Folder Title:	Power - Argentina - Servicios Electricos del Gran Buenos Aires [SEGBA]
Folder ID:	30248816
Subseries:	Early special evaluation studies working files
Series:	Special Evaluation Studies
Dates:	01/01/1958 – 09/17/1971
Fonds:	Records of the Office of Operations Evaluation
ISAD Reference Code:	WB IBRD/IDA OPE-09-01
Digitized:	05/17/2023

OED SPECIAL STUDIES

85035--003

Power - Argentina - SEGBA

Entrevue con Sr. Bronstein, lundi 10 Mai, 7.30 p.m.

Empresa

- SEGBA est une Société Anonyme mais à capital 100% appartenant à l'~~Etat~~. 100% owned by Government

Avant, SEGBA était SOFINHA et tout le capital fut acheté par l'~~Etat~~. (voir le Libro Blanco avec Fajans).

Quand SEGBA fut constituée, la Banque donna quelques conseils (voir Rabinovich).

- Opinion sur la Banque : les prêts → contribution très importante au développement du système de Segba : ~ 25 à 30% des investissements. Mais sa présence eut d'autres effets très importants et positifs du pt de vue de Segba mais pas toujours du pt de vue "national"?

Ces effets furent : – les impôts très lourds sur les objets manufactures localement furent levés pour Segba → prix très bas pour Segba qui put augmenter ses investissements → effet d'↗ l'emploi des B.A. Les prix furent réduits de 150-180 à 100 (30 à 50%).

?

VIP

Segba coupe actuellement l'électricité chaque jour dans un district de la capital (coupe environ chaque jour 10 à 15% de la demande durant les 2 heures de pointe : 18'00 – 20'00).

- Les prêts de la Banques ont essentiellement servi à rétablir la qualité du service qui laisse encore à désirer.

Critiques : L'industrie locale (qui fournit 95% du matériel de transmission et distribution lorsqu'il n'y a pas de compétitive international bidding) estime que les contractants étrangers peuvent faire du dumping (ils ont leur marché intérieur) ds leurs contrats à Segba tandis qu'elle-même ne le peuvent pas.

Le régime de mouvement du 3° prêt fut spécial

Mais le volume d'investissements fut beaucoup plus élevé avec les prêts Banque qu'en 1964-1966 (sans Banque) et les industriels argentins eurent un volume d'affaires plus importants -

Participation des Argentins à la transmission

	Arg.	Etrang.
64-66 : (∄ Banque)	90-95%	5-10%
68-(9) : (2e prêt)	85% de ∃	reste
70-72 : (3e prêt)	90% de	reste

pour la raison suivante : Segba représente plus de 50% du marché intérieur et l'international competitive bidding aurait mis beaucoup de productrices en faillite. D'où le régime spécial qui donne 1/3 du contrat au producteur local lorsqu'il a perdu la concours. D'autant qu'ils ont gagné 85% des contrats du 3e prêt.

De plus, Segba peut se débarrasser très bien seule d'un ∃ fonction d'éducation du consultant - ∃ une loi nouvelle empêchant de le futur l'emploi de Consultants étrangers.

∃ nouvelle loi du Gouvernement qui pourrait empêcher les futurs prêts car interdisant les fournisseurs étrangers pour les produits fabriqués localement. Donc plus d'intérêt compet. bid possible.

- Critique de Segba : Il N'est pas nécessaire d'utiliser un Consultant pour réunion générale du programme d'investissements. De plus les appels d'offres devraient être plus souples et demandent trop de temps (mais pas trop) et de perte de temps ds les échanges d'information entre Banque et Segba. Mais en pratique ça ne marche pas trop mal.
- Pays de l'Est : ∃ visites pero ∄ no offertas de precios. Demander à Sudac y Briozzo.
- Ds le futur (1970-1980), les autres sources de génération seront ds d'autres Cies (loi du Gouvernement) et il est prévu que Segba ne va pas augmenter sa capacité de production durant cette période, sauf une turbine de 350 MW ds GBA Station (called also Casta Vera).
- Pour le petit matériel, la diversification du matériel due à l'int. compet. bidding est une petite gêne. La Banque est intéressante surtout pour le petit matériel.
- Calcul des tariffs pour chaque année (fait en fin d'année t) : on prend les net fixed assets in service en fin d'années t et t+1 aux taux de change prévus en fin de t et t+1, ce qui donne en appliquant 8% un revenu annuel total de l'année t+1 en $ que l'on convertit au taux fin de t+1.

Rabinovich

- Réorganization en 1961 : en 1958, SEGBA était une société anonyme mixte que l'Etat devait racheter entièrement au privé en 10 ans. Mais en 1960, Agua y Energia qui devait seule augmenter la capacité installée

manquait d'argent et demanda un prêt à la Banque qui refusa (manque de confiance en AyE). D'où le Plan Piñero qui prévoyait une reprivatisation de SEGBA graduelle. Mais en fait rien ds la reprivatisation ne fut fait.

— En 1969, la baisse de tarifs fut répartée entièrement sur l'industrie. En début de 1971, la hausse moyenne de tarifs fut de 22%.

— L'étude de Management en 1963 fut initiée par la Banque et reçut ensuite la bénédiction de la Banque. Les conclusions de la ~~Ban~~ Etude Management furent principalement la création de groupes de travail qui furent installés seulement en 1967 après la crise de 1964-1966. La mécanisation des opérations comptables fut aussi améliorée. L'intervention de la Middle West fut continue de 1963 à 1971 ; ~~en~~ plus de l'étude, il y a la rationalisation du budget et l'installation du nouvel ordinateur 360. Le contrat termina en 1971.

— la Banque fit pression sur le Gouvernement pour que paraisse un décret en 1965 (Décembre) pour assurer la coordination des opérations techniques qui commença en Décembre 1966. De plus Italo y Segba partagent les stations de distribution. On ne voit pas encore de fusion entre les 2 entreprises : ∄ pas de pb de syndicat entre les 2 entreprises.

— Pb de personnel : la Banque n'a rien fait mais a réduit Segba à faire des efforts ds ce sens. SEGBA a un contrat avec le syndicat. SEGBA pense qu'actuellement le personnel est au minimum.

— En 1969-1970, la situation financière fut en gros selon le schéma prévu ds le rapport 644-AR. Mais le bond issue à l'étranger ne fut pas permise pour

le Gouvernement a remplacée par un prêt de Bank of America ($ 10 million). En Avril 1971, il y eut un autre prêt ami de la City Bank. Mais SEGBA espère émettre encore $ 15 million cette année.

X — Retard de Atucha → 300 MW de turbines de pointe + 350 MW à Costa Nera. Mais cet équipement à installer en 1972 n'a pas encore de financement prévu pour 1972, pour la machine de 350 MW.

Wolfes — Réduction de tarifs : en 1968, SEGBA → réduction de 7%. Mais impôt supplémentaire de 5% → net 2% au consommateur

Réduction faite en moyenne. Surtout à l'industrie. En 1969, il y eut réduction moyenne de 1%, à l'industrie seulement.

— ∃ des zones où le délai de connection est de 20 jours, d'autres zones où le délai est de 2-3 mois (au niveau du consommateur individuel). Cette variation est due aux variations de capacité du réseau de distribution existant. D'autre part le client doit faire lui-même certains travaux. Le goulot d'étranglement est la main d'œuvre d'installation. Le délai de connection d'un barrio est au minimum de 6 mois!

Wolfes

X

— Degré d'électrification de la zone de Segba : ~ 95% environ (2 million de consommateurs et au plus 100,000 viviendas sans électricité).

Il y a 10 ans, le degré était de 50% au plus.

Actuellement ∃ 100,000 consommateurs en attente de connections.

Dans une région seulement (San Justo)

[En 1969, ∃ 45,000 consommateurs branchés illégalement
En 1970, 36,000 de ceux-là furent découverts et régularisés,

— ∃ un programme de renforcement du réseau de distribution (primaire).

— Projections financières : elles st faites en général par Segba. Mais st modifiées par les missions de la Banque. ∄ aucune évaluation de l'exactitude des projections

6,000t/j.

Sudac — Pollution : Le fuel utilisé par Segba (et produit en Argentine) contient au maximum 0.8% de soufre. Dans beaucoup de cas, il n'y a pas du tout du soufre

(6000 t de fuel utilisés par jour)

Bronstein — Propositions financières : Rien comme avis sur le 1er prêt qui fut d'urgence et préparé mon à fond.

a) le 2° prêt : sur applications and sources of funds, il y eut un décalage d'un an et demi environ.
Parce que le programme commence toujours en retard : retard des autorités de la signature du prêt. Puis retards généralisés des les délais de livraison des constructeurs de le monde. La Banque n'introduit pas de retard car ∃ une grande confiance entre Banque et Segka.
le niveau total des investissements fut ≃ au prévu (légèrement inférieur) et le % entre les 3 sources (Banque, int. cash et supplieurs crédits) respectée.
légèrement inférieure au prévu

3° prêt : les prix mondiaux des équipements ont monté terriblement en 1970 (+20%) d'où Δ investissements > 0 et, de plus, en 1972 il y a des équipements additionnels qui étaient non prévus. Le programme total pour 1970 a augmenté de 10% environ.

En 1970, pas d'émission externe (interdite par le Gouvernement). Emission interne très difficile car concurrence le Gouvernement.

Interview with Sr. Bronstein, Monday 10 May, 7:30pm

SEGBA is a (~~any~~ anonymous society) Joint stock Corporation whose capital belongs 100% to the State

Before, SEGBA was SOFINHA, but all the capital was ~~bak~~ bought by the State (See the Libro Blanco with Fajans)

When SEGBA was formed, the Bank gave a few piece of advice (~~se Robinovich~~)

~~The~~ opinion ~~of~~ on the Bank, was that the loans make a very important contribution to the development of the system of SEGBA: ≃ 25 to 30% of investments. But its presence had other very important and positive effects from SEGBA point of view, but not always from a "national" point of view. These effects were:

– the very heavy taxes on locally manufactured products were cancelled for SEGBA, so that, very good prices enabled to increase its investments which entailed an increase in the employment of ~~BA~~ Buenos Aires

The prices were reduced from 150-180 to 100 (30 to 50%).

SEGBA presently cuts electricity every day in one district of the capital (it cuts about 10 to 15% every day of the demand during the rush hours: 6 p.m. 8 p.m).

Bank loans were ~~parti~~ essentially helpful in reestablishing the quality of services which were by then quite unsatisfactory.

procurement

Critics: the local industry (which provides about 95% of transmission ~~equip~~ and distribution equipment when there is no competitive international

bidding considers that foreign contractors can make some dumping (they have their domestic market) in their contracts to SEGBA while themselves cannot do it. itself.

procurement

The ~~system~~ procurement system of the third loan was a special one for the following reason: SEGBA represents more than ~~50%~~ 50% of the domestic market and the competitive international bidding might have led many local manufacturers to bankruptcy. Hence the special system which gives 1/3 of the contract to the local manufacturer when he has lost the bid(ding), ~~all the more as~~ As a matter of fact, local manufacturers ~~they~~ won 85% of the contracts of the 3rd loan.

- SEGBA criticism: it is not necessary to use a consultant to make a general revision of the program of investments. In addition, the calls for bids should be more flexible; ~~ask for too~~ they require too much time (but ~~not~~ not that much) and too much of a waste of time in the exchange of information between the Bank & SEGBA. But, as a whole, it works rather well.
- ~~Eastern European~~ Eastern Countries: there were some visits but no price offers were made. ~~Ask to SUDAC & BRIOZZO.~~

In the future (1970-1980), the other sources of generation will belong to other corporations (Government Law) and it is planned that SEGBA will not increase its production capacity during that period, except for one turbine of 350MW in the GBA station (also called Costa Vera).

- For small equipment, the diversification of equipment due to competitive international bidding is a small disturbance. The Bank is of interest ~~mostly~~ mainly for small equipment
- The Tarif calculation for every year (done at the end of each year t): projection of net fixed assets in service at the end of year t and t+1 at the exchange rate forecast at the end of y. t & t+1, which give, applying 8%, the total annual income of year t+1 in $, which is converted at the end of year rate of t+1

- Reorganization in 1961: in 1958, SEGBA was a mixed Joint Stock Corporation which the Government was to take over (to buy) from the private sector in 10 years. But in 1960, Agua y Energia which was to increase by itself the existing capacity lacked money and ask a loan from the bank which refused (because it did not trust Agua y Energia). Hence, the Plan Dibaro which planned a gradual reconversion to the private sector of SEGBA. But nothing was done in fact of the "reprivatization."

- In 1969, the decrease in tariffs was transfered completely to industry. At the beginning of 1971, the average increase in tarifs was of 22%

- The 1963 Management study was initiated by the Bank and ~~immediately~~ received afterwards its "blessing". The conclusions of the study management were ~~clearly~~ principally

the creation of working groups that were started only in 1967 after the 1964-66 crisis. the mecanization of accounting operations was also improved. the Involvement of the Middle West was continuous from 1965 to 1971; in addition to the study, there was the budget rationalization and the installation of the new computer 360. The contract takes an end in 1971.

- the Bank made some pressure on the Government for it to get out a decree in 1965 (December) to ensure the coordination of technical operations which started in December 1966. Furthermore, Italy SEGBA share the distribution stations. No merger of the 2 corporations is seen so far: there no "Labor Union" problem between the 2 corporations.

- Personnel problem: the Bank did not do anything but induced SEGBA to make efforts in this respect, SEGBA thinks that presently the personnel is at its minimum.

- In 1969-1970, the financial situation followed, as a whole, the scheme forecast in the 644-AR report, but the bond issue abroad was not allowed by the Government et was replaced by a loan from the Bank of America ($ 10 million)

April 1971, there was also a loan of $10 million from the Cile Bank. But SEGBA hopes to issue again this year $15 millions.

- Delay of ATUCHA will require the installation of 300 MW of peaking turbines + 350 MW in Costa Nera. But that equipment which has to be installed in 1972 has not yet a financing forecast for 1972 for the 350 MW machine!

- Reduction of tarifs: in 1968, SEGBA made a 7% reduction. But there was an additional tax of 5% which led to 2% net to consumers. This reduction was made only to the industry. For 1969, there was an average reduction of 1%, in the industrial sector only.

- There are zones where the delay of connection is of 20 days, other zones where the delay is of 2-3 months (at the level of the individual consumer). This variation is due to the variations in capacity of the existing local network of distribution. On the other hand, the customer has to make certain works by himself. The bottleneck is the labor for the installation. The delay of connection of a barrio is of 6 months (minimum).

- Degree of electrification in the SEGBA zone: ≈ 95% (2 millions consumers and ~~more~~ at most ~~than~~ 100,000 viviendas without electricity). Ten years ago, the rate was at a maximum of 50%

At the moment there ~~were~~ are 100,000 consumers waiting for connection. [In 1969, in one region only (San Justo), there were 45,000 consumers illegally connected. In 1970, 36000 of these were discovered and legalized.

- there is a program of reinforcement of the the distribution network.

- Financial Projections: these are usually done by SEGBA. But they are modified by the Bank missions. But there is no evaluation of the exactitude of the Projections.

SUSAC - Pollution: the fuel utilized by SEGBA (and produced in Argentina) includes a maximum of 0.8% of sulfur. In many cases there is no sulfur at all (6000 tons of fuel consumed / day).

Bernstein - Financial Projections: Nothing on the first loan which was an emergency one and not prepared thoroughly

a) the 2nd loan: on applications and sources of funds, they has been a lag of about 1½ year. Since the program always starts behind schedule, there is a delay of the authorities in the loan signature. Then general delays in the delivery terms from the constructors in the world. The Bank does not introduce any delay for there is a great trust between Bank & SEGBA.

The total level of investments coincided more or less with the forecast (slightly inferior to it) and the % between the 3 sources (Bank, internal cash generation & credit suppliers) was respected.
(Bank was slightly inferior to what was forecast)

3rd loan = the world prices of equipments rose tremendously in 1970 (+20%), hence an increase of investments ~~tending to zero,~~ and furthermore, in 1972, additional equipments were planned. The total program for 1970 increased of about 10%.

In 1970, no bond outside issues (forbidden by the Government). Internal (domestic) bond issue was very hard because of Governmental competition

the amount of investments resulted to be much higher with the bank loans than in 1964-66 (without Bank) and the argentinian industrials had a higher amount of benefit.

Participation of Argentinians to Transmission.

		Argentina	Foreign
	64-66 (without Bank)	90-95%	5-10%
(with Bank)	68-69 (2nd loan)	85% of	balance
	70-72 (3rd loan)	90% of	balance

In addition, SEGBA can manage very well alone, hence there is no educational function of the consultant. There is a new law ~~forbidd~~ preventing future hirings of foreign consultants.

There is a new law of the government which might prevent futu loans, for it forbid ~~the and with~~ foreign suppliers for locally manufactured products. So ~~[illegible]~~ international bidding is no longer possible.

DEFICITS DE CARGA

Año 1962: El deficit de éste año se debe a la falta de potencia de generación lo que se vió agravado por el incendio de la Central Dock Sud.

Año 1963: El deficit que se produce en este año es debido a que la Central Costanera estuvo durante casi todo el año con muy poca carga.

Año 1964: No hubo deficit.

Año 1965: Día 8 - Mes: Julio
Deficit = 9 MW Máq. 1 de P.Nuevo F.S. ; CIAE: - 3 MW

Año 1966:

Mayo

Día	2	Deficit = 43 MW	Máq.1 de Costanera F.s.; CIAE: 50 MW
"	3	Deficit = 22 MW	Máq.1 de Costanera F.s.; CIAE: 48 MW
"	6	Deficit =125 MW	Máq.1 y 5 de Costanera F.s.;Máq.1 y 9 de D.Sud F.s.; CIAE: 75 MW
"	7	Deficit = 19 MW	Máq.1, 4 y 5 de Costanera; Máq.1,2 y 9 de D.Sud.F.s.
"	9	Deficit = 22 MW	Máq.1,y 5 de Costanera; Máq.1 y 9 de D.Sud F.s.
""	11	Deficit = 44 MW	Máq.1 y 5 de Costanera; Máq.9 de D.Sud F.s.CIAE:83MW
"	12-13	Deficit = 22 MW	Máq.1 y 5 de Costanera; Máq.1 de D.Sud F.s.CIAE:80MW
"	17-18	Deficit = 20 MW	Máq.2,1 y 5 de " " " " " " " "
"	19-20	Deficit = 55 MW	" 2,1 y 5 " " " " " " " " "

DEFICITS DE CARGA

Septiembre 1967

Día: 18

Deficit: 24,0 MW

Causa: Central Costanera Máq. 4 F.s.; CIAE: 30 MW

Noviembre 1967

Día: 14

Deficit: 50,0 MW

Causa: Central Puerto Nuevo: Máq. 3 F.s.; Costanera:Máq.4 y 5 F.s.; Dock Sud: Máq.1 y 2 F.s.; CIAE: 30 MW

Mayo 1968

Día 7

Deficit: 54,0 MW

Causa: Central Costanera:Máq.2 F.s.; Dock Sud.: Máq.2,8 y 12 F.s.; CIAE: 90MW

DEFICITS DE CARGA AÑO 1969

Febrero

Día 6 Deficit = 36,0 MW Central Puerto Nuevo: Máq.6; Costanera:Máq.1; Dock Sud:Máq.1,2,y 10 F.s.; CIAE: 40 MW

Marzo

Día 12 Deficit = 105,0 MW Central Puerto Nuevo: Máq.6 F.s.; Costanera:Máq. 2 F.s.; D.Sud:Máq.1 F.s.; CIAE: 30 MW

Día 13 Deficit = 58,0 MW Central Puerto Nuevo; Máq.6 Fs.; Costanera: Máq. 2 F.s.; D.Sud:Máq.1 F.s.; CIAE: 50 MW

Mayo

Día 28 Deficit = 63,0 MW Central Puerto Nuevo: Máq.7 F.s.; Costanera: Máq. 2 F.s.; CIAE: 8 MW

Día 29 Deficit = 63,0 MW Central Puerto Nuevo: Máq.7 F.s.; Costanera: Máq. 2 F.s.; CIAE: 80 MW

Noviembre

Día 26 Deficit = 70,0 MW Central Puerto Nuevo: Máq.2 F.s.; Costanera: Máq. 2 con.carga baja (75 MW); CIAE: 58 MW

Diciembre

Día 2 Deficit = 80,0 MW Central Puerto Nuevo: Máq.2 F.s.; CIAE: 60 MW

Día 3 Deficit =104,0 MW Central Puerto Nuevo: Máq.2 F.s.; Costanera: Máq. 3 F.s.; CIAE: 85 MW

Día 4 Deficit = 50,0 MW Central Puerto Nuevo: Máq.2 F.s.; Costanera: Máq. 3 F.s.; CIAE: 97,0 MW

Día 8 Deficit = 74,0 MW Central Puerto Nuevo: Máq.2 F.s.; Costanera: Máq. 2 con carga baja (75 MW); CIAE: 81 MW

DEFICITS DE CARGA — AÑO 1970

		Causas
Marzo		
Día 6	Deficit= 52,0 MW	Central Costanera: Gen. 1 y 3 F.S.; Gen 4 con baja carga (40 MW); Dock Sud: Gen. 10 F.S.
Abril		
Día 8	Deficit= 65,0 MW	Puerto Nuevo: Gen. 7 y 9 F.S.; Central Costanera Gen. 4 F.S.
" 24	Deficit= 42,0 MW	Central Costanera: Gen. 1 y 2 F.S.; Puerto Nuevo: Gen. 9 F.S.
Junio *		
Día 8	Deficit= 80,0 MW	CIAE = 25 MW Mag 6 CIAE (prob 9 Hz)
" 9	Deficit= 110,0 MW	CIAE = 15 MW
" 10	Deficit= 120,0 MW	CIAE = 20 MW
" 12	Deficit= 112,0 MW	CIAE = 40 MW: Máq. 5 de Central Costanera 85 MW (Carga baja).
" 15	Deficit= 90,0 MW	CIAE = 27 MW: Máq. 1 de Central Costanera F.S.; Máq. 3 95 MW (Carga baja).
" 16	Deficit= 94,0 MW	CIAE = 40 MW
" 17	Deficit= 75,0 MW	CIAE = 45 MW
" 18	Deficit= 71,0 MW	CIAE = 40 MW
" 19	Deficit= 73,0 MW	CIAE = 37 MW
" 24	Deficit= 53,0 MW	CIAE = 85 MW
" 25	Deficit= 140,0 MW	CIAE = 20 MW
" 26	Deficit= 125,0 MW	CIAE = 20 MW
" 30	Deficit= 135,0 MW	CIAE = 20 MW
Noviembre		
Día 24	Deficit= 74,0 MW	Central Puerto Nuevo Máq. 4 y 7 ; Central Costanera Máq. 4 y 5; Central Dock Sud Máq. 2 y 11. (Todas F.S.).
Día 25	Deficit= 75,0 MW	Central Puerto Nuevo Máq. 7; Central Costanera Máq. 4 y 5; Central Dock Sud Máq. 11. (Todas F.S.).
Día 27	Deficit= 71,0 MW	Central Puerto Nuevo Máq. 7 ; Central Costanera Máq. 4 y 5 ; Central Dock Sud Máq. 11. (Todas F.S.).

Cuando CIAE entrega menos de 120 MW generalmente hay deficit.—

segba

CAMBIO M$N POR DOLARES

	Promedio del año	Ultimo día hábil del año
31.10.1958	61.21	
1.11.1958 - 31.12.1959	77.72	
1960	82.94	
1961	82.83	
1962	113.72	134.10
1963	138.37	132.50
1964	139.914	150.90
1965	168.62	188.50
1966	207.17	247.30
1967	331.81	350.---
1968	350.---	350.---
1969	350.---	350.---

CAMBIO $ POR DOLARES

1970	3,7792	4,00

David Greene 2655

- Contribution from Bank on institutional building <u>before</u> 1st loan (para 2.02)
- Bank action on internal efficiency: work rules, personnel - Actually, that was not successful.
- Bank failure to protect SEGBA against Government and political interference. <u>No point to stress it more than we did.</u>
- Emphasis on "privatization" of SEGBA comes from Bank's own emphasis (appraisal and supervision reports).

- Demander comments les project people responsables pour chaque Compagnie.
- Déjeuners : obtenir des commentaires une réponse à nos questions. En particulier, quelles st les problèmes fondamentaux du secteur ? y avons nous répondu ?

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

TO: Mr. B. Chadenet

DATE: September 17, 1971

FROM: Y. Rovani

SUBJECT: Operations Evaluation Report on IBRD Lending to Six Power Companies. Draft of 3/10/71
Comments on SEGBA Chapter

I am disappointed by the chapter of the operations evaluation report dealing with SEGBA, despite the highly commendable work that has obviously gone into it. I expected a provocative analysis of the successes and failures of this important and eventful operation and an attempt to draw lessons from it. By comparison, I find the analysis too superficial on some aspects and the conclusions somewhat dull and incomplete. Because of the major work already done, I think a relatively small effort would be needed to give more life to the text, more sharpness and perspective to the conclusions.

The particular emphasis put by the Bank from the beginning on the institutional aspects of this operation does not transpire. The major contribution made before the first loan appears to be taken as given and escapes evaluation. This includes the Bank role in directing the Argentine Power Study (the first UNDP operation, I believe), in helping formulate the Pinedo Plan for the reorganization of electrical services in Buenos Aires, the reshaping of SEGBA, the renegotiation of the British supplier credits. This role was exemplary in many ways: the active participation in project preparation, the sectoral approach taken, the care with which all institutional arrangements were nailed down before signing etc... Another major contribution that does not come through clearly concerns the efficiency of SEGBA: in particular, the pressure put by the Bank for the renegotiation of the work rules and elimination of feather bedding and the verbal understandings in connection with the second loan, that personnel would be reduced starting with 1,000 in the first year.

While too little is made of actions taken before appraisal or signing, or outside the formal negotiations, too much is said about less important features of the operation. In the circumstances, for example, accuracy in load or financial forecasting was not particularly significant (the justification of the project was not affected by the former; the latter depended primarily on performance under the concession). "Privatization" of SEGBA, because it was reflected in the agreements is given more importance than it really had at any time. From an evaluation standpoint, I would have thought it more important to determine whether this clause in the agreements was necessary, rather than whether it failed to be implemented. By contrast, I would have stressed more our failure to protect SEGBA from the spoils system via provisions in the by laws (every new government has changed the Board and, except in one instance, the Executive Vice President) or to get SEGBA to raise significant amounts of funds independently from the Bank and the Government.

para 3.06

Mr. B. Chadenet

More generally, I would have expected the evaluation to:

(a) present the status of the sector, "physically" and institutionally at the time our involvement began; (para 2.02)

(b) describe the actions taken by the Bank and their objectives, starting from that time; (para 2.03 and 2.02)

(c) appraise critically these actions in the light of the results; should the Bank have acted differently? made its loan earlier (I, of course, do not believe so), or later? insisted sooner on a merger or coordination with Italo? tackled the labor and the internal organization problems earlier etc...?, shouldn't seven years of management consulting have produced more results than they have etc...; why do Argentine Governments periodically challenge our contracts; would better public relations on our part have prevented this? etc... and

(d) take account of the views of staff who have been associated with the project; I doubt that much would have been lost in objectivity; I am sure that much would have been gained in perspective as well as facts from interviewing Mario Piccagli and others.

I also wonder whether standardization in format and comparability with other utilities should have been given such high priority as I saw, if it meant losing some of the flavor of the individual operation, which is what I believe happened in the case of SEGBA.

In conclusion, while I have my doubts regarding some aspects of the approach followed in this evaluation, I would like to repeat that I have appreciated the quality of the work that has gone into it (as well as the prowess involved in the time constraint).

YRovani:em

- Ce qui manque : l'immatériel ; Development of institutions (par ex.)
- Ce qui manque : - Electricity & Energy sector.
  - Rate structures and tariffs : - optimisation of investments
  - Ecology
  - Training and maintenance

Q : Fallait-il appliquer les techniques modernes de la Banque pour évaluer les actions menées il y a 5 ou 10 années lorsque ces techniques n'existaient pas à la Banque ? No.

- Lettre Banque → Seghsa de Juillet 1965 (à voir),
- Management Consultants on Seghsa : - La situation en fait est encore plus terrible que n'est dit ds le rapport (opinion de MM Chadenet et Rovain). Tâche rendue difficile par les règles de travail imposées par les syndicats.
- La clause de privatisation de Seghsa fut peut être une erreur de la Banque car elle fut la cause d'un conflit avec le Govt Illiès
- La Banque eut quelques succès seulement ds les objectifs secondaires d'ordre technique, plus qu'institutionnel.
- Coordination with Italo.
- More emphasis on labor problem.
- Forecasts and actual developments of 1962 load and sales.
-

ARGENTINA SERVICIOS ELECTRICAS DEL GRAN BUENOS AIRES, S.A. TABLE I

		UNIT	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Av. Ann. Inc. Rate (%) 1960/65	1965/70	1960/70
	Operations																
1	1. Installed Capacity (year end)	MW	693	693	833	920	1359	1429	1454	1372	1433	1573	1573	1840	16.0	4.8	10.2
2	As % of Total in Country a)	%	30	30	33	28	42	41	39	37	38	39	34	36			
3	2. Peak Demand	MW	528.9	528.4	660.8	888.2	939.8	1099.5	1168.5	1235.3	1316.0	1394.0	1547.0	1697.0	17.2	7.7	12.4
4	3. Gross Reserves of SEGBA	MW	164.1	164.6	172.2	-168.2	419.2	328.5	285.5	136.7	117.0	179.0	26.0	143.0	11.6	-14.8	-1.4
5	Gross Reserves as % of Peak Demand	%	31	31	26		44	30	24	11	9	13	2	8			
6	4. Effective Peak Spare Capacity: SEGBA b)		N.A.	N.A.	N.A.	-192	-74	127	24	-7	-38	53	-107	-124			
7	5. Effective Peak Spare Capacity: SEGBA + Suppliers b)		N.A.	N.A.	N.A.	31	125	240	107	62	34	111	61	75			
8	6. Gross Generation of SEGBA		N.A.	2850.6	3158.3	3123.8	3737.4	4672.6	5104.3	5481.6	5894.1	6693.8	6704.7	6958.3	12.4	6.4	9.3
9	7. Purchased Energy		189.0	95.3	63.6	1013.3	806.5	443.2	475.2	338.6	357.1	97.4	968.2	1455.4	37.9	25.0	31.4
10	8. Total Gross Generation		N.A.	2945.9	3221.9	4137.1	4543.9	5115.8	5579.4	5820.2	6251.2	6791.2	7673.9	8413.7			
11	9. Generation Sent-Out	GWh	2663	2809.8	3068.8	3978.7	4307.9	4799.5	5244.5	5506.9	5874.7	6404.2	7283.5	7994.3	13.3	8.8	11.0
12	10. Total Sales	GWh		2385	2544.5	3093.9	3484.6	3915.9	4268.8	4601.6	4874.7	5428.7	6160.2	6861.4	12.4	10.0	11.1
13	of which: Industrial	%		28	28	n.a.	25	28	30	30	30	30	31	31			
14	Residential	%		38	39	n.a.	48	45	44	43	44	42	40	39			
15	Other	%		34	33	n.a.	27	27	26	27	26	28	29	30			
16	11. Number of Residential Customers	000's	840	862	886	1331	1388	1431	1489	1559	1641	1726	1795	1871	11.4	4.7	8.0
17	12. Number of Installed Meters	000's	1087	1115	1146	1706	1774	1834	1901	1979	2049	2137	2229	2319	11.3	4.0	7.6
18	13. Number of Employees	No.	14,347	14,758	15,001	19,220	20,944	23,495	25,067	25,795	25,545	25,220	24,135	23,671	11.2	-1.2	4.8
19	FINANCES																
20	14. Sales Revenues c)	M$N	m/h 63.09	67.67	74.77	127.41	175.69	203.93	318.04	470.57	619.68	777.91	788.59	860.31	18.2	3.8	10.8
21	15. Operating Costs d)	M$N	m/h 38.75	50.06	56.58	88.17	130.00	156.39	211.99	303.76	419.04	442.78	494.89	591.90	15.8	4.5	10.0
22	16. Average Revenue/kwh Sold	M$N		2.8	2.9	4.1	5.0	5.2	7.4	10.2	12.7	14.3	12.8	12.5			
23	17. Average Cost/kwh Sold	M$N		2.1	2.2	2.8	3.7	4.0	5.0	6.6	8.6	8.2	8.0	8.6			
24	20. Average Revenue/kwh Sold	U.S.$		3.4	3.5	3.6	3.6	3.7	4.4	4.9	3.8	4.1	3.7	3.3	5.3	-5.9	-0.6
25	21. Average Cost/kwh Sold	U.S.$		2.5	2.7	2.5	2.7	2.9	3.0	3.2	2.6	2.3	2.3	2.3	3.7	-5.5	-1.0
26	22. Net Revenues (13-14)	M$N	m/h 24.34	17.61	18.19	38.94	45.69	47.54	106.05	166.81	200.64	335.12	293.70	268.41			
27	23. Net Revenues e)	U.S.$	31.33	21.24	21.97	34.25	34.48	33.96	62.90	80.57	60.47	95.75	83.91	67.10	24.2	1.3	12.2
28	24. Gross Fixed Investments	M$N		N.A.	N.A.	139.81	114.60	112.80	89.94	106.23	120.07	189.80	271.99	245.11	-18.0	3.9	-8.2
29	25. "Net" Fixed Assets in Operation f)	U.S.$	130.47	129.98	165.18	216.14	364.47	439.62	495.07	522.63	538.53	566.68	584.00	646.00	30.6	5.5	17.4
30	26. Average Net Fixed Assets in Operation	U.S.$	n.a.	130.23	147.58	190.66	290.31	402.05	467.35	508.85	530.58	552.61	576.34	616.00	29.1	5.7	16.8
31	18. Exchange Rate (end of year)		.823	.827	.830	1.341	1.325	1.509	1.885	2.473	3.50	3.50	3.50	4.00			
32	19. Exchange Rate (average)		.777	.829	.828	1.137	1.384	1.399	1.686	2.072	3.318	3.50	3.50	3.779			
33	MANAGEMENT INDICATORS																
34	27. Rate of Return (20 as % of 23)	%	N.A.	16.2	14.9	18.0	11.9	8.5	13.5	15.8	11.4	17.3	14.6	10.9			
35	28. Financial Rate of Return g)	%	N.A.	8.6	6.0	9.4	6.8	4.0	7.4	9.0	7.0	12.9	8.3	5.5			
36	29. Self-financing Rate h)			N.A.	N.A.	22.5	23.7	22.1	27.1	40.4	50.0	73.4	47.8	43.1			
37	30. Debt Service Coverage i)			N.A.	N.A.	1.49	2.9	2.0	1.3	1.9	1.9	2.1	2.0	1.7			
38	31. Debt/Equity Ratio			N.A.	N.A.	33/67	45/55	48/52	53/47	51/49	54/46	44/56	41/59	45/55			
															2.4339	2.2414	4.9585

6.9.

6a6

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1960/65	1965/70	1960/70
32 Energy Sales per employee Mwh	161.6	169.6	161.0	166.3	166.7	170.3	178.4	190.8	215.3	255.3	289.9	1.1	11.2	6.0
33. Distribution Losses (8-9/8) %	15.1	17.1	22.2	19.1	18.4	18.6	16.4	17.0	15.2	15.4	14.2			
34. Average Capacity Out of Service as % of Installed Capacity %	N.A.	N.A.	5.8	2.5	13.0	14.2	11.4	8.7	4.7	6.4	5.4			
35. Thermal Efficiency of Plants %	N.A.	N.A.	23.5	24.4	27.6	29.3	30.0	30.6	31.0	30.6	30.7			
36. SEGBA's Investments as % of Gross Fixed Investments in Country %	N.A.	N.A.	4.3	3.6	2.8	1.6	1.4	1.2	1.5	1.8	N.A.			
37 Investment for Distribution as % of Total SEGBA Investments %	N.A.	N.A.	8.2	23.7	37.3	69.0	75.3	73.6	53.6	54.9	54.3			
38 Accounts Receivable as % of Total Sales %	19.0	16.4	22.3	23.9	22.5	21.3	22.3	18.4	17.7	17.2	17.9			

a) Does not include captive plants
b) Effective peak : critical time in the year when margin between demand and available capacity is least or load shedding greatest.

c) Revenues from sales of electric power, including indirect taxes paid by consumers and adjustment for unbilled sales.
d) Including depreciation, but excluding interest and direct taxation on utility.
e) Converted at average historic rate of exchange for year.
f) Converted at end of the year historic rate of exchange.
g) Net revenues after taxes as % of average net fixed assets in operation.
h) Net internal cash generation as % of total application of funds.
i) Times debt service was covered by operating income and depreciation

ARGENTINA - SERVICIOS ELECTRICAS DEL GRAN BUENOS AIRES, S.A

PROJECTS IMPLEMENTATION

TABLE III

		1	2	3	4 START CONSTRUCT.	5 COMMISSIONING DATE	6 CONSTRUCT. PERIOD (mths)	7 PROJECT	8 SCOPE a)	9 CONSTRUCTION COST b) (US$ million) L.C. c)	10 F.X.	11 Total	12 COST/KW US$
LOAN 308-AR (US$ 95 mln) (signed January, 1962)													
Costanera Plant	Forecast				1958	Jan., 1964	60	5 x 120 MW	thermal	58.00	73.05	131.05	218
	Actual				1958	Feb., 1964	61	5 x 120 MW	"	65.94	71.66	137.60	229
Transmission	Forecast				1960	1964	40-50	675 km	1040 MVA	38.26	25.10	63.36	
	Actual				1960	1965	50-60	675 km	N.A.	55.41	13.91	69.33	
Distribution Expansion	Forecast				1962	1964	24	4718 km	840 MVA	84.39	24.37	108.76	
	Actual d)				1962	1965	36	7123 km	n.a.	n.a.	n.a.	96.49	
LOAN 525-AR (US$ 55 mln) (signed January, 1968)													
Puerto Nuevo Unit 9	Forecast				Feb., 1968	June, 1970	29	250 MW	Thermal	N.A.	N.A.	36.85	147
	Actual				Mar., 1968	July, 1970	29	250 MW	"	N.A.	N.A.	31.20	125
Gas Turbine Peaking Units	Forecast				Sept., 1967	Oct., 1968	20	8 x 15 MW	Thermal	N.A.	N.A.	11.17	93
	Actual				Sept., 1967	March, 1968	13	8 x 15 MW	"	N.A.	N.A.	12.80	106
Transmission	Forecast				Sept., 1967	Sept., 1968	12	210 km	1840 MVA	N.A.	N.A.	44.79	
	Actual				1968	1970	18-24	210 km	N.A.	18.92	3.59	22.51	
Distribution	Forecast				1967	1970	36	N.A.	N.A.	N.A.	N.A.	203.05	
	Actual d)				1968	1970	36	8518	n.a.	n.a.	n.a.	134.10	

LOANS DISBURSEMENT PATTERN

			1962	1963	1964	1965	1966	1967	1968	1969	1970	Undisbursed 12/31/70
LOAN 308-AR	Forecast:	Amount (US$mln)	38.48	37.60	18.92							
		% of total	40.5	39.6	19.9							
		Cummulative %	40.5	80.1	100.0							
	Actual:	Amount (US$mln)	15.69	48.61	22.97	6.08						1.65 c)
		% of total	16.8	52.1	24.6	6.5						
		Cummulative %	16.8	68.9	93.5	100.0						
LOAN 525-AR	Forecast:	Amount (US$mln)							44.0	11.0		
		% of total							80.0	20.0		
		Cummulative %							80.0	100.0		
	Actual:	Amount							9.44	30.56	11.00	4.00 c)
		% of total							18.5	59.9	21.6	
		Cummulative %							18.5	78.4	100.0	

a) Project scope for generation components is megawatts of installed capacity and source of energy; for transmission components, kilometers of lines erected (132 kv); for distribution components, kilometers of line installed at various capacities.

b) Does not include interest during construction; inflationary contingencies were excluded from forecast projections for comparison purposes with the deflated actual costs.

c) Local cost of projects was computed by converting for each year the Cruzeiro expenditure incurred during that year with the ~~average~~ exchange rate indicated in line 19 of Table I.

d) Sufficiently reliable and detailed data was not available for direct comparison with forecasts. Figures here represent total investments in distribution for indicated years, but do not necessarily correspond to the Bank financed program outlined in the appraisal reports.

e) Canceled

ARGENTINA - SERVICIOS ELECTRICAS DEL GRAN BUENOS AIRES, S.A.

TABLE II-B

UTILITY INVESTMENT PROGRAMS PARTLY FINANCED BY IBRD (US$ million)

	LOAN 308-AR (1962) PERIOD 1962-1964				LOAN 525-AR (1968) PERIOD 1968-1970				TOTAL ACTUAL
	FORECAST		ACTUAL		FORECAST		ACTUAL		
SOURCES OF FUNDS	Total	%	Total	%	Total	%	Total	%	Total
1. Net Internal Cash Generation	97.71	34.9	69.09	22.8	157.62	57.1	116.35	54.8	185.44
2. Domestic Contribution:									
from private sector b)	12.05	4.3	9.60	3.2	42.85 a)	15.5	8.35	3.9	17.95
from public sector: share capital			54.65	18.0	[illegible]		0.39	.2	55.04
YCF Contribution			—		.86	.3	0.67	.3	0.67
Total	[illegible]		54.65	18.0			1.06	.5	55.71
Total	12.05	4.3	64.25	21.2	43.71	15.8	9.41	4.4	73.66
3. Foreign borrowing:									
Suppliers credits c)	58.51	20.9	67.57	22.3	19.72	7.2	18.25	8.6	85.82
Foreign bond issues d)			15.00	4.9			—		15.00
Foreign private loans	17.05	6.1					10.00	4.7	10.00
I.B.R.D.	95.00	33.8	87.27	28.8	55.00	19.9	58.28	27.5	145.55
Total	170.55	60.8	169.84	56.0	74.72	27.1	86.53	40.8	256.37
4. Total Sources	280.31	100.0	303.18	100.0	276.05	100.0	212.29	100.0	515.47
APPLICATIONS OF FUNDS									
5. Investments	271.90	97.0	285.49	94.2	257.18	93.2	196.80	92.7	482.29
6. Change in working capital & cash	8.41	3.0	17.69	5.8	18.87	6.8	15.49	7.3	33.18
7. Total Applications	280.31	100.0	303.18	100.0	276.05	100.0	212.29	100.0	515.47

omit

a) This item was identified in Loan 525-AR Appraisal Report TO-606a as "Future Loan," the exact nature of the loan, ie, foreign or local, was not specified.

Terms of Loans:	Interest (%)	Amortization (yrs)
b) Local Suppliers Credits	7½	5
c) Foreign Suppliers Credits	5 3/4-8	5-10
d) Foreign Bond Issue	8	10

ARGENTINA SERVICIOS ELECTRICAS DEL GRAN BUENOS AIRES, S.A. TABLE II-A.2

LOAN 525-AR (Jan, 1968)

	1967	1968	1969	1970	Av. Rate of Increase over 1967-1970 (%)
LOAD FORECASTS (MW)					
1. Installed Capacity	1420	1510	1540	1790	8.0
2. Annual Peak Demand	1319	1412	1510	1617	7.0
3 Gross Reserve Capacity (1-2)	101	98	30	173	
ACTUAL LOAD (MW)					
4. Installed Capacity	1433	1573	1573	1840	8.7
5. Annual Peak Demand	1316	1394	1547	1697	8.8
6. Gross Reserve Capacity (4-5)	117	179	26	143	
7. Effective Peak Capacity a)	1108	1267	1418	1573	12.4
8. Effective Peak Demand a)	1146	1214	1525	1697	14.0
9. Effective Peak Spare Capacity (7-8)	-38	53	-107	-124	
		185	-280	-140	
LOAD FORECAST ACCURACY b)					
10. Installed Capacity	99	96	98	97	
11. Annual Peak Demand	99	101	98	95	
12 Gross Reserve Capacity	86	55	115	121	
SALES FORECAST (Gwh)					
13. Gross Generation	6230	6670	7120	7620	6.9
14. Sales	4860	5230	5620	6040	7.5
ACTUAL SALES (Gwh)					
15 Gross Generation	6251	6791	7674	8414	10.4
16. Sales: Industrial	1455	1636	1915	2150	13.9
Commercial	536	597	670	732	10.9
Residential	2122	2285	2488	2707	8.5
Other	762	911	1087	1272	18.6
Total	4875	5429	6160	6861	8.9
SALES FORECAST ACCURACY b)					
17. Gross Generation	99	98	93	91	
18. Sales	99	96	91	88	

		1967	1968	1969	1970	Av. Rate of Increase over 1967–1970 (%)
	RETURN FORECAST					
19.	Operating Revenues c) M$N	581.91	720.22	707.08	742.32	8.4
20.	less: Operating Costs d) M$N	456.48	489.73	523.42	541.49	5.9
21.	Operating Income M$N	125.43	230.49	183.66	200.83	17.0
22.	Operating Income e) U.S.$	35.84	65.85	52.47	57.38	17.0
23.	Financial Rate of Return on Av. Net Fixed Assets in Oper. g) %	6.8	11.5	8.4	8.4	
	ACTUAL RETURN f)					
24.	Operating Revenues c) M$N	584.13	733.58	706.21	677.55	5.1
25.	less: Operating Costs d) M$N	454.08	483.78	538.93	559.11	7.1
26.	Operating Income M$N	130.05	249.80	167.28	118.44	—
27.	Operating Income e) U.S.$	37.16	71.37	47.79	33.83	—
28.	Financial Rate of Return on Av. Net Fixed Assets in oper. g) %	7.0	12.9	8.3	5.5	
	RETURN FORECAST ACCURACY b)					
29.	Operating Revenues	99	98	101	110	
30.	Operating Costs	99	101	97	97	
31.	Operating Income	96	92	110	170	

a) Effective peak: the critical time in the year when margin between demand and available capacity was least or load shedding greatest (excluding short-term outages).
b) Defined by the ratio Forecast / Accuracy
c) Total Revenues, excluding indirect taxes.
d) Including depreciation and direct taxation on utility, but excluding interest.

e) Converted at the rate of exchange used in the Loan 525-AR Appraisal Report forecasts: M$N 3.50 = U.S.$1
f) All current or historic pesos have been converted to 1967 constant pesos for the purpose of comparison with the Loan 525-AR Appraisal Report forecasts.
g) Net Revenues after taxes as % of average net fixed assets in operation.

ARGENTINA: SERVICIOS ELECTRICAS DEL GRAN BUENOS AIRES, S.A. TABLE II-A.1

LOAN 308-AR (Jan., 1962)

	1962	1963	1964	1965	1966	1967	Av. rate of Increase over 1962-1967 (%) (1967 Av. ann. incr. rate (%) 1962-1967)
LOAD FORECASTS (MW)							
1. Installed Capacity a]	690	1183	1407	1407	1407	1599	18.3
2. Annual Peak Demand	870	1076	1178	1242	1303	1361	9.4
3. Gross Reserve Capacity (1-2)	-180	107	229	165	104	238	
ACTUAL LOAD (MW)							
4. Installed Capacity	720	1359	1429	1454	1372	1433	14.8
5. Annual Peak Demand	888	940	1100	1169	1235	1316	8.2
6. Gross Reserve Capacity (4-5)	-168	419	330	286	137	117	
7. Effective Peak Capacity b]	500	732	1199	1169	1133	1108	17.2
8. Effective Peak Demand b]	692	806	1072	1145	1140	1146	10.6
9. Effective Peak Spare Capacity (7-8)	-192	-74	127	24	-7	-38	
LOAD FORECAST ACCURACY c]	94	-145	180	688	(-1486)	-623	
10. Installed Capacity	96	87	98	97	103	112	
11. Annual Peak Demand	98	114	107	106	106	103	
12. Gross Reserve Capacity	—	26	69	58	76	203	
SALES FORECASTS (Gwh)							
13. Total Sales	3750	4100	4500	4780	5060	5340	7.3
ACTUAL SALES (Gwh)							
14. Sales: Industrial	N.A.	867	1112	1291	1381	1455	13.8
Comercial	N.A.	388	422	470	503	536	8.4
Residential	N.A.	1683	1777	1885	1981	2122	6.0
Others	N.A.	547	605	624	737	762	8.6
Total	3094	3485	3916	4270	4602	4875	9.5
SALES FORECAST ACCURACY c]							
15. Total Sales	121	118	115	112	110	110	

		1962	1963	1964	1965	1966	1967	Average Rate of Increase over 1962-1967 (%)
	RETURN FORECAST							
16.	Operating Revenues d) M$N	112.50	123.00	135.00	139.79	142.29	149.77	5.9
17.	less: Operating Costs e) M$N	92.42	99.27	102.22	105.09	108.12	113.15	4.1
18.	Operating Income M$N	20.08	23.73	32.78	34.70	34.17	36.62	12.8
19.	Operating Income f) U.S.$	24.19	28.59	39.49	41.80	41.17	44.12	12.8
20.	Financial Rate of Return on Av. Net Fixed Assets in Oper. h) %	13.8	10.8	10.2	9.5	9.3	9.6	
	ACTUAL RETURN g)							
21.	Operating Revenues d) M$N	73.26	103.97	105.86	129.85	148.64	138.43	13.6
22.	less: Operating Costs e) M$N	58.35	87.65	92.46	101.17	110.77	107.62	13.0
23.	Operating Income M$N	14.91	16.32	13.41	28.68	37.87	30.81	15.6
24.	Operating Income f) U.S.$	17.96	19.66	16.16	34.55	45.63	37.16	15.6
25.	Financial Rate of Return on Av. Net Fixed Assets in Oper. h) %	9.4	6.8	4.0	7.4	9.0	7.0	
	RETURN FORECAST ACCURACY c)							
26.	Operating Revenue	154	118	128	108	96	108	
27.	Operating Costs	158	113	111	104	98	105	
28.	Operating Income	135	145	244	121	90	119	

a) Forecast for capacity is installed capacity net of station auxiliaries.
b) Effective peak: the critical time in the year when margin between demand and available capacity was least or load shedding greatest (excluding short-term outages).
c) Defined by the ratio Forecast/Accuracy
d) Total Revenues, excluding indirect taxes.
e) Including depreciation and direct taxation on utility, but excluding interest.
~~h) Converted at end of the year historic rate of exchange in order to conform to official Argentine policy with regard to SEGBA amounts.~~
f) Converted at the rate of exchange used in the Loan 308-AR Appraisal Report forecasts: M$N.83 = U.S$1.
g) All current or historic pesos have been converted to 1962 constant pesos for the purpose of comparison with the 1962 Loan 308-AR Appraisal Report forecasts.
h) Net Revenues after taxes as % of average net fixed assets in operation.

	Initials	Date
Prepared By		
Approved By		

45-813 EYE-EASE
45-913 20/20 BUFF
NATIONAL Made in U.S.A.

TABLE I

ARGENTINA – SEGBA : The Utility

(all figures are actual)

Captive plants in country

		1	2	3	4	5	6	7	8	9	10	11	12	13
		(1957) 1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	GENERATION:												(1670)	
	MW Installed Capacity (year end)		690	690	830	740	1359	1429	1399	1370	1433	1573	1573	
	MW of which: Hydro													
	MW Thermal "		690	690	830	740	1359	1429	1399	1370	1433	1573	1573	
	MW Nuclear or Diesel "													
	% % of Total in: Country		2300	2300	2500	2600	3200	3500	3700	3700	3800	4000	4600	5000
	% Region		950	950	1100	1200	1600	1750	1750	1750	1750	1900	2200	
8a	Gwh ~~Total Generation Sent Out~~		3200	3600	3900	4100				5506	5875	6404	7283	
8	Gwh Total Gross Generation		3300	3700	4000	4131	4544	5116	5579	5870	6253	6792	7668	
9	Gwh Total Generated Energy in Area 2)													
10	Gwh Total Generated Energy in Country		7200	7800	8000	8200	9000	10000	11000	11500	12000	13500	15000	
	% Overall Plants Factor		44	46	42	64	38	41	46	47	50	49	49	
12	**TRANSMISSION: Network (Km)**													
13	MW Capacity of Transmission (13.2 – 132 kv)													
14	km Distribution Network Supplied by Utility 3)		28,000	28,500	29000	30,000	30100	32000	32500	34000	36000	37500	39000	
15	Gwh Total Sales of utility	2416	2300	2385	3402	3305	3484	3916	4308	4602	4875	5479	6160	
	Gwh of which: not to ultimate consumers						3319	3726		4494	4777	3318	5940	
	No. Number of Customers 3)		950,000	1,025,000	1,075000	1,578,000	1,646,000	1,711,000	1,779,000	1,875,000	1,970,000	2,068,000	2149000	
18	No. Number of Households in Area 3)													
18a	No. Number or Metres													
19	MW Maximum Peak Demand	521	489	513	628	888	940	1100	1169	1235	1316	1394	1547	
20	% Overall Load Factor													
21	% Losses (8–15 as % of 8): Total		14	15	12	23	23	23	23	22	22	20	9	
22	Gwh Total Sales in Area 2)				3,560							6,403		
23	% Contribution of Utility (15 as % of 22)													
24	**FINANCE:** Sale Revenues (l.c.) (in M$N millions)		5286	6880	7400	11872	17734	19864	31050	46011	61125	71,196	78010	
25	l.c. Average Revenue per kwh Sold (in M$N)				2.70	3.71	5.09	5.07	7.27	10.00	12.54	13.11		
26	l.c. Operating Costs (in M$N millions)		3892	5049	5783	8817	13000	15639	21199	30376	46904	44278	50892	
27	l.c. Average Cost per kwh Sold													
28	Exchange Rate Used M$1=l.c.										350	350		
29	$ Average Revenue per kwh Sold													
30	$ Average Cost per kwh Sold													
31	l.c. Net Revenues (24–26)		1394	1831	1617	3055	4734	4225	9851	15635	17221	26918		
32	l.c. Net Fixed Assets in Operation (Average)													
33	l.c. Net Internal Cash Generation													
34	l.c. Gross Fixed Investments in Year										12007	18979		
35	% Auto-Financing (33 as % of 34)													
36	l.c. Nat'l. Gross Fixed Invest. in Power													
37	l.c. Gross Fixed Capital Formation													
38	**MANAGEMENT:** No. of Employees (No.) (1957 (15,962))	13,761	14347	14758	15001	19220	20944	23495	25067	25795	25545	25,220	24,135	
39	kwh Energy Sales per Employee											215.3	255.2	
40	MW Average Capacity Out of Service													
41	MW Transmission Outages													
42	% Energy Losses (8–15 as % of 8): Total		14	15	12	23	23	23	23	22	22	20	9	
43	% Of which: due to Plant and Transmission													
44	% Rate of Return (31 as % of 32)													

1) If Nuclear or Diesel, put in blank space 2) Region or Country 3) These items refer to: a) utility itself b) area covered by it depending on 16/15 is lower or greater than 50 %

	Initials	Date
Prepared By		
Approved By		

TABLE: 2-C Loan # 644

ARGENTINA - SEGBA: PROJECT - COST & CONSTRUCTION FORECASTS OF APPRAISAL REPORT (M$N 350 = U.S. $1)

L.C. = M$N Millions
F.X. = U.S.$ Millions
Total = U.S.$ Millions

	1 Construction Begin	1 Construction End	2 Capacity MW	2 Capacity kv rating or MVA Capacity	3 Capacity km	3 Capacity Cost/kv U.S.$	4 Expenditures in 70-72 Program to complete 67-70 Program	5 Total 70-72
GENERATION: TOTAL ¶								6497
Puerto Nuevo #9 (Loan #525)	1967	1970	250				1249	1249
Gas Turbines			90					2835
Other Generation							2003	2413
TRANSMISSION: TOTAL ¶								20048
New 220 kv Substations				1200 MVA				2361
New 132 kv Substations				800 MVA			1724	4375
Extensions to Existing Substations				132 kv-220 kv	374		1490	13312
DISTRIBUTION ¶								
Distribution System Extension				1275 MVA	8300		941	47852
OTHER: TOTAL ¶								12210
Buildings							2500	4650
Consultants								710
Miscellaneous								1450
Contingencies								5400
TOTAL PROJECT							9907	86607

	6 Total 70-72 Equipment L.C.	F.X.	Total	IBRD F.X.	8 Civil Works L.C.	F.X.	Total	IBRD F.X.	10 Other L.C.	F.X.	Total	IBRD F.X.	12 Total L.C.	F.X.	Total	IBRD F.X.
GENERATION: TOTAL ¶	1298	9.8	13.5		1490	.8	5.0	.5					2788	10.6	18.5	.5
Puerto Nuevo #9	190	1.2	1.8		476	.4	1.7	.3					666	1.6	3.5	.3
Gas Turbines	156	6.5	6.9		344	.2	1.2	.2					500	6.7	8.1	.2
Other Generation	952	2.1	4.8		670	.2	2.1						1622	2.3	6.9	
TRANSMISSION: TOTAL ¶	12130	40.3	75.0	34.0	34753	19.6	118.9	14.9					46883	59.9	193.9	48.9
DISTRIBUTION ¶																
OTHER: TOTAL ¶					3944	2.0	13.4	1.0	4935	7.5	21.6	4.6	8879	9.5	35.0	5.6
Buildings					3944	2.0	13.4	1.0					3944	2.0	13.4	1.0
Consultants										2.0	2.0	1.7		2.0	2.0	1.7
Miscellaneous									1450		4.2		1450		4.2	
Contingencies									3485	5.5	15.4	2.9	3485	5.5	15.4	2.9
TOTAL PROJECT	13428	50.1	88.5	34.0	40187	22.4	137.3	16.4	4935	7.5	21.6	4.6	58550	80.0	247.4	55.0
											Interest During Construction					5.0
											Total IBRD Loan					60.0

	1970	1971	1972	Total
Investment Program 70-72	33806	26493	26308	86607
Proposed IBRD Loan	6651	6810	7539	21000

¶ These figures do not include "Interest During Construction" as this information was not available.

	Initials	Date
Prepared By		
Approved By		

TABLE: 2-C : LOAN # 308

ARGENTINA-SEGBA: PROJECT-COST & CONSTRUCTION

L.C. = Peso M$N Millions
F.X. = U.S. $ Millions
Total = U.S. $ Millions

FORECAST OF APPRAISAL REPORT (M$N 83 = U.S. $1)

	1 Construction Start	1 Construction End	2 Capacity MW	2 Capacity kv rating	2 Capacity km	2 Capacity Cost/kw U.S.$	3 Past Expenditures L.C.	3 Past Expenditures F.X.	3 Past Expenditures Total	4 1962 L.C.	4 1962 F.X.	4 1962 Total	5 1963 L.C.	5 1963 F.X.	5 1963 Total	6 1964 L.C.	6 1964 F.X.	6 1964 Total	7 Total 1962-64 L.C.	7 Total 1962-64 F.X.	7 Total 1962-64 Total	8 Total Cost L.C.	8 Total Cost F.X.	8 Total Cost Total	9 Total IBRD 1962-64 L.C.	9 Total IBRD 1962-64 F.X.	9 Total IBRD 1962-64 Total
GENERATION:																											
GBA Station: 4/	1958	1963	600				1820	11.91	33.84	1602	26.30	45.60	1830	26.37	48.42	554	13.00	19.67	3322	64.20	104.22	5142	76.11	138.06			
Excluding Interest:							1775	10.21	31.60										2790	61.34	97.98	4565	71.58	129.58	4980	71	67.1
																										5.0	65.0
TRANSMISSION: 4/																											
132 kv Interconnection: 2/	1958	1964		132	675		259	3.95	7.07	1443	12.83	30.21	1053	6.90	19.10	95	.96	2.11	2551	20.69	51.42	2810	24.64	58.49			
Excluding Interest:									n.a.										2551	20.44	51.17			58.21			
DISTRIBUTION: 4/																											
System Expansion Program: 3/				65-27	4718					1544	4.56	23.16	2595	9.93	41.19	2866	9.88	44.41	7005	24.37	108.76	7005	24.37	108.76		27.9	27.9
Excluding Interest:									n.a.												n.a.			n.a.		25.0	25.0
TOTAL PROJECT: 4/						246	2079	15.86	40.91	4989	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12878	109.26	264.40	14,957	125.12	305.31	4980	350	95.0

ACTUAL

ACTUAL

	Construction Start	Construction End	Capacity MW	Capacity kv rating	Capacity km	Capacity Cost/kw U.S.$	Past Expenditures L.C.	Past Expenditures F.X.	Past Expenditures Total	1962 L.C.	1962 F.X.	1962 Total	1963 L.C.	1963 F.X.	1963 Total	1964 L.C.	1964 F.X.	1964 Total	Total 1962-64 L.C.	Total 1962-64 F.X.	Total 1962-64 Total	Total Cost L.C.	Total Cost F.X.	Total Cost Total	Total IBRD 1962-64 L.C.	Total IBRD 1962-64 F.X.	Total IBRD 1962-64 Total
GENERATION																											
GBA Station																											
TRANSMISSION																											
132 kv Interconnection																											
DISTRIBUTION																											
System Expansion Program																											
TOTAL PROJECT																											

1/ Foreign costs for GBA Station include value of equipment already received or in transit which has not been erected. Its value, approx. U.S. $ 35.0 million, has been prorated during the 3 year investment program.
2/ 1040 MVA total transformer capacity
3/ primary transformer capacity 340 MVA
secondary transformer capacity 500 MVA
4/ Includes "Interest During Construction"

→ Note: Contingencies figures were not included among Transmission & Distribution, as they were price rise or inflationary contingencies; however, they were calculated for Generation by Appraisal Report and only the total contingency figures were available; hence "Total 1962-1964" and "Total Cost" do not include contingencies, but individual years for Generation do include contingencies ~~and do not add up to the total~~ and therefore exceed when summed up, the "Total" figures in Columns 10-12.

	Initials	Date
Prepared By		
Approved By		

TABLE: 2-C ; LOAN # 525

ARGENTINA - SEGBA: PROJECT - COST AND CONSTRUCTION FORECASTS OF APPRAISAL REPORT (M$N 350 = U.S. $1)

	1	2		3		4	5	6	7	8	9	10	11			12			13
													Total IBRD 1967-69						
	Construction	Capacity				Total Cost	Past Expenditures	1967	1968	1969	1970	Total 67-70	1967	1968	1969	Total			
	Start	End	MW	kV rating or MVA capacity	km	Cost/km U.S.$	M$N	M$N	M$N	M$N	M$N	M$N	M$N	M$N	M$N	L.C.	F.X.	Total U.S.$	
GENERATION: TOTAL [1]							17403 [1]	755 [1]	8928 [1]	6035 [1]	1685 [1]	17403 [1]	55 [1]	1977 [2]	621 [2]			7.5 [2]	1
Peaking Units (8 @ 15 MW)	1967	1969	120			87.0	3675	505	2760	410		3675	11 [1]	123 [2]	21 [2]	N	N	.4 [2]	2
Puerto Nuevo #9	1967	1970	250			138.0	12113	230	5568	5135	1180	12113	44 [1]	1854 [2]	600 [2]	O	O	7.1 [2]	3
Future Generating Plant	1969						500			100	400	500				T	T		4
																			5
TRANSMISSION: TOTAL [1]							16306 [1]	2302 [1]	8377 [1]	4834 [1]	165 [1]	15678 [1]				A	A		6
New 132 kv Substations	1967	1969		1480 MVA			5438	536	3347	1510		5393				V	V		7
Ext. to Existing 132 kv Substations	1967	1970		360 MVA			2066	638	611	767	50	2066				A	A		8
132 k Lines & Cables	1967	1969		132 kv	137		7048	785	3533	2147		6465				I	I		9
Misc. Civil Works & Extension													845 [2]	12210 [2]	3149 [2]	L	L	46.3 [2]	10
to 27.5 kv & 13.2 kv Systems	1967	1968					589	278	311			589				A	A		11
Future Program	1969						200			100	100	200				B	B		12
																L	L		13
DISTRIBUTION: TOTAL [1]	1967	1970					71068 [1]	13650 [1]	18732 [1]	19403 [1]	19283 [1]	71068 [1]				E	E		14
Extension to Networks				270 MVA	2950		64009	13010	16673	17163	17163	64009							15
Buildings							2824	240	784	1000	800	2824							16
																			17
Other: Total							3025 [1]	455 [1]	800 [1]	910 [1]	860 [1]	3025 [1]							18
Consulting Services							840	140	250	250	200	840	50 [2]	263 [2]	80 [2]		12 [2]	1.2 [2]	19
Vehicles							2000	300	500	600	600	2000							20
TOTAL PROJECT							107802	17162 [1]	36837 [1]	31182 [1]	21993 [1]	107174 [1]	950 [2]	14450 [2]	3850 [2]			55.0 [2]	21
																			22
																			23
Note:																			24
Contingencies (see ft. [1])								500	2500	2000	1500	6500							25
Interest During Construction covered by IBRD Loan (see ft. [2])												1135		665	470			3.2	26

[1] These figures do not include "Interest during Construction" as this information was not available; however, the "Total" figures include "Contingencies" figures which were redistributed only among the 4 major categories of Generation, Distribution & Transmission, Others.

[2] These figures include "Interest During Construction" that was redistributed among these items. The "Total U.S.$" column in this section would read as follows if interest were excluded: Generation: 5.0 Transmission & Distribution: 45.7 Other: 1.1 Total: 51.8

1957 — 1970 (Actual).

	Initials	Date
Prepared By		
Approved By		

45-813 EYE-EASE 45-913 20/20 BUFF NATIONAL Made in U.S.A.

TABLE 2-A : Loan # 308

Argentina – SEGBA: Utility Load, Sales and Return

	Unit		1962 Forecast	1962 Actual	1963 Forecast	1963 Actual	1964 Forecast	1964 Actual	1965 Forecast	1965 Actual	1966 Forecast	1966 Actual	1967 Forecast	1967 Actual	1961 Actual
			1	2	3	4	5	6	7	8	9	10	11	12	13
1	MW	LOAD UTILITY: Installed Capacity		740		1359		1429		1399		1370		1433	
2	MW	Effective Peak Supply 1/	870	888	1076	940	1178	1100	1242	1169	1303	1235	1361	1316	628
3	MW	Effective Peak Capacity 1/	870		1183		1407		1407	1376	1407	1410	1599	1410	
4	MW	Minimal Reserve Capacity 1/	000		107		229		165		104		238		
5	MW	(or Highest Load Shed) 2/	na												55
6	MW	Capacity Out of Service: Total 3/	na												
7	Gwh	(Energy Effective Capability)	na												
8	Gwh	Gross Energy Generation 10/	5500	4131	6000	4544	6500	5116	7000	5579	7200	5870	7800	6253	
9	Gwh	(Estimated Energy Shedding)	na												
10	%	Plant Factor (8/1 x 8,760h)	na												
11	%	Load Factor (12/2 x 8,760h)	na												
12	Gwh	Energy Generation Sent Out	na	4100		4400		4800		5250		5506		5875	
13	MW	AREA 4/ Total Installed Capacity	na	1200		1600		1750		1750		2302		2302	
14	MW	Total Peak Capacity	1116		1492		1732		1732		1881	2190	2073	2190	
15	MW	Total Peak Demand	1070		1284		1402		1475		1545	1719	1613	1811	895 (1725)
16	Gwh	Gross Generated Energy						5116		5579					
17	Gwh	Total Sales													3,560
18	Gwh	SALES UTILITY: Total Sales (in Area)	3750	3305	4100	3485	4500	3916	4780	4308	5060	4602	5340	4875	
19	Gwh	of which: Net to other utilities 5/													2600 to distributed consumers
20		Distribution of Sales: 5/	NA												
21	Gwh	Residential: Urban	na	1518		1683		1777		1896		1981		2122	
22	Gwh	Residential: Rural	na	—											
23	Gwh	Commercial	na	363		388		422		476		503		536	
24	Gwh	Public Lighting	na	62		68		75				103		118	
25	Gwh	Transport	na	221		179		189				136		139	
26	Gwh	Government	na	—		134		151		637		187		201	
27	Gwh	Agriculture (pumping)	na	274								203		206	
28	Gwh	Industries: Total	na	868		867		1112		1299		1381		1455	
29	Gwh	[Breakdown by Main industries]													
30	Gwh														
31	Gwh	Other				166		190				108		98	
32	Gwh														
33	Gwh														
38	Gwh	~~Total (excluding inter-utility sales)~~	na												
34		FINANCES Av. Net Fixed Asset	13420		22016		32024		36544		36,763		38,288		
35	l.c.	Net Fixed Assets in Operation	16372	12130 6/	27659	30054 6/	36388	39560 6/	36699	57246 6/	36827	70417 6/	39749	86904 8/	
36	l.c.	Sales Revenues	11850	11872 7/	12800	17737 7/	13500	19864 7/	13979	31050 7/	14229	46011 7/	14977	61125 9/	
37	l.c.	Operating Expenses (physical)	5582	7344 7/	5966	10802 7/	6383	18267 7/	6622	18730 7/	6864	24792 7/	7070	33591 9/	
38	l.c.	Depreciation & Amortization	1591	1473 7/	2272	2198 7/	2819	1778 7/	2362	2469 7/	2466	5584 7/	2342	8313 9/	
39	l.c.	Economic Net Revenues (36-37-38)	4077	3055	4062	4737	4298	[illegible]	4995	9851	4899	[illegible]	5565	19221	
40	%	Return (39 as % of 35)	25	25	15	13	12	.5	14	17	13	8	14	22	

1/ Not available in forecasts, used: Peak Demand, Peak Capacity (or Capability), Peak capability was net of station auxiliaries; Reserve Capacity includes that for outages and Rotilements

2/ Excluding short-run outages – Breakdown of Load-Shed Origins

3/ Breakdown, if available, in: Maintenance, Breakdown, Auxiliaries, Dry Season Conditions

4/ Area = Region or Country

5/ If 17/18 ≥ 50%, distribution (20 to 32) given for { area of utility / utility itself

6/ Figures from Appraisal Report No. TO-606a, Annex 1

7/ " " " " " " , Annex 3

8/ " " " " No. AU-19a, Annex 4

9/ " " " " " " Annex 6

10) includes purchases from CIAE & AyEE

	Initials	Date
Prepared By		
Approved By		

45-813 EYE-EASE 45-913 20/20 BUFF NATIONAL Made in U.S.A.

TABLE 2-B: LOAN #308, #525 and #644 FINANCED BY IBRD LOAN/CREDIT

ARGENTINA-SEGBA: INVESTMENT PROGRAM PARTLY FORECASTS (in Millions of Pesos; M$N 83=U.S.$1 for Loan #308; M$N 350=U.S. $1 for Loan #525; M$N 350 = U.S. $1 for Loan #644)

	Loan #308									Loan #525						Loan #644					
	1962	1963	1964	1965	1966	1967	Total 62-64	Total 62-67	Terms i,t,g 3)	1967	1968	1969	1970	Total 68-70	Terms i,t,g 3)	1969	1970	Total 69-70	Total 70-72	Terms i,t,g 3)
SOURCES OF FUNDS																				
Internal Cash Generation (Net)	2104	2637	3370	1568	1280	2275	8110	13234		10509	21127	14963	19076	55166		12081	10871	22952		
Domestic Contribution: Total		500	500	1828	2741	832	1000	6401		7443	300	11500	3500	15300		373	222	595		
from Private Sector (share capital)		500	500	500	500	500	1000	2500												
from Local Suppliers										743					n.a	373	222	595		8 10 0
from Local Banks				1328 1)	2241 1)	332 1)		3901	n.a.			11500 1)	3500 1)	15000	n.a.					
from Public Sector (Govt.)										6700 1)		300 1)		300 1)	15 6 3					
Foreign Borrowing: Total	6562	5745	1849				14156	14156		110	19701	5980	470	26151		16318	12562	28880		
Suppliers Credit	2783	1794	279				4856	4856	see → 4)	110	4301	2130	470	6901	see → 5)	3526	836	4362		see → 6)
Foreign Bond Issues																	3500	3500		
Foreign Private Investment																				
Foreign Private Loans	585	830					1415	1415	n.a. 3 n.a.											
Bilateral O.D.A.																				
Regional Development Banks																				
IBRD/IDA																12792	1575	14367		6¼ 20 3
Proposed IBRD/IDA *	3194	3121	1570				7885	7885	5¾ 25 3		15400	3850		19250	6¼ 20 3		6651	6651		7 20 4
Grand Total	8666	8882	5719	3396	4021	3107	23267	33791		18062	41128	32443	23046	96617		28772	23655	52427		
APPLICATION OF FUNDS																				
Additions to Plant							Total 62-64	Total 62-67	of which L.C. / F.X.										Total 70-72	of which L.C. / F.X.
Generation: Total	3903	2972	684	770	1350	460	10139	10799	4376 / 6423	735	8328	5645	1580	16248						27883 / 7709
Puerto Nuevo #8 & #9	1302	237		770	1350	460	4119	1363	390 / 973											
Central Buenos Aires	2601	2735	684				6020	9436	3986 / 5451											
Transmission & Distribution	4528	5745	4737	2530	2530	2530	22600	15897	12079 / 3818	1548.7	25259	22687	18113	81546						46883 / 21017
Other										940	3250	2850	2300	9340						8879 / 3331
								26,696	16,455 / 10241											
Total 1	8431	8717	5421	3300	3880	2990	32739	22569	16455 / 10241	17162	36837	31182	21993	107174		29149	33806	62955	86607	58550 / 28057
Working Capital	235	165	298	96	141	117	1052	698		900	4291	1261	1053	7505		-377	-10151	-10528		
Total 2	8666	8882	5719	3396	4021	3107	33791	23267		18062	41128	32443	23046	114617		28772	23655	52427		

* IBRD Loans include part payment for interest during construction: Loan #308 = 415 M$N
#525 = 1120 M$N
#644 = 1750 M$N

1) Those figures were listed as "Other Loans" in Annex 7 of Appraisal Report No. TO-306a
2) " " " " " "Future Loans" in Annex 4 " " " " TO-606a
3) i = interest
t = term
g = grace period

4) Breakdown of Suppliers Credit Terms

Eximbank	5.7	15	3
Eximbank	5¾	9	n.a.
Westinghouse Credits	6	5	0
BTH-ICL Credits	5-7½	10	0
Metropolitan Vickers Credits	5-7½	10	0
Pirelli Credits	6	10	0
Other Credits	6	5	0

5) Breakdown of Suppliers Credit Terms

2 Foreign Credits	7½	6	0
1 Foreign Credit	7	13	3

6) Breakdown of Suppliers Credit Terms

Eximsank	6	11½	n.a.
Foreign Supplier	7.5	11½	0
Foreign Supplier	8	6	0

7) Semi-Public Caja

	Initials	Date
Prepared By		
Approved By		

45-813 EYE-EASE
45-813 20/20 BUFF
NATIONAL Made in U.S.A.

TABLE 2-A : Loan #525 & #644

Argentina - SEGBA: Utility Load, Sales & Return

		Loan #525							Loan #644			
		1967		1968		1969	1970		1969		1970	
		Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual
MW	LOAD UTILITY: Installed Capacity	1420	1433	1510	1573	1540	1573	1790		1573		1823	
MW	Effective Peak Supply 1)	1319	1316	1412	1394	1510	1547	1617		1530		1652	
MW	Effective Peak Capacity 1)		1410		1550					1550		1800	
MW	Minimal Reserve Capacity	NA											
MW	(or Highest Load Shed) 2)	NA											
MW	Capacity Out of Service: Total 3)	NA											
Gwh	(Energy Effective Capability	NA											
Gwh	Gross Energy Generation 1)	6230	6253	6670	6792	7120	7668	7620		7370		7955	
Gwh	(Estimated Energy Shedding)	NA											
%	Plant Factor (8/1 x 8.760 h)	50	50	50	49	53	46	49		53		50	
%	Load Factor (18/2 x 8.760 h)												
Gwh	Energy Generation Sent Out	5875	5875		6404		7283			7176	7283	7751	
MW	AREA 4) Total Installed Capacity		2302		2442		2594				2594		
MW	Total Peak Capacity		2190		2330								
MW	Total Peak Demand		1811		1883								
MW	Captive plants installed capacity						600						
Gwh	Total Sales												
Gwh	SALES UTILITY: Total Sales (in Area)	4860	4875	5230	5429 9)	5620	6160 9)	6040		6100		6620	
Gwh	of which: not to other utilities 5)												
	Distribution of Sales: 5)	NA											
Gwh	Residential: Urban	NA	2122		2285 9)		2488 9)						
Gwh	Residential: Rural	NA											
Gwh	Commercial	NA	536		597		670						
Gwh	Public Lighting	NA	118		144		160						
Gwh	Transport	NA	139		185		211						
Gwh	Government	NA	201		239		253						
Gwh	Agriculture (pumping)	NA	206		232		240						
Gwh	Industries: Total	NA	1455		1636		1915						
Gwh													
Gwh	Other		98		111		223						
Gwh													
Gwh													
Gwh	Total (excluding inter-utility sales)	NA											
	FINANCES Av. Net Fixed Assets	81683		101,960		120,385		141,130					
l.c.	Net Fixed Assets in Operation	92136	86904 9)	110960	94783 9)	129810		152450		101353		128284	
l.c.	Sales Revenues	61231	61125 9)	70203	71196 9)	75519	74145	79325		78034		80407	
l.c.	Operating Expenses (physical)	33565	33591 9)	35545	35437 9)	37632		38151		39755		41184	
l.c.	Depreciation (& Amortization)	8491	8313 9)	9383	8841 9)	10314		11382		9453		10678	
l.c.	Economic Net Revenues (36-37-38)	19175	19221	25275	26918	27573		29792		28826		28545	
%	Return (39 as % of 35)	21	22	23	28	21		20		28		22	

1) Not available in forecasts, used: Peak Demand, Peak Capacity
2) Excluding short-run outages - breakdown of load shed origins
3) Breakdown, if available, in: Maintenance, Breakdown, Auxiliaries, Dry Season Conditions
4) Area = Region or Country
5) ~~If 19/6 ≤ 50%, distribution~~ (20 to 32) given for sales of utility itself

~~6) Includes purchased energy from CIAE & Hy EE~~

9) Figures from Appraisal Report No. PU-19a, Annex 4

9) Figures from Appraisal Report No. PU-19a, Annex 6

~~Add customers contributions to these~~