49	STANDING COMMITTEE ON CHEMICALS & FERTILIZERS (2017-18) SIXTEENTH LOK SABHA

MINISTRY OF CHEMICALS AND FERTILIZERS
(DEPARTMENT OF CHEMICALS AND PETROCHEMICALS)

ASSAM GAS CRACKER PROJECT

FORTY-NINTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI

July, 2018/ Shravana, 1940 (Saka)

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Presented to Lok Sabha on 31 July 2018

Laid in Rajya Sabha on 31 July 2018

LOK SABHA SECRETARIAT
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COMPOSITION OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS (2017-18)

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2. Shri George Baker
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18. Dr. Krishna Pratap Singh
19. Shri Kirti Vardhan Singh
20. Smt. Rekha Arun Verma
21. Shri Sarfaraz Alam*

RAJYA SABHA

22. Shri Biswajit Daimary
23. Shri Prem Chand Gupta
24. Shri B.K. Hariprasad
25. Shri Ranvijay Singh Judev
26. Shri Sanjay Dattatraya Kakade
27. Dr. Sanjay Sinh
28. Shri Abdul Wahab
29. Shri Vijay Pal Singh Tomar @
30. Vacant^
31. Vacant^

SECRETARIAT

1. Shri V.K. Tripathi - Joint Secretary
2. Shri A.K. Srivastava - Director
3. Shri U.C. Bharadwaj - Deputy Secretary
4. Shri N. Amarathiagan - Committee Officer

 # Prof. A. Seetaram Naik MP, (LS) has been nominated as a Member of the Committee on Chemicals and Fertilizers w.e.f. 3.11.2017 vice Shri Kotha Prabhakar Reddy MP, (LS) who ceased to be a Member of the Committee on Chemicals and Fertilizers w.e.f. 3.11.2017

**Shri Sarfaraz Alam has been nominated as a Member of the Committee on Chemicals and Fertilizers w.e.f. 27.04.2018*

@ Shri Vijay Pal Singh Tomar has been nominated as a Member of the Committee on Chemicals and Fertilizers w.e.f. 02.06.2018

^Vacant vice Dr. Bhusan Lal Jangade due to his retirement from Rajya Sabha on 02.04.2018.

^Vacant vice Shri K. Parasaran due to his retirement from Rajya Sabha on 28.06.2018.

INTRODUCTION

I, the Chairperson, Standing Committee on Chemicals and Fertilizers (2017-18) having been authorized by the Committee to submit the Report on their behalf, present the Forty-ninth Report (16th Lok Sabha) on the subject 'Assam Gas Cracker Project' of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals).

The subject 'Assam Gas Cracker Project' has been taken by the Standing Committee on Chemicals and Fertilizers (2017-18) for examination and report. The Committee had a briefing on the subject from the representatives of the Department of Chemicals and Fertilizers on 21-01-2018. The Committee took oral evidence of the Department, Brahmaputra Cracker and Polymer Limited (BCPL), Ministry of Petroleum and Natural Gas, GAIL (India) Limited, Numaligarh Refinery Limited (NRL), Oil India Limited (OIL) on the subject on 26 April, 2018.

The Report was considered and adopted by the Committee at their sitting held on 23-07-2018.

The Committee wish to express their thanks to the officers of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals) and Ministry of Petroleum and Natural Gas for furnishing necessary written replies, views and other material / information to the Committee for the examination of the subject 'Assam Gas Cracker Project'.

The Committee also place on record their appreciation for the valuable assistance rendered to them by the officials of Lok Sabha Secretariat attached to the Committee.

For facility of reference and convenience, the observations / recommendations of the Committee have been printed in bold letters at the end of the Report.

New Delhi.

Chairperson

Standing Committee on

Chemicals and Fertilizers

27 July, 2018

05 Shravana, 1940 (Saka)

REPORT

CHAPTER – I

GENESIS AND FORMATION OF 'ASSAM GAS CRACKER PROJECT'

Background of the project

The Assam Gas Cracker Project (AGCP) was proposed as a part the implementation of Assam Accord signed by the Government of India 15th August, 1985. The project is an outcome of socio-economic concerns of the Government of India for equitable development across Indian states through industrialization of backward regions of the country. In pursuit of this objective for the State of Assam, the Government of India struck an accord with the Assam Gana Sangram Parishad to establish a petrochemical Industry at village Lepetkata in the District of Dibrugarh for judicious utilization of the higher fractions of Natural Gas for value addition, creating avenues for downstream plastic processing and ancillary industries and other diversified opportunities with enormous scope for direct and indirect employment potential for the overall economic development of the State.

1.2 The Assam Gas Cracker Project (AGCP) which was initiated in pursuance of the Assam Accord signed on 15th August, 1985, has the objective of overall socio-economic development of the North East Region. Locating the project in Assam, compared to industrially advanced States, has its inherent disadvantages such as (i) higher cost of development of land and civil works on account of seismic nature of terrain (ii) higher cost of transportation of material / equipment due to geographical location (iii) less effective working time per year due to prolonged rainy season and other deterrents, the Assam Gov ernment could not attract a joint venture partner in spite of their best efforts. Therefore, Assam Government approached the Central Government in April, 1992 for fiscal concessions in order to neutralize the disadvantages of setting up the project in Assam, vis-a-vis, elsewhere in the country. While the concessions sought by the Government of Assam were being considered by the Government of India, a Memorandum of Understanding (MOU) was signed between the Government of Assam and Reliance Industries Ltd. (RIL) on 20th May 1994 for setting up of this project and Reliance Assam Petrochemicals Ltd. (RAPL) was formed for implementing the project. The shareholding Pattern envisaged was: 11% Assam Industrial Development Corporation (AIDC), 40% RIL and 49% by the public. RAPL was granted various concessions by Government of India for implementation of the Gas Cracker Project.

1.3 Initial capacity of the project planned was 200 KTPA as the feedstock available was sufficient to produce only this much quantity of Ethylene. However, the work could not be started due to non-availability of sufficient feedstock and other reasons and RAPL felt that the project

was not viable for a capacity below 200 KTPA of Ethylene and they insisted on adequate availability of feedstock to undertake the project.

1.4 Ministry of Finance, on 20.02.2003, decided that GAIL would examine the feasibility of taking up the Assam Gas Cracker Project on its own. Accordingly, a pre-feasibility Report (PFR) for the project was prepared considering an integrated Petrochemical Complex. Thereafter a Detailed Feasibility Report (DFR) was prepared by EIL. The financial appraisal of the project was carried out by IFCI Ltd. GAIL engaged services of Engineers India Limited to work out the project viability. The pre-feasibility of the project was prepared in May 2003 along with the sensitivity analysis.

Brahmaputra Cracker and Polymer Limited (BCPL)

1.5 Assam Gas Cracker Project was approved by Cabinet Committee on Economic Affairs (CCEA) with a cost of Rs. 5460.61 crore on 18.04.2006. In the interim a Joint Venture Company, Brahmaputra Cracker and Polymer Limited (BCPL) was incorporated on 08.01.2007 as Central Public Sector Enterprise under the Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India. GAIL (India) Limited is the main promoter of BCPL having 70% of equity participation and the remaining 30% equity is equally shared by Oil India Ltd (OIL), Numaligarh Refinery Limited (NRL) and Government of Assam.

Challenges faced by the project during construction phase

1.6 Hon'ble Prime Minister of India laid the foundation stone of the project at Lepetkata, Dibrugarh, Assam on 09.04.2007. During construction phase, first challenge the project faced was requirement of huge earth-filling at the project site which was located at a low-lying area. About 50 lakh cubic metres of earth filling was done from borrowed earth sources which were inaccessible during a majority of the time period in a year.Subsequently, several challenges have been encountered in the project phase as below:

(i) Prolonged monsoon period and heavy rainfall leading to lesser effective working time for construction.
(ii) Loss of working days due to bandh/ strikes.
(iii) Frequent theft / sabotage, misplacement of project materials by contractors leading to additional procurements with time and cost implications.
(iv) Financial crunch faced by the project executing contractors resulting in inadequate mobilization of resources.
(v) Scarcity of adequate resources (like heavy duty Cranes, skilled manpower etc.) in nearby region.

Commissioning of BCPL

1.7 The project was commissioned on 02.01.2016 and subsequently dedicated to the nation by Hon'ble Prime Minister of India, Sh. Narendra Modi on 05.02.2016. The BCPL Complex is spread over 3000 Bighas of Land at Lepetkata and is situated at approximately 15 km away from Dibrugarh. The land required for the Project has been acquired & handed over by Govt. of

Assam to BCPL. BCPL comprises four work stations - (i) The Main Petrochemical Complex at Lepetkata, Dibrugarh where polymers are produced ; (ii) Gas Dehydration and Compressor at Duliajan where feed natural gas is received from M/s Oil India Limited. (iii) Railway Siding where Naptha received from M/s NRL & (iv) Gas Sweetening Unit / C2+ Recovery Unit at Lakwa, Sivasagar-District. The particulars of Brahmaputra Crackers and Polymer Limited as per extract of registration as on 31st March, 2017 are as under

Name of the Company	Brahmaputra Cracker and Polymer Limited
CIN	U11101AS 2007GOI008290
Category / Sub-Category of the Company	Government Company (Unlisted)
Address of the registered office and contact details	Hotel Brahmaputra Ashok, M G Road, Guwahati-781001, Ph: 0361-2736910, Fax: 0361-2733556
Name, Address and Contact details of Registrar and Transfer Agent, if any	MCS Share Transfer Agent Limited, F- 65, Ist Floor, Okhla Industrial Area, Phase –I, New Delhi-110020
Name and description of main products / services	Manufacture of Plastic in primary forms - HDPE / LLDPE, PP
NIC code of Products / Services	20131
Share-holding of Promoters - number shares - percentage	GAIL (India) Limited - 99,23,69,000 - 70.74%
	Oil India Limited - 14,17,67,000 - 10.11%
	Numaligarh Refinery Ltd. - 14,17,67,000 - 10.11%
	Govt. of Assam - 12,69,00,010 - 9.04%

1.8 The Ministry Chemicals and Fertilizers (Department of Chemicals and Petrochemicals) is the administrative Ministry of the Central Public Sector Undertaking. The Board of Directors of the Company as on 31 March, 2017 consisted of nine Directors including the Chairman and Managing Director of GAIL being the ex-officio Chairman of the Company, two functional Directors, five promoter Directors and one Independent Director. The Nominee Directors are appointed in accordance with the Joint venture Agreement and the Articles of Association of the Company.

1.9 As per the Corporate Governance Compliance Certificate dated 20 June, 2017, furnished by the Company Secretary of BCPL :-

"a) The Composition of the Company's Board did not have the required number of Independent Directors.

b) The number of nominee directors in the Board of Company exceeded the maximum number of Directors permitted under DPE guidelines.

c) The Composition of the Audit Committee did not have two-thire of member as Independent Directors."

1.10 The Committee has taken note of the fact that in regard to a direction issued by the office of C&AG u/s 143(5) of the Companies Act, 2013 on the subject matter relating to title / lease deeds for freehold and leasehold lands of the company, the company has submitted as under :

"The transfer of lease deed in the name of Company for 959 bighas of leased hold land and transfer of title deed for 505 bighas of Freehold land belonging to GAIL's Lakwa units is pending as on the date of reporting due to non-execution of Assets Transfer Agreement.

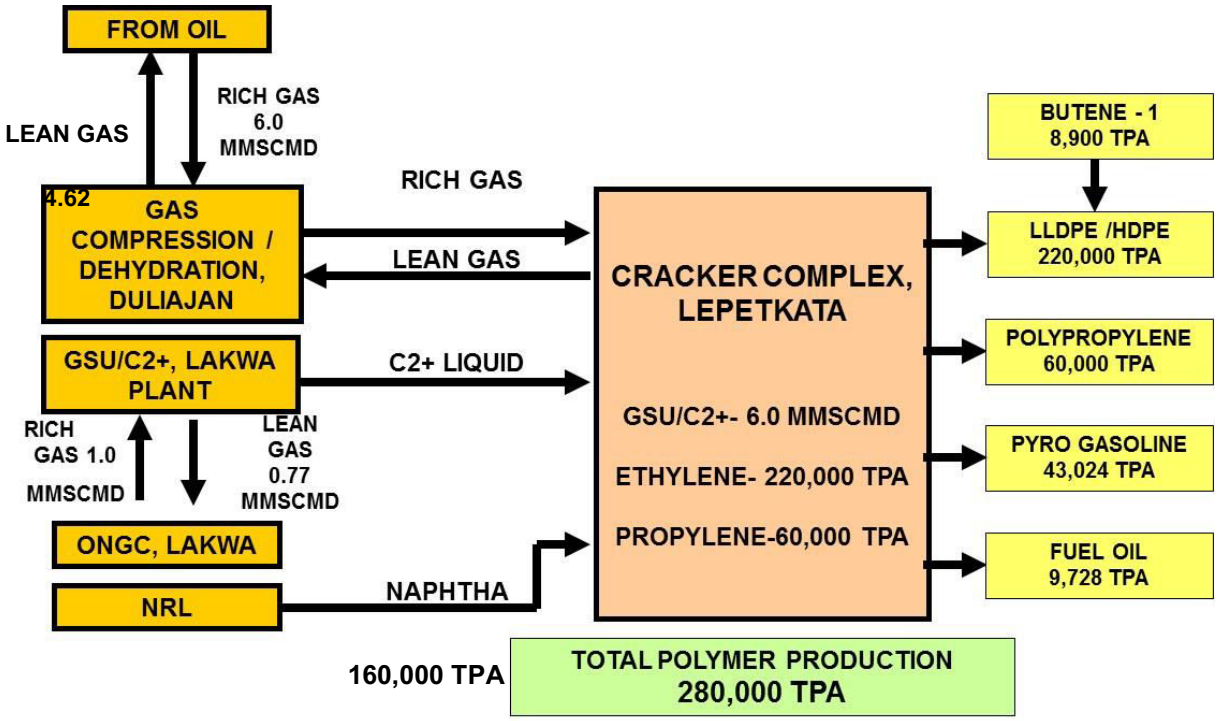
Further out of 3581 bighas acquired by compan y through Government of Assam, the periodic pattas were issued by concerned Authority of Govt. of Assam except for Government land of 131 bighas and 50 bighas of private land (Railway siding) though entire land is in possession of company."

CHAPTER – II

FEED-STOCK SUPPLY ARRANGEMENT FOR BCPL

BCPL's Configuration

The main complex of BCPL is located at Lepetkata, Dibrugarh-District. The Lepetkata complex comprises of Gas Sweetening Unit (GSU)/C2+ Recovery Unit, Cracker unit, downstream polymer units (LLDPE/HDPE and PP Unit) and integrated offsite & Utilities plants along with Captive power Plant. In addition, facilities for Gas Dehydration and Compressor facilities have been set up at Duliajan and Gas Sweetening Unit/C2+ Recovery Unit at Lakwa, Distt: Sivasagar. The configuration of the petrochemical complex as furnished by the Department of Chemicals and Petrochemicals is as follows:



2.2 The BCPL is designed to process Natural Gas and Naphtha to produce 2,20,000 Tons per annum (TPA) of LLDPE /HDPE (Linear Low Density Polyethylene/High Density Polyethylene) & 60,000 Tons per annum (TPA) of PP (Poly-propylene). Other products of BCPL include Hydrogenated Pyrolysis Gasoline and Pyrolysis Fuel Oil.

Technology Adopted

2.3 The BCPL has entered into contracts with the following Licensors for import of technology for its different units :

(i) Ethylene Cracker Unit - Lummus Technology, USA, Licence agreement signed on 14-05-2009 ;
(ii) LLDPE / HDPE Swing Unit INEOS, UK, Licence agreement signed on 18-03-2009.
(iii) Polypropylene Unit - Lummus Novolen, German, Licence agreement signed on 31-03-2009

2.4 On being asked about the salient features of the contracts for purchase of technologies for the BCPL including justifications for the same and the steps taken for attaining self-reliance

in the field of gas / crude-oil cracking, the reply furnished by the Department of Chemicals and Petrochemicals reproduced below :

The technology provider/licensors of BCPL's main process units are:

Unit	Licensor	License Fee
Ethylene Cracker Unit	LUMMUS TECHNOLOGY, USA	$ 2,525,000
LLDPE/HDPE Swing Unit	INEOS, UK	$16,060,412
Polypropylene Unit	LUMMUS NOVOLEN, GERMANY	€ 2,400,000

The technologies used in BCPL are state of the art technologies of international standards and the licensors were appointed through International Competitive Bidding by considering their efficiency, economy and productivity.

The salient features of License Agreements are as follows:

- Providing license and rights to use the Technology/Process
- Providing Basic Design Engineering Packages
- Providing mandatory services/ technical assistance like
  - review of documents
  - mechanical installation check and pre-commissioning safety audit of the Plant
  assistance during pre-commissioning and commissioning of the Plant
  -carrying out PGTRs and Transition Tests at the Plant
  hazard and operability study of the piping and instrument diagrams for the Plant
- Training of BCPL's personnel on handling plant emergencies/trouble shooting during operation & maintenance of the plant

The technology providers are the leading licensors of petrochemicals, refining,gas processing and polymer technologies. The technologiesare well established and all the technologies have a high safety standard included in their designs. The performance of the plant in terms of efficiency, dual feed operation, yield, liquid HC production is well established and satisfactory.

Various steps including, sourcing feedstock (Naphtha) from other agencies, regular training of manpower, sourcing catalysts & chemicals, energy studies etc. are continuously carried out to become self-reliant in plant operation.Further, BCPL is also considering setting up a Butene-1 plant in the complex to improve the availability of Butene-1, which is a scarce petrochemical manufactured mainly for captive consumption.

Feed-stock material

2.5 The Feedstock for the project is Natural Gas and Naphtha. OIL and ONGC are supplying Natural Gas to the tune of 6.0 MMSCMD and 1.0 MMSCMD respectively and 1,60,000 Tonnes per annum of Naphtha is being supplied by NRL.

Feed-stock Requirement of BCPL

2.6 In regard to monthly requirement of different combinations of major feed-stock material necessary for attaining full capacity utilization of BCPL, it was informed that, the plant is in requirement of 7 MMSCM of rich gas daily and 1,60,000 MT of naphtha annually to attain full capacity.

2.7 To a query as to the combination of feed-stock material which would fetch maximum level of gains/return for Brahmaputra Crackers and Polymers Limited (BCPL) and steps taken to adopt such model by the BCPL , the Committee were informed as under :

"The plant is designed to operate on feedstock which should constitute of 68% gas and 32% naphtha. For BCPL, gas is a cheaper feed compared to naphtha and the profitability of plant shall improve if the naphtha is replaced by gas. However, the same can be done to some extent only due to design constraints. The plant is suffering due to shortfall in gas supply by M/s OIL and therefore, to maintain the level of production, BCPL has to arrange more naphtha leading to higher cost of production. In simple terms, cost of feed for production of polymer using naphtha is roughly 2.4 times the cost using gas.
The best model for BCPL would be to operate the plant at 80:20 ratio of gas and naphtha. For the same, more quality gas needs to be made available for the plant."

Feed-stock Supply Arrangement

2.8 On being asked about the details regarding suppliers of input material necessary for the operation of the project (BCPL), the follwing details were furnished by the Department of Chemicals and Petrochemicals :

"a) Natural Gas is being supplied by M/s Oil India Limited (OIL) and M/s Oil and Natural Gas Corporation Limited (ONGC) as per the CCEA approval.
b) M/s Numaligarh Refinery Limited (NRL) is the supplier of Naphtha, as per CCEA approval.
c) Butene-1, one of the raw materials used as co-monomer for production of LLDPE/HDPE. For supply of Butene-1, BCPL has tied up with M/s GAIL, M/s OPaL, M/s HPL to meet the monthly requirement for operation of the plant on consistent basis at optimum capacity. Butene-1 is also procured from M/s RIL, on spot purchase basis to meet the requirement.

Of the total operating cost, 60% is towards variable cost and balance 40% is towards fixed cost. The variable cost includes the cost of raw materials, chemicals, catalysts, packaging cost etc. Regarding the basic raw material, the plant operates both on gas and naphtha, however the cost of production using naphtha is around 2.5 times costlier than cost of production using gas.

The fixed cost includes employee cost, interest cost, depreciation, administrative cost, repairs & maintenance etc. Further, out of the fixed cost, around 31% and 37% are towards interest and depreciation respectively."

Status of Feedstock supply to BCPL

2.9 The Department of Chemicals and Petrochemicals, when asked to state about the functioning of MOUs/agreements signed with different suppliers like OIL, ONGC, NRL, etc. for supply of raw material to BCPL, the Committee were informed that the MOUs / agreements signed with different suppliers have not been found very satisfactory and BCPL had to incur production losses due to shortage of supply of feedstockboth in quality

and quantity, as explained below :

"As per the agreement, M/s OIL is to supply 6 Million Metric Standard Cubic Meter per Day (MMSCMD) of natural gas to BCPL with average C2+ content of 7.11 %. Against the contractual quantities, the natural gas supplied by M/s OIL during 2016-17 and 2017-18 (up to 31.12.2017) is 4.11 MMSCMD with C2+ content of 6.1% and 5.2 MMSCMD with C2+ content of 6.5% respectively. This short supply of natural gas by M/s OIL has led to production loss of 68133 MT and 24995 MT during 2016-17 and 2017-18 (up to 31.12.2017) of polymers.

There has been acute short supply of naphtha by M/s NRL in 2016-17 till August, 2016 and thereafter, NRL has completely stopped supply of naphtha from its refinery in Assam. Instead NRL proposed for externally sourced Naphtha from Kochi/ Bina Refineries with basic price as per agreement, taxes and duties at actual and suggested that BCPL should absorb 50% of freight cost. As NRL was not willing to supply Naphtha from their refinery and the production at BCPL was getting severely impacted, the proposal regarding sharing of transportation cost was agreed as an interim arrangement. At present Naphtha is sourced by NRL from Kochi or Bina with transportation cost of around Rs. 4000-5000/ MT, against the cost of around Rs. 500/MT for transportation from NRL's premise to BCPL. With this arrangement proposed by NRL, BCPL has to incur expenditure of around Rs. 35 crore per annum towards the additional transportation cost. Further, even with externally sourced naphtha, the shortfall in supply during 2016-17 and 2017-18 (up to 31.12.2017) is 69% and 19 % respectively. The situation of supply of feedstock by M/s OIL and M/s NRL has been reviewed by the Department of Chemicals and Petrochemicals from time to time. The matter has also been taken up with MoP&NG."

2.10 Against the backdrop of shortages in supply of feed-stock to BCPL, the Department of Chemicals and Petrochemicals was asked to state about the positive outcomes from its efforts for identifying alternatives for getting feed-stock for BCPL. In this regard, the Committee were informed in writing as under :

"To achieve optimum capacity utilization in the situation of inadequate supply of naphtha by NRL, BCPL has arranged for naphtha from M/s HPCL, Vizag. For Butene-1, BCPL has tied up with M/s GAIL, M/s OPaL, M/s HPL to meet the monthly requirement. Apart from these, Buetne-1 is also procured from M/s RIL on spot purchase basis. Tying up with multiple sources, for supply of Butene-1 has helped in sustaining continuous operations of the plant. Further, to augment the production in Poly Propylene Unit the situation of inadequate supply of feedstock, BCPL has been procuring propylene from M/s GAIL.

Due to the above mentioned efforts of BCPL, the capacity utilizations improved since January, 2017 and the plant could earn cash profits from February, 2017 onwards. The trend of high capacity utilization is now maintained on a sustainable basis."

Shortfall in supply of natural gas by M/s OIL

2.11 The Department of Chemicals and Petrochemicals in their updated background material furnished in April, 2018 has stated that the capacity utilization of the plant is adversely impacted due to inadequate supply of natural gas by M/s Oil India Limited. In the current year the average supply of natural gas by M/s OIL is 5.3 MMSCMD with C2+ content of 6.4 % against the

contractual supply quantity of 6 MMSCMD with C2+ content of 7.1 %. The Shortfall in supply of natural gas by M/s OIL was approximately 41% during 2016-17 and 20% during 2017-18. The natural gas supply by M/s OIL constitutes around 61% of the total feed for the plant and the short fall in supply by M/s OIL has greater implication in terms of production loss. Due to the short supply of natural gas by M/s OIL, BCPL has suffered production losses of 67752 MT and 33050 MT of polymer during 2016-17 and 2017-18 respectively.

2.12 The Department of Chemicls and Petrochemicals, on being asked about the details regarding annual production of natural Gas by OIL and ONGC and their annual production-capacity utilization, has stated that *as per Annual Report 2016-17 of OIL, the natural gas production was 2705 MMSCM from Assam and Arunachal Pradesh. As per Annual Report of ONGC 2016-17, Natural Gas production (from domestic operated fields) was 22.09 BCM*. It has been further stated that as per the agreement, M/s OIL is to supply 6 Million Metric Standard Cubic Meter per Day (MMSCMD) of natural gas to BCPL with average C2+ content of 7.11%. Against the contractual quantities, the natural gas supplied by M/s OIL during 2016-17 and 2017-18 (up to 31.12.2017) is 4.11 MMSCMD with C2+ content of 6.1% and 5.2 MMSCMD with C2+ content of 6.5% respectively.

2.13 Apprising the Committee about the background of the Gas Agreement signed in the 2007 with OIL India Limited, to supply natural gas to said project, Director, Operation, OIL India Limited submitted as under:-

> *"Sir with your permission, I would like to tell the background. OIL India Limited was supplying gas as per the agreement signed in 2007 from the gas fields of Tinsukia and Dibrugarh district, we are producing 90% gas and 100% crude oil from that area approximately 200 MMSC gas is produced in Rajasthan. We supply the entire requirement of gas from a place known as Dulijan which is located within a periphery of 50 km of the project. We made a commitment in 2007 keeping into account the assessment of the time. At that time quality of gas of good and we committed to give C2+ 7.11%. Unfortunately the quantity of C2+ was found less in the new reservoirs of gas. This affected the gas supply. We committed to give 5.4% which was increased to 6% but this 6% also doesnot fullfil the requirement because of less quantity of C2+....We have constituted a Committee comprising officials of BCPL and OIL to study and to suggest the improvement. The gap between 7.11 % and 6.4% presently supplied is wide ....It is difficult to predict that quality of gas to be produced from the reservoirs under the ground ... "*

Constraints in supply of natural gas by ONGC

2.14 BCPL has a C2+ extraction unit at Lakwa in Sivasagar District, Assam which Processes the natural gas received from ONGC. The C2+ Recovery Unit, Lakwa of BCPL was converted from erstwhile LPG Recovery Plant of GAIL to produce C2+ liquid which is sent to BCPL Lepetkata as a feed in ethylene cracker unit. The Lakwa plant was commissioned on 04.12.2016 and is presently under operation. The feed from Lakwa unit contributes to around 7% of total feed presently. For operating the Lakwa unit, gas to the tune of 0.2 MMSCMD is required for internal consumption as fuel. This requirement is in addition to the gas required for shrinkage (for

recovery of C2+ liquid) in the plant. BCPL had entered into a long term agreement with ONGC for supply of gas to its C2/C3 Recovery Plant, Lakwa. The agreement has provision of shrinkage for production of C2/C3 liquid ; however, the same does not have provision for internal consumption (fuel). Further, the agreement has penal provision @1.5 times the price applicable for excess gas drawn by BCPL over and above the shrinkage. The plant cannot be operated without use of gas for internal consumption. It is to mention that prior to taking over of GAIL's LPG Plant by BCPL natural gas was being supplied to GAIL, Lakwa by ONGC for production of LPG and internal consumption as well. The same LPG plant is now operating as C2+ recovery unit, however, ONGC is imposing penalty @ 1.5 times the price of natural gas used for internal consumption. The imposition of penalty is unjust and has additional implication of around Rs.13 crore per annum to BCPL. BCPL has taken up the matter with MoP&NG several times.

2.15 According to the Department of Chemicals and Petrochemicals and BCPL, an agreement was reached in a meeting chaired by Additional Secretary, MoP&NG, in 2013 for supply of 0.2 MMSCMD additional gas through ONGC to BCPL plant at Lakwa by effecting pro-rata cut on the other consumers. However, although the matter was taken up with Ministry of Petroleum & Natural Gas (MoP&NG) and ONGC several times, no clear directive/notification was issued by MoP&NG regarding the allocation of gas to BCPL's Lakwa plant. In this context, the Ministry of Petroleum and Natural Gas was asked to state the reasons for non-supply of additional gas to BCPL for its Lakwa plant through ONGC as agreed earlier. The written reply of the Ministry in the matter is as under :

"ONGC has informed that they signed an Agreement with BCPL for supply of C2+ Gas fractions ex-Lakwa GGS-1 on 15.10.2007.

Salient features of this Agreement are as follows:

- *ONGC to supply rich Gas stream to BCPL, subject to availability of Gas from inter-connected fields in Assam.*
- *BCPL to return entire lean Gas to ONGC after extraction of C2+ and CO2 components and has no right on other components of this Gas which is supplied to GAIL for further distribution to consumers.*
- *ONGC had indicated availability of 1.35 MMSCMD of Gas with 7% C2+ components till 2011-12 and 1.0 MMSCMD of Gas with 5% C2+ components from 2012-13 till 2026-27.*
- *BCPL to pay ONGC 1.5 times the applicable Producer Price of Gas for any Gas withdrawn by BCPL in excess of agreed quantity, without reference to Consumer Price of BCPL and /or subsidy to be reimbursed to ONGC by Govt. of India. Such an enhanced price for additional gas (for internal use) was accepted by BCPL only after which the GSA was signed.*

Return of this lean Gas to ONGC is of critical importance as it has serious implications for oil and gas production operations of ONGC. Besides its utilization as a motive fluid for Gas lift, it is also used as fuel for internal purposes (including new captive power plant) and the balance Gas is used for meeting supplies to GAIL for meeting critical and sensitive requirements of APGCL Maibella, Lakwa Tea Estates besides Town Gas supplies to Nazira and Sibsagar.

It is pertinent to bring out that the Report of Inter-Ministerial Committee constituted under chairmanship of Secretary, Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers on Implementation of Assam Gas Cracker Project, submitted in

June 2016, while endorsing the First Right of Refusal to BCPL in respect of additional Gas explored in North-East region, did not have any mention of Internal Consumption of BCPL

In the meeting taken by Secretary (C&PC), Dept. Of Chemicals & Fertilizers on 06.04.2017, ONGC reiterated that:

- *No additional Gas is available with ONGC that can be allocated to BCPL for their internal consumption. Lean Gas returned by BCPL is used by ONGC for mixing with rich Gas for resending to BCPL while maintaining the requisite pressure.*
- *Based on return Gas received from BCPL, ONGC recompresses the same and uses it for Gas lift purposes and supplies a part of it to GAIL for meeting requirements of APGCL Maibella and Lakwa Tea Estates, besides Town Gas supplies to Nazira and Sibsagar.*
- *Since these requirements are critical and sensitive, ONGC is not in a position to accommodate additional gas requirement of BCPL as it will directly affect the Gas supplies to other consumers besides affecting ONGC's E&P operations.*
- *BCPL should explore sourcing of Gas from Golaghat.*

It may be noted that as per latest Gas availability projections, Gas availability at Assam for supply to all customers stands between 0.388 MMSCMD in 2017-18 to 0.523 MMSCMD in 2021-22. However, it may be seen that the gas availability is far less than allocations of 0.6309 MMSCMD to existing Gas consumers in Assam Asset."

2.16 To a post evidence query as to whether the Ministry of Petroleum & Natural Gas (MoP&NG) would issue necessary instructions/notification for the supply of 0.2 MMSCMD additional gas through ONGC to BCPL plant at Lakwa, the reply of the Ministry is as under :

" ONGC has informed that:

i) As per design of supplies to BCPL, ONGC's Lakwa unit supplies entire available rich Gas to BCPL who, in turn, strips C2+ fractions and returns lean Gas to ONGC.
ii) Although 1 MMSCMD of Gas quantity was envisaged to be available for supply at the time of signing of Agreement with BCPL, as these fields in Assam are in stage of decline, producing for more than past 50 years, current supply to BCPL is in the range of 0.6 MMSCMD.
iii) The actual supplied gas to BCPL is much richer in C2+ fractions (at around 15%) as against 5% committed in the Agreement. Therefore, even if the physical quantity supplied to BCPL is 0.6 MMSCMD as against 1 MMSCMD stated in the agreement, ONGC is still able to meet C2+ fraction requirements of BCPL as per the agreement.

Further it is submitted that supply of additional feedstock by ONGC to BCPL is a commercial decision which has to be taken by the Parties concerned depending upon techno-commercial viability."

]

Shortfall and constraints in Supply of Naphtha by NRL

2.17 NRL failed to supply adequate quantity of naphtha to BCPL. against the agreement quantity of 160000 MT. The shortfall in supply of naphtha by NRL is around 69% during 2016-17 and 45% during 2017-18 (upto 30.09.2017). NRL supplied only around 15800 MT of naphtha from their refinery till August, 2017 during the financial year 2016-17. Thereafter, on repeated pursuance; NRL offered to supply naphtha from external sources on 50:50 freight sharing basis.

To sustain the plant operation, BCPL had to agree to the arrangement of 50:50 freight sharing; however, NRL still was not able to supply the required quantity of naphtha. Under the circumstance of acute shortage of naphtha, BCPL explored and was able to make arrangement with M/s HPCL and sourced naphtha from their Vizag refinery. Even with the externally sourced naphtha, the shortfall in supply during 2016-17 was to the tune of 61% which is roughly equivalent toproduction loss of 52880 MT of polymer.

2.18 The Department of Chemicls and Petrochemicals when asked to state the details regarding cost price and quantity of naphtha-supplies received by BCPL from various sources against its requirement and to furnish suggestions for ensuring adequate quantity of naphtha for BCPL, the written reply of the Department is as under :

"Details of source, quantity and price of naphtha during the year 2017-18 are given below:

Source of procurement of Naphtha	***Quantity Procured (MT)***	***Basic Price (Rs. / MT)***	***Freight (Rs./MT)***	***Total Price (Rs./MT)***
Supplied by NRL (From Own Refinery)	*0*	*28779*	*465*	*29244*
Procured & supplied by NRL (Outsource from Bina Refinery)	*51212*	*28779*	*3682*	*32461*
Procured by BCPL from HPCL	*60347*	*33839*	*4045*	*37884*
Procured by BCPL from IOCL	*13998*	*37581*	*2990*	*40572*

Note: The prices mentioned above are Avg. Price of FY: 2017-18
(Source: Brahmaputra Cracker and Polymer Limited)

M/s NRL has informed that there is no surplus naphtha available in the refinery because of their own requirement of Motor Spirit (MS) production. Further, due to less availability of natural gas from up-stream companies, NRL is consuming additional naphtha as Feed & Fuel. Therefore, M/s NRL is supplying naphtha to BCPL by procuring from external sources or allowing BCPL to arrange from external sources protecting the contractual basic price. To sustain continuous plant operation BCPL explored other sources and has started procuring naphtha from M/s IOCL & M/s HPCL. "

2.19 To the query of the Committee seeking reasons for non-supply of requisite quantity of Naptha as agreed upon by NRL from its own production source, the reply of Department of Chemicals and Petrochemicals is reproduced below :

" As per project approval, NRL was to receive crude supplies of 3 MMT p.a. and it was required to supply 160,000 T of Naphtha to BCPL. The supply of Naphtha was further linked to crude supply.
In the recent past NRL has been receiving average supplies of 2.7 MMT of crude and at this level it should have supplied at least 120, 000 T of Naphtha to BCPL. However NRL has supplied 'NIL' Naphtha from its own refinery. Apparently, NRL is utilizing the crude supplies for production Motor Spirit (instead of Naphtha) to increase its profitability in disregard to the contractual agreement. The action of NRL is not only in violation of its agreement but also contrary to CCEA approval. "

2.20 Regarding capacity utilization and annual production and disposal of naptha naptha by NRL, the Department of Chemicls and Petrochemicals stated as under :

"As per Annual Report 2016-17 of NRL, the capacity utilization of NRL's plant was 89% in terms of crude processing. There is no mention of total quantity of naptha produced by NRL in their Annual Report, however, it states that NRL has produced 15000 MT of Petrochemical Grade Naptha during the year, which was supplied to BCPL during the year (2016-17). The remaining quantum of naptha produced may have been used by NRL for other purpose."

2.21 During evidence on the subject on 26-04-2018, the representative of NRL inter-alia stated that NRL was not getting any crude supplies towards its commitment of supply of Naptha to Brahmaputra Cracker and Polymers Limited and that Naptha was not produced at NRL. In this regard, the Department of Chemicals and Petrochemicals was asked to clarfify the position in the matter. The reply of the Department of Cehmicals and Petrochemicals is as under :

"Petrochemical grade Naphtha is produced by NRL from crude. As per the Agreement between BCPL and NRL, the annual supply of 1,60,000 MT of Naphtha by NRL to BCPL is subject to allocation of 3 MMTPA of Crude to NRL. In case of shortage in receipt of Crude by NRL, there shall be proportionate reduction in supply quantity of Naphtha. "

As per their Annual Report of 2016-17, NRL processed 2.68 MMT of crude during the year (agains 3MMT) and therefore, the agreement quantity of naptha (to be supplied to BCPL) ;gets reduced to the same extent (i.e. 89.33% of 1,60,000 MMT). However, NRL is not supplying any Naptha from its refinery and instead sourcing from other agencies. "

2.22 Responding to the concern of the Committee for not honouring the agreement of supply of Naphtha by NRL, the Managing Director, NRL submitted as under:-

"NRL has not stopped naphtha. NRL is not producing any naphtha as of now. To meet this commitment, we are buying naphtha from somebody else and selling to BCPL. In case, we cannot bring naphtha, then we will tell them to buy naphtha, and we will pay the difference. That is the arrangement that is happening. We are following whatever is there in the agreement."

2.23 To a post evidence query regarding production of naptha by NRL at the time of signing of agreement with BCPL and the reasons for stopping production of naphtha along with the date. the written reply of Ministry of Petroleum and Natural Gas is reproduced below :

" Naphtha was produced at NRL at the time of signing of the agreement with BCPL.

The availability of naphtha has reduced and NRL's net naphtha production has declined from 2015-16 onwards. Naphtha production at NRL since 2010-11 is tabulated below:

Year	***Naphtha Production (TMT)***	***Crude T'put (TMT)***
2010-11	*13.72*	*2520*
2011-12	*152.81*	*2825*
2012-13	*108.16*	*2478*
2013-14	*160.87*	*2613*
2014-15	*111.37*	*2777*
2015-16	*-*	*2520*
2016-17	*15.27*	*2683*
2017-18	*-*	*2809*

NRL has informed that availability of naphtha has reduced due to:-

i) *Due to lower NG receipt, naphtha produced in the refinery is consumed internally as feed and fuel resulting in lower availability of surplus naphtha for external customers*

ii) *NRL's internal requirement of naphtha in MS production has increased over time due to high growth in MS demand in the country leading to lower availability of naphtha for external customers."*

2.24 The Ministry of Petroleum and Natural Gas, when asked to state details regarding additional allocation of crude oil to Numaligarh Refinery Limited towards its commitment for supply of Naphtha to BCPL including its capacity utilisation and breakup of the disposal of Naphtha produced by it, the written reply of the Ministry is reproduced below :

NRL has not been allocated any additional crude oil on account of its naphtha supply commitment to BCPL.

Crude receipt, capacity utilisation and naphtha produced is tabulated below:

	2015-16	***2016-17***	***2017-18***
Crude receipt (TMT)	*2478*	*2751*	*2849*
Crude throughput (TMT)	*2520*	*2683*	*2809*
Capacity utilisation (%)	*84.01%*	*89.44%*	*93.63%*
Naphtha produced (TMT)	*-*	*15*	*-*

Note: During 2016-17, the entire naphtha production quantity of 15 TMT was supplied to BCPL.

2.25 The Ministry of Petroleum and Natural Gas was also asked to state reasons for non honoring of agreement signed by the NRL to supply 160,000 T of Naphtha to BCPL per annum and details regarding directions, if any, given by the MoPNG to ONGC, OIL, NRL and GAIL in the matter of supply of feedstock materials to BCPL. In this regard the reply of the Ministry is reproduced below :

"NRL has informed that at the timing of signing of the agreement in 2010, NRL was producing Naphtha and planned to produce petro chemical grade Naphtha and as such offered to supply Naphtha to BCPL project at that time. To meet this petro chemical grade Naphtha, NRL had to invest Rs 87.00 Crore and this amount was born by NRL on its own and did not get any subsidy from Govt. of India unlike the other feedstock suppliers to this project. Thereafter, over the years, number of changes had happened and some of which are given below:

(a) The commissioning of BCPL plant was delayed by almost 3 years (original commissioning April 2012) and naphtha available at NRL at that time had to be sold outside the region at a substantial freight under recovery.

(b) The natural gas committed to be received by NRL from OIL at the level of 1.0 MMSCMD was not received by NRL. Accordingly NRL was required to burn naphtha in its Power Plant and Hydrogen plant for its own refinery operation.

(c) The demand for MS in North East has grown substantially, (15% in 2017-18) and to meet this demand, NRL started producing this auto fuel, which was more essential by converting its Naphtha.

NRL has further informed that as on 11.6.2018 NRL is not producing any naphtha in its refinery. NRL has also informed that it has fully honored the agreement of Naphtha supply to BCPL by taking the following measures:-

i) NRL floated tender for sourcing naphtha from other sources and thereafter ensured transporting the same directly to BCPL plant at Lepetkata, Dibrugarh.
ii) NRL reimbursed BCPL the differential cost for the Naphtha sourced from 3rd parties.

In other words, while there was no direct supply of naphtha from NRL's own refinery, supply was either made by NRL from external sources and BCPL was compensated for naphtha procured from alternate sources.

In March 2018, NRL & BCPL has agreed to share the freight cost for sourcing of naphtha in the ratio 60: 40, where NRL will bear the higher share of the cost.

Supply of Naphtha is a commercial agreement for supply of feedstock between NRL and BCPL. As such supply of feedstock to BCPL is a commercial decision which has to be taken by the Parties concerned depending upon techno-commercial viability."

2.26 The Ministry of Petroleum and Natural Gas was asked to state whether NRL was bound to to fulfill its committed supply of naphtha to BCPL by purchasing Naphtha from outside in case of non-production by NRL and to state whether sharing of transport cost of naptha by BCPL was mandatory under the agreement. In this regard, the reply of the Ministry is reproduced below:-

" The agreement between BCPL and NRL has the standard Take-or-Pay conditions. Keeping in the spirit of the above and to honor the commitment, NRL is supplying naphtha to BCPL by sourcing from other sources by reimbursing the differential cost to BCPL.

There is no specific clause in the said agreement on how, when and where to source the naphtha from and supplied to BCPL.

The present model of sharing of transportation cost has been agreed mutually by both NRL and BCPL with due consideration of financial impact to both the parties."

Measures for adequate supply of feed-stock for BCPL

2.27 The situation of inadequate feedstock was reviewed by the DCPC from time to time and the matter was taken up with Ministry of Petroleum and Natural Gas. There has been some improvement in the supply of natural gas during 2017-18 as compared to 2016-17. During the year 2017-18, M/s Hindustan Oil Exploration Company Ltd (HOEC) has added natural gas to OIL's grid to the tune of 0.3 MMSCMD to 0.5 MMSCMD and the same has also improved the feedstock supply situation. It is expected that the gas production by HOEC would improve in coming days and the supply of the same has to be secured for BCPL/OIL to partially offset the short supply by M/s OIL.

2.28 as per advice of MoP&NG, a meeting between GAIL, BCPL, NRL and BPCL was convened on 23.03.2018 to discuss on the issue of Naphtha supply to BCPL by NRL. During the meeting, NRL agreed to supply 120,000 Tonnes per annum (TPA) of Naphtha henceforth to BCPL on 60:40 (60 by NRL and 40 by BCPL) freight sharing basis instead of present 50: 50. The above was agreed as an interim arrangement and was agreed to be reviewed after two years. The estimated additional implication to BCPL due to the arrangement of freight sharing is to the tune of Rs. 19 crore per annum. It is highlighted that the quantity agreed by NRL is the minimum guaranteed quantity and BCPL still has to source additional 40000 MT from elsewhere

(bearing full price and freight cost) to achieve full capacity. There shall be additional cost of around Rs.20-25 crore towards the same.

2.29 Taking into account sharing of availale transportation cost of Napatha obtained from NRL through outsourcing resulting in eating out of scare revenues of BCPL, the Committee expressed their concern in this regard and tried to know the alternative being explored by the BCPL to save resources from their Book of Profit. The Managing Director, BCPL submitted before the Committee as under:-

> *"As we have explained earlier also, an agreement has been reached with NRL. If we were to get naphtha from NRL, it would have cost us Rs. 500 per tonne. Now, since it is being brought from far away places, it comes to the tune of Rs. 5000. Having been driven to this situation, an agreement has been reached between both of us, that is, BPCL and NRL, that they will bear 60 per cent of the transportation cost and BPCL will bear 40 per cent. Of course, it will have an additional implication on BPCL to the tune of Rs. 13 crore but there being no alternative, we have agreed for it."*

2.30 To a post evidence query as to how the Department propose to overcome the problems of short supply of Naphtha by M/s Numaligarh Refinery Limited and about the reaction of Ministry of Petroleum and Natural Gas in the matter. The reply of the Department of Chemicls and Petrochemicals is reproduced beow :

> *" The matter of inadequate feedstock supply to BCPL has been repeatedly taken up with MoPNG and the concerned companies. Frequent review meetings have been taken by Secretary (C&PC) to monitor the situation. Due to the concerted efforts and D.O.letter dated 05.01.2018 from Secretary (CPC) which pointed that there is no basis of sharing of 50% additional transportation cost by BCPL as this is contrary to the provisions of the agreement entered into between NRL and BCPL. A meeting was held between NRL and BCPL on 23.03.2018 wherein it was agreed that the freight cost will be shared in the ratio of 60 : 40 between NRL and BCPL and NRL has agreed to supply 1,20,000 MT of Naphtha per annum (against the agreement quantity of 1,60,000 MTPA) as an interim arrangement. However, BCPL has to bear additional transportation cost of around Rs. 19 crore per annum due to this interim arrangement. Further, it is highlighted that the quantity agreed by NRL is the minimum guaranteed quantity and BCPL still has to source additional 40,000 MT from elsewhere (bearing full price and freight cost) to achieve full capacity. "*

2.31 To a post evidence query on the present level of supply of natural gas obtained by BCPL from various sources against its requirement and suggestions to overcome shortages / constraints in getting adequate quantity of natural gas for BCPL, the Committee were informed by the Department of Chemicals and Petrochemicals as given below :

> *"In the current year the average supply of natural gas by M/s OIL is 5.3 MMSCMD with C2+ content of 6.4 % against the contractual supply quantity of 6 MMSCMD with C2+ content of 7.1%. The shortfall in supply of natural gas by M/s OIL was approximately 41% during 2016-17 and 20% during 2017-18. The natural gas supply by M/s OIL constitutes around 61% of the total feed for the plant and the short fall in supply by M/s OIL has greater implication in terms of production and profitability loss.*
> *The situation of inadequate feedstock has been reviewed by the Department of Chemicals & Petrochemicals from time to time and the matter was taken up with Ministry of Petroleum and Natural Gas. There has been some improvement in the supply of natural gas during 2017-18 as compared to 2016-17.*

During the year 2017-18, M/s Hindustan Oil Exploration Company Ltd (HOEC) has added natural gas to OIL's grid to the tune of 0.3 MMSCMD to 0.5 MMSCMD and the same has also improved the feedstock supply situation. It is expected that the gas production by HOEC would improve in coming days and the supply of the same has to be secured for BCPL/OIL to partially offset the short supply by M/s OIL."

2.32 The Department of Chemicals and Petrochemicals, on being asked to state how it planned to overcome the short supply of natural gas to M/s BCPL and whether the matter was taken up with Ministry of Petroleum and Natural Gas, the Committee were informed as under :

"The matter of inadequate feedstock supply to BCPL has been repeatedly taken up with MoPNG vide D.O. letters dated 18.08.2016; 09.12.2016; 22.03.2017; 23.05.2017; 13.09.2017 and 05.01.2018 requesting them to issue necessary directives to ONGC/OIL for supply of adequate feedstock as per the agreement to BCPL. Besides, frequent review meetings have been taken by Secretary (C&PC) to monitor the situation. Due to the concerted efforts, there has been improvement in supply of natural gas in 2017-18 as compared to 2016-17. However, there is still shortfall of around 20% in gas supply by OIL to BCPL. MoPNG vide D.O.letter dated 25.04.2018 responded regarding measures undertaken to improve the supply of gas such as improvement in quality of gas despite decreased quantity due to decline in gas production profile in the fields, proposal of laying down of the gas pipeline and programme planned to explore availability of rich gas in existing wells and higher up zones."

2.33 The Ministry of Petroleum and Natural Gas, when asked to furnish their comments on the drawbacks in the feedstock arrangements for BCPL as compared to OPaL and IOCL and suggest measures for unencumbered supply of feedstock for BCPL, the Committee were informed as under :

" *The feedstock for polypropylene, i.e. Propylene is produced from Mixed Feed Cracker (Naphtha & Gas) in Petrochemical complex both at OPaL and BCPL. At Paradip propylene is produced from INDMAX (FCC) unit of refinery. IOCL project of Polypropylene at Paradip is under construction and expected to be commissioned by year end. Both at OPaL and BCPL, propylene availability depends upon operation of cracker based on the outsourced feedstock, whereas, at Paradip refinery, the feedstock for INDMAX unit is refinery residue, which is available from refinery.*

Further, ,it is submitted that BCPL is a land locked location, while both OPaL and IOC Paradip are situated in close proximity to ports. This impacts the feedstock availability. BCPL procures its natural gas feedstock from the Assam fields of ONGC and OIL, which are aging; and its naphtha feedstock from NRL, which is itself dependent on the limited crude production in Assam."

2.34 The Ministry of Petroleum and Natural Gas, when asked to furnish their comments on the prospects of exploring foreign markets for getting natural gas and naphtha and other feedstock for BCPL and its viability, their reply in the matter is reproduced below :

" The viability of sourcing of Natural Gas through extension of National Gas Grid or from foreign markets (e.g. Bangladesh, Myanmar) in future would depend on factors like pricing, laying of pipeline / capital investment etc.

Similarly, Naphtha of petrochemical grade may be imported from foreign markets depending upon the techno-commercial feasibility of this import.

BCPL may explore these options for supply of feedstock including gas and naphtha."

2.35 The Committee in their earlier sitting held on 24-01-2018 had recommended for setting up of Coordination Committee of stake-holders to sort out the problems being BCPL; In this regard, the Committee may be explained of the action taken in the matter.

"The proposal for constituting a Coordination Committee to discuss the interventions needed in respect of inadequate supply of gas to BCPL as per agreement, under the chairmanship of Secretary (CPC) with Secretary (MoPNG) as co-chairman, has been submitted for the approval of the competent authority. However, earlier on the basis of approval of competent authority, a proposal was sent to MoPNG for taking over the administrative control of BCPL and MoPNG has conveyed its 'in-principle' agreement to the proposal, vide OM dated 4.05.2018."

2.36 The Secretary, Department of Chemicals and Petrochemicals while appearing before the Committee on 26.04.2018 on the same subject elaborated the steps taken including the coordination mechanism among all the stake holders submitted as under

"The hon. Committee on 24th January, 2018, had suggested that a coordination committee be constituted of all the PSUs involved in the project. While this was being examined for taking further action, the Department under the orders of the hon. Minister took a decision that we must request the Ministry of Petroleum and Natural Gas to be the administrative Ministry for BCPL because all the PSUs who are involved in this, including GAIL, OIL, ONGC, etc., are under the administrative control of the Ministry of Petroleum and Natural Gas. So, the hon. Minister ordered that we must request the Ministry of Petroleum and Natural Gas to be the nodal Ministry, that means transferring the BCPL's control from this Department to the Ministry of Petroleum. This request was communicated to the Ministry of Petroleum and Mr. Sharma has been telling me that in principle, at the official level, perhaps they had agreed and then the approval of the hon. Minister is being sought. Perhaps the file has been submitted and if the hon. Minister of Petroleum also agrees to this suggestion, the administrative control of this BCPL would be transferred from the Department of Chemicals and Petrochemicals to the Ministry of Petroleum and Natural Gas."

2.37 While responding to a query of the Committee as to why the N-E region is not connected with the National Gas Grid in order to improve the availability of gas in the region, the Chairman, GAIL submitted beore the committee as under:-

"As far as bringing gas grid to upper Assam is concerned, there is a proposal right now in the Ministry of Petroleum. The first pipeline from Barauni in Bihar to Guwahati in Assam is being built by GAIL and we have already approved that project and that will be ready by December, 2020. Right now, survey work is going on and by the end of this year, construction work will start from Barauni to Guwahati but that will bring it up to only Guwahati. There is another scheme which is being taken up to connect all the seven North Eastern States. A North Eastern grid is being developed for which all the five or six PSUs like GAIL, IOC, ONGC, OIL, etc. are trying to set up a joint venture to set up a grid in the North East because it is not economically viable and it needs huge amount. It is almost Rs. 1500 crore. For the 500 kilometres pipeline will need roughly Rs. 6000 to Rs. 7000 crore of investment. Once that happens, only then gas can reach upper Assam upto

to Dibrugarh. So, it will take some time. Work has started but the question is how to make it viable. Now an investment of Rs. 5000 or Rs. 6000 crore just to feed gas to one plant will not be economically viable. It should be seen as a part of a larger picture of connecting all the States together."
He further submitted

"The BPCL plant was never conceived to have gas grid going to the North East. BPCL plant was conceived for supply of gas based on the gas produced within the North East and the crude naphtha produced North East. It is a different story that now that production is not happening. Sufficient production of gas and quality of gas are not coming up. Gas grid is a secondary story. It is not a part of the original scheme."

Captive plants for Butene-1 and hydrogenated Pyrolysis Gasoline

2.38 The Committee were informed about the difficulties in getting adequate quantity of Butene-1 for the plant operations during the course of the examination of the subject. In this context, the Department of Chemicals and Petrochemicals, when asked to elaborate on the steps taken for setting up of a captive plant for the production of Butane-1 at BCPL complex, the Committee have been furnished written reply inter-alia as under :

"Butene-1 is a raw material required as co-monomer for production of various grades of polymers for 220 KTPA LLDPE / HDPE Swing Unit. Based on the figures of annual consumption as per design, the total requirement of Butene-1 is estimated to be 8900 MT. The consumption of Butene-1 varies as per grade of polymer to be produced; e.g. about 50 MT/day (18000 MT per annum) Butene-1 is required for the film grade vis-a-vis requirement of 3-4 MT/day (1080-1440 MT per annum) for HD Raffia grade. For running Film Grade consistently at approx. 70-80% load, Butene-1 consumption is expected to be around 1500 MT per Month (18000 MT per annum) and with 90% load, the requirement would be about 1900 MT per month (22800 MT per annum). Currently Butene-1 requirement is catered by sourcing it from external domestic sources i.e. GAIL, Pata / Reliance / HPL/ OPaL on their best endeavor basis. BCPL has been put into a precarious situation in past by Butene-1 suppliers with their highly erratic supplies, hurting the operations of the entire complex. Therefore, in order to reduce dependency on external sources and for self-reliability, a Butene-1 plant of at least 10 KTPA is required.

Raw Pyrolysis Gasoline (RPG) is a by-product of BCPL's Cracker Unit which is partially hydrogenated to form Hydrogenated Pyrolysis Gasoline (HPG). The HPG produced at BCPL has high Benzene content due to which it cannot be directly used as raw material for Motor Spirit (MS) blending. At present BCPL has made interim arrangements with small hydrocarbon processors for evacuation of HPG at a lower realization. For sale of HPG, BCPL do not have any institutional customer for bulk evacuation due to high Benzene content of the product. Thus, looking into the inherent characteristics of HPG, which is carcinogenic and prone to adulteration in MS, a long term solution for safe and convenient evacuation of HPG along with better realization is required.

In order to meet the above requirements, BCPL has engaged M/s Engineers India Limited (EIL) to carry out a detailed feasibility study. M/s EIL has carried out the detailed feasibility study of Butene-1 and 2nd Stage HPG plant at Lepetkata, Assam. Based on the DFR submitted by EIL, BCPL has approached its Board for approval of the projects at an estimated cost of Rs. 359.80 crore (Rs. 243.06 crore for Butene-1 plant and Rs. 116.74 crore for 2nd Stage HPG plant)....."

2.39 To a post evidence query relating to constrains faced by BCPL in getting Butene-1 for its plants, the reply of the Department of Chemiclals and Petrochmicals is reproduced below:

> *"Butene-1 is a raw material required as co-monomer for the production of various grades of polymers. Availability of Butene-1 in India is in scarce and is largely meant for captive use. As BCPL does not have its Captive Butene-1 plant, which is invariably installed in most of the petrochemical plants, the same has to be purchased from external sources.*
>
> *To sustain the production, BCPL made all possible efforts to arrange this critical co-monomer from the available sources. The Company had initially tied up with GAIL on best endeavour basis. However, GAIL couldn't supply consistently due to their own consumption. Under the circumstances, after lots of efforts BCPL started procuring from HPL (in West Bengal), OPAL (in Gujarat) and RIL (In Gujarat). Recently, BCPL has added IOCL (in Haryana) as new source. International Competitive Bidding (ICB) was also floated but there was no response. Now, BCPL is exploring importing Butene-1 on spot purchase basis with storage & handling facility at port.*
>
> *The landed cost of Butene-1 to BCPL (excluding taxes) is Rs. 1,09,000/ MT which includes transportation cost of Rs. 17,000/MT."*

2.40 In April, 2018, the Department of Chemicals and Petrochemicals furnished updated background material on the subject and the extracts of relevant portions of the same are reproduced below :

> *".....The proposal for setting up of Butene-1 and HPG (2nd Stage) plant was put up to BCPL Board for approval. The Boardof Directors of BCPL deliberated on the agenda in detail. During deliberation on the proposal, it emerged that the investment is beyond the powers of BCPL Board in terms of DPE guidelines and would require approval of the Government. BCPL has submitted a detailed proposal for approval of the projects by the Department of Chemicals & Petrochemicals (DCPC). The funding of the project is proposedfrom debt and internal accruals and no budgetary support has been requested from Government. The proposal is being examined in the Department."*

2.41 The Committee expressed concern over the scarcity of Butene-1 for BCPL due to absence of captive Butene plant which is invariably installed in most of the petrochemical plants and its purchase from external sources involving funds crunch. The Managing Director, BCPL while appearing before the Committee submitted the following in this regard:-

> *"We already have taken action to set up this plant. DFR has been made. Financial appraisal is being done. We are planning to set up one Butene 1 plant and another one is hydrogenation of HPG plant. So, both the things are moving on the right track. We are taking action to install these two units."*

CHAPTER – III

PHYSICAL AND FINANCIAL PERFORMANCE OF BRAHMAPUTRA CRACKER AND POLYMER LIMITED (BCPL)

A. PROJECT COST

Assam Gas Cracker Project was approved by Cabinet Committee on Economic Affairs (CCEA) with a cost of Rs. 5460.61 crore on 18.04.2006. However, due to increase in the project cost owing to various reasons, CCEA on 16.11.2011 approved the Revised Cost Estimate (RCE-I) of Rs. 8920 crore and commissioning by December, 2013. The Revised Cost Estimate (RCE-I) of Rs.8920 crore (on "as built basis") was approved by the Cabinet Committee on Economic Affairs (CCEA) on 16th November, 2011 with revised funding pattern consisting of Capital Subsidy of Rs. 4690 crore, Debt Rs.2961 crore and Equity Rs. 1269 crore to be completed by July, 2013 and commissioned by December, 2013. The total funds released as Capital Subsidy to BCPL upto 2013-14 were Rs.4690.00 crore.

3.2 However, owing to further increase in project cost on account of time and cost overruns, owner's expenses, foreign exchange variation, price escalation, change in taxes and duties, under estimations in earlier DFRs, Engineers India Limited (EIL) fee, interest expenses etc.; BCPL's Board of Directors recommended the Revised Cost Estimate (RCE-II) of Rs.9965 crore against the approved cost of Rs.8920 crore with revised commissioning by December, 2015, with the following funding pattern :

a) Capital Subsidy - Rs. 5239.45 crore
b) Debt - Rs. 3307.88 crore
c) Equity - Rs. 1417.67 crore

3.3 The estimated increase of Rs.1045 crore was proposed to be funded by capital subsidy of Rs.549.45 crore, equity of Rs.148.67 crore and debt of Rs.346.88 crore. A draft PIB note containing the proposal of Revised Cost Estimate-II (RCE-II) was circulated to the concerned Ministries / Departments for their comments. The Ministry of Finance (Department of Expenditure conveyed its comments vide OM dated 28.03.2016 stating therein that as the increase in cost estimate is within the limit of 20% and absolute increas is more than Rs.100 crore, therefore, the approval forum is Minister in charge of the Administrative Ministry and there is no need of approval by RBI. The Project Appraisal and Management Division of, NITI Aayog also made a detailed appraisal of the project and endorsed the above view of Deptt of Expenditure on the steps to be taken for further necessary action i.e. appraisal of the project by FA and approval by FA and approval by the Minister-in-charge of the Administrative Ministry. As per advice of the Department of Expenditure Revised Project cost was approved by the department and other issues like feedstock subsidy, reimbursement of infrastructure development cost, etc. were referred to an Inter-Ministerial Committee (IMC) in July, 2016.

3.4 According to the company as on 31 March, 2016, it received the total sanctioned amount of Capital Subsidy of Rs.4,708.95 crore (including net interest earned thereon) from the

Government of India. Total secured loans as on 31 March, 2016 was Rs.2,959.30 crore. Out of a cumulative capital expenditure of Rs.9,845.84 crore a total exenditure of Rs.1,276 crore was incurred during the year. The authorised share capital of the company was Rs.2000 crore. Out of the total equity component only contribution from the Govt. of Assam amounting Rs.14.86 crore was to be received. The total secured loan as on 31st March 2017 was Rs.3,166.44 crore.

3.5 Based on the approval of RCE-II and additional capital subsidy of Rs. 549.45 crore (RCE-II), Ministry of Finance was approached which has allocated Rs. 100 crore under BE 2017-18, which has been released in May / June 2017. The balance amount of Rs. 449.45 crore is yet to be released.

3.6 Regarding impact of delay in release of balance amount of capital subsidy, the Committee were informed as under :-

> "*Against the request of BCPL for release of full amount of approved Capital Subsidy ofRs.549.45 crore, Government of India has released an amount of Rs.100 crore only in1st quarter of 2017-18. BCPL has been requesting for release of balance CapitalSubsidy of Rs.449.45 crore in RE 2017-18. However, no amount was released in RE2017-18 and further, even in BE 2018-19 there is no allocation for AGCP.The plant was commissioned on 02.01.2016 and all assets have been capitalized in thebooks of accounts. However, due to non-release of Capital Subsidy, BCPL has not been able to make payments to the vendors/ suppliers/ consultants etc. and the projectliabilities are outstanding. Further, due to non-availability of fund, BCPL is not able topurchase critical spares (part of project cost), which are very essential for plantoperation.*
>
> *The long pending project liabilities may lead to non-cooperation by critical vendors when their support is required during operation of the plant. Further, the possibility of litigation by the vendors also cannot be ruled out. These liabilities are a burden on the Balance Sheet and the financial ratios considered by the banks for monitoring of the company are adversely affected. The non-achievement of prescribed financial ratios, due to outstanding project liabilities, shall lead to imposition of penal/ additional interestby SBI. The project liabilities are current liabilities in the Balance Sheet of BCPL andthe same reduces the ability of BCPL to draw Working Capital Loan from Bank foroperation purposes. BCPL is in a very vulnerable situation as far as its financial health is concerned and requested to make early release of the balance Capital Subsidy at the earliest.*
>
> *The Department sought the balance Rs.449.45 crore as Capital Subsidy to BCPL in the first, second and also in fourth batch of supplementary Demands for Grants for 2017-18. During 4th supplementary Demands for Grants for 2017-18, a proposal regarding re-appropriation of funds from MH 2552 (North Eastern area) and MH 2852-Industries to 2852 (Industries) to the tune of Rs.15.41 crore under Demand No. 6 (DCPC) was sent/recommended. However, M/o Finance, D/o Economic Affairs vide U.O. note dated 30.03.2018 conveyed that the proposal has been regretted. The matter has again been taken up with Secretary (Finance) vide a D.O.letter dated 17.04.2018 from Secretary (C&PC), requesting therein to allocate the balance amount of Rs.449.45 crore as capital subsidy for AGCP in the current financial year i.e. 2018-19."*

*3.*7 Further, supplementing the reasons for not giving Rs. 449.45 crore as balance of the sanctioned capital subsidy share of Rs. 5239.45 crore, the Secretary, Department of Chemicals and Petrochemicals elaborated the steps taken by the Department as under:-

"Sir, we are equally very concerned about it. In fact, this Department had been repeatedly taking up the matter with the Ministry of Finance for second Supplementary, third Supplementary and fourth Supplementary. But unfortunately, the Ministry of Finance did not approve it. Even for the current year, 2018-19, even for BE, unfortunately no allocation has been made. I had written a personal DO letter to the Secretary, Department of Expenditure requesting that this amount of about Rs. 450 crore must be given because this is the liability on the part of the Government of India and we want to make this project totally viable and fully functional. So, now I got a communication that they have referred our request to the Budget section. JS (Budget) has been asked to look into this matter. I will again go and personally meet them. We have been fully apprising them of the need for releasing this money."

3.8 To a query regarding progress achieved in the efforts to get balance amount of subsidy of Rs.449.45 crore released to BCPL and reasons for delay, the Committee were informed as under :

"Against the request of BCPL for release of full amount of approved Capital Subsidy of Rs.549.45 crore, Government of India has released an amount of Rs.100 crore only in 1st quarter of 2017-18. BCPL requested for release of balance Capital Subsidy of Rs.449.45 crore in RE 2017-18.

The Department sought the balance Rs.449.45 crore as Capital Subsidy to BCPL in the first, second and also in fourth batch of supplementary Demands for Grants for 2017-18. During 4th supplementary Demands for Grants for 2017-18, a proposal regarding re-appropriation of funds from MH 2552 (North Eastern area) and MH 2852-Industries to 2852 (Industries) to the tune of Rs.15.41 crore under Demand No. 6 (DCPC) was sent/recommended. However, M/o Finance, D/o Economic Affairs vide U.O. note dated 30.03.2018 conveyed that the proposal has been regretted. For the year 2018-19, there is only token allocation for BCPL. The matter has again been taken up with Secretary (Finance) vide a D.O.letter dated 17.04.2018 from Secretary (C&PC), with request to allocate the balance amount of Rs.449.45 crore as capital subsidy for AGCP in the current financial year i.e. 2018-19. In response, M/o Finance, D/o Expenditure forwarded the matter to Budget Division, D/o Economic Affairs (DEA). Accordingly, the matter has been taken up with Budget Division, DEA vide D.O. letter dated 03.05.2018. "

B. PHYSICAL PERFORMANCE

Plant Operation

3.9 After commissioning of the plant on 02.01.2016, intermittent production commenced thereafter. While, the stabilization of any large integrated petrochemical plant takes 9 to 12 months, the plant took nearly 8 months for stabilization after commissioning on 02.01.2016. There was no provision for stabilization expenses in the approvals of the cost estimates. The low capacity utilization during the initial months was on account of plant stabilization issues, thereafter, the plant was stabilized to a large extent.

3.10 Soon after stabilization, the plant operation got affected due to issues like inadequate supply of natural gas both in terms of quantity and quality by M/s OIL and inadequate supply of naphtha by M/s NRL. Due to higher demand of a particular grade of polymer, the consumption of Butene-1, a co-monomer, increased to a higher level. As BCPL does not have its Captive Butene-1 plant, which is invariably installed in most of the petrochemical plants, the same has to

be purchased from external sources. There has been shortage of Butene-1 for the plant as the same is a scarce chemical, produced mostly through Captive units.

3.11 The Brahmaputra Crackers and Polymer Limited has stated that since the dedication of the BCPL plant to the nation by the Hon'ble Prime Minister of India on 5th Februray, 2016, the performance of the Assam Gas Cracker Project has progressed by leaps and bounds and is presently stabilized fructifying the dreams of the local populace of using the hydrocarbons available in the region for its development as envisaged in the Assam Accord of 1985.

Capacity Utilization

3.12 As regards the level of production capacity of Brahmaputra Crackers and Polymers Limited, the Committee were informed that during the FY 2017-18, the plant operated at average capacity utilization of 78%. The maximum capacity utilization was in the month of March, 2018 (118%) while the minimum capacity utilization was 71% in February, 2018. The plant was under maintenance shutdown during October, 2017.

3.13 The Department of Chemicals and Petrochemicals has stated that the performance of BCPL due to issues pertaining to feedstock is being very closely reviewed from time to time. The performance of BCPL from October, 2016 to September, 2017 with reference to various parameters is as under :

	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	June-17	July-17	Aug-17	Sep-17
Capacity Utilization	32%	47%	15%	59%	70%	81%	80%	86%	73%	93%	100%	76%
Production (in MT)	7236	10624	3482	13273	15805	18279	18113	19317	16544	21050	22686	17124
Sale (in Rs. Cr) (net of excise Duty/GST)	81	26	114	78	167	135	96	194	185	118	222	189

3.14 BCPL is putting all efforts to enhance the capacity utilization. Various alternative measures viz arrangement of naphtha from M/s HPCL, arrangement of Butene-1 from various sources, arrangement of propylene from other source etc. have been taken by BCPL for ensuring sustained operation of the plant. As a result, the capacity utilization has remarkably improved since February, 2017 and the company has been able to book cash profits. In the financial year 2017-18, the plant is operating with average capacity utilization of around 78% and in the month of August 2017 and in March 2018, the plant achieved 100% capacity utilization. Till date 2,15,762 MT of polymer has been produced and 2, 10,128 MT of polymer has been sold. The product of BCPL has been well accepted in the market. In terms of major MoU parameters like production, sales and reduction in losses, BCPL is ahead of the targets finalized for 2017-18.

3.15 Regarding the steps taken to achieve 100% capacity utilization, the Committee were informed as under :

"BCPL was commissioned successfully in Jan'2016. After commissioning plant was under stabilization and capacity utilization was largely affected due to initial operational teething problems & product grade changeover for ascertaining plant operations with different polymer grades which are inevitable in any newly commissioned Petrochemical Plant. After stabilization of the plant, capacity utilization was impacted due to inadequate feed stock & Butene-1 availability.

To achieve optimum capacity utilization, the issues relating to inadequate supply of feed stock has been taken up with concerned oil companies by Department of Chemicals and Petrochemicals (DCPC). Ministry of Petroleum & Natural Gas (MoP&NG) has been requested time and again by DCPC to look into the matter and issue necessary instructions to its oil PSUs - ONGC NRL and OIL for honouring the agreement entered as per directions of the CCEA, to supply requisite feedstock to BCPL as per the respective agreements. The matter is being monitored very closely by DCPC.

Besides, to tackle the situation of inadequate supply of naphtha by NRL, BCPL has arranged for naphtha from M/s HPCL, Vizag. For Butene-1, BCPL has tied up with M/s GAIL, M/s OPaL, M/s HPL to meet the monthly requirement. Apart from these, Buetne-1 is also procured from M/s RIL on spot purchase basis. Tying up with multiple sources, for supply of Butene-1 has helped in sustaining continuous operations of the plant. Further, to augment the production in Poly Propylene Unit the situation of inadequate supply of feedstock, BCPL has been procuring propylene from M/s GAIL."

3.16 The month-wise and year-wise details of quantum of polymers and other by-products produced, sold and income earned by BCPL from Jan-2016 onwards since commissioning of the project on 02-01-2016 are appended below:

Year	Month	Quantum of Polymers produced (MT)	Quantum of Polymers sold & income earned		Quantum of other by-products Produced (MT)	Quantum of other by-products Sold and income earned		Polymers and other by-products held in inventory
			Sales (MT)	Sales (Rs. Cr)		Sales (MT)	Sales (Rs. Cr)	
* FY 2015-16		3,349	223	1.63	990	484	0.06	Polymer-3126 MT By-Product- 506 MT
FY 2016-17	April'16	5787	146	2.44	865	662	1.25	Polymer - 13,896 MT By-Product - 2,412 MT
	May'16	673	562	4.96	714	183	0.34	
	June'16	4133	4156	37.86	184	586	1.11	
	July,16	8372	2184	23.31	541	340	1.64	
	Aug'16	4493	3077	30.86	595	640	1.70	
	Sept'16	7363	4451	37.57	506	752	1.57	
	Oct' 16	6247	9462	80.84	701	1107	2.09	
	Nov'16	10248	3000	28.34	928	1256	2.36	
	Dec'16	4665	14060	115.95	942	759	2.43	

	Jan'17	13993	9228	86.38	1923	1775	3.34	
	Feb' 17	14414	18245	167.32	2391	2455	4.78	
	March'17	19152	18310	134.98	3840	2302	5.07	
	Total	**99540**	**86880**	**750.80**	**14129**	**12817**	**27.69**	
FY 2017-18	April'17	18113	10746.38	86.96	4439	4222.22	10.13	Polymer - 18,558 MT By-Product - 1,816 MT
	May'17	19317	22106.38	176.195	3955	5137.45	11.11	
	June'17	15715	20897.3	171.64	2925	3880.77	10.51	
	July'17	21880	14050.23	107.298	3277	2831.77	8.04544	
	Aug'17	22746	27027.41	205.148	4372	2918.09	8.39961	
	Sept'17	17065	22352.07	174.74	3792	4147.01	11.6079	
	Oct'17	2338	4227.791	34.12	348	1936.28	4.39	
	Nov'17	16827	11333.25	92.2662	3177	3189.8	8.78509	
	Dec'17	17010	19272.42	146.472	3601	3673.41	11.1105	
	Jan'18	18737	17364.79	138.13	3830	3717.86	10.0405	
	Feb'18	16274	12627.32	102.758	3583	3435.23	11.0277	
	March'18	26549	23219.61	192.344	5268	4274.01	15.4433	
	Total	**212569**	**205225**	**1628**	**42565**	**43364**	**120.60**	

* After commissioning in Jan'2016 the plant was running intermitently, therefore total production and sales for the FY 2015-16 is mentioned

Based on production of prime grades of polymers/machine waste/plant sweep/ground sweep/lumps intventories are reconciled annually

Year/Month	Quantum of Polymers produced (MT)	Quantum of Polymers sold & income earned		Quantum of other by-products Produced (MT)	Quantum of other by-products Sold and income earned		Polymers and other by-products held in inventory
		Sales (MT)	Sales (Rs. Cr)		Sales (MT)	Sales (Rs. Cr)	
FY 2015-16	3,349	223	1.63	990	484	0.06	Polymer-3126 MT By-Products-506 MT
FY 2016-17	99,540	87,012	750.80	14129	12816.55	27.69	Polymer-13,896 MT By-Products-2,412 MT
FY 2017-18	2,12,569	2,05,275	1628.07	42565	43363.9	120.60	Polymer-18,558 MT By-Products-1,816 MT
Total	**3,15,458**	**2,92,510**	**2380.50**	**57684**	**56664.45**	**148.35**	

C. FINANCIAL PERFORMANCE

Revenue from Operations

3.17 The details of revenue earned by the BCPL from plant operations during 2015-16 and 2017-17 as stated by the company are as given below :

(Rs. In lakh)

Sl No.	Particulars	As at 31 March, 2015	As at 31 March, 2016	As at 31 March, 2017
1.	Sale of HDPE / LLDPE	--	176.31	69,474.76
2.	Sale of Polypropylyne	--	9.21	9,427.97
3.	Sale of HPG,CBFS, Slop oil, etc.	--	6.92	2,769.32
4.	Sale of Services	--	--	--
5.	Other Operating income	--	--	--
Total		**--**	**192.44**	**81,672.05**
Less Excise Duty / discount on sales		**Nil**	**(-2.299) 169.45**	**(3,822.94) 77,849.11**

Profit / Loss from Plant Operations

3.18 The company has stated that during the period of three months in 2015-16, it incurred a loss of Rs.270.23 crore with a turnover of Rs.1.69 crore excluding excise duty. The BCPL has stated that it has sought revenue subsidy of Rs.26 crore for the initial one year of production to maintain DSCR-1 (DSCR-Debt Service Coverage Ratio) and in-principle approval for feedstock subsidy to maintain minimum IRR (Internal Rate of Return) of 10% during the plant operation period duly recommended by the Board of Directors was submitted to the administrative Ministry for approval of the Government of India.

3.19 Replying to a query of the Committee as to why a PSU like BPCL is not making profits vis-a-vis private enterprises operating in the same sector, the Chairman BPCL submitted as under:-

> *"Sir, you should appreciate the Genesis of this plant. I am associated with this plant for more than a decade. This plant was conceived as a part of Assam Accord. It was given to the two major private players. They left it; they never constructed it; it was kept for five years with them. Then second party came and they did not do it. Later on, it was given to GAIL in 2006. GAIL has 70 per cent equity in this. We have come forward to set up this plant. Today, this plant is making profit even at the current situation. This plant will make more profits. So, private sector has never taken any initiative and they did not do it. It is not the question of any private sector companies making profits. Nobody can make profits with this kind of plant."*

3.20 In the year 2016-17, despite improvement in production, on account of losses incurred in previous months, the cash flow situation remained critical with huge outstanding liabilities and loan repayments with a cumulative cash loss of Rs.820.14 crore upto the end of the financial year 2016-17. To meet the cash deficit, incurred due to reasons beyond control of BCPL, a onetime revenue subsidy of Rs.678.74 crore has been requested from the Government of India. During the year 2016-17, the company incurred a net loss of Rs.547.60 crore with a turnover of 778.49 crore.

3.21 To a post evidence query seeking information regarding total amount of investment made for setting up of BCPL as on 02 January, 2016, the following details have been furnished by the Department of Chemicals and Petrochemicals :

1. **Total amount of investment made for setting up of BCPL as on 02 January, 2016 including loans taken and capital subsidy grants separately.**

As on 02.01.2016, the total Capital expenditure was Rs. 9170.05 crore. The details of funding received as on 02.01.2016 is given below:

	Amount (Rs. in Cr)
Capital Subsidy	4708.95 (including interest)
Equity	1173.71
Loan	2813.43
Total	8696.09

3.22 To a query regarding physical and financial performance of BCPL for 2017-18 including assets and outstanding liabilities of BCPL as on date, the Department Chemicals and Petrochemicals submitted the following details :

"The physical and financial performance of BCPL in 2017-18 as compared to 2016-17 is summarized below:

Particulars	**FY 2016-17**	**FY 2017-18 (Provisional & Unaudited)**
Capacity Utilization	37%	78%
Production (MT)	99,540	2,12,569
Sales(MT)	87,012	2,05,275
EBIDTA (Rs. Cr)	-185	332
Cash Profit (Rs. Cr.)	-455	49
Net Profit(Rs. in Cr)	-547	-90

The details of Assets and Liabilities of BCPL as on 31.03.2018 are summarized below:

(all figures in Rupees crore)

	As at 31st March 2017	**As at 31st March 2018 (provisional & unaudited)**
Assets		
Net Fixed Assets	8,645.85	8,316.85
Other Non-Current Assets	157.47	99.43
Total Non-Current Assets (i)	**8,803.32**	**8,416.28**
Current Assets (ii)	**692.60**	**874.38**
Total Assets (i) + (ii)	**9,495.92**	**9,290.66**
Liabilities		
Share Capital	1,402.80	1,402.80
Retained earnings	-822.85	-912.85
Total Shareholder funds	**579.95**	**489.95**
Capital Grant (After Amortization)	4,455.50	4,268.50
Deferred Tax Liability	60.35	-
Term Loans		
OIDB	1,290.80	1,321.87
RTL-1 (SBI)	1,699.00	1,664.99
Working Capital Loan	184.75	273.86
Short term Loans	250.00	250.00
Project Liability	706.69	717.51
Current Liability (Trade Payable)	389.58	303.98
Total Liabilities	**9,495.92**	**9,290.66**

(Source: Brahmaputra Cracker and Polymer Limited)

3.23 To a post evidence query relating to interest burden and overall profit / loss of the company, the reply furnished by the Department of of Chemeicals and Petrochemicals are as under :-

1. **Total amount of investment made for setting up of BCPL as on 02 January, 2016 including loans taken and capital subsidy grants separately.**

   As on 02.01.2016, the total Capital expenditure was Rs. 9170.05 crore. The details of funding received as on 02.01.2016 is given below:

	Amount (Rs. in Cr)
Capital Subsidy	4708.95 (including interest)
Equity	1173.71
Loan	2813.43
Total	8696.09

2. **Net worth of assets of BCPL as on 02 January, 2016 and that on 31 March, 2017 & 31 March, 2018.**

   The details are furnished below:

Net Worth as on	**Amount (Rs. in Cr)**
31.03.2016	5543.87
31.03.2017	5035.45
31.03.2018	4885.51

3. **Amount of interest become due on loans taken by BCPL and interest paid by BCPL as on 31-03-2016; 31-03-2017 and 31-03-2018 including the accumulated interest burden as on 31-03-2018**

   The details are furnished below:

Year	**Interest due and paid (Rs. in Cr)**
2015-16	67.97
2016-17	302.76
2017-18	278.89
Total	649.62

4. **Overall Profit / loss of BCPL for the annual period ending on 31-03-2016; 31-03-2017 and 31-03-2018**

The details are furnished below:

Year	**Net Profit (+)/ Loss (-) in Rs. Cr**
2015-16	(-) 270.23
2016-17	(-) 547.40
2017-18	(-) 80.39
Total	(-) 898.02

3.24 In reply to query seeking details regarding income earned / losses incurred by GAIL, OIL, and NRL through BCPL during the last two years, the Ministry of Petroluem and Natural Gas in their reply stated as under :

"As per available information, BCPL is a JV company promoted by GAIL(70%), OIL(10%), NRL(10%) and Govt of Assam (10%). Hence the income earned /losses incurred by

BCPL are distributed among the promoters in proportions to their equity holdings. The details of income earned/losses incurred as per audited results for last 2 years are as below:-

(Rs in Lakh)

Income earned by BCPL	***2015-16***	***2016-17***	***Remarks***
Dividend declared	*Nil*	*Nil*	*No Income to Promoters*
Loss incurred by BCPL	***2015-16***	***2016-17***	***Remarks***
Loss declared	*27,251*	*54,741*	*These losses will be borne by promoters in proportion to their equity holdings*

D. EMPLOYMENT POTENTIAL OF THE PROJECT

3.25 The total sanctioned manpower in Brahmaputra Crackers and Polymers Limited is 700 including 491 executives and 209 non-executives. The BCPL has also stated that demands from the Project Affected Persons (PAPs) / locals and several other organisastions for employment in the company have been addressed effectively in the interest of the project. Projects affected persons persons have been engaged in various unskilled category jobs with various contractors.

3.26 The employee strength of the company as on 31 March 2017 was 576 including 389 executives and 187 non-executives. 68.8% of the employees were from the north-eastern region. Further, 66 executives were on deputation from the holding company Gas Authority of India Limited (GAIL).

3.27 At present, the project has generated direct employment for around 650 personnel and employment for around 2600 on outsourced basis inside the project complex. Apart from this, employment generation is expected to get a boost through setting up of downstream plastic processing industries & ancillaries in the Northeast region, which will take the BCPL products as their raw material. It is worth mentioning that the consumption of BCPL's polymer in NE region has increased from 500 MT per month to 2000 MT per month in a period of one year.

High Attrition Rate and Employee Retention

3.28 BCPL is a highly ambitious project of the region and is being closely monitored by the Government of India and Government of Assam owing to its socio-economic importance. In the recent past more than 100 trained and experienced employees have left the company. High attrition rate among employees are primarily due to higher pay package in similar PSUs operating in the Industry. Further, people are less attracted to work in North-East due to its geographical remoteness. To sustain the plant operation, the attractiveness of the company in terms of pay scale has to be maintained for retaining experienced manpower and attracting suitable human resources. To bring some respite to the situation, the Board of Directors has upgraded the pay-scales of executives and Government of India has also approved Superannuation benefit scheme for the employees. The proposal regarding pay revision of the

scale of pay of Board level Executives and Non Unionized Supervisors of Central Public Sector Enterprises (CPSEs) w.e.f. 01.01.2007 is being examined in the Department w.r.t. existing guidelines of Department of Public Enterprises.

3.29 The Department of Chemicals and Petrochemicals when asked to about the extent of success achieved in the objective of setting up of Assam Gas Cracker Project to provide job opportunities to the unemployed local youth and provide raw material to the local down-stream plastic industry in the region, the Committee were replied as under :

> *"At present, the project has generated direct employment for around 627 personnel and employment for around 2600 on outsourced basis inside the project complex. Apart from this, employment generation is expected to get a boost through setting up of downstream plastic processing industries & ancillaries in the Northeast region, which will take the BCPL products as their raw material. It is worth mentioning that the consumption of BCPL's polymer in NE region has increased from 500 MT per month to 2000 MT per month in a period of one year. Further, the number of plastic processing units in NER has increased from 123 to 187 in last 2-3 years.*
>
> *Various initiatives are being taken by the Government of India and the Government of Assam towards development of downstream plastic processing units. Government of India and Assam are developing an integrated plastic park at Tinsukia, Assam (60 km. away) through Assam Industrial Development Corporation (AIDC). The plastic park is expected to attract entrepreneurs to set up downstream plastic processing units to utilize the polymers produced at BCPL, Lepetkata which is located in the vicinity, thus substantially reducing the transportation cost of the same."*

3.30 Allaying the concern of the Committee regarding the quantum of employment envisaged to be generated by the BCPL Project the Chairman BCPL enumerated the following reasons responsible for not picking up requisite employ:-

> ***"****As far as this plant is concerned, we have fulfilled our obligations and we are still fulfilling. There has to be a secondary industrialisation for downstream industry to set up the units. Until and unless they do that, the larger aspiration, which you are mentioning, cannot be met, because in such a state-of-the-art, automated technology plant, you cannot have large number of labour force there and it was never envisaged also. We have committed to the planning. Now the State Government is to take initiative for downstream industries, polymer park, polymer policy, fiscal incentive and promotional schemes which are needed to meet the aspiration."*

CHAPTER – IV

AN APPRAISAL ON VIABILITY OF 'ASSAM GAS CRACKER PROJECT'

A. GROWTH PROSPECTS OF POLYMER PRODUCING COMPANIES

Indian Petrochemical Industry and Market

Petrochemicals constitute a very important segment of world chemicals market, with a share of nearly 40 percent. Petrochemicals, comprising of plastic and numerous other chemicals, are downstream hydrocarbons derived primarily from crude oil and natural gas as feedstock. Among the various fractions produced by distillation of crude oil,petroleum gases, naphtha, kerosene and gas oil are the main feedstocks for the petrochemical industry. Unconventional feedstocks are also gradually coming up like shale gas, coal, CBM and pet coke. Olefins including Ethylene & Propylene and Aromatics including Benzene & Xylene isomers constitute the two main classes of petrochemical raw materials.

4.2 The BCPL has stated that despite disadvantages of scale, the Indian petrochemical industry has evidenced significant growth and the total petrochemical market is valued at $ 28 Bn in FY 2014-15 and is expected to grow at a rate of 9% to reach $ 44 Bn by FY 2020. Within the industry, plastics and polymers evidenced maximum growth. Commonly used polymers include Polypropylene (PP), Poly vinyl chloride (PVC), Polystyrene (PS), Polyethylene (PE) and Acrylonitrile Butadiene Styrene (ABS). PE again is of three types - High Density Polyethylene (HDPE), Low-Density Polyethylene (LDPE), Linear Low Density Polyethylene (LLDPE). PP with a production growth of approximately 20% has undoubtedly been the fastest growing Polymer.

4.3 The primary products of BCPL are PP, LLDPE and HDPE, which are are essentially used in the manufacture of plastic products. With the commissioning of the OPaL Dual Feed Cracker Unit, there are presently five naphtha and five gas based cracker complexes in the country with a combined annual ethylene capacity of 5.1 million MT. There are six aromatic complexes with a combined Xylene capacity of 4.45 million MT. Besides, there are six Petro Fluid Catalytic Cracking Units with a combined propylene capacity of 1.7 million MT.

4.4 Taking into account a report of Crisil Research that the domestic petrochemical capacity is estimated to expand at 2.5-3.5% CAGR between 2016-17 and 2021-22 lagging 8-9% pace in demand growth and that the scope for polymer capacity addition is constrained by the availability of olefins feedstock due to lack of enough cracker capacity, Committee sought to know about the margin of profit in the production of polymers from different type of hydrocarbons as compared to their other usage like fuels etc. In this regard, the Department of Chemicals and Petrochmicals furnished reply as under :

> *" The margin of profit in production of polymer depends on the type and price of feedstock used. The feed for manufacturing polymer are C2+ liquid (from natural gas) and naphtha.*

The polymers are high value added products as compared to natural gas and naphtha (the raw material).

Typically, the price of naphtha (Rs. 38000/ MT at present) is around 9-10% higher than the crude price and the polymer price ranges between Rs. 85,000/MT to Rs.95,000/ MT. Similarly, the price of C2+ liquid varies between Rs. 18,000/ MT to Rs. 25,000/ MT depending upon the price of natural gas. Further, profitability varies as per plant capacity utilisation and conversion cost.

Polymers are certainly high value added products compared to other usage of hydrocarbon as fuels etc."

Development of Downstream Industries

4.5 Various initiatives are being taken by the Government of India and the Government of Assam towards development of downstream plastic processing units. Government of India and Assam are developing an integrated plastic park at Tinsukia, Assam (60 km. away) through Assam Industrial Development Corporation (AIDC). The plastic park is expected to attract entrepreneurs to set up downstream plastic processing units to utilize the polymers produced at BCPL, Lepetkata which is located in the vicinity, thus substantially reducing the transportation cost of the same.

Joint efforts are being made by Ministry of Chemicals and Fertilizers, Department for Development of North-Eastern Region (DONER), Ministry of Micro, Small & Medium Enterprises (MSME), Government of Assam, GAIL and BCPL for development of the downstream industries for overall development of the region and Judicious utilization of the higher fractions of Natural Gas for value addition.

Production and Consumption of Polymers

4.6 According to BCPL, despite the growth witnessed in the Indian petrochemical market, domestic production lags far behind consumption ; opening up a major market for imports. Domestic manufacturing is now being promoted through a new policy of the Government for setting up National Investment and Manufacturing Zones (NIMZs) which are a combination of production units, public utilities, logistics, residential areas and administrative services. The Indian Government has also recently increased import duty on polymers from 5% to 7.5% to encourage domestic production. As an 'enabler' industry providing critical inputs to all major sectors of the economy, these developments provide major impetus for the growth of the polymer industry in the country where the per capita consumption is as low as 8 kg compared to the global average of 28 kg.

4.7 As regards types of polymers produced / imported and marketed in the country, the share of BCPL on the same and the level of competition faced by BCPL, the reply of the Department of Chemicals and Petrochemicals is reproduced below

"The details in the prescribed format for the year 2016-17 are as below:-

Sl. No.	***Name of Polymer***	***Annual Demand* (in MT)***	***Annual Supply /Total Domestic Production (in MT)***	***Share of Polymers produced/ marketed by BCPL (in MT)***	***Quantum of Import (in MT)***
1	*Linear Low Density Polyethylene*	*17,09,501*	*13,18,000*	*84,127*	*3,91,501*
2	*High Density Polyethylene*	*23,72,315*	*15,20,000*		*10,00,457*
3	*Low Density Polyethylene*	*6,44,166*	*2,02,000*		*4,69,075*
4	*Polyestyrene (PS)*	*2,72,832*	*3,11,000*		*44,374*
5	*Polypropylene (PP)*	*44,59,954*	*42,53,000*	*15,413*	*7,81,188*
6	*Poly Vinyl Chloride (PVC)*	*31,58,368*	*14,62,000*		*17,02,852*
7	*Expandable Polystyrene (EX-PS)*	*97,082*	*97,000*		*3,779*
	Total	***127,14,218***	***91,63,000***	***99,540***	***43,93,226***

(Source:'Chemical and Petrochemical Statistics at a Glance - 2017' published by Statistics and Monitoring Division, Government of India, M/o Chemicals & Fertilizers, D/o Chemicals and Petrochemicals)

**(Based on Domestic Production Capacity + Import – Exports)*

The polymers are of different grades and each grade has its own market. The import of polymers is due to requirement of special grades of polymers which are not manufactured locally and also due to price advantage.

The polymers have been substituting wood, metals, ceramics, etc. in various kinds of applications. There is also competition from recycled plastic materials including imported recycled material. However, the same is utilized for lower grade products vis-a-vis virgin polymers.

The details of capacity of polymer producing companies for PE and PP polymers are as given in the table below. There is a good market for polymers in the country. BCPL's polymer products have penetrated in the market and are well accepted. Therefore, BCPL is operating under competitive environment similar to other producers in the market.

Product (MMTPA)	***GAIL***	***MRPL***	***OPAL***	***RIL***	***BCPL***	***IOCL***	***HMEL***	***HPL***	***Total***
Polyethylene	***0.81***	***-***	***1.06***	***1.18***	***0.22***	***0.65***	***-***	***0.67***	***4.59***
Polypropylene	***-***	***0.44***	***0.34***	***2.75***	***0.06***	***0.65***	***0.44***	***0.34***	***5.02***
Total Poly-olefin	***0.81***	***0.44***	***1.4***	***3.93***	***0.28***	***1.3***	***0.44***	***1.01***	***9.61***

4.8 Regarding the level of capacity utilization of polymer producing companies in the country, the reply of Department of Chemicals and Petrochemicals is as given below :

" Details of production capacity of PE and PP polymers and level of capacity utilization for the year 2016-17 and 2017-18, are mentioned in the table below:

Product (MMTPA)		GAIL	MRPL	OPAL	BCPL	IOCL	RIL	HMEL	HPL	Total
Polyethylene		0.81	-	1.06	0.22	0.65	1.18	-	0.67	4.59
Polypropylene		-	0.44	0.34	0.06	0.65	2.75	0.44	0.34	5.02
Total Poly-olefin		0.81	0.44	1.4	0.28	1.3	3.93	0.44	1.01	9.61
Percentage of capacity utilization for the year*	2016-17	64%	61%	4.5%	39%	54%	93%	94%	89%	69%
	2017-18	70%	66%	46.5%	76%	100%	84%	73%	88%	79%

Except BCPL & OPAL, all data has been sourced from Chemicals and Petrochemicals Manufacturers' Association (CPMA). OPAL has provided the data itself. "

4.9 When asked to furnish a comparative analysis of the cost price of polymers produced in the country with that of imported polymers along with details regarding level of import substitution brought about by the polymers produced by BCPL and the amount of annual foreign exchange savings facilitated by BCPL since its commissioning, the reply of the Department of Chemicals and Petrochmicals is reproduced below :

" The total cost of production of BCPL's polymer is around Rs. 85,444/ MT. The sale price of polymer is determined on Import Parity Basis with adjustments of market demand. The price of a particular grade of polymer is determined based on its price at a certain Port and thereafter, the transportation costs (from port) are added to work out the pricing at a location.

The imports are both due to price advantage and requirement of special grades of polymers which are not manufactured locally.

After commissioning in January, 2016, BCPL has produced a total of 3,33,877 MT of polymer so far which has helped in meeting the domestic requirement of certain grades of polymer. With the entry of BCPL in domestic polymer market there is a total foreign exchange saving of around Rs. 2800 crore (approximately USD 430 million).

4.10 In regard to a query relating to growth prospects of polymer producing companies of the country, the Department of Chemicals and Petrochemicals, furnished their comments as under :

" In the Chemical sector, the Petrochemical Industry is based on feedstock derived from crude oil and natural gas. Naphtha (used for production of Urea, Aromatics and Olefins), Heavy Gas Oil (propylene and ethylene) and Kerosene (Linear alkyl Benzene) are derived from crude oil. Steam cracking / Catalytic Reforming of low and high aromatic naphtha in oil refineries provide Olefins (Ethylene, Propylene and Butadiene) and Aromatics (benzene, toluene and xylenes). Consumption of naphtha in Petrochemical sector has increased from 10,134 thousand tonne in 2009-10 to 13,254 thousand tonne in 2016-17. Off take of natural gas for petrochemical sector has increased from 1,264 million standard cubic meters to 4,170 million standard cubic meters during the same period. Keeping in view the increased consumption of feedstock in Petrochemicals sector as a whole and level of capacity utilization of polymer producing companies in both public and private sector (as per available data), it may be safely presumed that there is a good future scope of polymer producing companies in the country.

However, at the same time, the total import of major Petrochemicals has increased from 21,59,886 MT in 2009-10 to 44,52,258 MT in 2016-17. In value terms, the imports have increased from Rs. 11,88,440 lakh in 2009-10 to Rs. 32, 67,230 lakh in 2016-17.

Against this, the total export of major Petrochemicals has increased from 6,57,572MT in 2009-10 to 9,12,124 MT in 2016-17. In value terms, the exports have increased from Rs. 3,60,065 lakh in 2009-10 to Rs. 6,67,432 lakh in 2016-17.

As per import and export statistics given above, as the trade gap continues to widen and imports increase due to prize advantage and requirement of special grades of polymers which are not manufactured locally, the Indian Petrochemical Industry has to be cost competitive, work in tandem, focus on research and development and operate in an environmentally acceptable manner, to improve its scope.

(Source: 'Chemical and Petrochemical Statistics at a Glance - 2017' published by Statistics and Monitoring Division, Government of India, M/o Chemicals & Fertilizers, D/o Chemicals and Petrochemicals). "

4.11 The Ministry of Petroleum and Natural Gas was asked to furnish details regarding the margin of profit per unit in the production of different type of hydrocarbon derivatives from natural gas / crude oil and to state about the value addition involved in the production of polymers from naphtha / other hydrocarbon derivatives. In this regard, the reply received from the Ministry is reproduced below :

" Refining of crude oil is a process industry where crude oil constitutes around 90% of the total cost. Crude oil is processed through several processing units. Each of these units produces intermediate product streams, which require further reprocessing and blending. As it is difficult to apportion the total cost amongst individual refined products, product-wise costs are not identified separately."

B. PRODUCT MARKETING BY BCPL

4.12 BCPL has entered in to a Marketing Agreement with M/s GAIL for marketing of its products and by-products. A marketing margin @ 2.4% of net sale is payable by BCPL to GAIL for the same. BCPL uses the established marketing network of GAIL for marketing of its products and by-products. The Consignment Stockiest of GAIL are appointed by BCPL for its marketing and the sales orders are largely generated by the Consignment Stockiest. BCPL has registered its presence in the market and presently command around 2% in the domestic market. The company enjoys 60% market share in NER and is working relentlessly for further improvement in the scenario.

4.13 The Department of Chemicals and Petrochemicals was asked to furnish comments on production, demand and supply of polymers in the country with particular reference to North East Region and the feedback of marketing done by GAIL along with the future marketing strategy. In this regard, the written reply of the Department is reproduced below

" The production of polymers in the country from 2014-15 to 2016-17 is as under:

			(Figures in 000'MT)
GROUP	***2014-15***	***2015-16***	***2016-17***
POLYMERS	*7557.567*	*8838.837*	*9163.098*

(Monthly Production Returns received from manufacturers under large and medium scale only, as compiled by S&M Division, DCPC)

The details of production and sale of polymers i.r.o. BCPL during the year 2016-17 and 2017-18 (up to 31.12.2017) is as under:

		(Figures in 000'MT)
	2016-17	***2017-18 (up to Dec'17)***
Total quantity of Polymers Produced	*99.54*	*148.61*
Total quantity of Polymers Sold	*87.01*	*152.03*
Quantity of Polymers Sold in NER	*5.51*	*15.79*
Percentage of Polymers Sold in NER	***6.33%***	***10.51%***

As per Crisil research, polymer and elastomer demand is expected to grow at compound annual rate (CAGR) of 9-10% and 6-7% respectively, between 2016-17 and 2021-22, due to an expected recovery in major consumer segments such as packaging, automobiles, irrigation, construction and consumer durable. Additionally, demand could also come from continued substitution of metal pipes with plastics pipes and glass and metal containers with plastic containers, as well as from increasing use of plastics for packaging due to its superior quality and cost-effectiveness. As per Crisil Research, domestic petrochemical capacity is estimated to expand at 2.5-3.5% CAGR between 2016-17 and 2021-22, lagging 8-9% pace in demand growth. The scope for polymer capacity addition is constrained by the availability of olefins feedstock, due to lack of enough cracker capacity.

The polymer market of North East Region (NER) is in nascent stage and the overall demand of polymer is way below the national level demand. At present, there are around 187 plastic processing units in NER with major concentration in the state of Assam. The plastic processing units are mostly located in and around Guwahati. The pricing of polymer is done on import parity basis and transportation cost is borne by the customers. The plastic processing units in NER is benefited from BCPL due to lower transportation cost. The products of BCPL are well accepted in the market and there is positive feedback from the customers regarding the quality of product.

As per the recommendations in the Report dated 07.11.2013 of the Inter-Ministerial Committee on implementation of AGCP, a marketing agreement was signed between GAIL and BCPL on 11th March, 2016 valid for 10 years. Accordingly, GAIL has established marketing setup for sale of polymer produce by BCPL. The Consignment Stockiest of GAIL are appointed by BCPL for its marketing and the sales orders are largely generated by the Consignment Stockiest. As BCPL is presently focusing more on plant operation at this stage, it would develop its own marketing set up in due course."

C. <u>VIABILITY OF BCPL</u>

4.14 The cost of feedstock, a major component of cost in the industry, is relatively high for producers in India as compared to competitors in the Middle East. Remoteness of location in the overall national context and being tucked away in a land locked corner with limited infrastructure and limited connectivity to the rest of India, exposes the Company to numerous challenges, be it in attracting and retaining quality manpower or in marketing of its products and the Company has

been witness to high attrition of manpower and has had to forego the freight advantage in despatch of products to distant markets.

4.15 The viability of Brahmaputra Cracker and Polimer this project, which is heavily funded by Government of India, emanates from the feedstock supply agreements signed with M/s OIL, M/s ONGC and M/s NRL and any shortfall from the agreed supply quantity and quality of feedstock will make this already sub-optimal capacity plant un-sustainable.

4.16 The Department of Chemicals and Petrochemicals was asked to state the fixed capital cost of the project in terms of capital-subsidy, equity, debt, etc. separately along with Quick-Ratio, Current-Ratio and Debt-Equity Ratio of the project and also to state whether the project is sustainable at the present rate of returns vis-a-vis operational cost. In response the Department furnised written reply as under :

"The project was implemented at a Cost of Rs. 9,965 crore with the following funding pattern:

a)	*Capital Subsidy*	*-*	*Rs. 5239.45 crore*
b)	*Debt*	*-*	*Rs. 3307.88 crore*
c)	*Equity*	*-*	*Rs. 1417.67 crore*

The important ratios of the company as on 31.03.2017 are given below:

Current Ratio	*-*	*0.89:1*
Debt-Equity Ratio	*-*	*2.01:1*
Quick Ratio	*-*	*0.07:1*

The project was commissioned on 02.01.2016 and all project related expenses have been capitalized. Due to non-release of Capital Subsidy BCPL is not able to meet the project liabilities and the same are outstanding.

BCPL, as well as Department of Chemical and Petrochemicals are making all efforts to enhance the capacity utilization of the plant and ensure sustained operations. As a result, the capacity utilization has remarkably improved since February, 2017 and the company has been able to book cash profits. In the current financial year, the plant is operating with average capacity utilization of around 73% and in the month of Augu st, the plant achieved 100% capacity utilization. It is to mention that operations in petrochemical plants are very complex and it takes a long period of time for operations to stabilize. However, BCPL has stabilized its operation and the plant is capable to running at 100% Capacity provided requisite feedstock is made available.

In the current economic scenario, the plant is viable and is capable of generating value for its stakeholders. The plant has already mitigated its operational and stabilization risk and is now following an upward trajectory as far as production efficiency is concerned. As the plant is of sub-optimal capacity implemented, the fixed cost of operation is on higher side and therefore, the plant shall be able to generate value only when it operates at higher capacity utilization. To achieve this objective, requisite feedstock is required to be made available to the plant. "

4.17 The Department of Chemicals and Petrochemicals were asked to compare the price of feedstock procured by other polymer producing companies and explain as to how other companies manage to procure feedstock material and to state reasons for not adopting such

efficient model of procurement by BCPL. In this regard the written reply furnished by the De[partment is as under :

> *"BCPL is located in a geographically disadvantageous location and was designed to operate on the hydrocarbon reserves available in the north eastern region. Most of the polymers producing companies in India are located in proximity to the ports or on gas pipeline network. Availability of feed stock for most of the cracker units are additionally met by importing Naphtha, Re-gasified Liquid Natural Gas (RLNG), Ethane etc. from different sources.*
>
> *However, BCPL is solely dependent on natural gas (68% of total feed) supplied by OIL and ONGC from their local reserves due to non-availability of Gas Grid in the north eastern region. As far as requirement of Naphtha is concerned, NRL was supposed to supply naphtha from its refinery in Assam; however, due to non-supply from NRL, it is being arranged from various parts of the country.*
>
> *The feedstock procurement price of BCPL is Rs.40,287/MT in respect of Naphtha and USD 3.06/MMBTU in respect of Natural Gas as on date. The feedstock procurement prices of other polymer manufacturing plants are not maintained by this Department*."

4.18 The BCPL has requested Ministry of Petroluem and Natural Gas through its administrative Ministry for the "First Right of Refusal" to it for future findings of natural gas in nearby region. There is an opportunity for tapping the additional gas finds by M/s HOEC in the nearby region for capacity augmentation of the BCPL Plant. ***[***

4.19 The BCPL has also stated that it has the option of sourcing feedstock from the neighbouring countries like Myanmar and Bangladesh in future depending on the economics, transportation infrastructure and Government policy. The Ministry of Petroleum and Natural Gas, when asked to comment on the prospects of exploring foreign markets for getting natural gas and naphtha and other feedstock for BCPL and its viability in the face of fluctuations in cost price and availability of the feedstock, their written reply is as under :

> *" The viability of sourcing of Natural Gas through extension of National Gas Grid or from foreign markets (e.g. Bangladesh, Myanmar) in future would depend on factors like pricing, laying of pipeline / capital investment etc.*
>
> *Similarly, Naphtha of petrochemical grade may be imported from foreign markets depending upon the techno-commercial feasibility of this import.*
>
> *BCPL may explore these options for supply of feedstock including gas and naphtha."*

4.20 When asked to furnish comments about the option for diersification availabe for BCPL , the Department of Chemicals and Petrochemicals furnished written reply as under :

> ***"****Since BCPL is a standalone petrochemical plant, it produces polymers LLDPE, HDPE & Polypropylene of different grades. Hydrogenated Pyro Gasoline (HPG) and Pyrolysis Fuel Oil are also produced as by-product in Ethylene Cracker Unit. BCPL being a newly commissioned plant, diversification to products other than polymers would be explored in future based on availability of additional Feed Stock."*

4.21 Responding to the concern of the Committee regarding viability factor of this project, the Secretary, Department of Chemicals and Petrochemicals stated as under:-

> ***"****Originally it was accepted that this project is not viable. Later on to bring social economic development, to create employment opportunities through industralization of North -Eastern region, the Government decided to give considerable project capital support by way of substantial percentage of capital subsidy and the remaining in the form of debt and equality in a pursuit to make this project viable. Out of the total revised estimated cost of Rs. 9965 crore approved in the year 2016, Rs. 5239.45 crore which is 52.58 percent of the total cost has been given in the form of capital subsidy and the remaining in the debt equity ratio."*

4.22 Sharing the limitations of viability of the project in terms of capacity and its utilization, the Managing Director, BCPL submitted before the Committee as under:-

> *"I have a point to add. One thing should be kept in mind. Petrochemical complexes of today are considered viable if they are a little above one million, that is, ten lakh tonnes. This is a sub-optimal capacity plant and this sub-optimal plant has been envisaged looking into the feedstock availability of the North East. So, this is another limitation in this plant."*

OBSERVATIONS / RECOMMENDATIONS

1. Commissioning of Assam Gas Cracker Project

The Assam Gas Cracker Project, which was an outcome of the Assam Accord, has the objective of overall socio-economic development of the North East Region. The Committee are happy to note that the Government of India have fulfilled their commitment given to the people of Assam in particular and North Eastern Region in general as per the Assam Accord signed with All Assam Students Union (AASU) and All Assam Gana Sangram Parishad (AAGP) on 15th August, 1985. The Committee note that due to the risks involved endangering the viability of the project, the Government had to face many hurdles and constraints at the initial stage of its planning and execution before it was finally commissioned on 02nd January, 2016. The Committee take note that the Reliance Assam Petrochemicals Ltd. (RAPL) which was formed in May 1994 for the implementation of the project, opted out of the venture. The RAPL felt that the project was not viable for a capacity below 200 KTPA of Ethylene and they insisted on adequate availability of feedstock to undertake the project. Later on, the Cabinet Committee on Economic Affairs approved implementation of Assam Gas Cracker Project with a cost of Rs.5,460.61 on 18-04-2006 after almost 21 years the date of the accord i.e. 15th August 1985. The Brahmaputra Cracker and Polymer Limited (BCPL), a joint venture company, was incorporated on 08-01-2007 as Central Public Sector Enterprise under the Department of Chemicals and Petrochemicals for the implementation of the project. The Gas Authority of India Limited (GAIL) was assigned the role of the main promoter of BCPL having 70% equity participation and the remaining 30% equally shared by Oil India Limited (OIL), Numaligarh Refinery Limited (NRL) and Govt. of Assam. The revised project cost of BCPL is estimated to be Rs.9,965/- crore as the implementation of the

project incurred much cost and time overruns and it was dedicated to the nation by Hon'ble Prime Minister on 05-02-2016. The Committee appreciate that the Government of India fully supported the cause of the people of the North East Region by ensuring implementation of Assam Gas Cracker Project at an estimated cost of Rs.9,965/- crore. The Committee hope that the project is able to fulfill the socio-economic objectives including development of North East Region as envisaged in the Assam Accord. This project was finally dedicated to the nation on 05.02.2016 with a final estimated cost of Rs. 9965 crore. To ensure the viability of the project the Union Government infused a substantial component of capital subsidy of Rs. 5239.45 crore which is 52.58 percent of the total cost.

The Committee appreciate the contribution and the support extended by the Union Government and finally commissioning the project on 2nd January 2016. Keeping into account heavy capital intensiveness of the project and unpredictable nature of supply of feedstock both in term of adequate quantity and quality and moreover, longer gestation period to stabilize, the Committee are of the strong view that the project in question will have to be accorded top priority for supporting the supply of requisite feedstock, energy and adequate working capital till the gestation period required for optimum utilization and stabilization of operation is over and the project finally start making profit. The Committee, therefore, strongly recommend that the Government must accord top priority to ensure timely and easy availability of feedstock, energy and other requirements needed for the project. They are of the considered view that the support extended to this project will go a long way in fulfilling the commitments and socio-economic objectives envisaged in the political accord signed in 1984 for the development of Assam in particular and N-E region in general

Project Cost and Capital Subsidy

2. The Committee note that the Assam Gas Cracker Project was approved by Cabinet Committee on Economic Affairs (CCEA) with a cost of Rs. 5460.61 crore on 18.04.2006. However, the completion of the project got delayed and CCEA on 16.11.2011 approved the Revised Cost Estimate (RCE-I) of Rs. 8920 crore to commission it in December, 2013 with revised funding pattern consisting of Capital Subsidy of Rs. 4690 crore, Debt Rs.2961 crore and Equity Rs. 1269 crore. However, owing to further increase in project cost on account of time and cost overruns, BCPL's Board of Directors recommended Revised Cost Estimate (RCE-II) of Rs.9965 crore with revised funding pattern consisting of Capital Subsidy of Rs. 5239.45 crore, Debt of Rs. 3307.88 crore and Equity of Rs. 1417.67 crore and commissioning by December, 2015. The estimated increase of Rs.1045 crore was proposed to be met by capital subsidy of Rs.549.45 crore, equity of Rs.148.67 crore and debt of Rs. 346.88 crore. As advised by the Ministry of Finance (Department of Expenditure) and Project Appraisal and Management Division of, NITI Aayog, RCE-II of the project was appraised by FA and approved by the Minister-in-charge of the Administrative Ministry.

The company as on 31 March, 2016, received the total sanctioned amount of Capital Subsidy of Rs.4,708.95 crore (including net interest earned thereon) from the Government of India. Based on the approval of RCE-II and additional capital subsidy of Rs. 549.45 crore (RCE-II), Ministry of Finance was approached which has allocated Rs. 100 crore under BE 2017-18, which has been released in May / June 2017. The balance amount of Rs. 449.45 crore is yet to be released. No budgetary allocation has been made in BE 2018-19 for AGCP. At present, M/o Finance, D/o Expenditure has forwarded the matter to Budget Division, D/o Economic Affairs (DEA). Regarding impact of delay in release of balance amount of capital subsidy, the Committee were informed inter-alia that BCPL has not been

able to make payments to the vendors / suppliers/ consultants etc. not able to purchase critical spares in time. Further, the possibility of litigation by the vendors also cannot be ruled out. The Committee find that the BCPL is in a very vulnerable situation as far as its financial health is concerned and hold the view that early release of balance of subsidy to BCPL will definitely improve the financial conditions of the plant. They therefore, recommend that the matter of release of balance amount of capital subsidy be taken up at appropriate level and if necessary approval of the Cabinet Committee on Economic Affairs be obtained so that no further delay in release of the balance amount of Rs. 449.45 crore is avoided. The Committee desire to know the outcome of the steps taken by the Ministry of Chemicals and Fertilizers to resolve the issue.

<u>Capacity Utilization</u>

3. The Committee note the Assam Gas Cracker Project took nearly 8 months for stabilization after commissioning on 02.01.2016. Soon after stabilization, the plant operation got affected due to issues like inadequate supply of natural gas both in terms of quantity and quality by M/s OIL, erratic, unassured and low supply of naphtha by M/s NRL and non-availability of adequant quantity of Butene-1. Capacity utilization of BCPL was 37% in 2016-17 and, the plant operated at average capacity utilization of 78% during the financial year 2017-18. The maximum capacity utilization was noticed in the month of March (118%) and the minimum capacity utilization was 71% in February during the calendar year. The capacity utilization has remarkably improved since February, 2017 and the company has been able to book cash profits. The plant achieved 100% capacity utilization during August 2017 and March, 2018. The Committee have also been informed that to achieve optimum capacity utilization, the issues relating to inadequate supply of feed stock has been taken up with concerned oil companies and Ministry of Petroleum & Natural Gas (MoP&NG) through Department of

Chemicals and Petrochemicals (DCPC). The Committee do hope that all the stakeholder will put in their best efforts to address the issue of adequate supply of feedstock. They thus, strongly recommend that the issue must be taken up on priority basis to resolve the same within a stipulated timeline.

Financial Performance of BCPL

4. The BCPL which has been set up with an investment of more than Rs. 9,900 crore, was commissioned on 02.01.2016. This company has earned a revenue of Rs. 1.69 crore less excise duty in 2015-16 and Rs. 778.49 crore in 2016-17. According to the company, it is earning profit on its operations. However, as per the overall financial performance of the company during the period of three months in 2015-16, it incurred a loss of Rs. 270.23 crore with a turnover of Rs. 1.69 crore. The BCPL sought revenue subsidy of Rs. 26 crore for the initial one year of production to maintain Debt Service Coverage Ration (DSCR-1) During the year 2016-17, the company incurred a net loss of Rs. 547.60 crore with a turnover of 778.49 crore and the company has sought a one time revenue subsidy of Rs. 678.74 crore from the Government of India. The Committee are of the strong view that inadequate supply of feedstock, non-release of balance amount of capital subsidy, debt-servicing, low capacity utilization during initial phase, etc might be the critical reasons for dismal financial performance of BCPL during 2015-16 and 2016-17. The committee do hope that the company will put in all out efforts to improve its performance to resolve al the constraints through establishing an integrated and coordinated mechanism.

Feedstock Requirement for BCPL

5. The feedstock for BCPL project is natural gas and naphtha. The plant is designed to operate on feedstock which would constitute of 68% gas and 32%

naphtha. The plant requires 7 MMSCM of rich gas daily and 1,60,000 MT of naphtha annually to attain full capacity. As per agreement, Numaligarh Refinery Limited (NRL) was to supply 1,60,000 Tonnes of naptha to BCPL. As for supply of natural gas, BPCL entered into an agreement with M/s Oil India Limited (OIL) as per which M/s OIL is to supply natural gas of 6 Million Metric Standard Cubic Meter per Day (MMSCMD) with average C2+ content of 7.11% to BPCL. The plant took nearly 8 months for stabilization after commissioning on 02-01-2016. The Committee find that the capacity utilization of BCPL in 2016-17 was 37% and it rose to nearly 78% in 2017-18. However, the plant operation got affected due to inadequater availability of natural gas, naptha and also Butene-1. The BCPL is presently suffering due to inadequate supply of feedstock especially natural gas and naptha. According to BCPL the best model for its profitability would be to operate the plant at 80:20 ratio of gas and naphtha as gas is 2.4 times cheaper feed as compared to naphtha. However, due to design constraints, the same could be done to some extent only that too with availability of more quality gas for the plant. Moreover, shortfall in gas supply by M/s OIL has resulted in higher rate of naphtha consumption leading to higher cost of production. M/s OIL and M/s NRL have expressed their inability to arrange higher quantity of feedstock to BCPL stating inter-alia their commitment to other consumers and techno-commercial viability. The land-locked location of the project is also another hurdle for easy availability of arranging feedstock for the plant. The Committee are also given to understand that the BCPL has operative profit and that petrochemical complexes of little above one million tonnes only are considered viable nowadays. The Committee are also aware that Reliance Assam Petrochemicals Ltd. (RAPL) opted out to implement the Assam Gas Cracker Project reportedly for the reasons of low capacity of the plant and inadequate availability of feedstock. Taking into account the facts, the Committee strongly

recommend that the issues relating to feedstock arrangement for the BCPL be looked into on highest priority by the Government and a workable mechanism be evolved in a time bound manner to enable BCPL to attain full capacity utilization and stabilization with feedstock of 68% gas and 32% naphtha so as to ensure sustainability and viability of the project. The Committee would like to be informed of the project to ensure sustainability and viability of the project. The Committee would like to be informed of the action taken in the matter.

Arrangements for adequate supply Natural Gas to BCPL

6. BCPL requires 7 Million Metric Standard Cubic Meter per Day (MMSCMD) of rich gas daily for the operation of the plants. The company has entered into an agreement with M/s Oil India Limited (OIL) and ONGC for getting natural gas supply as approved by the Cabinet Committee on Economic Affairs (CCEA). As per agreement made with M/s OIL in 2007, the OIL is to supply natural gas of 6 MMSCMD with average C2+ content of 7.11% to BPCL which is about 85.71% of the total gas required but the natural gas supply by M/s OIL constitutes around only 61% of the total feed for the plant. BCPL has a C2+ extraction unit at Lakwa which produces C2+ liquid which is then sent to ethylene cracker unit of BCPL at Lepetkata. The feed from Lakwa unit contributes to around 7% of total feed. Natural gas for the Lakwa plant which was commissioned on 04.12.2016 is received from ONGC. BCPL has entered into a long term agreement with ONGC in 2007 for the supply of rich natural gas stream by the latter to its C2/C3 Recovery Plant at Lakwa. As per the agreement, BCPL is to return entire lean gas to ONGC after extraction of C2+ and CO2 components. The Committee find that the BCPL is getting required quantity of natural gas for its Lakwa plant albeit a nagging issue of ONGC imposing penalty @ 1.5 times the price for the excess quantity of natural

gas used for internal consumption over and above the agreed quantity. The imposition of penal-charge has additional implication of around Rs.13 crore per annum for BCPL and although the matter was taken up by BCPL with ONGC and the Ministry of Petroleum and Natural Gas for allotment of required additional natural gas to the tune of 0.2 MMSCMD for internal consumption at the Lakwa plant at normal rate, the issue remains unresolved.

The Committee observe that due to inadequate supply of natural gas by M/s OIL to BCPL for its main complex at Lepetkata has adversely impacted the capacity utilization of BCPL leading to production loss. The shortfall in supply of natural gas by M/s OIL was approximately 41% during 2016-17 and 20% during 2017-18 than that of agreed supply. As a result of which BCPL has suffered production losses of 67752 MT and 33050 MT of polymer during 2016-17 and 2017-18 respectively. In the current year, the average supply of natural gas by M/s OIL is 5.3 MMSCMD with C2+ content of 6.4 % against the contractual supply quantity of 6 MMSCMD with C2+ content of 7.1%. In this regard, M/s OIL has expressed their helplesness stating inter-alia that the quantity natural gas extracted from Tinsukia and Dibrugarh fields has gone down and the percentage of its C2+ content the natural gas from 7.11% in 2007 to 6.4% at present. The Committee also take note that the natural gas production by OIL in 2016-17 was 2705 MMSCM from Assam and Arunachal Pradesh and the natural gas production by ONGC from the domestic operated fields in 2016-17 was 22.09 BCM. Moreover, during the year 2017-18, M/s Hindustan Oil Exploration Company Ltd (HOEC) has added natural gas to OIL's grid to the tune of 0.3 MMSCMD to 0.5 MMSCMD.

Taking into account, the foregoing and the fact that shortage of natural gas is severely affecting sustainability and viability of BCPL, the Committee strongly recommend that urgent steps be taken for improving the supply of natural gas so as to enable BCPL to get stable supply of 6 Million Metric Standard Cubic Meter

per Day (MMSCMD) with average C2+ content of 7.11% through M/s OIL and / or other agencies in order to save the Assam Gas Cracker Project from falling into the category of loss making Central Public Sector Enterprises. The Committee also recommend that the Ministry of Petroleum and Natural Gas be convinced of the need for for allotment of required additional natural gas to the tune of 0.2 MMSCMD for internal consumption at the Lakwa plant at normal rate to enable BCPL to attain fiancial stability during initial period of operations. Action takn in the matter may be informed to the Committee.

<u>Arrangements for adequate supply of Naptha to BCPL</u>

7. BCPL requires 1,60,000 MT of naphtha annually to attain full capacity. M/s Numaligarh Refinery Limited is the supplier of naptha for BCPL as approved by the Cabined Coommittee on Economic Affairs (CCEA). As per project approval, NRL was to receive crude supplies of 3 MMT p.a. and it was required to supply 160,000 MT of Naphtha to BCPL. However, NRL has failed to supply the agreed quantity of naphtha to BCPL. The BCPL was commissioned on 02-01-2016 and during the initial phase of operations in 2015-16 (January, February and March months), NRL did not supply naptha to BCPL. During the period of from 2016-17 & 2017-18, NRL supplied only around 15800 MT of naphtha from their refinery till August, 2017. The Shortfall in supply of naphtha by M/s NRL is around 69% during 2016-17. Thereafter, NRL did not supply Naphtha from its own refinery in utter disregard and violation of its agreement but offered to supply naphtha from external sources on 50:50 freight sharing basis to which BCPL had to agree to sustain the plant operations. Even then, NRL was not able to supply the required quantity of naphtha. Under the circumstances of acute shortage of naphtha, BCPL made arrangement with M/s HPCL and sourced naphtha from their Vizag refinery. The Committee take note that even with the externally sourced naphtha, the

shortfall in supply during 2016-17 was to the tune of 61% and that capacity utilization of BCPL was severely affected due to inadequate supply of naphtha in 2016-17.

The Committee also note that, the capacity utilization of NRL was more than 85% in terms of crude processing since 2015-16 and NRL has been receiving average supplies of 2.7 MMT of crude during the last three years and at this level it should have supplied at least upto 120, 000 T of Naphtha to BCPL. However, NRL failed to supply the required quantity of naptha to BCPL. NRL has stated reasons inter-alia that at the timing of signing of the agreement in 2010, NRL was producing Naphtha and planned to produce petro chemical grade Naphtha and as such offered to supply Naphtha to BCPL project. However, commissioning of BCPL plant was delayed by almost 3 years (original commissioning April 2012) and naphtha available at NRL at that time had to be sold outside the region at a substantial freight under recovery. Moreover, the demand for Motor Spirit (MS), an auto fuel in North East has grown substantially and to meet this demand, NRL started producing this auto fuel, which was more essential by converting its Naphtha. NRL has also stated that towards its commitment to BCPL, it floated tender for sourcing naphtha from other sources and ensured transporting the same directly to BCPL. NRL reimbursed BCPL the differential cost for the Naphtha sourced from 3rd parties and BCPL was compensated for naphtha procured from alternate sources. In March 2018, NRL & BCPL has agreed to share the freight cost for sourcing of naphtha in the ratio 60 : 40, where NRL will bear the higher share of the cost. NRL has further stated that supply of Naphtha between NRL and BCPL is a commercial agreement and as such concerned parties shall take a commercial decision depending upon techno-commercial viability. In this regard, the Ministry of Petroleum and Natural has submitted that the agreement between BCPL and NRL has the standard Take-or-Pay conditions. Keeping in

the spirit of the above and to honour the commitment, NRL is supplying naphtha to BCPL by sourcing from other sources by reimbursing the differential cost to BCPL. There is no specific clause in the said agreement on how, when and where to source the naphtha from and supplied to BCPL. Further, the present model of sharing of transportation cost has been agreed mutually by both NRL and BCPL with due consideration of financial impact to both the parties. The Committee, having taken a look at the turn of events relating to functioning of naphtha supply agreement between BCPL and NRL, are deeply concerned over the lack of commitment on the part of NRL and Ministry of Petroleum and Natural Gas to honour the agreement. The Committee therefore, strongly recommend that the matter of naphtha-supply-agreement be given a revisit by all the concerned parties in close consultation and mediation by Cabinet Secretary at the earliest. .

<u>Need for Captive Production of Butene-1</u>

8. The Committee have been informed that "Butene-1 is a raw material required as co-monomer for production of various grades of polymers for 220 KTPA LLDPE / HDPE Swing Unit. Based on the figures of annual consumption as per design, the total requirement of Butene-1 is estimated to be in the range of 8900 MT to 22,800 MT per annum depending upon the quantum of various kinds of polymers produced by BCPL. Currently Butene-1 requirement is catered by sourcing it from GAIL, Pata / Reliance / HPL/ OPaL. However, highly erratic supply of Butene-1 in the past put BCPL into a precarious situation hampering the operations of the entire complex. In order to reduce dependency on external sources and for self-reliability, BCPL has proposed setting up of a captive Butene-1 plant of at least 10 KTPA and submitted detailed proposal (costing Rs. 243.06 crore) for the approval of the Department of Chemicals & Petrochemicals (DCPC). The funding of the project is proposed from debt and internal accruals and no budgetary

support has been requested from Government. Since the availability of Butene-1 will have a positive impact on the operations of BCPL, the Committee hope that the proposal be considered expeditiously considering the exigency and requirement. The Committee may be informed of the action in the matter.

Need for Captive Plant for Production of Hydrogenated Pyrolysis Gasoline

9. The Committee note that BCPL produces a by-product known as Raw Pyrolysis Gasoline (RPG), which is partially hydrogenated to form Hydrogenated Pyrolysis Gasoline (HPG). The HPG produced at BCPL has high Benzene content due to which it cannot be directly used as raw material for Motor Spirit (MS) blending. At present BCPL has made interim arrangements with small hydrocarbon processors for evacuation of HPG at a lower realization. For sale of HPG, BCPL do not have any institutional customer for bulk evacuation due to high Benzene content of the product. For a long term solution for safe and convenient evacuation of HPG along with better realization, BCPL has proposed setting up of 2nd Stage HPG plant at Lepetkata based on a Detailed Feasibility Report (DFR) prepared by M/s Engineers India Limited (EIL) at an estimated cost of Rs.116.74 crore. The proposal is presently with the Department of Chemicals & Petrochemicals (DCPC) for its approval. The funding of the project is proposed from debt and internal accruals and no budgetary support has been requested from Government. Having taken into account the fact that since the BCPL is yet to attain physical and financial stability in its operations, the Committee strongly feel that the Department of Chemicals and Petrochemicals may consider the proposal at the earliest after thoroughly weighing the pros and cons of the project proposal in a time bound manner. Decision taken by the Department in the matter may expeditiously be intimated to the Committee at the earliest.

10. Corporate Governance of BCPL

The Brahmaputra Cracker and Polymer Limited (BCPL) is an unlisted Government owned joint venture company formed for the implementation of Assam Gas Cracker Project. Ministry of Chemicals and Fertilizers is the administrative Ministry of the Central Public Sector Undertaking. Promoters of the company are Gail (India) Limited with 70% equity and the remaining 30% is equally shared by Oil India Limited (OIL), Numaligarh Refinery Limited (NRL) and Govt. of Assam. The Board of Directors of the Company as on 31 March, 2017 consisted of nine Directors including the Chairman and Managing Director of GAIL being the ex-officio Chairman of the Company, two functional Directors, five promoter Directors and one Independent Director. The Committee are concerned to note that as per the Corporate Governance Compliance Certificate furnished by the Company Secretary of BCPL in June, 2017, the Composition of the Company's Board did not have the required number of Independent Directors. The number of nominee directors in the Board of Company exceeded the maximum number of Directors permitted under DPE guidelines. Further, the Composition of the Audit Committee did not have two-third of members as Independent Directors. The Committee having noted all these points express their displeasure over the imbalanced composition of Board of Directors and recommend that company should fulfill the requisite number of independent Directors in the company's Board and limit the number of nominee Directors in order to bring transparency in the corporate governance.

11. Transfer of land

The Committee take note that transfer of lease deed in the name of Company for 959 bighas of leased hold land and transfer of title deed for 505 bighas of freehold land belonging to GAIL's Lakwa unit remained pending due to non-execution of Assets Transfer Agreement. Further, issue of land document (pattas) for the 3581 bighas of land acquired by the company through Government of Assam is not complete. The Committee would like to emphasize that since one of objectives of Assam Gas Cracker Project is socio-economic upliftment of people of North East Region, thus, the smooth and successful running of the company and its service to the public by the way of Corporate Social Responsibility as well, is very essential for achieving the socio-economic objectives of the project. The Committee therefore, recommend that BCPL, in close coordination with Assam Government should resolve the issues relating to company's land in a time bound manner and if required the Department of Chemicals and Petrochemicals should take up the issue with the Government of Assam at highest echelon. The Committee feel that state Government should be forthcoming in this regard as the projects is for development of NE region including Assam and accordingly the action taken in the matter may be invariably be informed to the Committee.

12. <u>Technology Updatation</u>

The plant of the BCPL is designed to process Natural Gas and Naphtha to produce 2,20,000 Tons per annum (TPA) of LLDPE / HDPE (Linear Low Density Polyethylene/High Density Polyethylene) & 60,000 Tons per annum (TPA) of PP (Poly-propylene). Other products of BCPL include Hydrogenated Pyrolysis Gasoline and Pyrolysis Fuel Oil. The BCPL has entered into contracts with foreign Licensors for import of technology for its different units. Technology for Ethylene Cracker Unit has been imported from LUMMUS TECHNOLOGY, USA at a license

fee of $.25,25,000/- ; technology for LLDPE /HDPE Swing Unit has been imported from INEOS, UK at a cost of $.1,60,60,412/- and the technology for Polypropylene Unit is from LUMMUS NOVOLEN, GERMANY at a cost of €.2,400/-. According to BCPL the technologies used in BCPL are state of the art technologies of international standards and the licensors were appointed through International Competitive Bidding by considerring their efficiency, economy and productivity. In this context, the Committee while expressing the view that the company shall continuously strive to attain technology updation to effect maximum efficiency and economy in plant operations, would also like to know the reasons for importing of the technology. Keeping into account the huge cost of imported technology in terms of rare foreign currency, the Committee would impress upon the Department of Chemicals and Petrochemicals and Ministry of Petroleum and Natural Gas to take necessary steps for development of indigenous technology needed in petrochemicals sector particularly in oil /gas processing to produce polymers so that the country becomes self-reliant and foreign exchange outgo on this count is minimized. The Committee would like to be informed of the action taken in the matter.

<u>North East Gas Grid</u>

13. During the course of examination of the subject, the Committee learnt from the representatives of Ministry of Petroleum and Natural Gas that there was a proposal in the Ministry of Petroleum and Natural Gas to bring Gas grid upto upper part of Assam. The first gas pipeline from Barauni-Bihar to Guwahati-Assam being built by GAIL is expected to be completed by December, 2020. They were further informed that GAIL, ONGC, OIL, etc are trying to form a joint venture to set up North East Gas Grid. The Committee, in this regard would express their

view that although setting up of North East Gas Grid may require huge investment and the project may not be economically viable at initial stages, yet such Gas-Grid has very high potential for development and viability of the project based on gas in the long run considering the topography of the North Eastern region. This Gas-grid will give enormous advantages to BCPL as far as its viability is concerned by ensuring adequate feedstock. The Committee, therefore, recommend that necessary impetus be given to the proposal for setting up of North East Gas Grid and suggest that a special purpose vehicle arrangements may be formed for this purpose by GAIL, OIL, ONGC etc. preferably in close coordination and support of the Ministry of North East Region for planning and execution of the project.

<u>Employment Potential And High Attrition Rate</u>

14. The Committee have been informed that BCPL has generated direct employment for around 627 personnel and 2600 staff/manual workforce on outsourced basis. The demands for employment from Project Affected Persons (PAPs) and locals have been addressed effectively in the interest of the project. The total sanctioned manpower in Brahmaputra Crackers and Polymers Limited is 700 including 491 executives and 209 non-executives and the employee strength of the company as on 31 March 2017 was 576 including 389 executives and 187 non-executives. 68.8% of the employees have been employed from the north-eastern region. Further, 66 executives were on deputation from the holding company Gas Authority of India Limited (GAIL). Apart from this, employment generation is expected to get a boost through setting up of downstream plastic processing industries & ancillaries in the Northeast region. The Committee have also been informed that there is high attrition among employees of BCPL as in the recent past more than 100 trained and experienced employees have left the

company primarily due to comparative higher pay package in other similar PSUs, and less attractiveness of remote location of the project in the North Eastern region, etc. While appreciating that the Company has already started the process of taking remedial measures to arrest the high attrition rate among its employees and upgraded the pay-scales of executives and approved the superannuation benefit scheme for the employees, the Committee are still eager to know about the details regarding persons affected by the BCPL project and the measures taken for their rehabilitation. The Committee are of the view that successful running of the BCPL would depend on the overall performance on all fronts and thus strongly recommend that let not the huge public investment made be allowed to go waste and as such the conducive work environment with better perks and amenities be created in order to control brain drain and skilled workers and effective rehabilitation measures be taken for the persons affected by BCPL project.

<u>Viability of Assam Gas Cracker Project</u>

15. Petrochemicals, comprising of plastic and numerous other chemicals, are basically hydrocarbons derived primarily from crude oil and natural gas as feedstock and Petrochemicals constitute a very important segment of world chemicals market. The Indian petrochemical industry has witnessed a significant growth and is expected to grow at a rate of 9% to reach $ 44 Bn by FY 2020. There are presently five naphtha and five gas based cracker complexes in the country with a combined annual ethylene capacity of 5.1 million MT. There are six aromatic complexes with a combined Xylene capacity of 4.45 million MT. Besides, there are six Petro Fluid Catalytic Cracking Units with a combined propylene capacity of 1.7 million MT. However, the per capita polymer consumption in India is as low as 8 kg compared to the global average of 28 kg. The Committee also

take note that a large quantity of polymers are imported into the country and in the year 2016-17 the country imported 43,93,226 MT of polymers. The import of major Petrochemicals has also increased from 21,59,886 MT in 2009-10 to 44,52,258 MT in 2016-17. In value terms, the imports have increased from Rs. 11,88,440 lakh in 2009-10 to Rs. 32, 67,230 lakh in 2016-17. At present, polymers are certainly high value added products as compared to other usage of hydrocarbon as fuels etc. Moreover, various initiatives are being taken towards development of downstream plastic processing units in the North East region. The polymer market of North East Region (NER) is in nascent stage and the overall demand of polymer is way below the national level demand. At present, there are around 187 plastic processing units in NER with major concentration in the state of Assam. The plastic processing units are mostly located in and around Guwahati. Joint efforts are being made by Ministry of Chemicals and Fertilizers, Department for Development of North-Eastern Region (DONER), Ministry of Micro, Small & Medium Enterprises (MSME), Government of Assam, GAIL and BCPL for development of the downstream industries for overall development of the North East region and judicious utilization of the higher fractions of Natural Gas for value addition.

The Committee have been informed that the product of BCPL has been well accepted in the market. BCPL uses the established marketing network of GAIL for marketing of its products and by-products. However, the cost of feedstock, is relatively high for producers in India including BCPL as compared to their competitors in the Middle East countries. The Committee have been informed that in the current economic scenario, the plant is viable and is capable of generating value for its stakeholders. The plant has already mitigated its operational and stabilization risk and is now following an upward trajectory as far as production efficiency is concerned. As the plant is of sub-optimal

capacity, the fixed cost of operation is on higher side and therefore, the plant shall be able to generate value only when it operates at higher capacity utilization. To achieve this objective, the requisite feedstock is extremely important to be made available to the plant. Thus the viability of BCPL project which is heavily funded by Government of India depends on adequate and timely feedstock supply. Moreover, the BCPL also has the diversification option to produce Hydrogenated Pyro Gasoline (HPG) and Pyrolysis Fuel Oil as by-products from its Ethylene Cracker Unit in future subject to availability of additional Feed Stock.

The Committee have been further apprised that the matter regarding transfer of BCPL to the Ministry of Petroleum and Natural Gas is actively under consideration of the government to ensure adequate and regular supply of feedstock as the feedstock suppliers and promoters GAIL, OIL, ONGC and NRL entities are under the administrative jurisdiction of the Ministry of Petroleum and Natural Gas.

The Committee after taking into account all factors, are convinced that unless the issues such as non-release of balance amount of capital subsidy, loan-liabilities, low-capacity utilization and most importantly the non-availability of adequate and quality feedstock are resolved, the BCPL project cannot progress well as far as its viability is concerned. The Committee are of the strong view that the BCPL which is a sacrosanct project in terms of huge and rare national resources invested therein can never be afforded to be unviable. The Committee, therefore, strongly recommend that first priority must be accorded to arrange a more reliable feedstock arrangement for BCPL to save the project in the national interest and simultaneously other alternatives/options be explored including identification and exploration of new gas/naphtha resources, search of foreign

markets and setting up North East Gas Grid and the transfer of administrative jurisdiction.

New Delhi;
27 July, 2018
5 Shravana, 1940 (Saka)

Anandrao Adsul
Chairperson
Standing Committee on
Chemicals and Fertilizers

APPENDIX I

MINUTES OF THE FIFTH SITTING OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS

(2017-18)

The Committee sat on Wednesday, the 24th January, 2018 from 1500 hrs. 1630 hrs. in Committee Room B, PHA Building, New Delhi.

Present
Shri Anandrao Adsul - Chairperson
Members
Lok Sabha

2. Shri B. N. Chandrappa
3. Dr. Smt. Ratna De (Nag)
4. Shri R. Dhruvanarayana
5. Shri Innocent
6. Dr. (Prof.) Azmeera Seetaram Naik
7. Shri K. Ashok Kumar
8. Shri Chhedi Paswan

RAJYA SABHA

9. Shri Prem Chand Gupta
10. Shri B. K. Hariprasad
11. Dr. Bhushan Lal Jangde
12. Shri Abdul Wahab

SECRETARIAT

1. Shri Vinod Kumar Tripathi - Joint Secretary
2. Shri A. K. Srivastava - Director
3. Shri U. C. Bharadwaj - Deputy Secretary

List of Witnesses

I. ***MINISTRY OF CHEMICALS AND FERTILIZERS (DEPARTMENT OF CHEMICALS AND PETROCHEMICALS)***

1.	Shri Rajeev Kapoor	Secretary
2.	Smt. Meenakshi Gupta	AS & FA
3.	Smt. Aparna S. Sharma	Joint Secretary
4.	Shri Prannoy Sharma	Director

II. REPRESENTATIVES OF BCPL

1.	Shri A. K. Singh	Managing Director
2.	Shri O. P. Tailor	Director (Finance)
3.	Shri Mohammad Zafar	Chief Manager (PE)
4.	Shri Bibhu Deb	Manager (F&A)

2. At the outset, Hon'ble Chairperson welcomed the Members of the Committee and representatives of the Ministry of Chemicals & Fertilizers (Department of Chemicals and Petrochemicals) and Brahmputra Crackers and Polymers Limited (BCPL) to the sitting and requested Secretary, Department of Chemicals and Petrochemicals to introduce his colleagues.

3. After the brief introduction by the representatives of the Ministry of Chemicals & Fertilizers (Department of Chemicals and Petrochemicals) and BCPL, a Power Point Presentation was made to the Committee highlighting the physical and financial performances including the constraints faced by the BCPL on account of non-compliance of agreements signed by latter with the feedstock suppliers. During the course of presentation, the Secretary, Department of Chemicals and Petrochemicals highlighted about the manpower issues pertaining to recruitment of local unemployed youth and also about further steps taken by the Department and BCPL to address other constraints faced by BCPL to achieve the optimal level of capacity utilization of the project including the initiatives taken to explore the alternatives to address the sustainability of the project.

4. Thereafter, the Chairperson sought clarifications on the financial and physical performances of the BCPL particularly with reference to agreements signed with the feedstock (Natural Gas and Naptha) suppliers - Oil & Natural Gas Commission (ONGC), Oil India Limited (OIL) and Numaligarh Refinery Limited (NRL). The Secretary, Department of Chemicals and Petrochemicals and the Managing Director, BCPL responded to the concerns / queries of the Members of the Committee.

5. The Chairperson, keeping in view the gravity of the non-performance/compliance of the agreements by reached between BCPL and feedstock suppliers - ONGC, OIL and NRL, suggested to work out a coordination mechanism in the shape of Coordination Committee of the stake-holders to facilitate the smooth functioning of the project. The Committee then decided to hold another meeting of all the stake-holders to examine the subject in its entirety after examination of Demands for Grants of the Ministry of Chemicals and Fertilizers for the year 2018-19.

6. Thereafter, the Chairperson thanked the witnesses for appearing before the Committee as well as for furnishing valuable information to the Committee. They were also asked to provide required information which was not readily available with them to the Committee at the earliest.

7. A copy of the verbatim record of the proceedings of the sitting has been kept.

The Committee then adjourned.

APPENDIX II

MINUTES OF THE ELEVENTH SITTING OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS(2017-18)

The Committee sat on Thursday, the 26th April, 2018 from 1500 hrs. 1630 hrs. in Committee Room 3, Block A, EPHA Building, New Delhi.

PRESENT

Shri Anandrao Adsul - Chairperson

MEMBERS - LOK SABHA

2. Shri George Baker

3. Smt. Anju Bala
4. Shri Sankar Prasad Datta
5. Shri K. Ashok Kumar
6. Shri S. Rajendran
7. Dr. Kulamani Samal
8. Dr. Uma Saren
9. Dr. (Smt.) Ratna De Nag

MEMBERS - RAJYA SABHA

10. Shri Prem Chand Gupta
11. Shri Ranvijay Singh Judev

SECRETARIAT

1.	Shri A. K. Srivastava	-	Director
2.	Shri U. C. Bharadwaj	-	Deputy Secretary
3.	N. Amarathiagan	-	Committee Officer

LIST OF WITNESSES

I. MINISTRY OF CHEMICALS AND FERTILIZERS (Department of Chemicals and Petrochemicals)

1.	Shri P. Raghavendra Rao	Secretary
2.	Smt. Meenakshi Gupta	Additional Secretary & Financial Advisor
3.	Smt. Aparna S. Sharma	Joint Secretary
4.	Shri Prannoy Sharma	Director

II MINISTRY OF PETROLEUM AND NATURAL GAS

1.	Shri Vijay Sharma	Director
2.	Ms Kiran Vasudeva	Deputy Secretary

III REPRESENTATIVES FROM BRAHMAPUTRA CRACKER AND POLYMER LIMITED (BCPL) AND GAIL (INDIA) LIMITED

5.	Shri B. C. Tripathi	Chairman, BCPL & CMD GAIL
6.	Shri A. K. Singh	Managing Director, BCPL
7.	Shri O. P. Tailor	Director (Finance), BCPL

IV REPRESENTATIVES FROM (OIL INDIA LIMITED) OIL

1.	Shri Atindra Roy Chaudhary	CGM, OIL
2.	Shri P. K. Sharma	Director (Operations), OIL

V REPRESENTATIVES FROM NUMALIGARH REFINERY LIMITED (NRL)

1.	Shri S. K. Barua	Managing Director, NRL
2.	Shri N. Bortharkur	CGM, NRL
3.	Shri B. Phukan	Director (Technical), NRL

2. At the outset, Hon'ble Chairperson welcomed the Members of the Committee and representatives of the Ministry of Chemicals & Fertilizers (Department of Chemicals and Petrochemicals), Ministry of Petroleum and Natural Gas and Representatives from various PSUs including Brahmputra Crackers and Polymers Limited (BCPL), Gas Authority of India Limited (GAIL), Oil India Limited (OIL), Numaligarh Refinery Limited (NRL) to the sitting convened for taking oral evidence on the subject 'Assam Gas Cracker Project'. In his welcome address, the Chairperson highlighted various issues relating to BCPL. He also invited the attention of all to the provisions contained in Direction 55(1) of the Directions by the Speaker regarding confidentiality of the Committee's proceedings and requested witnesses to introduce themselves before discussion on the subject.

3. After introduction by the witnesses, a brief Power Point Presentation on the subject "Assam Gas Cracker Project" was made. During the course of presentation, the Chairperson initiated discussion by seeking details regarding the progress made in resolving issues faced by BCPL and steps taken to improve the functional performance of BCPL. Shri A.K. Singh, Managing Director, BCPL and Shri B.C. Tripathi, Chairman BCPL & GAIL explained about the progress achieved by the BCPL since January, 2018.

4. Thereafter, Members of the Committee raised queries relating to various issues and constraints faced by the BCPL particularly with reference to agreements signed with the feedstock (Natural Gas and Naptha) suppliers - Oil & Natural Gas Commission (ONGC), Oil India Limited (OIL) and Numaligarh Refinery Limited (NRL). The concerned representatives of Department of Chemicals & Petrochemicals and Ministry of Petroleum and Natural Gas and other witnesses responded to the concerns / queries of the Members of the Committee. The important points covered during the discussion are:-

(i) Drawbacks in the existing arrangements for supply of feedstock particularly natural gas and naptha to BCPL and measures being taken for improvement.
(ii) Progress made in setting up of e-coordination committee of all stake holders.
(iii) Proposal for transfer of administrative control of BCPL from Department of Chemicals and Petrochemicals to the Ministry of Petroleum and Natural Gas.
(iv) Viability of BCPL.

(v) Non-release of balance amount of capital subsidy of Rs. 449.45 crore by the Union Government.

(vi) Production of Naptha at NRL and crude oil supply arrangement to NRL for its commitment to supply Naptha to BCPL.

(vii) Generation of local employment by BCPL and high attition rate of employees of BCPL.

(viii) Steps taken for setting up of Butene-1 Plant.

(ix) Prospects of development pipeline gas-grid in the North-East and possibility of improvement in supply of feed stock to BCPL through gas-grid.

(x) Profit margin of BCPL as compared to private players in the petro chemical sector.

(xi) Capacity utilization of BCPL.

(xii) Exploring of foreign markets for getting feedstock for BCPL.

(xiii) Steps taken by BCPL for development of downstream industries in the North-East.

(xiv) Availability of funds with BCPL for the purchase of critical spare parts required for the plant operations.

6. Thereafter, the Chairperson thanked the witnesses for appearing before the Committee as well as for furnishing valuable information to the Committee. They were also asked to provide required information which was not readily available with them to the Committee at the earliest.

7. A copy of the verbatim record of the proceedings of the sitting has been kept.

The Committee then adjourned.

APPENDIX III

MINUTES OF THE FOURTEENTH SITTING OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS

(2017-18)

The Committee sat on Monday, the 23 July, 2018 from 1500 hrs. to 1530 hrs. in Committee Room 'B', Parliament House Annexe, New Delhi.

PRESENT

Shri Anandrao Adsul - Chairperson

MEMBERS

LOK SABHA

2. Shri George Baker
3. Smt. Anju Bala
4. Shri Sankar Prasad Datta
5. Smt. Veena Devi
6. Shri K. Ashok Kumar
7. Shri S. Rajendran
8. Smt. Kamla Devi Patle
9. Dr. Kulamani Samal
10. Smt. Rekha Arun Verma
11. Dr. Prof. Seetaram Naik

RAJYA SABHA

12. Dr. Sanjay Sinh
13. Shri Ranvijay Singh Judev
14 Shri Vijay Pal Singh Tomar

SECRETARIAT

1. Shri Vinod Kumar Tripathi - Joint Secretary
2. Shri A. K. Srivastava - Director
3. Shri U. C. Bharadawaj - Deputy Secretary

2. At the outset, the Hon'ble Chairperson welcomed the Members of the Committee.

3. The Committee thereafter took up for consideration and adoption the following draft Reports:

(i) Draft Report on the subject 'Assam Gas Cracker Report' of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals)

(ii) Draft Report on Action taken Replies by the Government on the Observations/ Recommendations contained in the Forty First Report of the Standing Committee on Chemicals and Fertilizers (16th Lok Sabha) on the subject 'Freight Subsidy Policy' of the Ministry of Chemicals and Fertilizers (Department of Fertilizers);

(iii) Draft Report on Action taken replies by the Government on the Observations/ Recommendations contained in the Forty Fifth Report of the Standing Committee on Chemicals and Fertilizers (16th Lok Sabha) on 'Demand for Grants (2018-19)' of the Ministry of Chemicals and Fertilizers (Department of Pharmaceuticals).

(iv) Draft Report on Action taken replies by the Government on the Observations/ Recommendations contained in the Forty Fourth Report of the Standing Committee on Chemicals and Fertilizers (16th Lok Sabha) on 'Demand for Grants (2018-19)' of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals).

4. After deliberations the Draft Reports were adopted by the Committee. without any changes/amendments.

5. The Committee authorised the Chairperson to make consequential changes, if any, arising out of the factual verification of the Reports by the Department of Fertilizers, Department of Pharmaceuticals and Department of Chemicals and Petrochemicals.

The Committee then adjourned.