



No.11 /2/2010-PG(SS,WR-NR)

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

Shram Shakti Bhawan, Rafi Marg, New Delhi – 110001

New Delhi, 03rd September, 2014

CMD,
PGCIL
Gurgaon

Sub: Prior Approval of the Government under Section 68 of the Electricity Act, 2003 for "Inter-regional System Strengthening Scheme for Northern Region and Western Region- modification".

Sir,

I am directed to say that the approval under Section 68 of the Electricity Act, 2003 was accorded earlier to PGCIL for installation of overhead lines under Inter-regional System Strengthening Scheme for Northern Region and Western Region" vide this Ministry's letter of even number dated 09.10.2013.

2. In this connection, reference is invited to PGCIL's letter no. C/CP/SS,WR-NR/402 dated 30.07.2014 wherein approval of the Central government was sought for modified proposal for installation of overhead lines under Inter-regional System Strengthening works for Northern Region and Western Region".

3. In the light of the above, I am directed to convey prior approval of the Government under sub-section (1) of section 68 of the Electricity Act, 2003 for the following modified " Inter-regional System Strengthening works for Northern Region and Western Region" in supersession of the approval granted vide this Ministry's letter no. 11/2/2010-PG dated 09.10.2013 as agreed by the constituents of NR in its 34th Standing Committee meeting held on 8.8.2014:

Part A

- (i) Solapur-Aurangabad 765 kV D/c line

Part B

- (i) Jabalpur Pooling Station-Orai 765 kV D/c line
- (ii) Orai-Aligarh 765 kV D/c line
- (iii) Orai-Orai (UPPTCL) 400 kV D/c (Quad) line
- (iv) LILO of one circuit of Satna-Gwalior 765 kV 2×S/c line at Orai substation
- (v) Establishment of 2X1000 MVA, 765/400 kV Orai Substation (GIS)

Continued..

Shishu

1295/100

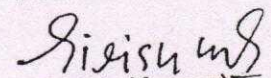
- (vi) LILO of Agra-Meerut 765 kV S/c line at Aligarh substation
- (vii) Establishment of 765 kV Switching Station at Aligarh(GIS)
- (viii) LILO of Kanpur-Jhatikara 765 kV S/c at Aligarh substation
- (ix) Conversion of existing 240 MVAR fixed line reactor to switchable line reactor at Gwalior and 330 MVAR fixed line reactor to switchable line reactor at Jhatikara substation.

4. The approval is subject to compliance of (a) the requirement of the relevant provisions of the Electricity Act, 2003, as amended from time to time and the rules and regulations framed there-under and (b) the rules governing the overhead lines as specified in the Indian Electricity Rules, 1956, till they are substituted by corresponding rules framed under the Electricity Act, 2003.

The approval is also subject to the following conditions:

- i. The implementing agency will commence construction of the project within 3 years, unless this term is extended by the Ministry of Power.
- ii. Ministry of Power may withdraw the approval before the expiry of the period of 3 years after giving a one-month notice.

Yours faithfully,


(Girish Kumar)

Section Officer (PG)
Telefax: 23730264

Copy to Shri Goutam Roy, Director (SP&PA), CEA w.r.t. to CEA letter no. 1/3/2013/SP&PA/1543 dated 22.08.2014



पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



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C/CP/ IA/IRSS,NR-WR(B)/ WR/421

Date: 29th December 2014

MEMORANDUM

Sub: **Investment approval for Inter-Regional System Strengthening Scheme in WR and NR (Part-B)**

The Board of Directors of POWERGRID, in exercise of powers delegated to it by the Department of Public Enterprises (DPE), Ministry of Heavy Industries and Public Enterprises, Government of India through its Office Memorandum No. 26(3)/2005-GM-GL-92 dated 1st May, 2008 and Office Memorandum No. DPE/11(2)/97-Fin. dated 22nd July, 1997 (modified subsequently through Office Memorandum No. 18(24)/2003-GM-GL.64 dated 5th August, 2005), have accorded investment approval for **Inter-Regional System Strengthening Scheme in WR and NR (Part-B)** in its 308th meeting held on 24th December, 2014, as per details given below:

1. Scope of Project

Scope of work covered under the project is attached at **Annex-I**.

2. Project Cost and Funding

Estimated cost of the project is **₹6517.36 Crore** (including IDC of **₹403.93 Crore**) based on **October, 2014 price level**. The abstract cost estimate is attached at **Annex-II**.

The project is proposed to be funded through Asian Development Bank (ADB) Loan/ Domestic Borrowings/ External Commercial Borrowings (ECBs) and POWERGRID's Internal Resources with Debt : Equity ratio of 70:30.

3. Implementation Schedule

The project is scheduled to be commissioned within 40 months progressively from the date of approval of Board of Directors.

This is issued in pursuance of 308th meeting of Board of Directors of POWERGRID held on 24th December 2014.

सतीश
29.12.14
(Sathish Kumar J.)
DGM (CP)

Annex-I

Scope of Inter-Regional System Strengthening Scheme in WR and NR (Part-B)

Scope of the project is given below:

Transmission line

- | | |
|---|----------|
| 1) Jabalpur Pooling station - Orai 765 kV D/c line | : 419 km |
| 2) Orai – Aligarh 765kV D/c line <i>Part-1</i> <i>71.55km</i> | : 300km |
| 3) Orai – Orai(UPPTCL) 400kV D/c (Quad) line | : 38 km |
| 4) LILO of one circuit of Satna-Gwalior 765 kV 2xS/c line at Orai S/s | : 80 km |
| 5) LILO of Agra-Meerut 765 kV S/c line at Aligarh S/s | : 35km |
| 6) LILO of Kanpur – Jhatikara 765 kV S/c at Aligarh S/s | : 35km |

Substation

- 1) Extension of 765/400 kV Jabalpur Pooling Station
 - 765kV
 - Line Bay : 2 nos.
 - Line reactors -330MVAR : 2 nos.
- 2) Establishment of 2x1000MVA, 765/400KV substation at Orai (GIS)
 - 765kV
 - Line Bays : 6 nos.
 - Transformer bays : 2 nos.
 - 1000 MVA, 765/400KV transformer : 2 nos.
 - Bus Reactor bay : 2 nos.
 - Bus reactors -330MVAR : 2 nos.
 - Line reactors -330MVAR : 2 nos.
 - Line reactors -240MVAR : 3 nos.
 - 400kV
 - Line Bays : 2 nos.
 - Transformer bays : 2 nos.
- 3) Establishment of 765kV Switching station (GIS) at Aligarh
 - 765kV
 - Line Bays : 6 nos.
 - Bus Reactor bay : 2 nos.
 - Bus reactors - 330MVAR : 2 nos.
 - Line reactors - 240MVAR : 2 nos.
 - Switchable Line reactor - 330MVAR : 1 no.
- 4) Extension of 765kV Jhatikara substation.

Line reactor at Jhatikara end for Kanpur - Jhatikara 765kV S/c line to be converted into switchable line reactor.
- 5) Extension of 400kV Orai (UPPTCL) substation.
 - 400kV
 - Line Bay : 2 nos.
- 6) Extension of 765kV Gwalior Substation

Existing Line reactor at Gwalior end of Satna-Gwalior line which is to be LILOed at Orai to be converted into switchable line reactor.

Reactive Compensation

| | | Line length(approx.) | Line Reactor-From bus | Line Reactor-To bus |
|----|--|--------------------------|--|--|
| | Line Reactors | | | |
| 1. | Jabalpur Pooling station - Orai 765 KV D/c | 419km | 330 MVAR | 330 MVAR |
| 2. | Orai – Aligarh 765kV D/c line <i>Part - 1</i> | 300km <i>71.55 km</i> | 240 MVAR | 240 MVAR |
| 3. | Orai – Orai(UPPTCL) 400kV D/c (Quad | 38km | - | - |
| 4. | LILO of one circuit of Satna-Gwalior 765 KV 2xS/c line at Orai | 80km | | |
| | Existing Satna-Gwalior 765kV S/c | 350km | 240 MVAR (Switchable) | 240 MVAR* |
| | Satna-Orai 765kV S/c | 320km | 240 MVAR (Switchable)- To be retained | 240 MVAR |
| | Orai-Gwalior 765kV S/c | 130km | - | - |
| 5. | LILO of Agra-Meerut 765 kV S/c line at Aligarh | 35km | | |
| | Existing Agra-Meerut 765kV S/c | 270km | | 240 MVAR (Switchable) |
| | Agra-Aligarh 765kV S/c | 130km | - | - |
| | Aligarh-Meerut 765kV S/c | 200km | | 240 MVAR (Switchable) |
| 6. | LILO of Kanpur – Jhatikara 765 kV S/c at Aligarh S/s | 35km | | |
| | Existing Kanpur-Jhatikara 765kV S/c | 465km | 330 MVAR (Switchable) | 330 MVAR (Fixed) |
| | Kanpur-Aligarh 765kV S/c | 330km | 330 MVAR (Switchable) | 330 MVAR (Switchable) |
| | Aligarh-Jhatikara 765kV S/c | 190km | | 330 MVAR (presently fixed to be made Switchable) |
| | Bus Reactors | | | |
| 7. | 2x1000MVA, 765/400KV substation at Orai GIS S/s | 2x330MVAR bus reactor | | |
| 8. | 765KV Switching Station at Aligarh (GIS) | 2x330MVAR bus reactor | | |

* Existing non-switchable line reactor at Gwalior end of Satna-Gwalior line which is to be LILOed at Orai shall be converted into switchable line reactor.