

PW-ABZ-361
91962

**ELECTRIC COOPERATIVE
SERVICE AREA INTEGRITY
IN THE PHILIPPINES**

DECEMBER 1993

**PREPARED BY NRECA INTERNATIONAL, LTD. under
Contract 492-0429-C-00-0065-00 with USAID**

BEST AVAILABLE COPY

TABLE OF CONTENTS

INTRODUCTION.....Pg. 3

EXECUTIVE SUMMARY.....Pg. 4

BACKGROUND AND IMPORTANT TRENDS.....Pg. 8

FINDINGS AND RECOMMENDATIONS.....Pg. 12

APPENDICES

A. CATEGORIZATION OF EACH COOPERATIVE.....Pg. 24

B. NEA CATEGORIZATION SUMMARIZED.....Pg. 28

C. NEA MEMO RE: CATEGORIZATION OF ELECTRIC
COOPERATIVES.....Pg. 30

D. CABINET MEMORANDUM: POLICY REFORMS IN THE
POWER SECTOR.....Pg. 37

E. ERB RESOLUTION NO. 91-22.....Pg. 40

F. NEA MEMORANDUM: NPC'S DIRECT TAPPING OF POWER
TO INDUSTRIAL CONSUMERS.....Pg. 46

G. INDUSTRIAL LOADS DIRECTLY SERVED BY NPC.....Pg. 51

H. ECs GROUPED BY ABILITY TO SERVE INDUSTRIAL
LOADS.....Pg. 57

PERSONS CONTACTED IN PREPARATION OF REPORT.....Pg. 59

This document was made possible through support provided by USAID under the terms of contract NO. 492-0429-c-00-0065-00. The opinions expressed are those of the author and do not necessarily reflect the views of USAID.

INTRODUCTION

For several years there has been controversy in regard to providing electric service to industrial loads within the franchise areas of Rural Electric Cooperatives (ECs). In particular, some industrial loads so situated are being served by National Power Corporation (NPC).

The purpose of this report is to assist decision makers in deciding the proper resolution of the controversy.

This report is founded on written and electronic information gathered in the Philippines and on an extensive interview process with people in the Philippines who have considerable insight into rural electrification in the country. Additionally, a through knowledge of rural electrification in the United States was brought to bear where applicable to rural electrification matters in the Philippines.

This report is one part of a three part series on rural electrification in the Philippines. The other parts, ELECTRIC COOPERATIVE OWNERSHIP IN THE PHILIPPINES and ELECTRIC COOPERATIVE MERGERS/CONSOLIDATIONS IN THE PHILIPPINES, have been completed. Pertinent parts of the information in those reports are also presented in the body of this report so that this document can be utilized independent of the other reports.

EXECUTIVE SUMMARY

The study that forms the basis of this report investigated six key areas in regard to direct service of industrial loads by NPC in the franchised areas of ECs.

LEGAL FRAMEWORK FOR EC SERVICE TO INDUSTRIAL LOADS:

THE ECs AS VIABLE ORGANIZATIONS:

ABILITY OF THE PHYSICAL SYSTEM TO SERVE INDUSTRIAL LOADS:

ECONOMIC CONSIDERATIONS OF SERVICE TO INDUSTRIAL LOADS BY ECs:

INDIVIDUAL EC ABILITY TO SERVE INDUSTRIAL LOADS:

ALTERNATIVE ORGANIZATIONAL STRUCTURE:

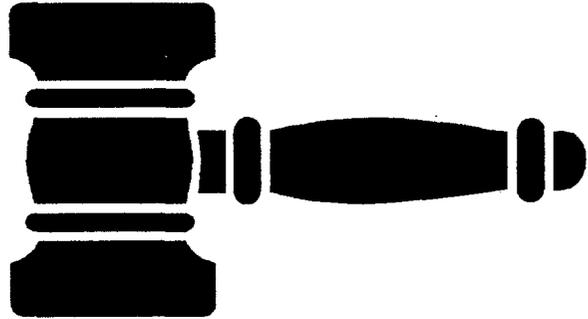
1). LEGAL FRAMEWORK FOR EC SERVICE TO INDUSTRIAL LOADS:

The legislative history is quite persuasive on this issue. Not only do the ECs have the right to provide service to the industrial loads in their respective franchised areas, they are expected to do so unless special circumstances dictate otherwise.

Republic Act No. 6038,
Presidential Decree No.269,
Energy Regulatory Board
Resolution NO. 91-22 and

President and Cabinet approved Policy Recommendations all support the conclusion that the Government of the Philippines has for some time intended that

the ECs provide electric service to all loads in their franchise areas. The Supreme Court also has taken action that supports the right of the ECs to serve all loads in their franchise areas. Service should be provided by other than the EC only upon 1) a resolution of the EC Board of Directors agreeing to another entity providing that service in the EC franchise area, or 2) the demonstrated inability of the EC to serve a load adequately.



THE ECs HAVE THE
LEGAL RIGHT TO SERVE
THE INDUSTRIAL LOADS

2). THE ECs AS VIABLE ORGANIZATIONS:

The report on cooperative ownership demonstrates in great detail that the ECs are getting financially stronger. Based on the trends that are evident, it is reasonable to conclude that the cooperative segment of the power industry will remain viable. Its viability will be enhanced by its ability to serve additional industrial loads.

Some few ECs are not healthy now, and some of those may never become healthy. These will constitute the very few instances where a case by case analysis will determine that it remains necessary to have NPC provide direct service to an industrial load. Particular care must be taken in the analysis to determine that the weakness of the EC is not exacerbated by the very fact it is not serving an attractive load. A sensitivity analysis must be made in such an instance. The future viability of the subject EC would be tested with and without the industrial load.

In the unusual circumstances where it is determined that an EC is unable to adequately serve an industrial load, consideration should be given to a royalty payment from the load to the EC to recognize the value of the franchise of the EC. If NEA and NPC form the joint committee recommended in this report, that committee can set standards to determine the value to be placed on a franchise when an industrial load will be served by NPC. In the case of an EC that is well managed but weak because it serves an economically depressed area, the royalty payment can be at full value. In the case of an EC which is contributing to its own problems through inefficient operation, the initial royalty payment can be at less than full value. The payment can be designed to grow towards full value as the EC meets certain goals which demonstrate it is resolving its internal problems.

NEA makes an annual evaluation of electric cooperatives and categorizes them based on several important criteria. This evaluation ranks the ECs into categories "A" through "D" and would be useful in assisting in the case by case analysis to determine those few ECs that might not yet be ready to provide service to industrial loads. The Energy Regulatory Board (ERB) has adopted and implemented technical and financial indicators and standards to be used as bases for determining the continuance or discontinuance of direct power connection of industries to the National Power Corporation. The combination of these two standards can provide the basis to test EC's ability to serve industrial loads.

The above procedure should be applied with the presumption that every EC is capable of serving all loads within its franchise territory. The test would be applied to discover those few situations where the presumption might be wrong.

3). ABILITY OF THE PHYSICAL SYSTEM TO SERVE INDUSTRIAL LOADS:

It is important that the ECs throughout the Philippines already serve many industrial loads successfully. These ECs have been able to provide the necessary physical systems to serve the loads. If a new industrial load locates in an EC service area, that EC, rather than NPC, will have to obtain the funds to construct the needed facilities. In the few cases where the EC can not obtain the funds for construction or oversee the construction of the facilities, the load would be served by NPC.

Where an existing industrial load is served directly from NPC facilities, it may be necessary for the EC to acquire certain facilities (such as a substation and/or certain low voltage transmission line) from NPC. It may also be useful for some ECs to have a maintenance contract with NPC for a period of time while the EC staff gets trained in maintaining newly acquired facilities.

4). ECONOMIC CONSIDERATIONS OF SERVICE TO INDUSTRIAL LOADS BY ECs:

To the extent that the ECs are limited in their right to serve industrial loads, those cooperatives and their other members are economically disadvantaged.

The very low usage per residential consumer in the Philippines is discussed later in the report. With such small loads at the residential level, it is all the more important that the ECs have full rights to serve the industrial loads.

Industrial loads can help an entire service area by providing additional employment. The local EC will have even more interest in such rural area development than will NPC. Thus the EC can be expected to more aggressively pursue the development of new industrial loads in its franchise area. This is an excellent example of people empowerment, which is a theme of the Government of the Philippines.

In the long run NPC can benefit from the transfer of the industrial loads it presently serves. When the transfers are completed, NPC can turn its attention fully to matters of generation and high voltage transmission. This opportunity to focus more specifically on the two most important functions of the organization will be useful from an organizational management point of view.

There is currently considerable Government interest and action on the issue of who provides electric service to industrial loads. Therefore, a resolution of this issue can be expected in the near future. This is a very useful initiative on the part of the Government, and hopefully this report will contribute to the decision making process.

5). INDIVIDUAL EC ABILITY TO SERVE INDUSTRIAL LOADS:

Appendix "G" lists the 51 industrial loads presently served directly by NPC and the 26 ECs in whose respective service areas these loads are located. The demand and energy usage is shown for each industrial load and for each EC. Also presented in regard to each of the 26 ECs is its NEA designated Class and Category as well as line loss, consumers billed and average rate.

With the above information some preliminary conclusion can be drawn in regard to the ability of each EC to handle a particular load or

loads. For example, if the industrial load(s) is small in relation to the size of the EC and the EC is E Class, A Category, has low line losses and rates below average for all ECs, it is reasonable to assume the EC will be capable of serving the added load. If, on the other hand the industrial load(s) is very large in relation to the EC and the EC is D Category with high line losses and rates higher than the EC average, that EC may not be currently capable of serving the added load.

This study concludes that all ECs have the right to serve the industrial loads located in their respective service areas. Appendix "H" presents a list of the ECs put into three groupings in regard to their ability to exercise that right.

a) 15 ECs who are presumed to be capable of serving their respective industrial loads:

b) 8 ECs where additional information is needed to determine their capability to serve their respective industrial loads:

c) 3 ECs who are presumed to be not yet ready to serve their respective industrial loads:

6). ALTERNATIVE ORGANIZATIONAL STRUCTURE:

There is an alternative organizational structure that might allow all of the ECs to provide even better service to the industrial loads as well as the existing EC members. That organizational structure would involve the creation of several cooperatives which are themselves made up of some of the ECs.

A separate study on mergers/consolidations of ECs demonstrates the potential benefits of such mergers. Hopefully, there will be mergers of ECs in the Philippines. The result will be even stronger ECs. In addition to such EC mergers, the ECs and the Government of the Philippines could stimulate interest in groups of ECs forming their respective Generation and Transmission cooperatives (G&Ts).

A G&T can negotiate on behalf of its members to obtain the best plan of power supply for the group. The G&T can assist its members in load forecasting, engineering, system planning, etc. The G&T could own the transmission system so that the ECs can focus on retail service. A G&T providing transmission service over a large geographical area could provide some comfort to the owners of large industrial loads being served from that system.

The creation of G&Ts should not be considered as an alternative to considering EC mergers. Nor should the creation of G&Ts be considered as a prerequisite to the turnover of industrial loads to the ECs. Rather the utilization of G&Ts should be investigated as an additional area of strength in the EC community.

BACKGROUND AND IMPORTANT TRENDS

This report provides information regarding the status of service to industrial loads in the franchise areas of the ECs. Based on an analysis of that situation, recommendations are given for future action to best resolve this controversial situation.

In the early 1960's the Philippine rural electric program was started. In 1969, Republic Act 6038 was enacted to formalize the rural electrification effort. The NEA was created by Presidential Decree No. 269, and the NEA Charter was established. By 1971 the first EC was energized. By 1992 there were 118 ECs included in the year end reports prepared by NEA. These ECs serve approximately three million connections. The statistics on all of these ECs have been analyzed for the purposes of this report.

Each EC receives its franchise to serve a geographic area. NEA is an interested lender to the ECs. It provides funds and/or materials to the ECs. It also provides guidelines to these borrowers to improve their operations. Additionally, NEA has the right to approve or disapprove the board of directors selection of manager at each of the ECs. The EC obligations to NEA are evidenced through the signing of loan agreements and mortgage documents.

Recently, the central government has given rate approval authority over the ECs to ERB. The established procedure calls for NEA to coordinate closely with the ERB in regard to each EC rate approval request. The NEA recommendation regarding the rate request is sent to ERB.

NPC is responsible for the national high voltage transmission grid which includes most transmission systems nationwide. It is also responsible for most power generation in the nation. The ECs obtain their wholesale power from NPC and are responsible for the distribution of electricity to many of the provincial urban centers as well as to much of the rural area of the nation. Additionally, NPC serves some industrial loads directly from its transmission system even though 51 of these loads are in EC franchise areas. It is the impact on the ECs of this direct service to industrial loads by NPC which has stimulated the need for this report.

NPC has been very willing to directly serve those industrial loads which wish to be connected to it. The owners of many industrial loads have wanted direct NPC service on the assumption that service from NPC will be cheaper than service from the local EC. In such cases, both NPC and the industrial load ignore the value of the distributing utility to the service area. The owners of the industrial loads wish to take advantage of a procedure not available to other electric consumers. The directly served industrial loads are the only type load that can receive service

without contributing for the value brought by having electric service available throughout the service area.

Appendix "G" contains a list of the industrial loads that are served directly by NPC. The demand and energy usage of the individual industrial loads has been included on the list, as has the demand and energy usage of the EC for the respective service area. As can be seen from Appendix "G", many of the 51 directly served industrial loads are extremely large - some even using more kwh than all the existing members of the local EC.

The owners of the directly served industrial loads are, of course, influenced by NPC's rates to directly connected industries which are lower than the ECs' existing tariff rates to industries. Because so many of the directly connected industries are so large, and since many of them have strikingly good load factors, the ECs picking up such loads will have to design new (lower) industrial tariffs. A properly designed tariff can assure the EC of a reasonable rate of return and at the same time show the owner of the industrial load that the load is not being taken advantage of. Such a tariff could reduce the level of opposition of the industrial load owners to service to the load be the local EC.

The design and publication of new industrial tariffs by ECs which would be picking up new industrial loads would be a useful next step at this time. The Supreme Court has rendered a decision restraining NPC from directly connecting industrial loads. The President has issued a directive for NPC to refrain from entertaining new applications for direct service to industrial loads. Additionally, the President has called for a committee to analyze this issue. A showing by the ECs that they can serve the industrial loads at reasonable rates would move this process further.

There are important current trends among the rural electric cooperatives. The conventional wisdom among those who do not follow the ECs closely is that they are mostly troubled organizations. Current information shows that this conventional opinion is no longer correct. The general financial health of the rural electrification program in the Philippines did deteriorate in the 1980's. Since the most recent studies were completed on the ECs, however, there has been a positive reversal in the economic health of the ECs. There has also been a useful change in the focus of NEA. This report will document the changed situation, and will make recommendations based on the new outlook for NEA and the ECs.

The report titled ELECTRIC COOPERATIVE OWNERSHIP IN THE PHILIPPINES thoroughly documents the improving financial health of the ECs. It also highlights the improved focus of NEA. The following excerpt from that report summarizes the improved situation.

"The improved picture on margins is even more impressive when previous years margins are considered. Table 5.4 of World Bank Report No. 9810-PH shows the following total margins for the ECs: (in millions of Pesos)

YEAR	1985	1986	1987	1988	1989
MARGIN	(52)	11	(22)	(8)	(35)

Those figures are in sharp contrast to the 1990-1992 figures.

YEAR	1990	1991	1992
MARGIN	25	396	262

As can be seen above, dramatic, but unheralded, changes have taken place at the cooperatives. Changes have also taken place at NEA.

NEA is regaining its proper focus on the ECs. NEA loans to cooperatives will be conditioned on the proper implementation by the cooperatives of "Performance Improvement Programs" (PIP's). These PIP's will focus on five areas.

1. Reduction of technical losses.
2. Reduction of non-technical losses.
3. Improvement of collection efficiency.
4. Better control of non-power costs.
5. Quality of service.

NEA is now guided by a "Statement of Operating Policy" (SOP). Under that SOP, NEA will finance and support projects initiated by the ECs which in the opinion of NEA are technically feasible and which would maintain or improve the financial viability of the executing utility. With this renewed focus on EC financial viability, NEA will be a more successful lender again."

Please refer to Appendix "A" to see the 1991 grading on the ECs as determined by NEA. The categorization is summarized in Appendix "B". This grading is encouraging for it shows a generally healthy situation at the majority of ECs. Appendix "C" explains the NEA categorization procedure.

While this report was being finalized, the year end 1992 grading of the ECs by NEA became available. For 1992 NEA rates 49 ECs as "A", 21 ECs as "B", 11 as "C" and 36 as "D". Based on the same grading criteria, it can be seen that the situation improved in 1992. The number to ECs rated "A" went up considerably. The number of ECs rated in each of the three lower categories went down. This is a very encouraging trend.

For purposes of the report on cooperative ownership, independent analysis was done on the situation of debt repayment arrearages at the ECs. This has been, and still is, an area of weakness at the ECs. At year end 1991, according to information available at the World Bank, only 26 cooperatives were current in their debt service payments. Analysis for this report shows that at year end 1992, 48 ECs were current on their debt service payments. This is still not a satisfactory figure, but it is a great improvement during the period. Recommendations on methods to deal with previous debt service shortfalls are given in the cooperative ownership report.

Yet another statistic demonstrating improving trends among the ECs is that of line loss. The world Bank reports that losses went down from 24 percent in 1988 to 21.68 percent by the end of 1990. Losses stood at 20.79 percent for all the ECs at the end of 1992.

While this improving trend in line losses is encouraging, much more needs to be done.

It is easy to substantiate the improving financial health of the ECs, and to conclude that they will remain viable entities contributing to the health of the nation. They are not yet, however, as strong as they need to be. They are working to improve their debt repayment record, and much remains to be done in this area.

Internally, they are improving their line loss situation and this will help considerably in improving their ability to pay on debt service. They have also taken the difficult step of raising rates to a level more reflective of true costs. They now need to have the external issue of service to industrial loads settled favorable to further improve their ability to make debt service payments.

FINDINGS AND RECOMMENDATIONS

Six important issues require attention in order to properly address service area integrity in EC franchised service territories. The first issue is whether or not the legal framework is in place to allow the ECs to serve all loads in their respective service territories. Secondly, are the ECs viable organizations for the long term to supply industrial loads?. Next, are there physical system impediments to the ECs serving industrial loads in their service territories? Forth, is there a demonstrated economic necessity to have the ECs serve the industrial loads in their service territories? Next, and very important, what is the apparent ability of individual ECs to serve industrial loads? And last, are there any alternative electric utility organizational structures that should be analyzed?

LEGAL FRAMEWORK FOR EC SERVICE TO INDUSTRIAL LOADS:

On August 4, 1969, Republic Act No. 6038 established a declaration of national policy for total electrification of the Philippines. From that time on, the Government of the Philippines has been clearly on record as supporting the concept of the ECs facilitating total area coverage of electric service throughout the nation.

The area coverage concept is greatly enhanced to the extent ECs are allowed to serve the attractive industrial loads as well as the small residential loads. The utility that is expected to serve the remote barangays must also be the utility that is allowed to serve the bigger loads in its franchise territory.

Any government policy that allows, let alone encourages, industries to bypass franchisees and go directly to NPC will increase rates to others, The policy is ill advised because it is inflationary and, more importantly, because it slowly but inexorably undermines the franchisees' ability to remain financially viable in the long run, thus jeopardizing the national program on rural electrification.¹

On August 6, 1973, Presidential Decree No. 269 Created NEA and prescribed for it certain powers and activities. Of particular interest in this document, as amended, is Section 39(b) which provides the following:

"The National Power Corporation shall, except with respect to the National Government, give preference in the sale of its power and energy to cooperatives, and shall otherwise provide the maximum support of and assistance to cooperatives of which

¹Ramon C. Abaya, WHY DIRECT POWER CONNECTIONS ARE ECONOMICALLY UNJUSTIFIABLE (The National Engineering Center) p. 17

it is capable, including assistance in developing dependable and reliable arrangements for their supplies of bulk power, either from itself, or from other sources. In pursuance of the foregoing policy, the National Power Corporation shall not, except upon prior written agreement approved by the cooperative's board, compete in the sale of power and energy which without regard to the location of the point of delivery thereof, will be utilized and consumed within an area franchised to a cooperative."

This Presidential Decree clearly states the Government's position of expecting NPC to cooperate with rather than compete with the ECs.

On January 23, 1987, the President and the Cabinet approved Policy Recommendations for the power sector which among other things did "...Continue direct connections for industries authorized under the BOI-NPC Memorandum of Understanding of 12 January 1981, until such time as the appropriate regulatory board determines that direct connection of industry to NPC is not longer necessary in the franchise area of the specific utility or cooperative. Determination shall be based on the utility or cooperative's meeting standards of financial and technical capability, with satisfactory guarantees of non-prejudice to industry, to be set in consultation with NPC and relevant government agencies, and reviewed periodically by the regulatory board...;"

The policy recommendations, indeed, do show the direction the Government wished to head. That is, when the utilities were ready and it would not be prejudicial to industry, the industrial loads were to be served by the distribution utilities, not by NPC.

On December 6, 1991, the ERB approved ERB RESOLUTION NO. 91-22 which adopted and implemented "...technical and financial indicators and standards to be used as bases for determining the continuance or discontinuance of direct power connection of industries to the National Power Corporation...;"

This resolution states "there is an absolute need to adopt and implement these standards in order to facilitate the determination of the power distributors qualified to service large industrial customers and, consequently, the transfer of said large industrial loads directly connected to NPC to the local electric distributors under this Board's jurisdiction".

The resolution then presents the financial standards and the technical standards. Both sets of standards are reasonable tests of the overall operating efficiency of an electric distributor. The resolution wisely recognizes, however, that the standards must be used with discretion. It states "...primary consideration shall be given to the technical capability of electric distributors to serve large industrial loads; the financial and technical standards

shall serve as secondary considerations for the transfer of directly connected industries to franchised distributors..."

These standards should be used as benchmarks against which each EC can be compared. An EC that does not measure up should then be looked at more carefully. The standards should not be used as a make or break test. For example, lets consider an EC which is very healthy financially and technically well run. Lets further assume it has reduced its line loss one percent each of the last five years and is now down to 15 percent loss. If the 14 percent line loss criteria were used as an absolute cut off, this EC would improperly be excluded from consideration for serving industrial loads in its service territory. As mentioned earlier in this report, these standards would actually be used in conjunction with the NEA grading criteria to test the various ECs.

THE ECs AS VIABLE ORGANIZATIONS:

The report on cooperative ownership makes a strong case that the electric cooperative movement in the Philippines is financially healthy and getting stronger. The ECs are here to stay as viable institutions for the long term. A few individual cooperatives may be bought out over the years, but that will probably be a result of their general strength not weakness. This key finding in the cooperative ownership report is summarized as follows:

"In the past three years, there has been significant improvement in the financial health of the ECs. Rate increases have provided necessary revenues. Improved bill collection results and operation and maintenance procedures have combined to lower line losses.

At year end 1992, 89 out of the 118 reporting ECs had positive net margins. If cooperatives with high line losses had been able to bring those losses down to 12 percent in that year, well over 100 ECs would be reasonably healthy and able to cover current expenses. Considering the millions of dollars of proposed World Bank assistance for EC rehabilitation and upgrading as well as the USAID-supported institutional and operational improvements and training, it is reasonable to expect lowered line losses.

With so many healthy cooperatives, the Government should not pursue a policy of actively seeking change of ownership of the cooperatives. The ECs are, however, private institutions and a particular EC and an investor owned utility may each decide to have the EC taken over by the utility. In this case the Government can have policies to assure that the takeover is in the peoples best interest."

The presumption should be that an EC is healthy until a case by case analysis shows otherwise. Only then should it be considered

necessary for an industrial load to be served directly by NPC in a cooperative franchise area.

In the unusual circumstances where it is determined that an EC is unable to adequately serve an industrial load, consideration should be given to a royalty payment from the load to the EC to recognize the value of the franchise of the EC. If NEA and NPC form the joint committee recommended in this report, that committee can set standards to determine the value to be placed on a franchise when an industrial load will be served by NPC.

The royalty payment can be designed to accomplish two quite different functions. In the case of an EC that is well managed but weak because it serves an economically depressed area, the royalty payment can be at full value. In the case of an EC which is contributing to its own problems through inefficient operation, the initial royalty payment can be at less than full value. The payment can be designed to grow towards full value as the EC meets certain goals which demonstrate it is resolving its internal problems.

In the first case, the full royalty payment can contribute towards the financial health of an EC serving a difficult territory. In the second case, the form of royalty payment can provide an incentive to move the EC towards a more efficient operation as well as provide some cash.

ABILITY OF THE PHYSICAL SYSTEM TO SERVE INDUSTRIAL LOADS:

The current physical method of service may well remain the same for existing loads. The EC may have to acquire certain existing facilities from NPC--for example a substation which taps an NPC transmission line. For at least a period of time, certain ECs will want to contract with NPC to maintain facilities recently acquired by the EC. This will allow time for training of EC staff to do the required maintenance.

The concept of the ECs using existing facilities currently owned by NPC is discussed by Mr. Abaya:

...he (the EC) shall immediately take over all NPC-owned lines and equipment used to feed an industry and shall pay NPC a mutually-agreed price, He shall now assume the responsibility for maintaining the lines or he may arrange with either the customer or a third party to help him handle such maintenance. The industry shall continue to be supplied via the lines; its physical link with NPC stays although it is a customer of the distributor. The industry may pay its bills directly to NPC which in turn will credit the payments to the account of the distributor. Service to the industry will not suffer in

case the distributor reneges on the balance of his accounts with NPC.²

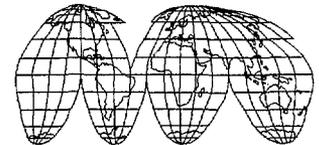
New industrial loads would typically be served by the EC utilizing the same type of facilities that would be built by NPC were it to serve the new load. In some cases there will be an economic advantage if the EC serves the new load for the cooperative would have some appropriate facilities already in place in its franchise area.

ECONOMIC CONSIDERATIONS OF SERVICE TO INDUSTRIAL LOADS BY ECs:

To the extent that the ECs are limited in their right to serve industrial loads, those cooperatives and their other members are economically disadvantaged.

Direct connections have an inherent anti-rural bias because, by preventing rural systems from serving industrial customers, they deny them the chance to bring their rates within reach of the average customer, thus undermining the systems viability in the long run. The rates that NPC charges direct buyers are artificially low due to the presence of franchised distributors bound by regulations to serve even the smallest and most remote end-user in areas assigned to them. There is a "hidden subsidy" involved whenever end-users served not by NPC but by franchisees are made to bear the entire costs of distribution.³

Direct comparisons with the rural electric cooperative community in the United States and other countries should be made very sparingly. This is, however, one instance where such a comparison is useful.



INTERNATIONAL COMPARISONS

A review of the 885 rural electric cooperatives that were borrowers from the U.S. Rural Electrification Administration as of year end 1991 shows the following:

The average usage per residential consumer was 986 KWH/mo.

The average revenue from residential users was 7.88 cents/kwh.

The average revenue from commercial, industrial and irrigation users was 7.62 cents/kwh.

²Ramon C. Abaya, WHY DIRECT POWER CONNECTIONS ARE ECONOMICALLY UNJUSTIFIABLE (The National Engineering Center) p. 19

³Abaya p.1

Commercial, industrial and irrigation users provided, on average, approximately 1/3 of the kwh usage.

Even with 986 kwh/mo per residential consumer, the ECs in the U.S. required considerable usage from the industrial and commercial sector to be as healthy as they are. The ECs charged these consumers almost as much on average as they charged the residential users. Of course incentive rates are given to the large industrial loads by the ECs in the U.S.

The 41 rural electric cooperatives in Bangladesh have also been analyzed to determine the impact of industrial loads on the ECs in that nation. The following table shows the situation for the most recent reporting year ending June 30, 1993:

Consumer Class	Domestic	Small Commercial	Irrigation	Industry	Street Lights
MWH	199,751	36,205	145,531	268,601	1,745
% of Total	30.64	5.55	22.33	41.21	.27

It can readily be seen that in Bangladesh the industrial sector also contributes significant load to the rural electricians - 41 percent. As in the Philippines, in Bangladesh the residential usage is low per consumer - approximately 30 kwh/user/month.

The four rural electric cooperatives in Costa Rica have been analyzed to determine the impact there of the industrial loads on the ECs. The following table shows that situation for year end 1992.

Consumer Class	Residential	General	Industrial	Street lights
MWH	125,152	49,334	47,825	8,457
% of Total	54.16	21.35	20.69	3.66

In Costa Rica the industrial sector contributes more than 20 percent of the total load of the ECs. The residential users consume 166 kwh/user/month.

The previous two years history for the U.S., Bangladesh and Costa Rica were reviewed, and this confirms that the industrial load is consistently a major part of the total load in each country.

The information available from Bolivia is less reliable, but interesting none the less. There are upwards of 100 electric cooperatives there, however, many of these are tiny - with less

than 100 consumers each. Reliable data for year end 1992 is available for only three rather large cooperatives. The impact of industrial loads on the systems in Bolivia is demonstrated on the following table.

Consumer Class	Residential	Industrial	Commercial
MWH	264,012	128,280	92,376
% of Total	54.5	26.5	19

Again, the industrial sector is an important factor in the sales of energy by the Bolivian Cooperatives. It is also important to realize that the residential users at the reporting cooperatives in Bolivia use nearly 159 kwh/user/month.

The cooperatives in the U.S., Bolivia and Costa Rica have much better usage per member in the residential sector than do the ECs in the Philippines. Additionally these cooperatives get a good contribution of usage from the industrial sector. That combination is more helpful than the situation in the Philippines.

In Bangladesh, the residential usage is low. This is similar to the Philippines. However, in Bangladesh the industrial sector contributes over 40 percent of the total usage. This is also more helpful than the situation in the Philippines.

In the Philippines, many of the ECs have average usage by residential consumers of 30 to 40 KWH/mo. An EC can count itself lucky if it has as much as 60 KWH/mem/mo. (Compare this to residential usage of nearly 1,000 kwh/mo in the U.S.) With such small loads at the residential level, it is all the more important that in the Philippines the ECs have full rights to serve the industrial loads. Service to industrial loads will not only improve the EC's load picture from a total sales point of view, but it will also improve the EC's load factor - an important consideration.

The following table presents the usage sales of the Filipino ECs by type of consumer in 1992.

Consumer Class	Residential	Commerc.	Industrial	Public Build.	Others
MWH	1,410,886	469,299	830,148	118,932	159,205
% of Total	47	16	28	4	5

NPC reported in early July 1993, that its rates will be restructured by January of 1994. In particular, NPC presented plans to raise its demand charge from 2 percent of its billings to 30 percent. This 15 fold increase, if inaugurated, will change the economics of receiving service from NPC and greatly facilitate the transfer of industrial loads to the ECs. Each EC, on its part, can work with the individual industrial loads to come to mutually acceptable tariffs for service from the EC.

INDIVIDUAL EC ABILITY TO SERVE INDUSTRIAL LOADS:

The information presented in Appendix "G" and the following discussion should assist in any case by case review of the directly served industrial loads.

Appendix "G" lists the 51 industrial loads presently served directly by NPC and the 26 ECs in whose respective service areas these loads are located. The demand and energy usage is shown for each industrial load and for each EC. Also presented in regard to each of the 26 ECs is its NEA designated Class and Category as well as line loss, consumers billed and average rate.

With the above information some preliminary conclusion can be drawn in regard to the ability of each EC to handle a particular load or loads. For example, if the industrial load(s) is small in relation to the size of the EC and the EC is E Class, A Category, has low line losses and rates below average for all ECs, it is reasonable to assume the EC will be capable of serving the added load. If, on the other hand the industrial load(s) is very large in relation to the EC and the EC is D Category with high line losses and rates higher than the EC average, that EC may not be currently capable of serving the added load.

PELCO II and CEBECO III provide useful examples of the analysis process. Trust Ind. Pulp & Paper Co. (Trust) is located in the Pelco II service area. Trust energy usage is one and one quarter times larger than the usage of all current PELCO II users combined. PELCO II is in the D Category and has a 37 percent line loss. Both the Category and loss statistics indicate that PELCO II does not yet have good control of its operation. PELCO II may need additional time and/or help to be able to serve Trust. On the other hand, Prime White Cement Corp. (Prime) and Atlas Con. Mining & Dev. Co. (Atlas) are in the CEBECO III service area. The Prime and Atlas energy usage together only add up to six percent of the current CEBECO load. CEBECO III is a Category A EC with 10 percent line loss. These statistics indicate CEBECO III has good control of its operation and should be able to pick up the relatively small industrial loads being directly served by NPC in its service area.

A review of Appendix "G", and the two EC examples given above, point out the wide range of capabilities of the ECs and the

considerable differences among the industrial loads. With these facts in mind, it is now useful to explore the possibility of an entirely different approach to EC service to the industrial loads.

This study has already concluded that all ECs have the right to serve the industrial loads located in their respective service areas. Appendix "H" presents a list of the ECs put into three groupings in regard to their ability to exercise that right.

SEE APPENDICES G AND H FOR
IMPORTANT INFORMATION

- a) 15 ECs who are presumed to be capable of serving their respective industrial loads,
- b) 8 ECs where additional information is needed to determine their capability to serve their respective industrial loads and
- c) 3 ECs who are presumed to be not yet ready to serve their respective industrial loads.

The 15 most capable ECs were all in NEA Category A or B and each had line losses of 20 percent or less.

The eight questionable ECs covered NEA Categories A through D. However, the one EC from Category A, PENELCO, has a 28 percent line loss and would be picking up 11 industrial loads with combined energy usage which is double that of the existing EC members. The one EC from Category B, ZAMECO, has a 33 percent line loss and would be picking up two industrial loads with combined energy usage which is more than five times that of the existing EC members.

The three ECs which appear to be not yet ready to serve their respective industrial loads are all in Category D and have line losses of 24, 36, and 37 percent. Each of them would be attempting to pick up loads approximately the size of their current system usage.

It is to be expected that the majority of ECs can successfully serve the industrial loads in their service territories. Some ECs may have more difficulty than others, and a few appear to be not yet ready to pick up the industrial loads in their respective service areas.

ALTERNATIVE ORGANIZATIONAL STRUCTURE:

There is an alternative organizational structure that might allow all of the ECs to provide even better service to the industrial loads as well as the existing EC members. That organizational

structure would involve the creation of several cooperatives which are themselves made up of some of the ECs.

In the United States, there are 56 Generation and Transmission Cooperatives (G&Ts) which provide generation and/or transmission service to their members. The membership of each G&T is made up of distribution cooperatives that provide retail electric service in their respective service areas. Approximately 700 of the nearly 900 electric cooperatives in the U.S. have some or all of their wholesale power needs met by G&Ts. Several of the G&Ts do not own any generating facilities. Rather they provide transmission facilities, wholesale power contracting resources, planning and engineering support. This type of organizational structure could be available in the Philippines.

A separate study on mergers/consolidation of ECs demonstrates the potential benefits of such mergers. Hopefully there will be mergers of ECs in the Philippines. The result will be even stronger ECs. In addition to such EC mergers, the ECs and the Government of the Philippines should stimulate interest in groups of ECs forming their respective G&Ts.

CREATION OF G&Ts
SHOULD BE EXPLORED

A G&T can negotiate on behalf of its members to obtain the best plan of power supply for the group. The G&T can assist its members in load forecasting, engineering, system planning, etc. The G&T could own the transmission system so that the ECs. can focus on retail service. A G&T providing transmission service over a large geographical area could provide some comfort to the owners of large industrial loads being served from that system.

The creation of G&Ts should not be considered as an alternative to considering EC mergers. Nor should the creation of G&Ts be considered as a prerequisite to the turnover of industrial loads to the ECs. Rather the utilization of G&Ts should be investigated as an additional area of strength in the EC community.

CONCLUSION:

- o The ECs should, in general, be recognized as strong enough to be dependable distributors of electric power in the Philippines.
- o The legal foundation exists to demonstrate the right of the ECs to be the local distributor of power to industrial loads in their respective franchise areas.

- o There are no fatal flaws in the ability of the physical system to provide service to industrial loads with the ECs being the owners of those systems.

- o In order to accomplish the difficult task of complete area coverage, the ECs need the attractive revenue stream from the industrial loads. This is a vital step in assuring the continued improving health of the ECs, and in enhancing their ability to serve the more remote barangays.

- o Preliminary tests done as a part of this report demonstrate that most ECs are ready to serve the industrial loads located in their respective franchise areas.

- o An alternative organizational structure in the EC community may enhance the ECs' ability to serve their loads, including the industrial loads. The structure, utilizing G&Ts should be considered by all those interested in electrification in the Philippines. Such a structure, however, is not a prerequisite to the ECs starting to take on the industrial loads at this time.

It must be recognized that not all ECs are healthy. A minority of them are financially weak and some may not regain their health. Additionally, transfer of industrial loads from NPC to the ECs must not place an undue burden in the industries in question. EC leaders have shown an understanding that in certain cases an incentive rate may be necessary to attract or keep an industrial load. Certainly a new look at EC industrial rate tariffs is in order.

Each of the 51 industrial loads currently receiving direct service from NPC must be reviewed individually in greater detail than was within the scop of work of this report. In its letter of June 22, 1993 to NPC, NEA recommends the creation of a joint committee to "...come up with a working administrative machinery to attend specifically on the issue of NPC's direct power supply to industrial consumers..." Such a joint NPC/NEA committee is a good idea, and it could be the entity that makes the case by case reviews to decide on the transfer of the industrial loads to the local distributors.

The presumption of the above committee should be that in each case the load can be transferred. Specific information would have to be brought to light that the reverse is true. Either the cooperative would have to be shown to be unable or unwilling to serve the industrial load or, the industrial load would have to be shown to receive irreparable harm from the transfer.

This report has made a preliminary grouping of ECs by their apparent ability to serve the industrial loads NPC currently serves

in the ECs' respective service areas. It is hoped that this preliminary analysis and its methodology will be useful to those who will be responsible for making final findings on this issue.

An alternative organizational structure for the EC community has also been put forward involving the use of G&Ts. This should be seriously considered by decision makers at the ECs and in the Government. The G&T concept should be considered as a possible way to enhance the ability of the ECs to serve the industrial loads. The previous discussion already demonstrates the ability of most ECs to serve the industrial loads in their service areas. The G&T concept is a way that might improve that ability to serve industrial loads, and is not offered as being necessary for the ECs to serve the industrials.

APPENDIX A

1991 ELECTRIC COOPERATIVES CATEGORIZATION AND CLASSIFICATION
 REGION I - XII

	COOP	CATEGORY	SIZE
REGION			
I	ABRA	D	Medium
I	BENGUET	D	Extra Large
I	ILOCOS SUR	C	Extra Large
I	ILOCOS NORTE	A	Extra Large
I	LA UNION	C	Extra Large
I	MOUNTAIN PROVINCE	C	Small
I	PANGASINAN I	B	Medium
I	PANGASINAN III	D	Large
I	CENTRAL PANGASINAN	D	Extra Large
II	BATANES	D	Small
II	CAGAYAN I	B	Large
II	CAGAYAN II	D	Large
II	IFUGAO	B	Small
II	ISABELA I	B	Extra Large
II	ISABELA II	D	Large
II	KALINGA APAYAO	C	Small
II	NUEVA VIZCAYA	C	Large
II	QUIRINO	A	Medium
III	PENELCO	A	Extra Large
III	NUEVA ECIJA I	D	Medium
III	NUEVA ECIJA II	D	Extra Large
III	NUEVA ECIJA III	D	
III	PAMPANGA I	D	Medium
III	PAMPANGA II	D	Extra Large
III	PAMPANGA III	B	Extra Large
III	PRESCO	D	Small
III	TARLAC I	D	Large
III	TARLAC II	C	Large
III	ZAMBALES I	D	Medium
III	ZAMBALES II	B	Medium
III	SAN JOSE	A	Medium
IV	AURORA	B	Small

1991 ELECTRIC COOPERATIVES CATEGORIZATION AND CLASSIFICATION
 REGION I – XII

	COOP	CATEGORY	SIZE
REGION			
IV	BATANGAS I	A	Extra Large
IV	BATANGAS II	B	Extra Large
IV	BUSUANGA ISLAND	B	Small
IV	FIRST LAGUNA	D	Medium
IV	LUBANG ISLAND	D	Small
IV	MARINDUQUE	B	Medium
IV	MINDORO OCC.	B	Medium
IV	MINDORO OR.	A	Large
IV	PALAWAN	A	Medium
IV	QUEZON I	A	Extra Large
IV	QUEZON II	B	Small
IV	ROMBLON	B	Small
IV	TABLAS ISLAND	A	Small
V	ALBAY	D	Extra Large
V	CAMARINES NORTE	B	Large
V	MASBATE	C	Small
V	SORSOGON I	D	Medium
V	SORSOGON II	B	Medium
V	FICELCO	D	Medium
V	CASURECO I	C	Medium
V	CASURECO II	B	Large
V	CASURECO III	D	Medium
V	CASURECO IV	C	Medium
VI	AKLAN	B	Medium
VI	ANTIQUÉ	D	Medium
VI	CAPIZ	A	Large
VI	GUIMARAS	A	Small
VI	ILOILO I	A	Large
VI	ILOILO II	A	Large
VI	ILOILO III	D	Medium
VI	NEGROS OCC.	A	Large
VI	CENTRAL NEGROS	C	Extra Large
VI	VRESCO	B	Extra Large
VII	BOHOL I	A	Large
VII	BOHOL II	B	Large
VII	CEBU I	A	Medium
VII	CEBU II	A	Large
VII	CEBU III	A	Medium
VII	NEGROS OR. I	A	Medium

1991 ELECTRIC COOPERATIVES CATEGORIZATION AND CLASSIFICATION
 REGION I – XII

COOP	CATEGORY	SIZE
REGION		
VII NEGROS OR. II	B	Large
VII BANTAYAN	A	Small
VII CAMOTES	B	Small
VII SIQUIJOR	A	Small
VIII LEYTE I	D	Medium
VIII LEYTE II	D	Large
VIII LEYTE III	D	Medium
VIII LEYTE IV	A	Medium
VIII LEYTE V	B	Large
VIII SOUTHERN LEYTE	D	Medium
VIII SAMAR I	C	Small
VIII SAMAR II	D	Medium
VIII EASTERN SAMAR	C	Small
VIII NORTHERN SAMAR	D	Small
VIII BILIRAN ISLAND	B	Small
IX ZAMBO CITY	D	Extra Large
IX ZAMBO NORTE	B	Medium
IX ZAMBO SUR I	A	Large
IX ZAMBO SUR II	A	Medium
IX BASILAN	D	Small
IX SULU	D	Small
IX TAWI-TAWI	D	Small
IX SIASI ISLAND	-	Small
X AGUSAN NORTE	A	Extra Large
X AGUSAN SUR	A	Large
X FIRST BUKIDNON	B	Large
X BUKIDNON II	B	Large
X CAMIGUIN	D	Small
X MISAMIS OCC. I	D	Medium
X MISAMIS OCC. II	B	Large
X MISAMIS OR. I	A	Large
X MISAMIS OR. II	D	Medium
X SURIGAO NORTE	D	Medium
X SIARGAO ISLAND	C	Small
X DINAGAT ISLAND	D	Small
XI SOCOTECO I	A	Medium
XI SOCOTECO II	A	Extra Large
XI DANECO	A	Extra Large
XI DORECO	B	Medium
XI DASURECO	A	Large
XI SURSECO I	A	Medium
XI SURSECO II	D	Small
XII COTELCO	A	Medium
XII MAGELCO	A	Medium
XII SUKELCO	B	Medium
XII LANECO	D	Medium
XII LASURECO	D	Small

APPENDIX B

COOPERATIVES CATEGORIZED BY SIZE AND FINANCIAL HEALTH

SIZE CATEGORIES

EXTRA LARGE, LARGE, MEDIUM AND SMALL

FINANCIAL HEALTH CATEGORIES A,B,C AND D

EXTRA LARGE

FIN. HEALTH	NO. OF CO-OPS
A	7
B	4
C	3
D	6
TOTAL	20

MEDIUM

FIN. HEALTH	NO. OF CO-OPS
A	12
B	9
C	2
D	18
TOTAL	41

LARGE

FIN. HEALTH	NO. OF COOPS
A	11
B	9
C	2
D	5
TOTAL	27

SMALL

FIN. HEALTH	NO. OF CO-OPS
A	5
B	7
C	5
D	11
TOTAL	28

COOPERATIVES ANALYZED 116

EXTRA LARGE	20
LARGE	27
MEDIUM	41
SMALL	28
TOTAL	116

% OF TOTAL

17%
23%
35%
24%

COOPERATIVES ANALYZED 116

A GRADE	35
B	29
C	12
D	40
TOTAL	116

% OF TOTAL

30%
25%
10%
34%

APPENDIX C



REPUBLIC OF THE PHILIPPINES

National Electrification Administration

05 April 1993

M E M O R A N D U M :

T O : ALL ELECTRIC COOPERATIVES

SUBJECT : CATEGORIZATION OF ELECTRIC COOPERATIVES

=====
An annual evaluation of electric cooperative performance is undertaken to ensure a continual monitoring of their operations.

Likewise, this aims to give due recognition by way of incentives and benefits, to electric cooperatives which have shown consistent and/or remarkable improvement in operations.

A set of evaluation criteria had been developed, applicable to all electric cooperatives regardless of size.

The ranking of electric cooperatives within a category has been introduced to allow a better appreciation of their overall performance.

It is expected that electric cooperatives will pursue all efforts to maximize the judicious use of resources to ensure viability of operations.

T. Sanchez
TEODORICO P. SANCHEZ
Administrator

APP 3



REPUBLIC OF THE PHILIPPINES

National Electrification Administration

05 April 1993

MEMORANDUM TO All Electric Cooperatives

SUBJECT : CRITERIA FOR CATEGORIZATION OF ELECTRIC COOPERATIVES (ECs)

I. Introduction

The NEA evaluates yearly the overall performance of the ECs based on certain key aspects in power utility operations. The end result of this performance review is the annual categorization of the ECs, the objectives of which are to give due recognition, by way of incentives and other benefits, to the ECs that have performed well according to the standard set forth by NEA, and to help identify specific areas in their operations where the relatively less performing ECs can further improve. The same objectives are retained in these revised criteria for categorization which, however, appear more as an upgraded version of the previous gauging system.

II. Purpose

To guide the ECs towards the attainment of a high standard of performance in order to achieve viability in their operations.

III. Policy

The NEA shall continue to pursue an accelerated program for the improvement of coop operation in various aspects. Towards this end, a close monitoring of the performance of ECs is regularly being undertaken so as to update the NEA management on their status.

IV. Criteria: Factors and Scoring System

1. Amortization Payment

This pertains to the ability of ECs to fulfill their loan obligation to NEA in terms of payment of amortizations due. Under this item, ECs with moratorium or whose loans were restructured are treated separately from those with regular loans with the latter given a higher point equivalent.

	<u>REGULAR</u>	<u>W/MORATORIUM</u>	<u>RESTRUCTURED</u>
Current to date	25 pts.	20 pts.	15 pts.
Up to one quarter overdue	20	15	10
Up to 2 quarters overdue	15	10	5
Up to 3 quarters overdue	8	3	-2
More than 3 quarters overdue	0	-5	-10

"REGULAR" - Coops without restructured account with NEA.

"RESTRUCTURED"- Coops with approved restructured loans.

"MORATORIUM" - Coops with approved moratorium on their loan repayments to NEA.

2. Systems Loss

The maximum tolerable systems loss in typical EC is 12%. Systems loss at this level consists of technical losses inherent in the design of the distribution system. Losses in excess of 12% are normally attributed to non-technical factors, primarily pilferages and poor line maintenance.

$$\text{System Loss} = \frac{\text{KWH PURCHASED} - (\text{Kwh SOLD} + \text{EC Consumption})}{\text{Kwh PURCHASED}} \times 100$$

<u>System Loss</u>	<u>Score</u>	<u>System Loss</u>	<u>Score</u>
12% and below	20 pts.	19%	13 pts.
13%	19	20%	12
14%	18	21%	11
15%	17	22%	10
16%	16	23%	9
17%	15	24%	8
18%	14	25%	7
		26% & above	0

Kwh SOLD shall exclude consumption of Industrial Consumers tapped to 69 KV.

3. Collection Efficiency

This item refers to the capability of ECs to collect consumer accounts receivables. While the EC may be performing well in other aspects of operation, its inability to collect receivables on time will affect its financial position.

$$\text{COLLECTION EFFICIENCY} = \frac{\text{COLLECTIONS FOR THE YEAR}}{\text{A/R Beg + Sales for the Year - Current Mo. Sales} * } \times 100\%$$

COLLECTION EFFICIENCY	SCORE	COLLECTION EFFICIENCY	SCORE
95% & above	20 pts.	84%	9 pts.
94%	19	83%	8
93%	18	82%	7
92%	17	81%	6
91%	16	80%	5
90%	15	79%	4
89%	14	78%	3
88%	13	77%	2
87%	12	76%	1
86%	11	75%	0
85%	10		

* shall vary depending on the billing cycle of coop

4. Payment to Power Supplier

The ECs buy power from NAPOCOR which they retail, in turn, to their consumers. This is the biggest single expense that the co-op has to promptly settle to assure continuous delivery of service. Inability to settle this on time results to additional surcharges and other penalties, and ultimately disconnection.

	REGULAR		RELENDING	
	WITHOUT Restructure	WITH Restructure	WITHOUT Restructure	WITH Restructure
Current	15 pts.	10 pts.	10 pts.	0
One month overdue	10	5	5	-2
2 months overdue	5	0	0	-4
3 months & more	0	-2	-2	-6

5. Non-Power Cost

In order to encourage the ECs to confine their non-power expenditures within the limits set by the NEA-approved budget in relation to actual collections, appropriate points are added from the over-all ratings of ECs depending on how these expenditures match with the approved budget level.

Within approved budget	-	15 pts.
Above approved budget by 1%	-	14
2%	-	13
3	-	12
4	-	11
5	-	10
6	-	9
7	-	8
8	-	7
9	-	6
10	-	5
11	-	4
12	-	3
13	-	2
14	-	1
15 & above	-	0

6. Bonus Points

6.1 Advance Amortization Payment

As an incentive, ECs which are able to pay advance amortization to NEA are given bonus of one (1) point for every full quarter advance amortization but not to exceed 3 points.

6.2 Significant reduction over past year's systems loss

This is to give recognition to coop efforts in reducing its level of systems loss by a significant percentage. An additional one (1) point is given for every 2% reduction level but not exceeding 2 points.

7. Demerit Points

7.1 Cash Advances to Officers and Employees

As a measure to discourage the ECs from granting excessive cash advances to officers and employees and to encourage them to strictly effect immediate liquidation of the same, an appropriate one (1) point is deducted for every P 50,000 unliquidated cash advances at the end of the year in review.

7.2 Non-submission of Cash Budget and Actual Cash Flow

ECs which do not submit their cash budget for approval and actual cash flow at the end of the year will receive a demerit of 2 points.

8. Over-all Scoring System

<u>Score</u>	<u>Category</u>
75 - Above	A
65 - 74	B
55 - 64	C
54 & below	D

9. Ranking

To encourage continuous improvement of operations of electric cooperatives, ranking based on overall performance within a category is introduced. Thus, each category will have a highest and lowest scoring EC. This will allow ECs to evaluate their own performances and develop constructive competition among them.

V. Implementation

Full implementation of this evaluation system shall cover the operation of ECs beginning Calendar Year 1992.

The Regional Electrification Centers are enjoined to monitor quarterly the categorization of the ECs in their respective regions based on the new criteria. This shall facilitate expeditious action from NEA Management to institute appropriate measures among ECs wanting in good performance.

VI. General

As the Chief Executive Officer, the General Manager should view the coop in its total perspective so as to maintain a clear grasp of the problems besetting its operations. He could then focus his concern and attention on areas where the coop is weak, and give these areas utmost priority in his developmental programs.

In this regard, he would find this evaluation system most useful, being wholistic in approach, applicable to both small and big ECs. Experience-wise, we have seen General Managers who improved one aspect of operations but deplorably failed to develop the other aspects.

This system will help these chief executives maintain a balanced outlook at management performance and further institutionalize within EC management the spirit and commitment to pursue the rural electrification program as a viable entrepreneurship.

APPENDIX D

APPENDIX ■ 8

MEMORANDUM

TO : Minister Vicente T. Paterno
Minister Solita Collas-Monsod
Minister Jaime Y. Ongpin
Minister Jose S. Concepcion, Jr.
Minister Luis R. Villafuerte
Minister Rafael M. Ilete
President Conrado D. del Rosario
Administrator Ernesto N. Tabios
Chairman Ponciano G. A. Mathay

RE : POLICY REFORMS IN THE POWER SECTOR

DATE : 23 January 1987

The President and the Cabinet during the meeting last 21 January 1987 approved the following policy recommendations for the power sector:

1. Direct NPC and the concerned government agencies, NEDA and the Office of Energy Affairs, to define the structure of electricity tariffs, guided by the principle of pricing according to marginal cost and taking into account other policy objectives of the government. The proposed structure shall be submitted within three months from date of the President's directive, to the appropriate regulatory body for its approval after due hearing;
2. Continue direct connections for industries authorized under the BOI-NPC Memorandum of Understanding of 12 January 1981, until such time as the appropriate regulatory board determines that direct connection of industry to NPC is not longer necessary in the franchise area of the specific utility or cooperative. Determination shall be based on the utility or cooperative's meeting standards of financial and technical capability, with satisfactory guarantees of non-prejudice to industry, to be set in consultation with NPC and relevant government agencies, and reviewed periodically by the regulatory board;
3. Retain the fiscal incentives to electric, agricultural, irrigation and local waterworks cooperatives until June 30, 1987 during which time said cooperatives and utilities shall prove that they deserve said benefits by way of a review by the Fiscal Incentives Review Board (FIRB);
4. Accelerate the withdrawal of the subsidy to customers within the MERALCO franchise area in accordance with the following schedule which shall be subjected to public hearings prior to implementation:
 - (i) Reduce the subsidized levels on the costs of distribution from 200 kwh to 150 kwh for residential customers and from 90 kwh to 75 kwh for small commercial customers in February 1987;
 - (ii) Reduce further the subsidized levels to only 110 kwh for residential and 65 kwh for small commercial customers in August 1987;

- (iii) Annually reduce subsidized levels by 20 kwh residential customers and 5 kwh for small commercial customers in the next three years to reach 50 kwh in 1990; and
 - (iv) Continue to implement the subsidy reduction program on the cost of generation approved by the past administration which reduces the subsidized levels by 20 kwh for residential customers and by 5 kwh for small commercial customers annually from the present subsidized levels of 130 kwh and 70 kwh, respectively, up to 1990.
5. Transfer all regulatory functions presently being handled by the Board of Energy and NEA to the "Power Regulatory Board" the nucleus of which shall be the present Board of Energy. In addition, the NPC shall be included in the said Board's Regulatory umbrella. A draft Executive Order shall be submitted for this purpose to the Office of the President not later than thirty days after approval of the recommendation on the power sector's regulatory framework;
 6. Closely monitor the pilferages committed by all customers, particularly industries, such monitoring to be undertaken by MERALCO with the assistance of the Ministry of Trade and Industry (MTI). Impose surcharges in the form of higher discriminatory rates on all customers found guilty of pilferages. Establish efficiency indicators and targets in the case of MERALCO, electric cooperatives and other private utilities, and stability indicators and targets in the case of NPC; and
 7. Further study the proposal to amend P.D. No. 40 to enable the private sector to participate in the generation of electricity. Such study to be undertaken by the Cabinet Subcommittee which originally prepared the recommendations which shall also include the Ministry of National Defense.

IN VIEW, THEREOF, the President has directed that:

- (i) The National Power Corporation in consultation with the Office of Energy Affairs, the NEDA and other concerned agencies submit to the appropriate regulatory body for its approval after due hearing, the rate structures based on marginal cost pricing not later than 21 March 1987;
- (ii) The Office of Energy Affairs and the Presidential Commission on Government Reorganization in consultation with the concerned agencies draft the executive order on the Power Regulatory Board not later than 21 February 1987;
- (iii) The Board of Energy to implement the proposed program for accelerating the withdrawal of the MERALCO subsidy after due hearing;
- (iv) The Ministry of Finance to review whether the electric, agricultural, irrigation and local waterworks cooperatives should continue to be granted fiscal incentives; and
- (v) The Office of Energy Affairs in coordination with concerned agencies to establish efficiency and stability indicators and targets for electric distributors and NPC respectively not later than 21 February 1987.

FULGENCIO S. FACTORAN, JR.

Cabinet Secretary

Manila, January 29, 1987

APPENDIX E

APP C

File

REPUBLIC OF THE PHILIPPINES
ENERGY REGULATORY BOARD
METRO MANILA

MAILING ADDRESS:
P.O. Box 181, Greenhills
Metro Manila

OFFICE ADDRESS:
Philcomcen Bldg., Ortigas Ave., Pasig,
Metro Manila

ERB RESOLUTION NO. 91-22

WHEREAS, on January 21, 1987, the President and the Cabinet approved a set of policy reforms for the power sector, which, among other things, mandated the establishment of technical and financial indicators and standards to be used as bases for determining the continuance or discontinuance of direct power connection of industries to the National Power Corporation;

WHEREAS, the Energy Coordinating Council (ECC) subsequently endorsed to the Energy Regulatory Board, for adoption and implementation, a set of financial and technical standards which had been formulated in consultation with various government and private agencies/entities concerned;

WHEREAS, the Board had requested various industries/groups, which will be affected by these financial and technical standards particularly those that are directly connected to the National Power Corporation (NPC), to submit their respective comments/views thereon for consideration by the Board;

WHEREAS, there is an absolute need to adopt and implement these standards in order to facilitate the determination of the power distributors qualified to service large industrial customers and, consequently, the transfer of said large industrial loads directly connected to NPC to the local electric distributors under this Board's jurisdiction.

NOW, THEREFORE, be it resolved, as this Board hereby resolves, to adopt and implement, AS IT HEREBY ADOPTS AND IMPLEMENTS, the following financial and technical standards for electric utilities under the Board's jurisdiction to be used as bases for determining whether direct connection of industry to NPC is no longer necessary in the franchise area of the specific electric utility, together with the prescribed data monitoring format:

I. FINANCIAL STANDARDS

Section 1. Definition of Financial Indicators.

1. Outstanding Debt to NPC (ODNPC): Total outstanding or overdue accounts to NPC excluding restructured debts and receivables from government accounts.

Standard is set at no outstanding debt to NPC.

2. Debt Service Capability Ratio (DSCR) :

$$\text{DSCR} = \frac{\text{Net Income (before interest) plus Non-Cash Charges}}{\text{Interest plus Principal Payments on All Loans}}$$

Standard is at least 1.25

3. Operating Expense Ratio (OER) :

$$\text{OER} = \frac{\text{Operating Expenses plus Cost of Available Power less Taxes and Non-Cash Charges}}{\text{Revenues from Sale of Electricity}}$$

Standard is 95 Percent or less.

4. Average Collection Period (ACP) :

$$\text{ACP} = \frac{\text{Customers Accounts Receivables less Government Accounts}}{\text{Revenues from Sale of Electricity}} \times 365 \text{ days}$$

Standard is 45 Days or less.

Section 2. Weights are given to the different financial standards since the different financial indicators are not of equal importance in the determination of financial capabilities of electric utilities in taking over industries directly connected to NPC, viz;

INDICATORS	STANDARDS	WEIGHTS
ODNPC	NOODNPC	50%
DSCR	1.25 or more	25%
OER	95% or less	10%
ACP	45 days or less	15%

In order to pass the financial standards, utilities should at least obtain a 75% passing mark. Those that do not pass one of the above standards must be within 10% of the standards.

II. TECHNICAL STANDARDS

SECTION 1. Efficiency standards are set for private utilities. Minimum and preferred standards are given, with the preferred standard to serve as targets that must be achieved within a reasonable period of time.

Section 2. Percentage system losses is defined as:

$$\% \text{ System Losses} = \left(1 - \frac{\text{Total Kwh Sales}}{\text{Net System Input (Kwh)}} \right) \times 100$$

where:

$$\text{Net System Input} = \text{Purchased Power plus Utility Generation less Utility's Own Use}$$

Section 3. Standards for Private Utilities

	<u>% Power Losses</u>
Minimum Standard	14%
Preferred Standard	10%

III. IMPLEMENTATION

Section 1. (a) On the issue of direct power connection to NPC, primary consideration shall be given to the technical capability of electric distributors to serve large industrial loads; the financial and technical standards shall serve as secondary considerations for the transfer of directly connected industries to franchised distributors.

(b) These financial and technical standards shall gradually be implemented, allowing for a transition period of one year from the effectivity thereof. Within this period, electric distributors are expected to attain at least the minimum standard of efficiency, as well as the financial benchmarks presented.

(c) The preferred standard of efficiency should largely be met in 5 years time from the adoption of the minimum standards. Efforts towards this end should be coupled with continuous government incentives and penalties, as well as strict monitoring and implementation of financial and technical standards.

These standards shall be reviewed regularly to guarantee the continued applicability and usefulness of the approved performance measures and benchmarks.

IV. DATA MONITORING AND COLLECTION FORMAT

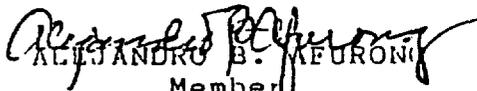
Section 1. To ensure data consistency across all distributing utilities, the attached data monitoring and collection format is hereby prescribed for compliance by all utilities concerned.

Let copies of this Resolution be furnished the agencies/entities concerned for their information and guidance.

This resolution shall take effect fifteen (15) days after its publication in the Official Gazette or in a newspaper of general circulation in the country.

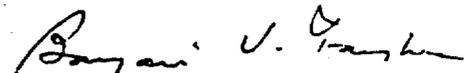
Pasig, Metro Manila, December 6, 1991.


REX V. TANTIUNGCO
Chairman


ALEJANDRO B. NEURON
Member


OSCAR E. ALA
Member


ARNALDO P. BALDONADO
Member


BAYANI V. FAYLONA
Member

cbb

APPENDIX F



APP D

REPUBLIC OF THE PHILIPPINES

National Electrification Administration

22 June 1993

HON. FRANCISCO L. VIRAY
President
National Power Corporation
Quezon City

SUBJECT: NPC's Direct Tapping of Power
to Industrial Consumers

Dear President Viray:

The controversy on NPC's policy to connect and/or serve directly industrial consumers within the franchise area of electric cooperatives is becoming an irritant in NPC's relationships with electric cooperatives.

Since electric cooperatives are under the regulation and supervision of the National Electrification Administration (NEA) and their franchises were granted by the NEA Board sitting as a Commission (National Electrification Commission), we feel it is our duty to intercede/intervene to settle this issue.

Specifically, our assistance is being sought by the ~~Misamis Oriental-II Electric Cooperative, Inc.~~ (MORESCO-II) in connection with its pending case with NPC, entitled INDOPHIL OIL MILLS vs. MORESCO-II, wherein MORESCO-II has filed a Motion for Reconsideration on NPC's decision dated March 2, 1993.

Without necessarily invoking NEA's jurisdiction over the matter of NPC's direct connection policy, may we invite your attention to Section 39(b) of P.D. No.269, as amended which reads as follows:

"(b) The National Power Corporation shall, except with respect to the National Government, give preference in the sale of its power and energy to cooperatives, and shall otherwise provide the maximum support of and

assistance to cooperatives of which it is capable, including assistance in developing dependable and reliable arrangements for their supplies of bulk power, either from itself, or from other sources. In pursuance of the foregoing policy, the National Power Corporation shall not, except upon prior written agreement approved by the cooperative's board, compete in the sale of power and energy which without regard to the location of the point of delivery thereof, will be utilized and consumed within any area franchised to a cooperative." (Underscoring supplied)

Verily, NPC's continued supply of power (in bulk) to industrial consumers without regard to the foregoing provision of law is in effect not only renegeing on its avowed mission to give assistance to electric cooperatives, NPC is defying the basic law in rural electrification which is the decisive foundation of the long-dreamt development of economically and socially ailing countryside. The fact remains that a rural electric cooperative is a creation of the State imbued, as it is, with special attributes to insure the success of its operations which addresses a long-felt need in the remote areas of this Republic. To borrow the words of MORESCO-II in its motion for reconsideration filed with NPC dated 17 May 1993, viz:

x x x x x x x x x

"A rural electric cooperative is not simply a franchise within the perception of the applicant (INDOPHIL). It does not work as an "unnecessary conduit of electric power, jacking up prices as a superflow middleman or an inefficient producer cannot supply cheap electricity to power intensive industries" referred to in ALGER ELECTRIC INC. vs. CA (135 SCRA 45).

"A rural electric cooperative is the culmination of a long-drawn effort to bring to fruition an eon-nourished projects designed to lend even the least decency to the life of a resident in the remote barangays in this country, where the viability of a rural electricity is compromised, no less than the lives of consumers within the coverage area are likely to be jeopardized.

N 48

"The applicant in a multi-million corporation, which can sustain its needs in any place within the Republic or without. But the consumers of the operation (MORESCO-11) shall rise and fall with success and failure of the latter. Take that light out, and one takes the life out of every consumer within the coverage area."

This Office is aware of the Supreme Court doctrines on NPC's direct-power-service policy, involving privately-owned electric utilities. Concededly, the Supreme Court imposed two (2) conditions sine qua non before the NPC can directly service all the power requirement of a BOL-registered enterprises i.e.:

(a) Any affected private franchise holder must have all opportunity to be heard; and,

(b) From such hearing, it is established that the affected private franchise lender is incapable or unwilling to match the reliability and rates of NPC's direct connections.

However, the Supreme Court went further to state that "even without the aforementioned statutory or administration bases, still said franchise operator's right to due process or priority to be heard on such direct services contracts cannot be denied. Like a certificate of public convenience, legislative or municipal franchise for the operation of a public utility are properties (RAYMOND vs. CURETA, CO. 68 Phil. 859) and therefore, guaranteed by the due process protection of the Constitution" (cited in NPC vs. JACINTO AND MACTAN ELECTRIC INC., G.R. No. 67143) (underscoring ours).

Moreover, in two (2) cases entitled NPC vs. CANARES/VECO, G.R. No. 61639 and APO CEMENT vs. CANARES, G.R. No. 61639, the Supreme Court in dismissing the petitions of NPC APO CEMENT, reiterates its previous ruling in the JACINTO Case (G.R. No. 67143. It went further to state that it found "nothing in the provision of P.D. No. 395 (amending P.D. 380) which expressly or impliedly allowed or sanctioned the sale in bulk by the NPC direct to BOL-registered enterprises even if it would be violative of the right of existing franchise holders." (underscoring ours).

The doctrine in the CANARES Cases (G.R. Nos. 61637 and 61639) were reiterated by the Supreme Court in the case entitled NPC vs. COURT OF APPEALS AND CEPALCO, G.R. No. 78605.

Finally, the Supreme Court in the case entitled CEPALCO vs. NPC, G.R. No. 72085, the sole question of law as to whether

or not NPC is authorized under existing laws to sell, supply and deliver electric power directly to DOL-registered enterprises without given priority to franchise holder" and, the Supreme Court resolved the same in this fashion:-

"A privilege to sell within a specified territory, even if not exclusive, is a valuable property right entitled to protection against unauthorized competition x x x." (underscoring supplied).

In fine, the foregoing Supreme Court decisions augurs well to the fact that NPC cannot simply supply power to industries without violating the right of the franchise holder.

Thus, electric cooperatives by their nature, being non-profit and non-stock, have all the more reasons to be protected by unfair competitions.

For this reason, the NEA or the National Electrification Commission (NEC) being the agency empowered by law to look into the activities of the franchise-grantee (electric cooperatives included), as clearly pronounced by the Court of Appeals in the case of PELCO-II, et al., vs. NEC, CA-G.R. SP No. 23400 and 23401, August 21, 1991, stated that: "x x x any change in the effects of the franchise extended to the oppositor may be done only through NEC", we may suggest that NPC and NEA must come up with a Memorandum of Understanding in resolving the issue of direct power supply to industrial consumers within the franchise area of electric cooperatives.

It is suggested further, that a Committee, to be composed by NEA and NPC representatives, be created to formalize and come up with a working administrative machinery to attend specifically on the issue of NPC's direct power supply to industrial consumers.

Meantime, may we request that NPC decisions on the MORESCO-II case or other cases involving electric cooperatives be deferred until such time that NEA and NPC can come up with a concrete resolution on the matter.

Trusting that with this letter, NPC will understand NEA's concern. With my best regards.

Very truly yours,


TEODORICO P. SANCHEZ
Administrator

APPENDIX G

ANALYSIS OF INDUSTRIAL LOADS DIRECTLY SERVED BY NPC

EC	LOAD	DEMAND KW	ENERGY MWH	CLASS	CATEGORY	LINE LOSS %	CONS. BILLED	AVG. RATE P/KWH
PELCO I		9480	22752	M	D	0.36	32223	3.42
	Elegant Chemical Alloy Corp.	12900	22362					
	TOTAL	12900	22362					
PELCO II		25920	65100	E	D	0.37	64171	2.97
	Trust Ind. Pulp & Paper Co.	12000	81292					
	TOTAL	12000	81292					
PELCO III		NA	85620	L	G	0.18	34878	2.31
	Industrial Gas Co., Inc	1900	13006					
	Milwaukee	17400	29960					
	SKK Steel	26644	51466					
	TOTAL	45944	94432					
TARELCO I		11462	28686	L	D	0.26	44147	3.48
	Paniqui Sugar Corp.	783	1791					
	TOTAL	783	1791					
ZAMECO I		6240	17975	M	D	0.28	18119	3.04
	Benguet Corp. Mas-Chr.	2400	8037					
	TOTAL	2400	9037					
ZAMECO II		8460	22538	M	B	0.33	23359	3.2
	Benguet Co. Cop. Gold Op.	18600	113981					
	Phil. Shipyard	3800	8138					
	TOTAL	22400	122119					

ANALYSIS OF INDUSTRIAL LOADS DIRECTLY SERVED BY NPC

EC	LOAD	DEMAND KW	ENERGY MWH	CLASS	CATEGORY	LINE LOSS %	CONS. BILLED	AVG. RATE P/KWH
BATELEC		14370	49975	E	A	0.08	60332	2.88
	Fortune Cement Corp.	8294	42336					
	Lipa Ice Plant	117	696					
	TOTAL	8411	43032					
ALECO		23266	74624	E	D	0.27	64711	3.28
	Isarog Pulp & Paper	829	3323					
	TOTAL	829	3323					
NORECO		10585	39475	L	A	0.18	38187	3.12
	Nobel Phils., Inc.	2418	13456					
	TOTAL	2418	13456					
BOHECO I		5766	15460	L	A	0.17	37554	3.47
	Phil. Starch & Ind'l Corp.	951	2812					
	TOTAL	951	2812					
BOHECO II		3979	10025	L	B	0.2	25118	3.55
	Phil. Sinter Corp.	546	809					
	TOTAL	546	809					
CEBECO III		4901	18433	M	A	0.1	20020	2.8
	Prime White Cement Corp.	686	1169					
	Atlas Con. Mining & Dev. Co.	4201	2					
	TOTAL	4887	1171					

ANALYSIS OF INDUSTRIAL LOADS DIRECTLY SERVED BY NPC

EC	LOAD	DEMAND KW	ENERGY MWH	CLASS	CATEGORY	LINE LOSS %	CONS. BILLED	AVG. RATE P/KWH
LEYECO V		9640	31342	L	A	0.16	25205	3.04
	Phil. Assoc. Smelt. & Refin.	32736	177254					
	Phil. Phospate Fertilizer Inc.	18567	115174					
	TOTAL	51303	292428					
CENECO		41513	174998	E	B	0.17	62697	2.81
	SMC Bacolod	2275	11193					
	TOTAL	2275	11193					
ZANECO		8507	21753	M	B	0.19	26102	2.04
	Southern Island Flour Mill	2329	7794					
	TOTAL	2329	7794					
ZAMSURECO II		6495	18570	M	A	0.08	24827	2.46
	PNOC – M. Coal Corp.	2274	8861					
	TOTAL	2274	8861					
ANECO		18503	63004	E	B	0.2	42756	1.65
	Nasipit Lumber Co., Inc.	3772	12957					
	TOTAL	3772	12957					
MORESCO I		34178	107233	L	A	0.03	17016	1.09
	Menzi Dev, Corp.	772	2657					
	Floro Cement Corp.	11040	41941					
	TOTAL	11812	44598					

ANALYSIS OF INDUSTRIAL LOADS DIRECTLY SERVED BY NPC

EC	LOAD	DEMAND KW	ENERGY MWH	CLASS	CATEGORY	LINE LOSS %	CONS. BILLED	AVG. RATE P/KWH
SURNECO		6606	23414	M	D	0.24	23916	2.06
	Pacific Cement Co.	4416	20964					
	TOTAL	4415	20964					
SOCOTECO II		40866	129814	E	A	0.14	46816	1.58
	Dole Phils.	5412	20517					
	TOTAL	5412	20517					
DANECO		18680	66218	E	A	0.12	40006	1.91
	Apex Mining Co., Inc.	NA						
	North Davao Mining Corp.	NA						
	TOTAL	NA						
SURSECO		5767	20979	M	A	0.09	21474	2.12
	PNOC - BCC	633	2307					
	PICOP - Bislig	25440	134089					
	TOTAL	26073	136396					
LANECO		10170	18999	L	A	0.18	25055	2.14
	PICOP - Iligan	1011	4194					
	TOTAL	1011	4194					

APPENDIX H

ECs PRESUMED CAPABLE OF SERVING INDUSTRIALS
BATELEC
NORECO
BOHECO I
BOHECO II
CEBECO III
LEYECO V
CENECO
ZANECO
ZAMSURECO II
ANECO
MORESCO I
SOCOTECO II
DANECO
SURSECO I
LANECO

ECs PRESUMED NOT READY TO SERVE INDUSTRIALS
PELCO I
PELCO II
SURNECO

ECs NEEDING FURTHER REVIEW RE: SERVICE TO INDUSTRIALS
LUELCO
BENECO
PELCO III
ZAMECO I
ZAMECO II
TARELCO I
ALECO
PENELCO

PERSONS CONTACTED IN PREPARATION OF REPORT

We wish to express our appreciation to the following people who gave so generously of their time to share their ideas and information. Their willingness to share their experience in the Rural Electrification Program in the Philippines has added immeasurably to the value of this report.

Mr. Alexander Ablaza, Vice President, Adrian Wilson Inc.
Mr. Roger Adalia, Manager, MIS Div. Planning Dept. NEA
Ms. Thelma Aguila, Manager, Loans Department, NEA
Atty. Oscar E. Ala, Board Member, ERB
Atty. Jose T. Amacio, General Manager, DANECO
Mr. Elmer Bautista, General Manager, COTELCO
Ms. Edith Bueno, Dep. Admin. Coop. Dev. & Spec. Proj., NEA
Mr. Alan Burrell, Mgr. Pwr. Div. East, Asian Development Bank
Engr. Jesus dela Victoria, General Manager, DASUECO
Engr. Gregory A. Dukil, General Manager DOECO
Engr. Iglorio R. Hinayon, Acting General Manager, SURSECO
Ms. Nelia Irorieta, Acting Dep. Admin. & Mgr., Plann. Depart., NEA
Ms. Marietta Laracas, Chief Energy Regulations Officer, ERB
Mr. Jose C. Jimenez, Dept. Administrator, Adm. HRM & Pln., NEA
Atty. Romulo Maristaza, Manager, Corporate Legal Off., NEA
Engr. Rudolfo G. Ocat, General Manager SOCOTECO II
Ambassasor Emmanuel Pelaez, Chairman of the Board, NEA
Mr. Claudio S. San Pablo, General Manager SURSECO I
Mr. Sofronio Rodrin, Dep. Admin. Technical Services, NEA
Administrator Teodorico R. Sanchez, NEA
Atty. Manuel Senar, Manager, Coop. Operation Dept. NEA
Ms. Conchita C. Silva, Project Manager, OCP, USAID
Mr. Jamil Sopher, World Bank, Wash. D.C.
Engr. Alex Sundermann, Chief, Engy. & Spcl. Projects. OCP, USAID
Mr. Reynaldo V. Sevilla, Regional Electrification Manager, NEA
Engr. Resnol Torres, General Manager, LANECO
Ms. Myrna B. Villaralbo, Managing Consultant, Price Waterhouse
Mr. Yoshio Wada, Overseas Economic Cooperation Fund of Japan