



**REPORT OF THE  
COMPTROLLER AND AUDITOR GENERAL  
OF INDIA**

**UNION GOVERNMENT  
No. 9 (COMMERCIAL) OF 1990**

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**GAS AUTHORITY OF INDIA LIMITED  
HBJ PIPELINE PROJECT**



MINISTRY OF FINANCE

COMPTROLLER AND AUDITOR GENERAL

OF INDIA

GOVERNMENT OF INDIA

OFFICE OF THE COMPTROLLER AND AUDITOR GENERAL

OFFICE OF THE COMPTROLLER AND AUDITOR GENERAL  
NEW DELHI

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## P R E F A C E

1. A reference is invited to prefatory remarks in Report of the Comptroller & Auditor General of India—Union Government No. 1 (Commercial) of 1990 wherein mention was made that this Report will be presented in several parts.
2. This part contains review on the working of HBJ Pipeline Project of Gas Authority of India Limited.

1911

Received of the Treasurer of the State of New York the sum of \$100.00 for the year 1911.

Witness my hand and seal of office at Albany, New York, this 1st day of January, 1911.



## GLOSSARY OF ABBREVIATIONS USED

HBJ	— Hazira-Bijaipur-Jagdishpur
GAIL	— Gas Authority of India Limited
ONGC	— Oil and Natural Gas Commission
EIL	— Engineers India Limited
ECIL	— Electronics Corporation of India Ltd.
NTPC	— National Thermal Power Corporation
IEL	— Indian Explosives Limited
GSFC	— Gujarat State Fertilizer Corporation
CCEA	— Cabinet Committee on Economic Affairs
PIB	— Public Investment Board
BPE	— Bureau of Public Enterprises
OECF	— Overseas Economic Co-operation Fund
Consortium	— Consortium known as Spie-Capag
MOU	— Memorandum of Understanding
FR	— Feasibility Report
FE	— Foreign Exchange
NPV	— Net Present Value
MMSCM	— Million Metric Standard Cubic Metres
MMSCMD	— Million Metric Standard Cubic Metres per Day
LPG	— Liquefied Petroleum Gas
LAB	— Linear Alkyl Benzene
C1	— Methane
C2	— Ethane
C3	— Propane
C4	— Butane
CO <sub>2</sub>	— Carbondioxide





## OVERVIEW

The Gas Authority of India Ltd. (GAIL) was formed on 16th August, 1984 for setting up of necessary plants and infrastructure facilities for utilisation of natural gas and to transport, treat, fractionate, purify and market natural gas, fractions, etc. The Company was entrusted with the responsibility to execute, operate and maintain the Hazira-Bijaipur-Jagdishpur Pipeline (HBJ Pipeline Project) covering a distance of over 1700 kms. for supply of gas to fertilizer plants and their captive power plants being set up in Madhya Pradesh, Rajasthan and Uttar Pradesh (Paras 1.1 & 1.2).

II. The availability of free gas from the South Bassein Offshore fields was estimated in August 1980 at 275 billion cubic metres with a production capacity of 20 MMSCMD over a plateau period of 20 years and certain other gas fields, subsequently discovered, were estimated to provide additional gas of 3 MMSCMD. Of this, about 5 MMSCMD of gas was earmarked for supply to two fertilizer plants in Gujarat and balance was decided to be transported by pipeline for use in 6 fertilizer Plants to be set up in the States of Rajasthan (1), Madhya Pradesh (1) and Uttar Pradesh (4). The Feasibility Report for the project (known as HBJ Pipeline Project) was submitted by ONGC on 15th July 1983, the project was sanctioned by Government on 17th April, 1984 at an estimated cost of Rs. 1700.17 crores and was entrusted to GAIL for execution on its constitution in August 1984. The Pipeline became operational from August 1987. (Paras 2.3 & 2.4).

III. Though the free gas production available for the project was assessed at only 18 MMSCMD, the project was envisaged in August 1983 by ONGC and cleared by Government in April 1984 for an initial capacity of 18.2 MMSCMD and future capacity of 33.4 MMSCMD despite the advice of Planning Commission to restrict the initial capacity to 14.2 MMSCMD and ultimate capacity to 20 MMSCMD.

The two consequences of planning for this high capacity of 33.4 MMSCMD viz. (i) capacity remaining unutilised in the event of non-discovery of additional gas and (ii) pre-empting further gas finds by this route alone, though advised by PIB to be specifically brought to the notice of the Cabinet, were not so brought to the notice by the Ministry in its note to the Cabinet Committee on Economic Affairs. (Paras 2.5 to 2.9 and 2.11).

IV. Though the original project envisaged supply of gas, besides the 6 fertilizer plants, to the Karnal Refinery Project and Saleempur Aromatics, neither the route study nor the planning and designing of the project envisaged supply to these units. On the other hand, the planning and designing of the project in 1984 included supply of gas to three power plants at Anra in Rajasthan, at Auraiya in Uttar Pradesh and Kawas in Gujarat. Approval of the Government for including these was taken only in October 1986. (Paras 3.3 and 3.5).

V. There were delays in planning for over two years in completion of various components of the project. As against the target date for completion of the project work in July 1988, the project is yet to be completed in all respects. (Para 4.2.2).

VI. While GAIL has preferred a claim for liquidated damages estimated at Rs. 100 crores in August 1988, M/s Spie-Capag (the Consortium which undertook the contract) has preferred a counter-claim of Rs. 638.54 crores against GAIL, alleging delays at various stages on the part of the GAIL. The dispute is not yet settled (February 1991). (Para 4.2.4).

VII. Purchase Orders for purchase of 36" linepipes were placed with a Japanese Consortium though its rates were higher than the rates quoted by a Brazilian Firm, by Rs. 10.88 crores. (Para 5.3).

VIII. Though, the requirement of casing pipes was estimated for length of 10 kms., casing pipes for length of 11 kms. were procured. The actual consumption of casing pipes was only for the length of 2.58 kms. Similarly Steel Pipes were procured in excess. As a result inventory worth Rs. 32.58 crores remained unused. (Para 5.4).

IX. GAIL has decided to provide housing facilities with 100% satisfaction against the scale of 70% satisfaction laid down by the Government. The estimated extra expenditure in contravention of directive of the Government is estimated at Rs. 25 crores. (Para 6).

X. Each of the 6 fertilizer plants to be set up was estimated to consume 2.8 MMSCMD of gas (2.1 MMSCMD by fertilizer plant and 0.7 MMSCMD by

(vii)



the captive power plant). However, three plants set up so far consumed not more than 5 MMSCMD as against the envisaged quantity of 8.4 MMSCMD of gas. So far no contractual arrangement for ensuring minimum offtake of gas has also been executed with the result that GAIL loses heavily due to under utilisation of its available potential. (Paras 8.2.1, 8.2.2 & 9.2).

XI. According to GAIL, its inability to sell gas despite availability of gas was resulting in a loss of revenue, estimated at two crores of rupees per day. (Para 8.2.3).

XII. The fertilizer and power plants need only one of the many fractions that compose the gas and this fraction (C1), constitutes 79.8% of the total gas. Three other fractions (C2, C3 and C4) which constitute 14%, are needed for petro-chemical and LPG Plants. Though the project envisaged integrated action for extraction of C2, C3 and C4 fractions before supply of gas to fertilizer and power plants, the projects for petro-chemical and LPG are yet to come with the result that fertilizer and other plants are compulsorily required to take the rich gas and pay for fractions not required by them as well. The non-utilisation of these fractions is resulting in a national waste, apart from the resultant increase in cost of raw materials/fuel to the fertilizer and power plants. The

cost of unutilised part of gas is estimated at Rs. 128.73 crores for period upto March 1990. (Para 10.1.2).

XIII. The need for 4 Compressor Stations constructed at a cost of Rs. 237.66 crores in the pipeline project arises only if all the six fertilizer plants are commissioned. However, with only 3 fertilizer plants having been commissioned, a large part of the investment in Compressor Stations has remained idle. (Para 11.1).

XIV. When the HBJ Pipeline Project was under execution it became clear by August 1987 that the fertilizer plant planned for Sawai Madhopur would not be established and that a new location would have to be selected. Notwithstanding this, the decision to cancel the construction of the branch line for supply of gas to this fertilizer plant was conveyed to M/s. Spie-Capag only on 27th May, 1988. While admitting reduction in cost by Rs. 9.60 crores, M/s. Spie-Capag has preferred an additional claim amounting to Rs. 9.50 crores due to cancellation of this Section. (Para 11.3).

XV. Due to change in decision to set up the Corporate Office of the Company from NOIDA to DELHI; Company had suffered a loss of Rs. 2.58 crores on account of lease rent, interest and fencing. (Para 11.2).



## 1. Introduction

1.1 The Gas Authority of India Limited (GAIL) was formed on 16th August, 1984 with the following objectives :—

- (i) Augmentation and setting up of necessary plants and infrastructure facilities for utilisation of natural gas obtained from within the country or from sea or acquired from any other country.
- (ii) To transport, treat, fractionate, purify and market natural gas fractions.
- (iii) To formulate plans for proper utilisation of natural gas fractions in close coordination with Government and concerned agencies including industrial users.
- (iv) To plan, design and construct pipelines, systems and related facilities for collection, treatment, fractionation and marketing of natural gas fractions.

- (v) To promote research and development in natural gas transmission, treatment and processing; also to develop newer and more efficient uses for natural gas.

1.2 The Company was entrusted, in the first instance, with the responsibility to execute and then to operate and maintain the Hazira-Bijaipur-Jagdishpur pipeline project (HBJ Pipeline Project) covering a distance of over 1700 KMs. for supply of natural gas primarily to fertilizer plants (and their related captive power plants) being set up in the States of Madhya Pradesh, Rajasthan and Uttar Pradesh. Prior to formation of this Company, the functions relating to clearance of the project by the appropriate authorities, the route selection, invitation of global tenders, etc. had been completed by the Oil and Natural Gas Commission (ONGC). The salient features noticed by Audit during the study of the execution, operation and maintenance of the HBJ pipeline project are given in the succeeding paragraphs.



## 2. Approval of the HBJ Project

2.1 Oil was discovered in Bombay High by the ONGC in 1974; free gas at South Bassein offshore fields was also discovered in April, 1976. Taking note of the potentiality for commercial exploitation of the free gas and the associated gas arising from processing the crude oil, a Committee headed by Shri Satish Chandran was set up by the Government in 1977 to study the optimum utilisation of the offshore gas. This Committee, inter-alia recommended that the most economic use of the free gas would be its use as feed stock for the manufacture of nitrogenous fertilizers and that 6 fertilizer plants (in addition to 2 in Gujarat to be fed by the free gas and 2 in Maharashtra to be fed by the associated gas already agreed to) might be set up. Another Committee, also headed by Shri Satish Chandran, which was set up in 1979, recommended that the fertilizer plants might be set up near the consumption centres and accordingly suggested the setting up of the fertilizer plants, one each in Madhya Pradesh and Rajasthan States and four in Uttar Pradesh State.

2.2 For implementing the recommendations of this Committee, two further Committees were set up, one by the Department of Petroleum in April 1980 under the Chairmanship of Shri Lovraj Kumar to study the optimum pipeline alignment required for the transportation of natural gas for the proposed fertilizer plants and the other in September 1980 by the Department of Chemicals and Fertilizers, headed by Shri K. C. Sharma to study the potential locations and recommend the exact locations for the new six gas based fertilizer plants. These two Committees were subsequently asked to coordinate their work and they submitted their joint report to the Government in December, 1981.

2.3 The joint report of the two Committees recommended that one fertilizer plant at Bijaipur (Guna) in Madhya Pradesh, one fertilizer plant in Sawai Madhopur in Rajasthan and 4 fertilizer plants at Babrala, Nara, Jagdishpur and Aonla or Shahjahanpur in Uttar Pradesh might be set up. After examining the proposals, the Ministry observed that the land at Nara was fertile and that the acquisition of land and development would not only be costly but also time consuming at Nara. In these circumstances, it was decided by the Ministry in July 1982 that the 6 fertilizer plants based on offshore gas would be

located at the following places with a production capacity of 1350 MTs. of ammonia per day/per plant.

(i) Guna	— Madhya Pradesh
(ii) Jagdishpur	— Uttar Pradesh
(iii) Aonla	— Uttar Pradesh
(iv) Sawai Madhopur	— Rajasthan
(v) Babrala	— Uttar Pradesh
(vi) Shahjahanpur	— Uttar Pradesh

ONGC was entrusted by Government with the job of laying the onshore pipeline from Hazira to supply gas to six fertilizer plants and their captive power plants as per communications dated 8th March 1983 and 14th March 1983 from the Department of Petroleum and Department of Chemicals and Fertilizers, to the Commission respectively. The Feasibility Report (F.R.) of the Project was submitted to Government by ONGC on 15th July, 1983, Public Investment Board (PIB) gave clearance to the Project on 16th February 1984, Cabinet Committee on Economic Affairs (CCEA) gave approval on 31st March, 1984 and sanction for execution of the Project was issued by Government on 17th April, 1984 at an estimated cost of Rs. 1700.17 crores (including foreign exchange (F.E.) component of Rs. 680.35 crores). As against this the total expenditure incurred up to 31st March, 1990 was Rs. 1600.68 crores (F.E. expenditure figures not readily available). The pipeline became operational from August 1987.

2.4 The availability of gas in the South Bassein offshore field was initially assessed in 1976 at 216 billion cubic metres with a production capacity of 18 million metric standard cubic metres per day (MMS-CMD) over a plateau period of 20 years. The availability of gas was reassessed in August, 1980 at 275 billion cubic metres with a production capacity of 20 MMS-CMD over a plateau period of 20 years. Certain other gas fields, subsequently discovered, at North Bassein, South Tapti, etc., it was estimated in 1983, could add up to the gas production of over 3 MMS-CMD. Thus the ONGC based its feasibility study of gas availability on a commercial basis at the rate of 23 MMS-CMD, though the potential rate could be much higher than this committed rate.

2.5 In the FR the six fertilizer plants, their captive power plants and two other units were identified as



the "Base Consumers" for the offshore gas as detailed below :

	Quantity of gas to be supplied in MMSCMD
Six fertilizer plants	12.60 (@ 2.10)
Six captive power plants of the fertilizer plants	4.20 (@ 0.70)
Karnal Refinery	0.70
Salceapuri Aromatics	0.70
	18.20

2.6 For the future expansion of the Project, ONGC identified some more probable gas users and assessed the future demand of gas by the HBJ pipeline at 33.4 MMSCMD. The assessed State-wise demand for the gas with reference to base consumers and additional consumers was as under :

	For base demand of 18.2 MMSCMD	For Progressive assessed demand of 33.4 MMSCMD	Extent of additional demand in MMSCMD
Gujarat State	Nil	11.5	11.5
Outside Gujarat State :			
Rajasthan	2.8	3.6	
Madhya Pradesh	2.8	2.8	
Haryana	0.7	0.7	
Uttar Pradesh	11.9	14.8	3.7
<b>TOTAL</b>	<b>18.2</b>	<b>33.4</b>	<b>15.2</b>

2.7 The table above would indicate that the assessed demand beyond base demand was to the extent of 11.5 MMSCMD in Gujarat State alone whereas it was only 3.7 MMSCMD for the other four States put together.

2.8 Taking note of the anticipated additional demand, the Project was designed by ONGC for 18.2 MMSCMD with provisions kept in the design to increase the capacity to 33.4 MMSCMD in phases as and when required depending on the availability of gas & demand. The F.R., however, failed to indicate how the availability of gas was assumed at 33.4 MMSCMD when the total production at Bombay High, North Bassin etc. was expected to be not more than 23 MMSCMD, of which a certain quantity (estimated at 5 MMSCMD) was already earmarked for the 2 fertilizer plants, being set up in Gujarat State, utilising the free gas.

2.9 The approved cost of the entire Project for carrying capacity of 18.2 MMSCMD gas was Rs. 1700.17 crores as per details given in Annexure I. The capacity of the Pipeline could be progressively increased to 33.4 MMSCMD with setting up of additional Compressor Stations over and above 4 Compressor Stations approved in this Project.

#### 2.10 Scrutiny by Project Appraisal Division of Planning Commission

After examining the F.R., prepared by the ONGC, the Project Appraisal Division of Planning Commission in the "Note" for PIB dated 15th February, 1984 observed that with the commissioning of the Maharashtra Gas Cracker Complex (separately under consideration) the gap between demand and supply of ethylene might be too small to justify the setting up of an economically viable petro-chemical unit, that the need for extraction of C<sub>2</sub>/C<sub>3</sub> fraction (Para 10 also refers) might not arise in the foreseeable future and that the estimated available reserves of gas might be just sufficient for the 8 fertilizer plants for 30 years. The Planning Commission also took note of the fact that out of the identified future probable consumers, about 76% were in Gujarat State. Having regard to these factors, Planning Commission recommended to the PIB that if the need for extraction of C<sub>2</sub>/C<sub>3</sub> fraction arose at a later date it could be done by augmenting the pipeline capacity with suitable compressor facilities and that the pipeline capacity be revised to 14.2 MMSCMD only with an ultimate capacity of approximately 20 MMSCMD. Based on this proposal, the Planning Commission recommended the commissioning of the pipeline with the diameters of the line-pipes varying between 32" and 16" as against between 36" and 18" proposed in the F.R. of ONGC. Accordingly, the Planning Commission estimated that it would suffice if the investment be of the order of Rs. 1448.52 crores (F.E. Rs. 577.60 crores) on the Project. The proposal indicated a reduction in investment by Rs. 251.65 crores (F.E. Rs. 102.75 crores) over the proposals made by ONGC in its F.R. (details in Annexure-2).

The Ministry stated (February 1991) that the decision to have a pipeline with an ultimate deliverable capacity of 33.4 MMSCMD was based on the assumption that 37 MMSCMD of gas would become available at Hazira by 1993-94, 10 MMSCMD of gas would become available at Gandhar and 3 MMSCMD of gas from the Tapti Gas Field.

The contention of the Ministry is not fully tenable in view of the fact that Feasibility Report of HBJ



Pipeline Project on the basis of which final decision was taken did not mention about availability of gas at Gandhar.

#### 2.11 Approval by PIB for the Project

The PIB, in the meeting held on 16th February 1984, took note of the facts that scientific studies had pointed to the availability of gas at 10 times the present level in Western region, that increased demand for gas was likely to be generated as the pipeline was to pass through densely populated areas and that it would be an economic proposition to lay a pipeline with an increased carrying capacity rather than laying another parallel one with huge investments at a later date. The Board also took note of the facts that (i) the decision for a higher capacity pipeline in the envisaged route implied "pre-empting of further gas finds in this area for supply along this route only" and that (ii) "the only risk that was involved, was if additional gas was not found at a later date, then the capacity of the pipeline would be underutilised." Having considered these aspects, the PIB agreed to go for an investment of Rs. 1700.17 crores as proposed by ONGC in the F.R. but at the same time decided that while taking a note to the Cabinet, Department of Petroleum should clearly bring out the above two considerations and revise the cost estimates suitably.

#### 2.12 Approval of Cabinet for the Project

The Department of Petroleum sought the approval of the Cabinet Committee on Economic Affairs for the Project at an estimated cost of Rs. 1700.17 crores in a note dated 21st March, 1984, wherein it was inter-alia, indicated that :

- (i) it would be advantageous to transport rich gas in the pipeline and to recover LP gas enroute the pipeline.
- (ii) having regard to the probability of additional higher gas reserves, the higher carrying capacity pipeline involving an investment of Rs. 1700.17 crores, as against the alternative for an investment of Rs. 1448.52 crores had been recommended; and that
- (iii) the new Public Sector Gas Corporation (GAIL), for setting up of which Cabinet had earlier given clearance, would take over the Project from ONGC after it was formed.

The Cabinet Committee approved the proposal on 31st March, 1984. The note to Cabinet Committee did not, however, indicate (despite PIB's specific directive) that the proposal implied pre-empting of future gas discoveries for use in the envisaged pipeline and that the capacity would remain underutilised if additional gas was not discovered.



### 3. Evaluation of Pipeline Route

3.1 The Lovraj Kumar Committee (mentioned in sub-para 2.2) considered various pipeline alignments for the 6 fertilizer plants; all the alternatives considered were either along a route mainly in the Western region, called the Western India alignments going from Kawas in Gujarat to Baroda, Ratlam, Kota, etc. or they were along a route called the Central India alignment which was generally from Kawas to Jalgaon, Bhopal, etc. This Committee came to the conclusion that the Western India alignment was the shortest.

3.2 Subsequent to this Report, the ONGC, in co-ordination with Engineers India Limited (EIL) (who had been associated with the planning, designing, etc. of the project), carried out further detailed studies for selection of the most suitable pipeline route and selected five routes for optimisation studies. These five routes were :

1. Hazira—Devgadh Baria—Guda (Bundi)—Sawai Madhopur—Babrala—Aonla—Shahjahanpur—Jagdishpur (Branch Gudha—Bijaipur).

2. Hazira—Devgadh Baria—Kawas (Kota)—Sawai Madhopur—Babrala—Aonla—Shahjahanpur—Jagdishpur (Branch Kawas—Bijaipur).

3.A Hazira—Devgadh Baria—Ujjain—Bijaipur—Jhansi—Etawah—Shahjahanpur—Aonla—Babrala (Branches Bijaipur—Sawai Madhopur, Shahajahanpur—Jagdishpur).

3B Hazira—Devgadh Baria—Ujjain—Bijaipur—Jhansi—Etawah—Shahjahanpur—Aonla—Babrala (Branches Bijaipur—Sawai Madhopur—Auraiya (Etawah)—Jagdishpur).

4. Hazira—Devgadh Baria—Ujjain—Bijaipur—Sawai Madhopur—Jagdishpur.

3.3 It is noticed that none of the five routes indicated either Karnal or Saleempur as one of the points for supply of gas even though the Pipeline Project was planned to supply gas to Karnal Refinery and Saleempur Aromatics. Further the fifth route did not provide for Babrala though one of the fertilizer plants was to be set up at that place.

The Ministry stated (February '91) that it was expected that the Karnal Refinery and Saleempur Aromatics Projects would come up and be in a posi-

tion to use the Natural Gas. Not only did these Projects not come up, but in the meanwhile, in 1985 the Cabinet took a decision to set up the three gas based power projects at Anta, Auraiya and Kawas. Spurlines to Karnal and Saleempur could always have been constructed if the demand had arisen. Non mentioning of Babrala in the route Haryana to Jagdishpur was an typographical omission.

3.4 A study of the five alternative routes as submitted to the Cabinet revealed the following position in regard to length of route, capital cost, operating cost and net present value (NPV) :

Route No.	Length (KM)	Capital Cost (Rs. crores)	Operating Cost (Rs. crores)	NPV (Rs. crores)
1.	1620	598.4	23.92	672.5
2.	1536	572.6	23.81	650.5
3.A	1709	615.2	22.46	675.2
3.B	1683	601.0	22.19	661.9
4.	1553	628.4	25.83	713.4

The table above would indicate that route No. 2 was estimated to be the lowest in terms of cost and pipeline length. But route no. 2 and 3B were further examined by the ONGC and EIL and route No. 3B was considered most promising even though costwise and lengthwise, it was not the best alternative. Some of the reasons given for selecting route 3B were; (a) terrain was more gentle, (b) the alignment ran close to major railway line and National/State Highways, (c) alignment passed through less populated areas, etc.

3.5 Based on these studies by ONGC and EIL, the feasibility study was centred around this route line and both PIB and Cabinet approved this route on 16th February 1984 and 31st March, 1984, respectively. A route map of the selected route is given in Annexure 3. It is noticed in this connection that the route study and the proposals on the tap off points provided for gas supply to three power stations of NTPC at Anta in Rajasthan, Auraiya in Uttar Pradesh and Kawas in Gujarat, even though no specific proposals therefor were contained in the



F.R. and consequently no clearance was obtained from PIB and Cabinet for supply of gas to these three power projects when the Projects was approved. However, the supply of gas to these power projects was approved in October 1986, of which the one in Gujarat was to get gas on a fall back basis. But no justification existed for the inordinate delay of over 2 years in seeking approval for supply of gas to these power plants, whereas the entire estimation, line route, tenders etc. were based on provision of gas to these power plants (after excluding Karnal Refinery and Saleempur Aromatics) apart from the 6 fertilizer plants.

The Ministry stated (February '91) that in fact the Cabinet had approved the setting up of three Power Plants in Gujarat, U.P. and Rajasthan in March, 1985 itself. Formal approval was taken in 1986, after the Detailed Feasibility Report had been prepared by the Department of Power. Thus, there was no delay as such in seeking approval for supply of gas to these three power plants. The demands known to be forthcoming had to be taken into account while finalising the tenders for construction of HBJ Pipeline. The reply could not be verified due to non-production of the relevant documents to audit.



#### 4. Execution of the HBJ Pipeline Project

##### 4.1 Finalisation of main project contract

4.1.1 For purposes of procurement of equipment and construction work, the main project (items 3 to 5, 6(a), 6(b), 7 and 8 of Annexure-1) were divided by ONGC and EIL into the following six packages:—

- (i) Procurement of steel pipes;
- (ii) Procurement of pipeline material;
- (iii) Coating and wrapping of pipes, laying of pipe line;
- (iv) Cathodic protection;
- (v) Compressor stations and allied facilities, and
- (vi) Tele-metry and tele-supervisory systems.

(These six packages were estimated to cost Rs 1415.18 crores according to June 1983 price level)

4.1.2 Global tenders were invited by ONGC in April/May 1984 for the first three items and the closing dates for receiving offers were June-end and mid-July 1984. In respect of the remaining 3 items, the indigenous angle which was noticed, was decided to be examined in depth. When this matter was placed before a meeting of the Secretaries of the Government held on 7th May, 1984 the procedure adopted by ONGC and EIL for competitive bidding for different segments of the project was agreed to. At the same time, this Committee of the Secretaries took note of the fact that the first 3 items had been combined in a project form and of this, "1200 Kms. length of the pipeline had been formulated as a candidate project for Japanese assistance." The Committee also took note of the fact that the issue of global tenders for the 3 packages which did not have a strong indigenous angle would not limit the options for obtaining credits to finance the foreign exchange requirement of the project. In respect of the remaining three items the Committee inter-alia suggested that the Department of Heavy Industry should be made nodal agency for procurement of Compressor Stations and that the Petroleum Secretary should make similar arrangements in respect of cathodic protection

and telecommunication and tele-supervisory systems in consultation with the Department of Electronics, Ministry of Communications and Ministry of Industry.

4.1.3 The estimated package cost of Rs. 1415.18 crores included a provision of Rs. 248.71 crores (F.E. Rs. 74.60 crores) for laying of the Pipeline [item (iii) of the package] based on June 1983 price level for which open tenders were invited by ONGC in May 1984. The bids for the pipe laying work were invited in two parts—Part-I represented unpriced bid package containing the technical and commercial aspects and part-II, priced bids. The closing date was 16th July 1984 for both the parts of the tender. Unpriced bids were scheduled for opening on 17th July 1984 and price bids at a later date after evaluation of the unpriced bids. In all 16 bids were received and the unpriced bids were opened on the scheduled date. Out of the 16, 3 bids were incomplete and were not considered. Out of the remaining 13, scrutiny by GAIL (which had since come into functioning, de facto) and EIL revealed that only 8 bidders qualified for opening of the priced bids.

4.1.4 Before the priced bids were opened, it became clear to Govt. that Overseas Economic Co-operation Fund (OECF) loan would be available for 36" pipeline from Hazira to Guna (Bijaipur) and World Bank loan for the remaining sections. Government thereafter informed GAIL that the priced bids should be segregated for the two sections, one for OECF assistance and the other for World Bank assistance. Accordingly, the tenderers were advised to segregate their priced bids and furnish revised priced bids by 28th September 1984 for first section and by 8th October 1984 for remaining sections. The priced bids (except of one party) were opened on 5th October, 1984 for first section and on 16th October, 1984 for remaining sections. One party did not qualify for OECF loan and hence the tender was not opened. The offer of another party was also not considered due to incompleteness of the offer. The recommendations of GAIL and EIL on the remaining offers were sent to Government on 25th October, 1984 for first section and on 14th November, 1984 for all sections put together. At the same time, the validity of all offers was got extended upto 31st December, 1984 as the offers were to expire by 13th November, 1984.



4.1.5 However, while the matter was under consideration by Government, the proposals were taken back by GAIL on 20th November, 1984 for further review and discussions with the parties on certain aspects. Based on the discussion GAIL made following recommendations on 22nd December, 1984 to Government :

		Evaluated Price (Rs. in crores)
Part I	<i>Hazaria-Bijaipur</i>	
(a)	For one set of 320 Kms. M/s. Dodsai	68.15
(b)	For another set of 320 Kms. M/s. Toyo/Spic	84.11
Part II		
(a)	Bijaipur-Auraiya Section M/s. Halla	76.88
(b)	Auraiya-Jagdishpur Section M/s. Halla	39.86
Part III		
(a)	Auraiya-Aonla-Babrala Section M/s. Dodsai	43.95
(b)	Bijaipur-Sawai Madhopur Section M/s. Dodsai	25.83
TOTAL		338.78

4.1.6 Subsequently in the meeting of the Board of Directors of GAIL, held on 31st December, 1984, it was decided to verify the experience of M/s HALLA before placement of orders. A review conducted in this regard revealed that the party failed to meet the prescribed standards and did not qualify. Further, two of the tenderers offered voluntary price reductions on 20th November, 1984 and 21st December, 1984. Taking these into consideration, GAIL sent yet another revised proposal for Government's approval on 7th February 1985, according to which the cost of laying the pipeline was estimated at Rs. 342.71 crores.

4.1.7 Without giving clearance to the proposals of GAIL, Government appointed a high level committee headed by Prof. MGK Menon to go into the capability of GAIL and EIL to implement the Project. This Committee observed that management and organisational aspect and timely completion of the Project were likely to be sources of considerable concern and recommended that for effective project coordination and management, "a single point responsibility" might be given to "one agency

for the execution of the pipeline laying work." Based on these recommendations, Government decided in April, 1985 that fresh consolidated tenders be invited for all packages of the Project except the one relating to procurement of pipes [i.e. for items (ii) to (vi) of para 4.1.1]. As a result, the entire operations so far carried out over a period of one year in inviting tenders, their evaluation etc. were rendered infructuous apart from the inevitable postponement of the time frame for completion of the Project by over a year. Further, in so far as last item of package on tele-metry and tele-supervisory system is concerned, it could have been included in an indigenous tender since adequate technical capability was available in the country.

The Ministry stated (February 1991) that once a decision had been taken to go in for a turnkey project, it may not have been appropriate to separate the telemetry and telesupervisory system from the contract from the point of view of single point responsibility. The Consortium was however obliged as per terms of the Contract to work in association with TCIL, ITI, ECIL or any other Indian Company as may be approved by GAIL for executing Telecom or Telesupervisory work.

4.1.8 Fresh global tenders were thereafter invited on 18th June 1985 covering five of the packages with 27th August 1985 as the closing date. These were estimated to cost Rs. 778.71 crores (F.E. Rs. 310.59 crores) as per June 1983 price level. The tenders, as in the earlier occasion, consisted of unpriced bids and priced bids, the unpriced bids to be opened, examined, cleared, etc. before the priced bids were opened. In all, five bids were received and the unpriced bids were opened on 28th August, 1985. One of the bidders was Telecommunications Consultants (India) Ltd. which quoted only for one package, viz., the telecommunication and telesupervisory systems. Since the tender was a composite one covering 5 packages, this tender was rejected. The unpriced bids were thereafter evaluated by GAIL and EIL and discussions also held with the parties during September-October 1985.

4.1.9 Based on the discussions held, the bidders were asked to furnish written clarifications on points covered and price implications on their offer, if any, by 23rd October 1985. The clarifications received were opened on 24-10-85 and the priced bids on 1st November 1985. The table below indicates the position of the respective offers, as evaluated



according to the stipulations in the tender documents :—

Sl. No.	Name of Bidders	Price as quoted (including spares) (Rs. in crores)	Evaluated Prices (excluding 25% Loading on Spares) (Rs. in crores)
1.	Spie Capag	739.38 (FE 480.75)	847.89
2.	M/s. Condux	757.12 (FE 481.03)	877.67
3.	M/s. Snamprogetti	844.57 (FE 399.75)	963.15
4.	M/s. Novo Corpn.	1049.15 (FE 618.32)	1260.20

4.1.10 In the meeting of the Board of Directors of GAIL held on 7th November, 1985, it was decided to accept the lowest offer of M/s Spie Capag and accordingly, proposals were sent to Government on 8th November 1985. However, Government decided that the four tenderers should be asked to quote their prices without making any deviation from the commercial terms as contained in bid document except to the extent specifically agreed to during various discussions. The bidders were also given on 27th March, 1985, a copy of the acceptable deviations from the conditions already specified in the tender documents. They were also advised to withdraw their technical deviations and to give fresh bids by 3-4-1986. Thus, in fact the invitation of unpriced bids and negotiations thereon, etc. had only resulted in postponing the award of contract.

4.1.11 Fresh bids which were received on 3rd April 1986, based on Government's instructions were opened on the same date. The table below indicates the comparative position of the four offers; as evaluated by GAIL :

S. No.	Name of Consortium	Basic Price (Rs.)	Evaluated Price (Rs.)
1.	M/s. Spie Capag	760,51,94,000	881,77,42,500
2.	M/s. Condux	755,50,22,363	877,99,03,543
3.	M/s. Snamprogetti	817,49,08,020	960,31,57,890
4.	M/s. Novo Corpn.	909,44,71,167	1116,56,91,372

As seen from the above, the offer (basic price) of M/s Condux became the lowest. When the offers were placed before the Board of Directors of GAIL on 4th April 1986, the Board decided to forward the bid evaluation to Government for award of contract but did not recommend any specific party for the award of the contract.

4.1.12 On receipt of the revised bids, the Ministry of Petroleum and Natural Gas requested Finance Ministry to work out the evaluation, taking into account the technical and commercial loading in respect of 4 bidders. The Finance Ministry analysed the bids in detail, taking into account the technical and commercial loading and also after taking into consideration firm credit package as confirmed by the concerned embassies and revised the bid analysis as indicated below :

S. No.	Name of Consortium	Basic Price (Rs. in crores)	Evaluated Price
1.	M/s. Spie Capag	760.48	711.040.
2.	M/s. Condux	755.50	869.116
3.	M/s. Snamprogetti	817.49	846.394
4.	M/s. Novo Corpn.	909.45	936.549

The table above will indicate that the offer of Spie Capag was the lowest. During discussions with the Ministry, M/s Spie Capag agreed on 6th April 1986 to give a further discount of 5%. The letter of acceptance was conveyed on 9th April 1986 to M/s. Spie Capag (hereafter referred as "Consortium").

It is, however, not clear how the basic price and evaluated price of M/s Spie Capag was worked out into rupees by the Ministry.

#### 4.2 Execution of the main project contract

4.2.1 Two agreements (as vetted by Solicitor General of India and Attorney General of India) were signed by GAIL and the Consortium on 10th May 1986 for execution of the contract. The total cost of the Project with reference to the F.E. rate ruling on 3rd April 1986 according to the two agreements, amounted to Rs. 722.49 crores with F.E. component of Rs. 457.50 crores (as against the F.E. component of Rs. 310.59 crores out of a total amount of Rs. 775.37 crores only envisaged in the F.R.).

4.2.2 The table below indicates the schedule drawn in the agreement for completion of execution of diffe-



rent stages of work and the actual dates of completion :—

Sl. No.	Scheduled date	Actual dates of completion/ commission	Remarks
<i>A. Pipeline Section</i>			
1. Hazira-Bijaipur	March 1987	August 1987	
2. Bijaipur-Aonla	July 1987	March 1988	
3. Auraiya-Jagdishpur	December 1987	April 1988	
4. Bijaipur-Sawai Madhopur	January 1988	December 1988	The construction of Boreri-Sawai Madhopur Section of pipeline (110 Kms.) was cancelled consequent upon change in location of fertilizer plant from Sawai Madhopur to Gadepan.
5. Aonla-Babrala	July 1988	Completed in 1988-89/commissioned in 1989-90	
6. Hazira-Kawas	January 1988	Completed in March 1989. Not yet commissioned (February 1991).	
7. Branch line to Anta Power Station	April 1988	December 1988	
8. Auraiya Terminal to Auraiya Power Plant Station.	July 1988	January 1989	
<i>B. Compressor Stations</i>			
1. Bijaipur	November 1987	October 1989	
2. Auraiya	November 1987	March 1990	
3. Hazira	May 1988	August 1990	
4. Jhabua	July 1988	March 1990	
<i>C. Despatch/Receiving Terminals</i>			
1. Aonla	July 1987	March 1988	
2. Jagdishpur	December 1987	September 1988	
3. Hazira	March 1987	April 1988	
4. Bijaipur	March 1987	November 1988	
<i>D. Telecom/Telesupervisory system</i>	By July 1988	Telecom—August 1990 Telesupervisory—Under trial runs.	

There were delays in planning for over two and half years in completion of various components of the Project with the result that as against the target date for completion of the Project work in July 1988, the Project is yet to be completed in all respects (February 1991).

4.2.3 The yearwise expenditure incurred on the contract to end of 1989-90 was as indicated below :—

	In Foreign currency	In Indian currency	Total
	(Rs. in crores)		
1986-87	133.50	101.46	234.96
1987-88	236.40	146.44	382.84
1988-89	120.67	72.62	193.29
1989-90	32.74	25.42	58.16
	523.31	345.94	869.25

4.2.4 Clause 3.8.1 of the agreement with the Consortium provided that in case the Consortium failed to complete the work within the stipulated period, then, unless such failure was due to "force majeure" or due to owner's default, the Consortium would pay liquidated damages (not as penalty) for every week of delay or part thereof to be calculated at the rates prescribed in a table attached to the said agreement subject to the maximum limits indicated therein. For delay in construction of various sections (excluding Compressor Stations and Telecom-Telesupervisory System) GAIL called upon the Consortium on 23rd August, 1988 to pay liquidated damages estimated at Rs. 75.51 crores (as per GAIL, it works out to over Rs. 100 crores as per present exchange rates). The Consortium did not accept the claim but instead preferred a counter-claim of



Rs. 638.54 crores against GAIL alleging that the Consortium was prevented from fulfilling obligations in the manner and in the time frame foreseen under the Contract due to following reasons:—

- (i) Consistent late approvals of drawings, designs, specifications, materials, etc.
- (ii) Unwarranted comments on the Consortium design submissions, piecemeal review of the same, the imposition of requirement over and above the accepted design criteria without the issue of a change pursuant to the provisions of general conditions.
- (iii) Both the late supply of pipe and the supply by GAIL of pipe unsuitable for the purpose necessitating additional work and/or repair to the same by the Consortium.
- (iv) Non-availability and/or lack of information in regard to the right of way and land for sites.
- (v) Lack of nomination of the Engineer and thereafter nomination of the Engineer(s) from within the organisation of GAIL.
- (vi) Total disregard for the contractual provisions concerning extensions of time despite

requests having been made by the Consortium.

By the letter dated 25th May, 1989, the claim preferred by the Consortium was refuted by GAIL. The Consortium has gone on 30th March, 1990 for arbitration by one or more arbitrators to be appointed in accordance with the Rules of Conciliation and Arbitration of the International Chamber of Commerce, Paris, as provided for in Clause 9 of the agreement entered into between GAIL and the Consortium.

GAIL received a notice on 10th April, 1990 for the additional claim of US \$ 450.00 million. GAIL moved the Delhi High Court and obtained an ad-interim stay order against the notice for arbitration on the ground that the matter was not within the jurisdiction of arbitration in accordance with clause 5.7.1 of the general conditions governing the agreement.

Besides, GAIL could not encash the bank guarantee before its expiry on 1st May 1990 for its claim on liquidated damages in view of a stay order granted by the French Court. The final decision on the dispute was awaited (February 1991).



## 5. Purchase of Steel Pipes

### 5.1 Finalisation of Contract

In the project estimates provision to the following extent had been made for purchase of steel pipes comprising linepipes :

	(Rs. in crores)
Cost of Pipes	390.20 (FE 317.36)
Cost of Casing Pipes	3.34
Customs Duty	190.42
Handling, Transport, etc. expenses	55.85
<b>TOTAL</b>	<b>639.81 (FE 317.36)</b>

It was envisaged that pipes of 18" would be purchased in India from Steel Authority of India Limited (SAIL) but due to inability of SAIL to supply in full ordered quantity of pipes, the Company had to import 18" linepipes as well.

As already mentioned in paras 4.1.2 and 4.1.7 global tenders were invited in April/May 1984 by the ONGC for purchase of the steel pipes, and Government permitted GAIL in April 1985 to go ahead with the purchase of the steel pipes with reference to the tenders already floated. The Board of Directors of GAIL approved in the meeting held on 12th September 1985 the purchase of the pipes from the following foreign parties to the extent noted against each :—

			C&F value in Million US \$
1. A Japanese Consortium	36" Linepipe	373.5 kms	94.04
2. M/s. Interbras/Petrobras, Brazil	-do-	287 kms.	51.33
3. M/s. Bergrohr, West Germany	30" Linepipe Casing Pipes varying size 42" to 24".	360.5 kms 11.0 kms	56.40
4. M/s. Sider Export, Italy	24" Linepipe	310.5 kms	32.39
5. M/s. Interbras, Brazil.	18" Linepipe	236.5 kms.	15.11

The actual expenditure incurred on the pipes was Rs. 586.95 crores (inclusive of Foreign Exchange component of Rs. 387.32 crores).

### 5.2 Expenditure incurred on Steel Pipes

The linepipes started arriving from end of November, 1985 but due to non-finalisation of the contract for

laying of the pipeline, the linepipes and casing pipes were temporarily stored to the extent they were received before the award of contract for pipeline laying at stock pileyard of Kandla Port and at Piprod situated at a distance of 3 kms. from Gandhidham Railway Station. Thus, linepipes with OECF loan were procured in advance than its requirements as the contract of laying the pipe line was signed in May 1986 and the linepipes were to be given to the Contractor subsequently.

### 5.3 Extra Expenditure in Purchase of Linepipes

5.3.1 For purchase of 36" linepipes of varying thicknesses, (0.625", 0.75", 0.875" & 1.062") 9 offers were received. These were opened on 10th July, 1984. Out of the 9 tenders, only two—a Japanese Consortium and a Brazilian Firm were qualified to be recommended for financing the Project under the OECF. The technical evaluation of the tenders was done by EIL which recommended acceptance of the offer of the Japanese Consortium for linepipes of thickness 0.875" & 1.062" and that of Brazilian Firm for 0.625" and 0.75" thickness. However, the tender committee of GAIL recommended on 26th July, 1984 to Government the acceptance of offer of Japanese Consortium for the entire quantity after holding negotiations with the Japanese Consortium so as to match the prices with the lowest offer received. In making this recommendation, the tender committee had observed that it was aware of the need to split the offer "since no single supplier can be trusted for the total supply". On 7th May, 1985 Government advised GAIL to issue Letters of Intent to both the parties for purchase of linepipes of approximately 350 kms. from each.

5.3.2 In the meantime on 8th March '85, the Japanese Consortium offered 11% discount provided orders for entire quantity were placed with it. This discount offer was negotiated with the Consortium on 17th and 20th May '85 when the Consortium agreed to extend the discount even if atleast 60% of the order was placed on it.

5.3.3 The matter was referred to Government of India for reconsideration in the light of the discount offer and with Government approval, firm orders were placed on 15th July 1985 with the Brazilian Firm for linepipes for a length of 287 kms. and with Japanese



Consortium for linepipes for a length of 373.5 kms. It is, however, noticed that even after giving allowance for the discount of 11% the offer of Japanese Consortium was not cheaper than the Brazilian offer; the placement of orders for linepipes for thicknesses of 0.625" and 0.75" with the Brazilian Firm and balance with Japanese Consortium would have resulted in substantial saving of foreign exchange to the tune of Rs. 10.88 crores (US\$ 95,45,665) (Annexure 4).

5.3.4 The Ministry stated (February 1991) that order for supply of 36" linepipes was placed on Japanese Consortium due to more certainty of timely supply and brighter chances of soft loan from OECF.

5.3.5 The contention of the Ministry is not tenable as there was nothing on record to indicate that the Brazilian Firm did not possess the capacity to supply entire quantity of the two sizes for which its offer was the lowest. Moreover, Brazilian Firm was also qualified for OECF Loan.

#### 5.4 Procurement and Utilisation of Pipes

##### 5.4.1 Excess Procurement of Linepipes

The Project estimate provided for procurement of steel pipes to the extent of 10% over the estimated quantity. Questioning the need for such heavy procurement, the Project Appraisal Division of Planning Commission observed as under in its note to the PIB:

"The cost estimate provides for an extra length of 10% in terms of main pipeline material. This accounts roughly for Rs. 50 crores. A quick check with reference to earlier pipeline projects does not confirm this as a normal practice. The Department of Petroleum may like to confirm this and comment on the desirability of providing this cushion".

The table below indicates the position of linepipes:---

(Quantity in Kms.)				
Size	Requirement	Quantity received	Quantity consumed	Closing stock as on 31st March 1990
36"	641.90	660.16	643.31	16.85
30"	352.14	362.80	354.51	8.29
24"	419.52	429.56	420.92	8.64
18"	409.52	498.23	411.95	86.28
	1823.08	1950.75	1830.69	120.06

In reply, Ministry stated (February '91) that the quantity of linepipes ordered included only 3% extra to cover route deviation during execution, wastage, etc. This 3% extra is the industry norms for ordering. The excess of 18" linepipes, in fact, arose on account of cancellation of Boreri-Sawai Madhopur Section and would be utilised in the construction of further spurlines.

It is, however, to be noted that due to cancellation of Boreri-Sawai Madhopur Section, the requirement of linepipes went down significantly. And even after using linepipes for Spurlines I and II (31.10 Kms.), there was an excess inventory of 55.18 Kms. The total excess inventory of linepipes was, however, 88.96 Kms.

##### 5.4.2 Under-utilisation of casing pipes

The requirement of casing pipes of different sizes was estimated at 10.00 Kms. in the Project Report against which the procurement was for 11 Kms. in all. According to the contract for laying the pipeline, the contractor was to be supplied casing pipes of 11 kms. (Rs. 2.07 crores) length for laying the pipeline. The actual consumption was, however, only for 2.58 kms. vide details given below:—

(Quantity in Kms.)			
Size	Quantity Received	Quantity Consumed	Quantity in stock as on 31st March, 1990
42"	4.01	0.64	3.37
36"	2.01	0.37	1.64
30"	2.00	0.74	1.26
24"	3.01	0.83	2.18
	11.03	2.58	8.45

The Ministry stated (February '91) that it was later gathered from other pipeline systems that if casing was provided, there would be a major disadvantage by way of leakage of Cathodic Protection current. Therefore, a decision was taken to provide casings only for the Railways, major highways and bored canals crossings, which is mandatory. For road crossings, wherever permission was granted for diversion of traffic the open cut method was adopted. In these cases, casing pipes were not provided.

As a result of excess procurement of linepipes and underutilisation of casing pipes, the inventory of these pipes worth Rs. 32.58 crores remained in stock as on 31-3-1990



## 6. Housing Facility under the Project

The F.R. of the Project contained provision of Rs. 5.64 crores for providing housing facilities at the compressor stations; the overall requirement of accommodation was assessed at 180 quarters of A, B, C types and in addition, hostel accommodation for 450 persons. This requirement was assessed after taking into account the scale laid down by BPE in January 1974 to the effect that percentage satisfaction of residential accommodation should not exceed 70% even in the most difficult and remote locations. But the Board of Directors of GAIL approved in a meeting held on 2nd August 1986 the proposal for an upward revision of the provision for housing facilities from Rs. 5.64 crores to Rs. 16.60 crores; this sanction in-

cluded the total elimination of Hostel Accommodation and in its place construction and acquisition of 757 quarters in all at various places. At the rates at which civil work for construction of the houses have so far been awarded to the contractual agencies (January 1990), the total cost is estimated to exceed Rs. 30 crores. Thus, from out of the funds provided to GAIL by Government it is estimated that an additional expenditure of Rs. 25 crores is likely to be incurred on housing construction over and above the limit prescribed by the Government for such expenditure in the approved Project.

Ministry has not offered any comment on this aspect.



## 7. Construction of Spurlines

7.1 Subsequent to the award of contract for laying the pipeline, the Ministry of Petroleum and Natural Gas took note of the fact that whereas the fertilizer plants at Bijaipur, Aonla and Jagdishpur would start utilising the gas for their operations in 1987-88, no firm schedule existed for commissioning of the remaining 3 plants at Sawai Madhopur, Babrala and Shahjahanpur. In a meeting of the Committee of Secretaries held on 17th August, 1987 a modified marketing plan of gas through HBJ Pipeline and related proposals were approved and the Committee recommended the same for Cabinet approval. The proposals were considered at the first instance by a group of Ministers and thereafter by the Cabinet Committee on Economic Affairs in April 1988. All these Committees took note of the fact that the delay in commissioning the three fertilizer plants was resulting in inability of GAIL to dispose about 4.5 MMSCMD of gas and that the loss of revenue to GAIL and ONGC would be of the order of Rs. 2,000 crores.

In the circumstances, approval was granted for supply of gas to the following consumers by GAIL :

- (1) Indian Petro-Chemicals Corporation Ltd. (IPCL), Baroda
- (2) Gujarat State Fertilizer Corporation (GSFC), Baroda
- (3) Fertilizer unit of Indian Explosives Ltd. (IEL), Kanpur
- (4) Delhi Electric Supply Undertaking (DESU), Delhi
- (5) Miscellaneous Users around Delhi, Ghaziabad, Noida, Faridabad, etc. and
- (6) National Thermal Power Corporation (NTPC), Dadri

7.2 While the first two parties were identified as limited time consumers to be replaced when committed consumers (the fertilizer plants) came on stream, the remaining were decided to be supplied if sustained commitments were made. Taking note of the fact that all these parties (except NTPC, Dadri) were in a position to consume gas almost immediately

after sanction was accorded for construction of spurlines as per particulars below :

Unit	Place	Length in Kms.	Cost of Spurline (Rs. in crores)
GSFC	Baroda	4	8.50
IEL	Kanpur	10	9.00
DESU*	Delhi	125	119.00

\*Inclusive of Spurlines to Dadri, Ghaziabad and Faridabad.

7.3 In addition to the above GAIL in exercise of the delegated powers, approved in August '86 the construction of a spurline for supply of gas to IPCL, Baroda at an estimated cost of Rs. 16.50 crores.

7.4 It is observed in this connection that out of the 6 parties identified for spurline supply, only IPCL, GSFC and IEL had been identified in the F.R. for future expansion of gas supply by the HBJ Pipeline. The Ministry clarified (February '91) that demands from the parties did not materialize due to the following reasons :

- (1) IEL, Kanpur and Sriram Fertilizer, Kota could not obtain Government's approval for conversion of gas.
- (2) GSFC, Baroda expressed their unwillingness to pay the price of Rs. 2250 for the HBJ gas as they felt that they could get cheaper gas from Gujarat Onshore fields.
- (3) Supply of gas for Gujarat Refinery was expected to be released in 1991-92.
- (4) Regarding city gas supply to Ahmedabad and Baroda, policy decision on supplying gas for domestic consumers was under consideration of Government of India. Baroda City was already getting small quantity of gas from Onshore fields.
- (5) Regarding supply of gas to FCI, Gorakhpur, extension of HBJ line to Gorakhpur would have been necessary since alternative consumers have been located, the proposal to supply gas to Gorakhpur was no longer being pursued.



The Ministry further stated that consumers in Gujarat State have been paying low price (less than Rs. 1000/1000M3) and have taken the matter to the court against enhancement of price to Rs. 1400 MMSCMD. As such consumers were very reluctant to pay the HBJ price of Rs. 2250 to be charged by GAIL.

No clarification was also given as to how the estimated demands of Karnal Refinery and Saleempur Aromatics which formed part of the "Base" demand of 18.2 MMSCMD according to the F.R. did not materialise.

7.5 Out of the four spurlines, the works on GSFC and IEL were not started even after 2 years after sanction (June 1990), for want of firm commit-

ments. The spurline to IPCL, Baroda was commissioned in April, 1988 and the one to DESU in July, 1989. The expenditure incurred on the two works amounted to Rs. 12.08 crores (IPCL) and Rs. 75.80 crores (DESU) till March, 1990.

It has been noticed that the shortfall in average consumption by fertilizer units was to the extent of 2.015 MMSCMD in 1988-89 and 5.106 in 1989-90 as per programme for use of gas. The two additional spurlines could contribute only to the extent of 0.20 MMSCMD in 1988-89 and 0.73 MMSCMD in 1989-90. Thus, despite incurring huge expenditure on spurlines 1 & 2 no equivalent benefit was derived.



## 8. Extent of Utilisation of the Pipeline

### 8.1 Parties supplied/not supplied

The present position (February 1991) of supply of gas through the pipeline to the various parties for whom the pipeline was intended, is indicated below :—

#### Parties that take gas

1. Fertilizer Plant Bijaipur from August 1987.
2. Fertilizer Plant, Jagdishpur from May 1988.
3. Fertilizer Plant, Aonla from March 1988.
4. Power Plant, Anta from December 1988.
5. Power Plant, Auraiya from January 1989.
6. IPCL, Baroda from May 1988.
7. DESU, Delhi from July 1989.

#### Parties that do not take gas :

1. Fertilizer Plant, Sawai Madhopur.
2. Fertilizer Plant, Shahjahanpur.
3. Fertilizer Plant, Babrala.
4. Kawa's Power Plant, Gujarat. (not yet commissioned).

None of these plants have come in operation so far (February, 1991).

### 8.2 Extent of Gas Utilisation

#### 8.2.1 Gas consumed by Fertilizer Plants

The HBJ Pipeline Project having been set up essentially to cater to the gas requirements of six fertilizer plants, the programme for use of gas by these plants was envisaged to be developed progressively as under :—

By end of	No. of Fertilizer plants to use gas	Capacity per day to be used in MMSCMD of 18.2	%age of use of total capacity MMSCMD in	Average anticipated utilisation per day per plant MMSCMD (excluding Captive Power Plants)
1987-88	2	2.007	11%	1.004
1988-89	4	5.365	29.5%	1.341
1989-90	6	9.346	51.3%	1.558
1990-91	6	11.423	62.8%	1.904
1991-92	6	12.288	67.5%	2.048
1992-93	6	12.462	68.5%	2.077

However, as against six fertilizer plants envisaged to be set up by 1989-90 with an average gas utilisation of 9.346 MMSCMD, only three fertilizer plants could be set up.

8.2.2 The progressive consumption of gas by the three commissioned plants inclusive of their captive power plants was as follows :—

	1987-88 (from 8th Aug. 1987 243 days)	1988-89	1989-90 (upto Dec. 1989)
Quantity of gas used in MMSCM	163.41	1225.95	1165.45
Average quantity used per day in MMSCM	0.718	3.350	4.240

As a consequent there was shortfall of 5.106 MMSCMD in utilisation of gas.

The Ministry stated (February 1991) that 3 Fertilizer Plants draw 5 MMSCMD of gas at present and are working at over 100 per cent of their capacity. The consumption of 2.8 MMSCMD of gas by each of the Fertilizer Plants estimated in F.R. appears to have come down mainly due to better technologies adopted for fertilizer production and power generation.

#### 8.2.3 Total availability position of gas

As already stated, the Project was designed by ONGC for initial supply of gas of 18.2 MMSCMD with a future potential for 33.4 MMSCMD. However, when the GAIL decided to put up plants for extraction of LPG on route at Bijaipur and Auraiya, utilising in all 18 MMSCMD for extraction of LPG, ONGC was prepared to commit supply of only 15 MMSCMD of gas through the pipeline. As a result, it would be seen that capital investment on the Project has been excessive. Had the advice tendered by the Planning Commission in February '84 (Referred in Para 2.10) been heeded and acted upon, a saving of Rs. 251.65 crores on capital investment (inclusive of Rs. 103 crores in F.E.) could have been effected.

The Ministry stated (February '91) "ONGC's intimation in 1987 that it was prepared to commit supply of not more than 15 MMSCMD for the pipeline was only indicative of the then existing position. It was not a long term indication". The contention of the



## 10. Project for Extraction of Lean Gas

### 10.1 Consequences of supply of rich gas

10.1.1 The chemical composition of the gas being supplied through HBJ Pipeline is as under :—

Methane (C1 fraction)	79.8%
Ethane (C2 fraction)	7.7%
Propane (C3 fraction)	4.6%
Butane (C4 fraction)	1.8%
CO <sub>2</sub> fraction	5.5%
Other fractions put together	0.6%
<b>TOTAL</b>	<b>100.00%</b>

10.1.2 The entire gas is termed as rich gas; while the C1 fraction, after extraction of other fractions (mainly C2, C3 and C4) is termed as lean gas. The requirements of fertilizer and power plants are confined to lean gas while a combination of fractions C2 and C3 is used for petro-chemical products and a combination of fraction C4 with a small quantity of fraction C3 is utilised for supply of liquid petroleum gas (LPG) for domestic consumption. It was envisaged in the FR of the HBJ Pipeline Project that though rich gas would be transported by Pipeline, ONGC would integrate the requirement of LPG and extraction of C2 & C3 fractions and their distribution net work in the country. The FR, however, did not contain any specific proposal for setting up of any plant for extraction of C2, C3 and C4 Fractions. As a result no such plant has also come into operation so far (February '91) i.e. even three years after gas supplies were commenced. Consequently the gas users whose demands are confined to lean gas are being supplied rich gas which contains about 14 per cent of fractions not needed for their use; these fractions not only get wasted in the production operations of the fertilizer and power plants without any ultimate national benefit, but also go to increase the cost of fuel/raw material supplied to the customers by GAIL. The value of such unutilised part of the gas supplied upto March 1990 is estimated at over Rs. 128.73 crores as per details below :—

Quantity sold since 1987-88 to 4086.684 MMSCM  
1989-90

14% thereof being C2, C3 and C4 572.136 MMSCM  
fractions.

Cost thereof @ Rs. 2250 per 1000 CM. Rs. 128.73 crores

The Ministry stated (February '91) that minimum economic size plant of extraction of C2 fraction can be put only when around 11 to 12 MMSCMD of gas goes through the pipeline on regular basis and downstream units for consuming nearly 9.5 MMSCMD of lean gas also come up which has not happened and investment on extraction of C2 fraction along-with HBJ Pipeline would have involved additional investment of the order of Rs. 2300--Rs. 3000 crores and that too would have remained under/unutilised over a long period of time.

### 10.2 Establishment of plants for extraction of C2, C3 and C4 fractions

10.2.1 Utilising the services of EIL, two FRs for setting up of LPG Plants, one at Bijaipur and the other at Auraiya were sent to Government by GAIL in February 1985 and July 1985. The two LPG Plants were expected to process 18 MMSCMD of free gas (6 MMSCMD at Bijaipur and 12 MMSCMD at Auraiya) to produce in all 4.71 lakhs MT of LPG per annum.

10.2.2 However, as ONGC was prepared to commit for supply of only 15 MMSCMD of free gas through HBJ Pipeline, it became necessary for GAIL to revamp the capacity of LPG Plant for processing the rich gas. According to a fresh programme drawn, the Board of Directors of GAIL approved in August 1987 the setting up one LPG Plant with a capacity of 4,00,000 MT per year of LPG at Bijaipur alone, the plant to be developed in two phases with an equal capacity of 2,00,000 MT per year utilising in all 15 MMSCMD of gas. The project which was estimated to cost nearly Rs. 210 crores, (subsequently revised to Rs. 297.00 crores) was approved by Government in November 1988. According to GAIL, the first phase of the LPG Plant will be commissioned by October 1990 and the second phase by July 1991. However, with the present level of demand for lean gas being not more than 7 MMSCMD, the commissioning of second phase of LPG Plant would, it is felt, depend on increase in demand for lean gas by the time second phase is ready for operation.

The Ministry stated (Feb. '91) "The decision to set up Phase II of LPG Plant knowing fully well



that its capacity will not be fully utilised for the first 2/3 years was taken consciously so as to extract LPG from the HBJ gas and save scarce foreign exchange to the maximum extent possible.

It would also be appreciated that generally speaking it takes 2/3 years for a plant to reach its rated capacity. By the time Phase I and Phase II Plants

can be operated at this rated capacity nearly 15 MMSCMD of gas is expected to flow through HBJ".

10.2.3 In regard to extraction of C2 and C3 fractions, proposals for establishment of petrochemical plants at Bijaipur and Auraiya are under various stages of processing but no final approval for any of the project has, however, been obtained so far (February 1991).



## 11. Other Points of Interest

### 11.1 Under-utilisation of compressor stations

The HBJ Pipeline Project included a provision for 4 compressor stations. The compressor stations are intended to boost the gas flow rates in the pipeline and have been envisaged for capacity utilisation of 18.2 MMSCMD. As per Feasibility Report 4 compressor stations were required to be set up to meet the total demand of gas of 18.2 MMSCMD at Hazira (Main), Ujjain, Bijapur and Auraiya (Booster). However, for supply of gas to first two fertilizer plants at Bijapur and Jagdishpur no compressor station was required as initial gas pressure available at Hazira would be sufficient to transmit the gas at Jagdishpur. With only 3 fertilizer plants at Bijapur, Jagdishpur and Aonla having been commissioned and with the total gas consumption hardly touching 7 MMSCMD so far a large part of investment of Rs. 237.66 crores in compressor stations has remained idle.

The Ministry stated (February '91) that the Project was designed and executed to meet long term requirements. Temporary under utilisation of certain component and integral parts was for reasons beyond the control of GAIL and due to certain plants not coming up, though they were envisaged when the pipeline was designed.

### 11.2 Injudicious purchase of Land for Office Complex—avoidable loss of Rs. 257.98 lakhs

GAIL took land on lease in Noida to construct building for its Corporate Office at a cost of Rs. 278.80 Lakhs (Rs. 272 lakhs—Cost of land plus Rs. 6.80 Lakhs—lease rent @ 2½ per cent). Besides GAIL also incurred an expenditure of Rs. 63,659.24 on fencing the land. Later on the Company acquired accommodation for its Corporate Office at Bhikaji Cama Place and decided to seek refund from Noida which agreed to refund the cost of land only and not lease rent. Thus the Company suffered a loss of Rs. 257.98 Lakhs in this deal as detailed below :—

(i) Lease Rent 86-87 to 90-91 (including interest).	Rs.	40,94,000
(ii) Expenditure on fencing	Rs.	63,659
(iii) Interest @ 15% p.a. (April '86 to February '91) on only land	Rs.	2,16,40,150
TOTAL	Rs.	2,57,97,809

In reply the Management indicated that the loss would be made good by disposing the land at higher rate ~~is~~ not tenable as the possession of land will have to be handed over to the NOIDA.

### 11.3 Cancellation of Boreri-Sawai Madhopur Section of HBJ Pipeline

As already observed in para 8.1 the Committee of Secretaries took note, in the meeting held on 17th August, 1987, the absence of any firm schedule for commissioning 3 fertilizer plants and recommended construction of spurlines for supply of gas to other consumers and this was agreed to by the Cabinet in April 1988. The fertilizer Plants that were not to come up shortly, included the one proposed at Sawai Madhopur. The HBJ Pipeline Project had provided for a branch line from Boreri to Sawai Madhopur exclusively for supply of gas to this Fertilizer Plant. In the circumstances, GAIL decided to abandon the Boreri-Sawai Madhopur Section from the scope of the project and accordingly intimated the consortium (M/s. Sple-Capag) on 27th May 1988. The Consortium was also requested to refund all payments consequent on the alteration on the scope of contract. The Consortium, however, contended in its reply dated 18th July, 1988 that the contract anticipated completion of the line upto Sawai Madhopur, that because of the late issue of intimation for stopping work at Boreri, it became unavoidable for substantial costs to be incurred by it and Rs. 9.50 crores claimed as monies due against contract. The Consortium admitted reduction in cost to the extent of Rs. 9.60 crores only.

GAIL has not, however, accepted the additional claim preferred by the Consortium and the matter has been raised by the Consortium in the arbitration case filed by them in the French Court.

### 11.4 LIC Agency Business

GAIL undertook the agency of LIC Mutual Fund from the Life Insurance Corporation of India and earned agency commission of Rs. 0.61 crore during the year 1989-90 in the capacity of LIC Agent. It is interesting to note that Company involved in LIC business which was outside the scope of Company's main objects as set out in Memorandum of Association.



## 12. Capital Structure and Financial Results

12.1 The Company was incorporated on 16th August, 1984 with an authorised capital of Rs. 500 crores. The authorised capital was raised to Rs. 1000 crores in the year 1986-87. The paid-up capital which was Rs. 1 crore in the year 1984-85 has risen to Rs. 845.32 crores in the year 1989-90. The capital has been fully subscribed by the Government of India.

12.2 The Company was exclusively engaged in the capital construction activities for a period of about 3 years and no trading activities were carried out till the end of the year 1986-87. As a result, no Profit and Loss account was prepared upto that year.

12.3 The financial position of the company since 1985-86 upto the year 1989-90 is given below :—

	(Rs. in lakhs)				
	1985-86	1986-87	1987-88	1988-89	1989-90
<b>LIABILITIES</b>					
Share Capital	18100.00	61079.00	84032.00	84532.00	84532.00
Reserves & Surplus	—	—	..	16429.52	—
Profit & Loss A/c	—	—	(7302.13)	(29021.12)	(10097.68)
Loans	9006.73	26057.00	46336.51	75353.76	86379.98
Trade dues & Current Liabilities (including provisions)	2749.02	5767.62	10769.70	10880.64	18498.41
	29855.75	92903.62	133836.08	158174.80	179312.71
<b>ASSETS</b>					
Net Block	950.68	1383.96	91589.95	93574.81	124380.52
Capital Work-in-Progress	25364.52	83938.70	36841.94	51844.70	30492.23
Incidental Expenditure during Construction	1426.77	4742.99	—	—	—
Investments	0.02	0.04	0.04	0.04	10891.73
Current Assets, Loans & Advances	2073.72	2797.90	5372.13	12731.23	13532.21
Preliminary Expenses	40.04	40.03	32.02	24.02	16.02
	29855.75	92903.62	133836.08	158174.80	179312.71

12.4 An analysis of the financial position is given below :—

	1985-86	1986-87	1987-88	1988-89	1989-90
Capital Employed	275.38	(—)1585.76	86192.38	95425.40	119414.32

(NOTE : Capital Employed represents Net Fixed Assets plus Current Assets minus Current Liabilities.

Debt Equity Ratio	1 : 2.01	1 : 2.34	1 : 1.66	1 : 0.95	1 : 0.36
Return on Capital Employed	—	—	(—)8.47%	(—)22.76%	15.85%
Current Ratio	75.43%	48.51%	49.88%	117%	73.15%
Net Working Capital	(675.3)	(2969.72)	(5397.57)	1850.59	(4966.20)



12.5 The Company having started its trading activities in 1987-88 only and having substantially under-utilised the facilities created over the years, as evident from the earlier narrations in this review, its financial standing can not be said to be on sound footing at

present. The improvement on the financial front is heavily dependent on substantial increase in the utilisation of gas for which adequate facilities have been created.

*Summary of Profit & Loss Account*

(Rs. in lakhs)

	1985-86	1986-87	1987-88	1988-89	1989-90
<b>INCOME</b>					
(a) Sales	—	—	4026.27	32705.60	64652.70
(b) Internal Consumption of Gas	—	—	—	33.34	401.58
(c) Accretion in Stock	—	—	561.68	161.16	77.36
(d) Other income	—	—	0.28	5.64	322.03
	—	—	4588.23	32905.74	65453.67
<b>EXPENDITURE</b>					
(a) Purchase of Gas	—	—	3198.97	21735.06	43152.24
(b) Transmission & Administration Expenses	—	—	1168.52	1199.53	1668.55
(c) Depreciation	—	—	7200.86	12098.87	13900.56
(d) Incidental Expenditure during construction transferred to Capital Works-in-Progress.	—	—	(1141.95)	(707.91)	(416.90)
(e) Preliminary Expenses written off	—	—	8.01	8.01	8.01
(f) Interest & Finance charges (This is Net amount after transfers to Capital Works-in-Progress).	—	—	1455.95	3877.79	4771.32
	—	—	11890.36	38211.35	63083.78
Profit/(Loss) for the year	—	—	(7302.13)	(5305.61)	2369.89
Add : Excess Provision for Depreciation in earlier year Written back.	—	—	—	16.19	138.74
Less : Prior period adjustment (Net after transferred to Capital WIP).	—	—	—	0.05	14.71
(a) Operating Ratio	—	—	287.32%	107.00%	90.27%
(b) Interest Vs. Sales	—	—	94.47%	21.01%	13.30%
(c) Capital Turn-over Ratio	—	—	0.03	0.22	0.40

12.6 The high rate of operating ratio (i.e. percentage of cost of goods sold and other operating expenses to sales) is indicative of the facts that the organisation's administrative set-up is not fully utilised and that the lack of demand for the available product

(gas) is resulting in high rate of operational expenses. As a consequence, it is noticed that every one Rupee in the Capital employed generated only 0.03 Rupee in 1987-88, 0.22 Rupee in 1988-89 and 0.40 Rupee in 1989-90 in the form of sales.



### 13. Main Observations

(1) The Government of India entrusted ONGC with the job of laying the onshore pipeline from Hazira to six fertilizer plants and their captive power plants in March, 1983 and subsequently with the formation of Gas Authority of India Limited in August 1984, the project was passed on to this Company for final execution.

(2) The specific directions of the Public Investment Board that the proposal implied pre-empting of future gas finds for use in the envisaged pipeline and that the capacity would remain underutilized if additional gas was not discovered were not brought to the notice of the Cabinet Committee on Economic Affairs at the time of seeking their approval.

(3) The process of finalizing of tenders for various parts/stages was staggered over a period of 2 years resulting in consequential delay in execution of the project.

(4) The procurement of linepipes and casing pipes proved to be much in excess of actual requirements

of 88.96 kms. and 8.45 kms respectively amounting to Rs. 32.58 crores.

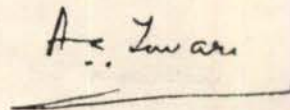
(5) The main object of the project was to provide infrastructure for supply of gas to six fertilizer plants and their captive power plants against which only three fertilizer plants could be set up by 1989-90. Two projects, namely Saleempur Aromatics and Karnal Refinery envisaged in the Feasibility Report could not be taken up so far (February 1991).

(6) Excess installed capacity was, however, used for alternate purposes like supplies to power plants (NTPC, Dadri and DESU, Delhi) and other consumers. Despite this, there was substantial under utilisation of capacity and GAIL was losing revenue at the rate of Rs. 2 crores per day.

(7) GAIL had decided to provide 100 per cent housing facility to their own staff against the Government of India norms of 70 per cent involving an estimated extra expenditure of Rs. 25 crores.

New Delhi  
The

08 MAY 1991



(A. C. TIWARI)  
Deputy Comptroller and Auditor General  
(Commercial)-cum-Chairman, Audit Board

Countersigned

New Delhi  
The

08 MAY 1991



(C. G. SOMIAH)  
Comptroller and Auditor General of India



## ANNEXURE I

(Referred to in para 4.1.1)

## Summary of Capital Costs

(Rs. in lakhs)

Sl. No.	Description	Estimated Cost		
		FE*	Rs.**	Total
1.	Survey and Investigation	—	278	278
2.	Land and Row Compensation	—	1216	1216
3.	Line Pipe	31736	31911	63647
4.	Line Material	10907	9300	20207
5.	Main Line Construction	7460	17411	24871
6.	<i>Compressor Stations</i>			
	(a) Compressor Stations Development (Civil Works)	—	1790	1790
	(b) Compressor Stations Equipments	9667	12309	21976
	(c) Township at Compressor Stations	—	564	564
7.	Cathodic Protection	—	2478	2478
8.	Telecommunication & Tele-supervisory controls	3025	3524	6549
	<b>SUB-TOTAL</b>	<b>62795</b>	<b>80781</b>	<b>143576</b>
9.	Design Engg. Fee and ONGC Management Expenses	2000	8760	10760
	<b>SUB-TOTAL</b>	<b>64795</b>	<b>89541</b>	<b>154336</b>
10.	Contingencies	3240	4334	7574
	<b>SUB-TOTAL</b>	<b>68035</b>	<b>93875</b>	<b>161910</b>
11.	Interest—During Construction period	—	8107	8107
	<b>TOTAL</b>	<b>68035</b>	<b>101982</b>	<b>170017</b>

\*FE : Foreign Exchange Component.

\*\*Rs : Indian Rupees Component.



## ANNEXURE 2

(Referred to in Para 2.10)

*Analysis of Cost Reduction as Estimated by Planning Commission*

(Rs. in lakhs)

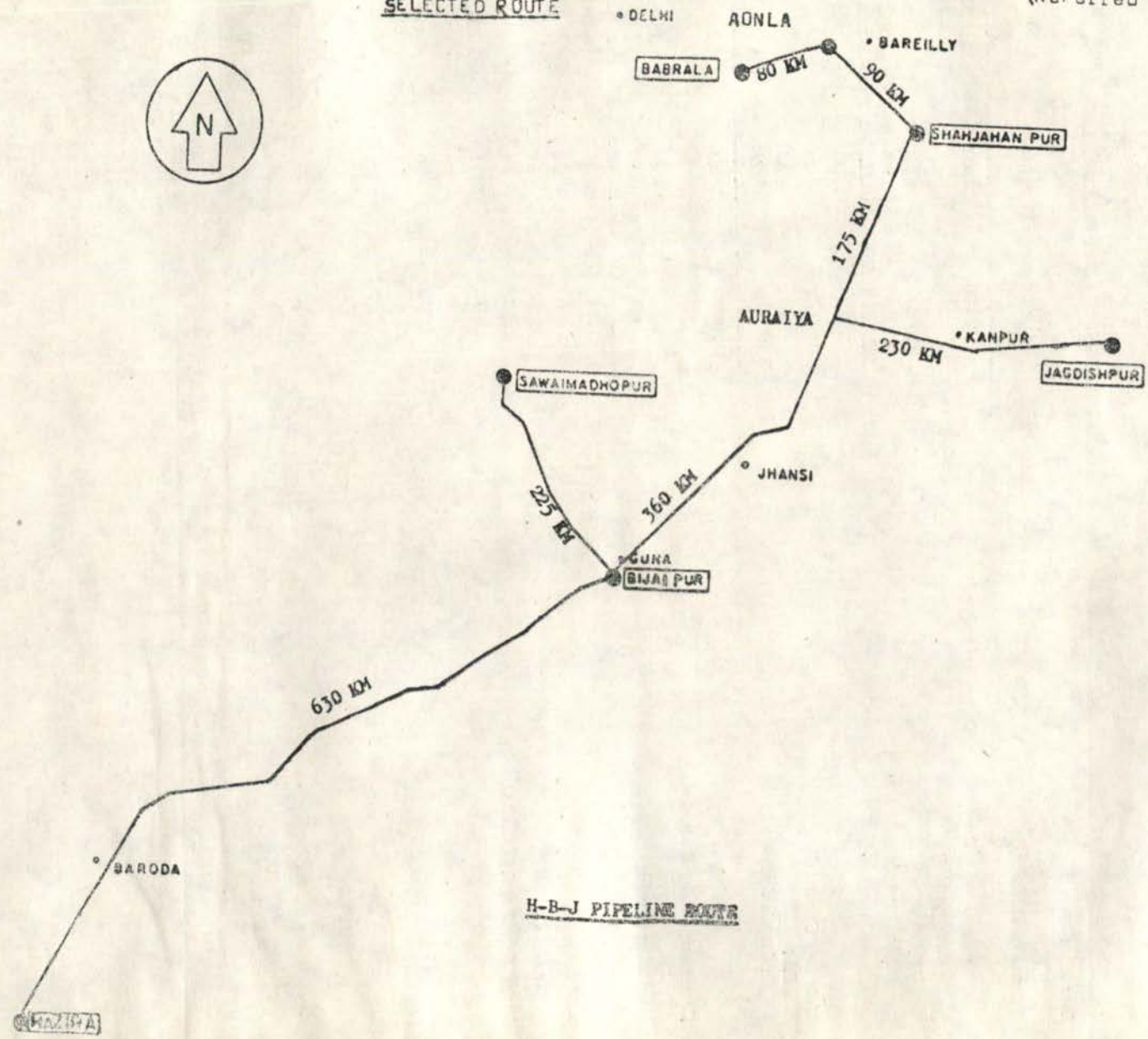
	As per F.R.	As per Planning Commission	Difference
1. <i>Line Pipes</i>			
F.E.	31736	25356	6380
Indian Currency	31911	25444	6467
	<hr/>	<hr/>	<hr/>
	63647	50800	12847
2. <i>Line Materials</i>			
F.E.	10907	9863	1044
Indian Currency	9300	8348	952
	<hr/>	<hr/>	<hr/>
	20207	18211	1996
3. <i>Main Line Construction</i>			
F.E.	7460	6684	776
Indian Currency	17411	15599	1812
	<hr/>	<hr/>	<hr/>
	24871	22283	2588
4. <i>Compressor Station Equipments</i>			
F.E.	9667	8082	1585
Indian Currency	12309	10290	2019
	<hr/>	<hr/>	<hr/>
	21976	18372	3604
5. <i>Cathodic Protection</i>			
Indian Currency	2478	2265	213
6. <i>Design Engg. Fee &amp; ONGC Management expenses</i>			
Indian Currency	8760	7132	1628
7. <i>Contingencies</i>			
F.E.	3240	2750	490
Indian Currency	4334	3735	599
	<hr/>	<hr/>	<hr/>
	7574	6485	1089
8. <i>Interest during Construction</i>	8107	6907	1200
9. <i>Total anticipated saving</i>			
F.E.			10275
Indian Currency			14890
			<hr/>
			25165



SELECTED ROUTE

ANNEXURE-3

(Referred to in Para 3.5)



H-B-J PIPELINE ROUTE



## ANNEXURE 4

(Referred to in Para 5.3.3)

Statement indicating Extra-expenditure of Rs. 10.88 crores (US \$ 95,45,665) on the purchase of Linepipes

I Thick- ness of 36" Linepipe	II Total Quan- tity (Kms.)	III RATES per Mtr. US \$			IV QUANTITIES (Kms.)				V EXTRA EXPENDITURE		
		Jap. Con. (if less than 60% qty. ordered)	Jap. Con. (If 60% or more qty. ordered)	M/s. Inter- bras, Brazil	Actually ordered		That should have been ordered on rate basis		Qty. pro- cured ignor- ing rate basis (Kms.)	Rate Differn. per mtr. (US \$)	Gain (+) or Loss (-)
					Jap. Con.	M/s. Inter- bras	Jap. Con.	M/s. Inter- bras			
0.625	451	244.85	217.92	178.85	164	287	Nil	451	164 (1,64,000M)	(-)39.07	(-)6,407,480
0.750	124	292.77	260.57	212.28	124	Nil	Nil	124	124 (1,24,000M)	(-)48.29	(-)5,987,960
0.875	84	336.13	302.92	did not quote	84	Nil	84	Nil	84 ( 84,000M)	(+)33.21	(+)2,789,640
1.062	1.5	405.79	365.70	—do—	1.5	Nil	1.5	Nil	1.5 (1500M)	(+)40.09	(+)60,135
										US \$ 95,45,665	
										or Rs. 10,87,82,507 (Rate of Exchange as on 10th July, 1984—Rs. 100 = US \$ 8.775	



MEMORANDUM

TO : [Illegible]

FROM : [Illegible]

SUBJECT : [Illegible]

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## ERRATA

Page No.	Column	Reference	For	Read
vii	I	26th line	15th July	18th July
2	I	26th line	transportation	transportation
2	II	18th line	15th July	18th July
3	II	35th line	18'	18"
5	I	26th line	Shahjhanpur	Shahjahanpur
6	I	3rd line	Projects	Project
7	I	8th line	popes	pipes
8	II	9th line	infructuous	infructuous;
12	I	10th line	(FE 317.36	(FE 317.36)
12	II	15th line from bottom	partis	parties
13	II	12th line	(31.10 Kms)	(77.00 Kms.)
13	II	16th line	casting	casing
14	I	penultimate	proviion	provision
16	II	3rd line from bottom	hug	huge
20	I	17th line	liquid	liquified
22	I	12th line	presure	pressure
22	I	19th line	bandon	abandon
22	II	21st line	Sple	Spie
23	II	2nd line	peritd	period
24	I	5th line <i>from bottom</i>	perating	operating
27	—	Annexure	5. Cathodic	5. Cathodic



