



भारत सरकार  
Government of India

विद्युत मंत्रालय  
Ministry of Power  
केन्द्रीय विद्युत प्राधिकरण  
Central Electricity Authority  
सचिव का कार्यालय

Office of Secretary  
परियोजना मूल्यांकन समन्वय निदेशालय  
Project Appraisal Co-ordination Directorate

File No. 2/ J&K/19/CEA/03-PAC/1047-1090

Date: 18<sup>th</sup> April, 2018

OFFICE MEMORANDUM

Subject: Sawalkot Hydro Electric Project [ {6x225 MW+1x56 MW} (St I) + {2x225 MW} (St II)} = 1856 MW] in Jammu & Kashmir by M/s J&K State Power Development Corporation Ltd. at an Estimated Cost of Rs. 20317.66 Crores at Feb., 2016 PL including IDC of Rs. 6348.56 Crores & FC of Rs. 298.67 Crores. - Issue of Appraisal.

M/s J&K State Power Development Corporation Ltd. (M/s JKSPDCL) submitted to Central Electricity Authority the Detailed Project Report (DPR) of the generation scheme of Sawalkote Hydro Electric Project (1856 MW) in Jammu & Kashmir in April, 2014. Thereafter, the DPR was forwarded to various appraisal divisions of CEA, CWC, GSI, CSMRS, MoWR for examination of their respective portions. After clearance of all appraisal divisions, the proposal was considered in the 342<sup>th</sup> Meeting of CEA held on 27<sup>th</sup> December, 2016 based on the Agenda notes circulated vide CEA letter No. 2/ J&K/19/CEA/2003-PAC/2680-2715 dated 27<sup>th</sup> December, 2016 at Sewa Bhawan, R. K. Puram, New Delhi.

Based on the modified chapter on "Construction methodology and Equipment Planning" submitted by JKSPDC on 02.06.2017, the CMC Dte of CWC issued their final clearance on 28.6.2017 with a provision of equipment worth Rs. 368.00 Lakh under sub-head 'Q-Special T&P of the Civil Cost estimate, and re-scheduling the construction period from 9 years to 8 years. Based on the revised cost and design energy, the total project Cost (including IDC & FC) estimated as 20317.66 Crores at Feb. 2016 PL was approved by Authority on 27.09.2017, which was earlier approved as Rs. 22190.66 Crores at Feb 16 PL.

2. As the Electricity Act, 2003 does not extend to the state of Jammu & Kashmir, the proposal has been appraised on the request of M/s JKSPDCL. The Central Electricity Authority accords Appraisal to the aforesaid scheme at an Estimated Cost of Rs. 20317.66 Crores at Feb., 2016 PL including Interest During Construction (IDC) of Rs.



6348.56 Crores & Financing Charges (FC) of Rs. 298.67 Crores with the following stipulations: -


- i) The cost of the scheme shall not exceed the above cost except on account of: -
    - a) Price Escalation
    - b) Change in rates of Indian taxes & duties and additional taxes & duties levied, if any, subsequent to issue of this O.M.
    - c) Change in Indian Law resulting in change in cost.
    - d) Change in quantities (duly approved by competent authority) due to Geological Surprises.
  - (ii) Interest During Construction (IDC) & Financing Charges (FC) shall be as per actuals as the rate of interest proposed for Appraisal is tentative & may get changed at the time of financial closure.
3. The abstract of approved Project Cost, the details of Civil & HM works and cost of E&M works and summary of tentative Financial Package, as submitted by M/s JKSPDCL and considered by CEA, is furnished at Annex-I, I(A) & I(B) and Annex-I(C) respectively. The salient features of the scheme are given in Annex- II
4. This Appraisal is subject to fulfillment of the following conditions: -
- i. The following conditions/circumstances shall not be a re-opener of the project cost/Appraisal: -
    - a) Non - acquisition of land
    - b) Non - finalisation of Power Purchase Agreement
  - ii. M/s JKSPDCL shall incorporate the suggestions/observations of Central Water Commission (CWC) on aspects of Hydrology, Dam Design, Hydel Civil Design, Gates Design, Foundation Engineering & Seismic Aspects, and Instrumentation etc. as given in Annex -III and as incorporated in the final/updated DPR.
  - iii. M/s JKSPDCL Ltd shall comply with the conditions as mentioned in the Ministry of Water Resources, River Development and Ganga Rejuvenation letter no. 15011/1/2015-PP dated 15.12.2015 (the corrected letter as forwarded by MoWR, RD&GR vide their letter no. L-15011/1/2015-PP dated 22.01.2016, copy attached at Annexure-III A) for project design and shall ensure adequate e-flow for different months as prescribed by MoEF&CC particularly during the lean months and longitudinal connectivity.  
  
The provisions regarding longitudinal connectivity may be complied with by M/s JKSPDCL during pre-construction stage after obtaining the requisite approval of CEA/CWC in this regard.
  - iv. In case, any change in e-flows is suggested by MoEF&CC in future, M/s JKSPDCL will review the installed capacity & design energy of the project and furnish the same for appraisal to CEA before commencement of construction of the project.
  - v. M/s JKSPDCL shall incorporate the suggestions/observations of Central Soil & Materials Research Station (CSMRS) on Construction material & Geotechnical aspects as given in Annex - III and as incorporated in the final/updated DPR.

  
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than design/pre-construction stage by M/s JKSPDCL and the same should be submitted for review and the progress of all the pending investigations must be reported periodically to CSMRS & CEA.

- vi. M/s JKSPDCL shall incorporate the suggestions/observations of Central Electricity Authority on aspects of Power Potential Studies, E&M design, Power Evacuation, Financial & Commercial Appraisal, Construction Power, Construction Schedule and Phasing of Cost of Civil works, Legal etc. as given in Annex-V and as incorporated in the final/updated DPR.
- vii. M/s JKSPDCL shall incorporate the suggestions/observations of GSI as given in Annex-VI and as incorporated in the final DPR. M/s JKSPDCL shall complete balance explorations/investigations, if any, as suggested by GSI. Results of explorations/investigations shall be communicated from time to time for appraisal of CEA/CWC/GSI regularly. Cost for changes required consequent to investigations shall be absorbed by M/s JKSPDCL.
- viii. M/s JKSPDCL shall use the seismic design parameters approved by National Committee on Seismic Design Parameters (NCSDP) for design purposes. M/s JKSPDC shall submit the final report of MEQ studies by July, 2018 as compliance to the conditional clearance of site specific seismic study report by NCSDP.
- ix. In case, changes are made in design parameters during construction due to site conditions or otherwise, the same shall be intimated and got approved from the Authority before M/s JKSPDCL implements such changes. In this regards, M/s JKSPDCL shall comply to the CEA guidelines namely " Guidelines for examination and Concurrence of Changes in Design of Structure/ Equipment of Hydroelectric Projects subsequent to Accord of Concurrence by CEA, March 2018 (version 1.0)
- x. The provisions under B-land and X-Environment & Ecology are provisional as they are subject to change based on final awards and acceptance of EMP report by MoEF.
- xi. Estimated cost of project vetted by the Authority is indicative. Tariff of the project shall be decided by the appropriate Electricity Regulatory Commission.
- xii. M/s JKSPDCL shall obtain Environmental and Forest clearance from MoEF&CC and shall submit a copy to CEA.
- xiii. M/s JKSPDCL shall obtain Land Availability certificate and shall submit a copy to CEA.
- xiv. Suitable R&R plan shall be prepared by M/s JKSPDCL and submitted to State Govt. for obtaining their clearance.
- xv. If any impact on wild life is observed, M/s JKSPDCL would obtain clearance from National Board of Wild Life and shall submit a copy to CEA.
- xvi. If Scheduled Tribe population is getting affected at project site, clearance under Forest Right Act/Ministry of Social Justice & Empowerment/State Government shall be obtained by M/s JKSPDCL and shall submit a copy to CEA.

  
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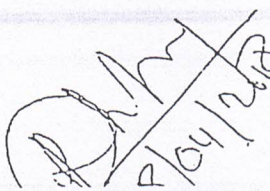


- xvii. M/s JKSPDCL shall take appropriate precautions to avert the flooding of powerhouse by adopting measures listed at Annex-VII.
- xviii. M/s JKSPDCL shall take appropriate preventive measures of Disaster Management in case of Dam failure or sudden release of water as per conditions contained in Annex-VIII.
- xix. M/s JKSPDCL has obtained clearance from security angle from Ministry of Defence vide letter no. 22(20)/2011-D (Coord) dated 14.10.2015. M/s JKSPDCL shall comply with the conditions stipulated in the clearance letter. (Copy enclosed at Annex-IX).
- xx. MoWR, RD&GR clearance from International Angle is pending. As per MoWR, RD&GR letter no. 3/6/2006-IT/19647 dated 04.09.2015, the project proposal could be examined from IWT angle only when all the project features are finalized/freeze so that finalized information could be sent to Pakistan.

M/s JKSPDCL is required to submit final DPR of Project to Ministry of Water Resource, River Development & Ganga Rejuvenation after incorporation of all modification as suggested by CWC & CEA, along with information specified in Appendix-II to Annexure 'D' of IWT 1960 for clearance from Indus Waters Treaty angle from MoWR, RD&GR. As per IWT "To enable Pakistan to satisfy itself that design of a Plant conforms to the criteria mentioned in paragraph 8 of Annexure 'D', India shall, at least six months in advance of the beginning of construction of river works connected with the plant, communicate to Pakistan, in writing, the information specified in Appendix II to Annexure 'D'."

- xxi. In case geological surprises in underground works are met, M/s JKSPDCL shall systematically maintain a record of geological surprises, those are encountered. At the same time, M/s JKSPDCL shall request the State Govt. to constitute an expert committee consisting of representatives from State Govt., GSI, CWC, CEA etc. Once a committee is constituted, M/s JKSPDCL shall submit their proposal for the enhanced cost to the expert committee, which in time shall examine and recommend the cost thereof.
- xxii. M/s JKSPDCL shall comply with the "Guidelines for participation of foreign Companies in tender work packages of Hydro electric Projects in sensitive areas, 2009" issued by Ministry of Power vide letter No. 7/1/2002-DO(NHPC)[Vol.II] dated 03.09.2009 ".(copy enclosed at Annex-X).
- xxiii. M/s JKSPDCL shall deploy modern tools / software for construction monitoring of the project by establishing IT based monitoring systems and linking the same to CEA network.
- xxiv. M/s JKSPDCL shall ensure availability of adequate quantities of rock/sand from quarries/excavated muck/burrow areas to meet the requirement of coarse & fine aggregates for both wearing & non-wearing surfaces

- xxv. Fly ash and fly ash based products shall be used in the construction of various works to the extent possible in accordance with MoEF notification dated 14.09.1999 and its amendment dated 27.08.2003 and as revised on 06.11.2008. Construction material suppliers shall be notified to use fly ash based products.





etc. and their feasibility shall be ascertained by M/s JKSPDCL.

- xxvi. M/s JKSPDCL has already submitted 7 sets (Hard as well as soft copies) of final updated DPR for record of the Authority. M/s JKSPDCL shall also submit a copy of the updated DPR to the concerned State Government/s, appropriate Electricity Regulatory Commission and the Transmission Utility under intimation to the Authority. M/s JKSPDCL shall also submit a copy of the final updated DPR to co-basin states, if any.
- xxvii. Information in respect of tying up essential inputs/statutory clearances, results of investigations/ studies shall be submitted by M/s JKSPDCL to CEA/CWC/GSI/CSMRS on receipt of same later from time to time.
- xxviii. The broad technical aspects of the project proposal in the project report have been scrutinized in CEA in consultation with CWC, GSI, CSMRS and other concerned agencies. The scrutiny is based on the data, assessment and certificates presented in the report and information/clarifications received as compliances to the observations on the assumption that the data and information furnished are accurate and have been collected reliably by the project authorities from dependable sources and/or after carrying out detailed surveys and investigations as presented in the report.
- xxix. Responsibility of correctness of levels lies with M/s JKSPDCL and the concerned State Government.
- xxx. The project developer has to approach CTU to seek connectivity/Long Term Access (LTA) as per CERC regulations at least five years before the anticipated commissioning of the project. The transmission system for the project would be firmed up after grant of LTA, as per CERC Regulations..
- xxxi. Pre-construction period is 24 months before zero date. The project is scheduled to be completed within 96 months after zero date i.e. (01.06.2018 to 31.05.2026)

**Commissioning Schedule (From zero date-01.06.2018)**

**Main Plant (Stage-I & II)**

**Aux. Plant**

1<sup>st</sup> Unit- 89 months

1<sup>st</sup> Unit -94 months

2<sup>nd</sup> Unit- 90 months

3<sup>rd</sup> Unit- 91 months

4<sup>th</sup> Unit- 92 months

5<sup>th</sup> Unit- 93 months

6<sup>th</sup> Unit- 94 months

7<sup>th</sup> Unit- 95 months

8<sup>th</sup> Unit- 96 months

- xxxii. In case time gap between Appraisal to the scheme by CEA and actual start of work by M/s JKSPDCL is three years or more, a fresh Appraisal of CEA shall be obtained by M/s JKSPDCL.

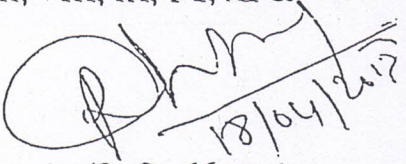
“Revalidation of Appraisal can also be considered, in case, the reason for not starting the work is beyond the control of developer. However proposal for



Appraisal, which is three years from the date of issue of Appraisal memorandum”.

- xxxiii. M/s JKSPDCL must ensure that all generating machines at the main powerhouse including environment unit should be capable of operating in synchronous condenser mode.
- xxxiv. The Appraisal is subject to compliance by M/s JKSPDCL of various policies/guidelines etc. issued by Govt. of India/J&K from time to time.
- xxxv. M/s JKSPDCL shall comply the directions regarding “Public Procurement (Preference to make in India) Order, 2017 (PPP-MII Order)” as mentioned in Ministry of Commerce & Industry’s D.O. no. P-45021/12/2017-Public Procurement (BE-II) dated 18<sup>th</sup> December, 2017, Hon’ble Prime Minister’s Office D.O. no. 4745327 dated 10<sup>th</sup> December, 2017 and Minutes of the meeting of the Standing Committee dated 6<sup>th</sup> December, 2017 (copy enclosed at Annex-XI).
5. Monthly Progress Report of the project shall be submitted to Hydro-Project Monitoring (HPM) Division of CEA. Three (3) copies of the half-yearly progress reports on both physical progress of the scheme and expenditure actually incurred, duly certified by statutory auditors shall be submitted to the Authority till the Commercial Operation Date of the plant. The project authorities shall give free accessibility to CEA officers and staff to have on the spot assessment of various aspects of the project.
6. Monthly status of the project from the date of Appraisal to Financial closure (including Monthly Status of compliance of the conditions stipulated under para 4 of this Appraisal letter) shall be furnished to Secretary, CEA as per the proforma enclosed at Annex-XII.
7. The Authority reserves the right to revoke this Appraisal, if the conditions stipulated in this Office Memorandum are not complied with to the satisfaction of the Authority.

Encls: Annexures I, I(A), I(B) & I(C), II, III, III(A), IV, V, VI, VII, VIII, IX, X, XI & XII.

  
(P. C. Kureel)  
Secretary, CEA