



ଜଙ୍ଗଲ, ପରିବେଶ ଓ ଜଳ ବାୟୁ ପରିବର୍ତ୍ତନ ବିଭାଗ, ଓଡ଼ିଶା ସରକାର
ଖଣ୍ଡୁଗୁଡ଼ା ବନାୟକାରୀଙ୍କ କାର୍ଯ୍ୟାଳୟ ଝାରସୁଗୁଡ଼ା ବନଖଣ୍ଡ ।
ଇମେଲ.- dfo.jharsuguda@odisha.gov.in, ଦୂର ଭାଷ/ ଫ୍ୟା.ନଂ-୦୭୭୪୫-୨୯୫୦୪୦ ।

Memo No. 2091 /4F (Misc.),
Dated Jharsuguda the 11th April, 2022.

To,

The Regional Chief Conservator of Forests,
Sambalpur Circle, Sambalpur.

Sub: - Proposal for diversion of 2.0234 ha. of forest land (1.6578 ha. falling in Jharsuguda Forest Division & 0.3656 in Sambalpur Forest Division) for laying of Natural Gas Pipeline to Aditya Birla Plant (ABPL) & Tata Refractories Limited (TRL) under Bokaro Angul Pipeline Project of JHBDPL Phase-II Project in Sambalpur & Jharsuguda District.

Ref: - Letter No.GAIL/ABPL-TRL/Forest/DFO/2022/02 dt.08.03.2022 of the General Manager (Construction), Gas Pipeline Project Office, GAIL India, Bhubaneswar. (Proposal No.FP/OR/Pipeline/148855/2021, State Serial NO.OR-092/2021 dt.18.11.2021.)

With reference to the letter cited above, this is to inform that the Forest Diversion proposal submitted by the General Manager (Construction), Gas Pipeline Project Office, GAIL India, Bhubaneswar for diversion of 1.6578 ha. of forest land for laying of Natural Gas Pipeline to Aditya Birla Plant (ABPL) & Tata Refractories Limited (TRL) under Bokaro Angul Pipeline Project of JHBDPL Phase-II Project in Jharsuguda District. In this regards, I submitting herewith the Forest Diversion Proposal in five copies for onward transmission for obtaining approval of Central Government of India under Section-2 of Forest Conservation Act, 1980. The site has been inspected on 11.03.2022 in presence of all person concerned. The facts pertaining to the proposal are as follows: -

1.Brief Description:

GAIL (India) Limited, India's principal Gas Transmission and Marketing Company, was set up by the Government of India in August 1984 to create gas sector infrastructure for sustained development of the Natural gas sector in the country. The 1800-km Hazira-Vijaipur-Jagdishpur (HVVJ) pipeline became operational in 1989. During 1991-93, three LPG plants were constructed and some regional pipelines acquired, enabling GAIL to begin its regional gas distribution in various parts of India.

GAIL (India) Limited, is India's flagship Natural Gas company, integrating all aspects of the Natural Gas value chain (including Exploration & Production, Processing, Transmission, Distribution and Marketing) and its related services. In a rapidly changing scenario, GAIL is spearheading the move to a new era of clean fuel industrialization, creating a quadrilateral of green energy corridors that connect major consumption center in India with major Gas Fields, LNG terminals and other cross border gas sourcing points. GAIL is also expanding its business to become a player in the International Market.

GAIL (India) Limited has been awarded authorization by Ministry of Petroleum and Natural Gas to lay Jagdishpur-Haldia-Bokaro-Dhamra (JHBDPL) gas pipeline and associated facilities for the transportation of natural gas to fulfill the requirement of various consumers in the states of Eastern UP, Bihar, Jharkhand, Odisha, Chhattisgarh, Maharashtra & West Bengal.

GAIL (India) Limited intends to further develop Natural Gas transmission & distribution networks by laying various Spur Pipelines to supply natural gas to various industries/consumers in the State of Odisha.,

2.Project Over View:

Aditya Birla Plant (ABPL Spur line):

The proposed ABPL project is the laying of 12"Ø dia. underground Spur pipeline to supply Natural Gas to Aditya Birla Plant. The Spur pipeline starts from Tap off point is at Chainage 354845.95m (IP 456/3) of BAPL-3A Mainline and end point is at Chainage 26425.86m (TP 37) of Aditya Birla Plant (ABPL Spur Line).

Tata Refractories Limited (TRL Spur line):

The proposed TRL project is the laying of 6"Ø dia. underground Spur pipeline to supply Natural Gas to Tata Refractories Limited. The Spur pipeline starts from Tap off point is at Chainage 23758.14 m (IP 30/1) of ABPL Spur Line and end point is at Chainage 33122.37 m (TP 296) of Tata Refractories Limited (TRL Spur line).

The said pipelines shall be laid at the minimum depth of 1.2 mts. below NGL at utilities crossing points. Total Length & Co-ordinates of proposed pipelines are mentioned below in the table:

Proposed Line	Start Point Co-ordinate		End Point Co-ordinates		Length (Km)
	Latitude	Longitude	Latitude	Longitude	
ABPL	21°52'12.57" N	84°13'35.35" E	21°44'39.07"N	84°02'17.23" E	26.43
TRL	21°46'02.32" N	84°02'18.06" E	21°48'15.31"N	83°51'43.28" E	33.12

As a consequence of rapid rate of industrialization in India, fuel needs are increasing at an equally rapid rate and the supply – demand gap is widening and steps must be taken to address the issue.

Overland transport of fuels by trucks is uneconomical, unsafe and is a contributor to environmental degradation in terms of pollutants released by vehicles in transit and by accidents and spillage.

Pipelines are internationally recognized as the preferred alternative for transport of fuel for safety, economy and environmental friendliness.

Natural gas is used in a variety of applications such as feed stock in fertilizer, petrochemical industry and as fuel in power generation, manufacturing steel, textile, ceramic, glass and other industrial products. As a fuel natural gas competes with alternative products such as coal, lignite and petroleum products such as liquefied petroleum gas, naphtha, high speed diesel, light diesel oil and fuel oil. However due to lower fuel operating cost and better combustion characteristics, natural gas has distinct economic advantage over other sources of energy. In addition, natural gas has substantial environmental advantage over other energy sources due to lower emissions.

3. Justification for route selection.

The criteria for routes selection, furnished by the UA is mentioned below:

- » Optimum distance between source of supply and consumer location (demand points)

» Wild Life Sanctuaries, Reserved Forest, Mining area and Defense establishment are avoided in the best possible way.

» Low-lying and rocky marshy areas are avoided for laying of pipeline.

» Safety of people and environment.

» Easy access to route during construction and operation.

The route was selected based on least disturbance to environment, forest, human habitation and aquatic bodies. It avoids National Parks and Wild Life Sanctuaries.

The selected routes are optimized considering the above factors and connectivity between supply source and consumer location.

4. Maps:

The User Agency has furnished the following maps duly authenticated by the concerned authorities as mentioned below:

SI No	Plates Description	Scale	Index
1	Location map : Survey of India Topo Sheet No F44R13	1:50000	Plate-1
2	Location map : Survey of India Topo Sheet No F45M1	1:50000	Plate-2
3	Layout Plan of the Project(ABPL)		Plate-3
4	Layout Plan of the Project(TRL)		Plate-4
5	Map Showing Alternative Alignment in Topo Sheet.	1:50000	Plate-5
6	DGPS map of the Project (Uriapali Sheet No.3)	1:3960	Plate-6
7	DGPS map of the Project (Muradipali Sheet No.2)	1:3960	Plate-7
8	DGPS map of the Project(Muradipali Sheet No.1)	1:3960	Plate-8
9	DGPS map of the Project(Paikapada Sheet No.3)	1:3960	Plate-9
10	DGPS map of the Project(Parmanpur Sheet No.6)	1:3960	Plate-10
11	DGPS map of the Project (Sreepura Sheet No.3)	1:3960	Plate-11
12	DGPS map of the Project(Sreepura Sheet No.1)	1:3960	Plate-12
13	DGPS map of the Project(Tumbekela)	1:1000	Plate-13
14	DGPS map of the Project(Badmal Sheet No.1)	1:1000	Plate-14
15	DGPS map of the Project(Lahandabuda Sheet No.3)	1:2000	Plate-15
16	DGPS map of the Project(H.Katapali Sheet No.5)	1:3960	Plate-16
17	DGPS map of the Project(Brajrajnagar Uint-2, Sh. No.4)	1:1000	Plate-17
18	DGPS map of the Project(Brajrajnagar Unit-3, Sh.No.4)	1:1000	Plate-18
19	DGPS map of the Project(Brajrajnagar Unit-3, Sh. No.2)	1:1000	Plate-19
20	DGPS map of the Project(Junanimunda)	1:3960	Plate-20
21	DGPS map of the Project(Amadhara Sheet No.2)	1:3960	Plate-21

22	DGPS map of the Project(Chualiberna Sheet No.1)	1:3000	Plate-22
23	DGPS map of the Project(Belpahar Sheet No.4)	1:2000	Plate -23
24	DGPS map of the Project(Belpahar Sheet No.3)	1:1000	Plate-24
25	Map Showing Distance of Wilde Life Sanctuaries/ Park/Corridors (Topo Sheet No.F44R13 and F45M1)	1:100000	Plate-25
26	DGPS Map of CA Land in mouza Handatopa	1:3960	Plate-26
27	Topo map of CA Land at Hondatopa (F45M1)	1:50000	Plate-27
28	KML File of the Project site	In CD	
29	KML File of the CA Land		

5.Forest Land:

The forest land involved in the project is 1.6578 Ha the following villages of Jharsuguda,Lakhanpur, Laikera, Kolabira Tahasil under Jharsuguda District. The User Agency has furnished a certificate that this is the barest minimum of forest land in this project which is enclosed in *Annexure-11* of the DP.

The village wise break-up of forest land involved in the project is furnished below:

Sl No.	Name of the Tahasil	Name of the Village	Khata No.	Plot No.	Area (in Ha.)		Kisam	Remarks
					Hal	Sabik		
1	2	3	4	5	6	7	8	9
	Jharsuguda	Sreepura	178	361	0.0301	0	Gramya Jungle	
2				455	0.0257	0		
3				2157	0.0477	0		
4				2160	0.0927	0		
5		Tumbekela	103	856	0.0111	0		
6		Badmal	135	902	0.0072	0		
7		Lahandabud	173	1812	0.0441	0		
8		Hansamura Katapali	462	5683	0.0063	0		
9				4962	0.0381	0		
10		Brajrjangar Town Unit No.3	633	2108	0.0023	0	Bada Jungle	
11				2110	0.0023	0		
12				2112	0.0014	0		
13			311	728	0.0186	0	Jungle	
14			309	540	0.0078	0	Gramya Jungle	
15		Junanimunda	13	9/120	0.0310	0	Bada Jungle	
16				9	0.0394	0		
17				8	0.0090	0		
18				1	0.0207	0		
			15	8/10	0	0.0062	Ata Sadharana	

SL No.	Name of the Tahasil	Name of the Village	Khata No.	Plot No.	Area (in Ha.)		Legal Status of forest land in Hal Settlement.	Remarks
					Hal	Sabik		
21		Amdarha	59	98/439	0.0090	0	Bada Jungle	
22				98	0.0415	0		
23				342	0.0146	0		
24				341	0.0363	0		
25			1	343	0	0.0424	Road	
26				343/438	0	0.0242		
27			59	96	0.0024	0	Bada Jungle	
28	Lakhanpur	Chualibera	112	141	0.0024	0	Patra Jungle	
29				145	0.0015	0		
30				149	0.0121	0		
31			1	142	0	0.0053	Sadak	
32				144	0	0.0066		
33			111	173	0	0.0056		
34		Belpahar	1267	2269	0.0203	0	Bada Jungle	
35				2303	0.0070	0		
36				2304	0.0082	0		
37				2305	0.0090	0		
38				2086	0.0061	0		
39	Laikera	Uriapali	406	1638	0.0642	0	Gramya Jungle	
40				1673	0.0362	0		
41		Muradipali	110	1190	0.1329	0	Jungle	
42				1195	0.0253	0		
43			108	1014	0.0084	0	Gramya Jungle	
44				1204	0.0950	0		
45				1208	0.1414	0		
46				812	0.0568	0		
47				803	0.0228	0		
48	Kolabira	Paikpada	116	1203	0.1326	0	Jungle	
49				1218	0.0241	0		
50				1220	0.0531	0		
51		Parmanpur	265	3107	0.1688	0		
Total:-					1.5675	0.0903		
Grand Total(Hal + Sabik):-					1.6578			

The authenticated land schedule of forest land and non-forest land involved in the project has been furnished by the Tahsildar, Jharsuguda, Lakhanpur, Kolabira ,Laikera Tahasil which is enclosed as *Annexure-7 & 8* respectively of the DP.

Further, the sabik status of non-forest land as on 25.10.1980 is furnished by the Tahasildar Jharsuguda, Lakhanpur, Kolabira ,Laikera Tahasil which is enclosed in *Annexure-32* of the DP.

The DGPS map of the proposed diversion of forest land of the project duly authenticated by the ORSAC is enclosed as plate No.6 to 24. The KML File and shape file in CD form is also appended of the DP. The density of vegetation of proposed area is Below 40% of Eco-Class-III.

6. Flora and Fauna:

(a) **Flora:** Tree species which are commonly noticed in the proposed area is mentioned below:

SI No.	Local Name of Species	Botanical Name of Species
1	Mahul	Madhuca Latifolia
2	Asan	Terminalia elliptica
3	Bahada	Terminalia belirica
4	Char	Buchanania lanzar
5	Dhaura	Anogeissus latifolia
6	Harida	Terminalia chebula
7	Jamun	Syzygium cumini
8	Kaju	Anacardium occidentale
9	Karla	Clestanthus collinus
10	Kasi	Bridelia retusa
11	Kendu	Diospyros melanoxylon
12	Khaes	Bridelia retusa
13	Mango	Mangifera indica
14	Neem	Azadirachta indica
15	Palasa	Butea monosperma
16	Sal	Shorea robusta
17	Salei	Boswellia Serrata
18	Simili	Bombax ceiba
19	Tal	Borassus flabellifer

The density of vegetation of proposed area is Below 40% of Eco-Class-III.

(b)**Fauna:** Frequently wild elephant movements are noticed in the proposed area.

The Wildlife's noticed in the area are mentioned below:

Animals		
SI No.	Local/English Name of Animal	Scientific Name of Animal
1	Elephant	Elephas maximus indicus
2	Wild Pig	Sus scrofa cristatus
3	Spotted deer	Axis axis sxis
4	Hanuman	Presbytis entlellus entellus
5	Odha	Lutra perspicillata perspicillata
6	Gunduchi musa	Funambulus Pennanti
7	Thekua	Lepus nigricollis ruficaudatus

8	Bana belie	Felis chous kutas
Birds		
Sl No.	Local/English Name of Bird	Scientific Name of Bird
1	Bulbul	Pycnonotus barbatus
2	Parakeet	Melopsittacus undulatus
3	Tentei	Vanellus malabaricus
4	Koili	Eudynamys scolopacea scolopacea
5	Kubhati	Centropus sinensis Parroti
6	Kopata	Streptopelia decaocto
7	Damara Kua	Curvas macrohyachos culmintatus
8	Haldibasanta	Oriolus oriolus kundoo
9	Gunduri	Turnix Suscitor
10	Raj maina	Acridotheres tristis tristis
Snakes		
Sl No.	Local Name of Snake.	Scientific Name of Snake
1	Dhandasapa	Enhydris enhydris
2	Dhamana Sapa	Elephe radiate
3	Chitti Sapa	Dendrelaphis ahaetulla
4	Naga Sapa	Naga naja kothia
5	Ajagar Sapa	Python molurus molurus
6	Rana Sapa	Bungarus caeruleus
7	Tree snakes	Lycodon striatus
8	Chandra bora	Ophiophogus hannah
Lizards		
Sl No.	Local Name of Lizard.	Scientific Name of Lizard
1	Jhitipiti	Hemidactylus brooki gray
2	Endua	Hemidactylus maculatus
3	Gachha endua	Hemidactylus leschenaulti
4	Godhi	Varanus salvator
Amphibian		
Sl No.	English Name of Amphibian.	Scientific Name of Amphibian
1	Common Indian Toad	Bufo melanostictus
2	Marbled Toad	Bufo stomaticus
3	Skippping Frog	Rana cyanophlyctis
4	India Bull Frog	Rana tigerina

7. Tree enumeration:

Plot wise tree enumeration has been carried out in the Forest area applied for diversion. The details enumeration list of 128 nos trees has been annexed separately with the proposals (at Annexure-16). Out of 128 nos of trees enumerated, 75 nos of trees are above 30 cm girth. The density of vegetation of proposed area is Below 40% of Eco-Class-III.

8. Environmental Clearance:

Environmental Clearance (EC) under Environment (Protection) Act, 1986 is not applicable for the proposed project of laying of Natural Gas Pipeline to Aditya Birla Plant (ABPL) & Tata Refractories Limited (TRL) as per provision of the Act (*at Annexure-25/DP*)

9. Cost benefits Analysis:

As the proposed diversion of forest land is less than 20 ha, Cost-Benefit Analysis is not applicable for this project.

10. Compensatory Afforestation:

Against diversion of 2.0234 ha. of forest land (1.6578 ha. falling in Jharsuguda Forest Division & 0.3656 in Sambalpur Forest Division), for Compensatory Afforestation purpose, degraded forest land over an area 5.0 Ha or 12.355 Ac. has been identified in Handatupa notified Village Forest under Bagdihi Range of this Division. The Village Forest has been notified vide notification 22719-AFFN(SIDA)-98/91-F&E dt.23.12.1991 of the Forest & Environment Department, Govt. of Odisha(*copy enclosed in CA Scheme*). The Compensatory Afforestation Cost estimated to be **Rs.5321750.00**.The details of scheme attached in the Diversion Proposal (*at Annxure-19*). The suitability certificate, DGPS map and Topo map have been authenticated by the undersigned. The user agency has furnished an undertaking to bear the cost of Compensatory Afforestation, the same is attached in the Diversion Proposal (*at Annexure-12*). The DGPS Map and Topo Map of CA land are at Plate No.26 & 27 respectively of this DP. The KML file of CA land identified is in a CD form attached to this DP.

The species proposed for plantation under Compensatory Afforestation Scheme are mentioned below:

Sl No.	Local Name of Species	Botanical Name of Species
1	Asan	<i>Terminalia tomentosa</i>
2	Bela	<i>Aegle marmelos</i>
3	Khair	<i>Acacia catechu</i>
4	Simili	<i>Bombax ceiba</i>
5	Sunari	<i>Cassia fistula</i>
6	Sisoo	<i>Dalbergia Sisoo</i>
7	Pahadi sisoo	<i>Dalbergia latifolia</i>
8	Gambhari	<i>Gmelinaar borea</i>
9	Anla	<i>Embllica officinalis</i>
10	Arjun	<i>Terminalia arjuna</i>
11	Jamun	<i>Syzygium cumini</i>
12	Sal	<i>Shorea Robusta</i>
13	Bara	<i>Ficus bengalensis</i>

14	<i>Pipal</i>	<i>Ficus religiosa</i>
15	<i>Panas</i>	<i>Artocarpus heterophyllus</i>
16	<i>Any other species suggested by the VSS.</i>	

11.Certificate under Forest right Act, 2006:

The User Agency has submitted the undertaking to furnish Forest Right Act Certificate which is enclosed in *Annexure-15/DP*.

12.Resettlement & Rehabilitation:

There will be no displacement of any human habilitation so the rehabilitation and resettlement plan is not requirement for this project.

13.Wildlife Management:

Frequently wild elephant movements are noticed. The wildlife's noticed in the area are mentioned below:

Animals		
Sl No.	Local/English Name of Animal	Scientific Name of Animal
1	Elephant	Elephas maximus indicus
2	Wild Pig	Sus scrofa cristatus
3	Spotted deer	Axis axis sxis
4	Hanuman	Presbytis entlellus entellus
5	Odha	Lutra perspicillata perspicillata
6	Gunduchi musa	Funambulus Pennanti
7	Thekua	Lepus nigricollis ruficaudatus
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1	Bulbul	Pycnonotus barbatus
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8	Haldibasanta	Oriolus oriolus kundoo
9	Gunduri	Turnix Suscicator
10	Raj maina	Acridotheres tristis tristis
Snakes		
Sl No.	Local Name of Snake.	Scientific Name of Snake

1	Dhandasapa	Enhydris enhydris
2	Dhamana Sapa	Elephe radiate
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1	Common Indian Toad	Bufo melanostictus
2	Marbled Toad	Bufo stomaticus
3	Skippping Frog	Rana cyanophlyctis
4	India Bull Frog	Rana tigerina

The User agency needs to prepare and implement a Site Specific Wildlife Conservation Plan with due approved from the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha at the project Cost.

14. Net Present Value:

The user agency has furnished undertaking to pay the Net Present value (NPV) of the forest land proposed to be diverted for the above project *at Annexure-13/DP*. Further, the user agency has furnished undertaking to pay the additional amount of Net Present value against the applied diversion of forest land proposed for diversion as per final decision of the Hon'ble Supreme Court of India (*at Annexure-14/DP*)

15. Violation:

No violation has been committed by the user agency under FC Act-1980.

16. DGPS Map:

The Ministry of Environment, Forest & Climate Change, Govt. of India, in their letter No.F. No.11-9/98 dt.08.07.2011 have issued guidelines that all applications seeking prior approval of the Central Government under Forest (Conservation) Act,1980 for diversion of forest land for non-forestry purpose must be accompanied with Geo-reference boundary in shape file pertaining to forest land proposed for diversion. These documents /maps are required to ensure accurate delineation of the forest area to be diverted. The User Agency in compliance to this order has submitted the required DGPS map of the forest area duly authenticated by the ORSAC


for the proposed diversion of 1.6578 ha. of forest land, which is enclosed as Plate No.6 to 24. Further, the KML File and shape file in CD form is also appended of the DP.

17. Others:

- (i) Part-I is enclosed in the DP (*Annexure-A*)
- (ii) The Project area has been inspected on 11.03.2022 and the Site Inspection Report is enclosed in in the DP(*Annexure-B*)
- (iii) Part-II is enclosed in the DP (*Annexure-C*)


18. Recommendation:

Keeping in view of the discussion, 1.6578 ha. forest land proposed for laying of Natural Gas Pipeline to Aditya Birla Plant (ABPL) & Tata Refractories Limited (TRL) under Bokaro Angul Pipeline Project of JHBDPL Phase-II Project in Jharsuguda District is recommended for diversion in favour of General Manager, (Const.) GAIL India Limited, Bhubaneswar.


Divisional Forest Officer,
Jharsuguda Forest Division.


Memo No. 2092 /dated. 11.04.2022.

Copy forwarded to the Chief Conservator of Forests (Forest Diversion & Nodal Officer, FC Act), O/o the PCCF, Odisha, Bhubaneswar for favor of kind information & necessary action.


Divisional Forest Officer,
Jharsuguda Forest Division.

Memo No. 2093 /dated. 11.04.2022.

Copy forwarded to the General Manager (Construction), Gas Pipeline Project Office, GAIL India, Bhubaneswar for information & necessary action.


Divisional Forest Officer,
Jharsuguda Forest division.