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INTERNATIONAL DEVELOPMENT ASSOCIATION

APPRAISAL OF THE SUI NORTHERN GAS PIPELINES LIMITED PROJECT

PAKISTAN

May 1, 1964

Department of Technical Operations

CURRENCY EQUIVALENTS

J.S. $1	=	PRs. 4.76
PRs. 1	=	U.S. $0.21
PRs. 1 million	=	U.S. $210,000

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SUMMARY AND CONCLUSIONS

i. The Bank has been asked to assist in the financing of a natural gas pipeline in the northern part of West Pakistan. The proposed loan of US$15 million for a period of 20 years would represent a major portion of the foreign exchange component of new construction costs.

ii. The project is designed to transmit natural gas from the Sui gas field to industrial areas in the north. It includes the acquisition of two existing gas systems as well as construction of about 370 miles of new transmission line, by a new company, Sui Northern Gas Pipelines Limited (SNGPL).

iii. Promoters of SNGPL are the West Pakistan Industrial Development Corporation (WPIDC) and Burmah Oil Company (Pakistan Trading). These companies will participate in the equity and management of SNGPL and have carried out its preincorporation activities, including application for the Bank loan. These same companies performed similar functions in connection with the successful Sui-Karachi transmission system (Sui Gas Transmission Company) which was financed in part by a Bank loan in 1954 (99-PAK).

iv. There exists in the area to be served by the system a substantial market, mostly industrial, for natural gas. It is comprised of both presently existing industrial plants and of plants which will be in operation by the time the system is completed or shortly thereafter. Energy requirements of existing plants are presently being met by oil and coal, both imported in large quantities. Use of indigenous natural gas will reduce the amount of these imports.

v. The major consumer of gas in early years is expected to be the Water and Power Development Authority (WAPDA) which is the government-owned power company. Consumption will be in large thermal generating stations at Multan and Lyallpur. WAPDA also receives large amounts of power from its hydroelectric generating facilities and this will be increased considerably when the new Mangla Dam is completed in 1968.

vi. Gas consumption by WAPDA will probably be sharply reduced by the availability of power from Mangla about 1968 and other hydroelectric facilities in later years; this fact has important financial implications for SNGPL.

vii. Other major consumers will be three large cement plants and a fertilizer plant which uses gas as both a raw material and fuel.

viii. Over the first 10 years of full operation average daily gas sales are expected to be about 80 million cu. ft. or about 29.2 billion cu. ft. annually. Within the period average daily sales will range from 104 to 65 million cu. ft./day in a pattern which rises for the first 4 years and then declines.

ix. Total cost of the gas system, including the cost of the two systems to be purchased, is estimated at PRs.284.6 million (US$59.76 million). Cost of new construction is estimated at PRs.168.9 million (US$35.47 million) of which about 58% (US$20.63 million) is in foreign exchange.

x. The original capital required will be raised in a combination of debt and equity, from both local and foreign sources. Foreign exchange requirements would be met partially by the Bank loan and partially by the equity participation of Burmah Oil Company which will be in foreign currency.

xi. According to the financial projections, the company should be able to generate sufficient funds to meet all operating expenses, cover debt service, and produce a reasonable surplus for future needs. The projections indicate that payment of dividends in the amount of 10% on paid-in equity in should be possible in most years.

xii. With the establishment of protective arrangements as shown in paragraph 103, the project provides a suitable basis for a Bank loan of US$15 million for a period of 20 years including a 2-year grace period.

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SUI NORTHERN GAS PIPELINES LIMITED PROJECT

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I. INTRODUCTION

1. In 1952 a major gas field was discovered in the desert of central west Pakistan by Pakistan Petroleum Limited, a subsidiary of Burmah Oil Company (Pakistan Trading) /BOC (PT)7, which itself is a subsidiary of Burmah Oil Company Limited (BOC)7. The discovery was particularly welcome, even though in a remote location, because of the shortage of other fuels in the country. Development of this important energy source and establishing of facilities for transmitting the gas to market areas has been a major concern of both industry and government since that time.

2. To date two transmission systems have been built; one to Karachi in the south and a smaller one to Multan in the north. The Sui-Karachi system was built by a private company with participation by the government and was financed in part by a Bank loan (99-PAK). The Sui-Multan system was a project of the government and was constructed by West Pakistan Industrial Development Corporation (WPIDC).

3. Since the late 1950's, an extension of the Sui-Multan system to the industrial areas farther north has been under discussion. The Bank was kept generally informed of these proceedings on the assumption that an application would be made for Bank assistance in financing the project. This report is an appraisal of the proposed project and is based on information supplied by the Government of Pakistan and BOC as well as on a pre-appraisal mission in early 1962, a full appraisal mission in July-August 1963 and a report of a consultant retained by the Bank.

II. THE COMPANY

4. Sui Northern Gas Pipelines Limited (SNGPL) has recently been formed to assume the task of moving Sui gas to the northern part of West Pakistan by absorbing two existing systems and construction of about 370 miles of new high pressure transmission lines. Ownership will be one-third government (through WPIDC), one-third foreign interests and one-third Pakistani public.

A. History

5. Soon after the discovery of the Sui gas field in 1952, the government and BOC (PT) began to make plans for moving the gas to consumption areas. The execution of these plans was difficult since the Sui field is located in the west central part of the country, 300 or more miles from the large market of the Karachi area in the south and the industrial Punjab region in the north. Assisted by a loan of £5,000,000 from the Bank (99-PAK), a transmission line from Sui to Karachi was completed in 1955 and after a rather slow start has operated successfully.

6. The first move toward the north came when a transmission line from Sui to Multan was constructed in 1958. Although design and supervision of construction was by BOC, ownership was entirely government and the system was operated by WPIDC. This system will be purchased by SNGPL and it will form the first link in the new system.

7. The second system, also to be purchased, transmits gas about 80 miles from the Dhulian oil field to the Rawalpindi area. It is owned and operated by the Attock Oil Company (AOC) and was completed in 1956.

8. SNGPL was incorporated on June 17, 1963, as a private company owned by nominees of WPIDC. The purpose of the private company was to advance the project to the point of approval of the Bank loan at which time it would be converted to a public company with ownership distributed as noted above. All preincorporation activities of the company were carried out by WPIDC and BOC (PT), the promoters. These activities included negotiations with government ministries, applying for sanction, preliminary design and engineering, market surveys, and feasibility studies. SNGPL has agreed to reimburse the promoters for actual expenses incurred during their efforts for the company, the cost of which is included in the project; and the promoters have agreed to release or second such personnel as will be required by the company to form the framework of its organization. SNGPL was converted to a public company on January 1, 1964.

9. Efforts to devise a project for extending the Sui-Multan line to bring gas to the Punjab area, which would be satisfactory to all interests, have been under way for several years. It was generally agreed that this could best be accomplished by the successful Sui-Karachi team, and after long negotiations government sanction was issued early in 1963. The difficulties arose from the magnitude of investment necessary and the relatively limited demand anticipated. Feasibility of the project was improved when WAPDA announced plans for a new gas-fired thermal generating station in the SNGPL area.

10. In planning the project, the government interest, which was to provide low cost gas to consumers to aid economic development, tended to conflict with BOC (PT) interest which was to sell Sui gas at a favorable price, and SNGPL interest which was to operate a financially sound company and provide a reasonable return to investors. These conflicts were complicated further by the fact that some of the parties represented more than one interest, e.g., WPIDC is a government-owned corporation and is also one of the promoters of the company.

11. Several versions of the project were proposed in response to suggestions by all parties, including the Bank. At a series of meetings in early 1963, certain compromises were effected and the project was submitted to the Bank for appraisal. At the same time a Promoters Agreement was signed, defining the participation of the parties and establishing the conditions under which the new company would be organized.

12. The sanction letter from the government, which establishes a number of conditions for the operation of the company, is included as Annex 1.

B. Ownership

13. The equity of the proposed public company would be owned one-third each by WPIDC, BOC and the general public. The public portion would be sold by a public offering underwritten by PICIC, BOC would purchase its portion in foreign exchange and WPIDC would receive its portion in partial payment for the fixed assets of the Sui-Multan line. Actually, BOC has agreed to "procure the subscription of one-third (of the equity) from parties outside Pakistan who are acceptable to the government provided that the IBRD agrees to assist in the financing of the project." However, it is believed that the majority of the BOC portion will be purchased for its own account. Details of the capital structure are shown in paragraph 73.

14. BOC (PT) is a wholly-owned subsidiary of Burmah Oil Company Limited, a well-known international company with a predominant position in Pakistan and India, as well as wide interests in Peru, Canada, the United States and Ecuador. Capital and surplus of BOC as of December 31, 1962, amounted to £124 million. BOC (PT) in turn owns 70% of Pakistan Petroleum Limited (the other 30% is owned by the Government of Pakistan) which owns the concession at Sui.

15. WPIDC is a government corporation and was organized to promote the economic and industrial development of West Pakistan. It is empowered to engage in "planning, promoting, organizing and implementing programs for the exploitation of forests and fisheries...minerals and mines...and development of any material which the central government may entrust to it." Its financial resources are obtained from the government. Participation of WPIDC in the debt and equity of SNGPL is in the form of the fixed assets of the Sui-Multan system; no new investment is involved.

C. Organization

16. A proposed organization chart is shown as Annex 2. The Promoters Agreement between BOC and WPIDC establishes certain provisions for the management of SNGPL during the construction period and for five years thereafter. Since together they control two-thirds of the equity, the Agreement can be effective.

17. The Board of Directors will have nine members, three each elected from nominees of WPIDC and BOC, and three elected from the remaining shareholders. One of the WPIDC nominated directors will be the Chairman WPIDC who will also serve as Chairman of SNGPL. The General Manager of BOC (PT) will be one of the nominees of BOC. The General Manager of SNGPL will be nominated by BOC during the construction period plus five years; WPIDC will nominate the Chief Accountant for the same period.

18. An Executive Committee comprised of the Chairman SNGPL (and WPIDC), General Manager BOC (PT) and one representative of the public will perform the day-to-day functions of the Board. The chief executive officer will be the General Manager but he will not be a member of the Board. All orders to the staff of SNGPL will be issued through the General Manager; however, "it will be open to (the Chief Accountant) to bring any matter to the notice of the Board through the General Manager if in his opinion the decisions of the General Manager on any matter is against sound financial principles." The mission was favorably impressed with the abilities of the nominees of BOC and WPIDC who have been proposed as management for SNGPL.

19. It is anticipated that SNGPL will absorb all suitable members of the staff of the Sui-Multan line and AOC systems. Other experienced staff will be acquired from the pipe laying contractor on completion of construction. These sources will supply the necessary core of trained operating personnel; unskilled labor is in plentiful supply.

D. Facilities

20. Facilities of SNGPL will include two existing gas pipelines as well as the new construction. Largest of the two is the Sui-Multan line which was the first step in transmitting Sui gas to the north; work was completed in 1958. The original scheme was to build a 16" transmission line from Sui across the Indus River over the Gudu barrage and north to Multan. Because of delays in construction of the Gudu barrage, it was necessary to construct a 10" connecting link from the Sui-Karachi line just east of the Sukkur barrage to the 16" line on the east bank of the Indus opposite Gudu. Work on the Gudu crossing has been proceeding and final testing is almost complete. When the crossing is commissioned, the 10" link will be taken out of service. The pipe will ultimately be raised and moved to another location.

21. In addition to the approximately 300 miles of transmission line, the Sui-Multan system has some 45 miles of distribution mains, mostly in Multan, a telecommunication system, a number of line headquarters and repeater stations and a sizeable terminal station at Multan. All of these fixed assets will be acquired by SNGPL at a price which has been agreed at PRs.96.5 million, representing the undepreciated original cost of the facilities. The facilities have been reasonably well maintained and the design is compatible with that of the new construction. The financial record of the system is presented in Annex 3.

22. The AOC system was built by the Attock Oil Company in 1956 to transmit gas, which was being flared, from the Dhulian oil field to the Rawalpindi area. Its assets consist largely of about 85 miles of 6" transmission line. Present customers are only a few industrial plants and therefore no significant distribution lines are included. Estimated original cost of the system was about PRs.7 million and the agreed price to SNGPL is PRs.4.7 million. The installations have been examined by SNGPL and found to be in good order. Financial history of the system is available only in working account statements by AOC, which show that the system is operating profitably.

III. THE PROJECT

23. The main elements of the project are construction of 378 miles of high pressure transmission line of various diameters, limited distribution systems in Lyallpur, Lahore and Rawalpindi; various extensions and improvements to the existing systems, one compressor station, and necessary auxiliary installations such as telecommunications and cathodic protection.

A. Route

24. The main transmission line (16") will extend from Multan to Lyallpur and continue (12") to Dandot. Spurs will extend from Lyallpur to Lahore (10") and from Haranpur to Gharibwal (8"). The AOC line will be extended by 6" transmission mains from Wah to Hattar and from Rawalpindi to Islamabad. A 10" loop (parallel line) from Dhulian to Galijagir is also part of the project. (See map).

25. The right of way of the new construction is largely irrigated, nearly level farm land of sandy clay soil ideally suited for ditching machines. Some sand and low swampy areas will be encountered but in general it is excellent pipeline country. Irrigation canals are numerous but they are mostly under 100 feet wide and can be crossed by boring under the canal, a routine operation.

26. The new pipeline will cross the Ravi over a suspension bridge near Multan and again over a road bridge at Lahore. After lengthy discussions the company now has permission to cross the Jhelum and Chenab rivers on existing railroad bridges, but in view of certain technical problems it is also considering separate crossings constructed solely for the pipeline. The decision will depend in part upon an assessment of the financial flexibility of the project after bids are in for the major contracts.

27. Extensive distribution lines are not contemplated as part of the project. Only facilities designed for connecting industrial customers will be established immediately and the exact location of the lines depends on the sequence of connection of these customers. At first, small commercial and domestic customers will be connected only if they are close to the system. These small loads will not be an important part of the overall demand, but will be developed as fast as it is economical to do so. Provision for continuous expansion of the distribution system is shown in the financial projections.

28. It is expected that the SNGPL system will be integrated in the future by a connecting link between the AOC system and the new transmission line, and expanded by major spurs, e.g., to Jhelum, Gujranwala, and Peshawar. However, these extensions will be made only when economically feasible and the viability of the present project does not depend upon them.

29. On completion of new construction, the entire system, including distribution, will be operated as a unit. Later, local distribution companies may be formed but it is not considered practicable at this time in view of the necessity of having all distribution systems ready for use when the transmission lines are completed.

B. Auxiliary Facilities

30. In addition to the pipeline itself, certain other facilities are necessary for the long distance transmission of gas. Repeater stations with control valves, measuring and recording equipment, telecommunication equipment, power generation, etc., will be built every 40 miles or so. Some of the stations will be manned by a small staff; others will be automatically controlled and unattended. Equipment for cathodic protection of the pipeline against corrosion will be installed at these stations.

31. A terminal station with repair shops, storage, engineering and records office etc., will be built at Lyallpur and it is probable that the main office of the company will eventually be there. Construction headquarters will be at Multan in the beginning with administrative headquarters in Karachi.

32. A modern telecommunication system has been designed by BOC engineers not only for the new construction but also to replace parts of the Sui-Multan equipment. The system will provide complete remote reading and control of all pipeline conditions and operations, and has been designed to handle the entire load of the integrated system when necessary.

33. Only one compressor station will be required initially. Two 1,350 HP units plus related equipment will be installed at Mile 77 on the Sui-Multan line. As demand grows additional compressors will be added. The financial projections show estimates of the amount and timing of the necessary expenditures.

34. Some residential building will be necessary where existing housing is inadequate.

35. The company will purchase power where it is available but will also have generating equipment for use in remote locations and for emergency use.

C. Gas Supply

36. Natural gas is one of the most important natural resources of Pakistan. There are four large gas fields, of which Sui is believed to be the largest, and several smaller fields. Reserves in the Sui field of recoverable, marketable gas as of July 1, 1963, were over 5 million million cu. ft., as estimated by independent consultants. This places it as one of the 10 largest fields in the world, which could supply the northern and southern gas systems at the rate of 200 million cu. ft./day (which is higher than expected for many years) for a period of about 70 years.

37. The concession at Sui, owned by Pakistan Petroleum Limited (PPL), is for 30 years, renewable at the option of the company. PPL will dedicate 2 million million cu. ft. to SNGPL which would provide for operation at the rate of 100 million cu. ft./day for about 55 years.

38. Sui gas is 84% methane, 7% carbon-dioxide, 2% nitrogen and 2% other hydrocarbons. Some sulphur, water and liquid hydrocarbons are removed in the purification process. Well head pressure is 1,950 psi and heat content is 975 BTU per cu. ft.

39. Purification facilities at Sui are owned by the Sui Gas Transmission Company (SGTC). There are presently 4 units which are adequate for present demand but when the SNGPL system is completed, another unit will be required. SGTC has applied to AID for financing of the new unit, and approval has been received. The fee for purification has been agreed upon. (Annex 5).

40. Conditions at the Dhulian field are quite different from those at Sui. Gas is produced in association with oil and at a relatively high gas/oil ratio (high gas content for each volume unit of oil). To properly exploit the Dhulian field for oil production, which is their major interest, AOC is obliged to try to retain underground as much gas as possible in order to maintain field pressure. This involves shutting down wells when the gas/oil ratio becomes too high and drilling new wells at lower points in the producing structure where the gas/oil ratio is lower. Although this produces fluctuations in the supply of gas, AOC plans to continue this operating procedure. Such fluctuations have not been important in the past because demand from the pipeline has never been larger than the minimum amount of gas available but as demand grows this situation will become more important. The supply of gas from Dhulian and the growth of demand in the Rawalpindi area will determine when a connection between the northern and southern systems will be necessary. Previous studies have indicated that it should be around 1970 but more recent data suggests that it may be necessary sooner. Financial projections show expenditures for the construction in fiscal 1967 which is the company's present estimate of when the connection will be needed.

41. Dhulian gas is sufficiently purified in the production process and no further treatment is necessary. Heat content is 1,130 BTU/cu. ft., somewhat higher than Sui gas.

D. Construction Cost Estimates

42. A complete statement of estimated construction costs may be found in Annex 4. All costs have been examined in detail by the consultant who accompanied the mission. The total cost of new construction is estimated at PRs.168.85 million (US$35.45 million) of which 58% (US$20.63 million) is foreign exchange.

43. A condensed Table of Cost Estimates for new construction is shown below:

Cost Estimates
(PRs. millions)

Item	Cost	Foreign	Local
Transmission Line	125.59	77.26	48.33
Distribution	15.00	5.55	9.45
Auxiliaries	24.90	15.46	9.44
Land	3.36	-	3.36
Total	168.85	98.27	70.58

44. Purchase of the pipe and laying of the pipe are the most important elements of the total cost, being together about 70% of the total of new construction. FOB cost estimates for pipe are based on purchases made by SGTC and WPIDC and recent quotations from the U.K. and Japan. Ocean freight and insurance are at existing rates; duties, sales tax, handling, local freight and other local costs have been calculated. A contingency provision of 5% of FOB cost and 10% of local costs has been added, and some additional contingency exists in the form of liberal allowances for the length and tonnage of pipe. Bids already received for a large portion of the pipe indicate that the final cost of pipe will be within the cost estimate.

45. Pipe laying cost estimates are based on experience of the SGTC line to Karachi, the Sui-Multan line, the Oil India line which has been recently completed and the consultant's knowledge of current conditions. Calculations were made both by using cost per mile based on experience, adjusted for local conditions, and by applying local wage and other costs to a construction organization capable of doing the work. To the results of such calculation has been added a contingency provision of 16%. SNGPL and the Bank consultant feel that this estimate is adequate.

46. Estimates for distribution systems are based on preliminary plans in each area and are believed to be adequate. Costs of compression equipment, telecommunications, valves and fittings and other elements are based on catalogue prices, recent purchases and judgment; contingency provisions of up to 20% have been applied to the various items. Spare parts are included to the extent necessary based on judgment of the consultant.

47. Overall construction costs, as calculated independently insofar as possible by the consultant, were very close to the estimate made by the company. It is the opinion of the consultant that no additional contingency is required. The promoters will sign an agreement to meet any cost overruns.

48. All design, engineering, supervision, issuing of tender documents, evaluation of bids, etc. will be done by BOC under a Services Agreement signed with the Company. Under the agreement, SNGPL will reimburse BOC for all out of pocket expenses and will, in addition, pay a fee of 1% of the cost of new construction less the cost of specialist consultants, if any, and PRs.200,000 per annum for a period of 5 years after construction is completed.

49. Procurement will be on the basis of international competitive bidding and contract awards will be made to the lowest evaluated bid.

E. Construction Schedule

50. Construction of the new transmission line is scheduled to begin in September 1964 and to be completed by July 1965. Plans have been designed to allow completion of all new construction during one season to avoid the heat and flood conditions of the summer months.

F. Present Status of the Project

51. Tenders for pipe, telecommunications equipment, coating and wrapping materials, and the pipe laying contract have been called. Documents for other contracts are in preparation. Basic design of the new construction is set and engineering largely completed.

52. Map and aerial surveys of the route have been made and ground survey crews are marking the route between Multan and Lyallpur. Legal procedures for the acquisition of land are completed for sections between Multan and Lyallpur and are well advanced for the other sections.

53. The Sui-Multan line and the AOC system have been taken over by SNGPL. The General Manager, Chief Accountant, Chief Engineer and other staff members have been appointed and are devoting full time to the company's affairs. Work has been proceeding on improvements to the existing systems. The Gudu barrage crossing is in final testing and the new pipeline bridge over the Sutlej is expected to be complete by mid-summer 1964. On the AOC system, extensions of the Rawalpindi distribution system are under way.

54. These activities are being financed by cash generated by present operations, bank overdrafts, an interim financing plan and by a short-term foreign exchange loan from PICIC. These arrangements are discussed in paragraphs 78 and 79.

IV. THE MARKET

55. A detailed projection of demand by area and by industry is contained in Annex 5. For the first ten years of operation daily consumption is expected to average about 80 million cu. ft., with 65 million cu. ft. from Sui and 15 million cu. ft. from Dhulian. During this period, however, there may be sizeable fluctuations. These fluctuations are anticipated because of changes in the use of gas for power generation, which, in turn, is affected by the availability of hydroelectric generating facilities. Consumption is expected to reach a peak in the fourth year and thereafter to decline. Year 10 is expected to have the lowest total for the period. This demand pattern is quite unusual for a pipeline and complicates the financial planning for the future.

56. There are five major areas to be served - Multan, Lyallpur, Lahore, Gharibwal-Dandot and Rawalpindi.

Multan with about 400,000 population, is presently served by the Sui-Multan line. Major customers are a large WAPDA thermal power station with 260-Megawatt capacity, a small privately-owned power station, a large textile mill and a large fertilizer factory owned by WPIDC. There are other potential industrial loads in the area and the new management will be aggressive in developing them.

57. Lyallpur is the fastest growing major city in Pakistan. Population has increased more than 500% since 1941 and is presently about 500,000. Although it is known as the center of the textile industry in West Pakistan, food processing in plants producing sugar, ghee, flour and corn products are also important. WAPDA has planned a 130-Megawatt gas-fired steam power station here which is scheduled to be completed late in 1966.

58. Lahore is the second largest city in West Pakistan with 1,300,000 population as of 1961. Although the area has some heavy industry, it is dispersed. Distribution will be planned in stages, attempting to connect the maximum load without making an unreasonable investment in facilities. Large customers will include two steel rerolling mills, shops and power house of the Pakistan Western Railway, textile mills, tanneries and others.

59. The Gharibwal-Dandot area contains two cement plants and a soda ash factory. No other significant demand will be found there.

60. The Rawalpindi area, which includes the Wah and Hattar cement plants as well as Islamabad, is presently served by the ACC system. Construction has just begun on the Hattar plant; it is expected to be in full operation by late 1965. The rate of industrial growth has been moderate in the area but should increase as government activities are concentrated there. In addition to the cement plants, there is a small local power station, textile mills, a brewery, the Pakistan Ordinance Factory and a potentially important heating and air-conditioning load at the new national capital, Islamabad. Population is about 400,000 and should increase rapidly.

61. As seen in the foregoing paragraphs, demand for gas is concentrated in three industries - electric power generation, cement, and fertilizer. Electric generation, including the small independent companies, will take roughly 1/2 of the projected throughput in the first ten years. Cement and fertilizer together will take about 1/4 and the remainder will go to miscellaneous industrial, commercial and domestic consumers.

62. Development effort will be toward industrial and large commercial consumers, such as hotels and office buildings. Demand from small consumers is not expected to justify construction of comprehensive distribution networks. In Karachi, which has an extensive distribution system, consumption for 1962/63 was distributed as follows:

Electricity	36.1%
Cement	30.5%
Textiles	18.5%
Glass	3.6%
Engineering	2.5%
Miscellaneous	8.8%

These relationships have remained more or less constant since the beginning of operations.

63. WAPDA power stations are expected to take more than 50% of the gas sold in the first 5 years and about 40% over 10 years. This amount will be distributed 75% Multan and 25% Lyallpur. Power demand from the WAPDA grid and gas consumption for generating power have been calculated by WAPDA's consultant, Harza Engineering. The estimate of future demand for power is based on WAPDA's past experience, a declining rate of increase and a market survey (which has not been made available to the mission). The estimate of gas consumption is based on total power demand expected and a number of assumptions about the availability of hydroelectric power. A planning commission's estimate of power demand was somewhat lower than that of WAPDA but, even assuming that the commission's calculation is more accurate, the effect on gas consumption would be unknown because of other variables.

64. For the purposes of this report, WAPDA's estimate of gas consumption has been accepted as presented. It is believed to be reasonably conservative in that WAPDA has agreed to a substantial fixed charge based on the estimate and in that the maximum availability of hydroelectric power has been assumed. Significant variations from the estimate, if any, are likely to come after several years of operation at a time when consumption for power generation is less important in the total use of gas.

65. WAPDA has applied to AID for financing for the Lyallpur power station and the loan has been authorized. The plant should be in operation in late 1966.

66. The addition of very large hydroelectric generating capacity in future years will greatly affect operations of the pipeline. WAPDA's off-take projections assume addition of hydroelectric units shown in Annex 5. Total hydroelectric capacity added from 1968 to 1984 is estimated at 2,429-Megawatts. Total firm hydro and thermal capacity in 1968 including the planned station at Lyallpur will be 574-Megawatts, before Mangla. It has been assumed that hydro generation will be used as much as possible as it becomes available and that the thermal stations will be used for peaking and efficiency adjustments in the grid system. The effect of this may be seen in the total WAPDA offtake in the first 10 years of the project of 130 billion cu. ft., compared to the second 10 year total of 16 billion.

67. The expected decline in WAPDA's demand for gas will be offset in some degree by increases in other segments of the market. These other increases, which have been conservatively estimated, will not be sufficient to maintain the level of demand in early years but will be adequate to insure the financial viability of the SNGPL system. In view of the present status of planning of some of the hydroelectric facilities assumed by WAPDA, it is not unreasonable to expect that there will be delays or revision in these plans which would improve the financial outlook of SNGPL over that shown in this report.

68. Pakistan has had a perennial shortage of cement in the past, making large imports necessary. Supposedly expert opinion differs as to the amount of shortage in the past and as to the demand for the future. PICIC has made its own projections based on existing studies, and estimates that demand for cement in the northern area by 1970 will be 1,700,000 tons annually. Present installed capacity is 580,000 tons and 720,000 tons will be added at Gharibwal and Hattar, making a total of 1,300,000 tons capacity by the end of 1966. It has been considered justifiable, in view of the estimated shortfall, to add to demand projections provision for one additional 600 ton/day kiln in 1970/71 and another in 1975/76; they may be needed even sooner.

69. Opinions are also widely divergent regarding the need for fertilizer production in West Pakistan. Again surveys have been made very recently and again the conclusions were very different. The best estimate is that one or possibly two additional fertilizer plants will be built in the SNGPL area in coming years, but they could be built either at the Mari field, where the gas has a high nitrogen content, or at Sui itself instead of on the northern pipeline. Experts also differ as to whether fertilizer plants should be built near the source of raw material or near the market. If the latter opinion prevails, there will almost certainly be a large plant somewhere north of Multan. Because of the greater uncertainty as compared to cement, no provision has been included for additional fertilizer production, although it is considered very possible that the northern pipeline could serve at least one more plant. A plant comparable in size to the one at Multan could mean about 10% higher sales and earnings for SNGPL in the middle 1970's.

70. The provision for "other" industry in Annex 5 is believed to be conservative. It is based on a survey of potential customers made in June 1963 by the company. Only those consumers who are known to have substantial gas requirements and who have expressed a desire to have gas, have been included and the amounts have been taken at conservative levels in relation to present consumption of other fuels. The company feels strongly that there is greater potential than shown in these areas, both in terms of the number of consumers and their demand. Projections have been made based on a rate of increase in the "other" category of about 7% per year compounded. Experience in Karachi in comparable categories has been well over 20% compounded. However, it should be pointed out that no reasonably conceivable rate of increase in this category can offset the decline in WAPDA's demand as projected, at least for many years.

V. FINANCING PLAN AND FINANCIAL PROSPECTS

71. The financing plan envisages raising both equity and debt from the public and other outside sources, as well as substantial participation in equity and debt by the promoters. No serious difficulty is foreseen in raising the original capital required, assuming that the Bank loan is approved, but cash requirements in future years, including capital investment, debt service, dividends and taxes, will be substantial and will have to be obtained under conditions of falling revenues. The financial problems of the company are delineated by the necessity of a large capital investment to meet demand in early years, the subsequent decline in demand and the expectation of large additional capital investments after a few years which do not result in proportionately higher sales.

A. Capital Requirements and Capital Structure

72. Total financial requirements for the project are shown below:

	PRs. millions
Purchase of Sui-Multan System	96.5
Purchase of ACC System	4.7
New Construction	168.9
Interest during Construction	3.6
Working Capital	10.9
	284.6

73. The capital structure of the company is expected to be as follows:

	PRs. millions	
Equity	Foreign Exchange	Local Currency
WPIDC		33.3
BCC	33.3	
Pakistan Public		33.4
	33.3	66.7
Total Equity		100.0
Debt		
IBRD	71.4	
WPIDC		63.2
Industrial Development Bank of Pakistan		50.0
	71.4	113.2
Total Debt		184.6

Total capitalization PRs.284.6 million (US$59.7 million).

74. The financing plan is well defined insofar as the equity is concerned. The WPIDC portion will be issued as part payment for the Sui-Multan line. BOC has agreed to purchase or secure a purchaser for its portion in foreign exchange; however, BOC's participation is contingent upon the Bank loan. PICIC has expressed willingness to underwrite the equity offering to the Pakistani public and is prepared to sign an underwriting agreement when the Bank loan is approved. They feel that the offering will be considerably over-subscribed, barring an unexpected change in market conditions. The underwriting fee has not been set and is not included in the financing plan. However, it should be of the order of PRs.0.4 million (US$84,000) and therefore is not of material significance to the plan.

75. Arrangements for raising the loans have also been satisfactorily concluded. Again, the WPIDC loan is part of the Sui-Multan purchase price. The remaining PRs.50 million to be raised locally was the subject of some uncertainty in that the government had agreed to make the funds available at 5% interest but had, until recently, not decided exactly how this would be done. It is now agreed that the funds will be made available in the form of a loan from the Industrial Development Bank of Pakistan (IDBP) at 5%, with maturity up to 12 years.

76. The loan agreement between SNGPL and IDBP will provide that the entire amount will be available immediately but will be drawn down as the funds are required for the project. Repayment before maturity will be at the option of the company, on six months' notice, and no premium will be charged for early payment.

77. Details of the proposed debt are shown in Annex 5.

78. The company has employed interim financing measures in order to continue work on some elements of the project while the Bank loan was being considered. It was felt to be necessary to carry out preliminary work in order to be able to begin construction in September 1964, and meet the planned completion date of July 1965. The company felt that the importance of the construction schedule outweighed the risk that the Bank loan might not be approved.

79. The interim financing plan includes bank overdrafts up to PRs.10 million, commitment of a portion (PRs.10 million) of the BOC equity, the formal commitment of a portion (PRs.20 million) of the WPIDC equity and a foreign exchange loan from PICIC which would be reimbursed either from the Bank loan or from the BOC equity. As the WPIDC equity is part of the Sui-Multan purchase price, no cash would be available from their commitment of equity. Once the Bank loan is approved, the full financing plan will be implemented, the bank overdrafts and the PICIC loan repaid, and the capital structure will be as shown in paragraph 73.

80. The equity will be issued at par; the public portion to be sold largely through an underwriting consortium organized by PICIC. SNGPL has reserved the right to place a portion of the public equity with certain institutional purchasers, notably the National Investment Trust. Shares sold by this method will not be covered by the underwriting agreement with PICIC but all sales must be completed as a condition of effectiveness of the Bank loan. The prospectus will state that the government has imposed an upper limit on dividends of 10% per year on equity capital. In addition, the company has agreed to pay dividends only out of current and undistributed profits available after calculation of deferred taxes and only if working capital is at satisfactory levels.

81. The Bank loan will be repaid in equal installments of principal which places higher total payments, including interest, in early years when the pipeline will be operating at close to capacity. While both the WPIDC and IDBP loans are due and payable only at maturity, SNGPL plans to repay these loans also in equal installments of principal, with the entire payment being applied first to the IDBP loan until fully repaid and then to the WPIDC loan.

B. Financial Prospects

82. Assumptions on which the financial projections are made are shown in Annex 5. The financing plan and operating results, as projected, are reasonable and contain sufficient flexibility to allow the company to meet its obligations under foreseeable conditions. Also, estimates of capital investment, sales and operating costs are believed to be conservative. Addition of hydroelectric facilities to the WAPDA system have been assumed at the maximum; any delay or elimination of such additions would tend to improve operating results of the pipeline.

83. Substantial capital expenditures for expansion and improvement of the systems are expected in future years. Major items will be the interconnection of the two systems and two additional compressor stations. Continuous expansion of the distribution systems will be necessary and spur lines to other cities will probably be desirable. Financial projections show that the company would be able to finance a large part of these expenditures from internally generated funds. However, because of the shortage of foreign exchange prevailing in Pakistan, it is expected that at least the foreign exchange portion of future capital investment will be borrowed. However, these future decisions will be made on the basis of conditions prevailing at the time. SNGPL has agreed to certain financial covenants which give the Bank a measure of control over such decisions.

84. The corporate income tax rate for SNGPL is 50% at all levels of income. However, taxable profit is calculated using special depreciation rates set by the government for this purpose. Under present regulations a very large portion of the value of fixed assets can be written off for tax purposes in the first few years of operation; therefore, the effective tax rate tends to increase steadily over the life of the assets. Because of this accelerated depreciation for tax purposes, SNGPL is not expected to incur any tax liability until the seventh year of full operation, after which time taxes will absorb an increasing portion of reported taxable income

It is important to note that, under these regulations, taxes are only deferred and not avoided. In the case of SNGPL this is even more important because taxes will begin to be incurred at a time when revenues and cash generation are relatively low. The company will endeavour to meet this problem by establishing a Tax Equalization Reserve but this will be effective only to the extent that the asset equivalent of the reserve is kept in relatively liquid form. Also, public, and to some extent government, opinion as to the equitableness of the rates will be influenced by reported earnings which will be overstated in early years to the extent of taxes deferred.

C. Rate Structure

85. Gas rates in Pakistan are supervised by the Ministry of Fuel, Power and Natural Resources. The rate structure under which sanction was issued is as follows:

WAPDA and other Electricity Companies	PRs.2.05-2.25/MCF
Fertilizer Factories	PRs.2.05/MCF
Cement Factories	PRs.2.60/MCF
Other Industries	PRs.2.80/MCF

Small commercial and domestic rates have not been set but are expected to be around PRs.8.00/MCF. However, revenues from this source will not be significant in the total.

86. WAPDA has agreed to pay an average price of PRs.2.25/MCF over the first 10 years of operation, with the average being composed of a fixed charge per month assigned to each power plant, plus a commodity charge of PRs.1.25/MCF. The amount of the fixed charge is calculated by a formula based on WAPDA's projected consumption and the agreed average rate. It is payable regardless of the amount of gas actually consumed. (Annex 5, page 8).

87. It is planned to secure a firm purchase agreement, similar to the WAPDA agreement, from the Multan fertilizer plant. Purchase agreements will also be signed by the cement companies and other large consumers. These latter agreements probably will not contain fixed charge provisions but because of the price of competing fuels, their availability and the other inherent advantages of natural gas, the company is assured that they will use gas to the full extent of their requirements.

88. This rate structure will apply to the entire system regardless of the source of gas or the distance from the source. Under this plan, the Rawalpindi area will be subsidizing the rest of the system, as their rates will be raised from an average of PRs.1.35/MCF to PRs.2.50/MCF for no reason except that they are part of the SNGPL system. This will be true until Dhulian gas is insufficient to meet the demand and it becomes necessary to connect the two systems.

89. Rates are subject to revision after 5 years and the Gas Rules of 1960 state that "...the Authority shall allow a reasonable return to the licensee." In addition, the company and the government have agreed to certain policies regarding rates, which reflect the Bank's views of adequate rates.

D. Operating Costs

90. Operating cost estimates are discussed in detail in Annex 5. They are based on experience of the Sui-Karachi system and are believed to be conservative in that costs should be lower per mile and per MCF on the SNGPL system which will have longer transmission lines, less distribution facilities and greater throughput. Variation from estimates of transmission, distribution and compression cost would cause no serious difficulty from the point of view of debt service. Even if these costs were to be 50% higher than estimated, they could be absorbed by lower dividends in most years, especially as they would be partially offset by lower taxes.

E. Profitability

91. Net income as shown in Annex 6 is high in early years as a result of near capacity sales and deferred taxes. Unfortunately, the expected decline in sales and the incidence of income taxes occur at about the same time. Any financial difficulties which the company may encounter will probably be seen in these later years.

92. The basic structural problem of the project, i.e., the large capital investment and the reduced (on the basis of conservative projections) sales after 1969 leads to peculiarities in calculating profitability. In order to support the capital investment and to produce a fairly reasonable return on investment, rates must be set at levels which produce a high return on sales. The picture is further complicated by tax deferral in early high income years and the subsequent increasing effective tax rate in later years when sales are lower.

93. Fortunately, rates can be set at levels which will meet these problems and still bring large benefits to consumers of gas. This is true because of the existing high cost and scarcity of fuel and transportation in the company's area.

94. Debt service coverage ranges around two times in most years and is lowest at 1.5 times in 1975. Overall return on investment ranges from 11.8% to 5.6% over 12 years with an average of 8.1% for the period. The maximum debt:equity ratio would come at the end of the construction period and thereafter would decline rapidly. Net working capital will remain at high levels because of the Tax Equalization Reserve and borrowing for capital expenditures.

VI. ECONOMIC JUSTIFICATION

95. The economic justification of the project rests largely on the utilization of a natural resource and foreign exchange savings. Pakistan's large gas reserves are one of its most valuable natural resources. Alternative sources of fuel are limited in quantity and, in the case of coal, poor in quality. Natural gas is clean, efficient in combustion, easily transportable, subject to precise automatic control and does not require storage or expensive handling facilities. The supply is assured for many years to come and is independent of changes in international political and economic conditions.

96. For practical purposes, the only fuel competitive with natural gas in northwest Pakistan is fuel oil. The delivered price for fuel oil in Lyallpur, the mid-point of the system, is as follows:

	Long Ton	Equivalent Cost of Heat Energy in Terms of 1,000 ft.^{3} of Gas
Ex. Karachi	PRs.111.40	PRs.2.60
Rail Freight	31.63	.74
Total	PRs.143.03	PRs.3.34
Ex. Karachi price includes:		
Duty	24.10	.56
Development Surcharge	7.75	.18

Local taxes are added in some locations.

97. The comparison above is based on equal efficiency and one ton of fuel oil having heat value equal to 42,800 cu. ft. of Sui gas. Actually gas is more efficient.

98. On the basis of the above figures, the consumer would suffer no loss if gas were to be supplied at an average price of PRs.3.34/MCF, plus the equivalent in local taxes on fuel oil. Subtracting the amount of duty and development surcharge, the delivered cost of fuel oil in this area is equivalent to PRs.2.60/MCF for Sui gas. Financial projections indicate an overall average price for the Sui Northern system over 10 years of PRs.2.49/MCF. This average price contains substantial returns to the economy of Pakistan in the form of dividends, local interest and taxes.

99. Average daily consumption of gas of 80 MM cu. ft. is equivalent to 682,243 tons of fuel oil per annum. Foreign exchange cost of this equivalent amount of oil (excluding duties and inland freight) would be about US$11.4 million based on the above price. Seventeen thousand tank car round trips would be required to transport this amount of oil, and the foreign exchange component of capital and operating costs of transport would be significant. Estimated annual foreign exchange outflow arising from operation of the gas system would be:

Debt Service	US$2,400,000
Dividends	700,000
Operating Costs	300,000
Pakistan Petroleum Dividends	150,000
AOC Dividends	30,000
	US$3,580,000

Thus, assuming that gas would replace only imported fuel oil, foreign exchange savings per year, on average, would be about US$7.8 million plus the foreign exchange cost of transportation mentioned above.

100. Inudstrial consumers of fuel in the northern area are eager to have gas. They count on savings in the cost per unit of heat energy as well as in storage and handling costs, reduction of transportation problems and assured supply. Both the government and SNGPL feel that the availability of gas will attract additional industry to these new areas and have a significant impact on their development. (See paragraphs 55-70).

VII. CONCLUSIONS AND RECOMMENDATIONS

101. The basic concept of the project is sound. Details of the organization, management, market, financing plan and technical requirements are arranged so that the company should be able to operate successfully under foreseeable conditions.

102. During negotiations the company and the government have agreed to the following special protective arrangements in addition to the usual provisions of the loan documents.

1. A mortgage on the assets of the company will be given as security for the Bank loan.

2. Dividends will be paid only out of current and undistributed profits, after deduction of deferred taxes, and only if current assets exceed current liabilities by a ratio of 1.5 to 1.

3. Rates will be set and maintained at levels sufficient to: (1) cover all operating expenses; (2) meet repayment of indebtedness to the extent that such repayments exceed provisions for depreciation; and (3) produce a reasonable surplus. An operating ratio will be used as a test for the adequacy of rates.

4. The debt:equity ratio will be no higher than 60:40 after the construction period.

5. After the construction period, the company will incur no indebtedness which would result in a debt:equity ratio higher than 60:40.

6. The company will not undertake capital expenditures exceeding the equivalent of US$1.5 million in any year unless the Bank has approved the financing plan.

7. The company will consult with the Bank concerning any appointments for the position of General Manager.

103. As conditions of effectiveness for the Bank loan, arrangements, in terms satisfactory to the Bank, will be made for:

1. Completion of the raising of capital requirements discussed in paragraphs 73-75;

2. WPIDC and BOC to provide funds to meet any cost overruns of the project;

3. Acquiring all land, rights, franchises, etc., necessary to construct and operate the project;

4. Purchase agreements for both Sui and Dhulian gas;

5. Financing and construction of the Lyallpur power station; and

6. The gas sale agreement with the fertilizer plant at Multan.

104. The proposed project is important to the economic development of the northern part of West Pakistan. Plans for raising the initial capital required are satisfactory and financial prospects are acceptable. The project, with the above protective arrangements, provides a suitable basis for a Bank loan of US$15 million for a period of 20 years including a 2 year grace period. The loan would be guaranteed by the Government of Pakistan.

May 1, 1964

No. PIII-1 (148)/62
Government of Pakistan
Ministry of Industries, Natural Resources and Works
(Natural Resources Division)

Rawalpindi, the 7th February, 1963

To:
1. The Chairman
West Pakistan Industrial Development Corporation
P. I. D. C. House
Kutchery Road
Karachi

2. The General Manager
Burmah Oil Company (P.T.) Limited
Karachi

Subject:- Extension of Sui Multan Gas Pipeline

Sir,

With reference to M/s. Burmah Oil Company (P.T.) Limited's letter No. GM/5/40-770 dated 30th November, 1962 and the discussions held on 7th January, 1963 at Rawalpindi, I am directed to convey the approval of the Government of Pakistan to the proposal to extend the Sui Multan Gas Pipeline on the following understandings:-

I. The extension of the pipeline will be undertaken in the first phase up to Gharibwal, with a spur to Lahore via Churkana and Shahdara. The various units of the pipeline covered by the first phase would be as under:-

		Size	Miles
Multan - Lyallpur	...	16"	132
Lyallpur - Chalisa	...	12"	91
Gharibwal spur	...	6"	9
Chalisa - Lyallpur Lahore spur	...	8"	78
Wah - Hattar spur	...	6"	8
Dhulian - Wah	...	10"	26
Rawalpindi - Islamabad spur	...	6"	15

The total length of the new transmission and distribution lines will be 359 miles and 110 miles respectively when the first phase is completed. Later on, spurs may be added to the system to take the gas to Gujranwala, Sheikhupura, Jhelum etc.

II. The new Company will also take over the Pakistan Industrial Development Corporation's pipeline from Sui to Multan and Attock Oil Company's pipeline in the Rawalpindi area. Attock's system will be financially integrated with the Sui-Multan line immediately on the formation of the company but physical integration of the two pipelines need not take place for a few years.

III. The proposed extension will cover the requirements of Water and Power Development Authority's power stations at Multan and Lyallpur, increased requirements of fertilizer factories, cement factories at Gharibwal and Hattar and other industries which are likely to develop in the northern parts of West Pakistan up to Rawalpindi.

IV. The project will be a joint venture of the Central Government, Burmah Oil Company (P.T.) Ltd., and the general public. The contribution of the Central Government will be in the form of the existing assets of the Pakistan Industrial Development Corporation Sui-Multan pipeline and no additional cash contribution will be made. The Central Government will operate through the West Pakistan Industrial Development Corporation.

V. The purchase price of gas from Messrs. Pakistan Petroleum Ltd. will be 44 paisas per thousand cubic feet as field price and 25 paisas as purification cost. These charges will be reviewed with a view to bringing them down in the light of the economic conditions prevailing at that time when:

(a) Field Price	Total offtake of the system has exceeded 90 million cubic feet per day.
(b) Purification Cost	Total offtake has exceeded 75 million cubic feet per day.

VI. The price at which the Attock Oil Company will sell gas to the new company will be negotiated in due course.

VII. The company's share capital (equity) will be contributed, in equal proportion, by the Central Government, Burmah Oil Company (P.T.) Ltd., (foreign equity) and the general public as under:-

	Equity (in lac rupees)	Loan (in lac rupees)
IBRD	-	713
Central Government	333	637
General Public	334	500
B.O.C. (foreign equity)	333	-
	1,000	1,850

VIII. Until a Public Limited Company is formed, to manage the proposed system, a Promoters Company to undertake the preliminary work will be established. This company will consist of the Central Government working through the West Pakistan Industrial Development Corporation and the Burmah Oil Company (P.T.) Ltd. The preparation of detailed designs and specifications, issue of tender documents etc. will be undertaken by the Promoters Company.

IX. The World Bank are expected to finance this project with a loan of about Rs.70 million (Rupees Seventy million only) in foreign currency. Pending finalisation of the agreement with the World Bank, the company will be allowed to raise a temporary loan in foreign currency from the Pakistan Industrial Credit and Investment Corporation so that it can proceed immediately with the preparation of a detailed project, tender documents etc.

X. The new company shall have no Managing Agents. It will be controlled and run by a Board of Directors. The membership of the Board will be drawn from the three contributors in equal proportion.

XI. The day to day functioning of the company will be managed by an Executive Committee. To start with, the Executive Committee shall comprise Chairman, West Pakistan Industrial Development Corporation and General Manager, Burmah Oil Company (P.T.) Ltd. Later on, when the company has been floated as a public limited company, a representative of the general public contributing the share capital, will be added to the Executive Committee.

XII. The company shall have, for the first five years, a General Manager nominated by the Burmah Oil Company (P.T.) Ltd., and a Chief Accountant nominated by the Central Government. Both these officials will be subject to the control and orders of the Board of Directors and the Executive Committee. In case of difference of opinion between the Chief Accountant and the General Manager, the former shall have the right to approach the Board of Directors direct.

XIII. The total cost of the project has been estimated at Rs.2,850 lacs (Rupees Twenty-eight crore fifty lac only) including the book value of the Pakistan Industrial Development Corporation's assets to be taken over by the new company. The new company will take over Pakistan Industrial Development Corporation's assets at book value without depreciation but will not assume responsibility for the losses which have been incurred on the Sui-Multan line. The assets of the Attock Oil Company's system will be taken at the depreciated value. The total additional investment will be of the order of Rs.1,880 lacs (Rupees Eighteen crore eighty lacs only).

XIV. The project will provide for a dividend of not more than 10% per annum on equity capital.

XV. The depreciation rates on transmission and distribution lines will be fixed at 2-1/2% and on compressors at 5%. Normal rates will be applicable in the case of other items. The intention is to generate sufficient funds for repayment of loan and to leave financing of extensions mainly through additional borrowings.

XVI. The loans required for this project should be obtained at 5% in local currency and not more than 6% in foreign currency.

XVII. The average selling price will ultimately depend on a number of factors such as the total initial investment and the rate of development of the demand. Based on the figures mentioned earlier, it is assumed that the average selling price will be about Rs.2.24 per thousand cubic feet over the first ten year period. Provisions will be made for charging special rates from bulk consumers like power stations, cement companies and fertilizer factories and other industrial consumers. The rates will be subject to review after a period of five years. It is expected that the rate structure for the first five years will be as under:-

WAPDA and other electricity companies	Rs.2.05 to Rs.2.25 per thousand cu. ft.
Fertiliser Factories	Rs.2.05 per thousand cu. ft.
Cement Factories	Rs.2.60 per thousand cu. ft.
Other Industries	Rs.2.80 per thousand cu. ft.

XVIII. If necessary, a two-part tariff may be introduced after obtaining the approval of the Government with a view to ensuring that bulk consumers who do not take gas in accordance with their estimated demands pay a minimum fixed monthly charge.

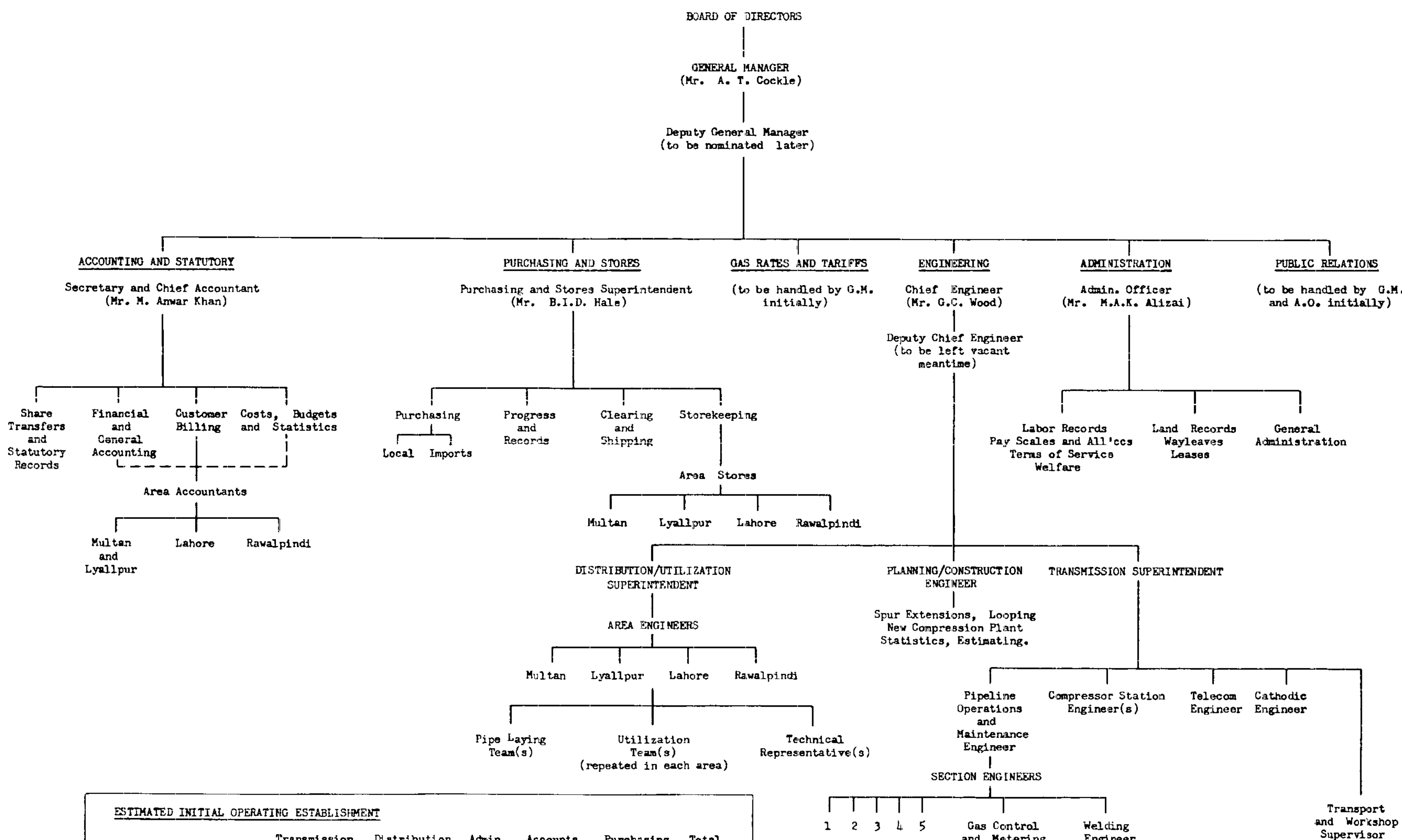
XIX. The company's pipeline will be allowed to cross the barrages and canals along the bridges built by Government on payment of charges to be decided by Government.

Kindly acknowledge receipt.

Yours faithfully,

Sgd...........
(Amanullah Khan)
Joint Secretary to the Government of Pakistan.

SUI NORTHERN GAS PIPELINES
PROPOSED ORGANIZATION



ESTIMATED INITIAL OPERATING ESTABLISHMENT

	Transmission	Distribution	Admin.	Accounts.	Purchasing	Total
Executive	15	6	2	3	1	27
Covenanted	20	12	5	8	6	51
Clerical and Subordinate	230	150	15	30	20	445
Total	265	168	22	41	27	523

Karachi,
6th August, 1963

IBRD – Economic Staff
(R) 2284

ANNEX 2

SUI NORTHERN GAS PIPELINES

SUI-MULTAN SYSTEM (CONSOLIDATED)

INCOME STATEMENTS
(PRs. millions)

Year Ended June 30	Actual 1960/61	Actual 1961/62	Provisional 1962/63
Gas Sales	11.57	12.87	16.70
Other Income	.09	.27	.21
Total Income	11.66	13.14	16.91
Operating Expenses:			
Gas Purchased	3.33	4.00	6.18
Purification	.16	.16	.34
Total Cost of Gas	3.49	4.16	6.52
Transmission Cost	1.86	1.98	1.75
Distribution Cost	.97	.98	.70
Compression Cost	-	-	-
Depreciation	3.24	3.22	3.28
Total Operating Expenses	9.56	10.34	12.25
Interest on Long-term Debt 1/	-	-	-
Taxes 1/	-	-	-
Net Profit	2.10	2.80	4.66 2/

1/ The companies are not paying any interest or dividends on invested capital or income taxes.

2/ Net profit is before an adjustment of PRs.6.61 million arising from a dispute with WAPDA over the price of gas. WAPDA was billed at PRs.2.50/MCF but only paid PRs.1.50/MCF.

SUI NORTHERN GAS PIPELINES

SUMMARY CONSTRUCTION COST ESTIMATES
Pakistan Rupees (millions)

Item	Cost Estimate	Contingency	Total	Foreign	Local
Pipe	41.36	2.39	43.75	34.56	9.19
Valves and Fittings	3.34	.19	3.53	2.40	1.13
Coating and Wrapping	3.50	.15	3.65	2.34	1.31
Cathodic Protection	.78	.08	.86	.40	.46
Construction	48.08	7.95	56.03	28.02	28.01
Survey	1.78	.09	1.87	.77	1.10
Inspection	2.37	.54	2.91	1.32	1.59
Testing	1.00	-	1.00	.40	.60
Telecommunications	6.50	1.93	8.43	6.28	2.15
Power	2.06	.21	2.27	1.10	1.17
Land	2.80	.56	3.36	-	3.36
River Crossings	1.91	.19	2.10	1.26	.84
Civil (Industrial and Residential Buildings)	1.70	.34	2.04	.18	1.86
Overheads	7.56	1.52	9.08	6.19	2.89
Compression	10.65	.65	11.30	7.50	3.80
Distribution	13.32	1.68	15.00	5.55	9.45
Technical Adviser's Fee [BOC (PT)]	1.67	-	1.67	-	1.67
Total	150.38	18.47	168.85	98.27	70.58
	-	-	100	58.2	41.8

SUI NORTHERN GAS PIPELINES

SECTIONAL CONSTRUCTION ESTIMATES
(Rs. Millions)

	Multan Lyallpur	Lyallpur Haranpur	Gharibwal Spur	Haranpur Dandot	Lyallpur Lahore	Wah Hattar	Dhulian Gali Jagir	Rawalpindi Islamabad	Gudu Barrage	Gudu Approaches	Sutlej Crossing	Total
Diameter Inches	16"	12"	8"	12"	10"	6"	10"	6"	24"	16"	3-12"	
Length Miles	132	91	9	11	78	8	26	15	1.1	7.21		
ITEM												
Pipe	19.52	9.83	.52	1.18	6.45	.44	2.48	.84	.60	1.35	.54	43.75
Valves and Fittings	1.45	.60	.09	.17	.38	.03	.13	.05	.38	.10	.15	3.53
Coating and Wrapping	1.54	.88	.07	.12	.64	.05	.21	.08	-	.06	-	3.65
Cathodic Protection	.38	.21	.01	.03	.15	.01	.05	.02	-	-	-	.86
Construction	22.64	11.36	.73	1.55	7.27	.61	2.47	1.12	.87	.84	6.57	56.03
Survey	.67	.45	.04	.05	.39	.04	.06	.04	-	-	.13	1.87
Inspection	1.00	.67	.07	.08	.58	.09	.18	.09	.01	.04	.10	2.91
Testing	.42	.19	.02	.03	.19	.02	.06	.04	.01	.02	-	1.00
Telecommunications	4.15	2.26	-	-	2.02	-	-	-	-	-	-	8.43
Power	.98	.77	-	.16	.20	-	.16	-	-	-	-	2.27
Land	1.33	.92	.06	.11	.79	.05	Existing	.10	-	-	-	3.36
River Crossings	1.40	.50	-	-	.17	.03	-	-	-	-	-	2.10
Civil (Industrial and Residential Buildings)	1.80	.12	-	-	.12	-	-	-	-	-	-	2.04
Total for Allocation of Overheads	57.28	28.76	1.61	3.48	19.35	1.37	5.80	2.38	1.87	2.41	7.49	131.80
Overheads	3.78	1.90	.11	.23	1.28	.09	.38	.16	.09	.13	.93	9.08
Total Transmission Line	61.06	30.66	1.72	3.71	20.63	1.46	6.18	2.54	1.96	2.54	8.42	140.88

SUI NORTHERN GAS PIPELINES

ASSUMPTIONS USED FOR FINANCIAL FORECASTS

1. Revenues from WAPDA are calculated using the following Table and the agreed rate. The consumption estimates were prepared by WAPDA consultants for negotiations with SNGPL concerning WAPDA's rate and fixed charge and are therefore assumed to be reasonably conservative. However, gas consumption is based on assumptions of future demand for power and availability of hydro-electric generation facilities, both of which are subject to considerable variation from estimates.

WAPDA Grid System

Estimated Gas Requirements for Thermal Stations 1966 - 1985

Million cubic feet gas/day
(Average)

Year Ended June 30	1966	1967	1968	1969	1970	1971	1972
Multan	36.7	45.0	43.7	47.0	19.8	12.5	10.4
Lyallpur	-	4.2	20.1	19.0	12.1	10.4	9.6
Total	36.7	49.2	63.8	66.0	31.9	22.9	20.0

Year Ended June 30	1973	1974	1975	1976	1977	1978	1979
Multan	13.8	5.8	3.6	4.2	4.0	3.4	2.7
Lyallpur	9.3	4.2	1.6				
Total	23.1	10.0	5.2	4.2	4.0	3.4	2.7

Year Ended June 30	1980	1981	1982	1983	1984	1985
Multan	3.1	2.8	5.1	6.9	9.0	4.1
Lyallpur						
Total	3.1	2.8	5.1	6.9	9.0	4.1

2. Projections assume that the company begins operation in January 1964, that construction will be completed in July 1965, that the first repayment on local debt will be in January 1966 and the first repayment of the Bank loan will be in July 1966.

3. Interest and other charges on the Bank loan are capitalized during construction. Interest on the WPIDC loan and IDBP loan is paid.

4. No dividends will be paid during the construction period even though the company will have a net profit during the period.

5. The amount of receivables is estimated at about two months sales and payables at about one month of operating expenses.

6. Income tax is calculated using amounts of accelerated depreciation provided by the company.

Accelerated Depreciation
(PRs. millions)

Fiscal Year

1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
16.5	81.2	28.6	24.1	20.5	17.6	20.5	12.8	11.6	19.9	15.0	11.0	10.3	9.4

7. Hydroelectric Generating Units to be Added to the WAPDA Grid

1968	Mangla	# 1 and 2	200 Megawatts
1969	"	# 3	100 "
1970	"	# 4	100 "
1971	Gomal	# 1 - 3	129 "
1972	Mangla	# 5 and 6	200 "

A number of additional units are in the preliminary planning stage.

8. SNGPL
Terms of Proposed Debt

	Amount PRs. (millions)	Amount $ (millions)	Rate	Maturity	Grace Period	Security
IBRD	71.4	15.0	5-1/2%	20 years	2 years	1st mortgage
WPIDC	63.2	13.2	5%	22 years	2 years	debentures
IDBP	50.0	10.5	5%	12 years	none	debentures
Total	184.6	38.7				

Repayment of the Bank loan will be in equal semiannual installments of principal with interest calculated on the outstanding balance. The WPIDC and IDBP loans mature at the end of 22 years and 12 years respectively and the company has the option to repay all/or part of the loans upon 6 months' notice, without premium. Repayment of these loans will be in equal semiannual installments of principal calculated on the total of both loans and applied first to the IDBP loan until fully repaid and thereafter to the WPIDC loan.

9. "Other income" is the total of interest income and a fee received from AOC for the transport of gas for use in AOC's refinery and power plant. The fee is based on actual "cost" of transporting the gas, including depreciation and interest. The amount is estimated at about PRs.0.4 million per annum.

10. "Other expenses" include the charge for use of the Gudu barrage and river bridges for pipeline crossings, the required insurance of the barrage and bridges and a fee payable to the government for the guarantee of the Bank loan. This fee is still under discussion, but is expected to be 1/2% per year on the outstanding balance of the loan.

11. Medium-term Loans. Because of the scarcity of foreign exchange in Pakistan, the company intends to borrow the foreign exchange portion of future capital expenditures, even during periods when cash resources would be sufficient to cover the expenditures. PICIC has agreed to favorably consider requests for such loans and other sources such as the Bank and various bilateral foreign aid programs would normally be available. The amount of such loans is based on 50% of planned capital expenditures and the terms have been assumed to be 12 years at 7%, repayable in equal annual installments of principal.

OPERATING COSTS

12.

Cost of Gas

Agreement for the purchase price of Sui gas and purification is included in the Promoters Agreement. Price for gas is based on average daily volume measured at the outlet of the purification plant as follows:

Average Daily Volume	Price per MCF
Less than 35,000 MCF	PRs.0.37/MCF
35,000 - 90,000 MCF	0.44/MCF

The Agreement provides that "when average daily volume exceeds 90,000 MCF, SNGPL and PPL may renegotiate the contract price with a view to making a reduction in price in light of economic conditions prevailing at the time."

The raw gas will be purified by SGTC under the following rates:

Average Daily Volume	Price per MCF
Less than 12,000 MCF	PRs.0.37/MCF
12,000 - 50,000 MCF	0.30/MCF
50,000 - 75,000 MCF	0.25/MCF

75,000 and up price subject to negotiation.

It may be noted that in two of the first 5 years of operation average daily volume will exceed 75,000 MCF, opening the possibility of renegotiating the price of purification. Any cost reductions negotiated under these conditions may be passed on to consumers but more likely will be used to strengthen the financial position of the company in anticipation of reduced sales after 1968/69.

Purchase price for Dhulian gas for the AOC system is defined in the system purchase agreement, no purification is required. Rates are as follows:

First 10,000 MCF/day	@	PRs.0.625/MCF
Next 5,000 MCF/day	@	0.4375/MCF
Amount above 15,000 MCF/day	@	0.375/MCF

Without any provision for lower rates based on high volume and for the expected sales volume shown in this Annex, total cost of gas purchased will be:

PRs. millions

Year	1	2	3	4	5	6
Sui Gas	10.3	12.3	13.9	14.2	10.3	9.6
Purification	5.9	7.0	7.9	8.1	5.8	5.4
AOC Gas	2.0	2.6	3.2	3.2	3.2	3.2
Total	18.2	21.9	25.0	25.5	19.3	18.2
Year	7	8	9	10	11	12
Sui Gas	9.4	10.2	8.5	8.0	8.5	8.7
Purification	5.4	5.8	4.8	4.6	4.9	5.0
AOC Gas	3.2	3.2	3.2	3.2	3.2	3.2
Total	18.0	19.2	16.5	15.8	16.6	16.9

Transmission Cost

SNGPL has calculated the annual operating cost for transmission on the basis of PRs.12,400 per mile of 10" to 16" pipe and PRs.11,000 per mile of 4" to 8" pipe. The combined figure is increased at the rate of 3% per year to allow for rising costs. The cost per mile is based on SGTC experience. This allowance should be conservative since costs do not vary proportionately with mileage and the SGTC line is only 350 miles long while the SNGPL system will have 666 miles of transmission line. Also, the terrain is somewhat more difficult on the SGTC line which increases maintenance costs per mile. The Bank consultant checked this estimate by applying wage and other costs to the proposed organization and concluded that the total figure was quite adequate.

As a comparison, transmission cost of the Sui-Karachi line in 1962/63 was PRs.4.91 million; the estimate for SNGPL in the first year of operation is PRs.8.10 million. Approximate distribution of transmission cost according to type of expense is - Wages and Salaries 41%, Materials 12%, Services 39% and Other 8%.

Compression cost is estimated by the company at PRs.281 per operating H.P. and the total shown is based on estimates of use made by the company.

Distribution Costs

The company has calculated distribution cost at PRs.0.10 per MCF, with a minimum of PRs.2.5 million per annum. The comparable figure for Karachi Gas is PRs.0.18 but SNGPL will not have a comprehensive distribution system serving large numbers of small consumers. Small domestic and commercial customers will be served only if they are close to distribution lines which are laid for large consumers. Also, the total offtake is larger and the number of customers considerably smaller for SNGPL, indicating that the expense for distribution per MCF should be smaller.

Normally, the company will pay the cost of bringing gas to the outlet of the meter on the customer's premises. Cost of installation from that point on will be borne by the customer, although in fact the work may be done by SNGPL. A nominal meter charge will be levied in addition to the charge for gas, but since the total amount is less than PRs.0.1 million it has not been shown in the financial statements.

Depreciation

Depreciation rates for various types of assets are listed below. These rates apply to new construction as well as the assets acquired from the existing systems. Although operating conditions are quite different, the overall rate of 3.7% is comparable to that allowed by the Federal Power Commission in the United States.

Depreciation Rate Schedule

	Rate
Land	-
Buildings	5%
Transmission Pipelines	2-1/2%
Distribution Pipelines	6%
Meter Stations	10%
Telecommunication Equipment	15%
Power Supply Equipment	10%
Compressor Stations	5%
Mobile Equipment, Tools and Fixtures	25%

While the above rates will be used for the company's published earning statements and for rate making purposes, different rates are used for calculation of income tax. For existing facilities purchased the following rates apply to the purchase price and to the reducing balance in subsequent years.

Standard Tax Depreciation Allowances

Buildings	2-1/2%
Transmission Pipelines	10%
Distribution Pipelines	10%
Meter Stations	10%
Telecommunication Equipment	15%
Plant and Machinery	10%
Transport	20%
Furniture	6%
Loose Tools and Equipment	9%
Compressor Stations	12%

For new facilities the rate is 25% of the installed cost plus double the Standard Tax Allowance in the first year and double the Tax Allowance in the next four years. After five years, the Standard Tax Allowance applies. All rates apply to reducing balances.

The obvious effect of this procedure is to defer taxes, particularly in the case of a company which has a large initial capital investment and then relatively small additions in succeeding years. The effect of deferred taxes is especially important for SNGPL because of the projected decline in sales and net income after 1968/69.

SUI NORTHERN GAS PIPELINES

ESTIMATED AVERAGE DAILY GAS OFFTAKE - BY AREAS
(All figures in million cubic feet/day)

Year Ended June 30	Multan Electricity	Multan Fertilizer	Multan Others	Lyallpur Electricity	Lyallpur Others	Lahore	Gharibwal Cement	Khewra Soda Ash	Dandot Cement	To be Supplied from Sui 1/	Rawalpindi Cement	Rawalpindi Others	Other Cement	Average Gas to be Supplied from AOC for Rawalpindi Area	Total
1966	36.69	6.33	4.00	-	3.50	3.00	6.00	0.50	1.00	61.02	8.00	4.00	-	12.00	73.02
1967	44.98	6.33	4.30	(2.00) Shed 2.20	3.90	3.20	6.10	1.00	1.50	73.51	11.00	4.30	-	15.30	88.81
1968	43.70	6.33	4.60	(5.00) Shed 15.14	4.40	3.40	6.20	1.50	1.50	86.77	11.00	4.60	-	15.60	102.37
1969	46.93	6.33	4.90	(8.00) Shed 11.08	4.80	3.60	6.30	3.00	1.50	88.44	11.00	4.90	-	15.90	104.34
1970	19.85	6.33	5.20	12.05	5.30	4.00	6.40	3.00	1.50	63.83	11.00	5.20	-	16.00	79.83
1971	12.53	6.33	5.50	10.41	5.70	4.50	6.50	3.00	1.50	59.67	11.00	5.70	3.00	16.00	75.67
1972	10.45	6.33	5.80	9.62	6.20	5.10	6.60	3.00	1.50	58.80	11.00	6.20	3.00	16.00	74.80
1973	13.78	6.33	6.20	9.29	6.60	5.60	6.70	3.00	1.50	63.70	11.00	6.70	3.00	16.00	79.70
1974	5.81	6.33	6.60	4.17	7.10	6.20	6.80	3.00	1.50	52.71	11.00	7.20	3.00	16.00	68.71
1975	3.62	6.33	7.00	1.64	7.50	6.70	6.90	3.00	1.50	49.99	11.00	7.80	3.00	16.00	65.99
1st 10 Year Total	238.34	63.30	54.10	75.60	55.00	45.30	64.50	24.00	14.50	658.44	107.00	56.60	15.00	148.80	813.24
1976	4.25	6.33	7.30	-	7.80	7.00	7.00	3.00	1.50	53.18	11.00	8.00	6.00	16.00	69.18
1977	4.05	6.33	7.70	-	8.10	7.30	7.00	3.00	1.50	54.38	11.00	8.40	6.00	16.00	70.38
1978	3.45	6.33	8.00	-	8.50	7.70	7.00	3.00	1.50	55.38	11.00	8.90	6.00	16.00	71.38
1979	2.74	6.33	8.30	-	8.90	8.00	7.00	3.00	1.50	56.07	11.00	9.30	6.00	16.00	72.07
1980	3.07	6.33	8.70	-	9.40	8.30	7.00	3.00	1.50	58.10	11.00	9.80	6.00	16.00	74.10
1981	2.85	6.33	9.10	-	9.80	8.80	7.00	3.00	1.50	59.58	11.00	10.20	6.00	16.00	75.58
1982	5.10	6.33	9.50	-	10.30	9.20	7.00	3.00	1.50	63.63	11.00	10.70	6.00	16.00	79.63
1983	6.88	6.33	10.00	-	10.80	9.60	7.00	3.00	1.50	67.21	11.00	11.10	6.00	16.00	83.21
1984	8.99	6.33	10.50	-	11.30	10.00	7.00	3.00	1.50	71.22	11.00	11.60	6.00	16.00	87.22
1985	4.14	6.33	11.00	-	11.80	10.50	7.00	3.00	1.50	68.27	11.00	12.00	6.00	16.00	84.27
2nd 10 Year Total	45.52	63.30	90.10	-	96.70	86.40	70.00	30.00	15.00	607.02	110.00	100.00	60.00	160.00	767.02
20 Year Total	283.86	126.60	144.20	75.60	151.70	131.70	134.50	54.00	29.50	1,265.46	217.00	156.60	75.00	308.80	1,580.26

1/ Beginning in fiscal 1970 includes gas supplied to the former AOC system through an interconnection.

SUI NORTHERN GAS PIPELINES

SALES PROJECTIONS
(PRs. millions)

Year Ended June 30	Multan Electricity 1/	Multan Fertilizer	Multan Other	Lyallpur Electricity 1/	Lyallpur Other	Lahore	Gharibwal Cement	Khewra Soda Ash	Dandot Cement	Total From Sui	Rawalpindi Cement	Rawalpindi Other	Other Cement	Total From AOC	Total System
1966	31.17	4.74	4.09	-	3.58	3.07	5.69	0.51	0.95	53.80	7.59	4.09	-	11.68	65.48
1967	34.96	4.74	4.39	2.16	3.99	3.27	5.79	1.02	1.42	61.74	10.44	4.39	-	14.83	76.57
1968	34.38	4.74	4.70	11.51	4.50	3.47	5.88	1.53	1.42	72.13	10.44	4.70	-	15.14	87.27
1969	35.85	4.74	5.01	9.66	4.91	3.68	5.98	3.07	1.42	74.32	10.44	5.01	-	15.45	89.77
1970	13.61	4.74	5.31	8.82	5.42	4.09	6.07	3.07	1.42	52.55	10.44	5.31	-	15.75	68.30
1971	10.27	4.74	5.62	8.07	5.82	4.60	6.17	3.07	1.42	49.78	10.44	5.82	2.85	19.11	68.89
1972	9.32	4.74	5.93	7.71	6.34	5.21	6.26	3.07	1.42	50.00	10.44	6.34	2.85	19.63	69.63
1973	10.84	4.74	6.34	7.56	6.74	5.72	6.35	3.07	1.42	52.79	10.44	6.85	2.85	20.14	72.93
1974	7.21	4.74	6.74	5.23	7.26	6.34	6.45	3.07	1.42	48.46	10.44	7.36	2.85	20.65	69.11
1975 2/	4.39	4.74	7.15	-	7.66	6.85	6.55	3.07	1.42	41.83	10.44	7.97	2.85	21.26	63.09
1976	3.49	4.74	7.46	-	7.97	7.15	6.64	3.07	1.42	41.94	10.44	8.18	5.69	24.31	66.25
1977	3.33	4.74	7.87	-	8.28	7.46	6.64	3.07	1.42	42.81	10.44	8.58	5.69	24.31	67.52
Total	198.82	56.88	70.61	60.72	72.47	60.91	74.48	30.69	16.57	642.15	122.43	74.60	25.63	216.96	864.81

1/ WAPDA revenues for Multan and Lyallpur electricity for the first 9 years include a fixed charge as discussed in Annex 1, page 1. The amounts are as follows:

Fiscal Year	Millions
1966	14.44
1967	15.59
1968	19.04
1969	19.04
1970	7.88
1971	7.88
1972	7.88
1973	7.88
1974	7.88

2/ Beginning in fiscal 1975, total WAPDA revenues for all thermal stations are shown under Multan, based on flat rate of PRs.2.25/MCF.

SUI NORTHERN GAS PIPELINES

EARNINGS PROJECTIONS

Year Ended June 30	Construction Period 1964 (6 months)	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
	Millions of Cubic Feet													
GAS SALES	6,662	17,007	26,652	32,415	37,365	38,084	29,138	27,619	27,302	29,090	25,079	24,086	25,251	25,689
	(PRs. millions)													
INCOME														
From Gas Sales	12.8	39.4	65.5	76.6	87.3	89.8	68.3	68.9	69.6	72.9	69.1	63.1	66.2	67.5
Other Income	.2	1.0	1.0	.8	1.2	1.8	1.8	1.8	1.8	1.8	1.6	1.4	1.4	1.2
Total Income	13.0	40.4	66.5	77.4	88.5	91.6	70.1	70.7	71.4	74.7	70.7	64.5	67.6	68.7
OPERATING EXPENSES														
Cost of Gas and Purification - Sui	3.5	10.4	16.2	19.3	21.8	22.3	16.1	15.0	14.8	16.0	13.3	12.6	13.4	13.7
Cost of Gas - Dhulian	.8	1.8	2.0	2.6	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Total Cost of Gas	4.3	12.2	18.2	21.9	25.0	25.5	19.3	18.2	18.0	19.2	16.5	15.8	16.6	16.9
Cost of Transmission	2.3	4.6	9.2	9.6	9.9	10.2	11.3	11.7	12.0	12.4	12.8	13.2	13.6	14.0
Cost of Distribution	.7	1.7	2.6	3.2	3.7	3.8	2.9	2.8	2.7	2.9	2.5	2.5	2.5	2.5
Cost of Compression	-	-	.4	.8	.8	.8	.5	1.4	1.8	1.9	2.1	2.5	2.5	2.5
Other Expenses	.2	.4	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
Depreciation	2.0	4.4	10.4	10.6	10.7	10.9	12.0	12.8	13.0	13.1	13.3	13.7	13.8	14.1
Total Operating Cost	9.5	23.3	41.4	46.7	50.7	51.8	46.6	47.5	48.1	50.1	47.8	48.3	49.6	50.6
OPERATING PROFIT	3.5	17.1	25.1	30.7	37.8	39.8	23.5	23.2	23.3	24.6	22.9	16.2	18.0	18.1
Interest on IBRD Loan	-	-	2.0	3.6	3.4	3.2	3.0	2.8	2.5	2.3	2.1	1.9	1.7	1.5
Interest on Local Loans	1.6	4.4	5.6	5.3	5.0	4.7	4.5	4.2	3.9	3.6	3.3	3.1	2.8	2.5
Interest on Medium-Term Loans	-	-	.1	1.0	1.0	1.0	1.6	1.6	1.5	1.4	1.5	1.4	1.3	1.1
Total Interest	1.6	4.4	7.7	9.9	9.4	8.9	9.1	8.6	7.9	7.3	6.9	6.4	5.8	5.1
NET PROFIT BEFORE INCOME TAX	1.9	12.7	17.4	20.8	28.4	30.9	14.4	14.6	15.4	17.3	16.0	9.8	12.2	13.0
INCOME TAX	-	-	-	-	-	-	-	-	4.9	5.2	7.1	6.2	7.8	8.8
NET PROFIT	1.9	12.7	17.4	20.8	28.4	30.9	14.4	14.6	10.5	12.1	8.9	3.6	4.4	4.2
DIVIDEND PAID	-	-	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
RETAINED PROFIT	1.9	12.7	7.4	10.8	18.4	20.9	4.4	4.6	.5	2.1	-	-	-	-
RETURN ON INVESTMENT 1/	-	-	8.3%	9.7%	11.6%	11.8%	6.9%	6.9%	7.2%	7.8%	7.5%	5.6%	6.6%	7.1%

1/ Defined as Net Income before interest, taxes and dividends, divided by net fixed assets plus net current assets (including "other assets").

SUI NORTHERN GAS PIPELINES

BALANCE SHEET PROJECTIONS
(PRs. millions)

As at June 30	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
ASSETS														
Current Assets														
Cash	.6	20.0	12.5	13.0	16.9	20.2	16.2	19.4	18.6	18.4	12.8	10.7	7.1	4.8
Receivables (Net)	2.0	6.6	10.5	12.2	14.5	14.9	11.5	11.5	11.5	12.1	11.5	10.5	11.0	11.0
Investments (Short-term)	-	15.0	15.0	10.0	20.0	35.0	35.0	35.0	35.0	35.0	35.0	30.0	25.0	20.0
Total Current Assets	2.6	41.6	38.0	35.2	51.4	70.1	62.7	65.9	65.1	65.5	59.3	51.2	43.1	35.8
Other Assets														
Gas	.1	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3
Stores and Spares	4.0	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.0	5.0
Total Other Assets	4.1	4.2	4.3	4.4	4.5	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.3	5.3
Fixed Assets														
Land	1.7	5.1	5.1	5.1	5.1	5.6	5.6	5.6	5.6	5.7	5.8	5.8	5.8	5.8
Buildings	4.2	6.3	6.3	6.3	6.3	6.5	6.5	6.7	6.9	7.0	7.1	7.1	7.1	7.1
Transmission Line	113.5	183.9	214.1	238.8	241.5	241.9	243.1	243.9	244.7	246.1	248.1	249.8	252.7	254.2
Distribution Line	5.6	21.6	22.6	23.6	24.1	25.0	26.5	28.0	29.0	30.0	31.0	32.0	33.0	34.0
Plant and Machinery	2.8	25.0	26.0	27.0	27.5	28.5	47.0	47.5	48.5	49.5	56.2	57.0	58.0	59.0
Other	.8	3.4	3.9	4.1	4.6	5.1	5.6	6.1	6.6	7.0	7.5	8.0	8.5	9.0
Total Fixed Assets	128.6	245.3	278.0	304.9	309.1	312.6	334.3	337.8	341.3	345.3	355.7	359.7	365.1	369.1
Less: Accumulated Depreciation	2.0	6.4	16.8	27.4	38.1	49.0	61.0	73.8	86.8	99.9	113.2	126.9	140.7	154.8
Net Fixed Assets	126.6	238.9	261.2	277.5	271.0	263.6	273.3	264.0	254.5	245.4	242.5	232.8	224.4	214.3
TOTAL ASSETS	133.3	284.7	303.5	317.1	326.9	338.4	340.8	334.8	324.6	316.0	307.0	289.3	272.8	255.4
LIABILITIES														
Current Liabilities														
Payable (Gas)	.8	1.0	1.5	1.7	2.0	2.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Payable (Expenses)	.8	.9	1.0	1.0	1.1	1.1	1.0	1.0	1.1	1.2	1.3	1.4	1.4	1.4
Long-term Debt due within 12 Months	-	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Current Liabilities	1.6	3.9	6.5	6.7	7.1	7.2	6.5	6.5	6.6	6.7	6.8	6.9	6.9	6.9
Medium-Term Debt	-	-	2.0	14.2	14.8	14.9	23.2	22.2	21.0	19.8	21.4	19.6	18.3	16.3
Long-term Debt														
IBRD	-	53.0	65.4	61.4	57.4	53.4	49.4	45.4	41.4	37.4	33.4	29.4	25.4	21.4
Local	63.2	113.2	107.6	102.0	96.4	90.8	85.2	79.6	74.0	68.4	62.8	57.2	51.6	46.0
Total Long-term Debt	63.2	166.2	173.0	163.4	153.8	144.2	134.6	125.0	115.4	105.8	96.2	86.6	77.0	67.4
Equity														
Paid-in Capital	66.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Retained Profit	1.9	14.6	22.0	32.8	51.2	72.1	76.5	81.1	81.6	83.7	82.6	76.2	70.6	64.8
Total Equity	68.5	114.6	122.0	132.8	151.2	172.1	176.5	181.1	181.6	183.7	182.6	176.2	170.6	164.8
TOTAL LIABILITIES AND EQUITY	133.3	284.7	303.5	317.1	326.9	338.4	340.8	334.8	324.6	316.0	307.0	289.3	272.8	255.4
Current Assets/Current Liabilities	-	10.6/1	5.8/1	5.2/1	7.2/1	9.7/1	9.6/1	10.1/1	9.8/1	9.7/1	8.7/1	7.4/1	6.2/1	5.1/1
Debt:Equity	-	59:41	60:40	58:42	54:41	49:51	48:52	46:54	44:56	42:58	40:60	39:61	37:63	35:65

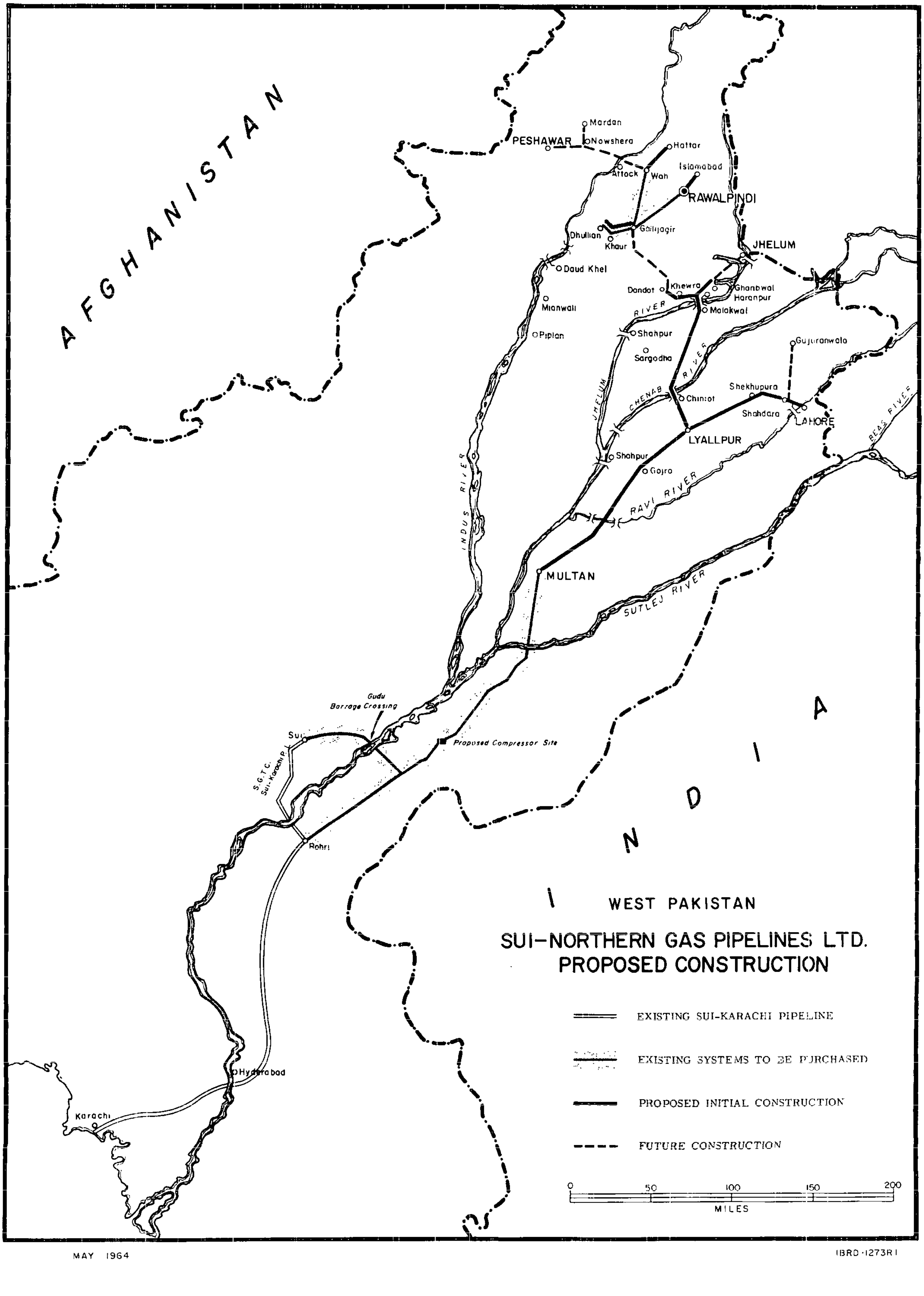
ANNEX 7

ANNEX 8

SUI NORTHERN GAS PIPELINES

SOURCES AND APPLICATIONS OF FUNDS
(PRs. millions)

Year Ended June 30	Construction Period 1964 (6 months)	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
SOURCES OF FUNDS														
Net Income before Taxes and Interest	3.5	17.1	25.1	30.7	37.8	39.8	23.5	23.2	23.3	24.6	22.9	16.2	18.0	18.1
Depreciation	2.0	4.4	10.4	10.6	10.7	10.9	12.0	12.8	13.0	13.1	13.3	13.7	13.8	14.1
IBRD Loan	-	55.0	16.4	-	-	-	-	-	-	-	-	-	-	-
IDBP Loan	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-
WPIDC Loan	63.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium-term Loans	-	-	2.2	13.5	2.1	1.8	10.9	1.8	1.8	2.0	5.2	2.0	2.7	2.0
Local Public Equity	-	33.4	-	-	-	-	-	-	-	-	-	-	-	-
BOC Equity	33.3	-	-	-	-	-	-	-	-	-	-	-	-	-
WPIDC Equity	33.3	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Sources	135.3	159.9	54.1	54.8	50.6	52.5	46.4	37.8	38.1	39.7	41.4	31.9	34.5	34.2
APPLICATIONS OF FUNDS														
Purchase of Existing Systems	101.2	-	-	-	-	-	-	-	-	-	-	-	-	-
New Construction	27.4	115.0	26.5	-	-	-	-	-	-	-	-	-	-	-
Interest and Fees Capitalized	-	1.7	1.9	-	-	-	-	-	-	-	-	-	-	-
Total Project Investment	128.6	116.7	28.4	-	-	-	-	-	-	-	-	-	-	-
Extensions and Renewals	-	-	4.3	26.9	4.2	3.5	21.7	3.5	3.5	4.0	10.4	4.0	5.4	4.0
Interest on IBRD Loan	-	-	2.0	3.6	3.4	3.2	3.0	2.8	2.5	2.3	2.1	1.9	1.7	1.5
Interest on Local Loans	1.6	4.4	5.6	5.3	5.0	4.7	4.5	4.2	3.9	3.6	3.3	3.1	2.8	2.5
Interest on Medium-term Loans	-	-	.1	1.0	1.0	1.0	1.6	1.6	1.5	1.4	1.5	1.4	1.3	1.1
Amortization of IBRD Loan	-	-	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Amortization of Local Loans	-	-	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Amortization of Medium-term Loans	-	-	.2	1.3	1.5	1.7	2.6	2.8	3.0	3.2	3.6	3.8	4.0	4.0
Total Debt Service	1.6	4.4	15.5	20.8	20.5	20.2	21.3	21.0	20.5	20.1	20.1	19.8	19.4	18.7
Dividends Paid	-	-	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Income Taxes	-	-		-	-	-	-	-	4.9	5.2	7.1	6.2	7.8	8.8
Net Working Capital Increase (Decrease)	5.1	38.8	(4.1)	(2.9)	15.9	18.8	(6.6)	3.3	(.8)	.4	(6.2)	(8.1)	(8.1)	(7.3)
Total Applications	135.3	159.9	54.1	54.8	50.6	52.5	46.4	37.8	38.1	39.7	41.4	31.9	34.5	34.2
Coverage of Debt Service by Net Income before Interest, Depreciation and Taxes (times)	-	-	2.3	1.9	2.3	2.5	1.6	1.7	1.7	1.8	1.8	1.5	1.6	1.7



MAY 1964

IBRD-1273R1

Legal Department
CONFIDENTIAL DRAFT
(Subject to Change)
April 20, 1964

Sui Northern Gas Pipelines Limited
P.I.D.C. House
P.O. Box 3938
Karachi, Pakistan

re: Rates

Gentlemen:

We refer to Section 5.07 of the Loan Agreement of even date between us. It is agreed that the Company will have satisfied the provisions of said Section if the operating ratio, as calculated below, is no higher than 65 per cent from the end of fiscal year 1966 through fiscal 1969, no higher than 75 per cent through fiscal 1974 and no higher than 85 per cent in the following years.

Operating ratio is defined as the ratio of all operating expenses to total revenues. Operating expenses include income taxes and straight-line depreciation at the rates laid down by the Government of Pakistan in paragraph XV of the Sanction letter of February 7, 1963, from the Joint Secretary of the Government of Pakistan, Ministry of Industries, Natural Resources and Works, to the Chairman of WPIDC and the General Manager of the Burmah Oil Company (Pakistan Trading) Limited but exclude interest. The ratio will be calculated by averaging the revenues and expenses, as defined, over the current year and the last preceding year.

This matter will be reviewed from time to time and the operating ratio can be modified by further agreement between us.

These ratios have been based on estimates of demand, operating expenses and rates as set out in Sui Northern Gas Pipelines, Study No. 15, dated March 1964, delivered to us in April 1964.

Sincerely yours,

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

By_______________________

CONFIRMED:

SUI NORTHERN GAS PIPELINES LIMITED

By_______________________

Legal Department
CONFIDENTIAL DRAFT
(Subject to Change)
April 20, 1964

LOAN NUMBER PAK

LOAN AGREEMENT

(Sui Northern Gas Project)

between

INTERNATIONAL BANK FOR RECONSTRUCTION
AND DEVELOPMENT

and

SUI NORTHERN GAS PIPELINES LIMITED

Dated , 1964

LOAN AGREEMENT

AGREEMENT, dated , 1964, between INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (hereinafter called the Bank) and SUI NORTHERN GAS PIPELINES LIMITED, a company duly incorporated in Pakistan under the Companies Act 1913 (hereinafter called the Borrower).

WHEREAS (A) The President of Pakistan, West Pakistan Industrial Development Corporation (hereinafter called WPIDC) and the Burmah Oil Company Limited (hereinafter called BOC) have entered into an agreement dated May 14, 1963, providing, inter alia, for the establishment, the financing and certain aspects of the management of the Borrower;

(B) The Borrower was incorporated on June 17, 1963 as a private limited company with the objects set out in its Memorandum of Association and was converted into a public limited company on January 1, 1964;

(C) The Borrower has acquired for the consideration hereafter recited the existing Sui-Multan gas transmission and distribution system owned by the Government of Pakistan and operated by WPIDC and has acquired for Rs. 4,500,000 in cash the existing gas transmission system owned by the Attock Oil Company Limited subject to an obligation not exceeding Rs. 125,000 in respect of land included therein;

(D) The Borrower plans to extend these transmission and distribution facilities;

(E) The Borrower has issued the following securities:

(1) 1,000,000 Ordinary Shares of Rs. 10 each to BOC for cash at par and

(2) 2,000,000 Ordinary Shares of Rs. 10 each to WPIDC in partial consideration of the transfer to the Borrower by the Government of Pakistan of the existing Sui-Multan gas transmission and distribution system;

(F) The Borrower has borrowed money as follows:

(1) pursuant to overdraft facilities for a maximum of Rs. 10,000,000, guaranteed by WPIDC, with the National Bank of Pakistan, in an amount of Rs. 7,252,040 outstanding on April 15, 1964 and

(2) pursuant to an agreement dated September 13, 1963, between the Borrower, WPIDC, BOC and the Pakistan Industrial Credit & Investment Corporation Limited (hereinafter called PICIC) providing for a loan, guaranteed by WPIDC and BOC, from PICIC to the Borrower not to exceed the equivalent of £330,000, in an amount of £89,000 equivalent outstanding on April 15, 1964;

(G) Immediately after the signing of this Agreement the Borrower plans to issue to WPIDC 1,330,000 of its Ordinary Shares of Rs. 10 each and Rs. 63,200,000 principal amount of its non-convertible 5% debentures in further consideration of the transfer to the Borrower by the Government of Pakistan of the existing Sui-Multan gas transmission and distribution system;

(H) The Borrower has made arrangements for the raising of further capital as follows:

(1) For the sale for cash at par of 2,330,000 of its Ordinary Shares of Rs. 10 each to BOC;

(2) For the sale for cash at par of 3,340,000 of its Ordinary Shares of Rs. 10 each to the public in Pakistan pursuant to an agreement dated March 21, 1964, between the Borrower and PICIC; and

(3) For the sale for cash at their principal amount of Rs. 50.5 million aggregate principal amount of its 5% debentures to the Industrial Development Bank of Pakistan;

(I) The Borrower has entered into an agreement dated August 28, 1963 with the Burmah Oil Company (Pakistan Trading) Limited, a subsidiary of BOC, for the provision of technical services;

(J) The Borrower has entered into an agreement dated September 20, 1963 with the West Pakistan Water and Power Development Authority for the sale of gas;

(K) The Bank has been requested to grant a loan to the Borrower;

(L) The said loan is to be guaranteed as to payment of principal, interest and other charges by the Islamic Republic of Pakistan in accordance with the terms of a Guarantee Agreement of even date herewith and is to be secured as hereinafter in Section 5.03 provided, which security is to be constituted by and provided for in the Trust Deed as hereinafter defined; and

(M) The Bank has, on the basis _inter alia_ of the foregoing, agreed to make a loan to the Borrower upon the terms and conditions hereinafter set forth;

NOW THEREFORE it is hereby agreed as follows:

ARTICLE I

Loan Regulations; Special Definitions

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

Section 1.02. Except where the context otherwise requires, the following terms have the following meanings wherever used in this Agreement or any schedule thereto:

(1) The term "Trust Deed" means the trust deed and any other instruments to be executed by the Borrower in accordance with the provisions of Section 5.03 of this Agreement and shall include any deed or instrument supplemental thereto.

(2) The term "Services Agreement" means the agreement between the Borrower and the Burmah Oil Company (Pakistan Trading) Limited referred to in Recital (I) above.

(3) The term "Promoters Agreement" means the agreement between the President of Pakistan, WPIDC and BOC referred to in Recital (A) above.

(4) The term "WAPDA Agreement" means the agreement between the Borrower and the West Pakistan Water and Power Development Authority referred to in Recital (J) above.

(5) The term "subsidiary" means a company which is a subsidiary of the Borrower within the meaning of the Companies Act 1913 (or any amendment thereof).

ARTICLE II

The Loan

Section 2.01. The Bank agrees to lend to the Borrower, on the terms and conditions in this Agreement set forth or referred to, an amount in various currencies equivalent to fifteen million dollars ($15,000,000).

Section 2.02. The Bank shall open a Loan Account on its books in the name of the Borrower and shall credit to such Account the amount of the Loan. The amount of the Loan may be withdrawn from the Loan Account as provided in, and subject to the rights of cancellation and suspension set forth in, the Loan Regulations; provided, however, that, except as the Bank and the Borrower may otherwise agree, until the Borrower shall have complied with the provisions of Section 5.03 of this Agreement no more than an amount equivalent to eight million dollars ($8,000,000) shall be withdrawn from the Loan Account.

Section 2.03. The Borrower shall pay to the Bank a commitment charge at the rate of three-fourths of one per cent (3/4 of 1%) per annum on the principal amount of the Loan not so withdrawn from time to time.

Section 2.04. The Borrower shall pay interest at the rate of _______________ per cent (___%) per annum on the principal amount of the Loan so withdrawn and outstanding from time to time.

Section 2.05. Except as the Bank and the Borrower shall otherwise agree, the charge payable for special commitments entered into by the Bank at the request of the Borrower pursuant to Section 4.02 of the Loan Regulations shall be at the rate of one-half of one per cent (1/2 of 1%) per annum on the principal amount of any such special commitments outstanding from time to time.

Section 2.06. Interest and other charges shall be payable semi-annually on January 1 and July 1 in each year.

Section 2.07. The Borrower shall repay the principal of the Loan in accordance with the amortization schedule set forth in Schedule 1 to this Agreement.

ARTICLE III

Use of Proceeds of the Loan

Section 3.01. The Borrower shall apply the proceeds of the Loan exclusively to financing the cost of goods required to carry out the Project described in Schedule 2 to this Agreement. The specific goods to be financed out of the proceeds of the Loan and the methods and procedures for procurement of such goods shall be determined by agreement between the Bank and the Borrower, subject to modification by further agreement between them.

Section 3.02. The Borrower shall cause all goods financed out of the proceeds of the Loan to be imported into the territories of the Guarantor and there to be used exclusively in the carrying out of the Project.

ARTICLE IV

Bonds

Section 4.01. The Borrower shall execute and duly deliver Bonds representing the principal amount of the Loan and of the form, tenor and purport prescribed in the Trust Deed and as provided thereby and in the Loan Regulations.

Section 4.02. The Borrower shall from time to time designate and notify to the Bank an authorized representative or representatives for the purposes of Section 6.12 (a) of the Loan Regulations.

Section 4.03. The Borrower shall not issue any Bonds except as provided herein, in the Loan Regulations, in the Trust Deed or in the Bonds.

Section 4.04. The Bank and the Borrower shall be at liberty to make such arrangements as they may from time to time mutually agree as to procedure for the issue, authentication and delivery of the Bonds and such arrangements may be in addition to or in substitution for any of the provisions of this Agreement or of the Loan Regulations.

ARTICLE V

Particular Covenants

Section 5.01. (a) The Borrower shall carry out and complete the Project with due diligence and efficiency and in conformity with sound engineering, commercial and financial practices.

(b) Except as the Bank shall otherwise agree, the Borrower shall, in carrying out the Project, employ or cause to be employed engineering consultants and contractors acceptable to, and to an extent and upon terms and conditions satisfactory to, the Borrower and the Bank.

(c) The Borrower shall furnish to the Bank, promptly upon their preparation, the plans, specifications and construction schedules for the Project and any material modifications subsequently made therein, in such detail as the Bank shall from time to time request.

(d) The Borrower shall maintain records adequate to identify the goods financed out of the proceeds of the Loan, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect in accordance with consistently maintained sound accounting practices the operations and financial condition of the Borrower; shall enable the Bank's representatives to inspect the Project, the goods, all other plants, sites, works, properties and equipment of the Borrower and any relevant records and documents; and shall furnish to the Bank all such information as the Bank shall reasonably request concerning the expenditure of the proceeds of the Loan, the Project, the goods, and the management, financial condition and operations of the Borrower.

(e) The Borrower shall have its annual financial statements (balance sheet and profit and loss statement) audited by an independent accountant or accounting firm acceptable to the Bank and shall promptly after their preparation and not later than six months after the close of the Borrower's fiscal year transmit to the Bank copies of such statements and a signed copy of the accountant's or accounting firm's report and certificate.

Section 5.02. (a) The Bank and the Borrower shall cooperate fully to assure that the purposes of the Loan will be accomplished. To that end, each of them shall furnish to the other all such information as it shall reasonably request with regard to the general status of the Loan.

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

(c) The Borrower shall cause each of its subsidiaries (if any) to observe and perform the obligations of the Borrower under this Agreement to the extent to which the same may be applicable thereto as though such obligations were binding upon each of such subsidiaries.

Section 5.03. (a) The Borrower shall, as soon as practicable, execute and deliver and shall procure all other necessary parties to execute and deliver a Trust Deed in favor of such Trustees and in such form as the Bank may reasonably require to constitute by way of security for the Loan and the Bonds: (1) a First Specific Mortgage upon all the immovable properties, and all machinery, plant, equipment, pipelines, buildings, compressors, telecommunication equipment, meters, pipe laying equipment, trucks, aircraft, appliances and apparatus, which are owned at the date of this Agreement or are thereafter acquired by the Borrower, together with all grants, easements, licenses, wayleaves, franchises, concessions, rights, liberties, powers and privileges now held or hereafter acquired by the Borrower; (2) an Assignment by way of Mortgage of the agreements for the purchase of gas by the Borrower; and (3) without prejudice to the foregoing a First Floating Charge upon all the Borrower's undertaking and assets (including all uncalled capital), now owned or hereafter acquired; such Mortgage, Assignment and Charge to rank in point of security prior to any other mortgage, charge or lien upon and to any pledge or hypothecation of any of the properties or assets of the Borrower, existing at the date of this Agreement or thereafter created.

(b) The Borrower shall take all necessary steps and shall procure all other necessary parties to take all necessary steps to ensure that all mortgages, charges, pledges, hypothecations and liens outstanding upon the property and assets to be mortgaged, charged or assigned by or pursuant to the Trust Deed shall be discharged or be varied to the reasonable satisfaction of the Bank so as to provide that the Mortgage and Charge constituted by the Trust Deed shall rank first in point of security upon such property and assets.

(c) The Borrower shall obtain all necessary consents for the valid execution and delivery of the Trust Deed and shall duly register, or cause to be duly registered, the Trust Deed, together with such other documents as may be necessary or proper in order to render the same fully effective in accordance with its terms.

(d) The Borrower shall, not later than October 1, 1964, furnish evidence, satisfactory to the Bank, that it has duly performed its obligations pursuant to the foregoing subparagraphs of this Section. As part of such evidence there shall be furnished an opinion or opinions satisfactory to the Bank of counsel acceptable to the Bank showing that the requirements of subparagraphs (a) to (c) inclusive of this Section have been duly complied with and that, as to such property, lands and interests in land specified in the certificate referred to in Section 7.01 (d) of this Agreement as being owned or having been acquired, the Borrower has good and unencumbered title thereto; that as to such licenses, consents or other rights or privileges specified in said certificate as having been acquired, the Borrower has validly acquired the same and that the same are valid and effective; and that, as to arrangements specified in said certificate for the acquisition of any of the foregoing, such arrangements are valid and effective.

(e) The Bank and the Borrower may from time to time agree upon modifications of the foregoing requirements of this Section.

Section 5.04. (a) The Borrower undertakes that, except as the Bank shall otherwise agree, no mortgage, hypothecation, lien, pledge or charge which would rank prior to or pari passu with the Mortgage or Charge created or to be created by or pursuant to the Trust Deed shall, after the date of this Agreement, be created or maintained on any of its assets as security for any debt.

(b) Except as the Bank shall otherwise agree: (i) no subsidiary shall at any time create any mortgage, charge or security on its undertaking, properties or assets (including uncalled capital) or any part thereof otherwise than in favor of the Borrower; (ii) all mortgages, charges or securities created by any subsidiary in favor of the Borrower shall be retained by the Borrower and shall not be sold, transferred or otherwise disposed of by it; and (iii) the Borrower shall not sell, transfer or otherwise dispose of any shares for the time being held by it in any subsidiary so that such subsidiary shall cease to be a subsidiary of the Borrower.

Section 5.05. (a) The Borrower shall at all times take all requisite steps for the acquisition, retention and renewal by it of all such lands, interests in land and properties and all such rights, powers and privileges as may be necessary or proper for the construction of the Project, the operation of the properties included therein and of its other properties and the carrying on of its undertaking.

(b) The Borrower shall at all times maintain its corporate existence and right to carry on operations and shall, except as the Bank may otherwise agree, acquire, maintain and renew all rights, powers, privileges and franchises owned or held by it and necessary or useful in the conduct of its business.

(c) The Borrower shall operate its undertaking and conduct its affairs with qualified and experienced management and in accordance with sound business, industrial and financial practices and shall operate, maintain, renew and repair its plants, machinery, equipment and property as required in accordance with sound engineering practices.

Section 5.06. Except as the Bank shall otherwise agree, the Borrower shall declare dividends (i) only out of the profits of the year or any other undistributed profits accumulated after January 1, 1964, such profits being calculated for the purpose of this Section by subtracting from the net profit before taxation shown in the annual audited accounts of the Borrower an amount equal to the tax which would be payable by the Borrower if it were not entitled to the benefit of the initial and accelerated depreciation allowable to it under the Pakistan Income Tax Act, and (ii) only if, after the payment of such dividend (assuming such payment were made on the date of such declaration), consolidated current assets of the Borrower and its subsidiaries (if any) would be more than 1.5 times the consolidated current liabilities of the Borrower and its subsidiaries (if any).

For purposes of this Section the following terms shall have the following meanings:

(a) The term "current assets" shall mean cash, bank deposits, receivables and securities of the Government of Pakistan valued at their market price but shall not include inventories; and

(b) The term "current liabilities" shall mean all liabilities due and payable and all other liabilities which would be payable or could be called for payment within one year including the current portion of long-term indebtedness.

Section 5.07. The Borrower shall set prices for the sale of gas at such levels as will provide revenues sufficient: (i) to cover operating expenses, including proper provision for maintenance and depreciation and interest; (ii) to meet repayment of indebtedness to the extent that such repayments exceed provision for depreciation; and (iii) to produce a reasonable surplus.

Section 5.08. Except as shall be otherwise agreed between the Bank and the Borrower, the Borrower shall not incur or permit any subsidiary to incur any indebtedness if, after the incurring of any such indebtedness, the consolidated indebtedness of the Borrower and all its subsidiaries would exceed the consolidated capital and surplus of the Borrower and all its subsidiaries in a ratio higher than 60:40;

provided, however, that the Borrower may exceed the above stated ratio as a result of the indebtedness referred to in Recitals (G) and (H) of this Agreement during the construction period of the Project as determined by Schedule 2 of this Agreement.

For the purposes of this Section:

(a) The term "indebtedness" shall not include debt payable on demand or maturing not more than one year after its date.

(b) The term "incur" with reference to any indebtedness shall include any modification of the terms of payment of such debt. Indebtedness shall be deemed to be incurred on the date of execution and delivery of a contract or loan agreement providing for the incurring of such indebtedness.

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

(d) The term "consolidated indebtedness" shall mean the total amount of indebtedness of the Borrower and all its subsidiaries excluding indebtedness owed by the Borrower to any subsidiary or by any subsidiary to the Borrower or to any other subsidiary.

(e) The term "capital and surplus" shall mean capital and surplus determined in accordance with sound accounting procedures.

(f) The term "consolidated capital and surplus" shall mean the total capital and surplus of the Borrower and all its subsidiaries after excluding such items of capital and surplus as shall represent equity interest by the Borrower or any subsidiary in the Borrower or any subsidiary.

Section 5.09. Subject to the exemptions conferred by Sections 3.03 and 3.04 of the Guarantee Agreement, the Borrower shall pay or cause to be paid all taxes and fees, if any, imposed under the laws of the Guarantor or laws in effect in its territories on or in connection with the execution, issue, delivery or registration of the Loan Agreement, the Guarantee Agreement, the Trust Deed or the Bonds, or the payment of principal, interest or other charges thereunder provided, however, that the provisions of this Section shall not apply to taxation of, or fees upon, payments under any Bond to a holder thereof other than the Bank when such Bond is beneficially owned by an individual or corporate resident of the Guarantor.

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

Section 5.11. (a) Except as shall be otherwise agreed between the Bank and the Borrower, the Borrower shall insure or cause to be insured with responsible insurers all goods financed with the proceeds of the Loan. Such insurance shall cover such marine, transit and other hazards incident to delivery of the goods into the territories of the Guarantor and to the site of the Project, and shall be for such amounts, as shall be consistent with sound commercial practice. Such insurance shall be payable in dollars or in the currency in which the cost of the goods insured thereunder shall be payable.

(b) The Borrower shall, in addition to the insurance provided for in subparagraph (a) of this Section, take out or cause to be taken out, and maintain or cause to be maintained, such insurance, against such risks and in such amounts as shall be consistent with sound industrial and business practice.

Section 5.12. Except with the approval of the Bank, the Borrower shall not: (a) amend its Memorandum or Articles of Association; (b) change the management arrangements set out in the Promoters Agreement for the period indicated therein; (c) assign, amend or abrogate the Services Agreement; or (d) consent to any action taken at any meeting of bondholders or by written instrument pursuant to the provisions of the Trust Deed which would or might change the terms of the Bonds or adversely affect the holders thereof.

Section 5.13. The Borrower shall not undertake or execute any project or development (other than the Project), or make any investment, which would result in estimated aggregate capital expenditures of the Borrower exceeding the equivalent of $1,500,000 in any fiscal year unless the Bank has approved the method of financing such project, development or investment.

ARTICLE VI

Remedies of the Bank

Section 6.01. (i) If any event specified in paragraph (a) or paragraph (b) of Section 5.02 of the Loan Regulations shall occur and shall continue for a period of thirty days, or (ii) if the event specified in paragraph (j) of Section 5.02 of the Loan Regulations shall occur, or (iii) if any event specified in paragraph (c) of Section 5.02 of the Loan Regulations shall occur and shall continue for a period of sixty days after notice thereof shall have been given by the Bank to the Borrower, then at any subsequent time during the continuance thereof, the Bank, at its option, may declare the principal of the Loan and of all the Bonds then outstanding to be due and payable immediately, and upon any such declaration such principal shall become due and payable immediately, anything in this Loan Agreement, the Trust Deed or in the Bonds to the contrary notwithstanding.

ARTICLE VII

Effective Date; Termination

Section 7.01. The following events are specified as additional conditions to the effectiveness of this Agreement within the meaning of Section 9.01 (c) of the Loan Regulations:

(a) The Borrower has issued the debentures and Ordinary Shares referred to in Recital (G) of this Agreement to WPIDC.

(b) The Borrower has sold the securities referred to in Recital (H) of this Agreement as therein specified or, in the case of the 5% debentures, arrangements satisfactory to the Bank have been made for the sale thereof; or other arrangements as agreed between the Borrower and the Bank have been made for the raising of such capital.

(c) The Borrower has obtained an undertaking satisfactory to the Bank from WPIDC and BOC as to the provision by them of any additional funds necessary to complete the Project and the terms upon which such funds will be supplied to the Borrower.

(d) The Borrower has, to the satisfaction of the Bank, validly acquired all such lands and properties and all such rights of way, easements, licenses, consents, franchises, or other rights or privileges as may be necessary or requisite to enable it to construct the Project and operate its undertaking, or has made (to the like satisfaction) effective arrangements for the acquisition thereof; and the Borrower has supplied to the Bank a certificate, satisfactory to the Bank, setting forth particulars of the foregoing.

(e) The Borrower has satisfied the Bank that the Borrower will be able to comply with the requirements of Section 5.03 (b) of this Agreement.

(f) The Borrower has entered into an agreement satisfactory to the Bank with Pakistan Petroleum Limited and Sui Gas Transmission Company Limited for the purchase of gas from the Sui gas field and the purification of such gas and has entered into an agreement satisfactory to the Bank with the Attock Oil Company Limited for the purchase of gas from the Dhulian field.

(g) Arrangements satisfactory to the Bank have been made for the financing and construction of a thermal electric power station at Lyallpur.

(h) Arrangements satisfactory to the Bank have been made for the sale of gas by the Borrower to the fertilizer factory owned by WPIDC at Multan.

(i) The Borrower shall certify in writing to the Bank that, as of a date to be agreed between the Borrower and the Bank, there has been no material adverse change in its condition since the date of this Agreement.

Section 7.02. The following are specified as additional matters, within the meaning of Section 9.02 (c) of the Loan Regulations, to be included in the opinion or opinions to be furnished to the Bank on behalf of the Borrower:

(a) That the Borrower has full power and authority to construct the Project and to operate its undertaking and has all necessary rights and powers in connection therewith; that all acts, franchises, concessions, consents and approvals necessary therefor have been duly and validly performed or given; and that, with such exceptions as the Bank may have approved, all easements, rights and privileges necessary therefor have been duly obtained.

(b) That the arrangements for the acquisition by the Borrower of the monies referred to in subparagraph (3) of Recital (H) of this Agreement are valid and binding obligations of the parties thereto in accordance with their terms.

(c) That the Borrower has full power and authority to raise monies by the issuance of Bonds and otherwise as herein provided, and that all acts, consents and approvals necessary therefor have been duly and validly performed or given.

(d) That the agreements referred to in Section 7.01 (f) of this Agreement have become validly effective and binding upon the parties thereto in accordance with their terms.

(e) That the WAPDA Agreement is a valid and binding obligation of the parties thereto in accordance with its terms.

Section 7.03. A date 90 days after the date of this Agreement is hereby specified for the purposes of Section 9.04 of the Loan Regulations.

ARTICLE VIII

Miscellaneous

Section 8.01. The Closing Date shall be June 30, 1966, or such other date as may from time to time be agreed between the Bank and the Borrower.

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

For the Bank:

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

Alternative address for cablegrams and radiograms:

Intbafrad
Washington, D.C.

For the Borrower:

Sui Northern Gas Pipelines Limited
P.I.D.C. House
P.O. Box 3938
Karachi, Pakistan

Alternative address for cablegrams and radiograms:

Suinorth
Karachi

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

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

By______________________________
President

SUI NORTHERN GAS PIPELINES LIMITED

By______________________________
Authorized Representative

SCHEDULE 1

Amortization Schedule

Date Payment Due	Payment of Principal (expressed in dollars)*
July 1, 1966	415,000
January 1, 1967	415,000
July 1, 1967	415,000
January 1, 1968	415,000
July 1, 1968	415,000
January 1, 1969	415,000
July 1, 1969	415,000
January 1, 1970	415,000
July 1, 1970	415,000
January 1, 1971	415,000
July 1, 1971	415,000
January 1, 1972	415,000
July 1, 1972	415,000
January 1, 1973	415,000
July 1, 1973	415,000
January 1, 1974	415,000
July 1, 1974	415,000
January 1, 1975	415,000
July 1, 1975	415,000
January 1, 1976	415,000
July 1, 1976	415,000
January 1, 1977	415,000
July 1, 1977	415,000
January 1, 1978	415,000
July 1, 1978	415,000
January 1, 1979	415,000
July 1, 1979	415,000
January 1, 1980	415,000
July 1, 1980	415,000
January 1, 1981	415,000
July 1, 1981	415,000
January 1, 1982	415,000
July 1, 1982	415,000
January 1, 1983	415,000
July 1, 1983	415,000
January 1, 1984	475,000

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

Premiums on Prepayment and Redemption

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

Time of Prepayment or Redemption	Premium
Not more than three years before maturity	1/2%
More than three years but not more than six years before maturity	1-1/2%
More than six years but not more than eleven years before maturity	2-1/2%
More than eleven years but not more than sixteen years before maturity	3-1/2%
More than sixteen years but not more than eighteen years before maturity	4-1/2%
More than eighteen years before maturity	5-1/2%

SCHEDULE 2

Description of Project

The Project comprises the extension and improvement of the existing Sui-Multan and Attock Oil Company gas systems, the construction of about 370 miles of new high-pressure transmission lines and the operation of the expanded systems.

The main transmission line (16" diameter) presently extends from the Sui gas field to Multan. The Project includes the construction of a new crossing over the Sutlej River, the construction of a new line over the Gudu barrage and the construction of a compressor station on the Sui-Multan line. Construction of the new transmission line will begin at Multan, extend northward to Lyallpur with 16" pipe where the line will then bifurcate - a 12" pipe going to Dandot via Haranpur and a 10" line going to Lahore. The Attock Oil Company gas line will be extended from Wah to Hattar and from Rawalpindi to Islamabad, and a parallel line will be built from Dhulian to Galli Jagir.

The pipe to be used in the Project will be a high-pressure steel pipe of a specification at least equivalent to A.P.I. standard 5 LX Eleventh edition March 1963 or latest. All joints will be welded and the pipe will be suitably protected by coating and wrapping and by cathodic protection. The pipe will normally be buried except when crossing certain major rivers and canals. Flow of gas through the pipeline will be controlled and measured by control stations at approximately every 40 miles along the line, and by meters, valves, pressure regulators and safety devices installed at appropriate points. The complete pipeline will be hydraulically tested before commissioning. A private multi-channel communication system using modern relay equipment will be provided for the entire system.

Distribution systems, designed primarily to serve industrial consumers, will be built in the various urban areas to be served, Other large consumers will be connected at various points along the route.

Construction of the Project is expected to be completed about December 1965.

SCHEDULE 3

Modifications of Loan Regulations No. 4

For the purposes of this Agreement the provisions of Loan Regulations No. 4 of the Bank, dated February 15, 1961, are modified as follows:

(1) Subsection (j) of Section 5.02 is amended to read as follows:

"(j) The security constituted by the Trust Deed shall become enforceable."

(2) Section 6.01 is deleted.

(3) Section 6.04 is amended by substituting the words "interest (herein called the service charge)" for the words "a service charge" in the second sentence thereof.

(4) Section 6.07 is amended to read as follows:

"Section 6.07. Form of Bonds and of Guarantee. (a) The Bonds shall be fully registered bonds without coupons (hereinafter sometimes called registered Bonds) or bearer bonds with coupons for semi-annual interest attached (hereinafter sometimes called coupon Bonds). Bonds delivered to the Bank shall be registered Bonds or coupon Bonds in such temporary or definitive form (authorized by the Trust Deed) as the Bank shall request. Registered Bonds and coupon Bonds payable in dollars and the coupons attached thereto shall be substantially in the forms respectively set forth in the Trust Deed. Bonds payable in any currency other than dollars shall be substantially in the forms respectively set forth in the Trust Deed, as the case may be, except that they shall (i) provide for payment of principal, interest and premium on redemption, if any, in such other currency, (ii) provide for such place of payment as the Bank shall specify, and (iii) contain such other modifications as the Bank shall reasonably request in order to conform to the laws or to the financial usage of the place where they are payable.

"(b) Notwithstanding any other provision of the Loan Agreement or these Regulations, if the Bank shall so require, the Borrower shall execute and deliver bonds pursuant to Section 6.03 before the execution and delivery of the Trust Deed. The provisions of Section 6.07 of Loan Regulations No. 4 of the Bank, dated February 15, 1961, but before modification by subparagraph (a) of this Section, shall apply to the form of any such bonds, with appropriate changes therein satisfactory to the Bank, to provide for the exchange thereof, free of cost to the Bank, for Bonds of the same respective amounts, currencies and maturities issued under the Trust Deed, the Loan Agreement and these Regulations. All other provisions of the Loan Agreement, the Guarantee Agreement and these Regulations relating or referring to Bonds shall apply *mutatis mutandis* to such bonds except where such application would be clearly inconsistent with the requirements of this subparagraph.

"(c) All Bonds shall have the guarantee of the Guarantor endorsed thereon substantially in the form set forth in Schedule 3 to these Regulations."

(5) The following sentence is added at the beginning of Section 6.09, namely:

"Except as the Bank and the Borrower shall otherwise agree, Bonds shall be dated as hereinafter in this Section provided."

(6) The first sentence of Section 6.12 (a) is changed to read as follows:

"The Bonds shall be signed in the name and on behalf of the Borrower by its authorized representative designated pursuant to the Loan Agreement for the purposes of this Section."

(7) Section 6.18 is deleted.

(8) In Section 7.01, after the words "Guarantee Agreement" where those words occur, the words ", the Trust Deed" are added.

(9) The following words of subsection (c) of Section 7.04 are deleted: "or, if they shall not agree, by the Guarantor".

(10) Subsection (j) of Section 7.04 is amended to read as follows:

"(j) The provisions for arbitration set forth in this Section shall be in lieu of any other procedure for the determination of controversies between the parties under the Loan Agreement and Guarantee Agreement or any claim by any such party against any other such party arising thereunder provided, however, that nothing herein shall be deemed to preclude any of the said parties from exercising, or instituting any legal or equitable action to enforce, any right or claim arising out of or pursuant to the Trust Deed or the Bonds, and submission to arbitration hereunder shall not be deemed to be a condition precedent or in any way to prejudice such exercise or other enforcement of any such right or claim."

(11) Paragraph 6 of Section 10.01 is amended to read as follows:

"6. The term 'Borrower' means the party to the Loan Agreement to which the Loan is made; and the term 'Guarantor' means the Islamic Republic of Pakistan, acting by its President."

(12) Paragraph 9 of Section 10.01 is deleted and the following new paragraph is substituted therefor:

"9. The term 'Bonds' means Bonds issued and authenticated pursuant to the Trust Deed (except as otherwise provided in Section 6.07 (b)), with the guarantee of the Guarantor endorsed thereon as provided in the Loan Agreement and the Guarantee Agreement."

(13) The following paragraph is added to Section 10.01:

"19. The term 'Trust Deed' shall have the meaning as defined in the Loan Agreement."

Legal Department
CONFIDENTIAL DRAFT
(Subject to Change)
April 17, 1964

LOAN NUMBER PAK

GUARANTEE AGREEMENT

(Sui Northern Gas Project)

between

ISLAMIC REPUBLIC OF PAKISTAN

and

INTERNATIONAL BANK FOR RECONSTRUCTION
AND DEVELOPMENT

Dated 1964

GUARANTEE AGREEMENT

AGREEMENT, dated , 1964, between the ISLAMIC REPUBLIC OF PAKISTAN, acting by its President (hereinafter called the Guarantor) and INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (hereinafter called the Bank).

WHEREAS by an agreement of even date herewith between the Bank and Sui Northern Gas Pipelines Limited (hereinafter called the Borrower), which agreement and the schedules therein referred to are hereinafter called the Loan Agreement, the Bank has agreed to make to the Borrower a loan in various currencies in an aggregate principal amount equivalent to fifteen million dollars ($15,000,000), on the terms and conditions set forth in the Loan Agreement, but only on condition that the Guarantor agree to guarantee the payment of the principal of and interest and other charges on such loan; and

WHEREAS the Guarantor, in consideration of the Bank's entering into the Loan Agreement with the Borrower, has agreed to guarantee the payment of the principal, interest and other charges on such loan;

NOW THEREFORE the parties hereto hereby agree as follows:

ARTICLE I

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

Section 1.02. Wherever used in this Agreement, unless the context shall otherwise require, the several terms defined in the Loan Agreement shall have the respective meanings therein set forth.

ARTICLE II

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

ARTICLE III

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

The term "assets of the Guarantor" as used in this Section includes assets of the Guarantor or of any of its political subdivisions or of any agency of the Guarantor or of any such political subdivision, including the State Bank of Pakistan or any other institution performing the functions of a central bank.

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

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

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

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

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

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

Section 3.06. The Guarantor shall not take any action which would prevent or materially interfere with the successful operation of the Project, or with the carrying on by the Borrower of its operations and enterprise in an efficient and businesslike manner and in accordance with sound engineering, financial and business practices, or with the performance by the Borrower of any of the covenants, agreements and obligations of the Borrower in the Loan Agreement, Trust Deed or Services Agreement contained.

ARTICLE IV

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

ARTICLE V

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

For the Guarantor:

The Secretary to the Government of Pakistan
Economic Affairs Division
Rawalpindi, Pakistan

Alternative address for cablegrams and radiograms:

Economic
Rawalpindi

For the Bank:

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

Alternative address for cablegrams and radiograms:

Intbafrad
Washington, D.C.

Section 5.02. The Secretary to the Government of Pakistan, Economic Affairs Division, is designated for the purposes of Section 8.03 of the Loan Regulations.

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

ISLAMIC REPUBLIC OF PAKISTAN

By ______________________________
Authorized Representative

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

By ______________________________
President

STATUTORY LOAN COMMITTEE REPORT

To: The President, International Bank for Reconstruction and Development

Report of Loan Committee under Section 4 (iii) of Article III of the Articles of Agreement on the Proposed Loan (Sui Northern Gas Project) to Sui Northern Gas Pipelines Limited, a public company incorporated in Pakistan to be guaranteed by the Islamic Republic of Pakistan.

The undersigned Committee constituted under Section 7 of Article V of the Articles of Agreement of International Bank for Reconstruction and Development (the Bank) hereby submits its report pursuant to Section 4 (iii) of Article III of said Articles in respect of the proposal that the Bank grant to Sui Northern Gas Pipelines Limited a loan in an amount in various currencies equivalent to U.S. $15,000,000 which loan is to be guaranteed by the Islamic Republic of Pakistan. The purpose of said loan is to assist in financing (i) the expansion and improvement of two existing gas transmission systems, (ii) the construction of a new transmission line as an extension of one of the existing systems, and (iii) the operation of the expanded systems.

1. The Committee has carefully studied the merits of the proposal to grant such a loan, and of the purposes to which the proceeds of the loan are to be applied.

2. The Committee is of the opinion that the project toward the financing of which the proceeds of such loan are to be applied comes within the purposes of the Bank as set forth in Article I of said Articles of Agreement, and that said project is designed to promote the development of the productive facilities and resources of the Islamic Republic of Pakistan and is in

the interests of the Islamic Republic of Pakistan and of the members of the Bank as a whole.

3. Accordingly, the Committee finds that said project merits financial assistance from the Bank, and hereby recommends said project for such assistance.

COMMITTEE

/s/ J. Burke Knapp
Vice President

/s/ A.G.N. Kazi
Expert selected by Governor for
Islamic Republic of Pakistan

/s/ Escott Reid
Director, Department of Operations -
South Asia and Middle East

/s/ Ellsworth E. Clark
Assistant General Counsel

/s/ H.B. Ripman
Assistant Director
Department of Technical Operations

/s/ Francis R. Poore
Assistant Treasurer

Dated at Washington, D.C.

April 29, 1964

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

(DRAFT)

RESOLUTION NO. ________

Approval of Loan to Sui Northern Gas Pipelines Limited (Sui Northern Gas Project) in the amount of $15,000,000 to be guaranteed by the Islamic Republic of Pakistan.

RESOLVED:

1. THAT, in accordance with the recommendations of the President, dated May 1, 1964, the Bank shall grant a loan to Sui Northern Gas Pipelines Limited, to be guaranteed by the Islamic Republic of Pakistan, in an amount in various currencies equivalent to fifteen million dollars ($15,000,000), to mature on and prior to January 1, 1984, to bear interest (including commission) at the rate of five and one-half per cent (5-1/2%) per annum, and to be upon other terms and conditions substantially in accordance with the terms and conditions set forth in the form of Loan Agreement (Sui Northern Gas Project) between the Bank and Sui Northern Gas Pipelines Limited and the form of Guarantee Agreement (Sui Northern Gas Project) between the Islamic Republic of Pakistan and the Bank which have been presented to this meeting.

2. THAT the rate of commission to be charged in connection with said loan shall be 1% per annum of the principal amount of said loan from time to time outstanding and held or guaranteed by the Bank; that said commission shall be included as part of the interest and service charge on said loan and shall be payable semi-annually on the dates for the payment of said interest and service charge; and that the amount of said commission so paid to the Bank shall be set aside in the special reserve as provided in Section 6 of Article IV of the Articles of Agreement of the Bank.

Legal Department
May 1, 1964