and above the same will be located the transforming installations to elevate the tension if the generation.

6. Dam in the left border - A dam of gravity, with 250 m on large and volume of 1.100.000 cubic meters, that it will have blocked openings and connections for construction of a water taking destined to the eventual expansion of the central.

7. Left lateral dam - A dam of rocks with coronation on the quote 225 m, 2.000 m on long and volume of 13.145.000 cubic meters.

8. Left lateral dike - A land dike with coronation in the quote 225 m, 3.000 m on large and volume of 3.115.000 cubic meters.

9. Hernandárias' complementary dike - A smaller dike, of land, to be localized in the right border, about 4,5 Km of distance to the west of the main dam, in the proximity of Hernandárias. This dike will be destined to close a depression where could occur an overflow with the reservoir in the maximum level of flood.

10. Sectioning substations - Two sectioning substations, on being located one in each border, about 600 m on down stream of the power house.

11. Works for navigation - The Project will include necessary works to attend the requirements of fluvial navigation traffic, as: terminals and terrestrial connections, canal locks, channels, elevators and its similars.

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