

F.No.3/23/2011-Trans  
Government of India  
Ministry of Power  
Shram Shakti Bhawan, Rafi Marg

New Delhi, Dated, 10<sup>th</sup> October, 2014

To

1. Chief Secretary(Power), Government of Arunachal Pradesh, Itanagar.
2. Chief Secretary (Power), Govt of Sikkim, Gangtok.
3. CMD, PGCIL, Gurgaon, Haryana.

Subject: Comprehensive Scheme for Strengthening of Transmission & distribution in Arunachal Pradesh & Sikkim

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Sir,

I am directed to convey the approval of the Competent Authority to the Comprehensive Scheme for Strengthening of Transmission & Distribution in Arunachal Pradesh & Sikkim. The scheme will be implemented as a Central Sector Scheme through Power Grid corporation of India Ltd (PGCIL) at an estimated cost of Rs.4,754.42 crore (at April, 2013 price level) with the completion schedule of 48 months from the date of release of first installment (post-investment approval) including the consultancy fee of 12% of the executed cost as per details given in **Annexure-I**.

2. The entire cost of the project will be borne by Government of India through the Plan Scheme of Ministry of Power. The States of Arunachal Pradesh and Sikkim will waive/ reimburse State levied taxes and duties applicable on the project, as already committed by them.

3. Upon Commissioning of the Transmission System, the same shall be transferred to the owner State which would be responsible for carrying out Operation & Maintenance and other related activities at its own cost as per the terms & conditions in the Memorandum of Understanding (MoU) to be signed in this regard between PGCIL and Government of Arunachal Pradesh / Sikkim. A copy of the signed MoU may be submitted to Ministry of Power within two months.

4. The States Governments of Arunachal Pradesh and Sikkim shall ensure that there is no duplication of work between RGGVY and this scheme and that the present scheme is also duly integrated with the downstream distribution system.

5. The broad scope of work under the project is as follows:

**Arunachal Pradesh**

- i. 24 nos. of new 132 kV sub-stations with total additional 529 Megavolt Ampere (MVA) transformation capacity.
- ii. Augmentation of 15 MVA capacity at Daporijo.
- iii. 33 nos. of new transmission lines with total route length of 1917 km. Out of these, 7 nos. of 132kV lines have been planned to be initially operated at 33kV.
- iv. 70 nos. of 33kV substations with total 33/11 kV transformation capacity of 465 MVA about 1923 km of new 33kV lines.

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81

**Sikkim**

- i. 7 nos of new 132/66 kV substations (590 MVA capacity)
- ii. 14 nos. of 66/11 kV substations (170 MVA).
- iii. 8 nos of 132 kV & 220 kV (initially charged at 132 kV) transmission lines (118 kms) and
- iv. 281 kms. of 66 kV lines.

The detailed summary of works is attached at **Annexure-II**.

6. The year-wise breakup of fund requirement for the base cost is at **Annexure-III**.
7. PGCIL will submit quarterly report to the Ministry of Power indicating financial and physical progress of implementation of activities covered by this sanction.
8. This issues with the concurrence of Integrated Finance Division of Ministry of Power vide their Dy.No.1103/JS&FA dated 8.10.2014.

  
(S. Venkateshwarlu)  
Under Secretary (Trans)  
Tele-fax: 011-2332 5242  
Email: transdesk-mop@nic.in

Copy, along with enclosures, forwarded to the following:

1. Cabinet Secretariat [Kind Attn: Smt. Sanjukta Ray, Director (Cabinet), Rashtrpati Bhavan, New Delhi] with reference to minutes of the meeting of Cabinet Committee on Economic Affairs held on 15.9.2014 issued vide Cabinet Secretariat Memo No. CCEA/27/2014(i) dated 17.9.2014.
2. Prime Minister's Office (Kind Attn: Shri Satosh D.Vaidya, Director) with reference to their PMO ID No. 210/31/C/29/2014-ES.I dated 21.8.2014, for information.
3. Controller of Accounts, Ministry of Power, Sewa Bhavan, RK Puram, New Delhi.
4. Pay & Accounts Officer, Ministry of Power, New Delhi.
5. Principal Director of Audit, Economic & Service Ministry, AGCR Building, New Delhi.
6. Chairperson, Central Electricity Authority, Sewa Bhavan, RK Puram, New Delhi.
7. Secretary, Planning Commission, Yojana Bhavan, New Delhi.
8. Secretary, Department of Expenditure, North Block, New Delhi.
9. Secretary, Department of Economic Affairs, North Block, New Delhi.

Copy for information to: PPS to Secretary(Power)/ AS(DC)/ JS (Trans)/ JS&FA/ Director (Trans)/US (Fin).

| <b>ABSTRACT COST ESTIMATE<br/>(BASE COST)<br/>COMPREHENSIVE SCHEME FOR STRENGTHENING OF TRANSMISSION &amp;<br/>DISTRIBUTION SYSTEM IN ARUNACHAL PRADESH<br/>(PRICE LEVEL APRIL '13)</b>                                                                                                                                                                                                                                 |                                                                                 |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------|
| Sl.No.                                                                                                                                                                                                                                                                                                                                                                                                                  | Description                                                                     | Amount<br>(Rs Crore) |
| A                                                                                                                                                                                                                                                                                                                                                                                                                       | Preliminary Survey & Soil Investigation                                         | 8.2                  |
| B                                                                                                                                                                                                                                                                                                                                                                                                                       | Land Acquisition for Substation and R&R Compensation                            | 54.73                |
| C                                                                                                                                                                                                                                                                                                                                                                                                                       | Cost of Compensation for Transmission Lines                                     |                      |
| i                                                                                                                                                                                                                                                                                                                                                                                                                       | Compensation towards Crop, Tree & PTCC                                          | 62.65                |
| ii                                                                                                                                                                                                                                                                                                                                                                                                                      | Compensation towards forest                                                     | 305.67               |
| D                                                                                                                                                                                                                                                                                                                                                                                                                       | Civil works                                                                     |                      |
| i                                                                                                                                                                                                                                                                                                                                                                                                                       | Infrastructure for Substations                                                  | 96.33                |
| ii                                                                                                                                                                                                                                                                                                                                                                                                                      | Non Resident Buildings                                                          | 37.20                |
| iii                                                                                                                                                                                                                                                                                                                                                                                                                     | Colony for Transmission Lines & Substations                                     | 221.26               |
| E                                                                                                                                                                                                                                                                                                                                                                                                                       | Equipment (Supply & Erection Cost)                                              |                      |
| i                                                                                                                                                                                                                                                                                                                                                                                                                       | Transmission Lines                                                              | 1248.22              |
| ii                                                                                                                                                                                                                                                                                                                                                                                                                      | Substations                                                                     | 645.97               |
| iii                                                                                                                                                                                                                                                                                                                                                                                                                     | Voice & Data Connectivity                                                       | 63.28                |
| F                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Sub Total A To E</b>                                                         | <b>2743.51</b>       |
| G                                                                                                                                                                                                                                                                                                                                                                                                                       | Contingency (@3% of F)                                                          | 82.30                |
| H                                                                                                                                                                                                                                                                                                                                                                                                                       | Total Cost Excluding consultancy Fees                                           | 2825.81              |
| I                                                                                                                                                                                                                                                                                                                                                                                                                       | POWERGRID consultancy Fee 12% ( excluding land and R&R) and service tax thereon | 373.64               |
| J                                                                                                                                                                                                                                                                                                                                                                                                                       | Total Project Cost Inclgd consultancy Fees                                      | 3199.45              |
| K                                                                                                                                                                                                                                                                                                                                                                                                                       | Interest During Construction                                                    | N.A.                 |
| <b>Grand Total</b>                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                 | <b>3199.45</b>       |
| Note:1. IDC has not been considered as project is proposed to be funded by MoP from Gol Grant.<br>2.Entry Tax has not been considered, if any tax is applicable same needs to be waived by State<br>3. The above cost is inclusive of voice & data connectivity amounting to Rs. 63.28 Cr.<br>4.The above cost also includes:<br>(i) Land and R&R cost: Rs.54.73 Cr.<br>(ii) Compensation towards Forest: Rs.305.67 Cr. |                                                                                 |                      |

81

| <b>ABSTRACT COST ESTIMATE<br/>(BASE COST)<br/>COMPREHENSIVE SCHEME FOR STRENGTHENING OF TRANSMISSION &amp;<br/>DISTRIBUTION SYSTEM IN SIKKIM<br/>(PRICE LEVEL APRIL'13)</b>                      |                                                                                |                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------|
| <b>Sl.No.</b>                                                                                                                                                                                    | <b>Description</b>                                                             | <b>Amount<br/>(Rs Crore)</b> |
| A                                                                                                                                                                                                | Preliminary Survey & Soil Investigation                                        | 3.09                         |
| B                                                                                                                                                                                                | Land Acquisition for Substation and R&R Compensation                           | 108.5                        |
| C                                                                                                                                                                                                | Cost of Compensation for Transmission Lines                                    |                              |
| i                                                                                                                                                                                                | Compensation towards Crop, Tree & PTCC                                         | 109.82                       |
| ii                                                                                                                                                                                               | Compensation towards forest                                                    | 13.16                        |
| D                                                                                                                                                                                                | Civil works                                                                    |                              |
| i                                                                                                                                                                                                | Infrastructure for Substations                                                 | 70.26                        |
| ii                                                                                                                                                                                               | Non Resident Buildings                                                         | 25.61                        |
| iii                                                                                                                                                                                              | Colony for Transmission Lines & Substations                                    | 64.54                        |
| E                                                                                                                                                                                                | Equipment (Supply & Erection Cost)                                             |                              |
| i                                                                                                                                                                                                | Transmission Lines                                                             | 580.01                       |
| ii                                                                                                                                                                                               | Substations                                                                    | 341.08                       |
| iii                                                                                                                                                                                              | Voice & Data Connectivity                                                      | 26.76                        |
| <b>F</b>                                                                                                                                                                                         | <b>Sub Total A To E</b>                                                        | <b>1342.83</b>               |
| G                                                                                                                                                                                                | Contingency (@3% of F)                                                         | 40.32                        |
| H                                                                                                                                                                                                | Total Cost Excluding consultancy Fees                                          | <b>1383.15</b>               |
| I                                                                                                                                                                                                | POWERGRID Consultancy Fee 12%( excluding land and R&R) and service tax thereon | 171.82                       |
| J                                                                                                                                                                                                | Total Project Cost Incl'dg consultancy Fees                                    | <b>1554.97</b>               |
| K                                                                                                                                                                                                | Interest During Construction                                                   | N.A.                         |
| <b>Grand Total</b>                                                                                                                                                                               |                                                                                | <b>1554.97</b>               |
| Note:1. IDC has not been considered as project is proposed to be funded by MoP from Gol Grant<br>2.Entry Tax has not been considered, if any tax is applicable same needs to be waived by State. |                                                                                |                              |

82

**I. Summary of scope of works proposed to be implemented in Arunachal Pradesh**

**(A) Scope of works under DPR of “Intra State : Arunachal Pradesh – Transmission / Sub-transmission(132kV & above)”**

Summary of the transmission / Sub transmission system planned for Arunachal Pradesh is as under :

Transmission Line

- 132 kV line (33 Nos.) : About 1917 kms.

Sub-Station

- New Substations (132kV) : 24 nos.  
➤  
➤ Total Transformation Capacity (at 132kV level) : 529 MVA

**(B) Scope of works under DPR of “Intra State : Arunachal Pradesh - Distribution (Upto 33 kV)”**

Summary of the distribution system planned for Arunachal Pradesh is as under :

| Sl. No. | Description          | Qty. |
|---------|----------------------|------|
| 1.      | 33 kV line feeders   |      |
|         | ▪ Nos                | 70   |
|         | ▪ Length (in km.)    | 1923 |
| 2.      | 33/11 kV substations |      |
|         | ▪ Nos of substations | 70   |
|         | ▪ Total MVA          | 465  |

82

II. Summary of scope of works proposed to be implemented in Sikkim

1. Scope under Transmission / Sub-transmission System (132kV & above):

(A) Scope of works of "Intra State: Sikkim – Transmission / Sub-transmission (132kV & above)"

Summary of the transmission / Sub transmission system planned for Sikkim is as under :

Transmission Line

➤ 220kv & 132 kV line (8 nos.) : About 118 km

Sub-Station

➤ New Substations (132kV & 66kV) : 7 nos.

➤ Total Transformation Capacity (at 132 & 66kV level) : 590 MVA

2. Scope under Distribution System (Upto 66 kV):

(A) Scope of works under DPR of "Intra State : Sikkim – Distribution (Upto 66 kV)"

Summary of the distribution system planned for Sikkim is as under :

| Sl. No. | Description                                                                                                                       | Quantity         |
|---------|-----------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1       | 66 kV line feeders <ul style="list-style-type: none"><li>Nos.</li><li>Length (in km) – D/c</li><li>Length (in km) – S/c</li></ul> | 23<br>116<br>165 |
| 2       | 66/33 kV substations <ul style="list-style-type: none"><li>Nos. of substations</li><li>Total MVA</li></ul>                        | 1<br>10          |
| 3       | 66/11 kV substations <ul style="list-style-type: none"><li>Nos. of substations</li><li>Total MVA</li></ul>                        | 13<br>160        |

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**Annexure-III**

**The year-wise break-up of fund requirement for base cost**

(Figures in Rs. Crore)

| State             | 2014-15       | 2015-16       | 2016-17        | 2017-18        | 2018-19       | Total          |
|-------------------|---------------|---------------|----------------|----------------|---------------|----------------|
| Arunachal Pradesh | 157.25        | 622.84        | 739.54         | 1094.04        | 585.78        | 3199.45        |
| Sikkim            | 76.43         | 305.77        | 346.09         | 547.60         | 279.08        | 1554.97        |
| <b>Total</b>      | <b>233.68</b> | <b>928.61</b> | <b>1085.63</b> | <b>1641.64</b> | <b>864.86</b> | <b>4754.42</b> |

81