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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

APPRAISAL
OF
ITALIAN
INDUSTRIAL, POWER AND IRRIGATION PROJECTS

February 19, 1958

Department of Technical Operations

CURRENCY EQUIVALENTS

U.S. $1	=	625 lire
1 lira	=	0.16 U.S. cents
1 million lire	=	U.S. $1,600
1 billion lire	=	U.S. $1.6 million

All tons are metric tons.

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I. SUMMARY AND CONCLUSIONS

1. In connection with the loan under consideration, the Government of Italy submitted a number of projects in three categories: industry, irrigation and electric power. All these projects were either an integral part of the development program for the south of Italy being carried out by the Cassa per il Mezzogiorno or directly related to the objectives of that program.

2. These projects have been investigated and 10 of them have been selected as the basis for a Bank loan of $75 million equivalent. The projects selected, and the amount of the proposed loan allocated to each of them, are as follows:

	$ Million Equivalent	
Industry		
CONE (Electric Appliances)	1.12	
C.M.I. (Electrolytic tinplate)	0.96	
Marzotto (Clothing)	2.08	
SINCAT (Fertilizers and Chemicals)	12.80	
Montecatini (Potash Fertilizers)	6.40	
Trinacria (Potash Fertilizers)	6.00	
Total Industry		29.36
Electric Power		
SME	22.00	
SGES	7.20	
Total Power		29.20
Irrigation		
Volturno project	6.44	
Fortore project	10.00	
Total Irrigation		16.44
Total		75.00

3. The selected projects have been investigated in the field by Bank staff members. They all meet established needs of high economic priority. The irrigation projects are an integral part of the Cassa program on the Italian mainland. The two power projects, one on the mainland and one in Sicily, are needed to meet the growing demand for power stemming from the industrial growth of southern Italy. The various industrial plants, of which

three are on the mainland and three in Sicily, will complement the projects in the Cassa program proper, which is primarily concerned with large public works in the fields of agriculture, transport and public health.

4. The projects are all well planned. The estimates of their cost are reasonable. Their engineering is in good hands. Their management is sound. Satisfactory arrangements have been made to provide the funds which will be needed in addition to the proposed Bank loan. The financial structure of each of the industrial and electric power companies concerned is sound.

5. It is proposed that the loan be made to the Cassa, with the guarantee of the Italian Government. The part of the proceeds allocated to the Volturno and Fortore irrigation projects would be used directly by the Cassa to defray the bulk of its expenditures on these projects in the years of 1958, 1959 and 1960. For the electric power projects, the Cassa would relend the amounts allocated to the two power companies concerned. These companies would undertake various obligations to carry out the projects, supply information about progress, etc., in Project Agreements with the Bank. The amounts allocated to the six industrial projects would be re-lent by the Cassa to the appropriate regional institute (IRFIS or ISVEIMER) which in turn would conclude a loan agreement with each of the companies concerned. The regional institutes would bear the normal commercial risk and administer the industrial loan funds for the Cassa. The terms and conditions of these loans to the six individual industrial companies would be subject to Bank approval. Neither the power companies nor the industrial companies would bear a foreign exchange risk. This is nominally the responsibility of the Cassa but in the last instance would be borne by the Italian Government.

6. It has been assumed in appraising the selected projects that the loans to the power companies would have a term of 20 years including grace periods of 3 to 3½ years, and that the terms of the loans to the industrial companies would vary from 12 to 13 years, including grace periods varying from 2 to 3 years. On these assumptions, reasonable forecasts show that the companies concerned should earn a satisfactory return on their equity investments after paying interest on borrowed funds, and that their operations should generate sufficient cash to meet repayment installments of debt without impairing their liquidity position. As far as the irrigation projects are concerned, the increase in output which may be expected to result from the projects bears a satisfactory relation to the total investment in projects of this kind. The benefits to the farmers should be a strong incentive for them to participate in the projects and their contributions to the operating costs of the projects will be only a small part of the estimated increase in the farmers' income. The increase in Government revenues which may reasonably be expected as the result of increased agricultural production in the area should be of the order of 6% per annum on the amount of public investment. This takes no account of Government revenues from the movement and processing of the agricultural products, or of those arising from induced development in non-agricultural fields.

7. In deciding the term and grace period of the proposed loan to the Cassa, account has been taken of these forecasts.

8. The ten projects, which are individually appraised in the body of this report, are a suitable basis for a Bank loan of $75 million equivalent to the Cassa for a term of 20 years.

II. INTRODUCTION

9. In March 1957, the Italian Government asked the Bank to continue its support of the 12-year program for the economic development of southern Italy under the auspices of the Cassa per il Mezzogiorno for which the Bank had already made four loans. The first two in 1951 and 1953 were for $10 million each. After a request for a loan of $200 million was made in 1954, two loans were made, one in 1955 for $70 million and one in 1956 for $74.628 million. The proposed loan, therefore, would more than complete this larger program.

10. The Bank informed the Italian Government that it was agreeable in principle to consider a loan request of $75 million and asked that a list of projects which might be used as a basis for the proposed loan be submitted.

11. Preliminary data on the projects were received in Washington during the summer of 1957. These data related to 4 irrigation projects with estimated total costs of about $54.0 million equivalent; 5 power projects with estimated total costs of $69.2 million equivalent; and 11 industrial projects with estimated total costs of $96.0 million equivalent.

12. The preliminary data were examined and a tentative selection was made of those which appeared most suitable for Bank financing. These projects, plus some submitted during the field studies, were investigated and analyzed in more detail in the field and a final selection was made consisting of six industrial projects, two power projects and two irrigation projects.

13. The six industrial projects are:

CONE	(Electric Appliances)
C.M.I.	(Electrolytic tinplate)
Marzotto	(Clothing)
SINCAT	(Fertilizers and chemicals)
Montecatini	(Potash Fertilizer)
Trinacria	(Potash Fertilizer)

14. The two power projects are those of:

Societa Meridionale di Elettricita (SME)
Societa Generale Elettrica della Sicilia (SGES)

15. The two irrigation projects are Volturno, near Naples, and Fortore, near Foggia.

16. The ten projects are described and appraised in the following sections of this report.

III. INDUSTRIAL PROJECTS

A. General

17. Under Loans Nos. 50, 117 and 150-IT, the Bank has provided $56.8 million equivalent for 23 industrial projects with a total estimated cost of $123.4 million equivalent. Seventeen of these projects, with an estimated cost of $102.9 million for which the Bank lent $46.8 million, are either in operation or in an advanced stage of construction.

18. The remaining six projects with an estimated cost of $20.5 million and for which the Bank had allocated $10 million were cancelled with Bank approval. The main reason for cancelling these projects was the inability of the regional institutes to reach agreement with the prospective borrowers on security provisions. Only in one case was a project cancelled after a loan contract had been signed; the reason given was the uncertain supply of raw materials needed for the operation of the project. In some cases, new projects proposed by the regional institutes were used to replace those cancelled; in others the cancellation of the project was accompanied by a reduction of the loan amount.

19. This year loan applications totalling about $43.4 million equivalent for 11 industrial projects, with a total cost estimated at $96.0 million equivalent were submitted to the Bank by the Cassa. The applications had been received and screened by the regional institutes (ISVEIMER on the mainland, IRFIS in Sicily, and CIS in Sardinia) which are to be directly responsible for making the loans. The funds required for the loans will be made available to the institutes by the Cassa out of the loan from the Bank. The Cassa takes foreign exchange risk but the institutes take the normal commercial risks and administer the funds for the Cassa.

20. Before the submission of the loan applications, the institutes had examined both the projects and the credit standings of their promoters. The submission of an application to the Bank was, in fact, an indication that the appropriate institute had found the project sound according to its standards.

21. Of the 11 applications submitted, 8 projects were re-examined in detail by the Bank. In most cases involving expansion and modernization, Bank representatives visited the existing plants; visits were also made to the sites of a number of proposed plants. A well known potash mining consultant was retained by the Bank to assist in the study of three projects. Meetings were held to discuss the projects with the promoting groups together with representatives of the Cassa and of the appropriate regional institutes. These meetings enabled the Bank to obtain additional information where necessary and also to form a judgment on the capabilities of the promoting group. The most important factors taken into account by the Bank in deciding whether to recommend a project for financing were the benefits that might be expected to accrue to the Italian economy, its financial and technical soundness and its state of preparation.

22. Of the 8 projects examined in detail, 6 were selected for Bank financing, in the amount of $29.36 million equivalent. Their total estimated cost is about $68.16 million equivalent.

23. Three companies, Montecatini, SINCAT and Trinacria, are embarking on the development of the rich potash deposits recently discovered in Sicily. These deposits, not yet fully explored, may be among the world's most important and largest. One of the projects (SINCAT) will also include facilities for the production of chlorine and caustic soda thus laying the foundations for the manufacture of heavy chemicals. There is an excellent prospect, indeed, that Sicily's abundant raw materials will make it a leading center in Italy for the manufacture of chemicals. The other projects selected for financing are an electrolytic tinplate plant, a ready-to-wear clothing plant, and a plant for the production of electric refrigerators and water heaters. Five of the six projects selected are either new branch plants, or expansions of existing branch plants in southern Italy of large, well-established concerns that have been operating in northern Italy for a long time.

24. All the plants will have competent and experienced managements and, with their modern equipment, should be relatively low cost producers. When operating at a normal rate, they are expected to have total annual sales estimated at Lit. 32.3 billion ($51.7 million equivalent). Their potential direct annual foreign exchange earnings and/or savings are estimated at about Lit. 9.0 billion ($14.4 million equivalent). The projects also make possible an increase in domestic consumption of certain items (e.g. read-to-wear clothing, electric appliances), the sales of which would probably not increase if the items were not readily available or had to be imported.

25. In normal operation the projects will provide employment for about 4,000 persons in the plants.

26. The projects selected are the following:

	Estimated Total Cost (lire million)	Proposed Loan	
		Lire Million	$ million equivalent
CONE - Electric refrigerators and water heaters	1,580	700	1.12
C.M.I. - Electrolytic tinplate	1,660	600	0.96
Marzotto - Ready-to-wear clothing	3,730	1,300	2.08
SINCAT - Complex fertilizers, potash, heavy chemicals	17,100	8,000	12.80
Montecatini - Potash fertilizers	10,330	4,000	6.40
Trinacria - Potash fertilizers	8,200	3,750	6.00
	42,600	18,350	29.36

27. Except where the individual (project) appraisals contain statements to the contrary, the following observations apply to all projects:

a) The projects have been carefully planned and are well engineered. Construction will be supervised either by parent companies or by consulting firms. There is every reason to expect good construction and proper installation of equipment;

b) Procurement of equipment, in general, has been on the basis of active competition from suppliers in Italy and abroad. In some cases, machinery and equipment are obtained under licensing arrangements--in others, branch plants are being built by firms already established in northern Italy who have their own sources of supply;

c) The construction schedules are realistic;

d) The project cost estimates are reasonable and include adequate allowances for contingencies, interest during construction, and working capital;

e) The working capital requirements have been estimated on the basis of estimated operating costs of the projects, taking into account the production cycle of each project, seasonal fluctuations and other factors affecting production and sales;

f) The "100% of capacity" production assumed in the forecasts is not a maximum rate; it is a normal production rate which allows sufficient time for repairs and maintenance and which can be maintained year after year. In all cases, it will be possible to operate at a rate higher than the normal rate for periods which vary from industry to industry;

g) The estimates of sales volumes underlying the financial forecasts are realistic in the light of the market analyses;

h) The estimates of production costs and prices are reasonable in view of present prices; the estimates of sales prices make allowance for the possibility of price declines in response to the prospective increase in domestic supply;

i) Depreciation allowances have been conservatively calculated;

j) The credit standing of the promoters has been found satisfactory by the appropriate regional institutes.

28. The need for establishing and maintaining a sound financial position has been pointed out in discussions with the management of every company. Agreements have been reached on the amount of share capital and shareholders' advances to be provided, the treatment of shareholders' advances, the limitation of dividend payments, and the maintenance of adequate working capital. These agreements, the terms of which vary from company to company, have been embodied in letters, copies of which are included in the annexes.

29. A maximum debt-equity ratio of about 1:1 has been required for the projects. In most cases, the actual or estimated ratios of debt to equity are even lower. The required ratios are conservative and more favorable than is usual in Italian practice.

30. In those projects where the share capital is supplemented by shareholders' advances, these advances have been subordinated to the proposed loans from Bank funds, and are in effect to be treated as capital. They cannot be withdrawn during the life of the loan.

31. For purposes of calculation, an interest rate of 7% has been assumed for the proposed loans from Bank funds. The various terms suggested for the loans are based on estimates of the probable economic life of the equipment and on the expected generation of funds. The grace periods suggested for the loans correspond approximately to the length of the construction period. The terms on which the loans will be made by the regional institutes (ISVEIMER or IRFIS) may differ in some cases from those suggested, but in all cases will be subject to Bank approval.

32. The financial forecasts do not take into account the payment of dividends. Net earnings are expected to be available for dividends in every case and, subject to a provision in every agreement limiting the borrower to minimum current ratios ranging from 1.5:1 to 2:1, dividends may be paid out. Management policy will determine how much of future earnings will be paid out in dividends and how much together with depreciation accruals will be used to increase working capital, to retire debt, to accumulate reserves, or to make additional capital investments. The earnings expected to be available for these purposes are shown as accumulated surplus; a corresponding entry is shown as "additional assets".

B. Features of the Projects

33. The locations of the projects are shown in the attached map (Annex A1).

34. The CONE electric refrigerator and water heater project will quadruple the capacity of a well-established home appliance plant which has already increased its capacity from 2,000 units in 1952 to 22,600 units in 1956. This increase in capacity was a response to the sharp increase in local demand for refrigerators and water heaters. It seems probable that demand will continue to increase and provide a growing market for CONE's appliances especially in the south where electric energy is becoming available in more and more communities and family incomes are increasing.

35. The CMI electrolytic tinplate project will produce about 24,000 tons per year of electrolytic tinplate of international standard types in addition to a reduced output of hot dip tinplate. In 1956, Italy imported about 57,000 tons of tinplate, most of it electrolytic, out of the total of 116,000 tons of tinplate consumed domestically and exported. CMI should be able to take over part of the market currently supplied by imports, since its new plant will be able to earn a profit even when selling its products at a price below the

lowest current price for electrolytic tinplate. The location of the plant, Naples, is especially favorable both for domestic sales, because it is a center of canning activity, and for export to the Mediterranean area. The Company already has an export sales organization.

36. The Marzotto ready-to-wear clothing project will make possible the production of about 290,000 units of clothing per year. Italy is still a relatively small consumer of ready-to-wear clothing which made up only 20% of the roughly 10 million units of clothing manufactured in Italy in 1956. In other European countries, ready-to-wear clothing accounts for more than 80% of all clothing produced. Marzotto's new plant will be able to produce clothing of a good quality at a price low enough to enable it to take over part of the large potential market for ready-to-wear clothing in Italy.

37. The Montecatini, SINCAT, and Trinacria potash projects were initiated as a result of the recent discovery of large potash mineral deposits in Sicily. The promoters of the projects are the two leading chemical manufacturers in Italy, Montecatini and Edison. Edison will operate through SINCAT, a wholly-owned subsidiary, and Trinacria, which Edison owns in partnership with German and French potash producers. All three projects include both potash mines and plants for processing the potash ores into several types of potash fertilizer. The annual production capacity of the projects is estimated as follows:

	Potassium sulphate (50% K_2O)	Schoenite	K_2O equivalent
	Tons		
Montecatini	133,000	-	65,000
SINCAT	8,100	50,000 (wet)[1]	13,000
Trinacria	22,000	140,000 (dry)[2]	47,000
Total	163,100	190,000	125,000

1/ 18-20% K_2O
2/ Kalimagnesia (26% K_2O)

38. Planned production capacity is more than twice current consumption of potash fertilizer in Italy (both measured in terms of K_2O content). However, the annual rate of consumption, still only a small fraction of the average for western Europe, has been rising rapidly since the close of the war. Even if the annual increase is only 60%-70% of the average annual increase since the close of the war, Italian demand will exceed the rated capacity of the three projects by 1962-1963. Production costs in Sicily will be considerably below the cost of producing comparable grades of potash fertilizer in France and Germany which now account for almost all the potash fertilizer produced in Europe. Domestic marketing of Italian potash fertilizer should therefore present no difficulties. Should Italian production exceed domestic requirements because demand grows less rapidly than now seems probable, the

producers should find little difficulty in exporting the surplus, particularly to the Mediterranean area. The companies involved have well established sales organization equipped to market their products on the domestic and foreign markets. A special study of the market for potash fertilizers has been made (Annex A2) because of the size and importance of these projects.

39. The SINCAT project involves in addition to the production of potash, the expansion of a complex fertilizer plant to increase its capacity from 100,000 to 300,000 tons per year. The larger quantity of complex fertilizer will absorb almost the entire output of sulphuric, nitric and phosphoric acid plants and the ammonia and potash plants that will form integral parts of the complex fertilizer plant. The caustic soda and chlorine also to be produced in the SINCAT plant should be marketed easily. Planned output of caustic soda will barely cover Sicilian demand for the product, while the chlorine will be converted into chlorine derivatives (mainly perchloroethylene) for which there is a ready market on the Italian mainland.

C. Conclusion

40. The projects selected are suitable for financing out of the proceeds of the proposed Bank loan, in the amounts and on the terms set out in the individual project appraisals that follow immediately.

D. Individual Project Appraisals

1. C O N E

Borrower

41. The prospective borrower is Compagnia Napolitana Elettrici (CONE) of Naples, incorporated in 1951. The company produces electric refrigerators and water heaters. It is presently engaged in modernizing and expanding its facilities at Naples to increase annual production capacity to 50,000 refrigerators and 30,000 water heaters. The cost of the new installations, including additional working capital and interest during construction, is estimated at Lit. 1.6 billion ($2.56 million) of which Lit. 700 million ($1.12 million) is requested from IBRD funds.

42. CONE's stock at present is held 50% by CGE (Compagnia Generale di Elettricita), 25% by SME (Societa Meridionale di Elettricita), and 25% by Banco di Napoli. CGE is owned by FIAT and International General Electric roughly on a fifty-fifty basis.

Description of the Project

43. CONE operates an electric household appliance plant at Naples, whose production capacity has been increased from 2,000 units in 1952 to 22,600 units in 1956. The capacity of the plant is now being increased to 80,000 units, including 50,000 refrigerators (140 lts. and 180 lts. capacity) and 30,000 water heaters (80 lts. capacity), based on a one-shift operation.

44. The water heaters are manufactured entirely at the plant. In the case of the refrigerators, only the frames, shells and chambers are manufactured at the plant. The refrigerating unit, plastic parts and insulating materials are purchased from other manufacturers. Plant-produced and purchased parts are then assembled and finished.

45. The total cost of erecting a new building, installing additional assembly lines, and modernizing existing facilities is estimated at Lit. 980 million.

Present Status

46. The new buildings are 95% completed. All the equipment has been ordered, and about 50% has arrived and is now being installed. It is estimated that the plant will be completed by March 1958. Up to September 1, 1957, about Lit. 155 million had been spent on the project.

Management

47. In view of CONE's successful operations during the past five years and its experience in the manufacture of electric appliances, the Company should be able to cope with the problems arising as a result of the proposed expansion.

Financing

48. It is proposed that the cost of the project, estimated at Lit. 1,580 million, should be covered as follows:

	Million Lire	%
Increase in share capital	150	
Shareholders' advances	625[1/]	
Retained earnings	35	
Total own funds	810	51
IBRD Loan	700	
ISVEIMER Loan	70	
Total borrowings	770	49
Grand Total	1,580	100

1/ The Company plans to convert into shares Lit. 150 million of the shareholders' advances after operations begin, making the total increase in share capital Lit. 300 million.

49. The above additional share capital and shareholders' advances would be furnished entirely by CGE, giving that Company a majority position in CONE (about 83%). CONE's position as of December 31, 1956 and its estimated position on completion of the project and at the end of the fourth year of normal operations are shown below.

	Dec. 31 1956	Dec. 31 1958	Dec. 31 1962
	Million Lire		
Fixed Assets	241	1,221	1,221
Less: Depreciation	26	47	287
Net Fixed Assets	215	1,174	934
Current Assets	861	1,617	2,182
"Additional Assets"	-	26	194
Total Assets	1,076	2,817	3,310
Current Liabilities	157	453	878
Share Capital	150	300	450
Shareholders' advances	694	1,186	1,169
Surplus	17	68	210
IBRD Loan	-	700	539
Other long-term debt (Banco di Napoli and ISVEIMER)	58	110	64
Total Liabilities & Equity	1,076	2,817	3,310

50. The financial forecasts of the Cone company are given in Annex A3. A letter setting forth the financial conditions agreed to by the Company is attached in Annex A4.

CONE Operations

51. CONE, in effect, operates and will operate as a manufacturing subsidiary for the CGE company. CGE takes and sells the entire output of the CONE plant. Between 1953 and 1957, the sales of the CONE company increased from Lit. 148 million to Lit. 1,186 million (estimated) and its net income rose from Lit. 1 million to Lit. 10 million. The latter amount represented a net return of 0.8% on sales and 1.2% on share capital and shareholders' advances (see summary balance sheets and financial statements in Annex A5). The company's low rate of profits is attributable to the fact that it is essentially a manufacturing plant operated for its main shareholder, the CGE, to which it makes substantial payments under a technical management and sales contract. Under this contract, CGE receives a sales commission (16%) and a management fee, which together represented about 20% of CONE's total costs in 1957. In addition, in three major business centers where CGE has retail stores, CGE retains a 25%-30% markup on factory prices. The two minority shareholders of CONE enjoy a preferential position in regard to dividends (6%) and derive certain other benefits from commercial relations with the Company. The Bank of Naples acts as CONE's banker and SME benefits from the increased sales of power required for the operation of the electric appliances manufactured by CONE.

Markets

52. Between 1953 and 1956, sales of refrigerators in Italy increased by about 50% a year and sales of water heaters by about 20% a year (see Annex A6). Although the rate of increase has been declining, refrigerator sales increased by 43% and water heaters by 18% between 1955 and 1956. Even if it is assumed conservatively that sales of refrigerators will increase by only 15% a year and sales of water heaters by only 10% a year, by 1962 total Italian sales of refrigerators would amount to 460,000 and sales of water heaters to 360,000. CONE's forecast sales in that year of 46,000 refrigerators and 27,000 water heaters would represent 10% and 7.5% respectively of total estimated sales of these appliances in Italy. In 1956, CONE's sales amounted to 6% and 5% respectively of total sales of these appliances in Italy.

53. Retail prices of CONE's appliances compare favorably with the prices of appliances of the same type and size produced by other manufacturers in Italy including Italian branches of foreign firms. CONE's close relations with producers of similar appliances in other European countries will help it to face competition when the European Common Market comes into effect.

Earnings and Debt Service Coverage

54. The Company expects the new facilities to reach normal operation in the fourth year after completion of the project, and forecasts a net profit of Lit. 69 million on sales of about Lit. 4.11 billion in 1962. That would represent a return of 1.7% on sales and 4.3% on share capital and shareholders' advances.

55. Company earnings before depreciation and interest would cover the service on the Company's proposed long-term debt about 1.7 times. In view of the close relationship between CONE and CGE, a summary of CGE's official balance sheets and financial statements for the years 1952-1956 is shown in Annex A7 attached. These statements indicate a sound financial position.

Economic Justification

56. The plant will produce, at an economic cost, refrigerators and heaters to meet the growing demand of the local market. It will create new working opportunities in the Naples area, providing direct employment for about 135 additional workers.

Conclusions and Recommendations

57. The CONE project is sound, and could be the basis for a loan, the equivalent of Lit. 700 million ($1.12 million), excluding interest during construction, for a term of 12 years, including 2 years' grace period.

2. C. M. I.

Borrower

58. The prospective borrower is Cantieri Metallurgici Italiani (CMI) incorporated in Naples in 1916. The Company owns and operates two plants, one at Naples for the production of hot dipped tinplates, galvanized sheets and cold rolled sheets, and one at Castellammare, near Naples, for the production of nuts and bolts, repair of railway rolling stock and various structural work and forgings. CMI would install a line for the production of electrolytically tinned plate in their plant at Naples. The cost of the project, including additional working capital and interest during construction, is estimated at Lit. 1.8 billion ($2.9 million) of which Lit. 600 million ($0.96 million) are requested from IBRD funds to finance the imported equipment for the project. CMI is owned by Acciaierie e Ferriere Lombardi Falck S.p.A. of Milan, large manufacturers in Italy of iron and steel products.

Description of the Project

59. The project involves the installation of a modern electrolytic tinning line where cold rolled steel strip in coils will be electroplated with tin on both surfaces. This line would have an estimated production capacity of 24,000 tons per year of tinplate of international standard types. The capacity can be further increased by 12,000 tons per year at a moderate cost by minor modifications and enlargements of the line. At present CMI produces 39,000 tons per year of hot dipped tinplate. After the project has been completed, the Company expects to produce 54,000 tons of which 30,000 tons would be hot dipped produced by the existing plant, and 24,000 tons electrolytic tinplate produced by the new facilities. The cost of the new installation including working capital is estimated as Lit. 1.8 billion as follows (million lire):

Buildings	92
Machinery and spare parts	774
Contingencies	84
Start-up expenses	40
Interest during construction	50
Increased working capital	800
Total	1,840

Of the above total, about Lit. 600 million would be required for imported machinery and equipment, which it is proposed should be financed from the Bank loan.

60. About 5.4 million kwh of electric power per year will be required; the estimated peak load would be 1,000 kw; this power will be supplied by Societa Meridionale di Elettricita.

Present Status

61. The planning and engineering of the project have been completed; tenders for machinery and equipment have been received and analyzed; and orders can be placed on short notice. No construction has been started. Because of its small capacity and special features, the tinning line which will be produced by the Austrian supplier (Ruthner) will take about 10 months to manufacture; deliveries and erection of the equipment will require about 8 months more. On the assumption that orders can be placed in the first quarter of 1958, the plant should be completed and in trial operation before the end of 1959.

Management

62. CMI has over thirty years of experience in tinplate manufacturing. The managerial and technical staff of the Company has the necessary experience to operate the electrolytic tinplate line. It can also obtain technical assistance, if needed, from the Falck Group.

Financing

63. It is proposed that of the Lit. 1.8 billion estimated total cost of the project, Lit. 0.6 billion would be covered by the proposed Bank loan. The remaining Lit. 1.2 billion would be covered by retained earnings and depreciation accruals. While the project is under construction, Company contributions to the project would amount to Lit. 640 million (fixed assets - Lit. 440 million, additions to net current assets - Lit. 200 million). Lit. 600 million more would be added to net current assets from the enhanced earnings of the Company after the completion of the project, which it is assumed will occur by the end of 1959. The financial position of the Company at the end of fiscal year 1957, and its estimated position upon completion of the project at the end of three years of operation of the new electrolytic line are as follows (million lire):

	Oct. 31 1957 (prel.)	Oct. 31 1959 (estimated)	Oct. 31 1962 (estimated)
Fixed Assets:			
Project	-	1,040	1,040
Other Fixed Assets	4,980	4,980	4,980
Less Depreciation	2,270	3,270	5,040
Net Fixed Assets	2,710	2,750	980
Current Assets	3,310	3,510	4,460
"Additional Assets"	-	430	1,708
Total Assets	6,020	6,690	7,148

	Oct. 31 1957 (prel.)	Oct. 31 1959 (estimated)	Oct. 31 1962 (estimated)
Current Liabilities	2,280	2,280	2,630
Share Capital	1,000	1,000	1,000
Surplus and Reserves	1,179	1,499	2,104
IBRD Loan	-	600	508
Other long-term debt	1,561	1,311	906
Total Liabilities & Equity	6,020	6,690	7,148

64. The financial forecasts of CMI are given in Annex A8. A letter setting forth the financial conditions agreed to by the Company is attached in Annex A9.

65. The Company's sales increased from Lit. 7.6 billion in fiscal year 1954 to Lit. 12.5 billion in 1957. Net income as reported rose from Lit. 54 million to Lit. 120 million. In 1954, this represented a net return of 14% on the par value of the share capital of Lit. 375 million. In 1957, after an increase in share capital (during 1956 and 1957) to Lit. 1,000 million, the return on share capital was 12%. These figures on earnings are conservative, since CMI follows a very conservative financial policy. An investigation made by ISVEIMER showed clearly that the Company has valued its inventories cautiously and has set aside substantial reserves for the depreciation of its fixed assets. (Summaries of balance sheets and profit and loss statement for 1953-1957 are shown in Annex A10).

66. Should retained earnings not be sufficient to complete the project, additional funds would be available from Falck, which has a 95% interest in CMI. A summary of Falck's financial statements for the past four years is given in Annex A11.

Markets

67. The total amount of tinplate consumed in Italy and exported has increased by 150% compared with prewar. In 1956, the two together amounted to 116,000 tons; of this total, 57,000 tons were imported. A continued rise in domestic demand seems probable. CMI is in a particularly good position to take advantage of the domestic demand, since its plant is located in Naples, an important canning center.

68. Electrolytic tinplate is gradually displacing hot dip tinplate all over the world in most commercial uses because of its technical and economic advantages. The installation of an electrolytic tinplate line will enable the Company to meet this new competition. The Company estimates that it can earn (after depreciation) about 3½% on sales of standard type hot dipped tinplate produced in its existing plant. In contrast, at a sales price somewhat below the lowest current price for imported tinplate (USA), the Company estimates that the new electrolytic line operating at normal capacity, could earn (after depreciation but before interest) about 6% on sales of comparable products. The Company's prices would be fully competitive with the present prices or other producers in the European Common Market.

69. In addition to selling to domestic consumers, the Company expects to export about 30% of the electrolytic tinplate produced to countries in the Mediterranean market, using its existing export sales organization.

70. Another electrolytic tinning plant is being installed in Northern Italy, but there seems to be little doubt that the output of both plants can be placed either on the domestic or the export markets since both companies expect to reduce hot dip plating production should market conditions make that necessary.

Earnings and Debt Service Coverage

71. The Company estimates that the production of the project would be gradually increased in accordance with market requirements from 50% of capacity in 1960 to 100% in 1962. This would mean the addition of 24,000 tons per year of electrolytic tinplate to the output of its Naples plant. Total plant output, allowing for some reduction in hot dipped tinplate and some minor cuts in other lines, would amount to 75,000 tons per year of rolled products. This is the present capacity of the Company's cold rolling mill. On the basis of conservative assumptions as to costs and sales prices, it is estimated that in 1962 CMI's sales would amount to Lit. 12.9 billion and its net profit to Lit. 175 million. The latter figures would represent a return of 17.5% on share capital and of 5.6% on total equity. The project alone would account for about 27% of the Company's sales, but about 33% of its net profits. Depreciation has been estimated conservatively, at an average rate of 10% per annum for equipment and buildings for both the project and the existing plant.

72. Estimated Company earnings before interest and depreciation when all facilities are operating at a normal rate, should cover the total debt service about 3.3 times. The project should be able to break even operating at 40% of capacity and cover the IBRD loan service about 1.6 times.

Economic Justification

73. The CMI project will produce electrolytic tinplate of international standards in Italy and thereby reduce the need for increased imports of this product to meet the growing demand of the canning industry and other users. The plant will be located in Naples, the center of Italy's large canning industry. The annual foreign exchange savings resulting from the project may be estimated as Lit. 2.2 billion ($3.5 million). This estimate is based on the assumption that the increase of 15,000 tons p.a. in the Company's production of tinplate expected to result from the operation of the project (from 39,000 tons at present to 54,000 tons) would result in an equivalent reduction of imports of electrolytic tinplate. Some additional foreign exchange benefits would also arise from the reduced requirements for imported tin, because of the savings of tin in the substitution of 9,000 tons of electrolytic tinplate for hot dipped tinplate as a result of the project.

Conclusions and Recommendations

74. The CMI project is sound and could form the basis for a loan of Lit. 600 million ($960,000) excluding interest during construction. The term of the loan could be 13 years, including a 3 year grace period.

3. MARZOTTO

Borrower

75. The prospective borrower is Marzotto Sud S.p.A., incorporated in 1956. The Company would build a plant in Salerno for the manufacture of ready-to-wear men's clothing. The cost of the project including working capital and interest during construction is estimated at Lit. 3.7 billion ($5.92 million) of which Lit. 1.3 billion ($2.08 million)is requested from IBRD funds.

76. The stock of Marzotto Sud is wholly owned by Manifattura Lane Gaetano Marzotto & Figli, S.p.A., one of the largest woolen textile companies in Italy, owned by the Marzotto family. The Marzotto family also owns other companies in the sugar, soap and glass industries, tourist hotels in Italy, etc.

Description of the Project

77. The plant at Salerno would be able to manufacture 290,000 units (one "unit" consists of either a jacket and trousers, one overcoat, or three trousers) of ready-to-wear clothing per year (290 days, one 8 hour shift).

78. The plant would have modern buildings covering a working area of about 12,000 m^2 and housing about 660 cutting, sewing and pressing machines and 3,000 m^2 for offices and services. Ancillary installations include a thermo-electric plant, water softening and heating and ventilating equipment. Water will be supplied from the city water service.

79. The industry is of the labor-intensive type and when operating at full capacity will employ about 1,200 people.

Present Status

80. Project engineering has been completed, the plant site has been acquired and work on the foundations of the building have been started. The equipment, with the exception of the thermo-power plant, can be obtained on very short notice; quotations have been received and analyzed. The plant is expected to be completed and in operation in early 1959.

Management

81. Manifattura Lane G. Marzotto & Figli has operated a ready-to-wear clothing plant at Valdagno for three years as part of their textile manufacturing activities there. Although the plant has had its problems during the past three years, there has been a steady improvement each year in the plant's results. Production has increased from 137,000 units in 1955 to 203,000 units in 1956, and 1957 production is estimated to reach 250,000 units (about 80% of plant capacity). Sales have increased from Lit. 1.5 billion in 1955 to Lit. 1.8 billion in 1956 and are expected to amount to Lit. 2.4 billion in 1957. The operational losses in the initial years have been gradually reduced, and during the first half of 1957 the plant has been able to break even. It expects to show a moderate profit for the full year. The improvement in its operating results appears to be due to the correction of deficiencies in

production techniques and sales methods revealed in the first years of operation. The Company has now engaged a new manager for the Valdagno plant who has had experience with other firms in the industry, and the prospect of continued successful operation seems good.

82. The Company's experience at Valdagno will be helpful in setting up and operating the Salerno plant, for which it is now hiring additional personnel. The Valdagno management should be able to provide expert advice for the solution of any technical or sales problems that arise at the Salerno plant.

Financing

83. The cost of the project is estimated at Lit. 3.7 billion, including Lit. 1.6 billion for fixed assets and Lit. 2.1 billion for net current assets. Of the total Lit. 1.5 billion would be financed from share capital and Lit. 0.9 billion from shareholders' advances. The remaining Lit. 1.3 billion, representing 35% of the total, would be covered from the proposed Bank loan. The relatively large working capital requirements, representing 57% of the total capital investment, are inherent in this industry because of the large inventories of raw materials, goods in process and finished goods to be stocked in preparation for seasonal sales. The estimated balance sheets when the project is completed and at the end of the fourth year of operations are shown below (million lire):

	Mar. 31 1959	Dec. 31 1962		Mar. 31 1959	Dec. 31 1962
Fixed Assets	1,625	1,625	Current Liabilities	1,200	1,700
Less Depreciation	-	599	Share Capital	950	1,500
Net Fixed Assets	1,625	1,026	Shareholders' Advances	575	900
Current Assets	2,400	3,800	Surplus	-	427
"Additional Assets"	-	698	IBRD Loan	1,300	997
	4,025	5,524		4,025	5,524

84. Financial forecasts of the Company are given in Annex A12 and a letter of financial conditions agreed with the Company is given in Annex A13.

85. The Marzotto textile mills at Valdagno have shown poor results for several years due primarily to the profit squeeze in the woolen textile market as a result of high wool prices and a reduced sales volume. Since late 1956, however, operating results have shown a steady substantial improvement. In the first nine months of this year, sales totalled Lit. 22.4 billion; and for the full year they are estimated to amount to Lit. 31.0 billion compared with Lit. 23.6 billion in 1956. Profits for 1957 are estimated at Lit. 1.5 billion, compared with Lit. 0.1 billion reported in 1956. This represents a return on share capital of 7.5%. Summary balance sheets and income statements are shown in Annex A14.

Markets

86. The ready-to-wear men's clothing industry is just beginning to be established in Italy. Statistics on sales are not complete but production of ready-to-wear garments amounted to about two million units in 1956, including trousers and children's clothing. Available statistics indicate that this represented about 20% of the total number of garments manufactured in Italy, where most garments are still produced to order by individual tailors or very small concerns. About 14% of the ready-to-wear garments produced were exported.

87. In other European countries, such as Belgium, France, Germany, Norway and the U.K., about 80% of all garments produced are ready-made. In spite of the fact that there is still some prejudice against ready-to-wear garments in Italy, Marzotto believes that the market can be expanded there as elsewhere in Europe provided that the garments are of a quality comparable with the average tailor-made garments and sold at reasonable prices, and that a sound sales organization is built up. Although Marzotto's financial forecasts for the Salerno plant are based on the assumption that it will produce medium-quality clothing, the Company intends to maintain considerable flexibility in operations, so that it can meet market demand with respect to quality and price.

88. Marzotto expects to sell its garments through established retail outlets although the Company will continue to study marketing methods and may in the future also market some of its output through its own stores. Success will depend to a considerable extent on the effectiveness of the sales organization, but the satisfactory results that the Company is now obtaining at Valdagno suggest that it can work out a good distribution system for a larger output.

89. Through the existing export sales organization of the parent company, Marzotto expects to develop the export market further, and to dispose of about 20% of the Salerno plant's output abroad. In view of the already existing pattern of acceptance of ready-to-wear clothes in the major Western European countries, and of Italy's lower labor costs, this objective does not appear unduly optimistic under the forthcoming European Common Market. The Company recognizes the importance of aggressive sales activity in this field, too, and is studying the market and distribution methods intensively. Since no firm guarantee can be made for the disposal of the total output, there is a certain element of calculated risk in this project which we recommend the Bank accept.

Earnings and Debt Service Coverage

90. Operating at normal capacity and selling medium quality clothing at prices somewhat lower than those presently prevailing, the project is expected to have net sales of an estimated Lit. 5.3 billion in the fourth year of operation and to yield a profit of approximately Lit. 0.3 billion, representing a return of about 12% on share capital and shareholders' advances. The Company has stated that, if conditions make that desirable, it could produce lower quality clothing and still show a corresponding return on total equity.

91. Estimated Company earnings before interest and depreciation, when the plant is operating at normal capacity, should cover the service of the proposed IBRD loan about 2.8 times. The project should be able to reduce its output to about 50% of capacity and still generate sufficient cash from operations to meet the service requirements of the Bank loan.

Economic Justification

92. The project represents an important step towards the rationalization and integration of the Italian textile and clothing industry. It will supply medium priced ready-to-wear clothing of standard quality to a potentially large market particularly in the south of Italy and will thereby help to raise living standards. It will provide an important outlet for the products of the parent company's textile mills in the north and thereby strengthen their operational position against the adverse effects of drastic fluctuations in the textile market. Last but not least the project will benefit a depressed area in the south of Italy by providing direct employment for about 1,200 people.

Conclusions and Recommendations

93. The project should be able to show good earnings provided that it markets the products in the quantity and at near the prices used in the estimates. These estimates are based on reasonable assumptions. Subject to the marketing aspects, the Marzotto project is sound and could form the basis for a loan of Lit. 1.3 billion ($2.1 million), excluding interest during construction. The term of the loan could be for 12 years, including a 2 year grace period.

4. SINCAT

Borrower

94. The prospective borrower is Societa Catanese S.p.A. of Palermo (constituted in May 1954). The Company plans to mine potassium-bearing ores at Sta. Catarina in Caltanissetta province, Sicily, and to process the mineral at Priolo, north of Syracuse, where a complex-fertilizer plant (financed by the Bank under Loan No. 117-IT) now under construction would be expanded. Facilities for the production of ammonia, chlorine-caustic soda, and chlorine derivatives would also be erected at Priolo. The total cost of the present project, including working capital and interest during construction, is estimated at Lit. 17.1 billion ($27.4 million) of which Lit. 8 billion ($12.8 million) would be financed from IBRD funds. The first project consists of the integrated complex fertilizer plant now under construction, the estimated cost of which is about Lit. 8.2 billion ($13.1 million) of which Lit. 3.6 billion ($5.8 million) is being financed by the Bank under Loan No. 117-IT. The estimated cost of the two projects is thus about Lit. 25.3 billion ($40.5 million) of which Lit. 11.6 billion ($18.6 million) would be from IBRD funds.

95. The share capital of SINCAT is held by Societa Industria Chimiche Edison S.p.A. (10%) and Societa Di Partecipazioni Industriali S.p.A. (90%). These two companies in turn are owned by Societa Edison which is the largest power concern in Italy and which also has extensive industrial holdings.

Description of the Project

96. The present project involves: (1) an increase in the capacity of the facilities of the fertilizer plant now under construction (first project); and (2) the installation of facilities for the production of additional items. Under (1) the following increases in capacity are planned:

a) complex fertilizer plant - from 100,000 to 300,000 tons per year;

b) sulphuric acid plant - from 30,000 to 170,000 tons per year of 100% H_2SO_4;

c) nitric acid plant - from 35,000 to 70,000 tons per year of 100% HNO_3.

Under (2) the following facilities for the production of additional items are planned:

a) mining installations at Sta. Catarina for the extraction of 130,000 tons per year of potash mineral; and

b) at Priolo:

i) a plant to process potash mineral which will produce about 8,000 tons per year of potassium sulphate (48%-50% K_2O) and in addition about 50,000 tons per year of schoenite (18%-20% K_2O);

ii) a plant to produce 36,000 tons per year of anhydrous ammonia;

iii) an electrolytic plant to produce 5,000 tons per year of caustic soda and 4,500 tons of chlorine;

iv) facilities to produce ammonium sulphate and chlorine derivatives.

97. The proved reserves of potash mineral (kainite) at Sta. Catarina mine are estimated at about 8 million tons of ore with an average K_2O content of about 14%-15%.

98. With the exception of the chlorine and caustic soda, the items produced by the Company will be utilized for the most part in the production of complex fertilizers. An estimate of saleable production is given in Annex A15. The raw materials to be used include local sulphur fines, rock salt (an impurity in the kainite ore), Ragusa crude oil for the production of ammonia, local potash mineral, and phosphate rock imported from the Mediterranean area. The Priolo plant is located on the coast and has excellent harbor facilities as well as good rail and road transport connections. About 20 million kwh. of the 135 million kwh. that will be required for plant operation would be generated at the plant. Water would be obtained from wells on the property.

Present Status

99. Thorough exploration and drilling at the mining area have determined the position and size of the ore body. The return shaft, to be used in developing the mine, has been completed and hoisting equipment installed. Offices and service buildings at the mine are 80% completed. Extensive tests have been carried out at a pilot plant at Porto Marghera to determine the best processes and equipment for kainite flotation and transformation into potassium sulphate. All the engineering designs for the second project have been completed, and quotations on the equipment have been received and analyzed. Installations for the first project (Loan No. 117-IT) are about 75% complete, as scheduled, and are expected to be in operation at the end of 1958.

Management

100. The management of SINCAT is able and energetic. The Edison group to which it belongs can provide adequate technical and managerial assistance.

Financing

101. The cost of the present project, including interest during construction, is estimated at Lit. 16.0 billion; additional working capital requirements are estimated at Lit. 1.1 billion. The total investment in the two projects is estimated at Lit. 25.3 billion, including Lit. 1.8 billion for working capital. The two projects are expected to be financed as follows (billion lire):

	1st part	2nd part	Total Project
Share Capital	2.0	3.0	5.0
Shareholders' Advances	2.6	5.6	8.2
IBRD Loans	3.6	8.0	11.6
Retained Earnings	-	0.5	0.5
	8.2	17.1	25.3

102. The estimated pro forma balance sheets on completion of the first and second parts of the project and after three years' operations are shown below (million lire):

	Dec. 31 1958	Dec. 31 1960	Dec. 31 1963
Fixed Assets - 1st project	7,500	7,500	7,500
- 2nd project	7,350	16,000	16,000
	14,850	23,500	23,500
Less Depreciation	200	2,145	7,875
Net Fixed Assets	14,650	21,355	15,625
Current Assets	1,500	3,300	3,500
"Additional Assets"	-	1,077	7,938
	16,150	25,732	27,063
Current Liabilities	800	1,500	1,700
Share Capital	5,000	5,000	5,000
Shareholders' Advances	3,386	8,200	8,200
Surplus	-	150	4,142
IBRD - 1st loan	3,464	2,882	1,874
2nd loan	3,500	8,000	6,147
	16,150	25,732	27,063

103. Financial forecasts of the Company are given in Annex A16. A letter embodying the financial conditions agreed by the Company is attached as Annex A17.

Markets

104. The consumption of fertilizers in Italy has grown very rapidly in recent years. While the rate of growth in southern Italy has exceeded the national average, consumption of fertilizers in the south is still far below the level in the rest of the country. As a result of the steady shift from extensive to intensive farming, the introduction of large-scale irrigation and the change in cropping patterns with increased emphasis on horticulture, the outlook for continuing increases in the consumption of fertilizers is very favorable. Total consumption of fertilizers amounted to roughly 3.7 million tons in 1955/1956, of which somewhat less than one million tons was used in the south. If consumption in the south increases by 25% in the next four years (a relatively conservative estimate, since consumption in the region increased by almost 60% in the past six years) the south would require an additional 250,000 tons of fertilizer by 1960. In addition, there is certain to be some increase in complex fertilizer consumption in the rest of the country, as a result of the technical advances in agriculture now in progress. Thus, the market prospects for the additional 300,000 tons of complex fertilizer to be produced by SINCAT appear very favorable.

105. When the first project for the construction of a complex fertilizer plant with a capacity of 100,000 tons per year was initiated, part of the anticipated Italian demand was expected to be met by several other plants. Plans to construct these plants have since been dropped. Two complex-fertilizer projects (planned by Siculazoto and Chimica del Tirreno) which have been cancelled would have had a combined production of 120,000 tons per year. The proposed expansion of SINCAT's complex fertilizer capacity from 100,000 to 300,000 tons will, therefore, increase total planned output by only 80,000 tons. A project planned by Augusta Petrolchimica for the production of 66,000 tons of ammonium sulphate was changed to the production of ammonia to be sold to Montecatini to allow them to close down an obsolete plant. SINCAT's proposed output of ammonium sulphate is only 56,000 tons.

106. The market outlook for SINCAT's expanded output of these two items, therefore appears to be favorable. No difficulties are anticipated in marketing the other items to be produced by the expanded SINCAT plant. The 60,000 tons of sulphuric acid that will be produced are expected to be absorbed by the Company's plant at Porto Marghera. The 5,000 tons of caustic soda and an equal amount of perchloroethylene can almost certainly be sold on the open market.

Earnings and Debt Service Coverage

107. Based on conservative estimates of operational costs and assuming prices would be 10% lower than present at the outset and would decline to 20% below present prices by 1963, SINCAT expects to break even in the first two years of partial operations, and subsequently to show an annual net income increasing from Lit. 150 million in 1960 to Lit. 1,532 in million in 1963, when all facilities are planned to be in normal operations. This latter figure would represent about 9½% of net sales and 11½% on share capital and shareholders' advances.

108. The debt service coverage would be about 2.5 times. The Company should be able to sustain an 8% decline in revenues and a simultaneous 8% increase in operating costs and still maintain service on the IBRD loans.

Economic Justification

109. Sicily possesses great natural advantages for the production of chemicals, especially fertilizers, including local raw materials such as sulphur, potash salts, rock salt, oil and gas, etc., closeness to the large phosphate rock deposits of North Africa, and manufacturing sites accessible to water transportation. Plants should be able to deliver fertilizers to consumers in southern Italy at a price at least 10% below the present delivered price for fertilizer bought from northern Italian plants.

Conclusions and Recommendations

110. The expanded SINCAT project is sound and could form the basis for a second Bank loan equivalent to Lit. 8.0 billion ($12.8 million) excluding interest during construction, for the term of 13 years including a 3 years' grace period.

5. MONTECATINI

Potash Project - Sicily

Borrower

111. The prospective borrower would be Montecatini Societa Generale per l'Industria Mineraria e Chimica S.p.A., a privately owned company incorporated in 1888. The Company would open a mine for the extraction of potash mineral (kainite) at Serradifalco and erect a new plant to process the kainite into potassium sulphate at Campofranco in Caltanissetta province, Sicily. The estimated cost of the project, including working capital and interest during construction is estimated at Lit. 10.3 billion ($16.48 million) of which Lit. 4 billion ($6.4 million) would be financed from IBRD funds. Montecatini is the largest manufacturer of fertilizers as well as the largest chemical manufacturer in Italy.

Description of the Project

112. The project includes the development of the Bosco mine at Serradifalco. The mine has proven reserves of about 25 million tons of good quality kainite, the bulk of which has a 12.5% K_2O content and a relatively small part has a 17% K_2O content. Operating 280 days a year, the mine is expected to produce about 840,000 tons per year of unsorted potash mineral. The unsorted ore would be transported from the mine to Campofranco by a 17.4 Km three-cable ropeway, with a minimum capacity of 150 tons per hour. At Campofranco, a processing plant would be erected, consisting of a flotation unit where the unsorted mineral would be concentrated into floated kainite with a uniform K_2O content of 17%, a second unit to convert the concentrated kainite into schoenite, and a third unit where potassium sulphate will be derived from the schoenite. Assuming that the unsorted potash mineral would have an average K_2O content not much above 12.5%, the processing plant, operating on a two-shift basis would produce an estimated 570,000 tons per year of concentrated kainite, which would yield 133,000 tons per year of potassium sulphate (50% K_2O).

113. Water needed for the process would be obtained from the Platani river at Campofranco. The process for kainite treatment has been developed and patented in Italy by Montecatini.

Present Status

114. The mine area has been explored and the location, size and characteristics of the mineral body have been determined. The mineral obtained from mine exploration (about 2,000 tons of kainite) has been processed in pilot plants at Porto Marghera, near Venice, to establish the correct production process and equipment.

115. The shafts for extraction and ventilation at the mine are almost completed. The electric substation has been installed. All engineering designs for installations at the mine and the plant have been prepared, and mining equipment has been ordered. The Company estimates that construction can be completed by the end of 1959, if financing is arranged within 6 months.

Management

116. Montecatini already operates several large mines and fertilizer plants in Sicily, including a fertilizer plant at Campofranco where it would erect the proposed plant to produce potassium sulphate. It should, therefore, have no difficulty in securing competent managerial and technical direction for its new mining and industrial activities in that area.

Financing

117. The project will be constructed and operated as an integral part of the Montecatini organization and not as a separate legal or financial entity. Its financing, both for fixed assets and working capital, will be provided from the general funds of the company. The total cost of the project is estimated at Lit. 10.3 billion (including Lit. 0.3 billion interest during construction and Lit. 1.5 billion working capital) of which Lit. 0.4 billion represents the cost of work completed to date. These figures do not include an additional Lit. 0.4 billion spent for research and an experimental plant which has been charged to Montecatini's ordinary development activities. It is proposed that Lit. 6.3 billion of the project cost would be covered from general funds of Montecatini and that the remaining Lit. 4.0 billion would be financed with IBRD funds. Additional working capital, if required, would be provided by Montecatini.

118. Estimated balance sheets for the potash plant, taken as a separate entity for illustrative purposes only, on completion of the project and after five years of operation are shown below (in million lire):

	Dec. 31 1959	Dec. 31 1964		Dec. 31 1959	Dec. 31 1964
Fixed Assets	8,830	8,830	Head Office Advances	5,130	6,330
Less Depreciation	-	3,530			
Net Fixed Assets	8,830	5,300	Surplus	-	2,283
Current Assets	300	1,500	IBRD Loan	4,000	2,341
"Additional Assets"	-	4,154			
	9,130	10,954		9,130	10,954

119. Financial forecasts for the plant as a separate entity, again taken for illustrative purposes, are shown in Annex A18. A letter setting forth the financial conditions agreed by the Company are shown in Annex A19.

Financial Position of the Company

120. Montecatini's total sales have expanded rapidly in the last few years and its unconsolidated net profits have risen from Lit. 8.1 billion in 1953 to Lit. 10.9 billion in 1956, or from a 9.6% to a 13% return on share capital. At the end of 1956, the Company's assets amounted to Lit. 256 billion and its equity to Lit. 152 billion. Its current ratio was 2.4:1. Its long-term debt amounted to Lit. 53.4 billion at the end of 1956. Long-term debt has risen substantially over the past four years, mainly because the financing requirements of the Company's large-scale modernization and expansion program, and

the Company's debt-equity ratio has increased as a result from 15/85 in 1953 to 22/78 in 1956. However, the high level of the Company's annual depreciation accruals and retained earnings (Lit. 13.1 billion in 1956) and its conservative financial policies appear to provide a safe margin for servicing its expanding debt. If the proposed IBRD loan and the share capital raised during 1957 were added to the 1956 balance sheet, the debt-equity ratio would remain at 22/78. Financial statements of the Company for the past four years are shown in Annex A20.

Montecatini Expansion Program.

121. In the past five years Montecatini has spent more than Lit. 83 billion ($133 million) for the modernization and expansion of its production facilities in the chemical, metallurgical and mining industries (and for supplementary industrial power). In addition, the Company has invested sizeable amounts in domestic and foreign subsidiary and associated enterprises. Expenditures in plant and equipment in 1955 and 1956 were at a rate of Lit. 12 billion each year, equal to the rate of annual depreciation accruals. Recently Montecatini reviewed its modernization and expansion plans to meet the challenge of the European Common Market. The Company has developed a four-year program which provides for a considerable amount of new investments mainly in mining and in chemicals field. In 1956, the Company borrowed Lit. 16 billion locally and, in early 1957, raised its share capital by Lit. 16 billion. These moneys together with the proposed Lit. 4 billion IBRD loan for the potash project will provide the necessary external financing required for completing the program.

Markets

122. The potential market for potash fertilizer in Italy seems likely to be large enough to absorb the output of the proposed project as well as of two additional potash projects being undertaken in the same area. Any surplus not saleable on the domestic market can probably be sold on the European market since the production cost of the Italian potassium sulphate is expected to be lower than that of other European production. (An analysis of the market for Italian potash fertilizers is given in Annex A2).

123. Montecatini is in a good position to sell its potash at home and abroad. As the largest Italian manufacturer of fertilizers, it maintains an efficient and widespread sales organization through which the potash fertilizer would be distributed. Exports would be marketed through its international organization. In preparation for marketing the new project, Montecatini is engaged in extensive research work and large-scale promotional activities.

Earnings and Debt Service Coverage

124. The Company expects the new plant to be operating at a normal capacity level in the third year of operation. At an assumed sales price appreciably below the present price for imported potassium sulphate, net sales would amount to Lit. 4.1 billion per year and produce a net income of Lit. 644 million. This would represent a return of about 10% on Montecatini's capital advances.

125. Estimated earnings of the project, before interest and depreciation, would provide about 2.8 times the amount required to service the proposed Bank loan. The project would be able to withstand a drop of about 15% in estimated revenue along with an increase of 15% in estimated operating costs and still maintain its scheduled debt service.

126. Project earnings might be further increased, if market conditions justified operating the plant on a three-shift basis, rather than on a two-shift basis as has been assumed in all the forecasts.

Economic Justification

127. The discovery of large potash mineral deposits in Sicily has opened the possibility of a potash industry in Italy. The development of such an industry would stimulate Italian consumption of this product, which has been very low, even compared to countries with similar soil conditions. To the extent that any surplus over domestic demand is available, it should yield foreign exchange, since it seems likely that potassium sulphate can be produced in Italy at a lower cost than elsewhere in Europe (see Annex A2). The Montecatini potash operations are located in an old sulphur mining area. The mines are seriously depressed and are unlikely to recover because they cannot compete with sulphur produced by other methods. The Montecatini potash project will provide direct employment for about 700 workers and employees in this depressed region.

Conclusions and Recommendations

128. The Montecatini potash project is sound and could form the basis for a loan equivalent to Lit. 4.0 billion ($6.4 million) excluding interest during construction, for a term of 12 years, including 2 years' grace period.

6. TRINACRIA

Borrower

129. The prospective borrower is Sali Potassici Trinacria S.p.A. of Palermo, incorporated in 1947. The Company plans to open a mine to extract potash ore and to install a plant to process the mineral near the town of Calascibetta, in the provice of Enna, Sicily. The cost of the project, including working capital and interest during construction is estimated at Lit. 8.2 billion ($13.1 million) of which Lit. 3.75 billion ($6 million) would be from IBRD funds.

130. The Company is owned by the following interests: the Societa Edison which is the largest power concern in Italy and has extensive industrial holdings (40% of the stock), Societe Commerciale de Potasses d'Alsace (15%), German potash interests (Wintershall) (15%), and a group of Sicilian businessmen (30%).

Description of the Project

131. The project includes the development of a mine and the erection of a processing plant. The Corvillo mine would be developed for the extraction of 560,000 tons per year (280 days) of unsorted potash mineral, with an average K_2O content of about 13%.

132. The processing plant, which would be erected in the mining area would have a flotation section with a capacity of 560,000 tons per year where the mineral ore would be concentrated from 13% to 17% K_2O, and a refining section where the floated kainite would be transformed into 140,000 tons of "kali-magnesia" (i.e. calcined schoenite or K_2SO_4-Mg SO_4) with a K_2O content of 26% and 22,000 tons of potassium sulphate with a K_2O content of about 50%. Water needed for the process would be obtained from the Salso River, which passes near the mine. The processes to be used for treating the kainite have been developed by the Edison group and the Franco-German group.

Present Status

133. Geological and geophysical exploration have shown the existence of a large body of potash mineral in the Corvillo area. It is estimated that the area may contain billions of tons of good quality ore. Three boreholes drilled on a line have substantiated the geological estimates. Nevertheless, in order to conform to standard practice in expressing proven reserves, the Company has agreed to drill two additional boreholes in the Corvillo area. These are expected to demonstrate the existence of at least 55 million tons of good quality mineral. The boreholes should be completed in three or four months. Mineral cores have been analyzed, and the mineral found to be of excellent quality.

134. Quotations for equipment have been received and analyzed, and orders can be placed on short notice. It is expected that the installations could be completed in three years from the time orders are placed.

Management

135. The technical and operational management of the Company would be in the hands of Edison and SINCAT, which would be assisted by the Franco-German group in fields where the latter group has more experience. The cooperation of the Sicilian partners would gain added goodwill for the Company from local authorities and the local population.

Financing

136. The cost of the project is estimated at Lit. 8.2 billion, including Lit. 0.6 billion for working capital. It is proposed that Lit. 3.75 billion should be financed from IBRD loan funds, Lit. 4.15 billion from share capital and shareholders' advances, and the balance Lit. 0.3 billion from retained earnings.

137. During the first year of operation it is expected that the working capital requirements will increase to a total of Lit. 0.5 billion. It is planned that an additional Lit. 0.1 billion will be made available from depreciation accruals and earnings during the second year of operation.

138. The estimated balance sheets on completion of the project and after three years' operation are shown below (million lire):

	Dec. 31 1960	Dec. 31 1963		Dec. 31 1960	Dec. 31 1963
Fixed Assets	7,600	7,600	Current Liabilities	300	400
Less Depreciation	-	2,066	Share Capital	3,000	3,000
Net Fixed Assets	7,600	5,534	Shareholders' Advances	1,150	1,150
Current Assets	600	1,000	Surplus	-	718
"Additional Assets"	-	1,609	IBRD Loan	3,750	2,875
	8,200	8,143		8,200	8,143

139. Financial forecasts for the project are given in Annex A21, and a letter of financial conditions accepted by the Company is attached as Annex A22.

Markets

140. Trinacria would use the potash distributing system of the Franco-German group which now sells about 90% of the potash fertilizers used in Italy. The same group would handle the export of potassium sulphate to other European countries and the import into Italy of potassium chloride manufactured in France and Germany, which is needed for certain Italian crops. With this group, which dominates the European potash market assuming responsibility for distributing Trinacria's output, no marketing problems seem likely to arise. (A comprehensive appraisal of the market for Italian potash is given in Annex A2).

Earnings Forecasts and Debt Service Coverage

141. The Company expects the new plant to be operating at normal capacity in the second year of operation. On the basis of conservative estimates of sales revenues and operating costs, it is estimated that the project should produce a net profit in excess of Lit. 0.3 billion on sales of about Lit. 3.0 billion. This profit would be after depreciation at an accelerated rate (within 5 years) of the Lit. 0.6 billion which will have been spent on research and exploration before work on the project begins. It would represent a return of about 9% per year on total share capital and shareholders' advances.

142. Annual earnings before interest and depreciation, when the plant is operating at a normal rate, should provide a coverage of about 2.5 times the amount required for IBRD debt service. On the basis of these estimates, the Company could withstand a drop of about 17% in revenues and simultaneous increase of about 17% in operating costs and still maintain service on the IBRD loan.

Economic Justification

143. Trinacria's pioneering work in exploring for potash ore in Sicily has led to the discovery of large potash deposits on land owned by the Company and in nearby areas. These deposits provide a basis for the development of a potash industry in Italy. Until now, Italian consumption of potash fertilizers has been extremely low, even compared with countries with similar soil conditions. The availability of locally produced potash fertilizers will stimulate application of the product, demand for which will also be stimulated by improvements in agricultural methods and large-scale irrigation projects now in progress in the region. Any surplus available above domestic consumption will earn foreign exchange for Italy, since the potassium sulphate produced in the region will be lower cost than the same product manufactured in Europe. The Trinacria potash operation, located in an old sulphur mining area at present going through a serious depression, will create direct employment for about 720 people.

Conclusions and Recommendations

144. The Trinacria potash project is sound and could form the basis for a loan of Lit. 3.75 billion ($6 million) excluding interest during construction, for a term of 13 years, including 3 years' grace period.

IV. POWER PROJECTS

A. INTRODUCTION

145. The development program for South Italy, which is financed by the Cassa through government appropriations, does not include power projects. Adequate expansion of the power facilities in the area forms an integral part of its economic development. A total of $55.2 million of the two loans made to the Cassa in 1955 and '56 was therefore allocated to six power projects to be carried out by four power corporations, (SME, UNES, SRE and SGES), either directly or through subsidiaries. These projects when completed will provide about 500 MW of new generating capacity. Construction work has progressed satisfactorily and 100 MW were already in operation by the end of 1957. An additional 270 MW are scheduled to be put into operation during 1958 and the remainder during 1959.

146. The Cassa area, which contains about 38% of the total population of Italy has only 15% of the total installed generating capacity of the country. The consumption per capita in Southern Italy amounts to 190 kwh per year as compared with 1,100 kwh per year in the north.

147. Five companies operating in the Cassa area submitted projects for Bank consideration in connection with the proposed new loan. Of these, the projects to be carried out by Societa Meridionale di Elettrica (SME) and Societa Generale Elettrica della Sicilia (SGES) were selected as they were found to have a higher economic priority and were suitable to form the basis for a Bank loan. The two companies, which serve respectively most of the southern part of the Italian peninsula and Sicily, have at present a total effective generating capacity of 848 MW and serve a population of about 16 million. (Map attached as Annex B-1) The projects proposed for financing would add 300 MW of thermal capacity to the SME system and 60 MW of hydro capacity to the SGES system. Most of the equipment required for these projects will be manufactured in Italy.

148. Both companies are carrying out projects financed with the proceeds of earlier Bank loans to the Cassa. SME, which received a total of $27.5 million, has completed the construction of the 64 MW Luzzi and the 21 MW Matese hydro plants as well as a 287 km long 220 kv transmission line with associated substations. The company is well advanced with the construction of the 52 MW Bussento hydro plant which is scheduled to be in operation in the beginning of 1959. The SME subsidiary, Pugliese, has completed the construction of the 4 MW Coscile hydro plant and the two first 90 MW units of the Bari thermal plant are scheduled to come into operation during 1958. The third 90 MW unit is to be completed in 1959.

149. The SGES, which received $10.5 million from previous Bank loans, has under construction by its subsidiary TIFEO the 147 MW Augusta thermal plant in Sicily. It is scheduled to be completed by the middle of 1958.

150. The following appraisal of the two companies, their expansion programs and the projects proposed for financing with Bank funds is based on information

supplied by the companies and on field investigations carried out in October and November 1957.

B. SOCIETA MERIDIONALE DI ELETTRICITA (SME)

1. The Company

151. The Societa Meridionale di Elettricita (SME) was founded in 1893 with an initial share capital of Lire 1 million of which 60% was subscribed by a French-Swiss company. Share capital has been increased over the years to the amount, as of June 1957, of about Lire 74.98 billion of which about Lire 71.22 billion has been paid in.

152. The company was privately controlled until 1931 when Istituto Ricostruzione Industriale (IRI), a government owned holding company, acquired a controlling interest. In 1952, the Government created Finanziaria Elettrica Nazionale (Finelettrica) as a subsidiary of IRI to manage its interests in various power companies. Finelettrica now owns about 18% of the shares of SME and intends gradually to acquire the balance of the SME shares still held by IRI. The principal shareholders of SME as at June 30, 1957 were the following:

	% of Share Capital
Finelettrica	18.16%
IRI	14.67%
Societa Italiano per le Strade Ferrate Meridionali (Bastogi Group) 1/	13.70%
Soc. Financiere Italo-Suisse	9.60%
	56.13%

The balance is held by a large number of shareholders.

153. The SME group consists of the parent company and five subsidiaries: Campania, Pugliese, Calabrie, Lucana and Sebi. The parent company distributes power in Naples and the surrounding areas as well as to certain large consumers in other areas. The balance of service is provided by the subsidiary companies. SME has holdings in other power companies, the most important of which is UNES. It also has holdings in a gas utility and an electric equipment company.

154. Consolidated net assets of the SME group at the beginning of 1957 amounted to about Lire 210 billion ($336 million) of which 73% was represented by fixed assets. The capital structure of the group was made up of debts totalling Lire 51 billion and paid in share capital and reserves totalling Lire 126.5 billion, representing a total debt to equity ratio of only 30/70. Gross revenues of the group increased from Lire 20 billion in 1951, to Lire 43 billion in 1956. Net profit during the same period increased from Lire 3.6 billion to Lire 7.4 billion.

1/ Bastogi is a privately owned investment group with a net worth in excess of $65 million

155. The long term indebtedness of the group was made up as follows:

	(billions of Lire)
Loans from Istituto di Credito per Imprese di Pubblica Utilita (ICIPU)	20.5
ERP credits obtained through Istituto Mobiliario Italiano (IMI)	4.6
Bond Issues	3.4
Cassa Loans from IBRD funds totalling Lire 17.2 billion ($27.5 million) 1/of which withdrawn as of 12/31/56	10.7
Other loans	.1
	39.3

156. Most of the loans (other than the Cassa loans) are secured by mortgages and special liens on specific properties. The Cassa loans are secured by suretyships given by Finelettrica and Bastogi.

157. The group uses short term bank credits to meet part of its construction expenditures, which it normally converts into long term debts or covers by issue of share capital after completion of construction. Inasmuch as the group has continuing construction expenditures the short term debts are continually renewed and constitute a kind of semi permanent floating debt the size of which varies with requirements from time to time. At the end of 1955 such debts amounted to Lire 16 billion, which figure was reduced to Lire 11.5 billion by the end of 1956.

158. The financial position of SME alone at the end of its fiscal year 1956/57 (March 31) is shown in the condensed balance sheet given in Annex B-2. Total assets amounted to Lire 158.7 billion ($254 million) of which Lire 116.4 billion for fixed assets (less depreciation). Successive revaluations authorized in the post-war period have resulted in a net write-up of assets of about Lire 68.2 billion, of which Lire 38.3 has been capitalized by the issue of bonus shares. At the end of the fiscal year 1956/57, a balance of Lire 29.9 remained in the revaluation reserve. Total debt amounted to Lire 40.6 billion, of which Lire 34.5 billion long term and Lire 6.1 billion short term. Share capital and reserves totalled Lire 103.2 billion. These figures represent a satisfactory position with a debt to equity ratio of only 38/62, which also includes the short term debts.

1/ Excluding a loan of Lire 5,625 million ($9 million) to UNES

159. The Company's earnings record has been good. Net earnings, after interest, increased from Lire 2.4 billion in 1952/53 to Lire 5.2 billion in 1956/57. Annual dividends ranging from 6.4% to 7.5% have been paid since 1947. Condensed profit and loss statements for the period 1952/53 to 1956/57 are given in Annex B-3.

Organization and Management

160. The headquarters of the Company is in Naples. The general policies of the SME group are established by a Board of Directors consisting of 16 members representing major shareholders. A number of the directors have a long experience in the management of power utility companies. The management of SME consists of a President, a General Manager, who is directly in charge of financial matters, and two Assistant General Managers in charge of engineering and administration, respectively. These men have a long record of service with the Company and are experienced and efficient power utility executives. The management and organization of the Company is good.

2. Existing Facilities of the SME Group

161. The generating, transmission and distribution facilities of SME and its five power utility subsidiaries (Pugliese, Campania, Calabrie, Lucana and SEPI) form an integrated system serving an area of about 57,000 sq.kms. with a total population of 11.2 million which represents nearly 25% of the total population of Italy. The SME grid is interconnected with the networks of the other major Italian power companies, permitting regular and occasional interchanges of power.

162. At the end of 1956, the group had in operation 70 hydro plants and three thermal plants. The total effective generating capacity of all plants was 733 MW of which 579 MW was hydro. About 50% of the hydro and 70% of the thermal capacity have been added to the system in the post-war period.

163. In a year with average rainfall the hydro plants can produce some 2.5 billion kwh. Seasonal reservoir capacity in the system amounted to 276 million cubic meters corresponding to a production of 546 million kwh.

164. In addition to its own generation, power is also purchased from other power companies. The major supplier is the "Terni" company. The existing contract provides for an annual supply of 400 million kwh with a peak load of 80 MW.

165. Through holdings in the Trentina company, which operates a system of hydro plants in Northern Italy, SME is assured, in a year with average hydrological conditions, a supply of 140 million kwh, net of losses, with a peak capacity of 37 MW.

166. SME also purchases surplus power which normally is available from hydro plants in Northern Italy during the summer months. These purchases are, however, partly offset by sales of surplus power by SME during the winter months.

167. The SME system at the end of 1956 included 4,190 km of high tension transmission lines with 1.8 million kva of substation capacity and about 26,000 km of secondary and low tension distribution lines with 0.8 million kva of transformer capacity. Total number of connected customers amounted to 2.1 millior

168. Operational statistics for the last seven years are shown in Annex B-4. The average annual load factor in 1956 was 0.53. The losses, including own consumption, amounted to 17.6 % of the total power available. This is about average for a system of this type. Operation and maintenance of the entire system is good.

3. The Power Market

169. In 1956 the peak load in the system was 760 MW and total sales amounted to 2.88 billion kwh. During the period 1950-56, sales of energy increased at an average annual rate of about 12% and the peak load at an average rate of 11%.

170. The power market in the area served by the SME group is characterized by a high proportion of industrial consumption. In 1956 these sales totalled 1.6 billion kwh or 56% of total sales. The major industries served are metals, machinery, chemicals, textiles and food processing.

171. Records of sales for the period 1950-56 and forecasts for the period 1957-66 broken down by principal categories are given in Annex B-5. The records show that the sales to domestic and industrial consumers have increased substantially in the past years and reflect the influence of the large investments made in the South under the Cassa program.

172. The forecasts of energy consumption prepared by the company, are based on an average rate of increase of 9% annually, or 25% lower than in the past 6 years. In particular, the company has taken into account that the industrial load has not increased as rapidly as anticipated earlier.

173. The domestic consumption is estimated to increase at a rate of about 9% based on a 5% increase in number of consumers and a 4% increase in consumption per consumer. Only nominal increases are estimated in the electro-chemical and traction loads. The sales to other companies are estimated to increase by 10% annually, mainly as a result of increased sales to the UNES company. The hydro sources in the concession area of that company have largely been developed and there is also a lack of attractive sites for thermal plants. SME has therefore agreed to make available to UNES a substantial part of the power required to meet the increased demand.

174. The forecasts are conservative and it is not unlikely that the demand for power in the SME system will increase more than estimated at present. The consumption per capita in the area in 1956 was only about 250 kwh against over 1,100 kwh in North Italy.

4. Construction Program

175. A construction program for the 10 year period 1957-66 has been prepared. It is designed to provide the necessary generation, transmission and distribution facilities required to meet the expected increase in the demand of power in the area served by the SME group. It will provide additional generating capacity totalling 1,174 MW, of which 590 MW will be thermal, some 3,100 km of high tension transmission lines, some 2.8 million kva of substation capacity and the necessary expansion of distribution facilities.

176. The total cost of this program is estimated at Lire 302 billion ($482 million) (for details see Annex B-6). This amount includes expenditures of Lire 12 billion for plants which will be completed after 1966.

177. As shown graphically in Annex B-7 the new plants will provide the system with sufficient capacity to meet the estimated increase in peak load and make available a reasonable amount of reserve capacity. The program is fully justified on the basis of the expected needs of the system.

178. During the first 4 years of the construction program (1957-60) 77 MW of hydro and 506 MW of thermal capacity are scheduled to be completed, including the construction of a 300 MW thermal plant in Naples proposed for Bank financing.

179. Other works to be carried out during this period include the construction of about 770 km of transmission lines, and substations with a total capacity of about .9 million kva with necessary expansion of distribution facilities. Total expenditures during these years are estimated at Lire 101.83 billion ($163 million) including some Lire 13.7 billion which will be incurred on plants to be completed in later years.

5. The Project

180. It is proposed, that within the construction program of the SME Group, the 300 MW Naples thermal power plant project should be the basis for a loan of $22 million equivalent from the Cassa out of IBRD funds.

181. The project will be located on the east side of the existing Vigliena thermal power plant, in the harbor of Naples. The plant will be equipped with two turbo-generating units with a maximum continuous output capacity of 150,000 kw each.

182. The turbines will be of the condensing type, with a reheat cycle. They will operate at a temperature of 1000°F and at a pressure of 2,400 lbs. per sq.inch. Two boilers will be provided. They will be fired by heavy fuel oils or pulverized coal and each will produce 1.06 million lbs. of steam per hour. A pipeline and pumping plant will be provided for the supply of sea water for the cooling of the condensers. Feed water will be supplied by wells. Fuel storage and handling facilities will include two 20,000 cubic meters fuel oil tanks, a coalyard and conveyor systems. A new pier will be constructed and reloading and conveying equipment installed. Auxiliary equipment to be installed will include feed water treatment plant, switchgear and control equipment. A bank of single phase transformers with a total capacity of 430,000 kva will be installed and be connected by 220 kv and 60 kv cables to the SME grid.

183. The plant will be operated on base load. Annual production is estimated at 1.5 billion kwh based on a plant factor of 0.70 during the months July to February and of 0.25 during the remaining 4 months when surplus hydro power will be available in the system. The plant heat rate will be 2340 kcal/kwh.

Status of Engineering and Schedule of Construction

184. The project has been designed and engineered by the staff of SME. As a result of bids invited on an international basis, orders for the turbo-generators and boilers were placed with the Italian firm Ansaldo. The turbines will be of the General Electric type and built under a license agreement. The boilers will be of the Benson type. The consulting firm Gibbs and Hill of New York has been retained by the manufacturer and will assist in the design and layout of the plant.

185. The construction of the plant is scheduled to start in the Spring of 1958 and be completed by the end of 1960. This schedule, which is based on the delivery times agreed to by the equipment supplier, is realistic.

Estimated Cost

186. The total cost of the plant is estimated at Lire 23 billion ($36.8 million), (details are given in Annex B-8). The estimate is based on orders placed or bids received for major pieces of equipment. It includes appropriate allowances for engineering, supervision and overhead (4.5%) and for contingencies (8%). Interest during construction on borrowed funds is included. The capital cost per installed kw amounts to $130 equivalent which is reasonable for a plant of this type.

Schedule of Expenditures

187. The expenditures are scheduled to be incurred as follows:

	1957	1958	1959	1960	Total
			(Million Lire)		
Naples Thermal Plant	3,500	3,500	7,750	8,250	23,000

6. Sources of Finance

188. About 60% of the Lire 23 billion, or Lire 13.75 billion ($22 million), required to construct the thermal plant is proposed to be financed out of the proceeds of the loan from IBRD to the Cassa now under consideration. During the construction period of this project SME plans to make considerable additional investments for the expansion of its facilities, partly for projects to be completed during the period and partly for construction that will not be finished until after 1960. In addition, SME will during the same time have to make certain investments in its subsidiaries. It is therefore more appropriate to consider the overall requirements and the financing plan for the SME group of companies as a whole. The requirements are as follows:

	Estimated Construction Requirements 1957/1960 (in billions of Lire)	
A - IBRD Projects		
a) Proposed Project-Thermal Plant Naples	23.-	
b) Expenditures required to complete existing projects:		
i) SME-Matese Hydro Plant (Loan No. 117)	.91	
ii) SME-Bussento Hydro Project (Loan No. 150)	6.19	
iii) Pugliese-Coscile Hydro project and Bari Thermal Plant (Loan No. 117)	9.65	
		39.75
B - Other Construction		
a) SME	30.55	
b) Subsidiaries	31.53	
		62.08
Total Construction Program of group		101.83
C - Other Investments by Group		
a) Investments in affiliated companies and in plant renewals		13.40
Total requirements of Group		115.23

189. The proposed financing plan for the Group to cover these requirements of Lire 115.23 billion ($184 million) is as follows:

	Group Financing Plan 1957 -1960 (in billions of Lire)	
A - Borrowing:		
1) From IBRD (through Cassa)		
a) Balances available, as of Dec.31,1956 existing loans:		
i) SME Loan No. 150	4.06	
ii) Pugliese Loan No. 117	2.39	
b) Proposed loan for thermal plant in Naples	13.75	
Total from IBRD		20.20
2) Other Borrowing:		
Long term	34.45	
Increase in floating debt	5.18	
		39.63
Total borrowing		59.83
B - Sale of Share Capital		22.28
C - Available from Revenues (depreciation allowances, retained profits)		33.12
Total		115.23

190. The above financing plan provides for the sale of share capital in the amount of Lire 22.28 billion during the 4-year period 1957/1960. Of this amount Lire 8.7 billion has already been subscribed on which payments totalling about Lire 5 billion were made in 1957. The unpaid balance will be called during 1958. With Lire 8.7 billion already subscribed, and assuming the proposed new Bank financing for SME of Lire 13.75 billion to become available as well as Lire 33.12 billion from revenues, new loans of Lire 39.63 billion and additional share capital of Lire 13.58 billion still remain to be raised. This total of Lire 53.21 billion ($85 million) while substantial, is not unduly high for the SME group. If the full amount could not be entirely raised during the remaining period some of the planned construction other than the projects financed with the aid of Bank funds would have to be extended over a longer period. About 17% of the total funds required would be covered by the Bank loans.

7. Power Production Costs and Rates

191. The present average cost of power delivered to the consumer in the SME system amounts to Lire 12.6/kwh (20 mills). Mainly as a result of the increasing costs of new facilities required for the expansion of the system and the increased proportion of thermal power to be generated, it is estimated that the average cost will gradually increase to Lire 15.9/kwh in 1961, representing an increase of 25% over the period.

192. The Naples thermal plant will produce base power, delivered at the plant, at an estimated cost of Lire 7.50/kwh (12 mills), based on a load factor of 0.55. The total cost of this power including transmission and distribution will be within the range of Lire 16 to Lire 20/kwh.

193. Power rates in Italy have been subject to Government control since 1936. An Interdepartmental Price Committee (Comitato Interministeriale dei Prezzi - CIP) was established in 1944 and given authority to issue regulations regarding rates. Between 1946 and 1948 five general rate increases were authorized providing for a total increase of about 400%. New regulations were again issued in 1953 but in order to avoid a general rate increase CIP established an "equalization fund" to be used for payments to the companies, based on actual production of plants completed since 1947, as compensation for the increase in production costs. The income for the fund was provided by a surcharge payable by industrial consumers. As a net result the revenues earned by the power companies supplemented by the payments from the equalization fund have been sufficient to cover the increased production costs and to allow a reasonable rate of return on their investment.

194. The weakness of the system was however that the contributions due to the companies, as new plants were added to their systems, increased faster than the surcharge providing the income of the fund. Revised regulations were therefore issued and made effective as of January 1, 1957. These provide an average reduction of about 50% of both the contributions to be paid by the fund and the surcharges payable by industrial consumers and a corresponding increase of the rates charged by the companies for industrial power deliveries. The main advantage to the companies is that they are now less dependent on the government controlled fund from which payments often were obtained after considerable delays.

195. The new regulations also provide fixed minimum and maximum rates which can be charged for supply of power to industrial consumers. For the SME company these new minimum industrial rates have resulted in an increase of about 12% in the average rate charged for power.

196. The effect of the new maximum rates is difficult to establish, but it is reasonable to assume that the companies in future years will be able to establish higher rates in new contracts for industrial sales. SME in its financial forecasts has conservatively assumed a further 10% increase in the average rate over the period 1957-61 resulting in an estimated rate of Lire 17.9/kwh in 1961.

197. The rate regulations in effect at present assure the company sufficient revenues to cover operational expenditures and a reasonable return on its investments. It is reasonable to assume that the future policy, to be followed by the Italian Government with regard to power rates, will not change materially.

8. Financial Forecasts

Estimated Financial Position

198. The estimated financial position after completion of the project of the SME Company alone, to whom the proposed loan would be made, is shown in Annex B-9. Total debt would amount to Lire 74 billion, including Lire 11.8 billion floating debt. Capital and reserves would total Lire 120 billion. Of the total long term debt outstanding Lire 22.6 billion would be represented by IBRD loan funds re-lent by the Cassa to SME, as shown in the following table. The corresponding figures for the SME group are also shown:

	Estimated Position at end of 1960			
	SME-alone		SME-Group	
	Amount in Billion Lire	%	Amount in Billion Lire	%
Debt:				
IBRD Loan Funds				
SME proposed loan	13.75		13.75	
SME Loan No. 117	4.98		4.98	
SME Loan No. 150	3.89		3.89	
Pugliese Loan No. 117	-		6.64	
	22.62		29.26 1/	
Other long term debt	39.67		55.20	
	62.29		84.46	
Floating Debt	11.86		16.66	
Total debt	74.15	34%	101.12	39%
Equity (capital & reserves)	120.93	66%	151.48	61%
	195.08	100%	252.60	100%

199. The ratios shown in the above table reflect a satisfactory position both for SME alone as for the group. By the end of 1960 total assets of SME, le: depreciation, would amount to Lire 210 billion ($336 million). For the group the corresponding figure is estimated to be Lire 285 billion ($456 million).

1/ Equivalent to $46.8 million. This figure excludes the Cassa loan out of IBRD funds (Loan No. 117) of Lire 5,625 million ($9 million) made in 1955 to the power company UNES, in which SME has a substantial interest but which is managed as an independant company.

Forecast of Earnings and Cash Flow

200. A forecast of consolidated earnings and cash flow for the SME group of companies is given in Annex B-10 and one for the SME company alone (non-consolidated figures) in Annex B-11. In estimating the future revenues from power sales as shown in these forecasts SME as already mentioned, has made conservative assumptions both with regard to the increase in the volume of sales and with regard to the increase in rates resulting from the new rate regulations which came into effect in January 1957. Net earnings, after adequate provision for depreciation and interest on all outstanding debts are expected to be sufficient to maintain an annual SME dividend of 7 1/2% and one of 8% for SME's subsidiaries for which provision has been made in the forecasts. The forecasts of cash flow assume no cash accruals during the period, inasmuch as the amounts of new financing to be undertaken by way of borrowing and sale of share capital have been set at amounts which would make total receipts equal to total expenditures.

Debt Service

201. It has been assumed, for purposes of calculation only, that the loan by the Cassa out of Bank funds for the Naples Thermal project to be constructed by the SME Company, would be the equivalent of $22 million, including three years of grace, at an interest rate of 7%. On these assumptions the annual debt service would amount to the equivalent of $2,253,000 (about Lire 1,408 million). Total debt service after completion of the project is estimated to be covered by receipts from operations not less than two times. This represents a satisfactory margin.

Security

202. The proposed loan to SME would be guaranteed by Finelettrica and Bastogi. The type of guarantee to be given will not only cover the repayment of the loan but also performance during the life of the loan. Both Finelettrica and Bastogi have given similar guarantees for the loans made to SME by the Cassa out of proceeds of IBRD loans made in 1955 and 1956.

C. SOCIETA GENERALE ELETTRICA DELLA SICILIA (SGES)

1. The Company

203. The Societa Generale Elettrica della Sicilia (SGES) was founded in 1903 in Catania and has gradually extended its activities to cover the whole island of Sicily. Its share capital at the end of 1956 amounted to Lire 17.5 billion. In June 1957 an increase in the capital by Lire 6 billion was authorized, which in the meantime has been fully subscribed. For this increase shareholders will have to make cash payments amounting to Lire 3.5 billion, whereas for the difference of Lire 2.5 billion bonus shares will be issued.

204. SGES is controlled by the Bastogi group, which owns about one third of the Company's share capital. The distribution of the shares of SGES at the end of 1956 was as follows:

Societa Italiano per le Strade Ferrate Meridionale (Bastogi Group)	33.7%
Istituto per la Ricostruzione Industriale (IRI)	4.8%
Istituto Nazionale per i Cambi con l'Estero	2.3%
Banco di Sicilia	1.5%
Others (about 8,600 shareholders)	57.7%
	100.0%

205. SGES produces and distributes power in 344 out of the 367 villages and towns of Sicily.

206. SGES has holdings in various companies, the most important of which are:

	Field	Share Capital (in million Lire)	Participation by SGES
Societa Termo-Elettrica Siciliana, Palermo	Power	6,000	33%
TIFEO (Augusta plant under construction)	Power	2,000	99.9%
Compagnia Meridionale del Gaz, Naples	Gas	306	33%
Societa Anonima Siciliana Transporti, Palermo	Trolleys & Busses	250	90%
Societa Catanese Trasporti, Catania	Trolleys & Busses	200	70%

207. A condensed consolidated balance sheet as of December 31, 1956 for SGES and its almost fully owned subsidiary TIFEO is given in Annex B-12. Total assets are shown at Lire 64.8 billion ($103.7 million), mainly represented by fixed assets with a net depreciated bookvalue of Lire 44.3 billion ($70.9 mill.)

During the postwar period successive revaluations authorized by law have taken place, which have resulted in a net write-up of assets of about Lire 28 billion ($44.8 million). Up to December 31, 1956 Lire 10.8 billion of the capital surplus thus created had been converted into share capital by the issue of bonus shares. At the end of 1956 share capital and reserves amounted to Lire 35.3 billion ($56.3 million) and total debt to Lire 17.9 billion ($28.6 million) including Lire 8 billion short term debt. These figures represent a total debt to equity ratio of 32/68, which is satisfactory. As indicated, the amount of short term indebtedness was relatively high. These short term debts are continuously renewed, when required. The major portion, namely Lire 5 billion of the total amount outstanding was due to Bastogi, the company's principal shareholder. A large part of this sum is expected to be converted eventually into share capital.

208. Most of the long term debt of about Lire 9.9 billion consists of loans obtained from the Istituto di Credito per le Imprese di Pubblica Utilita (ICIPU) amounting to Lire 6.75 billion. The remainder of the debts was made up of loans from the Bank of Sicily and bond issues. The loans from ICIPU and the Bank of Sicily are all secured by mortgages on the Company's assets. Of the outstanding bond issues only a minor fraction is secured. The Cassa loan from IBRD funds made last year in the amount of $10.5 million equivalent (Lire 6.56 billion) for the TIFEO project is not yet reflected in the end of 1956 balance sheet. Withdrawals on this loan did not start until the beginning of 1957. The loan is secured by a suretyship given by Finelettrica and Bastogi.

209. The Company's past earnings have been satisfactory and are shown for the last 5 years in Annex P-13. During each of these years the Company has paid a dividend of 7%.

Organization and Management

210. The head office of SGES is located in Palermo. A Board of Directors consisting of sixteen members, representing the major shareholders, establishes the general policies of the company. A number of the directors have long experience in the management of power utility companies. The company is managed by a Director General assisted by six General Managers who are in charge respectively of departments of finance, operations, civil engineering, electrical and mechanical engineering, administration and legal matters. Five Regional Managers are responsible for the distribution and sales of power in their respective areas under the general supervision of the head office. The company is well organized and the management is experienced and efficient.

2. Existing Facilities of SGES

211. SGES supplies power to the whole of the island of Sicily. The area served is 25,461 sq.km. and it has a population of about 4.75 million representing about 10% of the total population of Italy.

212. At the beginning of 1957 the total effective generating capacity in the grid operated by SGES amounted to 115 MW consisting of 35 MW of hydro and 80 MW of thermal capacity. The hydro plants are mostly of the run-of-the-river type with only a small amount of reservoir capacity for seasonal regulation. Hydro production in an average year amounts to 110 mill.kwh. The thermal capacity is installed in four plants and one half of this capacity is available from units installed in the post war period. Total production in 1956 amounted to 254 million kwh.

213. Additional capacity is made available to the SGES grid by the 90 MW thermal plant in Palermo owned by Societa Termo Elettrica Siciliana. SGES holds a 1/3 interest in this company. Purchases from this plant amounted to 340 mill. kwh in 1956. Small amounts of power are also being purchased from ESE, a government entity operating small hydro plants in connection with irrigation projects, and from SME. The systems of the two companies are connected by the transmission line crossing of the Strait of Messina. The contract with SME, covering the delivery of 50 million kwh annually, expired at the end of 1957 and will probably not be extended. Operational statistics for the past 7 years are given in Annex B-14.

214. The SGES network included at the end of 1956, 1,190 km of high tension transmission lines and 28 substations with a total capacity of 440,000 kva. The distribution network had a total of 875,000 customers. The system is efficiently operated and well maintained.

215. The losses in the system amount to some 20% of total power available in the system. This is not excessive taking into account the large number of distribution lines included in the system. The average load factor in the system is 0.50.

3. The Power Market

216. In 1956 the system peak load was 185 MW and total sales amounted to 643 mill. kwh. During the six year period 1950-56, total sales increased at an average annual rate of about 14% while the peak load on the system increased by a rate of about 15%. Industrial sales in 1956 were 53% of the total. Major industries served are shipyards, chemical, textile, cement, oil refinery and food processing.

217. Records and forecasts of sales, broken down by categories of consumers, for the period 1953-65 are shown in Annex B-15. The company has assumed in their

forecasts that total sales will increase at an average annual rate of 10.5%. This compares with the actual rate of 14% in recent years. Industrial sales are expected to increase by a rate of 11.5% as against 16% in the past. This forecast is based on a detailed survey of the present plans for expansion of existing industries and for construction of new plants. It has also been taken into consideration that the chemical industry will meet part of their power requirements from own power plants which will utilize available process steam.

218. It is expected that sales to private consumers will continue to increase but at a somewhat lower rate than in the past. The average annual consumption per capita in Sicily amounted to 135 kwh in 1956 against 190 kwh in southern and 1,100 kwh in northern Italy.

219. Based on the estimated increase in sales the peak load in the system will increase from 210 MW in 1957 to 440 MW in 1965. The forecasts are reasonable.

4. Construction Program

220. In order to meet the expected increase in demand, SGES is planning to add 300 MW of thermal and 60 MW of hydro capacity to its system during the period 1957-65. Included in this program is the 140 MW Augusta thermal plant which is being constructed by the subsidiary TIFEO and partly financed under the 1956 Bank loan to the Cassa. The plant will come into operation during 1958. An expansion of this plant doubling its capacity is scheduled to be carried out during the period 1959-61. In addition, SGES is planning to construct two 10,000 kw thermal plants to serve the western and southern parts of the island.

221. The new hydro capacity will be provided by the Guadalami plant which is considered for financing under the proposed new loan to the Cassa. Also included in the program is the construction of 148 km of 150 kv and 474 km of 70 kv transmission lines. In addition 357 km of 40 kv lines will be reinforced to operate at 70 kv. Twelve new substations will be constructed with a total transformer capacity of 660,000 kva and the necessary expansion of the distribution network will be carried out. It is estimated that some 210,000 new consumers will be connected during the period. Details of the construction program are given in Annex B-16.

222. The total cost of the 9 year construction program is estimated at about Lire 80 billion ($128 million). Firm plans have been prepared for the period 1957-60 and construction costs during these four years are estimated at Lire 44.7 billion ($71.5 million) and to be spent as follows:

Works to be completed by 1960:	Bill.Lire	Mill.$ equiv.
Thermal Plant	8.9	14.2
Hydro Plant	7.1	11.4
Transmission Lines	1.2	1.9
Substations	1.7	2.7
Distribution	14.7	23.5
	33.6	53.7
Works to be completed after 1960:		
Thermal Plants	8.5	13.6
	42.1	67.3
Interest during construction	2.6	4.2
	44.7	71.5

223. The construction program is based on a reasonable estimate of the future requirement of power in the area served by the company. As shown in Annex B-17 the additional generating capacity will be sufficient to meet the estimated peak load until 1966 leaving a reasonable amount of reserve capacity in case of breakdown and outages.

5. The Project

224. The Guadalami hydro pumping project will transform base energy into peak energy of higher value. It is located about 20 km south of Palermo on the upper reaches of the Belize river (See Map attached as Annex B-18). It will make use of the existing Piani dei Greci reservoir, with a capacity of 25 million cubic meters, created in 1923 to develop 11,500 kw of hydro power by diverting water to the northern side of the watershed.

225. Water will be drawn from this reservoir for generation of peak power and collected in a lower reservoir to be constructed downstream. During the night, when generating capacity is available in the system, power will be supplied to the plant to pump the water back to the higher level.

226. The works to be carried out include an intake structure, a 1,133 meter long intake pressure tunnel, a surgetank, two 250 meter long steel penstocks, a powerhouse and an earth dam, 25 meters high and 450 meters long along the crest. The powerhouse will be equipped with two horizontal units, each consisting of a Francis type turbine and a 19,000 hp pump operating under an average head of 170 meters, and a 30,000 kw generator/motor.

227. The lower reservoir will have a capacity of 750,000 cubic meters which is sufficient for the daily cycle operation for which the plant is designed. The water of the small Guadalami stream, a tributary to the Belize, will be diverted into this reservoir by means of a small barrage and a 755 meter long canal.

228. The plant will be equipped with the necessary auxiliary equipment and an outdoor substation will be constructed with two 43,000 kva transformers. Also included in the project is the construction of a 18 km 150 kva transmission line and three 70 kv transmission lines with a total length of 30 km. These lines will provide connections with the existing SGES network.

229. Detailed surveys and field investigations have been carried out and the project has been designed according to sound engineering standards.

Present Status and Schedule of Construction

230. Detailed plans and specifications have been prepared and bids have been received from Italian and foreign manufacturers for major pieces of equipment. Construction work will be started in the beginning of 1958 and is to be completed by the end of 1960. This schedule is realistic.

Estimated Cost

231. The total estimated cost of the project is estimated at Lire 7.6 billion ($12.1 million). A breakdown of the estimated costs of principal items is given in Annex B-19. The estimates are based, for civil works on current unit prices and for equipment, on bids received. They include adequate allowances for engineering, supervision and overhead (6%), contingencies (10%) and interest during construction. The unit cost per installed kw amounts to $196. The estimate is realistic.

Schedule of Expenditures

232. It is estimated that the expenditures will be incurred as follows:

	1956/57	1958	1959	1960	Total
		(million Lire)			
Guadalami Plant including Transmission	28	1,000	4,200	1,912	7,140
Interest during construction	-	33	217	210	460
	28	1,033	4,417	2,122	7,600

6. Sources of Finance

233. It is proposed that Lire 4.5 billion, equivalent to $7.2 million, be allocated to SGES for the Guadalami project out of the proceeds of the proposed new loan to Cassa. This would finance about 60% of the total estimated cost of this project. The remaining Lire 3.1 billion required would be raised by SGES as part of its overall construction requirements including those of its subsidiary TIFEO. These, as already indicated, are estimated at Lire 44.7 billion for the four year period 1957/1960. Of this total amount Lire 6.5 billion is already covered by last year's loan for the TIFEO project, the construction requirements of which are included in the figures just mentioned. Assuming a Lire 4.5 billion loan for the Guadalami project now under consideration and Lire 14.2 billion estimated to become available from revenues SGES will have to raise locally approximately Lire 19.5 billion. The company's financing plan provides for raising this sum by selling capital stock in the amount of Lire 10 billion of which Lire 3.5 billion has already been subscribed and by borrowing about Lire 9.5 billion. SGES enjoys a good credit rating in Italy and in the past its shares have found ready acceptance in the Italian market. It is not expected, therefore, that the company will have difficulty in raising the funds required.

7. Power Production Costs and Rates

234. In the SGES system, in which most of the power is produced by thermal plants, the average cost of power is substantially higher than in the SME system and amounted to Lire 19.9/kwh in 1956. As a result of the high efficiency of the new Augusta plant now under construction and of the operation of the Guadalami plant, a reduction of the average power cost is expected by the company. For 1961, when the present construction program will be completed, a figure of Lire 19.0/kwh has been estimated.

235. Details of the operations and estimated comparative production costs of the Guadalami plant and an alternative thermal plant are given in Annexes B 20/21. The estimated cost of peak power from the plant will amount to Lire 16.2/kwh (26 mills) based on a load factor of 0.19. Including distribution the cost of peak power delivered to the consumer will be within the range of Lire 30 - 34/kwh.

236. The average rate charged by SGES at the end of 1952 amounted to Lire 21.4/kwh. The new rate regulations, which are described earlier in this report in connection with the appraisal of the SME project, resulted in an increase of the average rate of about 7%. The effect of the new regulations was less in the case of SGES than for SME, because the rates already charged in Sicily were higher. The present rates permit the company to earn sufficient revenues to cover costs of operations and a reasonable return on its investment. In their forecasts no further rate increases have been assumed, but the present regulation would permit the company to charge higher rates for supplies to industrial consumers if this should be found necessary.

8. Financial Forecasts

Estimated Financial Position

237. A forecast of the consolidated financial position of SGES and its subsidiary TIFEO, upon completion of the Guadalami project, is shown in the pro-forma balance sheet as of the end of 1960, given in Annex B-22. Fixed assets less accumulated depreciation, are shown at Lire 77.7 billion ($124.3 million) and total assets at Lire 99.8 billion ($159.6 million). Total outstanding debt would be Lire 35.9 billion ($57.4 million), of which Lire 8.5 billion for floating debt. With an estimated equity of Lire 52.8 billion ($84.5 million) its total debt to equity ratio would be 40.5/59.5. This is a satisfactory position.

Forecast of earnings and cash flow

238. A forecast of the consolidated earnings and cash flow for the years 1957 to 1961 is given in Annex B-23. Revenues have been conservatively forecast on the basis of an average annual increase in the volume of sales of 10.5% and on the basis of present tariff regulations which became effective in the beginning of 1957. Annual dividends of 7% on the SGES shares and of 8% on the TIFEO shares (starting in 1959) have been assumed. This forecast does not show any cash accruals, because the amounts of new financing to be undertaken by way of borrowing and the sale of share capital have been set at amounts which would make total receipts equal to total expenditures.

Debt Service

239. Assuming for the purpose of calculation only, that the loan to be made by the Cassa out of Bank funds for the Guadalami project would be the equivalent of $7.2 million with a term of 20 years, including 3 years of grace, at an interest rate of 7% per annum, annual debt service on this loan would be about Lire 461 million ($737,000). Total annual debt service on all debts will be adequately covered by receipts from operations. The coverage ratios are estimated to be not less than 3, with the exception of 1957, when the ratio will be about 2.3.

Security

240. The proposed loan to SGES would be guaranteed by Finelettrica and Bastogi. The type of guarantee to be given will not only cover the repayment of the loan but also performance during the life of the loan. Both Finelettrica and Bastogi have given a similar guarantee for the loan made to SGES' subsidiary TIFEO by Cassa out of the proceeds of last year's IBRD loan.

D. ECONOMIC JUSTIFICATION

241. One of the effects of the development program, which is being carried out by the Cassa in South Italy, is the substantial increase in consumption of electric energy. The recent approval of the extension of the program to 1965 will insure that in future years this increase will continue and even be intensified because of a greater emphasis on industrial development.

242. The Naples thermal plant will be located in the main industrial center of South Italy and provide firm generating capacity to meet the increased demand. The Guadalami hydro plant will be located in Sicily, where large investments are being made in new industrial plants, mainly in the chemical field. The plant will provide important advantages for the operation of the power system supplying the island and will produce peak power at a cost lower than for an equivalent thermal plant.

E. SECURITY

243. As in the case of the earlier loans to the Cassa, the power companies have proposed that the necessary security provisions for the loan now proposed be satisfied in the form of suretyships to be given by the two holding companies Bastogi and Finelettrica. These guarantors are willing to guaranty jointly and severally all of the undertakings given to the Bank in the various Project Agreements and obligations of SME and SGES to the Cassa in the Subsidiary Loan Agreements. These obligations include not only the financial covenants of repayment of the loans to the Cassa but the covenants of completion, maintenance and operation of the projects during the life of the loan. The companies who will guarantee the loans are all in strong financial positions. The proposed security arrangements are satisfactory.

F. CONCLUSIONS

244. The projects which are proposed to be financed by loans from the Cassa to SME and SGES out of Bank funds are sound. Suitable arrangements have been made for their execution and subsequent operation. The estimated costs and the construction schedules are reasonable. The companies are well managed and organized.

245. Their earnings records are good. Based on present rates allowed by Government regulations the companies should continue to earn enough to maintain reasonable dividends and to service their debt, and should therefore be in a position to raise the funds needed for further expansion.

246. Agreement has been reached with the Cassa and the companies concerned that project agreements would be obtained from each company receiving a loan from the Cassa out of the proposed Bank loan.

247. Under this condition, the proposed projects form a suitable basis for a Cassa loan from Bank funds to be allocated as follows:

	Million $ equiv.	Period of Grace
SME	22.0	3½ years
SGES	7.2	3 years
Total	29.2	

248. The useful life of the structures and equipment would justify a term of 20 years for these loans, with periods of grace as indicated above, determined on the basis of the construction period of the various structures involved.

V. IRRIGATION PROJECTS

A. GENERAL INTRODUCTION AND SUMMARY

249. The Cassa per il Mezzogiorno submitted to the Bank reports on four irrigation projects:

a) The Volturno Project:- a scheme to provide irrigation to 40,000 hectares of land on both sides of the Volturno river, north of the city of Naples. The costs of the public works are estimated at L. 29 billion.

b) The Fortore Project:- this project, which is to build an irrigation system for 66,000 hectares of land along the Southern Adriatic coast forms part of the general development program for the large Tavoliere plain. The public works will cost L. 37 billion.

c) The Ofanto Project:- this project is also included in the program for the Tavoliere plain; it is located south of the Fortore scheme and close to the city of Bari. The project will irrigate about 27,000 hectares and the public works will cost about L. 21 billion.

d) The Metaponto Scheme:- this scheme will irrigate 30,000 hectares along the south coast of the mainland, with water from three rivers. The public works will cost L. 33 billion.

250. The reports were studied in the Bank and the project areas were visited in October/November 1957. It was found that the Volturno project and the Fortore project were more suitable for Bank financing than the other two for both economic and technical reasons.

251. Both projects are included in the program of the Cassa per il Mezzogiorno. The Cassa will disburse the allocation of the proposed loan in relation to the progress of construction of the public works of the projects, and will have the overall responsibility for the construction of the project works. The day-to-day responsibility will be with local consortia for land improvement. These consortia will also operate the projects.

252. The works are well-designed and no major difficulties are expected in constructing them. The soils in both project areas are well suited to irrigated farming and satisfactory increases in production can be expected. Both areas are very well located with respect to markets and transportation facilities are excellent. The ratio between investment and increase in output is favorable for both projects. A detailed analysis and appraisal of the Volturno and Fortore projects is given in the following sections of this report.

B. VOLTURNO IRRIGATION PROJECT

1. Introduction

253. The Volturno project consists of the construction of irrigation works and related structures for an area of about 43,000 hectares. The costs of the public works for the project are estimated at about L. 29 billion. The Volturno Project has high priority because it is relatively inexpensive and will make possible intensive production in a large area located between two large cities.

2. The Present Agricultural Situation

254. General:- The lower Volturno Plain is located 30 km north of Naples. The plain is triangular in shape and is bordered on the north by the Falerni mountains, on the south by the Flegrei hills, and on the west by the Mediterranean (see map - Annex CI). The base of the triangle along the seacoast is about 30 km and the depth is some 25 km. The Volturno river flows through the plain from east to west. The river has built up a high bed through silting and consequently the plain cannot drain naturally to this stream. Some parts are even below sea level. There are retaining levees along parts of the river which give way during exceptional floods causing parts of the plain to be flooded. The possibility of correcting this situation by major flood control works in the mountains above the plain is under study by a group of Cassa experts.

255. Works to improve the drainage situation have been gradually carried out since the end of World War I. Five drainage districts (Consorzi) were established, which were consolidated in 1952 into the "General Reclamation Consortium of the Lower Volturno River Basin". The water table is now under control in most sub-districts. Two major canals drain the land adjoining the river on either side.

256. The plain covers 72,000 hectares, of which 43,100 hectares will be included in the project. Deducting land used for roads, built-up areas etc., the net irrigable area will be 40,000 hectares. On the whole this area is flat and easy to irrigate.

257. About 50,000 people live in the plain and about 200,000 live in villages around it. Over 50 percent of the active population of the plain is engaged in agriculture. There was a distinct movement of people from the hill villages to the plain after good drainage had been established.

258. Soils:- The soils are in general good, although the quality differs widely from section to section. The plain consists of deep alluvial soils, with a good moisture retaining capacity. Along the northern and southern edge of the plain, soils are clay loams, some rather heavy. The soils of the central part range from clays and clay loams to sandy loams with local occurrences of peat. The area close to the sea is sandy. The soils on about 23,000 hectares are classified as light and easy to work and 17,000 hectares are classified as heavy. These are relatively impermeable and require special provisions for drainage. In general, the soils contain no salt but plenty of calcium and potassium, and they are capable of high yields with normal dressings of nitrogen and phosphate. The sandy soils will also need potassium.

259. Climate:- Rainfall varies from 600 mm per year along the coast to 900 mm in the upper areas. Only about 130 mm falls in the period between May first and end of August, which is the main cropping season. The temperature rarely drops below freezing.

260. The main weather hazards are fogs in June (inducing disease damage to cereals, vines and fruit trees), hail storms in the southwest region and strong winds. On the whole, however, the climate is very favorable for intensive agriculture.

261. Type of Farming:- The area is already, by South Italian standards, rather intensively farmed. This is because of the proximity of two large centers of consumption (Naples and Rome), the recent improvement in drainage conditions, and the pressure of population on the land. About two-thirds of the land is used for annual crops, among which wheat, sugar beets, hemp, potatoes, beans, tomatoes, vegetables and forage crops are important. Thirteen percent of the land is used for mixed tree and annual crops, about three percent is in specialized tree crops, and only fourteen percent is pasture. The main form of livestock operation is buffalo milk production.

262. Land Tenure:- Several larger farms have been sub-divided in the last decades so that small farms are now predominant.

Number and Area of Farms by Size Groups

	1943	1955	1943	1955
	No. of farms		Hectares	
Less than 1 ha.	5,955	7,963	3,898	6,293
1 - 10 ha.	4,100 1/	4,500 1/	18,154 2/	18,431 2/
10 - 100 ha.	335	300	9,353	8,805
Over 100 ha.	43	25	6,290	4,166
Total	10,433	12,788	37,695	37,695 3/

1/ Including about 1,000 farms of the Veterans' Organisation (ONC);
2/ Including about 10,000 ha. of farms of the ONC;
3/ Exclusive of an area close to Naples.

263. The increase in number of small farms is only to minor extent due to the Italian land reform program and results mainly from pressure of population and accessibility to markets for fruits and vegetables. It can be expected that the number of small farms will increase further, and that irrigation will stimulate this trend. About half of the land is rented, one-third is owner-operated, and the rest is worked under share-cropping contracts.

264. In general, the large farms use much of their land for livestock, but they also grow cereals and sugar beets. The small farms plant much of the land in vegetables, and other labor-intensive crops, and have apple, peach and other fruit trees as well. The medium-sized farms follow a mixed farming system.

265. Farm techniques:- Relatively high yields per hectare are obtained, partly due to the application of fertilizers. Farmers apply as a rule 1 - 2 quintals[1/] of ammonium sulphate and 3 - 4 quintals of superphosphate per hectare. This is three times the national average of 1954. Although most of the farm traction is still done with oxen, horses, or donkeys, there is a trend towards mechanization. The number of tractors in the province of Caserta (which includes the project area) increased from 386 in 1951 to about 1,000 in 1955. Many machines are owned by contractors who perform custom work for the smaller farmers.

266. The Government's agricultural extension service is in close contact with the farmers of the region and some experimental fields are in operation. Other investigations of technical or economic agricultural problems are conducted in cooperation with the nearby Agricultural College of Portici (Naples).

267. High purchase prices of land reflect high gross values of production. Land values range from 700,000 L./ha. to 1,500,000 L./ha.

268. Transportation and marketing:- Transportation and marketing conditions are particularly good. The cooperative organizations, known as Consorzi Agrari, have modern warehouses for fruit, vegetables, wheat and hemp in or close to the area. Private concerns operate a fruit processing plant and a sugar factory near the region. A tobacco processing plant is under construction. Milk-processing facilities are, however, in need of expansion and modernization. Most of the buffalo milk is processed into cheese at the farms and is sold in Naples.

1/ 1 Quintal = 100 kilos.

3. Description of the Project

269. The project consists of the building of irrigation works in the Volturno valley to serve an area of about 40,000 hectares (net). The project also includes drainage and flood control works, roadbuilding and the establishment of windbreaks, service buildings and transmission lines within the area (see map Annex CI).

270. Irrigation water will be diverted from the Volturno River by means of a concrete barrage located at the head of the Volturno plain near Ponte Annibale. There will be no storage reservoir. The barrage will be about 12 meters high and 116 meters long, and it will be able to divert 23m^3/sec. of water for irrigation. Excess water during the flood season will be released through three gates. A hydro power plant will be built as part of the barrage by the power company "Ente Autonomo Volturno". This plant will not form part of the irrigation project, nor is it to be financed by the proposed loan from the Bank.

271. Irrigation water will flow to the irrigable lands through two systems of canals, one to the right (North) and one to the left (South) of the Volturno river. The intake structures for these canals will be at the barrage.

272. The canal system North of the river consists of:

a) the diversion canal on the right bank will be 7.2 kilometers long and will have an initial capacity of 12.6 cubic meters per second;

b) at kilometer 2.1 a canal will branch off the right bank diversion canal; it will be 6.25 kilometers long and will have an initial capacity of 1 cubic meter per second;

c) at kilometer 7.2 the right bank diversion canal will feed two main canals; one will run southwards and will be 5.5 kilometers long with an initial capacity of 0.85 cubic meters per second; the other will run westwards and will be 5.95 kilometers long and have an initial capacity of 10.7 cubic meters per second;

d) this last canal will feed, on the one side, a single canal which will follow the Volturno rather closely and on the other side a system of canals, which will serve the most northern parts of the Project area. The canal along the Volturno will be 16.5 kilometers long and will have an initial capacity of 3.3 cubic meters per second. The system of canals for the northern part of the plain will have a total length of 51.5 kilometers and an initial capacity of 7.0 cubic meters per second.

273. The canal system South of the river consists of:

a) the diversion canal on the left bank will be 7.2 kilometers long and will have an initial capacity of 10.4 cubic meters per second;

b) a first canal, starting at the end of the left bank diversion canal, will follow the Volturno rather closely; it will be 22.4 kilometers long and have an initial capacity of 5.7 cubic meters per second;

c) a second canal, also starting at the end of the left bank diversion canal, will run south-westwards; it will be 41 kilometers long and have an initial capacity of 4.7 cubic meters per second.

274. The system of diversion and main canals will have a total length of 163.5 km, of which 93 km on the right bank and 70.5 km on the left bank.

275. A network of distributory canals will be constructed to bring the water to each farm. The network for the area north of the Volturno will have a length of 726 km; that for the southern area will be 800 km long.

276. The drainage works consist mainly of extensions to existing pumping stations which already control the water table in the lowest areas. The flood control works consist of levees designed to decrease the damage caused by the floods of the Volturno and of the streams which flow through the plain. The agricultural road system will be about 100 km long. The power distribution lines will be 90 km long and they will bring power from the existing network to farms and pumping stations.

277. Calculations of water requirements are based on the soil classification and on expected crop patterns (see Section 9 and Annex C5). Requirements reach a maximum in August when the full 23 m^3/sec. that can be diverted by the barrage will be needed. The irrigation system is designed to supply heavy soils with an average 3,650 m^3/ha., and lighter soils with an average 5,050 m^3/ha., net at farm during the period May through September. Actual applications will of course vary from crop to crop, and month to month and will be supplemented by rainfall which ranges from 1,200 to 1,500 m^3/ha., during the irrigation season.

278. The weighted average rainfall and irrigation water available during the irrigation season for the project area will be about 5,700 m^3/ha. in the five months of the irrigation season. While the flow records for the Volturno river show that there will be a slight deficit of water one year out of four, such a shortage should never exceed 20% of total needs, and only exceptionally should it last more than one week. This should not have any substantial effect on the successful operation of the Project.

4. Organization and Management

279. The Cassa has entrusted the "General Reclamation Consortium of the Lower Volturno River Basin" with the execution of the Project but retains responsibility for overall supervision of engineering and construction of the project.

280. A reclamation consortium is an association of landowners, formed for the specific purpose of reclaiming land, and endowed with regulative powers by the Central government. The consortia are formed on the basis of the general reclamation law (Law of February 13, 1933. No. 215). This particular consortium was formed by Decree of February 23, 1952, when five smaller reclamation consortia were amalgamated into the present organization. It has headquarters in Caserta and offices in Naples. Although the organization as such is owned by its members, the project works will remain the property of the Government. They will be operated by the Consortium.

281. The Consortium has planned and designed all parts of the project, and supervises the construction work which is executed by Italian contractors following competitive bidding. The management and the engineering staff of the Consortium are capable and efficient. The Consortium will operate the works on completion, and it will collect dues from the landowners in its region.

282. The present annual budget of the Consortium is about L.120 million. The Consortium charges the landowners an amount per hectare to cover its expenses. These charges come directly after government taxes, and they have, in case of bankruptcy, preference over other debts. The amount of the charge is determined in proportion to the benefits which the landowner receives from the drainage, irrigation, and roadbuilding services of the Consortium. At present annual charges vary from L. 130 to L. 18,000 per hectare, and average about L. 3,000 per hectare. It is expected that the budget of the Consortium on completion of the project will rise to L. 800 million and that the average annual charge per irrigated hectare will be near to L. 20,000. This is relatively high, due to the costs of pumping for drainage and irrigation.

5. Status of work and construction schedule

283. The Carola Company of Naples began the construction of the Volturno barrage in 1954. The main barrage and the two irrigation canal intakes are practically completed. The barrage was scheduled to be completed by the end of 1957.

284. The main canals have been started and their construction, coordinated with the construction schedule of the networks they irrigate, will continue until June 1963. Detailed plans for the networks have been prepared and construction of some distribution canals has begun. It will extend until June 1964. Irrigation will begin in the 1960 season.

285. Most of the flood control and drainage works will be constructed before the first half of 1960. Most of the roads will be built before the end of 1961. The electric lines, substations and distribution networks will be constructed from 1959 to 1962. These schedules are realistic.

6. Project cost estimates

286. The cost estimates of the project are based on actual contracts for the construction of the Volturno barrage and part of the main canals and distribution canals and on detailed designs for the rest of the works. They include adequate provisions of 8% for engineering and supervision, and 10% for contingencies. The following table shows the estimate for each of the main categories of works:

	Million Lire	Million $ equiv.
Volturno barrage	1,494	2.4
Diversion canals	1,020	1.7
Other canals and networks	15,398	24.6
Subtotal irrigation	17,912	28.7
River control and drainage	6,541	10.4
Roads	2,572	4.1
Farm distribution lines, aqueducts, & miscellaneous	1,767	2.8
T o t a l	28,792	46.0
Interest of 6% on disbursed portion of a $6.44 million proposed loan during 3 year grace period.	601	1.0
GRAND TOTAL	29,393	47.0 1/

287. The capital cost of the public works of the complete project will be equivalent to about US$1,200 per hectare. This amount is low in comparison with other Italian projects due to the absence of a reservoir and to short length of the diversion canals. In addition to the cost of public works of the project, about L. 14.8 billion has to be invested in farm improvements. (The composition of these on-farm costs and their sources of finance are discussed in paragraphs 293-301). The total cost will therefore amount to about L. 44 billion, or about US$1,750 per hectare.

1/ The proposed loan would cover 14% of the estimated costs of the public works.

7. Schedule of Expenditures

288. The schedule of expenditures for the public works of the project will be as follows (without interest on proposed IBRD loan):

Year	Million Lire	Million $ equiv.	Estimated Cassa disbursements 1/	
			Million Lire	Million $
Spent before Dec.31/1956	13,892	22.2	3.789	6.0
1957	1,350	2.15	1.204	1.9
1958	3,180	5.1	2.671	4.3
1959	3,230	5.2	2.511	4.05
1960	1,300	2.1	858	1.4
1961	1,640	2.6	1.250	2.0
1962	1,400	2.2	1.250	2.0
1963	1,400	2.2	1.250	2.0
1964	1,400	2.2	1.250	2.0
Total	28,792	46.0	16.033	25.7

1/ For major works only; disbursements for minor works have been estimated at L. 1 billion.

8. Total investments and sources of funds

289. 1. Public Works:- On the basis of the existing law (Law 215 of February 13, 1933) the cost of the public works of the project is to be divided between the Government (the Cassa acts as the main agent of the central Government) and the Consortium (as the organization of the land-owners in the region). The distribution of the total costs of public works (including interest on a Bank loan) would on this basis be:

Government	88%	25,865 mln. L.
Consortium	12%	3,528 " "
		29,393 mln. L.

The contribution of the Cassa will in total be L. 17,033 million; the rest of the government contribution has been, or will be, invested by other Government agencies.

290. On the assumption that the equivalent of US$6.44 million of the proposed loan is allocated to the Volturno project, the financing of the Cassa contribution would be as follows:

	Mln. L.
Already disbursed before 1957	3,789
I.B.R.D. funds	4,025
Annual Government budget	9,219
	17,033

291. Out of the L. 3,528 million which the Consortium is committed to contribute, L. 474 million had already been paid before January 1, 1957. Some of the Consortium contribution may be raised by the member landowners, but most of it is likely to be borrowed from one of the banks that are authorized by the Government to handle this kind of loan at an interest rate of 5.15% on a fifteen-year term. The debt service together with the cost of administration, operation and maintenance of the project would be collected by the Consortium from its members.

292. 2. Private Works:- The amount to be invested in farm improvements depends to a great extent on the decisions of the private landowners and can only be estimated approximately. The Government has issued "Directives" for the compulsory transformation of farms. Non-compliance with these directives may result in expropriation of the farm. The estimates below are based on the experience of Cassa experts, taking local conditions into account.

293. a) Improvements of Real Estate:- The estimated cost of the necessary improvements including the cost of labor is:

	1,000 L/Ha.	No. of Ha.	Total Bln. L.
Land improvement	160	40,000	6.4
Buildings	250	20,000	5.0
Sub-total			11.4
Planting of orchards	300	2,000	0.6
Total			12.0

294. The farmers, especially the small ones, will be able to meet part of the labor requirements from their own, not fully occupied resources. It is estimated that this factor will represent a value of 20% of total investments. Therefore, only 80% of the above total will represent cash investments. This amounts to L. 9.6 billion.

295. The farmers will receive government support in the financing of these investments in the form of loans or grants. The amount of this support is based on the estimated total costs of the improvements in land and buildings (L. 11.4 billion).

296. The Government offers the farmers a choice between a grant of 38% of the investment, or a combination of grant and loan. Most farmers choose this combination. The grant will in this case cover 20% of the costs and the loan 60%. The interest on the loan will be 5.5%, of which 2.5% is for Government account, so that the farmer only pays 3%. If the interest subsidy accumulated over the loan period is added to the grant, the result is that the Government would still take care of 38% of the investment by way of grant and interest subsidy.

297. The financing of the real estate improvements works are as follows:

20% grant on L. 11.4 billion	L. 2.3 billion
60% loan on L. 11.4 billion	6.8 "
20% of L. 12 billion contributed by farmer by his own labor	2.4 "
Farmer's own cash outlay	0.5 "
	L. 12.0 billion

298. b) Increase in Farm Requisites:- This category includes the purchase of machines, tools and other equipment. Most of the additional livestock required will come from natural increase on the farm. The farms are already reasonably well equipped so that the increase in requisites will not involve more than L. 100,000 per ha. The total amount will then be L. 4 billion.

299. c) Increase in Working Capital:- This category covers increased money outlays for materials, services and wages, and the amount is estimated at L. 30,000 per hectare. The total will thus be L. 1.2 billion.

300. The regular farm credit facilities - the Revolving Fund of the Ministry of Agriculture and the farmers' cooperatives - will assist the farmers in financing the investments under b) and c).

301. Total money investments in farm development will be L. 14.8 billion[1/] of which L. 2.3 billion will be covered by a Government grant. Therefore, private investments in private works will be L. 12.5 billion. The total investments in the project are estimated at L. 44 billion.

(in billion Lire)	Government	farmers	Total
Public Works	25.86	3.53	29.39
Private improvements	2.30	12.50	14.80
Total	28.16	16.03	44.19
Equivalent in dollars (million)	45.0	25.5	70.5

1/ L. 9.6 billion in real estate, plus L. 4 billion in requisites, plus L. 1.2 billion in working capital.

9. Transformation of agriculture

302. The estimate of the value of agricultural production before the project is based on data for 1954. In that year, part of the drainage works were already in operation and production was therefore higher than in the original pre-project situation. This provides an extra margin of safety in the estimates of increased production to be derived from the project.

303. In 1954, 36,000 hectares of the total of 40,000 hectares were used for crops, and nearly half of this area was under wheat. Other important crops were corn, hemp, sugar beets, beans, potatoes, tomatoes, melons and various non-citrus fruits and vegetables. The value of production per hectare ranged from about L. 100,000 for grain to L. 300,000 for tomatoes. The average value was L. 140,000 per hectare and the total value of crop production was L. 5.1 billion.

304. The value of livestock production per hectare was estimated at L. 150,000. Fodder was produced on 4,000 hectares, as a full crop the year round, and on 3,500 hectares as a second crop. Total production was the equivalent of that on 6,000 hectares valued at L. 900 million. Total value of agricultural production was therefore L. 6 billion (Annex C 4).

305. It is expected that farming will be considerably more intensive as a result of the irrigation and of the completion of the drainage works. A great part of the arable land will produce two crops per year and the crop pattern will also change. There will be a smaller area under cereals, but more under industrial 1/ crops (7,000 ha.), vegetables (5,000 ha.), and fruit (2,000 ha.).

306. The area used for fodder production (intensive pasturing, alfalfa, etc.) can be expected to increase from 4,000 hectares to 11,000 hectares. Moreover, fodder will be produced on 10,000 hectares as a second crop. This will raise the production of fodder to the equivalent of that from 16,000 hectares. The result of this transformation will be that the production of wheat and other cereals will hardly increase, but that there will be a substantial expansion of the production of industrial crops, vegetables, fruits, and animal products. This shift in production is in line with the expected demand for farm products. The consumption of grain products will probably not increase very much in Italy. On the other hand the demand for fruits, vegetables, meat and dairy products is increasing rapidly as a result of the rise in standards of living and a change in food habits. This trend is expected to continue, and consequently only a limited amount of the additional production of exportable crops will actually be offered for export.

307. Prospects are that the products will continue to sell at about the present level of prices and all estimates of value have been made on this basis. It is possible that the annual average prices to be received by farmers for vegetables will improve, because they will be able to sell more in the off-season. However, this factor has not been taken into account.

1/ Hemp, sugar beets, tobacco.

308. After completion of the project, the average value of crop production is expected to increase to nearly L. 350,000 per hectare and the value of animal production to L. 300,000. This would raise the total for crop production to L. 10.2 billion and for animal production to L. 4.8 billion. The gross value of agricultural production is expected to amount to L. 15 billion per annum. (Annex C 5)

309. A comparison between the old and the new situation works out as follows: a) Value of pre-project production.

Crops on 36,000 ha. at L.140,000 per ha.:	L. 5.1 billion
Livestock on 4,000 ha. at L.150,000 per ha.	0.6 "
Livestock fed on fodder of second crops (equivalent of 2,000 ha. cropland)	0.3 "
	L. 6.0 billion

b) Value of post-project production.

Crops on 29,000 ha. at L.350,000 per ha.:	L.10.2 billion
Livestock on 11,000 ha. at L.300,000 per ha.	3.3 "
Livestock fed on fodder of second crops (equivalent of 5,000 ha. cropland):	1.5 "
	L.15.0 billion

c) Increase in gross value of production: L.9.0 billion

310. There is, as long as the upper Volturno is not regulated, a chance of some flood damage during the winter season if the levees are overflowed and break. It is difficult to quantify this damage, but it can be considered small and it is well covered by very conservative estimates of the increase in gross value of production.

10. Benefits of the project

311. Benefits to the farmer:- The financial results of the expected transformation of agriculture will, of course, differ with the type of farming that is practised. The gross production of one hectare under vegetables (two crops per year), or fruit should be about L.800,000 whereas a hectare used for cereals and beans may only produce a gross value of L.250,000 and a hectare used for livestock L.300,000. On the other hand the expenses of a vegetable grower will be higher (although not in proportion) than the expenses of a farmer engaged in normal mixed farming.

312. Considering the case of normal mixed farming, it is estimated that gross production will increase from L. 110,000[1/] to L. 290,000[2/] per hectare per year. Costs will, however, also increase because the farmer will have to buy more fertilizers, seeds, fodder, equipment, etc., and also because his capital costs will be higher.

1/ Based on L.100,000 for general crops and L.150,000 for land used for livestock.

2/ Based on L.250,000 for general crops and L.300,000 for land used for livestock.

313. The farmer is expected to invest in the transformation of his farm about L. 310,000 per hectare (after deduction of the 20% grant of the Government, and taking into consideration that part of the work will be done by farm labor for which there is no other employment). The fruit grower will have to invest L. 480,000 per hectare and the vegetable grower about L. 300,000 per hectare (see Annex C 2).

314. Labor costs will also be higher since the labor requirements are expected to increase from 70 to 100 man-days per hectare on mixed farms. Moreover, the annual dues to the Consortium for debt service, operation and maintenance of the works will be stepped up from a present average of L. 3,000 per hectare to L. 20,000 per hectare.

The result will be as follows (see Annex C 3):

	Per hectare		Total for area under mixed farming		
	Before	After	Before	After	Increase
	L. '000		L. Billion		
Gross product (mixed farming)	110	290	3.7	9.6	5.9
Costs of goods and services	30	90	3.0	1.0	2.0
Net product	80	200	2.7	6.6	3.9
to labor	70	100	2.4	3.30	0.9
to capital	5	20	0.17	0.66	0.49
to taxes	7	20	0.24	0.66	0.42
Profit	-2	60	-0.11	1.98	2.09

315. The increase in profit is very considerable and attractive. It represents 20% on the investments by the farmers per hectare. Fruit and vegetable production will be at least as profitable as mixed farming since costs do not increase in proportion to the increase in gross value of production.

316. The increase in the gross value of fruits and vegetables represents at least L. 3 billion. No separate cost figures are available for these crops, but their production will per hectare be more profitable than mixed farming. A rough estimate shows that the contribution of horticulture to capital and profit will be over L. 1 billion on 7,000 hectares. The sum of the increase in the share of the net product allocated to capital, plus profit would then be in total (about L. 2.5 billion from mixed farming plus about L. 1 billion from horticulture) L. 3.5 billion, or over 20% on private investments (L. 16 billion, para. 301).

317. Benefits to the economy of the region:- The impact of the project on the economy of the region will be very significant. The increase in the value of agricultural production by L. 9 billion will provide additional business to traders, processors, transporters of agricultural commodities, and to those who supply the farms and the

farm population with goods and services. As a result of these additional activities the resulting increase in regional income should be considerably more than the L. 9 billion estimated above.

318. The project will favorably influence employment. The number of man-days in agriculture alone will increase from about 3 million to over 5 million per year. This is equivalent to nearly 9,000 full-time jobs, but it should be noted that most of the additional man-days will be worked by hitherto under-employed people. In addition there will be more employment in trade, transportation and in processing industries.

319. Benefits to the Government:- Since governmental expenditures on the project are by way of grant, benefits will accrue mainly as increased taxation collections. The status of agriculture, and the standard of living of the rural population, of the Volturno area, are close to the national average for the agricultural districts. The national average taxation collection from the agricultural sector approximates 20% of the gross value of agricultural production (direct taxes 5%, indirect taxes 15%). Assuming no major changes in taxation rates, taxation revenues from the project area should increase by about 20% of L. 9 billion or L. 1.8 billion when full production has been reached. This represents 6.4% on total Government investment (L. 28.2 billion, see para. 301).

320. Benefits to the external economy of Italy:- There will be larger supplies of tomatoes, vegetables and non-citrus fruits. A large part of the increased supply will be consumed in Italy itself. On the basis of statistical figures covering recent increases in production, exports and per capital consumption, it is estimated that about 1/3 of the increased supply of vegetables and fruits will be offered for export.

321. The production of cereals and dry beans will increase only slightly, if at all. The increase in the production of potatoes, milk and meat will easily be absorbed by the expanding internal market. This expansion would take place to practically the same extent without the project. While expanded production of animal products will, in effect, save on imports, this has not been included in the estimates given below.

322. For the project upon completion, the value of the additional exports is estimated at L. 1.3 billion, or the equivalent of US$ 2 million. The European market should be able to absorb these quantities at about the level of prices prevailing in recent years.

11. Conclusions and Recommendations

323. Located between the two large centers of consumption of Naples and Rome, the Volturno area is particularly attractive with respect to transportation and marketing. The project is well designed to bring into maximum production an area of 40,000 hectares (net). The relative increase of production per hectare will not be as spectacular as in the case of other Italian projects financed by the Bank because of the rather intensive form of farming already existing. Nevertheless, the value of production per hectare will increase by more than 100% and this, combined with relatively low costs of construction, results in a very satisfactory ratio between investments and annual benefits (respectively L. 44 billion and L. 9 billion, or 5 to 1).

324. Although some shortages of water can be expected during one summer out of four, they will not be serious nor last long enough to cause significant damage to agriculture. The project is well engineered. The Cassa and the local Consortium are responsible for the execution of the project. The organization of the local Consortium is exceptionally good. The arrangements for financing the public investment and the credit facilities available for the private investment are satisfactory.

325. The project is suitable for Bank financing in the allocated amount of $6.44 million. A term of 20 years including a grace period of 3 years would be appropriate.

C. FORTORE IRRIGATION PROJECT

1. Introduction

326. The Fortore irrigation project is designed to supply 66,000 hectares with irrigation facilities. The costs of the public works are estimated at L. 37 billion. The project is attractive because it will bring into intensive cultivation a large area of very suitable land which is well connected with present and potential markets.

2. The Present Agricultural Situation

327. General. The lands which will be irrigated by the Fortore project form a part of the large Tavoliere plain, which stretches, east of the Appenines, from the Adriatic coast north of Foggia, to Bari and Brindisi in the south (map - Annex C.6.).

328. The Fortore River runs from the Appenine mountains northwards to the Adriatic. There are low hills east of the Fortore which run down to a plain 30 - 50 km wide which extends at an average gradient of less than one percent from an altitude of at most 300 M down to the Adriatic.

329. The main cities and trading centers in the project region are San Severe and especially Foggia. The population of the area has increased from 82 per sq. km in 1936 to 104 per sq. km in 1950. Some industrialization and the execution of reclamation and land settlement projects attracted people from the hills around the plain.

330. Agriculture is the main occupation in the area, two-thirds of the active population being engaged in farming, and only one-sixth in industry. There are about 170,000 people employed in agriculture in the Tavoliere as a whole, of which roughly 70,000 are farmers or share-croppers and 100,000 are wage workers.

331. Soils. The soils in the Tavoliere area consist of various sediments laid down in enormous marshes and originating from the Appenine and Gargano mountains. The alluvial soils, which overlie blue and yellow clay, are shallow near the hills but 100 M deep near the sea.

332. There are many types of soils in the alluvium ranging from red loamy soils of limestone origin, to heavy clays, sandy soils and mixtures of sands and clays. In general their physical structure is good and they

are easy to cultivate. One-fifth of the soils are highly fertile, but the remainder are poor in organic material and lack plant nutrients. They will give a good response to fertilizers when irrigated. Only a small area is saline.

333. Climate. The summers are dry and hot, the winters humid and cool. Winter temperatures drop sometimes a few degrees below freezing; in summer they may reach 40°C. The monthly averages are 7°C. for winter and 28°C. for summer. There are frequently strong winds from the north (Bora) and from the south. These southern winds are hot and dry. Average rainfall is about 400 - 500 mm per annum, of which only 150 - 180 mm falls in the main growing season (April through September). Sometimes there are damaging hailstorms in the spring.

334. Type of farming. Most of the lands were used before World War I for extensive sheep pasturing. Gradually in the twenties and thirties, as drainage improved, land was brought under wheat and this is still the predominant crop. There are also vineyards, olive and almond groves grown without irrigation and some farmers, who have dug wells, practise intensive horticulture.

335. According to a survey in 1950 covering 440,000 hectares in the Tavoliere, the land use situation, which has not materially changed since, was:

arable land	295,000	ha.
pastures	95,000	"
orchards	45,000	"
vegetables	2,000	"
forest	3,000	"
	440,000	ha.

This survey covered the whole Tavoliere, but as conditions are quite uniform, the information can be applied to the project area. The arable land is mainly used for wheat and other grains, with one-quarter in fallow. Only a small area is in fodder crops and livestock are relatively unimportant. Because of the predominance of cereal production the demand for labor is low (about 20 days per year per hectare) and seasonal, and there is much underemployment among the farm hands.

336. Land tenure. Before the execution of the Cassa program and of the Land Reform activities, the Tavoliere showed the usual South Italian pattern of a great number of small farms on a small part of the area, with the greater part of the land occupied by a few large units.

337. The 1950 survey disclosed that:

a. there were nearly 15,000 very small farms (1-4 ha.) occupying only 6% of the area;

b. 6,000 medium size farms (4-60 ha.) covered about 20% of the land area;

c. the remaining 76% of the land was held in 1400 large units of over 60 ha., 350 farms of over 250 ha. occupied 40% of the land.

338. Over the years, large estates have gradually been subdivided - largely under the influence of governmental or government-sponsored action. For instance, under action by the Veterans' Organization, 27,000 hectares had been subdivided into farms of 15-25 ha. by 1940. Many large farms have been expropriated in part since 1950 by the Land Reform Agency, and farms of 4-8 hectares have been established. 18,000 hectares in the project area have been subdivided in this way.

339. About two-thirds of the land is leased, the rest is owner-operated either directly or under a share cropping system (fifty-fifty). Most of the owners of large farms lease their land on 6-year contracts to renters for payment in kind (200 - 400 Kg wheat per hectare per annum).

340. Purchase prices vary considerably; arable land sells for L. 300,000 - L. 600,000 per hectare, but orchards may cost over a million lire per hectare.

341. Farm techniques. There has been in the last few decades a gradual improvement in farm techniques in the area, as a result of the activities of the Ministry of Agriculture in cooperation with the Consortium of Landowners. Directives for compulsory intensification of farming were issued in 1948. Modern plows are now generally used, and mechanization is progressing satisfactorily. The number of tractors quadrupled in the project area between 1938 and 1956. Many seed drills, threshing machines and combine-harvesters are also in use. This mechanization has aggravated the unemployment problems of the area under dry farming conditions but is nevertheless a necessary development if increased productivity per man is to lead to better living standards.

342. The present farming system based on cereals, fallow and extensive pasturing, tends to induce soil deterioration. The farm does not produce sufficient manure, and the renters have no inducement to buy adequate quantities of commercial fertilizers. Applications of fertilizers are very low except on those farms that already have irrigation.

343. Transportation and Marketing. As a result of the activity of the Consortium the area has now an adequate system of paved roads. Foggia is a focal point of highway traffic and also of railroads. It is directly connected by rail with Naples and Rome and also via

the Adriatic railroad with Venice, Austria and Germany. Vegetables and fruits are exported to Central Europe over this railroad. Foggia and San Severe have adequate trading facilities, and there are in or near Foggia several processing industries, such as flour mills, a biscuit factory, a milk pasteurization plant, oil mills, wineries and a paper factory using straw as raw material. There is also a Consortium Agraria, or farmers' cooperative. Foggia is a very lively commercial town and more processing facilities will undoubtedly be established when the need arises.

3. Description of the Project

344. The Fortore irrigation project forms a part of the overall land transformation plan for the Tavoliere area. This plan was originally formulated in 1934 and later revised and incorporated in the Plan of the Cassa.

345. The Tavoliere Plan includes several water control and drainage works, road-building, the construction of aqueducts for potable water and of electric power lines, the building of new villages and extensive land reform activities in addition to projects for the irrigation of the areas of the Ofanto and Fortore rivers and for the drilling of a large number of wells.

346. A great deal of this plan has already been accomplished and it is now intended to construct the irrigation works. The Fortore irrigation project is designed to supply irrigation water to an area of 66,000 hectares (net).

347. Water of the Fortore river will be stored in a reservoir created by a dam to be constructed at Occhito gap. The reservoir will have a useful capacity of 250 million m^3 and it will make available for irrigation, net of losses, 210 million m^3 per annum. The dam at Occhito will be an earth structure 60 m. high and 432 m. long at the crest.

348. The water will be released from the reservoir into the riverbed and diverted by a barrage to be constructed at Santa Maria about 10 km downstream. This barrage will be a concrete structure 1.5 m. high and 190 m. long.

349. A diversion canal, about 13 km long, will follow the right bank of the Fortore and have an initial capacity of 21 m^3/sec. At about 2 km below the barrage there will be a tunnel about 5 km long. From kilometer 13 on, the diversion canal will continue as a main canal for a length of 58.5 km in a southeasterly direction, including 3.5 km of tunnel to the main area around Foggia. Two smaller canals will branch off: one at kilometer 21 and one at kilometer 26.5. The first

branch canal will irrigate land on the right bank of the Fortore; it will have an initial capacity of 1 m^3/sec. and a length of 15 km. The second canal will irrigate land north of the town of San Severe and near Lago di Lesina. It will have an initial capacity of 5 m^3/sec. and a length of 34 km.

350. A small canal will run from the end of the diversion canal (kilometer 13) northward on the left side of the Fortore. It will be about 25 km long and it will have an initial capacity of 2 m^3/sec.

351. A network of secondary canals and distributaries will be built to serve 66,000 hectares. The total length of the secondary canals will be 400 km (6 m. per hectare) and the distributaries will in total be about 3,000 km long (nearly 50 m. per hectare).

352. The project also includes some erosion control works in the hills around the irrigable plains, the regulation of some small streams and the building of some farm roads. Most of this work has already been completed.

353. The main canals will command by gravity an area of 98,000 hectares, but 32,000 hectares will be excluded from supply because they are or will be used for non-farming purposes, for farmyards, olives, almond trees and vines, or will be irrigated with sub-soil water.

354. There is more suitable land in the Fortore area than can be irrigated each year with the water available (210 million m^3) and detailed studies have been made to determine how the water should be applied to achieve the highest overall increase in production. Assuming a certain crop pattern and using experimentally established applications for the various crops, it was found that the best result would be achieved if a network were built to irrigate farms covering 66,000 hectares, net of farmyards, etc. It was determined that the most economic use of the water would be made with an average application of 6,000 m^3 at the farm gate. The available quantity of water will on this basis be sufficient to irrigate 36,000 hectares each year.

355. This means that each farmer in the area will receive a quantity of water sufficient to meet the full water requirements of about 60% of his land each year. All of the farm will be prepared for irrigation and application of water will be rotated over the years. The remaining 40% of the farm will be under dry farming, but this land will profit in a secondary way. Higher yields will be obtained because of better sub-soil moisture resulting from the carryover from previous irrigation and from the supply of water on adjacent land and from improved cultural conditions, better rotations and heavier fertilizations during the period under irrigation. The combination of irrigation and dry farming on the same holding will also enable a better balance between cropping and livestock.

4. Organization and Management

356. The "Consorzio General di Bonifica e di Transformazione Fondiaria della Capitanata" (General Consortium), which was established in January,1933, is responsible for the execution of the overall project. This organization, with headquarters in Foggia, is well managed and it has a qualified staff to carry out its responsibilities in the fields of engineering, agriculture, land reclamation and land reform.

357. The planning, engineering and supervision during construction of the dams and canal networks are carried out by the Irrigation Board for Puglia and Lucania, which was established in 1947. The management of the Board is good and it has an experienced engineering staff.

358. All plans for the works included in the project are being reviewed by the Cassa, which will also be responsible for the overall supervision of their execution.

359. The General Consortium will be responsible for the operation of the project upon completion. The charges to be paid by the Land-owners will be established according to a formula based on the benefits obtained by the individual owner. The charges come directly after Government taxes and have precedence over other payments. The average annual charge for an irrigated farm is estimated at about L. 10,000 per hectare.

5. Construction Schedule

360. Detailed plans have been prepared for the Occhito dam and the barrage, and it is expected that contracts will be awarded early in 1958. The construction of the diversion canal and the first part of the principal main canal and network is scheduled to start in 1959. Plans for the main canal and network are now being prepared. These works are scheduled to be finished in 1961 and some irrigation should begin in the 1962 season.

361. The canals and networks will be completed in stages, permitting 40,000 hectares to be irrigated by 1965. This will be the area around Foggia which is best situated with respect to marketing and transportation. The canals and networks for the remaining areas will then be constructed, but a firm schedule has not yet been prepared.

362. The schedule outlined for the period 1958-1965 is realistic.

6. Project Cost Estimates

363. The cost estimates for the dam, the barrage and the diversion canal are based on detailed designs. The estimates for the canals, distributaries, and other works are based on unit costs derived from the Cassa's experience. Approriate provisions of 10% for contingencies and 9% for engineering, supervision and other overhead costs have been included.

364. The following table shows the estimate for each category of works.

	Million Lire		Mln.$ Equivalent	
a) Dam at Occhito	5,500		8.8	
b) Diversion barrage	500		0.8	
c) Diversion canal	2,000		3.2	
d) Main canals and networks for 40,000 ha	10,000		15.9	
e) Main canals and networks for 26,000 ha	14,000		22.5	
Sub-total irrigation		32,000		51.2
f) Drainage and river control works	4,000		6.4	
g) Road building	560		0.9	
Sub-total for all public works		36,560		58.5
Interest at 6% on proposed IBRD loan of $10 million over 3-year grace period		688		1.1
Total		37,248		59.6*)

*) The proposed loan would cover 17% of the estimated costs of the public works.

365. The estimates costs for the public works included in the project will be L. 37 billion (US$59.2 million equivalent) for an irrigable area of 66,000 hectares, corresponding to an average of L. 560,000 ($900 per hectare). As a comparison: the unit costs of the public works in the Flumendoza project on Sardinia are estimated at $1,700 per hectare, and those for the Volturno project at about $1,200 per hectare. However, only 60% of the land in the Fortore project will be supplied with water in any one year.

366. In addition to the cost of public works of the project, about L.28.8 billion has to be invested in farm improvements. The composition of these on-farm costs and their sources of finance are discussed in paragraphs 371 to 379. The total cost will, therefore, amount to about L. 66 billion, or about $1,600 per hectare.

7. Schedule of Expenditures

367. The schedule of expenditures on public works and Cassa disbursements is as follows (excluding interest on proposed Bank loan):

Year	Total Expenditures (Million Lire)	Cassa Disbursements (Mln. Lire)	Cassa Disbursements (Mln. US$)
1957	808	793	1.27
1958	1,612	1,562	2.45
1959	2,870	2,690	4.30
1960	4,080	3,800	6.10
1961	4,740	4,405	7.0
1962	2,800	2,500	4.0
1963	2,800	2,500	4.0
1964	2,800	2,500	4.0
Sub-total	22,510	20,750	33.12
1965	2,850		
1966	2,800		
1967	2,800		
1968	2,800		
1969	2,800		
Total	36,560		

The estimates for the period 1957-1964 have been included in the overall program of the Cassa. Expenditures for the period 1965-1969 are tentative.

8. Total Investments and Sources of Funds

368. PUBLIC WORKS:- Definite financial plans for the public works included in the project have been made for the period 1957-1961, while the allocations under the Cassa program for the period 1962-1964 still require the final approval of the Government. Provision has not yet been made for expenditures after 1965, but the Italian Government, by signing the Guarantee Agreement, would undertake the obligation to provide all necessary resources and to complete the project. The Cassa (as an agent of the Government) will contribute about 92% of the expenditures to be made before 1965 and the Consortium (as the organization of landowners) will contribute 8%. The contribution of the Cassa is higher than the normal 87.5% because the Occhito reservoir will provide for some flood control and the Cassa pays 100% of the costs of the roads.

369. It can be assumed on the basis of the existing legislation (Law 215 of February 13,1933) that the Government will contribute 87.5% of the costs of the public works for the years beyond 1964. Of this assumption, the distribution of costs of public works (including interest on Bank loan) would be:

Sources of Funds for Public Works

			(in mln.L.)
Through 1964:	Government contribution	21.342	
	General Consortium	1,856	
	Sub-total		23,198
After Jan. 1,1965:	Government	12,294	
	General Consortium	1,756	
	Sub-total		14,050
	Total		37,248

After completion of the project, the Government would have paid L. 33,600 million and the landowners L. 3,600 million (rounded figures).

370. It is proposed that the Bank loan will cover the bulk of the Cassa payments falling due in 1958, 1959 and extending into 1960, to a total of US$ 10 million equivalent, or L. 6,250 million. The rest of the Cassa contribution, or L. 14,500 million and L. 12,294 million of expenditures after 1964 will have to be covered by regular Government budget allocations.

371. PRIVATE WORKS:- Investment in farm improvements, equipment and working capital will be necessary to bring the land to full production. The estimates below are based on the experience of Cassa experts, taking local conditions into account. The base point of the estimates was the situation disclosed by the survey of 1950 and improvements effected since that date have not been deducted from the estimated amounts.

372. a) Improvement of Real Estate

Farm irrigation and drainage ditches have to be constructed for the full area of 66,000 hectares and all the land will need levelling in minor degree. New or improved buildings are necessary for only 40,000 hectares. Trees will be planted as a protection against winds.

373. The estimated cost of improvements, including the cost of labor, is:

	Average per ha. (1000 Lire)	No. of ha.	Total (Bln. Lire)
Land improvement works	125	66,000	8.3
Buildings	300	40,000	12.0
Sub-total	425		20.3
Trees			0.7
Total			21.0

374. Arrangements for financing these farm improvements are different for land reform farms, which cover 18,000 hectares, from those for the remaining area. The Government pays for practically all the improvements on land reform farms. The cost of these improvements will be somewhat above the average because they are smaller farms. The estimated cost is about L. 450,000 per hectare, or L. 8.1 billion in total.

375. The cost of improvements on the remaining 48,000 hectares will be L. 12.9 billion. These farmers will receive Government support in financing land improvements and buildings. (See Volturno Project Report par. 295-6 for details.) The form of assistance which farmers will usually choose is 20% of the estimated costs in grant and 60% of the estimated costs in loans. The farmers will do part of the work by their own labor, which is otherwise unused. This factor is estimated to represent 20% of their investments (L. 12.9 billion), or L. 2.6 billion, which reduces the cash investment to L. 10.3 billion. Including the land reform area, total cash investment in real estate improvements will be L. 18.4 billion.

376. The position is summarized below:

	(in billion Lire)
Total cost of real estate improvements	21.0
Less: non-cash costs	2.6
Total Cash Investment	18.4
Financed as follows:	
a) Govt. financing of works in land reform area	8.1
b) Remaining area:	
Grant of 20% costs of land improvements and buildings	2.5
Loan of 60% of costs of land improvement and buildings	7.6
Farmers' own cash outlay	0.2
Total	18.4

The Government contribution will in total be L. 10.6 billion, and the farmers will finance L. 7.8 billion.

377. b) Increase in Farm Requisites

This category includes the purchase of machinery and tools and the increase in livestock. It is estimated that these investments will amount to L. 120,000 per hectare or, for 66,000 hectares, to L. 8 billion.

378. c) Increase in Working Capital

Farmers will have increased outlays for the purchase of materials, payments of wages and services. It is estimated that they will need to increase their working capital by L. 35,000 per hectare or, in total, L. 2.3 billion. The regular farm credit facilities - the Revolving Fund of the Ministry of Agriculture and the farmers' co-operatives - will assist the farmers in financing investments under (b) and (c).

379. Total money investment in private works will be:-

		(in billion Lire)
For improvement of real estate	(see par. 376)	18.4
For increase in farm requisites	(" " 377)	8.0
For increase in working capital	(" " 378)	2.3
		28.7

The Government will contribute L. 10.6 billion, so that the farmers will have to raise about L. 18.1 billion.

380. Total Government and private investment in the project is summarized as follows:

	Contributed by: Govt.	Farmers	Total
	-----(in billion Lire)-----		
Public works(see par.369)	33.6	3.6	37.2
Private improvements (see par. 376 and 379)	10.6	18.1	28.7
Total	44.2	21.7	65.9
Total in US$ mill.equiv.	70.5	34.5	105.0

9. Transformation of Agriculture

381. The average gross value of production in the project area was very low at the time of the agricultural-economic survey of 1950. A large proportion of the land was used as extensive pasture, or for low-yielding crops like cereals, or was under fallow. The average yield of wheat was 1.3 tons per hectare, returning about L. 90,000 per hectare. Land used for livestock produced only about L. 40,000 per hectare, while the small areas farmed intensively, as for example under vegetables, returned over L. 500,000 per hectare.

382. On the basis of the overall crop pattern (Annex C 8), the average gross value of production was estimated at L. 65,000 per hectare. This would give a total of L. 4.3 billion for the 66,000 hectares included in the project.

383. Irrigation will greatly intensify the system of farming. Farmers will grow tomatoes, early potatoes (sometimes two crops), sugar beets, vegetables and fodder crops on the 60% of their land receiving water in any year. Cereals, tobacco and cotton will be the main crops on the land not receiving water that year. Livestock production will be intensified by using fodder produced on about 14,000 hectares of irrigated land together with by-products from various other crops (for instance beet tops).

384. Estimates of the gross value of production after completion of the project are based on results achieved by farmers in the region who have pump irrigation and on data from experimental fields run by the Irrigation Board. It is expected that the average gross value of production will increase to L. 260,000 per hectare, and the total gross value of production to L. 17.3 billion (See Annex C 9). This represents an increase of L. 13 billion.

385. The actual crop pattern may be different from that shown in the Annex, but this will not unfavorably influence the gross value of production. For instance, it is possible that as a result of the establishment of the European Common Market, horticulture may expand more than anticipated at the expense of livestock production. This would further increase the total gross value of production.

10. Benefits of the Project

1) Benefits to the Farmers

386. Although some farmers will specialize in vegetables, others in livestock and again others in intensive crop production, a mixed farm with some horticulture, some livestock and some crop production can be taken as representative. Gross income of mixed farms is expected to increase four-fold, but farm costs will also be higher. Labor requirements will rise from some 25 to 80 days annually per hectare and will be spread more evenly throughout the year, thus enabling more effective use of family resources.

387. The farmer will also have to buy more seeds, fertilizers, insecticides, etc. Capital costs, charges of the Consortium and taxes will also be higher.

388. The result of these changes is estimated as follows (see Annex C7):

	Per Hectare		Total	
	Before	After	Before	After
	(L.'000 per ha)		(Billion L.)	
Gross product	65	260	4.3	17.3
Costs of goods and services	15	80	1.0	5.3
Net product	50	180	3.3	12.0
To labor	22.5	72	1.5	4.75
To capital	3.0	15	0.2	1.0
To taxes	3.25	15	0.2	1.0
Profit	21.25	78	1.4	5.25

The sum of the increase in the allocation from net product to capital and profit, which represents the reward for the private investment, will be L. 4.6 billion. This is about 20% of total private investment (L. 21.7 billion; par. 380).

2) Benefits to the Region

389. The construction of the project, forming an integral part of the development program for the Tavoliere, will have a significant impact on the economy of the area around Foggia. The increase in gross value of farm production of L. 13 billion will give extra business to transporters, traders, and processors and to those who supply the farms and the farm population with goods and services. As a result of these additional activities, regional income will increase by considerably more than L. 13 billion.

390. The project will materially improve the employment situation in the area. There is now serious unemployment, especially in the off-season. The increase in labor requirements per hectare from 25 to 80 man-days per year will be the equivalent of 18,000 fulltime jobs. It should, however, be remembered that most of the extra labor will be performed by underemployed laborers and small farmers. There will also be more employment in transport, trade and industry.

3) Benefits to the Government

391. Since governmental expenditures on the project are by way of grant, benefits to the Government will accrue mainly through taxes. National tax collections from the rural sector average about 20% of gross agricultural production (5% in direct taxes and 15% in indirect taxes). On this basis, increased tax collections would amount to 20% of L. 13 billion or L. 2.6 billion, which represents about 6% on Government investments (L. 44 billion, par. 380). Additional taxes will also be collected from the increased activities of non-agricultural enterprises.

4) Benefits to the External Economy

392. The transformation of agriculture in the project area will result in a large increase in livestock products, vegetables and tomatoes. The production of potatoes, cotton, tobacco and sugarbeets will also increase.

393. The internal market will absorb all of the increase in the supply of livestock products and cotton, tobacco and sugar, but a part of the supply of vegetables, tomatoes and early potatoes will be available for export. The supply of exportable crops will be increased by a value of about L. 6 billion at farm prices. A conservative estimate is that one third will actually be offered for export. The value of exports would be L. 2 billion at farm prices, or L. 3 billion 1/ at export prices. Larger supplies for internal markets, especially in regard to livestock products, will also result in import savings.

1/ The calculations for the gross value of production of vegetable crops have been made at a price of L. 30,000 per ton. The export prices of these commodities varied in 1954/55 and 1955/56 from L. 40,000 to L. 55,000 per ton.

11. Conclusions and Recommendations

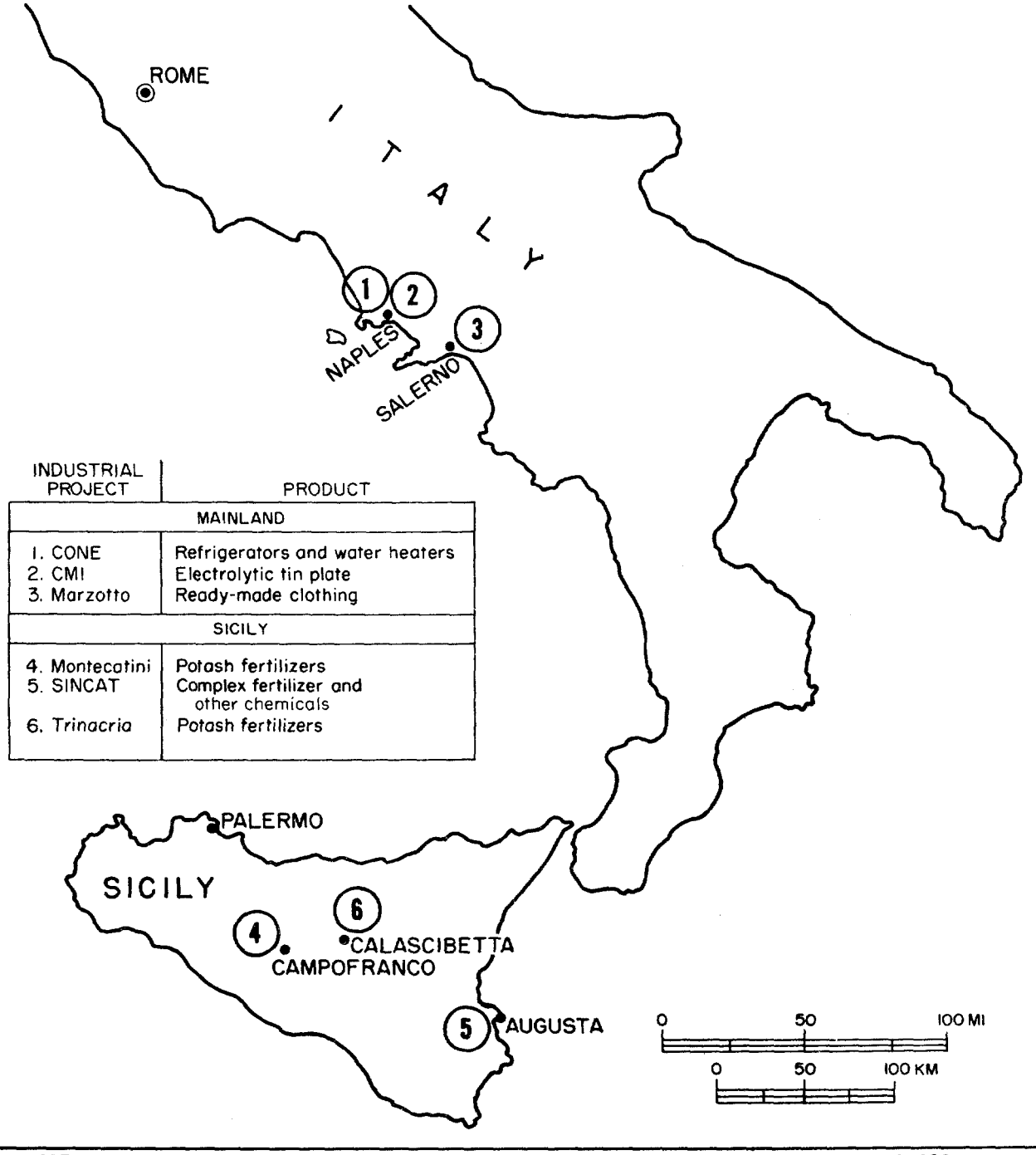
394. The project area is well-located and has excellent transport connections to large consumption centers in Italy and in Central Europe. The land in the area is very suitable for intensive cultivation and a large increase in production can be expected from irrigation. It is estimated that the increase in gross value of production will be about L. 13 billion per annum. The costs of the public works have been estimated at L. 37 billion, to which L. 29 billion in private works has to be added, making a total investment of L. 66 billion. The ratio between investments and annual increase in output (capital/output ratio) is 66 : 13, or 5 : 1. This is a very satisfactory ratio.

395. The project is well designed. The local Consortium will be responsible for execution of the project and for its operation after completion. The Irrigation Board for Puglia and Lucania, in co-operation with the Consortium and under the general supervision of the Cassa, will be responsible for planning, engineering and supervision during construction. All these bodies are well organized and staffed and should perform their duties effectively.

396. Arrangements for financing public investments during the period 1958-1964 and credit facilities for private investment are satisfactory. The Italian Government, by signing the Guarantee Agreement, would undertake to provide all necessary resources and to complete the project.

397. The project is suitable for Bank financing in the allocated amount of $10 million. A term of 20 years, including a 3-year grace period would be appropriate.

LOCATION OF INDUSTRIAL PROJECTS IN SOUTHERN ITALY



INDUSTRIAL PROJECT	PRODUCT
MAINLAND	
1. CONE	Refrigerators and water heaters
2. CMI	Electrolytic tin plate
3. Marzotto	Ready-made clothing
SICILY	
4. Montecatini	Potash fertilizers
5. SINCAT	Complex fertilizer and other chemicals
6. Trinacria	Potash fertilizers

DECEMBER 1957

IBRD-408

Market for Potash Fertilizers

1. The discovery in Sicily of large deposits of high-grade potash ore has provided the basis for an Italian potash fertilizer industry. Three projects are being proposed for Bank financing which involve the mining of ore from deposits with large reserves already proven and the manufacture from it of various types of potash fertilizer. Total planned output at a normal rate of capacity, which is expected by 1962-1963, is 125,000 tons (K_2O).

2. Production of potash fertilizers in western Europe is currently concentrated in Germany, France, and Spain, which accounted for 54%, 39% and 7% respectively of the 3.1 million tons (K_2O content) produced in 1955-1956 by all OEEC countries and Spain. The cost of production in these countries is a closely guarded secret. However, enough is known to make possible a comparison with prospective Italian costs.

3. Because of the chemical composition of the European ores now being exploited, the bulk of the current output of potassium fertilizer consists of potassium chloride (2.6 million tons in 1955-1956). Production of potassium sulphate, a superior product for many uses, involves additional processing and expense or the use of raw materials which are available in limited quantities only. In France, it is produced by combining potassium chloride with sulphuric acid; its cost exceeds that of potassium chloride not only because of the addition of sulphuric acid, but also because of the expense involved in disposing of the hydrochloric acid obtained as a by-product, only a small part of which can be sold. In Germany, potassium sulphate is produced by combining potassium chloride with kiesiterite, a native magnesium sulphate ore, which is, however, available only in a limited quantity. Understandably, therefore, production of potassium sulphate is limited (only 300,000 tons, K_2O content, in all OEEC countries and Spain in 1955-1956) and its price in Germany and France is about 45% higher than that of potassium chloride.

4. The Sicilian potash ore, kainite, in contrast, can be converted into potassium sulphate directly by a relatively inexpensive process; it is estimated that potassium sulphate can be produced in Italy at a cost equal to or lower than the import price of potassium chloride. Potash nutrients can be supplied for inclusion in complex fertilizers at an even lower cost, since for that purpose an intermediate product, wet schoenite, or even raw kainite, appear satisfactory.

5. The participation of the German and French potash interests in one of the Italian projects (TRINACRIA) indicates that they believe that Italian potash fertilizers will be at least fully competitive with their own products.

The Italian Market

6. The Italian producers expect to market the bulk of their output in Italy in spite of the facts that Italian consumption of potash fertilizer in 1955-1956 was only 57,000 tons (K_2O) or less than half the expected output of the three projects by 1962-1963, and that not much more than one-fifth of the

total was accounted for by potassium sulphate. This expectation rests on the not unreasonable assumption that Italian consumption of potash fertilizers will increase substantially in the next few years.

7. Italian consumption of potash fertilizer is well below the average for all OEEC countries - 3 kg. compared with 20 kg. per ha. of agricultural land (excluding rough grazings) in 1955-1956. This is not true in the case of other fertilizers; Italian consumption of nitrogen and phosphate is at about the average OEEC level. The ratio $N:P_2O_5 : K_2O$, which measures the relative consumption of the three basic fertilizers was 1:1.7:0.2 in Italy in 1955-1956, compared with 1:1.3 : 1.2 in all OEEC countries. In other words, while the average OEEC farmer used more potash than nitrogen and only slightly less potash than phosphate, the Italian farmer used only about one-fifth as much potash as nitrogen and one-eighth as much potash as phosphate.

8. In the last few years, however, Italian consumption of potash has increased much more markedly than consumption of other fertilizers, although that, too, has been rising sharply. Between 1950-1951 and 1955-1956, Italian consumption of potash increased by almost 20% a year (from 24,000 to 57,000 tons) compared with increases of 10.5% and 6.5% per year respectively in the consumption of nitrogen and phosphates. In the last two years, the annual increases in potash consumption were above the six-year average, while those in nitrogen and phosphate consumption were below the longer period averages.

9. The particularly rapid rise in Italian potash consumption is attributable in part to a change in the views of agronomists as to the potash requirements of Italian soils. Until very recently, it was generally believed that the potash content of Italian soils (total, fixed, and soluble) was, with minor exceptions, in excess of requirements. Recent tests have shown, however, that on a large proportion of Italian soils, an increased application of potash results in an increase in the volume and an improvement in the quality of crop output. Even agronomists who still believe that the total potash content of most Italian soils is in excess of requirements concede that soluble content may fall short of needs, particularly as the application of nitrogen and phosphate increases. One distinguished Italian agronomist, Prof. Dr. E. Bottini of the Istituto de Sperimentazione per la Chimica Agraria di Torino believes that some 6 million ha. of Italian land, or almost half the cultivated area, would benefit from an increased application of potash, and that Italian potash consumption may be expected to increase to a parity with nitrogen and phosphate consumption, as in other OEEC countries. That would mean an increase in potash consumption from 20% to 120% of nitrogen consumption, or a sixfold increase even at present nitrogen consumption rates.

10. The demand for potash will be stimulated by the addition by 1965 of some 700,000 ha. of irrigated land to the present total of 2.17 million ha. It will be actively promoted by Montecatini and Edison, Italy's two leading chemical producers, who are behind the three fertilizer projects, as well as by several Italian government agencies who are already engaged in intensive research work and promotional activities in preparation for the marketing of the new products. It does not seem improbable, therefore, to assume that,

although Italian potash consumption will not increase sixfold in a short time, it will continue to rise at a rate approaching that of the last few years, say 15% a year. Estimates for the next few years, based on that assumption are shown below together with figures for actual consumption since 1950-1951:

Actual and Estimated Potash Consumption in Italy
(in thousand metric tons of K_2O)

	Actual		Estimated
1950-1951	24	1956-1957	66
1951-1952	26	1957-1958	76
1952-1953	35	1958-1959	87
1953-1954	38	1959-1960	100
1954-1955	47	1960-1961	115
1955-1956	57	1961-1962	132
		1962-1963	152

11. These estimates suggest by 1962-1963, Italian potash consumption will reach 150,000 tons (K_2O) or some 25,000 tons in excess of the planned production at that time of the three projects now being undertaken. Some part of this demand may continue to be met, however, by imports. The Italian producers believe that a reduction in the domestic price of potassium sulphate will increase its share in total consumption from the present figure of a little over 20% to as much as 50%, or roughly 75,000 tons in 1962-1963. They point to the fact that recent experiments have shown that potassium sulphate yields better results in the case of such important Italian crops as rice and sugar beets, where potassium chloride has been preferred, as well as tobacco, where potassium sulphate is already being used. In addition, they expect to dispose of substantial amounts of potash in complex fertilizers. On these assumptions, they expect to dispose of something approaching 100,000 tons on the Italian market.

Export Market

12. Even should these expectations prove over-optimistic, the disposition abroad of any surplus over domestic needs seems unlikely to present any difficulty. The German and French producers have indicated an interest in marketing in Europe of Italian potassium sulphate. In the Mediterranean area, Italian potash would have advantages over comparable German and French products in transportation costs as well as production costs. It would face only limited competition from Israeli potash which is sold exclusively as potassium chloride. Montecatini and the Franco-German group that is participating in TRINACRIA have well-established export organizations with worldwide connections.

Conclusions

13. It appears therefore that the prospects for marketing the estimated 125,000 tons (K_2O) of potash fertilizer to be produced in 1962-1963 by the three Italian potash fertilizer projects included in the Bank loan are excellent.

C O N E

Financial Forecasts
(million lire)

Year Ended December 31	Construction 1957	Construction 1958	Operation 1959	Operation 1960	Operation 1961	Operation 1962
I. Earnings Estimates						
Production (% of capacity)						
Refrigerators		30%	52%	71%	90%	92%
Heaters		50%	60%	70%	80%	90%
Operating costs	1,162	1,585 1/	2,403	3,131	3,801	3,912
Interest - IBRD 1/	-	(25) 1/	49	48	45	40
- Other	3	6	5	5	4	4
Depreciation	9	12	35	45	80	80
Taxes	2	1	2	3	3	5
Total Costs	1,176	1,604	2,494	3,232	3,933	4,041
Net Sales	1,186	1,645	2,504	3,250	3,978	4,110
Net Income after Taxes	10	41	10	18	45	69
Net Income (% of share capital and shareholders' advances)	0.8	2.8	0.6	1.1	2.8	4.3
II. Sources and Applications of Funds						
Net Income before Interest	13	47	64	71	94	113
Depreciation accruals	9	12	35	45	80	80
Share Capital	150	-	-	(150) 2/	-	-
Shareholders' Advances	309	183	133	(-150) 2/	-	-
IBRD Loan	-	700	-	-	-	-
Other long-term debt	70	-	-	-	-	-
Total Sources	551	942	232	116	174	193
Plant and Equipment	530	425				
Interest during construction	-	25				
Total Fixed Assets	530	450				
Net Current Assets	-	460	140	-	-	-
IBRD debt service 3/	-	-	49	98	98	98
Other long-term debt service	11	16	16	16	16	16
"Additional Assets"	10	16	27	2	60	79
Total Applications	551	942	232	116	174	193

1/ Interest during construction capitalized.
2/ Capitalization of Lit. 150 million shareholders' advances.
3/ Assumed loan Lit. 0.7 billion at 7% for 12 years including 2 years' grace period.

C O N E

Financial Forecasts
(million lire)

	Construction			Operation			
	1956 (actual)	1957	1958	1959	1960	1961	1962
III. Balance Sheets (as at December 31)							
Fixed Assets	241	771	1,221	1,221	1,221	1,221	1,221
Less Depreciation	26	35	47	82	127	207	287
Net Fixed Assets	215	736	1,174	1,139	1,094	1,014	934
Current Assets	861	1,107	1,617	1,929	2,182	2,182	2,182
"Additional Assets"	-	10	26	53	55	115	194
Total Assets	1,076	1,853	2,817	3,121	3,331	3,311	3,310
Current Liabilities	157	403	453	625	878	873	878
Share Capital	150	300	300	300	450	450	450
Shareholders' Advances	694	1,003	1,186	1,319	1,169	1,169	1,169
Surplus	17	27	68	78	96	141	210
IBRD Loan	-	-	700	700	650	597	539
Other long-term debt	58 4/	120 5/	110	99	88	76	64
Total Liabilities and Equity	1,076	1,853	2,817	3,121	3,331	3,311	3,310

4/ Outstanding balance of loan from the Banco di Napoli at 5% repayable by June 30, 1962.

5/ Includes in addition to the Banco di Napoli loan, a Lit. 70 million loan from ISVEIMER at 5.5% for a 10-year period ending June 30, 1967.

COMPAGNIA NAPOLETANA APPARECCHI ELETTRICI

November 29, 1957

International Bank for Reconstruction
and Development
1818 H Street N.W.
Washington, D.C.

Gentlemen:

(1) This will confirm certain understandings which have been reached during recent discussions between representatives of the International Bank for Reconstruction and Development (hereinafter referred to as the Bank), the Cassa per Opere Straordinarie di Pubblico Interesse nell'Italia Meridionale (the Cassa), Istituto per lo Sviluppo Economico dell'Italia Meridionale (ISVEIMER) and Compagnia Napoletana Apparecchi Elettrici (the Company).

(2) You have informed us that the Bank is considering a loan to the Cassa and that part of that loan will be specifically allocated for loans for various industrial undertakings in the area of the Cassa's competence.

(3) We have proposed that there should be financed out of the proceeds of the loan our project for modernization and expansion of the Company's production facilities to a total capacity of 50,000 refrigerators and 30,000 water heaters per year. We have informed you that the pro forma balance sheet of the Company, on completion of the project, would be as follows:

Assets		Liabilities	
Fixed Assets	Lit. 1,221,000,000	Capital	Lit. 300,000,000
Less Depreciation	47,000,000	Surplus	68,000,000
Net Fixed Assets	1,174,000,000	Shareholders' Advances	1,186,000,000
Net Current Assets	1,164,000,000	IBRD Loan	700,000,000
"Additional Assets"	26,000,000	Other long-term loan	110,000,000
	Lit. 2,364,000,000		Lit. 2,364,000,000

(4) It is understood that the amounts shown as surplus and additional assets may be reduced by the amounts of dividends paid during the interim period subject to the restrictions of this letter.

(5) The cost of the project should be considered as Lit. 980,000,000 for additional fixed assets and Lit. 600,000,000 for net current assets. We have explained that during the first year following completion of the project the net current assets requirement will be increased to Lit. 1,304,000,000. The increase of Lit. 140,000,000 will be provided from earnings and depreciation accruals during the year and through additional shareholders' advances.

(6) We have been informed that if the proposed loan should be made, it will be made to the Company by ISVEIMER, to which the Cassa would lend a portion of the Bank's loan for the purpose. You have said that before you could approve favorable consideration by the Cassa or ISVEIMER of the proposed loan you would require certain undertakings from the Company with respect to the treatment of shareholders' advances and working capital.

(7) The assurances and undertaking which you have requested, to be effective while any part of the loan to the Company will be outstanding, are that valid arrangements will be made, under which:

A. Except as the Bank, the Cassa and ISVEIMER shall otherwise agree, the share capital of the Company shall be at least Lit. 300,000,000 paid in as required, and shareholders' advances, twelve months after completion of the project will total at least the difference between Lit. 1,619,000,000 and the paid in share capital;

B. If the completion of the project or its successful operation is hindered or delayed or is threatened with hindrance or delay because the funds available are inadequate to ensure its completion and the provision of the necessary working capital, prompt arrangements shall be made in accordance with a financial plan approved by ISVEIMER and the Cassa to provide the necessary funds as and when they are required;

C. Shareholders' advances already made and any new funds provided under subparagraphs A or B in the form of shareholders' advances:

I. Shall not be withdrawn;

II. Shall in all respects be subordinated to all debts of the Company; and

III. Interest or any other remuneration shall be payable and paid thereon only out of net profits and only to the extent that dividends would be payable thereon if such shareholders' advances had originally been paid in as share capital;

D. The undersigned will not, without approval of the Cassa and ISVEIMER, pay dividends or make any other payments to shareholders, or adopt any policy if such payments or policy will result in or envisage:

I. The ratio of current assets to current liabilities being less, at any time, than 2:1;

II. The excess of current assets over current liabilities being less, at any time after the end of the first twelve months following completion of the project, than Lit. 1,300,000,000.

(8) For the purpose of this letter "current assets" shall be considered as cash and assets readily convertible to cash and all other assets which would, within one year in the ordinary course of the Company's business be converted into cash or assets readily convertible into cash; and "current liabilities" shall be considered as liabilities due and payable and all other liabilities which would be payable or could be called for payment within one year.

(9) The undersigned hereby gives you the assurances and undertakings set forth in paragraph 7 above to be effective on the condition that you make a loan to the Cassa and that from the proceeds thereof ISVEIMER agrees to make a loan to the Company for the above mentioned purpose in the approximate amount of Lit. 700,000,000.

(10) It is understood that the terms and conditions of any such loan will be set forth in an agreement to be negotiated and entered into between the undersigned and ISVEIMER and that the substance of the assurances and undertakings given in this letter will be incorporated therein.

Yours truly,

C O N E

Compagnia Napoletana Apparecchi Elettrici
Il Consigliare Delegato

C O N E

Summary Balance Sheets
(million lire)

As at December 31	1952	1953	1954	1955	1956
ASSETS					
Cash	4	1	1	7	11
Receivables	-	-	-	2	205
Inventories	60	139	269	421	610
Other Current Assets	2	8	26	91	35
Total Current Assets	66	148	296	521	861
Fixed Assets	120	143	177	210	241
Less Depreciation	-	4	10	17	26
Net Fixed Assets	120	139	167	193	215
Other Assets	2	1	-	-	-
Total Assets	188	288	463	714	1,076
LIABILITIES AND EQUITY					
Creditors	8	27	46	54	57
Other Current Liabilities	13	32	114	36	100
Total Current Liabilities	21	59	160	90	157
Retirement Reserve	-	1	2	4	6
Long-term loans:					
Bank of Naples	55	55	76	67	58
Shareholders' Account	62	122	172	396	694
Capital	50	50	50	150	150
Surplus and Reserves	-	1	3	7	11
Total Liabilities & Equity	188	288	463	714	1,076
Current Assets/Current Liabilities	3.1	2.5	1.8	5.8	5.5
Debt/Equity	33/67	24/76	25/75	11/89	6/94

C O N E

Summary Income Statement
(million lire)

Year ended December 31	1952	1953	1954	1955	1956
Sales	43	148	289	767	1,186
Other Income	1	1	-	1	1
Total Income	44	149	289	768	1,187
Expenditures					
Operating Cost	32	113	219	631	1,107
Depreciation	-	4	5	7	9
Administration Expense and Financial Charges	13	30	60	123	59
Taxes	-	1	1	1	2
Total Expenditures	45	148	285	762	1,177
Net Profit (Loss)	(1)	1	4	6	10
Dividends Paid	-	-	3	6	9
Net Profit % of Equity		0.6	1.8	1.1	1.2
Net Profit % of Share Capital		2.0	8.0	4.0	6.7
Net Profit % of Sales		0.7	1.4	0.8	0.8

C O N E

SALES OF REFRIGERATORS AND WATER HEATERS IN ITALY FROM 1953 TO 1956
(in thousands)

Year	Refrigerators			Water Heaters		
	Total Number	Increase Number	% of Increase	Total Number	Increase Number	% of Increase
1953	60	-	-	120	-	-
1954	100	40	67	145	25	21
1955	140	40	40	170	25	17
1956	200	60	43	200	30	18

ESTIMATED SALES OF REFRIGERATORS AND WATER HEATERS IN ITALY FROM 1957 TO 1961

1957	230	30	15	220	20	10
1958	265	35	15	245	25	11
1959	305	40	15	270	25	10
1960	350	45	15	297	27	10
1961	400	50	15	327	30	10
1962	460	60	15	360	33	10

COMPAGNIA GENERALE DI ELETTRICITA

Balance Sheets
(billion lire)

As at December 31	1952	1953	1954	1955	1956
ASSETS					
Current Assets					
Cash	-	0.4	0.2	0.2	0.3
Receivables	4.1	5.4	5.1	6.3	6.4
Debtors and Advances	2.9	2.1	2.6	2.8	3.1
Inventories	5.0	5.7	6.5	5.9	6.7
Other	0.5	1.2	1.6	1.7	2.2
Total	12.5	14.8	16.0	16.9	18.7
Fixed Assets	5.3	5.4	5.6	5.8	6.2
Less Depreciation	2.5	2.6	2.8	2.9	3.1
Net Fixed Assets	2.8	2.8	2.8	2.9	3.1
Other Assets	0.2	0.9	0.4	0.4	0.4
Total Assets	15.5	18.5	19.2	20.2	22.2
LIABILITIES AND EQUITY					
Banks and Maturing Debt	0.7	-	0.2	2.0	1.8
Creditors	6.8	5.0	5.0	3.7	5.2
Provisions	1.0	1.2	1.3	2.1	2.4
Other	0.8	0.9	1.1	1.0	1.4
Total Current Liabilities	9.3	7.1	7.6	8.8	10.8
Long-term debt	2.3	2.0	2.0	1.4	1.3
Capital	1.5	3.0	3.0	4.0	4.0
Earned Surplus	0.4	0.5	0.5	0.5	0.5
Revaluation Reserve	0.9	1.0	0.9	0.3	0.3
Reserves	1.1	4.9	5.2	5.2	5.3
Total Equity	3.9	9.4	9.6	10.0	10.1
Total Liabilities and Equity	15.5	18.5	19.2	20.2	22.2
Current Assets/Current Liabilities	1.35	2.1	2.1	1.9	1.73
Debt/Equity	37/63	18/82	17/83	12/88	11/89

COMPAGNIA GENERALE DI ELETTRICITA

Income Statements
(billion lire)

Year ended December 31	1952	1953	1954	1955	1956
Sales	10.45	12.66	12.47	11.07	11.31
Other Income	0.41	0.39	0.67	0.86	0.52
Total Income	10.86	13.05	13.14	11.93	11.83
Expenditures	10.51	12.60	12.74	11.54	11.43
Net Profit	0.35	0.45	0.40	0.39	0.40
Dividends Paid	-	0.36	0.36	0.32	0.32
Net Profit % of Equity	8.9	4.8	4.2	3.8	3.9
Net Profit % of Share Capital	23.0	15.0	13.5	9.6	10.0
Net Profit % of Sales	3.3	3.5	3.2	3.5	3.6

C. M. I.

Financial Forecasts
(million lire)

Year ended October 31	Construction Operation of Existing Plant[1] 1958	1959	Operation all Facilities 1960	1961	1962
I. Earnings Estimate (Production of Project - %)			50	75	100
Operating Costs:					
Project	-	-	1,630	2,460	3,270
Other Facilities	10,480	10,480	9,300	8,980	8,650
Interest:					
IBRD (capitalized)	(15)	(35)	42	40	38
Other long-term debt	100	100	90	90	80
Depreciation:					
Project	-	-	70	100	100
Other Facilities	500	500	500	500	500
Operating Reserves	40	40	40	50	60
Taxes	30	30	37	40	42
Total Costs	11,150	11,150	11,709	12,260	12,770
Net Sales:					
Project	-	-	1,770	2,650	3,540
Other Facilities	11,270	11,270	10,059	9,740	9,405
Total Net Sales	11,270	11,270	11,829	12,390	12,945
Net Profit	120	120	120	130	175
II. Sources and Applications of Funds					
Net Income before interest	220	220	252	260	293
Depreciation Accruals	500	500	570	600	600
Net Increase in Operational Reserves	40	40	40	50	90
IBRD Loan	200	400	-	-	-
Total Sources	960	1,160	862	910	983
Fixed Assets (Project)	500	490			
Interest during Construction	15	35			
Total Fixed Assets	515	525			
Net Current Assets	-	200	450	-	150
Debt Service:					
IBRD Loan[2]	-	-	42	85	85
Other long-term debt	225	225	225	225	215
"Additional Assets"	220	210	145	600	533
Total Applications	960	1,160	862	910	983

C. M. I.

(million lire)

	Construction, Operation of Existing Plant			Operation all facilities		
	1957 (prel.)	1958	1959	1960	1961	1962
III. Balance Sheets (as at October 31)						
Fixed Assets:						
Project	-	515	1,040	1,040	1,040	1,040
Existing Plant	4,980	4,980	4,980	4,980	4,980	4,980
Less Depreciation	2,270	2,770	3,270	3,840	4,440	5,040
Net Fixed Assets	2,710	2,725	2,750	2,180	1,580	980
Current Assets	3,310	3,310	3,510	4,100	4,100	4,460
"Additional Assets"	-	220	430	575	1,175	1,708
Total Assets	6,020	6,255	6,690	6,855	6,855	7,148
Current Liabilities	2,280	2,280	2,280	2,420	2,420	2,630
Share Capital	1,000	1,000	1,000	1,000	1,000	1,000
Surplus & Reserves	1,179	1,339	1,499	1,659	1,839	2,104
IBRD loan	-	200	600	600	555	508
Other long-term debt 3/	1,561	1,436	1,311	1,176	1,041	906
Total Liabilities & Equity	6,020	6,255	6,690	6,855	6,855	7,148

1/ Based on 1957 operation after some adjustments in output and sales to account for the closing down of the Company's obsolete hot rolling mill.

2/ Assuming loan of Lit. 600 million at 7% for 10 years plus 3 year grace period.

3/ Outstanding at November 2, 1957:
Lit. 1,134 million loans from IMI, at 5½%, maturing 1959/1968,
Lit. 119 million from Banco di Napoli, at 7¼%-7½%, maturing 1960/1964, and
Lit. 294 million debentures, at 6%-6½% maturing 1971/1974.

CANTIERI METALLURGICI ITALIANI

December 7, 1957

International Bank for Reconstruction
and Development
1818 H Street N.W.
Washington 25, D.C.

Gentlemen:

(1) This will confirm certain understandings which have been reached during recent discussions between representatives of the International Bank for Reconstruction and Development (hereinafter referred to as the Bank), the Cassa per Opere Straordinarie di Pubblico Interesse nell'Italia Meridionale (the Cassa), the Istituto per lo Sviluppo Economico dell'Italia Meridionale (ISVEIMER), and Cantieri Metallurgici Italiani S.p.A. (the Company).

(2) You have informed us that the Bank is considering a loan to the Cassa and that part of that loan will be specifically allocated for loans for various industrial undertakings in the area of the Cassa's competence.

(3) We have proposed that there should be financed out of the proceeds of the loan our project to install and operate at our plant in Naples an electrolytic tinning line of a capacity of 24,000 tons per year tinplate of international standard types. We have informed you that the pro forma balance sheet of the Company, on completion of the project, would be as follows:

Assets		Liabilities	
Project	Lit.1,040,000,000	Share capital	Lit.1,000,000,000
Other Fixed Assets (net)	1,710,000,000	Surplus and reserves	1,499,000,000
Total fixed assets	2,750,000,000	IBRD Loan	600,000,000
Net current assets	1,230,000,000	Other long-term debts	1,311,000,000
"Additional assets"	430,000,000		
	Lit.4,410,000,000		Lit.4,410,000,000

It is understood that the amounts shown as surplus and additional assets may be reduced by the amount of dividends paid during the interim period subject to the restrictions of this letter.

(4) The cost of the project should be considered as Lit. 1,040,000,000 for fixed assets and Lit. 800,000,000 for additional net current assets. We have explained to you that during the first three years of operation, the net current assets requirements will be increased to an estimated Lit. 1,830,000,000. The increase in net current assets from Lit. 1,230,000,000

to Lit. 1,830,000,000 will be provided from any one or the combination of any of the following sources: retained earnings, depreciation accruals, share capital or shareholders' advances.

(5) We have been informed that if the proposed loan should be made, it would be made to the Company by ISVEIMER, to which the Cassa would lend a portion of the Bank's loan for the purpose. You have said that before you could approve favorable consideration by the Cassa or ISVEIMER of the proposed loan you would require certain undertakings from the Company with respect to share capital, working capital and shareholders' advances.

(6) The assurances and undertakings which you have requested, to be effective while any part of the loan to the Company will be outstanding, are that valid arrangements will be made, under which:

A. If the completion of the project or its successful operation is hindered or delayed or is threatened with hindrance or delay because the funds available are inadequate to ensure its completion and the provision of the necessary working capital, prompt arrangements shall be made in accordance with a financial plan approved by ISVEIMER and Cassa to provide the necessary funds from share capital or shareholders' advances, as and when required;

B. Shareholders' advances provided under subparagraph A:

I. Shall not be withdrawn;

II. Shall in all respects be subordinated to all debts of the Company; and

III. Interest or any other remuneration shall be payable and paid thereon only out of net profits and only to the extent that dividends would be payable thereon if such shareholders' advances had originally been paid in as share capital;

C. The undersigned will not, without approval of the Cassa and ISVEIMER, pay dividends or make other payments to shareholders or adopt any policy if such payments or policy will result in or envisage:

I. The ratio of current assets to current liabilities being less, at any time after completion of construction of the project, than 1.5:1; or

II. The excess of current assets over current liabilities being less than:

a) Lit. 1,230,000,000 on completion of construction of the project;

b) Lit. 1,680,000,000 at the end of the first year of operation of the project and at any time during the second year of operation of the project; and

c) Lit. 1,830,000,000 at any time thereafter.

(7) For the purpose of this letter "current assets" shall be considered as cash and assets readily convertible to cash and all other assets which would, within one year in the ordinary course of the Company's business be converted into cash or assets readily convertible into cash; and "current liabilities" shall be considered as liabilities due and payable and all other liabilities which would be payable or could be called for payment within one year.

(8) The undersigned hereby gives you the assurances and undertakings set forth in paragraph (6) above to be effective on the condition that you make a loan to the Cassa and that from the proceeds thereof ISVEIMER agrees to make a loan to the Company for the above mentioned purpose in the approximate amount of Lit. 600,000,000.

(9) It is understood that the terms and conditions of any such loan will be set forth in an agreement to be negotiated and entered into between the undersigned and ISVEIMER and that the substance of the assurances and undertakings given in this letter will be incorporated therein.

Yours truly,

CANTIERI METALLURGICI ITALIANI
Il Directtore Generale

C. M. I.

Summary Balance Sheets
(million lire)

As at October 31	1953	1954	1955	1956	1957 (prel.)
ASSETS					
Current Assets:					
Cash	1	3	2	4	
Receivables	717	939	731	1,114	
Inventories	893	985	2,236	2,028	
Other	-	12	23	78	
Total Current Assets	1,611	1,939	2,992	3,224	3,310
Fixed Assets	3,721	3,985	4,223	4,583	4,980
Less Depreciation	1,177	1,432	1,699	1,970	2,270
Net Fixed Assets	2,544	2,553	2,524	2,613	2,710
Total Assets	4,155	4,492	5,516	5,837	6,020
LIABILITIES & EQUITY					
Current Liabilities:					
Creditors	846	939	2,050	2,228	
Long-term debt maturing within fiscal year	211	222	281	297	
Other	228	-	-	-	
Total Current Liabilities	1,285	1,161	2,331	2,525	2,280
Retirement Reserve and other Provisions	179	199	217	237	245
Long-term debt	1,688	1,954	1,775	1,695	1,561
Equity:					
Share Capital	375	375	375	900	1,000
Revaluation Reserve	287	287	287	-	-
Reserves	338	461	464	380	814
Net Profit for year	3	55	67	100	120
Total Equity	1,003	1,178	1,193	1,380	1,934
Total Liabilities and Equity	4,155	4,492	5,516	5,837	6,020
Current Assets/Current Liabilities	1.3	1.7	1.3	1.4	1.4
Debt/Equity	63/37	62/38	60/40	55/45	45/55

C. M. I.

Summary Income Statements
(million lire)

Year ended October 31	1953	1954	1955	1956	1957 (prel.)
Sales	4,925	7,581	9,255	10,785	12,498
Other Income	1	1	2	2	2
Total Income	4,926	7,582	9,257	10,787	12,500
Expenditures:					
Operating expenditures	4,464	6,865	8,607	10,039	11,950
Depreciation	122	256	267	271	300
Interest	144	165	127	151	100
Other	193	242	189	176	30 1/
Total Expenditures	4,923	7,528	9,190	10,687	12,380
Net Profit	3	54	67	100	120
Dividends Paid	30 2/	45	56	82	n.a.
Net Profit as % of Equity		4.6	5.6	7.2	6.3
Net Profit as % of Share Capital		14.4	17.8	11.1	12.0
Net Profit as % of Total Income		0.7	0.7	0.9	1.0

1/ Tax only.
2/ Partially covered by transfer to surplus of part of Revaluation Reserve.

ACCIAIERIE e FERRIERE LOMBARDI FALCK, MILAN
(Parent Company of C.M.I.)

Balance Sheets
(billion lire)

As at December 31	1953	1954	1955	1956
ASSETS				
Cash and banks	0.1	0.2	0.2	0.5
Receivables	4.0	5.3	5.7	7.6
Inventories	4.7	4.5	7.0	8.4
Other current assets	3.6	3.6	4.6	3.9
Total Current Assets	12.4	13.6	17.5	20.4
Fixed assets	57.7	61.9	65.8	70.2
Less Depreciation	35.7	37.3	39.6	43.1
Fixed Assets net	22.0	24.6	26.2	27.1
Participations	1.7	1.9	2.0	2.3
Total Assets	36.1	40.1	45.7	49.8
LIABILITIES AND EQUITY				
Bank loans	2.1	4.3	3.6	3.5
Creditors	2.8	3.3	4.5	5.0
Other current liabilities	2.1	3.0	2.7	3.2
Total current liabilities	7.0	10.6	10.8	11.7
Retirement Reserve and other Provisions	3.3	3.6	3.7	4.0
Long-term debt	7.9	7.6	12.4	13.8
Share Capital	7.8	7.8	7.8	12.0
Reserves	1.7	2.0	2.3	3.2
Revaluation reserve	7.8	7.8	7.8	4.1
Surplus	0.6	0.7	0.9	1.0
Total Equity	17.9	18.3	18.8	20.3
Total Liabilities and Equity	36.1	40.1	45.7	49.8
Current Assets/Current Liabilities	1.8	1.3	1.6	1.7
Debt/Equity	30/70	29/71	40/60	40/60

ACCIAIERIE e FERRIERE LOMBARDI FALCK, MILAN
(Parent Company of C.M.I.)

Income Statements
(billion lire)

Year ended December 31	1953	1954	1955	1956
Gross Operating Income	5.8	6.4	7.7	9.8
Expenditures:				
Depreciation	1.7	1.7	2.3	3.5
Administration and other expenditures	2.9	3.4	4.0	4.7
Taxes and dues	0.6	0.6	0.5	0.6
Total Expenditures	5.2	5.7	6.8	8.8
Net Profit	0.6	0.7	0.9	1.0
Dividends Paid	0.7	0.4	0.8	0.9
Net Profit as % of Equity	3.3	3.8	4.8	4.9
Net Profit as % of Share Capital	7.7	9.0	11.5	8.3

Marzotto Sud S.p.A.

Financial Forecasts
(million lire)

Year ended December 31	Construction 1957	1958	Mar.31 1959 (Date of Completion)	Operation 1959	1960	1961	1962
I. Earnings Estimate							
Production (% of Capacity)				50	80	90	100
Operating costs[1]				2,414	3,900	4,357	4,720
Interest IBRD loan[2]				91	91	84	77
Depreciation				110	163	163	163
Taxes				10	10	10	10
Total Costs				2,625	4,164	4,614	4,970
Net Sales				2,625	4.200	4.725	5,250
Net Income after Taxes				-	36	111	280
Net Income % of share capital and shareholders' advances					1.8	4.6	11.7
II. Sources and Applications of Funds							
Net Income before Interest	-	-	-	91	127	195	357
Depreciation Accruals	-	-	-	110	163	163	163
Share Capital	-	400	550	-	150	400	-
Shareholders' Advances	400	125	50	125	200	-	-
IBRD loan	-	1,100	200	-	-	-	-
Total Sources	400	1,625	800	326	640	758	520
Fixed Assets	400	994	200	-	-	-	-
Interest and financial charges	-	31	-	-	-	-	-
Total Fixed Assets	400	1,025	200				
Net Current Assets	-	600	600	200	300	400	-
IBRD debt service[2]	-	-	-	91	185	185	185
"Additional Assets"	-	-	-	35	155	173	335
Total Applications	400	1,625	800	326	640	758	520

1/ Company's estimates of rate of output in 1959 reduced about 30% and estimated operating costs in 1960 and 1961 increased 2%, to provide for lower productivity and higher costs during early years of operation.

2/ Assuming loan of Lit. 1.3 billion at 7% for 12 years including 2 year grace period.

Marzotto Sud S.p.A.

Financial Forecasts
(million lire)

	Construction			Operation			
	1957	1958	Mar.31 1959 (Date of Completion)	1959	1960	1961	1962
III. Balance Sheets (as at December 31)							
Fixed Assets	400	1,425	1,625	1,625	1,625	1,625	1,625
Less Depreciation	-	-	-	110	273	436	599
Net Fixed Assets	400	1,425	1,625	1,515	1,352	1,189	1,026
Current Assets	-	1,200	2,400	2,800	3,400	3,800	3,800
"Additional Assets"	-	-	-	35	190	363	698
Total Assets	400	2,625	4,025	4,350	4,942	5,352	5,524
Current Liabilities	-	600	1,200	1,400	1,700	1,700	1,700
Share Capital	-	400	950	950	1,100	1,500	1,500
Shareholders' Advances	400	525	575	700	900	900	900
Surplus	-	-	-	-	36	147	427
IBRD loan	-	1,100	1,300	1,300	1,206	1,105	997
Total Liabilities and Equity	400	2,625	4,025	4,350	4,942	5,352	5,524

MARZOTTO SUD S.p.A.

December 6, 1957

International Bank for Reconstruction
and Development
1818 H Street N.W.
Washington, D.C.

Gentlemen:

(1) This will confirm certain understandings reached during recent discussions between representatives of the International Bank for Reconstruction and Development (hereinafter referred to as the Bank), the Cassa per Opere Straordinarie di Pubblico Interesse nell'Italia Meridionale (the Cassa), Istituto per lo Sviluppo Economico dell'Italia Meridionale (ISVEIMER) and Marzotto Sud S.p.A. (the Company).

(2) You have informed us that the Bank is considering a loan to the Cassa and that part of that loan will be specifically allocated for loans for various industrial undertakings in the area of the Cassa's competence.

(3) We have proposed that there should be financed out of the proceeds of the loan our project to construct and operate in Salerno a plant for the manufacture of ready-made clothing, with a normal capacity of about 290,000 units per year when operating on a one-shift basis (a unit consisting of jacket and trousers, or overcoat, or three trousers). We have informed you that the pro forma balance sheet of the Company, after completion of construction would be as follows:

Fixed Assets	Lit. 1,625,000,000	Share Capital	Lit. 950,000,000
		Shareholders'	
Net Current		Advances	575,000,000
Assets	1,200,000,000	IBRD Loan	1,300,000,000
	Lit. 2,825,000,000		Lit. 2,825,000,000

(4) The cost of the project should be considered as Lit. 1,625,000,000 for fixed assets and Lit. 2,100,000,000 for net current assets. We have explained that by the end of the third year of operation of the project, the net current assets requirements will have increased to an estimated Lit. 2,100,000,000. The increase in net current assets from Lit. 1,200,000,000 on project completion to Lit. 2,100,000,000 by the end of third operating year will be provided from any one or a combination of any of the following sources: additional share capital, shareholders' advances, retained earnings or depreciation accruals.

(5) We have been informed that if the proposed loan should be made, it would be made to the Company by ISVEIMER, to which the Cassa would lend a portion of the Bank's loan for the purpose. You have said that before you could approve favorable consideration by the Cassa or ISVEIMER of the proposed loan you would require certain undertakings from the Company with respect to share capital, working capital and shareholders' advances.

(6) The assurances and undertakings which you have requested, to be effective while any part of the loan to the Company will be outstanding, are that valid arrangements will be made, under which:

A. Except as the Bank, the Cassa and ISVEIMER shall otherwise agree:

I. On completion of the project the share capital of the Company shall be at least Lit. 950,000,000 paid in as required, and shareholders' advances shall total at least the difference between Lit. 1,525,000,000 and paid in share capital;

II. During the second year of operation of the project the share capital of the Company shall be increased to at least Lit. 1,100,000,000 paid in as required and shareholders' advances shall be increased to at least the difference between Lit. 2,000,000,000 and paid in share capital; and

III. During the third year of operation of the project, the share capital of the Company shall be increased to at least Lit. 1,500,000,000 paid in as required, and shareholders' advances shall be at least the difference between Lit. 2,400,000,000 and paid in share capital.

B. If the completion of the project or its successful operation is hindered or delayed or is threatened with hindrance or delay because the funds available are inadequate to ensure its completion and the provision of the necessary working capital, prompt arrangements shall be made in accordance with a financial plan approved by ISVEIMER and the Cassa to provide the necessary funds as and when they are required;

C. Shareholders' advances provided under subparagraphs A or B:

I. Shall not be withdrawn;

II. Shall in all respects be subordinated to all debts of the Company; and

III. Interest or any other remuneration shall be payable and paid thereon only out of net profits and only to the extent that dividends would be payable thereon if such shareholders' advances had originally been paid in as share capital;

D. The undersigned will not, without approval of the Cassa and ISVEIMER, pay dividends or make any other payments to shareholders or adopt any policy if such payments or policy will result in or envisage:

I. The ratio of current assets to current liabilities being less, at any time than 2:1; or

II. The excess of current assets over current liabilities being less than:

a) Lit. 1,200,000,000 on completion of construction;
b) Lit. 1,400,000,000 at the end of the first operating year;
c) Lit. 1,700,000,000 at the end of the second operating year; and
d) Lit. 2,100,000,000 at any time after the end of the third operating year.

(7) For the purpose of this letter "current assets" shall be considered as cash and assets readily convertible to cash and all other assets which would, within one year in the ordinary course of the Company's business be converted into cash or assets readily convertible into cash; and "current liabilities" shall be considered as liabilities due and payable and all other liabilities which would be payable or could be called for payment within one year.

(8) The undersigned hereby gives you the assurances and undertakings set forth in paragraph (6) above to be effective on the condition that you make a loan to the Cassa and that from the proceeds thereof ISVEIMER agrees to make a loan to the Company for the above mentioned purpose in the approximate amount of Lit. 1,300,000,000.

(9) It is understood that the terms and conditions of any such loan will be set forth in an agreement to be negotiated and entered into between the undersigned and ISVEIMER and that the substance of the assurances and undertakings given in this letter will be incorporated therein.

Yours truly,

MARZOTTO SUD S.p.A.
Il Presidente

MANUFACTTURA LANE GAETANO MARZOTTO & FIGLI S.p.A.

Summary Balance Sheets
(million lire)

As at December 31	1953	1954	1955	1956
ASSETS				
Cash	25	17	7	10
Receivables	6,800	6,465	6,041	6,181
Inventories	31,521	29,930	28,350	26,328
Other current assets	107	275	345	378
Total current assets	38,453	36,687	34,743	32,897
Fixed Assets	15,533	17,710	19,233	20,097
Less depreciation	5,544	6,531	7,268	7,516
Fixed Assets net	9,989	11,179	11,965	12,581
Deferred payments	-	540	582	596
Total Assets	48,442	48,406	47,290	46,074
LIABILITIES AND EQUITY				
Banks	13,642	8,578	9,057	7,370
Commercial creditors	2,773	1,515	1,114	1,475
Other current liabilities	4,781	5,284	3,901	4,233
Total current liabilities	21,196	15,377	14,072	13,078
Retirement Reserves	2,452	2,555	2,560	2,543
Long-term debt	11,608	9,448	9,288	9,128
Share Capital	12,000	20,000	20,000	20,000
Surplus and Reserves	1,186	1,026	1,370	1,325
Total equity	13,186	21,026	21,370	21,325
Total Liabilities and Equity	48,442	48,406	47,290	46,074
Current Assets/Current Liabilities	1.8:1	2.4:1	2.5:1	2.5:1
Debt/Equity	47/53	31/69	30/70	30/70

MANUFACTTURA LANE GAETANO MARZOTTO & FIGLI S.p.A.

Summary Income Statements
(million lire)

Year ended December 31	1953	1954	1955	1956
Income				
Net Sales	27,811	27,311	25,363	23,562
Other Operating income	94	8	1,012	5
Total Income	27,905	27,319	26,375	23,567
Expenditures				
Operating costs	22,364	22,697	22,052	19,373
Depreciation	1,063	987	1,011	1,073
Administrative and sales expenses	1,823	1,750	1,610	1,610
Interest	2,257	1,695	1,612	1,380
Taxes	239	79	20	17
Non-operating expenses	34	15	-	-
Total Expenditures	27,780	27,223	26,305	23,453
Net Profit	125	96	70	114
Distribution:				
Special Reserve	12	10	7	11
Executive Bonuses	2	2	2	2
Provisions for Welfare and Social Taxes	111	84	61	101
Net Profit % of Share Capital	1.0	0.5	0.4	0.6
Net Profit % of Sales	0.4	0.4	0.3	0.4

S I N C A T

Yearly Sales

300,000 tons of complex fertilizers of which:

100,000 tons of 8-12-8

200,000 tons of 10-15-10

56,000 tons of ammonium sulphate

60,000 tons of sulphuric acid (as monohydrate)

5,000 tons of perchloroethylene

5,000 tons of caustic soda

S I N C A T

Financial Forecasts
(million lire)

Year ended December 31	Construction 1955/56 (actual)	1957	1958	1959	1960	Operations 1961	1962	1963
I. Earnings Estimate								
Production (% of ultimate capacity)			26.5	33.5	60	80	90	100
Operating costs	-	- 1/	3,682	4,378	7,675	9,457	10,740	11,970
Interest IBRD loans (capitalized)	-	(182) 1/	(340)	(460)	-	-	-	-
	-	-	207	196	729	711	652	588
Depreciation	-	-	200	300	1,645	1,910	1,910	1,910
Taxes	-	(58) 1/	15	15	65	100	100	100
Total Costs			4,104	4,889	10,114	12,178	13,402	14,568
Net Sales			4,104	4,889	10,264	13,338	14,702	16,100
Net Income after Taxes			-	-	150	1,160	1,300	1,532
Net Income as % of share capital and shareholders' advances					1.1	8.8	9.9	11.6
II. Sources and Applications of Funds								
Net Income before interest	-	-	207	196	879	1,871	1,952	2,120
Depreciation accruals	-	-	200	300	1,645	1,910	1,910	1,910
Share capital	201	1,799	3,000	-	-	-	-	-
Shareholders' Advances	1,304	1,496	586	3,333	1,481	-	-	-
IBRD - 1st loan	715	2,585	300	-	-	-	-	-
- 2nd loan	-	-	3,500	3,300	1,200	-	-	-
Total Sources	2,220	5,880	7,793	7,129	5,205	3,781	3,862	4,030
Fixed Assets - 2nd project	-	950	6,060	6,190	2,000	-	-	-
- 1st project	2,220	4,690	350	-	-			
Interest and Financial Charges	-	240	340	460	-			
Total Fixed Assets	2,220	5,880	6,750	6,650	2,000			
Net Current Assets	-	-	700	-	1,100	-	-	-
IBRD Debt service - 1st loan 2/	-	-	343	479	478	478	479	478
- 2nd loan 3/	-	-	-	-	550	1,126	1,126	1,125
"Additional Assets"	-	-	-	-	1,077	2,177	2,257	2,427
Total Applications	2,220	5,880	7,793	7,129	5,205	3,781	3,862	4,030

1/ Including carry-over from 1956.
2/ Loan of Lit. 3.6 billion at 5 3/4% for 13 years, including 3 year grace period.
3/ Assuming loan Lit. 8.0 billion at 7% for 13 years, including 3 year grace period.

S I N C A T

Financial Forecasts
(million lire)

	Construction					Operations		
	1956 (actual)	1957	1958	1959	1960	1961	1962	1963
III. Balance Sheets (as at December 31)								
Fixed Assets	2,220	8,100	14,850	21,500	23,500	23,500	23,500	23,500
Less Depreciation	-	-	200	500	2,145	4,055	5,965	7,875
Net Fixed Assets	2,220	8,100	14,650	21,000	21,355	19,445	17,535	15,625
Current Assets	-	-	1,500	1,500	3,300	3,500	3,500	3,500
"Additional Assets"	-	-	-	-	1,077	3,254	5,511	7,938
Total Assets	2,220	8,100	16,150	22,500	25,732	26,199	26,546	27,063
Current Liabilities	-	-	800	800	1,500	1,700	1,700	1,700
Share Capital	201	2,000	5,000	5,000	5,000	5,000	5,000	5,000
Shareholders' Advances	1,304	2,800	3,386	6,719	8,200	8,200	8,200	8,200
Surplus	-	-	-	-	150	1,310	2,610	4,142
IBRD - 1st loan	715	3,300	3,464	3,181	2,882	2,565	2,229	1,874
- 2nd loan	-	-	3,500	6,800	8,000	7,424	6,807	6,147
Total Liabilities and Equity	2,220	8,100	16,150	22,500	25,732	26,199	26,546	27,063

S I N C A T

Financial Position on Completion of Project

As at December 31, 1960
(million lire)

	1st Project	2nd Project	Total
Fixed Assets	7,500	16,000	23,500
Less Depreciation	1,025	1,120	2,145
Net Fixed Assets	6,475	14,880	21,355
Current Assets	1,500	1,800	3,300
"Additional Assets"	407	670	1,077
Total Assets	8,382	17,350	25,732
Current Liabilities	800	700	1,500
Capital	2,000	3,000	5,000
Shareholders' advances	2,600	5,600	8,200
Surplus	100	50	150
IBRD loans	3,600	8,000	11,600
Less Amortization	718	-	718
Total Outstanding	2,882	8,000	10,882
Total Liabilities	8,382	17,350	25,732

S I N C A T

Societa Industriale Catanese

November 30, 1957

International Bank for Reconstruction
and Development
1818 H Street N.W.
Washington 25, D.C.

Gentlemen:

(1) This letter will confirm certain understandings which have been reached between representatives of the International Bank for Reconstruction and Development (hereinafter referred to as the Bank), the Cassa per Opere Straordinarie di Pubblico Interesse nell'Italia Meridionale (the Cassa), Istituto Regionale per il Finanziamento alle Industrie in Sicilia (IRFIS), and Societa Industriale Catanese S.p.A., SINCAT (the Company).

(2) You have informed us that the Bank is considering a loan to the Cassa and that part of that loan will be specifically allocated for loans for various industrial undertakings in the area of the Cassa's competence.

(3) We have proposed that there should be provided out of the proceeds of the loan, additional financing towards a proposed expansion of our project (hereinafter called the First Project) which under Loan No. 117-IT has received financing in the amount of Lit. 3,600,000,000. The First Project, to construct and operate at Augusta (Priolo), Sicily, a fertilizer plant with a production capacity of 100,000 tons per year of double and triple compound fertilizers, is expected to be completed by the end of 1958. The expansion program (hereinafter called the Second Project) would provide: (a) for the construction and operation at Augusta (Priolo) of (1) additional facilities for the production of 200,000 tons per year of compound fertilizers including a sulfuric acid plant with an annual capacity of 170,000 tons, a nitric acid plant with an annual capacity of 70,000 tons, an anhydrous ammonia plant with an annual capacity of 36,000 tons, and facilities for the production of ammonium sulfate; (2) facilities for the annual production of 5,000 tons of caustic soda and 4,500 tons of chlorine and the manufacture of chlorine derivatives; (b) for the opening and operation of a potash ore mine at Sta. Caterina, Sicily, and erection and operation of a plant at Augusta (Priolo) for the processing of about 130,000 tons annually of potash ore and the manufacture of potassium sulfate and Schoenite. We have informed you that the pro forma balance sheet of the Company on completion of the two projects would be as follows:

SINCAT

Assets		Liabilities	
Fixed Assets:			
1st project	Lit. 7,500,000,000	Capital	Lit. 5,000,000,000
2nd project	16,000,000,000	Shareholders' Advances	8,200,000,000
Less Depreciation	2,145,000,000	Surplus	150,000,000
	21,355,000,000	IBRD Loan No. 117-IT	3,600,000,000
Net Current Assets:		Less Amortization	718,000,000
1st project	700,000,000	Total outstanding	2,882,000,000
2nd project	1,100,000,000	IBRD 2nd loan	8,000,000,000
"Additional Assets"	1,077,000,000		
Total Assets	Lit. 24,232,000,000	Total Liabilities	Lit 24,232,000,000

(4) The cost of the First Project should be considered as L.7,500,000,000 for fixed assets and Lit. 700,000,000 for net current assets. The cost of the Second Project should be considered as Lit. 16,000,000,000 for fixed assets and Lit. 1,100,000,000 for net current assets.

(5) We have been informed that if the proposed loan should be made, it would be made to the Company by IRFIS, to which the Cassa would lend a portion of the Bank's loan for the purpose. You have said that before you could approve favorable consideration by the Cassa or IRFIS of the proposed loan you would require certain undertakings from the Company with respect to share capital, working capital and shareholders' advances.

(6) The assurances and undertakings which you have requested, to be effective while any part of the existing loan to the Company under Loan No. 117-IT or of the proposed loan to the Company will be outstanding, are that valid arrangements will be made, under which:

A. Except as the Bank, the Cassa and IRFIS shall otherwise agree, the share capital of the Company shall be at least Lit. 5,000,000,000 paid in as required and shareholders' advances, on completion of the project, shall total at least the difference between Lit. 13,200,000,000 and paid in share capital;

B. If the completion of the project or its successful operation is hindered or delayed or is threatened with hindrance or delay because the funds available are inadequate to ensure its completion and the provision of the necessary working capital, prompt arrangements shall be made in accordance with a financial plan approved by IRFIS and the Cassa to provide the necessary funds as and when they are required;

C. Shareholders' advances provided under subparagraphs A or B:

I. Shall not be withdrawn;

II. Shall in all respects be subordinated to all debts of the Company; and

III. Interest or any other remuneration shall be payable and paid thereon only out of net profits and only to the extent that dividends would be payable thereon if such shareholders' advances had originally been paid in as share capital;

D. The undersigned will not, without the approval of the Cassa and IRFIS pay dividends or make any other payments to shareholders, or adopt any policy, which would result in, or envisage:

I. The ratio of current assets to current liabilities being less, at any time, than 2:1; or

II. The excess of current assets over current liabilities being less, at any time, after completion of the project, than Lit. 1,800,000,000.

(7) For the purpose of this letter "current assets" shall be considered as cash and assets readily convertible to cash and all other assets, which would within one year in the ordinary course of the Company's business be converted into cash or assets readily convertible into cash; and "current liabilities" shall be considered as liabilities due and payable and all other liabilities which would be payable or could be called for payment within one year.

(8) The undersigned hereby gives you the assurances and undertakings set forth in paragraph (6) above to be effective and to supersede the assurances and undertakings given in our letter to you dated May 12, 1955, on the condition that IRFIS agrees to make an additional loan to the Company for the above mentioned purpose in the approximate amount of Lit. 8,000,000,000, thereby increasing the total amount of financing of the project by IRFIS to Lit. 11,600,000,000.

(9) It is understood that the terms and conditions of any such loan will be set forth in an agreement to be negotiated and entered into between the undersigned and IRFIS and that the substance of the assurance and undertakings given in this letter will be incorporated therein.

Yours truly,

S I N C A T
Societa Industriale Catanese S.p.A.
Il Consigliere Delegato

MONTECATINI

Potash Project - Sicily

Financial Forecasts
(million lire)

Year ended December 31	Construction 1957	1958	1959	Operation 1960	1961	1962	1963	1964
I. Earnings Estimates								
Production (1,000 tons K_2SO_4 50% K_2O)[1]				90	110	133	133	133
(% capacity				68	80	100	100	100
Operating Costs				1,530	1,870	2,210	2,210	2,210
Interest[2]				275	255	233	209	184
Depreciation				706	706	706	706	706
Taxes and general charges				250	330	330	330	330
Total Costs				2,761	3,161	3,479	3,455	3,430
Net Sales				2,790	3,410	4,123	4,123	4,123
Net Income after Taxes				29	249	644	668	693
Net Income (% of Montecatini's long-term investment)				0.5	3.9	10.2	10.6	10.9
II. Sources and Applications of Funds								
Net Income before Interest	-	-	-	304	504	877	877	877
Depreciation Accruals	-	-	-	706	706	706	706	706
Head Office Advances	400[2]	2,746	1,984	1,200	-	-	-	-
IBRD Loan	-	2,250	1,750	-	-	-	-	-
Total Sources	400	4,996	3,734	2,210	1,210	1,583	1,583	1,583
Plant and Equipment	400[2]	4,921	3,239					
Interest during construction	-	75	195					
Total Fixed Assets	400	4,996	3,434					
Net Current Assets	-	-	300	1,200	-	-	-	-
Service Loan[3]	-	-	-	563	563	563	563	563
"Additional Assets"	-	-	-	447	647	1,020	1,020	1,020
Total Applications	400	4,996	3,734	2,210	1,210	1,583	1,583	1,583

1/ Assumes that the plant will operate two shifts.
2/ Including Lit. 357 million spent by October 14, 1957.
3/ Assuming loan Lit. 4.0 billion at 7% for 12 years, including 2 year grace period.

MONTECATINI

Potash Project - Sicily

Financial Forecasts
(million lire)

	Construction			Operation				
	1957	1958	1959	1960	1961	1962	1963	1964
III. Balance Sheets (as at December 31)								
Fixed Assets	400	5,396	8,830	8,830	8,830	8,830	8,830	8,830
Less Depreciation	-	-	-	706	1,412	2,118	2,824	3,530
Net Fixed Assets	400	5,396	8,830	8,124	7,418	6,712	6,006	5,300
Current Assets	-	-	300	1,500	1,500	1,500	1,500	1,500
"Additional Assets"	-	-	-	447	1,094	2,114	3,134	4,154
Total Assets	400	5,396	9,130	10,071	10,012	10,326	10,640	10,954
Head Office Advances	400	3,146	5,130	6,330	6,330	6,330	6,330	6,330
Surplus	-	-	-	29	278	922	1,590	2,283
IBRD Loan	-	2,250	4,000	3,712	3,404	3,074	2,720	2,341
Total Liabilities and Equity	400	5,396	9,130	10,071	10,012	10,326	10,640	10,954

MONTECATINI

November 30, 1957

International Bank for Reconstruction
and Development
1818 H Street N.W.
Washington 25, D.C.

Gentlemen:

(1) This will confirm certain understandings which have been reached during recent discussions between representatives of the International Bank for Reconstruction and Development (hereinafter referred to as the Bank), the Cassa per Opere Straordinarie di Pubblico Interesse nell'Italia Meridionale (the Cassa), Istituto Regionale per il Finanziamento alle Industrie in Sicilia (IRFIS) and Societa Generale per l'Industria Mineraria e Chimica, S.p.A. (Montecatini) (the Company).

(2) You have informed us that the Bank is considering a loan to the Cassa and that part of that loan will be specifically allocated for loans for various industrial undertakings in the area of the Cassa's competence.

(3) We have proposed that there should be financed out of the proceeds of the loan our project to develop our potash mine at Serradifalco and to construct and operate at Campofranco a processing plant together with connecting cable rope-way. We have informed you that the project would be operated within the framework of the Montecatini organization and would not be a separate financial entity. We have informed you that the pro forma balance sheet of the mine and plant, on completion of the project, would be as shown below:

Fixed Assets	Lit.8,830,000,000	Head Office Advances	Lit.5,130,000,000
Net Current Assets	300,000,000	IBRD Loan	4,000,000,000
	Lit.9,130,000,000		Lit.9,130,000,000

(4) We have explained to you that during the first 12 months of operations the net current assets requirements will be increased to Lit. 1,500,000,000.

(5) We have been informed that if the proposed loan should be made, it would be made to the Company by IRFIS, to which the Cassa would lend a portion of the Bank's loan for the purpose. You have said that before you could approve favorable consideration by the Cassa or IRFIS of the proposed loan you would require certain undertakings from the Company with respect to head office advances and working capital.

(6) The assurances which you have requested, to be effective while any part of the loan to the Company will be outstanding, are that the Company will provide the necessary funds as and when required, to supplement the loan to be made by IRFIS, in order to complete the proposed plant and to provide it with the necessary working capital.

(7) The undersigned hereby gives you the assurances set forth in paragraph (6) above to be effective on the condition that you make a loan to the Cassa and that from the proceeds thereof IRFIS agrees to make a loan to the Company for the above-mentioned purpose in the approximate amount of Lit. 4,000,000,000.

(8) It is understood that the terms and conditions of any such loan will be set forth in an agreement to be negotiated and entered into between the undersigned and IRFIS and that the substance of the assurances and undertakings given in this letter will be incorporated therein.

Yours truly,

M O N T E C A T I N I
Soc. Gen. per l'Industria Mineraria e Chimica
Gli Amministratori Delegati

MONTECATINI

Summary Balance Sheets (unconsolidated)
(billion lire)

As at December 31	1953	1954	1955	1956
ASSETS				
Current Assets:				
Cash and Banks	0.2	0.2	0.1	0.1
Receivables	36.6	34.5	37.7	53.9
Inventories	35.2	37.3	41.3	41.1
Intra-Company Advances	10.3	13.0	13.9	13.4
Other	5.9	5.4	6.5	7.8
Total Current Assets	88.2	90.4	99.5	116.3
Fixed Assets	204.2	224.6	237.8	249.9
Less Depreciation	122.3	129.4	143.2	155.2
Net Fixed Assets	81.9	95.2	94.6	94.7
Investments	37.9	38.5	38.7	41.1
Other Assets	2.7	2.9	3.2	3.9
Total Assets	210.7	227.0	236.0	256.0
LIABILITIES AND EQUITY				
Current Liabilities:				
Banks	0.9	3.6	4.8	0.8
Debt maturing within one year	1.1	1.8	1.7	2.2
Creditors	15.2	18.0	15.7	17.4
Other	17.1	20.7	23.9	27.6
Total Current Liabilities	34.3	44.1	46.1	48.0
Long-term debt	24.3	22.5	28.2	42.7
Other liabilities:				
Employee's severance fund	8.3	9.9	10.9	12.5
Advance receipts and sundry liabilities	1.1	1.3	1.1	1.2
Total	9.4	11.2	12.0	13.7
Equity:				
Share capital	84.0	84.0	84.0	84.0
Revaluation reserve	30.1	30.5	30.5	30.5
Reserves	20.5	26.1	25.0	26.3
Surplus	8.1	8.6	10.2	10.8
Total Equity	142.7	149.2	149.7	151.6
Total Liabilities and Equity	210.7	227.0	236.0	256.0
Current Assets/Current Liabilities	2.57	2.05	2.16	2.42
Debt/Equity	15/85	13/87	16/84	22/78

MONTECATINI

Summary Income Statements (unconsolidated)
(billion lire)

Year ended December 31	1953	1954	1955	1956
Sales	118.1	126.2	141.7	152.1
Other income	2.6	2.5	3.4	5.2
Total Income	120.7	128.7	145.1	157.3
Expenditures	112.6	120.1	134.9	146.4
Net Profit	8.1	8.6	10.2	10.9
Dividends paid	9.7*	9.7*	9.7	9.7
Net Profit as % of Equity	5.7	5.8	6.8	7.2
Net Profit as % of Share Capital	9.6	10.2	12.1	13.0
Net Profit as % of Sales	6.9	6.8	7.2	7.2

* Covered in part from accumulated surplus and reserves.

TRINACRIA

Financial Forecasts
(million lire)

Year ended December 31	Construction 1957	1958	1959	1960	Operation 1961	1962	1963
I. Earnings Estimates							
Production (% of capacity)					75	100	100
Operating costs					1,286	1,590	1,590
Interest					263	232	217
Depreciation:							
Ordinary					500	608	608
Special					100	125	125
Taxes					85	100	100
Total Costs					2,234	2,655	2,640
Net Sales					2,249	2,999	2,999
Net Income after Taxes					15	344	359
Net Income - % of share capital and shareholders' advances (prior to special depreciation)					0.4 (2.7)	8.3 (10.2)	8.6 (11.7)
II. Sources and Applications of Funds							
Net Income before Interest	-	-	-	-	378	701	701
Depreciation accruals	-	-	-	-	500	608	608
Share Capital	600	650	1,250	500	-	-	-
Shareholders' advances	-	340	452	358	-	-	-
IBRD loan	-	930	1,570	1,250	-	-	-
Total Sources	600	1,920	3,272	2,108	878	1,309	1,309
Plant and Equipment	600	1,860	3,140	1,595			
Interest during Construction	-	60	132	213			
Total Fixed Assets	600	1,920	3,272	1,808			
Net Current Assets	-	-	-	300	200	100	-
IBRD debt service					529	529	529
"Additional Assets"					149	680	780
Total Applications	600	1,920	3,272	2,108	878	1,309	1,309

TRINACRIA

Financial Forecasts
(million lire)

	Construction				Operation		
	1957	1958	1959	1960	1961	1962	1963
III. Balance Sheets (as at December 31)							
Fixed Assets	600	2,520	5,792	7,600	7,600	7,600	7,600
Less Depreciation (ordinary and special)					600	1,333	2,066
Net Fixed Assets	600	2,520	5,792	7,600	7,000	6,267	5,534
Current Assets				600	900	1,000	1,000
"Additional Assets"					149	829	1,609
Total Assets	600	2,520	5,792	8,200	8,049	8,096	8,143
Current Liabilities	-	-	-	300	400	400	400
Share capital	600	1,250	2,500	3,000	3,000	3,000	3,000
Shareholders' Advances	-	340	792	1,150	1,150	1,150	1,150
Surplus	-	-	-	-	15	359	718
IBRD Loan	-	930	2,500	3,750	3,484	3,187	2,875
Total Liabilities and Equity	600	2,520	5,792	8,200	8,049	8,096	8,143

SALI POTASSICI TRINACRIA

November 28, 1957

International Bank for Reconstruction
and Development
1818 H Street N.W.
Washington, D.C.

Gentlemen:

(1) This will confirm certain understandings reached during recent discussions between representatives of the International Bank for Reconstruction and Development (hereinafter referred to as the Bank), the Cassa per Opere Straordinarie di Pubblico Interesse nell'Italia Meridionale (the Cassa), Istituto Regionale per il Finanziamento alle Industrie in Sicilia (IRFIS) and Sali Potassici TRINACRIA S.p.A., Palermo (the Company).

(2) You have informed us that the Bank is considering a loan to the Cassa and that part of that loan will be specifically allocated for loans for various industrial undertakings in the area of the Cassa's competence.

(3) We have proposed that there should be financed out of the proceeds of the loan our project to open and operate a mine for the extraction of potash ore, and to construct and operate near the town of Calascibetta, Sicily, a plant for the processing of 560,000 tons of potash ore per year and the manufacture of "Kalimagnesia" and potassium sulfate. We have informed you that the pro forma balance sheet of the Company, on completion of the project would be as follows:

Fixed Assets	Lit.7,600,000,000	Share Capital	Lit.3,000,000,000
Net Current Assets	300,000,000	Shareholders' Advances	1,150,000,000
		BIRS Loan	3,750,000,000
	Lit.7,900,000,000		Lit.7,900,000,000

(4) We have explained to you that during the first two years of operations net current assets requirements will increase to Lit. 600,000,000. The increase of Lit. 300,000,000 will be provided from earnings and depreciation accruals during these years or through additional advances by the shareholders.

(5) We have been informed that if the proposed loan should be made, it would be made to the Company by IRFIS, to which the Cassa would lend a portion of the Bank's loan for the purpose. You have said that before you could approve favorable consideration by the Cassa or IRFIS of the proposed loan you would require: (a) the completion of two additional boreholes

confirming, to the satisfaction of the Bank, the Cassa and IRFIS, the existence of adequate reserves of potash ore in our Corvillo properties; and (b) certain undertakings from the Company with respect to share capital, working capital and shareholders' advances.

(6) The assurance and undertakings which you have requested, to be effective while any part of the loan to the Company will be outstanding, are that valid arrangements be made, under which:

A. Except as the Bank, the Cassa and IRFIS shall otherwise agree, the share capital of the Company shall be at least Lit. 3,000,000,000 paid in as required, and shareholders' advances on completion of the plant, will total the difference between Lit. 4,150,000,000 and paid in share capital;

B. If the completion of the project or its successful operation is hindered or delayed or is threatened with hindrance or delay because the funds available are inadequate to ensure its completion and the provision of the necessary working capital, prompt arrangements shall be made in accordance with a financial plan approved by IRFIS and the Cassa to provide the necessary funds as and when they are required;

C. Shareholders' advances provided under subparagraphs A or B:

I. Shall not be withdrawn;

II. Shall in all respects be subordinated to all debts of the Company; and

III. Interest or any other remuneration shall be payable and paid thereon only out of net profits and only to the extent that dividends would be payable thereon if such shareholders' advances had originally been paid in as share capital.

D. The undersigned will not, without approval of the Cassa and IRFIS, pay dividends or make any other payments to shareholders or adopt any policy if such payments or policy will result in or envisage:

I. The ratio of current assets to current liabilities being less, at any time, than 2:1; or

II. The excess of current assets over current liabilities being less than:

(a) Lit. 300,000,000 on completion of construction of the project;
(b) Lit. 500,000,000 at the end of the first operation year; and
(c) Lit. 600,000,000 at any time after the end of the second operation year.

TRINACRIA

(7) For the purpose of this letter "current assets" shall be considered as cash and assets readily convertible to cash and all other assets which would, within one year in the ordinary course of the Company's business be converted into cash or assets readily convertible into cash; and "current liabilities" shall be considered as liabilities due and payable and all other liabilities which would be payable or could be called for payment within one year.

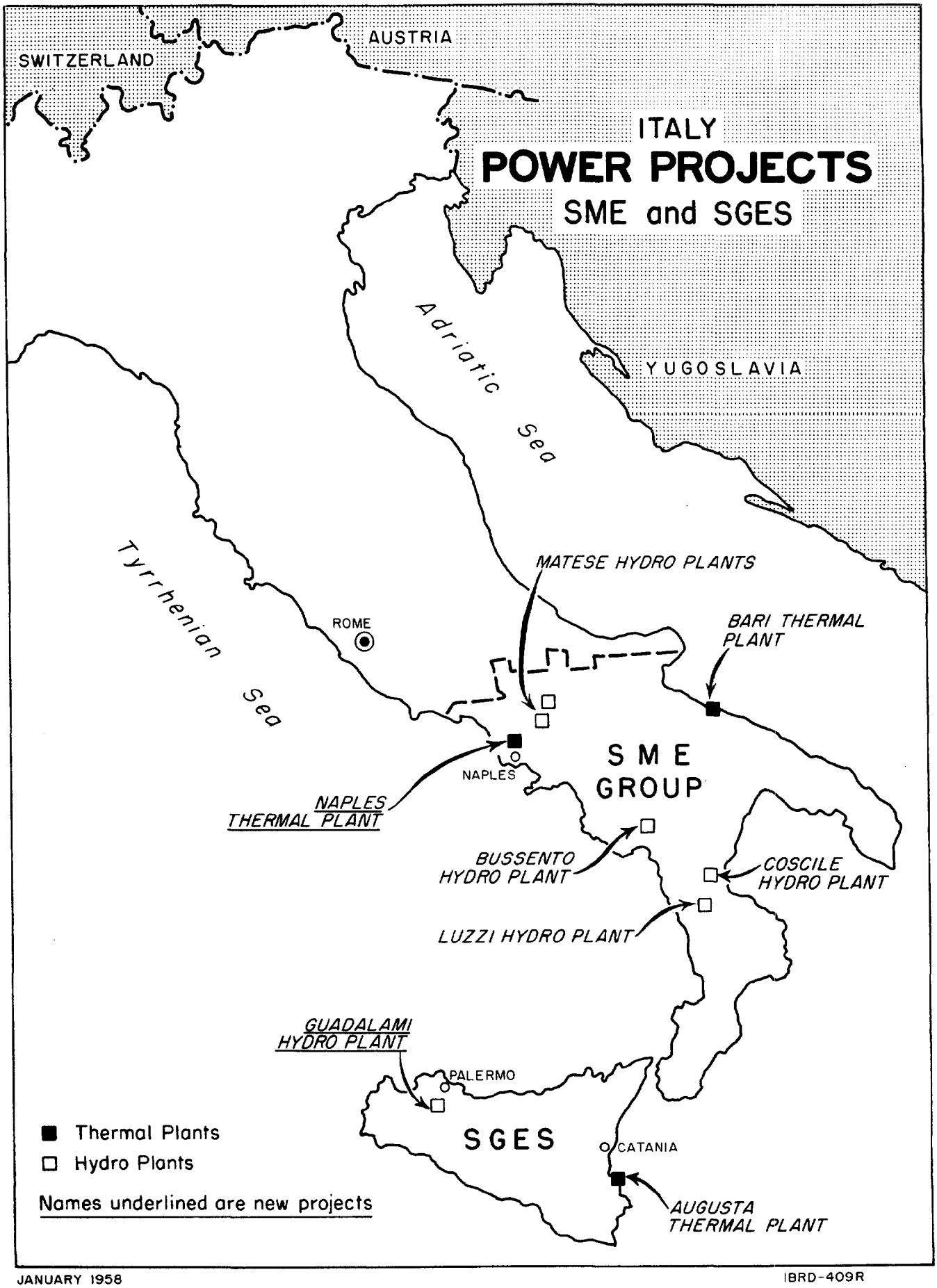
(8) The undersigned hereby gives you the assurances and undertakings set forth in paragraph (6) above to be effective on the conditions that you make a loan to the Cassa and that from the proceeds thereof IRFIS agrees to make a loan to the Company for the above mentioned purpose in the approximate amount of Lit. 3,750,000,000.

(9) It is understood that the terms and conditions of any such loan will be set forth in an agreement to be negotiated and entered into between the undersigned and IRFIS and that the substance of the assurances and undertakings given in this letter will be incorporated therein.

Yours truly,

SOC. SALI POTASSICI TRINACRIA

Il Presidente



JANUARY 1958

IBRD-409R

SOCIETA MERIDIONALE DI ELETTRICITA (SME)
Condensed Balance Sheet as of March 31, 1957 1/
(in millions of Lire)

Assets

Fixed Assets	165,074
Less: Reserve for Depreciation	48,703
Net Bookvalue	116,371
Construction in Progress (including advance payments and construction stores)	3,295
Investments in subsidiaries and affiliated companies	19,655
Due from subsidiaries and affiliated companies	9,522
Current Assets	
a) Cash and Banks	999
b) Accounts Receivable-Sale of Energy	2,126
c) Stores	2,026
d) Other Receivables	2,885
Miscellaneous	1,828
	158,707

Capital, Reserves and Liabilities

Share Capital (Subscribed)	74,983
Less: Not paid in 2/	3,760
Paid in	71,223
Reserves (Ordinary, Extra-ordinary)	2,125
Capital Surplus due to Revaluation of Assets	29,867
Equity	103,215
Long and Medium Term Debts	34,508
Floating Debt (due to Banks, etc.)	6,099
Current and Accrued Liabilities	6,685
Reserve for Social Security	2,141
Other Provisions, etc.	2,745
Balance Profit and Loss (undivided profits)	3,314
	158,707

1/ Non-consolidated figures
2/ Subject to call

SOCIETA MERIDIONALE DI ELETTRICITA (SME)
Condensed Income Statements 1/
(in millions of Lire)

	1952/53	1953/54	1954/55	1955 /56	1956/57
Revenues					
Sales of Energy	12,328	14,582	16,886	18,472	22,404
Other Income	2,199	2,243	3,012	3,771	3,829
Subsidies and Receipts from Rate Equalization Fund	290	1,122	1,790	1,966	2,568
	14,817	17,947	21,688	24,209	28,801
Operation (including maintenance, cost of purchased power, fuel, general expenses)	7,751	7,589	8,761	10,520	13,894
Depreciation	2,300	3,500	4,000	4,300	4,850
Taxes (income and other)	863	953	1,300	1,318	1,486
Total Operating Costs	10,914	12,042	14,061	16,138	20,230
Net Income from Operations	3,903	5,905	7,627	8,071	8,571
Less: Interest	1,492	2,505	3,463	3,580	3,409
	2,411	3,400	4,164	4,491	5,162

1/non-consolidated figures

S M E G R O U P
OPERATING STATISTICS

Loads, Generation, Purchases, Sales, Losses, Load Factor

Year	Peak load MW	Generation			Purchases GWh	Total supplied to Network GWh	Losses and own uses		Sales GWh	Load factor of network
		Hydro GWh	Thermal GWh	Total GWh			GWh	%		
1950	407	1,421	136	1,557	388	1,955	443	22.6	1,512	0.55
1951	440	1,794	4	1,798	345	2,143	442	20.6	1,701	0.56
1952	467	1,665	139	1,804	500	2,304	462	20.1	1,842	0.56
1953	545	1,985	30	2,015	512	2,527	476	18.8	2,051	0.53
1954	625	2,191	152	2,343	458	2,801	471	16.9	2,330	0.51
1955	625	2,279	200	2,479	528	3,007	546	18.2	2,461	0.55
1956	760	2,322	509	2,831	665	3,496	618	17.6	2,877	0.53

SME GROUP 1/

Power Sales 1950 - 1956 and Forecasts 1957 - 1966

(Million kwh)

Categories of Consumers	1950	1951	1952	1953	1954	1955	1956	Average Annual Increase 1950-1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	Average Annual Increase 1957-1966
Public Light	42	45	51.2	56	61	67	75	10.5%	82	92	102	110	120	131	143	155	167	178	11.0 %
Private Light	182	193	199	217	243	264	282	9.5%	307	336	369	399	430	464	497	533	567	604	8.0 %
Domestic 2/	84	95	131	161	196	217	268	19.0%	305	352	404	437	472	510	546	585	624	664	9.5 %
Industry																			
Less than 30 kw	134	141	172	194	227	254	283	13.0%	310	352	397	446	495	549	615	685	763	853	12.0 %
Above 30 kw	410	502	533	652	743	808	833	12.0%	898	1004	1127	1248	1396	1554	1724	1918	2134	2367	11.5 %
Electro-chemical and Electro-metallurgical	377	451	449	484	491	485	510	6.0%	510	517	523	528	535	543	551	559	568	577	1.0 %
Traction	211	195	210	196	206	214	219	1.0%	222	225	227	231	233	238	240	242	246	249	10.0 %
Other Companies 3/	72	80	99	92	163	180	407 4/		345	427	379	377	471	518	562	689	748	807	10.0 %
Total Sales	1512	1701	1843	2051	2330	2461	2877	12.0%	2979	3305	3528	3776	4152	4567	4878	5366	5817	6299	9.0 %
Losses (including own consumption)									636	675	772	859	993	1102	1189	1281	1410	1588	
Total power required									3615	3980	4300	4635	5145	5669	6067	6647	7227	7887	
Peak Load (MW)									760	840	930	1010	1130	1270	1380	1520	1680	1860	
Load factor									0.55	0.55	0.54	0.54	0.53	0.52	0.51	0.51	0.50	0.49	

1/ SME, Pugliese, Campania, Calabrie, Lucana, SEBI.

2/ Cooking, heating, etc.

3/ Sales to UNES account for 30-60% of total

4/ Exceptional sales of surplus power

S.M.E. GROUP
CONSTRUCTION PROGRAM 1957-66
(million lire)

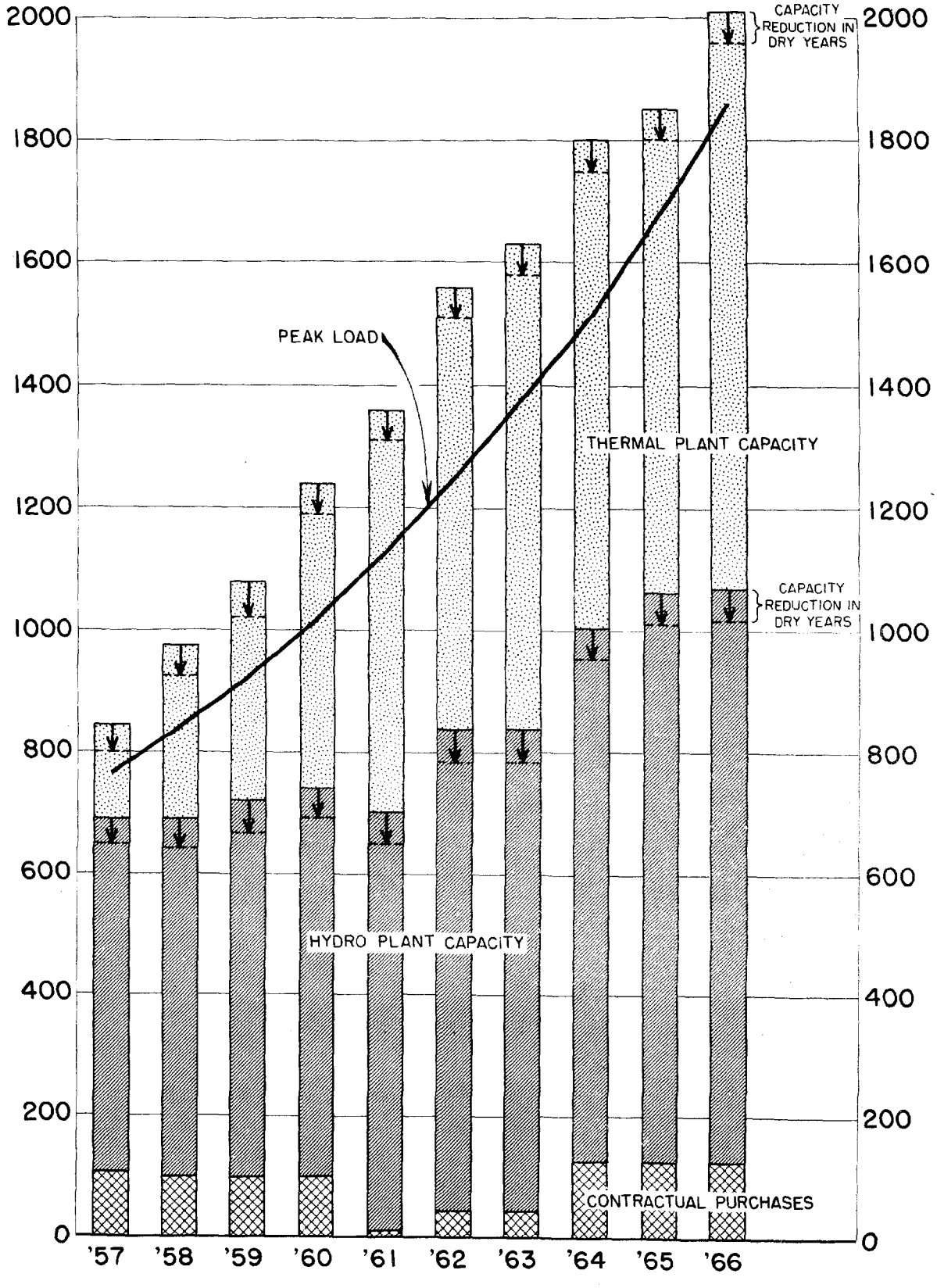
		1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	Total
I. Projects financed by IBRD Loans												
Matese Hydro extensions	21 MW	550	360									910
Bussento Hydro	52 MW	1,600	2,840	1,000	750							6,190
Coscile Hydro	4 MW	650	55									705
Bari Thermal	206 MW	2,200	4,000	2,750								8,950
Sub total	283 MW	5,000	7,255	3,750	750							16,755
II. Project considered for New Loan												
Naples Thermal (2 units)	300 MW	3,500	3,500	7,750	8,250							23,000
Sub total IBRD Projects	583 MW	8,500	10,755	11,500	9,000							39,755
III. Other Projects												
Hydro Plants - SME [1]	251 MW			1,900	4,450	10,400	10,750	12,100	9,200	8,700	5,500	63,000
Hydro Plants - Subsidiaries [2]	50 MW			1,600	2,100	2,600	2,600	1,600				10,500
Thermal Plants - SME [3]	290 MW			2,200	2,500	3,400	3,100	3,700	3,500	6,550	8,550	33,500
Sub total	591 MW			5,700	9,050	16,400	16,450	17,400	12,700	15,250 [4]	14,050 [5]	107,000
Transmission, substations, distribution:												
SME		2,900	5,700	6,200	3,800	6,100	6,600	5,300	7,500	8,000	9,200	61,300
Subsidiaries		5,800	6,945	7,860	7,220	8,790	8,570	10,100	10,050	10,400	11,340	87,075
Sub total		8,700	12,645	14,060	11,020	14,890	15,170	15,400	17,550	18,400	20,540	148,375
Various works			200	200	500	700	700	900	1,000	1,300	1,500	7,000
Sub total Other Projects		8,700	12,845	19,960	20,570	31,990	32,320	33,700	31,250	34,950	36,090	262,375
T o t a l	1,174 MW	17,200	23,600	31,460	29,570	31,990	32,320	33,700	31,250	34,950	36,090	302,130

1/ Tammaro 50 MW, Sele 91 MW, Pollino North 50 MW, Minor Plants 60 MW
2/ Sava Lete 50 MW
3/ Mercure 140 MW, Naples 3rd unit 150 MW

4/ Includes L. 3,500 mill. for construction work on new plants
5/ Includes L. 8,500 mill. for construction work on new plants

ITALY: SME GROUP
AVAILABLE CAPACITY AND PEAK LOAD

(MEGA WATTS)



IBRD - Economic Staff

1312

S M E

Naples Thermal Power Plant
Construction Cost Estimate

	Million lire
Land	300
Building and Civil Works	2,100
Pier and Reloading Equipment	2,050
Boilers with Auxiliaries	3,900
Turbo-generators with Auxiliaries	3,800
Condensers with Auxiliaries	1,900
Valves, Pumps and Piping	1,700
Transformers	1,000
Electrical and Control Equipment	1,050
Fuel Oil Storage, Pumps and Pipes	300
Coal Yard and Conveyors	800
Miscellaneous	600
Sub total	19,500
Engineering, Supervision and Overhead (4.5%)	900
Contingencies (8%)	1,500
Interest during construction	1,100
Total	23,000
	($36.8 mill.)

SOCIETA MERIDIONALE DI ELETTRICITA (SME)

Pro Forma Balance Sheet at December 31, 1960 1/
(in millions of Lire)

Assets

Fixed Assets and Work in Progress	229,292
Less: Reserve for Depreciation	70,990
Net Book Value	158,302
Investments in Subsidiaries and Affiliated Companies	33,430
Advances to Subsidiaries and Affiliated Companies	9,522
Current Assets	7,436
Miscellaneous	1,828
	210,518

Capital, Reserves and Liabilities

Share Capital	96,228
Reserves and Earned Surplus	3,588
Capital Surplus from Revaluation of Assets	21,119
Equity	120,935
Debts:	
IBRD Loans No. 117 and No. 150	8,866
Proposed 3rd IBRD Loan	13,750
Other Long and Medium Term Debt	39,670
Long and Medium Term Debt	62,286
Floating Debt	11,860
Current and Accrued Liabilities	7,237
Reserve for Social Security, Other Provisions, etc.	4,886
Balance Profit and Loss Account	3,314
	210,518

1/ non-consolidated figures

Societa Meridionale di Elettricita
Estimated Consolidated Income Statements and Forecast of Receipts and Expenditures for Group
(in millions of Lire)

	1957	1958	1959	1960	1961
Gross Revenues	46,955	53,375	61,297	67,256	74,314
Operating costs, (fuel, maintenance, general exp.)	26,564	30,110	34,385	37,079	40,843
Depreciation	8,094	9,267	10,710	11,838	13,276
Taxes (income and other)	2,770	3,047	3,414	3,717	4,161
Total Cost of Operations	37,428	42,424	48,509	52,634	58,280
Net Income from Operations	9,527	10,951	12,788	14,622	16,034
Less: Interest	3,329	4,447	5,527	6,511	7,717
Net Profit	6,198	6,504	7,261	8,111	8,317
RECEIPTS					
Net Income from Operations	9,527	10,951	12,788	14,622	16,034
Depreciation Allowances	8,094	9,267	10,710	11,838	13,276
	17,621	20,218	23,498	26,460	29,310
Borrowing:					
a) Proposed IBRD loan	-	4,200	4,650	4,900	-
b) Withdrawals IBRD loans No. 117 and 150	3,691	1,704	600	450	-
c) Proposed other long-term borrowing	-	6,200	15,250	13,000	24,150
Sale of Share Capital	7,143	7,255	3,217	4,667	-
Increase in floating debt	1,088	-	2,956	1,914	991
Total Receipts	29,543	39,577	50,171	51,391	54,451
EXPENDITURES					
Construction Program	17,200	23,600	31,460	29,570	31,990
Other Investments	1,555	3,032	4,192	4,624	2,455
Debt Service (interest and Amortization)					
a) Proposed IBRD loan	-	237	500	800	1,408
b) IBRD loans No. 117 & 150	710	1,303	1,362	1,567	1,567
c) Other loans (including interest floating debt)	4,544	4,640	6,163	7,467	9,482
Total Debt Service (sub-total)	(5,254)	(6,180)	(8,025)	(9,834)	(12,457)
Payment of dividends	5,534	5,986	6,494	7,363	7,549
Reduction floating debts	-	779	-	-	-
Total Expenditures	29,543	39,577	50,171	51,391	54,451
Debt Service Coverage (number of times)	3.3	3.2	2.9	2.7	2.3

SOCIETA MERIDIONALE DI ELETTRICITA (SME) 1/

Estimated Income Statements and Forecast of Receipts and Expenditures

(in millions of Lire)

	1957	1958	1959	1960	1961
Gross Revenues	28,100	29,650	34,550	38,350	44,700
Operating Costs (including fuel, maintenance, cost of purchased power and general expenses)	12,590	12,920	15,600	16,970	21,040
Depreciation	5,050	5,400	6,150	6,900	7,800
Taxes (income and other)	1,570	1,700	1,870	2,050	2,380
Total Cost of Operations	19,210	20,020	23,620	25,920	31,220
Net Income from Operations	8,890	9,630	10,930	12,430	13,480
Less: Interest	3,200	3,292	3,963	4,782	5,850
Net Profit	5,690	6,338	6,967	7,648	7,630
RECEIPTS					
Net Income from Operations	8,890	9,630	10,930	12,430	13,480
Depreciation Allowances	5,050	5,400	6,150	6,900	7,800
Sub-total	13,940	15,030	17,080	19,330	21,280
Borrowing:					
a) IBRD loan 150 (withdrawals)	1,308	1,704	600	450	-
b) Proposed IBRD loan for Thermal Plant	-	4,200	4,650	4,900	-
c) Other proposed long-term borrowing	-	2,600	8,500	7,300	18,300
Sale of Share Capital	7,136	7,112	2,623	4,374	-
Increase in Floating debt	-	-	2,524	3,112	-
Total Receipts	22,384	30,646	35,977	39,466	39,580
EXPENDITURES					
Construction:					
a) IBRD projects-Loans 117 and 150	2,150	3,200	1,000	750	-
b) Proposed IBRD project (Thermal plant Naples)	3,500	3,500	7,750	8,250	-
c) Other construction	2,900	5,900	10,500	11,250	20,600
Total Construction	8,550	12,600	19,250	20,250	20,600
Other Investments (plant renewals and investments in subsidiary and affiliated companies)	1,010	4,671	4,703	5,061	1,270
Debt Service (interest and amortization)					
a) IBRD (Cassa) Loans No. 117 & 150	370	641	700	905	905
b) Proposed IBRD (Cassa) Loan	-	237	500	800	1,408
c) Other loans (including interest on floating debt)	4,714	4,106	4,744	5,520	7,336
(sub-total debt service)	(5,084)	(4,984)	(5,944)	(7,225)	(9,649
Payment of Dividends	5,220	5,650	6,080	6,930	7,100
Reduction of Floating Debt	2,520	2,741	-	-	961
Total Expenditures	22,384	30,646	35,977	39,466	39,580
Total Debt Service Coverage - number of times	2.7	3.0	2.9	2.7	2.2

1/ non-consolidated figures

SOCIETA GENERALE ELETTRICA DELLA SICILIA (S.G.E.S.) AND TIFEO
Consolidated Balance Sheet as of December 31, 1956
(in millions of Lire)

Assets

Fixed Assets		65,768
Less: Reserve for Depreciation		21,434
Net Bookvalue		44,334
Construction work in progress (including advance payments to constractors, suppliers)		5,512
Investments in affiliated Companies		2,608
Advances to affiliated companies		1,431
Current Assets:		
Cash and Banks	193	
Accounts Receivable - for sale of electricity	3,191	
Inventories	3,724	7,108
Other Receivables and Prepaid Items		2,348
Miscellaneous		1,546
Total		64,887

Capital, Reserves and Liabilities

Share Capital	17,500
General Reserve	639
Capital Surplus	17,205
	35,344
Minority Interests in TIFEO	1
Equity	35,345
Debts:	
Long Term	9,882
Short-term debts	7,994
	17,876
Current Liabilities (Accounts payable, customers deposits, etc.)	6,097
Reserves (for Social Security, and others)	2,214
Miscellaneous	1,998
Profit and Loss Account (Balance)	1,357
Total	64,887

SOCIETA GENERALE ELETTRICA DELLA SICILIA(S.G.E.S.)

(in millions of Lire)

PAST EARNINGS RECORD

	1952	1953	1954	1955	1956
Revenues from Sales of Electricity	7,665.1	8,441.6	10,082.4	10,999.2	13,461
Contributions from Equalization Fund	2,890.-	2,588.9	1,376.7	574.-	345
Gross Revenues Sale of Electricity	10,555.1	11,030.5	11,459.1	11,573.2	13,806
Other Income	290.6	469.9	394.5	925.3	1,202
Total Income	10,845.7	11,500.4	11,853.6	12,498.5	15,008
Cost of Operations: Operating expenses (including cost of fuel, maintenance, general and administrative expenses, cost of purchased power)	8,074.9	8,483.4	8,287.4	8,386.1	10,685
Depreciation	1,220.-	1,430.-	1,540.-	1,770.-	1,750
Taxes (income and other)	418.1	423.2	536.-	668.9	553
Total Cost of Operations	9,713.-	10,336.6-	10,363.4	10,825.-	12,988
Net from Operations	1,132.7	1,163.8	1,490.2	1,673.5	2,020
Less Interest (net)	562.8	592.4	583.9	743.-	716
Net Profit	569.9	571.4	906.3	930.5	1,304

SGES
OPERATING STATISTICS

LOADS, GENERATION, PURCHASES, SALES, LOSSES, LOAD FACTOR

Year	Peak Load MW	Generation Hydro GWh	Generation Thermal GWh	Purchased GWh	Total Supplied to Network GWh	Losses GWh	Losses %	Sales GWh	Load Factor of Network
1950	81	109	279	2	390	78	20.0	312	0.55
1951	93	124	306	6	436	93	21.4	343	0.53
1952	93	119	376	10	505	104	20.6	401	0.49
1953	118	104	333	133	570	123	21.6	447	0.55
1954	137	120	223	326	640	129	20.0	511	0.54
1955	165	112	215	413	705	138	19.4	567	0.50
1956	185	107	254	443	804	161	19.9	643	0.50

S G E S

Power Sales 1953 - 1956 and Forecasts 1957 - 1965
(Million kwh)

Categories of Consumers	1953	1954	1955	1956	Average Annual Increase	1957	1958	1959	1960	1961	1962	1963	1964	1965	Average Annual Increase
Public light	21	23	26	31	14 %	31	32	35	37	40	43	47	50	50	6 %
Private light	94	109	118	132	8 %	150	159	169	181	195	214	231	250	275	8.5%
Domestic uses 1/	15	17	22	31	28 %	41	45	55	67	82	101	122	150	180	18.0%
Industrial uses	211	258	308	326	16 %	353	431	474	528	586	648	720	800	880	11.5%
Agriculture	19	25	23	32	18 %	35	37	40	43	47	51	55	60	65	8 %
Traction	32	17	3	19	(-18 %)	20	20	21	22	22	23	24	25	25	3 %
Re-sales	55	62	67	72	10 %	80	88	93	100	108	116	126	135	145	8 %
Total Sales	447	511	567	643	14 %	710	812	887	978	1080	1196	1325	1470	1620	10.5%
Losses (including own consumption						180	188	203	222	250	274	305	340	380	
Total power required						890	1000	1090	1200	1330	1470	1630	1810	2000	
Peak Load (MW)						210	230	250	275	305	335	370	410	440	
Load factor						0.50	0.50	0.51	0.51	0.51	0.51	0.52	0.52	0.53	

1/ Cooking, heating, etc.

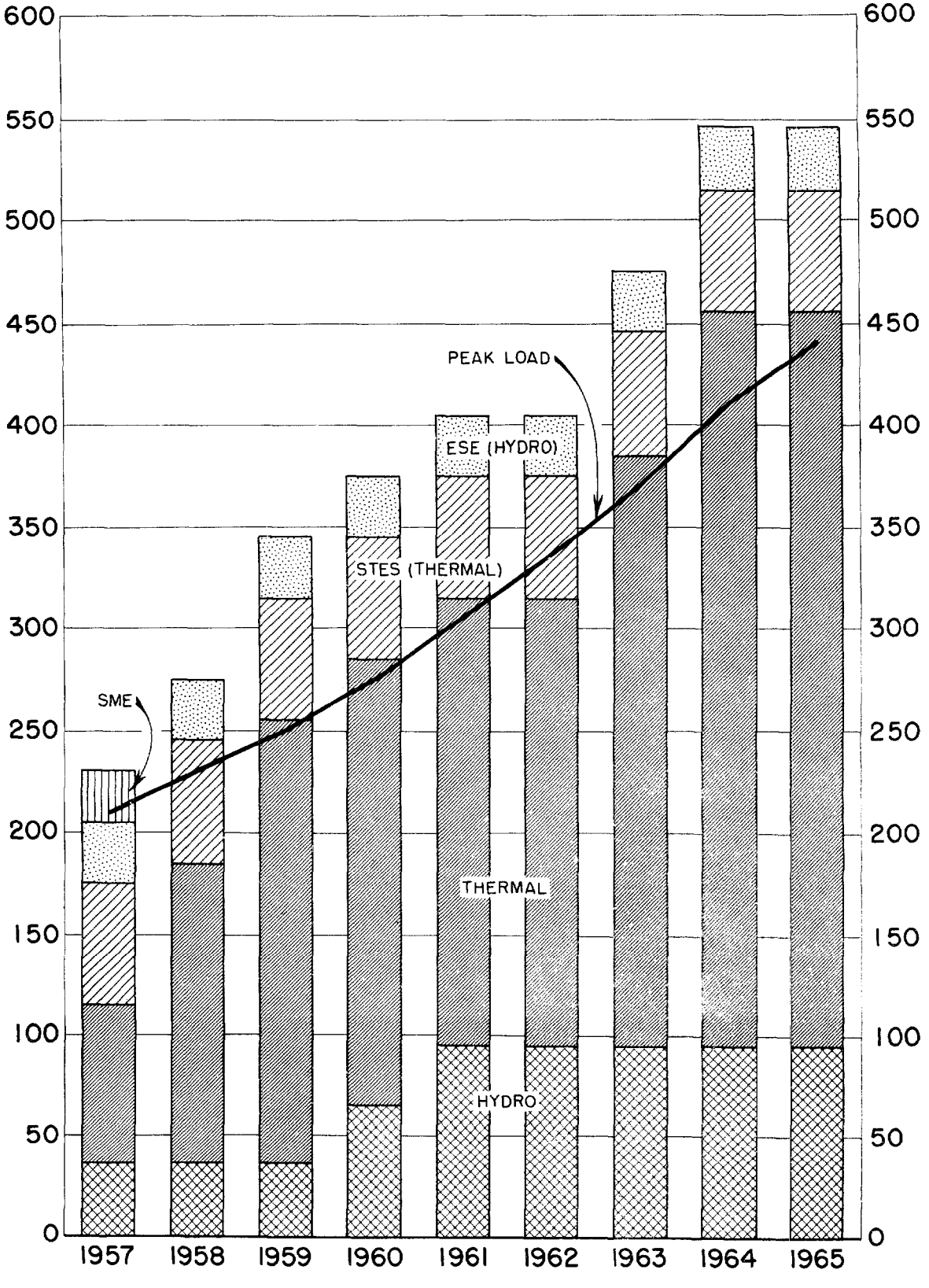
S G E S
CONSTRUCTION PROGRAM 1957-65
(million lire)

		1957	1958	1959	1960	1961	1962	1963	1964	1965	Total
I. Projects Financed by IBRD Loans											
Augusta Thermal Plant with Transmission lines	140 MW	5,550	2,779	380	180						8,889
II. Project considered for New Loan											
Guadalami Hydro Plant with Transmission Lines	60 MW	28 1/	1,000	4,200	1,912						7,140
Sub total IBRD Projects		5,578	3,779	4,580	2,092						16,029
III. Other Projects											
Augusta Thermal Plant Expansion	140 MW		1,000	3,000	3,000	2,400	600				10,000
Small Thermal Plants	20 MW		500	500	500	500					2,000
Transmission Lines		164	327	370	335	450	400	400	500	510	3,446
Substations		191	631	460	458	1,130	800	800	800	1,200	6,470
Distribution		3,695	3,500	3,500	4,000	4,000	4,000	5,000	5,000	5,000	37,695
Sub total Other Projects		4,050	5,958	7,830	8,293	8,480	5,800	6,200	6,300	6,700	59,611
Total Construction Program		9,628	9,737	12,410	10,385	8,480	5,800	6,200	6,300	6,700	75,640
Interest during Construction		517	851	519	682	886	210	242	282	268	4,457
T o t a l	360 MW	10,145	10,588	12,929	11,067	9,366	6,010	6,442	6,582	6,968	80,097

1/ Includes L. 14 million incurred in 1956

ITALY: SGES SYSTEM
AVAILABLE CAPACITY AND PEAK LOAD

(MEGA WATTS)



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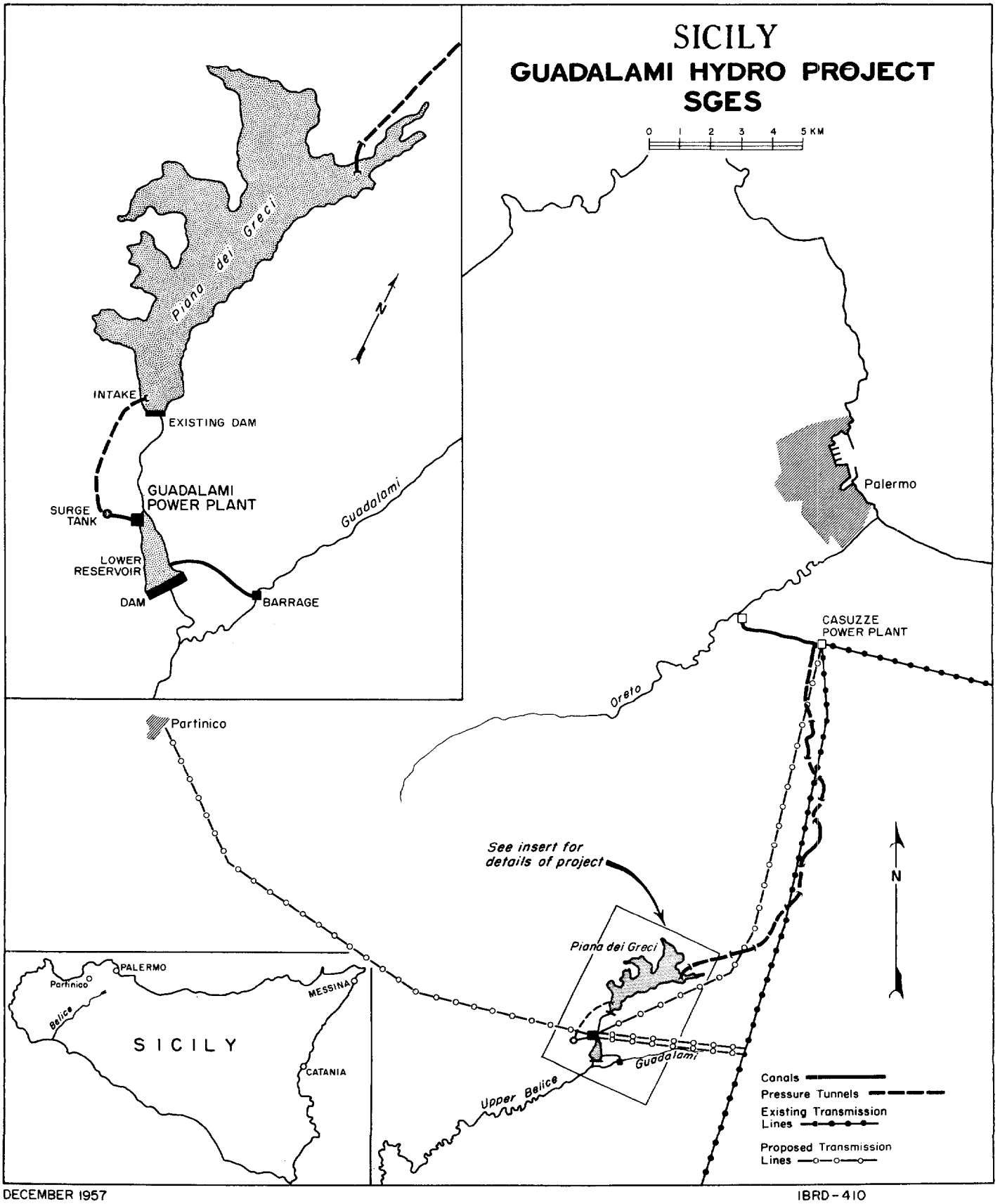


DECEMBER 1957

IBRD-410

S G E S

CONSTRUCTION COST ESTIMATE

Guadalami Hydro Plant

	Mill. Lire
Land and Access Road	150
Intake Works	121
Pressure Tunnel and Surge Tank	705
Penstocks	435
Power House	734
Earth Dam	1,105
Diversion Tunnel	379
Electrical and Mechanical Equipment	1,461
Miscellaneous Works	168
Subtotal	5,258
Engineering, Supervision and Overhead	315
Contingencies	527
Total	6,100
Transmission Facilities	
Substation	704
150 kv Transmission Line	104
70 kv Transmission Lines	102
Subtotal	910
Engineering, Supervision and Overhead	74
Contingencies	56
Total	1,040
Total Project	7,140
Interest during Construction	460
Total	7,600 ($12.1 mill.)

Guadalami Plant
Operations and Cost of Production

Pumped storage plants are designed to transform surplus base energy into peak energy. The scheme includes a hydro pumping plant located between two reservoirs. At times of peak demand water stored in the upper reservoir is released through the turbines and energy is supplied to the grid. The water is accumulated in the lower reservoir and during periods when demand for power in the system is low, power is consumed by the plant for pumping the water back into the upper reservoir.

The Guadalami plant is designed to operate on a daily cycle which means that the water, released for generation of power during the day, is pumped back again during the night. A plant of this type is particularly well adapted to meet the requirements of a system in which the main part of the generating capacity is provided by thermal plants.

The design of the Guadalami plant is based on a detailed study of the future operational requirements of the SGES system. As an illustration of a typical operation is a projected daily load curve shown in Annex B-21. The load varies between 100 MW and 275 MW with a small peak in the morning and the main peak in the afternoon. The operation of the Guadalami plant will have two effects, a large part of the thermal capacity will be in operation continuously and the hydro power will be available to meet the demand during peak hours.

The alternative to the construction of the Guadalami plant is a further expansion of the thermal plant capacity in the grid. The following calculation has been made to compare the estimated cost of power in both cases.

1. Guadalami Plant

The estimate is based on the following data:

Generator Operation	
Installed capacity	60 MW
Annual Generation	83 Million kwh
Hours of operations	1380 hours (based on 4.6 hours daily during 300 days)
Pump Operation	
Maximum load	50 MW
Power required	114 Million kwh
Hours of operation	2200 Hours (based on 7.5 hours daily during 300 days)

The overall efficiency of the conversion of night energy into peak energy is 72%, that is 1 kwh of generated power requires the use of 1.38 kwh of power for pumping. The fixed annual operational costs of the plant, based on the experience from existing plants in the SGES system, is estimated at 11.2% of

total capital costs. (depreciation on a sinking fund basis with 50 year life of the plant and 8% interest, 2% operation and maintenance, 8% financial charges and 1% taxes). This amounts to Lire .85 billion resulting in fixed unit costs of Lire 10.2/kwh.

The cost of the power required for pumping corresponds to the cost of fuel for the increased operation of the thermal plants. The present cost of fuel oil amounts to Lire 17 per kg and the heat value of the fuel is 10,000 kcal/kg. The average heat rate for the thermal plants operating in the SGES system is 2,800 kcal/kwh. The resulting unit cost, related to the generation of peak energy, amounts to Lire 6.05/kwh.

As a result of the delivery of power for pumping, the thermal plants in the system will operate at a higher load factor and the average thermal efficiency will be improved. The amount of fuel required for the production of thermal power in the system, excluding the power used for pumping, will therefore be lower. Related to the production of peak energy this fuel saving is estimated at Lire 2.0/kwh.

The cost of transmission including losses is estimated at Lire 1.95/kwh. The estimated cost of power delivered from Guadalami is therefore:

Fixed Costs		L.10.20/kwh
Fuel Costs	L.6.05/kwh	
Less: savings	L.2.00/kwh	L. 4.05/kwh
Transmission		L. 1.95/kwh
	Total	L.16.20/kwh

2. Equivalent Thermal Plant

An equivalent thermal plant will have to have an installed capacity of 65 MW to take into account the power used for the operation of the plant. The construction cost is estimated at L. 5.85 billion. The fixed operational costs are estimated at 15.4% of the investment (depreciation on a sinking fund basis with 20 year life of the plant and 8% interest, operation and maintenance 5%, financial charges 8% and taxes 1%). It has been taken into account that the maintenance charges will be relatively high since the plant will operate on peak load. The fixed unit costs will therefore amount to Lire 10.9/kwh.

The fuel costs will also be relatively high because of the lower thermal efficiency of a thermal plant operating on peak load. The unit fuel costs are estimated at Lire 6.7/kwh.

The cost of power from a thermal plant will then amount to:

Fixed Costs		L. 10.9/kwh
Fuel Costs		L. 6.7/kwh
	Total	L. 17.6/kwh

The comparison shows that peak power can be delivered from the Guadalami plant at a cost which is about 8% lower than the cost of power from an equivalent thermal plant. In addition, the hydro alternative will have the following operational advantages:

1. Better suited to meet the rapid load variations during peak operations.

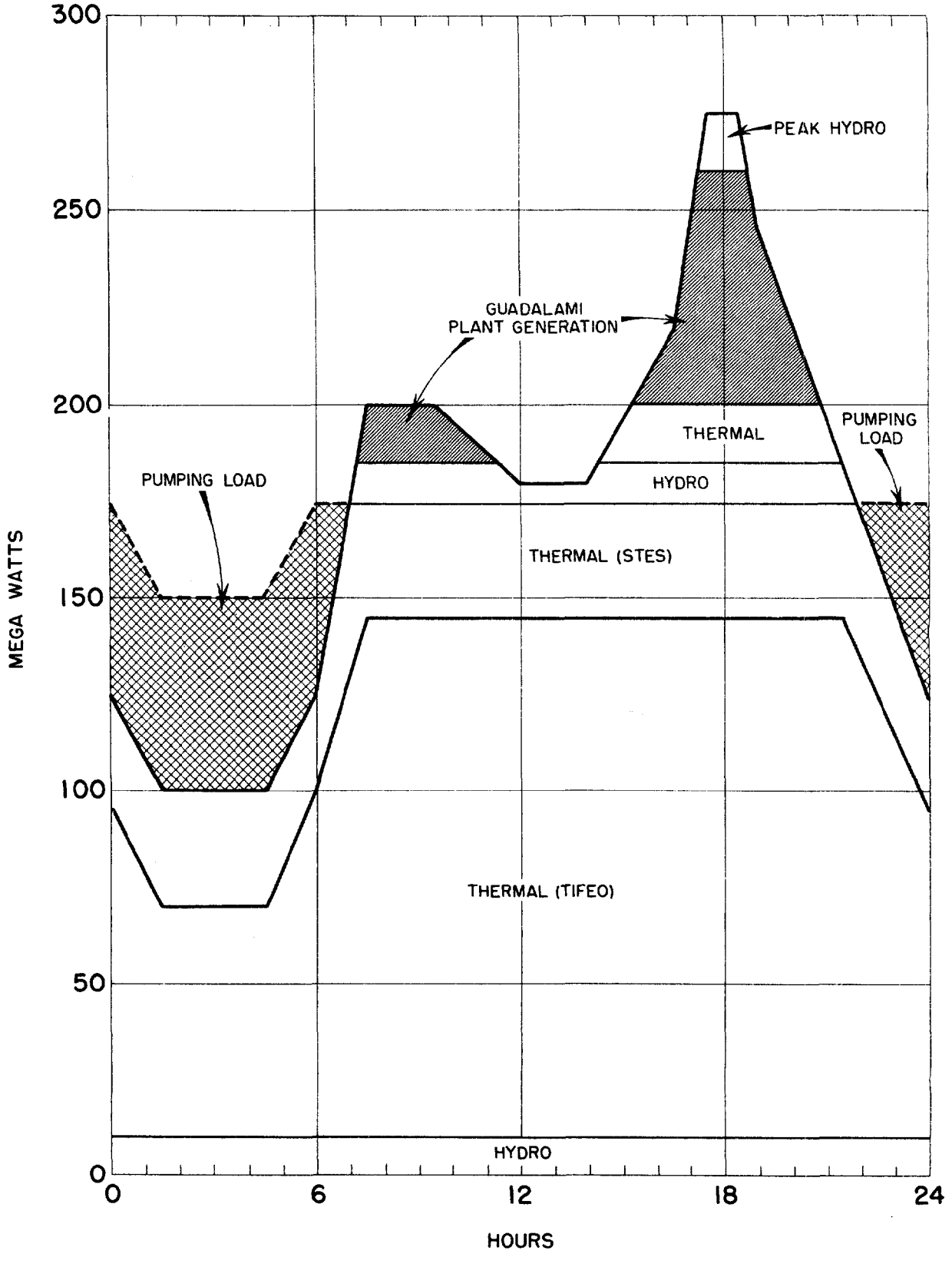
2. Fast availability of the full capacity in case of emergencies. The hydro plant can be fully loaded in less than two minutes while some 20-30 minutes are required for a thermal plant.

3. Less time is required for maintenance and overhaul.

4. Large reactive capacity is available for voltage regulation when the plant is not used for generation or pumping.

ITALY: SGES
DAILY LOAD CURVE

WINTER 1960



IBRD - Economic Staff

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PRO FORMA CONSOLIDATED BALANCE SHEET FOR S.G.E.S. AND TIFEO
AS OF DECEMBER 31, 1960
(in millions of Lire)

ASSETS

Fixed Assets	109,615
Less: Reserve for Depreciation	31,847
Net Bookvalue	77,768
Construction in Progress	7,000
Investments in and advances to affiliated companies	4,039
Current Assets	7,108
Other Receivables and Prepaid Items	2,348
Miscellaneous	1,546
	99,809

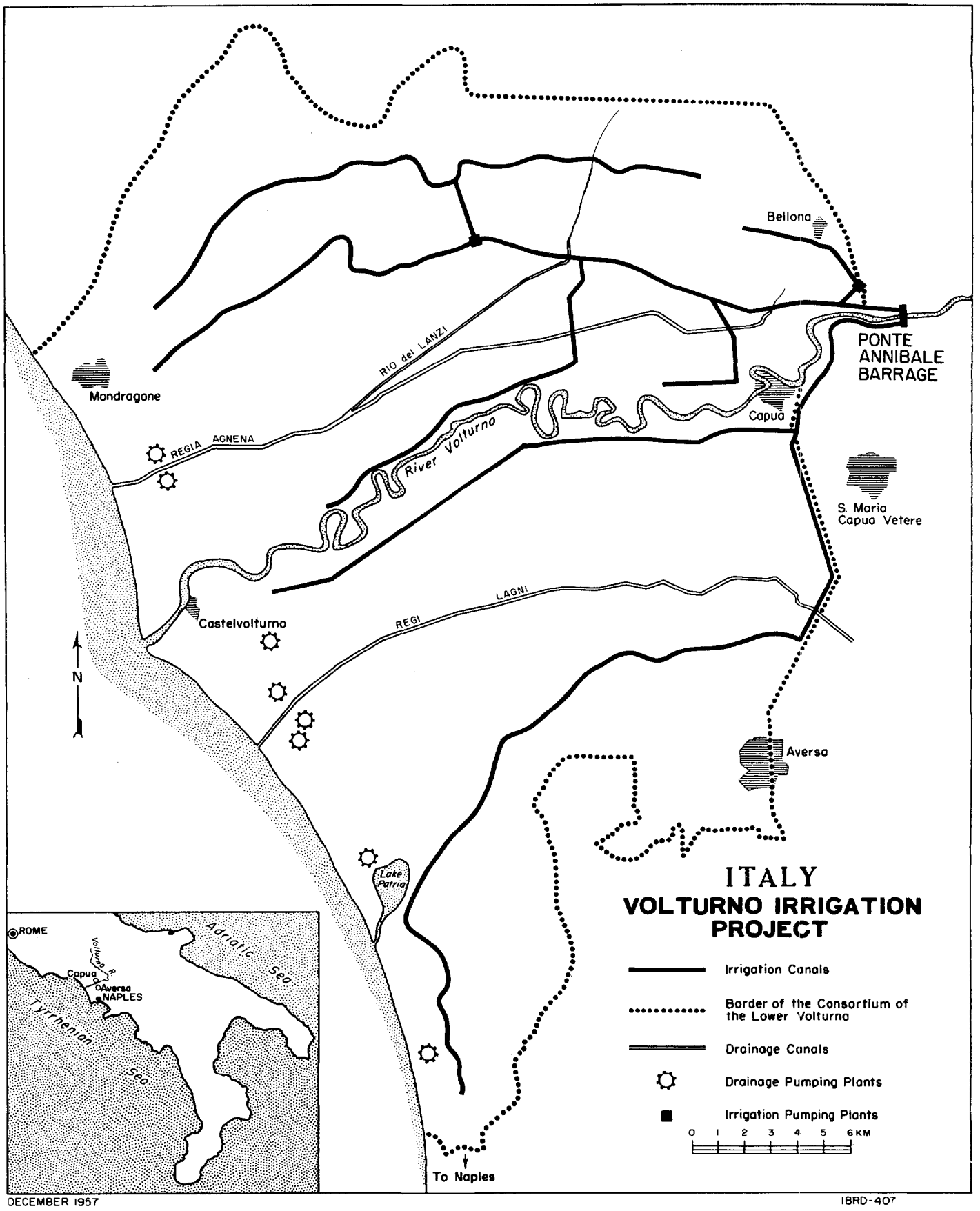
CAPITAL, RESERVES AND LIABILITIES

Share Capital	31,000
General Reserve and Surplus	5,638
Capital Surplus from Revaluation of Assets	12,205
Balance Profit and Loss Account	2,489
	51,332
Minority Interests in TIFEO Company	1,501
Equity	52,833
Debts:	
IBRD Loan (TIFEO Project)	6,008
Proposed IBRD Loan (Guadalami Project)	4,500
Other long term	16,826
Short term debts	8,523
	35,857
Current Liabilities	6,097
Reserves (for Social Security and Others	3,024
Miscellaneous	1,998
	99,809

S.G.E.S. AND TIFEO
Estimated Consolidated Income Statements and Forecast of Receipts and Expenditures
(in millions of Lire)

	1957	1958	1959	1960	1961
Gross Revenues	16,800	19,628	21,284	23,185	25,983
Operating Costs (including fuel, Maintenance, cost of purchased power, and administrative and general expenses)	11,704	11,060 1/	11,423	12,518	13,525
Taxes (income and other)	650	1,426	1,430	1,518	1,561
Provision for depreciation and renewals	1,941	2,193	2,984	3,295	3,735
Total Cost of Operations	14,295	14,679	15,837	17,331	18,821
Net Income from Operations	2,505	4,949	5,447	5,854	7,162
Less: Interest	959	868	1,493	1,508	1,664
Net Profit	1,546	4,081	3,954	4,346	5,498
RECEIPTS					
Net Income from Operations	2,505	4,949	5,447	5,854	7,162
Allowances for Depreciation and Renewals	1,941	2,193	2,984	3,295	3,735
Cash from Operations	4,446	7,142	8,431	9,149	10,897
Proposed Sale of Capital Stock:					
S.G.E.S.	3,500		5,000		5,000
TIFEO		1,500			
Borrowing:					
IBRD loan (TIFEO Project) Loan No. 150-IT	4,800	1,700			
Proposed IBRD Loan (Guadalami Project)		600	2,500	1,400	
Other proposed long term borrowing		4,000		5,000	
Increase in floating debt	352	-	1,422	235	-
Other Receipts	150	390	430	470	530
Total Receipts	13,248	15,332	17,783	16,254	16,427
EXPENDITURES					
Construction:					
TIFEO Project (IBRD loan 150-IT)	5,550	2,779	380	180	-
Proposed IBRD Project (Guadalami Project)	14	1,000	4,200	1,912	-
Other Construction	4,050	5,958	7,830	8,293	8,480
Total Construction	9,614	9,737	12,410	10,385	8,480
Expenditures for Renewals	300	300	320	330	350
Debt Service (amortization plus Interest)					
IBRD loan No. 150	144	339	643	643	643
Proposed IBRD loan	-	51	149	267	461
Other long term debt and interest floating debt	1,755	1,780	2,034	2,140	2,639
Total debt service (sub-total)	(1,899)	(2,170)	(2,826)	(3,050)	(3,743)
Dividend payments	1,435	1,645	2,227	2,489	2,664
Repayment of floating debt	-	1,480	-	-	1,190
	13,248	15,332	17,783	16,254	16,427

1/ Decrease in operating costs in 1958 represents savings in fuel costs as a result of coming into operation of new Augusta plant and closing down of inefficient old generating units.



DECEMBER 1957

IBRD-407

INVESTMENT PER HECTARE IN 1,000 L.

	Mixed	Vegetables	Fruit
Number of hectares	33,000	5,000	2,000
Land improvement	160	160	160
Buildings	125 1/	- 2/	- 2/
Planting of orchards	-	-	300
Farm requisites	120	100	75
Working capital	25	100	75
	430	360	610
Govt. grant 20% of 1st two items	60	30	30
Private contribution	370	330	580
Contribution in labor 20% of first three items	60	30	100
Private money investment	310	300	480

1/ L. 250,000 on half of the area.

2/ These small farms have buildings, or they are so close to villages that they do not need them.

Change in Farm Costs and Farm Profit
As a result of the Project
(Lire per Hectare)

		Before	After
1)	Gross production mixed farming (without fruit and vegetables)	110,000	290,000
2)	Costs of requisites: fertilizer	12,000	24,000
	pesticides	100	2,000
	feeds	500	9,000
	seeds	1,000	3,000
	Costs of machines	10,000	20,000
	Due to Consorzio	3,000	20,000
	Miscellaneous	1,000	3,000
		27,600	81,000
3)	Costs of buildings 1/	2,200	9,000
4)	Total (2 & 3)	29,800	90,000
5)	Net product (1-4)	80,200	200,000
	to labor 2/	70,000	100,000
	to capital 3/	5,000	20,000
	to taxes	7,000	20,000
6)	Profit	-2,000	60,000

1/ 7% on investments of L. 125,000 per hectare.

2/ Increase in labor requirements from 70-100 man-days per hectare.

3/ 7% of investments.

VOLTURNO PROJECT

Value of Agricultural Production before the Project

Product	Area 000 ha.	Yield ton/ha.	Production 000 ton	Price 000 L/ton	Value Mln. Lire
Wheat	17.0	1.3	22.0	70	1,540
Other grains	5.0	1.3	6.5	45	290
Pulses	5.4	1.3	7.0	55	380
Hemp	1.2	1.0	1.2	250	300
Sugar beet	1.4	17.0	24.0	8	190
Vegetables 1/	5.0				2,000
Fruit 2/	1.0				400
Fodder crops	4.0				-
Fodder crops (2nd crop)	(2.0)				
Subtotal					5,100
Animal products 3/					900
Total	40.0				6,000

1/ Valued at L. 400,000 per hectare.

2/ Valued at L. 400,000 per hectare.

3/ Valued at L. 150,000 per hectare.

VOLTURNO PROJECT

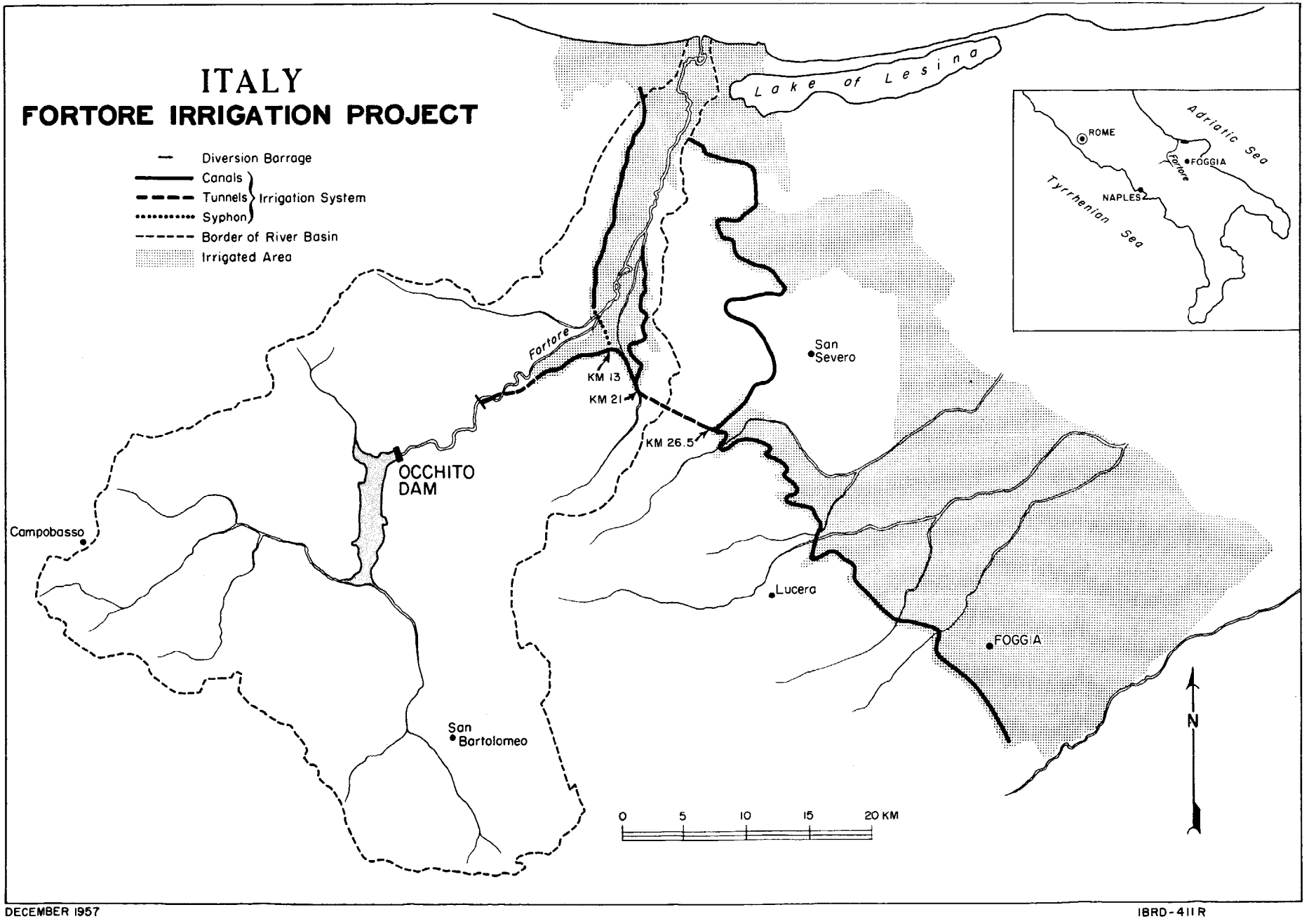
Value of Agricultural Production after the Project

Product	Area 000 ha.	Yield ton/ha.	Production 000 ton	Price 000 L/ton	Value Mln. Lire
Wheat	13	2.5	32.5	70	2,300
Other grains	2	3.0	6.0	45	270
Tobacco	2	1.5	3.0	300	900
Hemp	3	1.2	3.6	250	900
Sugarbeet	2	25.0	5.0	8	400
Vegetables 1/	5				4,000
Fruit trees 2/	2				1,400
Fodder crops	11				-
Fodder crops (2nd crop)	(10)				-
Subtotal					10,170
Animal products 3/					4,800
Total	40				15,000

1/ Valued at L. 800,000 per hectare.

2/ " " L. 700,000 per hectare.

3/ " " L. 300,000 per hectare.



DECEMBER 1957

IBRD-411R

Change in farm costs as a result of the project
(Lire per ha.)

		Before	After
1.	Gross production	65,000	260,000
2.	Costs of requisites		
	fertilizer	1,000	15,000
	pesticides	500	4,500
	feeds	2,000	4,500
	seeds	500	5,000
	maintenance, amortization, insurance	5,000	15,000 1/
	dues to Consortium	3,000	10,000
	miscellanecus	1,000	6,000
		13,000	60,000
3.	Costs of buildings 2/	2,000	20,000
4.	Total of 2. and 3.	15,000	80,000
5.	Net product (1 minus 4)	50,000	180,000
	to labor 3/	22,500	72,000
	to capital 4/	3,000	15,000
	to taxes 5/	3,250	15,000
	to profit (balance)	21,250	78,000

1/ 12.5% of the expected investment in tools, machines, etc.

2/ 10% of the expected average investment.

3/ L. 900 per man-day

4/ 6% of private money investment.

5/ 5% of gross product in direct taxes.

FORTORE IRRIGATION PROJECT

Value of Agricultural Production before the Project

Product	Area 000 ha.	Yield ton/ha.	Production 000 ton	Price 000 L/ton	Value Mln.Lire
Wheat	30	1.3	39	70	2,800
Other grains and beans	6	1.1	6.6	45	300
Vegetables	1	17	17	30	500
Fodder crops	4				-
Pasture	14				-
Fallow land	11				-
Total	66				3,600
Livestock products 1/					700
GRAND TOTAL					4,300

1/ Valued at L. 40,000 per hectare on 18,000 hectares.

FORTORE IRRIGATION PROJECT

Value of Agricultural Production after the Project

Product	Area 000 ha.	Yield ton/ha.	Production 000 ton	Price 000 L/ton	Value Mln.L.
a) irrigated land					
Tomatoes	3.6	30	108	13	1,400
Potatoes	3.6	10	36	30	1,080
Vegetables	7.2	20	144	30	4,300
Sugarbeet	3.6	30	108	8.5	920
Various grains	3.6	3.5	12.6	48	600
Clover and Alfalfa	14.4				
	36.-				
b) irrigable, but not irrigated land					
Wheat	18.-	2.2	40	70	2,800
Other grains	6.-	2.-	12	45	540
Tobacco, cotton 1/	6.-				1,200
	30.-				12,840
Livestock products 2/					4,500
GRAND TOTAL	66.-				17,340

1/ Valued at L. 200,000 per hectare.

2/ Valued at L. 300,000 on 15,000 hectares.
This figure includes three elements:
a) 0.4 tons liveweight beef per hectare at L. 300,000 per ton;
b) L. 4,000 milk per hectare at L. 43 per liter;
c) the yield of pigs, chickens, etc.