



E-Tender Notice

E-Tender Notice No. GRIDCO/RE NODAL AGENCY/ E-TENDER/03/2023-24.

CORRIGENDUM-3

The following modifications/additions are hereby incorporated to E-Tender Notice No. GRIDCO/RE NODAL AGENCY/ E-TENDER/03/2023-24.

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
1	Clause no. 19.2, Section II, ITC	For hard copy submission: Consultant shall enclose the Techno-Commercial Proposal in a sealed envelope, duly marking the envelopes as "TECHNO COMMERCIAL PROPOSAL". The envelope containing the Techno-Commercial Proposals shall bear a warning not to open before the time and date for the opening of Techno-commercial Proposals.	For hard copy submission: Consultant shall enclose the Techno-Commercial Proposal in a sealed envelope, duly marking the envelopes as "TECHNO COMMERCIAL PROPOSAL". The envelope containing the Techno-Commercial Proposals shall bear a warning not to open before the time and date for the opening of Techno-commercial Proposals. The consultant has to Dispatch all the hard copy documents immediately on day of the filling of e-tender.

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
2	Clause no. 4.1, k & l, Section II, ITC	<p>k) Copy of work order/ work completion certificates mentioning nature of work, the period during which the work was done relating to consultancy support to any State Govt/State</p> <p>l) Copy of work order/wok completion certificates mentioning nature of work, the period during which the work was done relating to consultancy support to any State Govt/ State PSUs/ Central Govt. /Central PSUs/ IDAs/ Private.....</p>	<p>Clause 4.1(l) of Section II <i>“Copy of work order/wok completion certificates mentioning nature of work, the period during which the work was done relating to consultancy support to any State Govt/ State PSUs/ Central Govt. /Central PSUs/ IDAs/ Private.....”</i> would be replaced as CV for Key personnel.</p>
3	Clause no. 10, Section III, Bid Data Sheet (BDS)	<p>Period of Contract: Thirty (30) months from the date of signing of the contract and which may be further extended, if deemed necessary.</p>	<p>Period of Contract: 24 months i.e Twelve Months (12) for Study and Report Submission and Twelve months (12) for Support Period from the date of signing of the contract and which may be further extended, if deemed necessary.</p>
4	Clause -1: Section IV, Eligibility Criteria: General Requirement.	<p>The bidder can be a single bidder or a consortium of bidders. In case of consortium, the lead bidder shall be a company registered under the companies act.</p>	<p>The bidder can be a single bidder or a consortium of bidders. In case of consortium, the lead bidder shall be a company registered under the companies act / incorporated as trust & societies created either by any state government or Government of India or Union Territory of Administration.</p>
5	Clause 8: SECTION-IV ELIGIBILITY CRITERIA: General Requirement	<p>The Consultant should have experience of minimum 3 years of providing consultancy services in PSP project.</p>	<p>The Consultant should have experience of minimum 3 years of providing consultancy services in PSP/ HEP project.</p>

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
6	Clause no. 1 (sub-clause), Section IV, Eligibility Criteria	One of the partners fulfilling the Technical and financial qualifying criteria prescribed for lead partner shall be nominated as Lead Partner by the Joint Venture/Consortium and the lead partner shall be exclusively authorized to incur liabilities and receive instruction for and on behalf of Joint Venture/Consortium and its other partner. This authorization shall be evidenced by submitting a power of attorney and Joint Venture/Consortium agreement signed by legally authorized signatories of the partners as per Performa.	One of the partners fulfilling the Technical or financial qualifying criteria prescribed for lead partner shall be nominated as Lead Partner by the Joint Venture/Consortium and the lead partner shall be exclusively authorized to incur liabilities and receive instruction for and on behalf of Joint Venture/Consortium and its other partner. This authorization shall be evidenced by submitting a power of attorney and Joint Venture/Consortium agreement signed by legally authorized signatories of the partners as per format.
7	Clause no. 11, Section IV, Eligibility Criteria	The Consultant must have experience in the Renewable energy sector in matters related to Pump Storage projects- Feasibility studies, related policy & regulatory analysis, due diligence, technology assessment, capacity building and project implementation support for at least 3 projects of minimum value of INR 30 lakh each s or 2 projects of minimum value of INR 45 lakhs each.	The Consultant must have experience in the Renewable energy sector in matters related to Pump Storage projects- Feasibility studies, related policy & regulatory analysis, due diligence, technology assessment, capacity building and project implementation support for at least 3 projects of minimum value of INR 15 lakh each or 2 projects of minimum value of INR 22.5 lakhs each.
8	Clause 5.1, Section -V, Duration of Services .	The tenure of the assignment/contract would be for a period of Thirty months from the date of signing of the contract which may be further extended if deemed necessary.	The tenure of the assignment/contract would be for a period of Twenty-Four (24) months from the date of signing of the contract which may be further extended if deemed necessary.

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
9	Clause S, Section-V, Short Listing of Sites to prepare pre-feasibility Report.	GRIDCO and the selected Consultant will discuss the assessment results of PFR and select 3 nos. Potential site form PFR (maximum limiting to 500 MW, which may be extended to another 1500 MW at the discretion of GRIDCO), for conducting the detailed feasibility studies.	GRIDCO and the selected Consultant will discuss the assessment results of PFR and select 5 nos. Potential site form PFR (minimum aggregating limiting to 1500 MW for conducting the detailed feasibility studies)
10	Clause 3, Section V, Geotechnical Investigations & Testing by MOWR guidelines.	Investigations by the method of drilling at all project components. The depth of drilling shall be as per MOWR guidelines.	Investigations by the method of drilling at all project components. The depth of drilling shall be as per MOWR guidelines. Deleted from Scope of work.
11	Clause no. 5.3.3, Section-V, Payment Schedule	10% of Retention amount will be released after support period.	10% of Retention amount can be released against submission of BG of equivalent amount for support period.
12	Section-VI, Evaluation of Bid, Clause 6.4., SI No.-1.	The Consultant must have experience in the Renewable energy sector in matters related pumped storage projects or hydroelectric - feasibility studies, regulatory analysis due diligence, technology assessment, capacity building and project implementation support Global credentials are allowed. Minimum value of an assignment should be Rs. 30 Lakhs and above for consideration.	The Consultant must have experience in the Renewable energy sector in matters related pumped storage projects or hydroelectric -feasibility studies, DPR preparation, review of DPR, regulatory analysis due diligence, technology assessment, capacity building and project implementation support Global credentials are allowed. Minimum Value of an assignment should be Rs.15 lakhs per project or above for consideration.

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
13	Section-VI, Evaluation of Bid, Clause 6.4., SI No.-1. Marking criteria.	<p>Maximum marks – 30</p> <p>Maximum marks shall be provided to the Consultant furnishing maximum eligible credentials of completed/ ongoing assignments, subject to a maximum of 5 (Five) eligible projects. The score of other Consultants shall be in ratio to the number of eligible assignments furnished by them as compared to the Consultant with the maximum eligible assignments. For Example, if a consultant has presented 5 eligible assignments, which is the maximum among all Consultant has presented 3 such assignments , then the marks given to the above two consultant are as follows: Consultant 1- 30 Marks Consultant 2-18 Marks (30/5)*3</p>	<p>Maximum Marks-30</p> <p>The evaluation criteria & awarding of credentials will be done in the manner given below. Maximum marks will be awarded for 4 (Four) or more eligible projects.</p> <p>i.e. The marks would be given to bidders as follows:</p> <p>Submission of 2 Projects: 20 Marks Submission of 3 Projects : 25 Marks Submission of 4 projects : 30 marks</p>
14	Section-VI, Evaluation of Bid, Clause 6.4., SI No.-2, Marking criteria.	<p>Maximum marks – 20</p> <p>1. 2 marks per each eligible assignment related to Renewable Energy - policy implementation, project development, project Facilitation, promotion of investment, financial modeling, bid process management, etc.</p> <p>2. Eligibility of an assignment for securing marks for RE will be decided at the discretion of GRIDCO after analyzing the nature & scope of the assignment. Assignments with</p>	<p>The clause is amended as following:</p> <p>Maximum marks-20</p> <p>1. 4 marks per each eligible assignment related to Renewable Energy-Policy implementation, Project development, Project facilitation, promotion of investment, financial modelling, Bid Process management etc.</p> <p>2. Eligibility of an assignment for securing marks for RE will be decided at the</p>

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
		negligible/partial presence of RE will be excluded.	discretion of GRIDCO after analyzing the nature and scope of the assignment. Assignments with negligible/partial presence of RE will be excluded.
15	Clause no. 7 (1), Section VII: Team Leader	Master's in engineering with a minimum of 25 years' experience in hydroelectric projects or Pump Storage projects, with at least 1 project reaching the execution stage.	Master's in Engineering with a minimum of 20 years' experience in hydroelectric projects or Pump Storage projects, with at least 1 project reaching the execution stage or Bachelor in Engineering with 25 years of experience in project management, hydroelectric project or pump storage project with at least 1 project reaching the execution stage or "Masters degree or above in business, economics with renewable energy related experience at least 20 years' operational experience in program management of complex state level & national level programs.
16	Clause no. 7 (2), Section VII: PSP turbine expert/Electromechanical Expert	Master's in engineering with a minimum of 15 years' experience in hydroelectric projects or Pump Storage projects with at least 1 project reaching the execution stage.	Master/Graduate in Engineering (Mechanical/Electrical/Civil or equivalent) with a minimum of 15 years' experience in hydroelectric projects or Pump Storage projects with at least 1 project reaching the execution stage.

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
17	Clause no. 7 (3), Section VII: Geologist	Master's in Geology or Applied Geology or Engineering Geology with a minimum 15 years of experience.	Bachelor or above in Geology or Applied Geology or Engineering Geology with a minimum 15 years of experience.
18	Clause no. 7 (4), Section VII: Regulatory Expert	Master's degree in business, economics or energy-related with at least 10 years' experience in dealing with regulatory issues for utility-scale renewable energy projects especially solar and or pumped hydro or hydro	Master's/Bachelor degree in business, economics or energy-related with at least 10 years experience in dealing with regulatory issues for utility-scale renewable energy projects especially solar and or pumped hydro or hydro
19	Clause no. 7 (9), Section VII: Geology	He / She shall be a graduate in Geology or equivalent. He shall have at least 10 years' experience in hydro projects preceding the proposal due date.	Clause no. 7(9) under section VII: Geology may be read as Commercial expert and the details experience of Commercial expert is as following: CA/CFA/CMA or Master's degree in business, commerce, economics, finance or energy related with at least 10 years' experience in conducting commercial due diligence including financial modelling in Energy or Re projects (Hydro/PSP/Other RE)
20	Clause no. 21.3, Section VIII, GCC, Term of Payment	Payments shall be made by GRIDCO after submission of an invoice along with supporting documents, subject to GRIDCO's acceptance. But if the progress is not satisfactory and according to agreed work program/schedule the payment may be withheld.	Payments shall be made by GRIDCO after submission of an invoice along with supporting documents, subject to GRIDCO's acceptance. But if the progress is not satisfactory and according to agreed work program/schedule the payment may be withheld. Payment will be released by GRIDCO within 45 (forty-five) days of receipt of the Invoices along

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
			with the required supporting documents, if all the deliverables/reports for the milestone are successfully signed-off.
21	New clause no 43, Section VIII: Indemnity		The successful bidder shall undertake work award & indemnify, defend and hold harmless GRIDCO and its directors, officers, employees from and against any and all third parties suits, actions, legal claims, demand, costs and expenses of any nature for bodily injury, death, physical damage to properties of any third parties arising out in connection with the execution of the assigned work under the tender. Please refer Annexure B for Indemnity Bond
22	Form P-2	Project Name: Preparation of Detailed Feasibility Report (FR) for Pumped Storage Project as per Scope of Services. Nos of Site: 3	Project Name: Preparation of Detailed Feasibility Report (FR) for Pumped Storage Project as per Scope of Services. Nos of Site: 5

Note: The above revised clause will supersede the any related clauses of the tender document.

SECTION-V

(The following clauses of Scope of work are rearranged and amended. Remaining clauses of SoW of original tender will remain unaltered)

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
1	Clause 5.1: Duration of Services	The tenure of the assignment/contract would be for a period of Thirty months from the date of signing of the contract which may be further extended if deemed necessary.	The tenure of the assignment/contract would be for a period of Twenty-Four (24) months from the date of signing of the contract which may be further extended if deemed necessary.
2	Clause 5.2: Scope of Services	The assessment process must prioritize the existing reservoirs and avoid the construction of new Reservoirs . The 'Preliminary Assessment Report/Pre-Feasibility Report' must contain all essential details, which should support in deciding on further screening of FSR.	The assessment process shall encompass both Pumped Storage Schemes'. (Off Stream Open loop) and (Off Stream Closed loop) sites . The 'Preliminary Assessment Report/Pre-Feasibility Report' must provide comprehensive details essential to determine the most suitable sites for further consideration of detail feasibility studies.
3	Clause 5.1.2: Scope of Services	The consultant shall study various alternatives to locate the Upper Reservoir, Lower Reservoir, Intake arrangements and all other components of the project for finalization of the concept and Project Layout.	The consultant shall study various alternatives to locate the Upper Reservoir, Lower Reservoir, Intake arrangements, catchment area and all other components of the project for finalization of the concept and Project Layout.

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
4	Clause 5.1.6 (s)	GRIDCO and the selected Consultant will discuss the assessment results of PFR and select 3 nos. Potential site form PFR (maximum limiting to 500 MW, which may be extended to another 1500 MW at the discretion of GRIDCO), for conducting the detailed feasibility studies.	GRIDCO and the selected Consultant will discuss the assessment results of PFR and select 5 nos. Potential site from PFR (minimum aggregating limiting to 1500 MW for conducting the detailed feasibility studies)
5	Clause 5.1.6 (u)	Consultant to submit an intermediate report that will include a comparison matrix for the potential PSP sites with parameters as enclosed in Annexure-A such as Gross head, power evacuation options, length of water circuit system, Dam/Reservoir parameters, Major crossings, Ecological sensitivity level, water availability, Wildlife reserve, seismic relevance, PFR approval risk, Project execution risk, land details, access road, etc.	Consultant to submit an intermediate report that will include a comparison matrix for the potential PSP sites with parameters as enclosed in Annexure-A such as Gross head, power evacuation options, length of water circuit system, Dam/Reservoir parameters, Major crossings, Ecological sensitivity level, water availability, Wildlife reserve, seismic relevance, PFR/ FR approval risk, Project execution risk, land details, access road, etc
Data Shall be captured and validated during the pre-feasibility Stage			
6	Clause No. 1: Reservoir Details:	<ul style="list-style-type: none"> • Details of Upper/Lower Reservoirs with geological (GPS) coordinates. • Storage capacity of Reservoirs. • Length to Height (L/H) Ratio of the Site • Full Reservoir Level (FRL) of the Reservoir(s) • Minimum Draw Down Level (MDDL) of the Reservoir(s) • Gross Head available at the Site 	<p>The Consultant shall provide the following in detail:</p> <ul style="list-style-type: none"> • Details of Upper/Lower Reservoirs/feasible location with geological (GPS) coordinates. • Storage capacity of Reservoirs. • Area of the reservoir (in hectare), Water volume of the reservoir (in gigitalitres). • Length of the dam (in meters).

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
			<ul style="list-style-type: none"> • Dam wall height (in meters): The maximum height of earth and rock wall. • Volume of rock in each dam wall , based on 3:1 upstream and downstream slopes. • Water-to-rock (W/R) ratio: The ratio between the volume of the stored water and the volume of rock in the dam wall. • Length to Height (L/H) Ratio of the Site • Maximum Water Level of the Reservoir. • Full Reservoir Level (FRL) of the Reservoir(s) • Minimum Draw Down Level (MDDL) of the Reservoir(s) • Gross Head available at the Site • Length and Area of submergence in upper and lower Reservoirs. • Source of water for reservoir.
7	Clause no 3: Other Details	<ul style="list-style-type: none"> • Minimum peaking capacity – 6 hrs. mandatory, 7 or 8 hours will be preferable. • L / H ratio 	<ul style="list-style-type: none"> • First site visit to all PSP sites shall be done by the consultant’s team comprising of all key experts i.e. Team leader, Civil Engineer, Hydrologist, Geologist/ Geo-Technical expert,

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
		<ul style="list-style-type: none"> • STU/CTU power evacuation point preferably less than 50 km away • R&R requirement. NIL preferred, • Details of vegetation thickness in the reservoir area. • Total estimated potential of PSP-Hydro in MW capacity with Energy to Power ratio (i.e., MWh/MW in hrs.) • Capacity of the reservoir required to be constructed, if any. • Advantages/ Disadvantages of each site • Readiness level of potential sites in a scale of 1 to 10 (1 Being the highest) 	<p>Electro Mechanical expert and Hydro Mechanical experts.</p> <ul style="list-style-type: none"> • The Consultant shall conduct surface-geological mapping/study during PFR and Detailed Feasibility study as per Standard Norms. <p>While preparation of pre-feasibility report, following data shall be considered for ranking of sites. Please refer Annexure -A</p> <ul style="list-style-type: none"> • Minimum peaking capacity – 6 hrs. mandatory, 7 or 8 hours will be preferable. • L / H ratio • STU/CTU power evacuation point preferably less than 50 km away • R&R requirement. NIL preferred, • Details of vegetation thickness in the reservoir area. • Total estimated potential of PSP-Hydro in MW capacity with Energy to Power ratio (i.e., MWh/MW in hrs.) • Capacity of the reservoir required to be constructed, if any. • Advantages/ Disadvantages of each site • Readiness level of potential sites in a scale of 1 to 10 (1 Being the highest)

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
8	New Clause no. 5: Geological Aspects		<p data-bbox="1388 240 1646 267">Geological Aspects:</p> <ul data-bbox="1436 321 1919 1318" style="list-style-type: none"> <li data-bbox="1436 321 1919 461">• The consultant shall carry out surface geological mapping scale of 1:10000 of the project area on its own cost. <li data-bbox="1436 516 1919 623">• The alternative Geo Points are to be studied and marked on the geological mapping. <li data-bbox="1436 678 1919 850">• The consultant shall prepare Regional Geology and Regional Seismic-Tectonic aspects and local geological map of the project. <li data-bbox="1436 906 1919 1159">• The consultant shall suggest and prepare list of the detailed geological investigation and Geo-technical tests to be carried out during Detailed Feasibility Study for first consultation meeting with CEA. <li data-bbox="1436 1182 1919 1318">• The Consultant shall prepare sufficient no. of geological plan and sections of the final project's layout and components.

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
9	New Clause no. 6: Project Layout		<p>Project Layout:</p> <ul style="list-style-type: none"> • The Consultant shall carry out alternative studies for identification of location for upper and lower reservoir and all other component of PSP for finalization in detail feasibility Study/report. • The Consultant shall study suitable alternatives (minimum 3 no. alternatives) in the report & submit the best-fit layout & details of the components/ structures taking into consideration existing Wildlife sanctuary and eco-sensitive zone. • The consultant shall also propose a cost-effective type of the dam for both reservoirs based upon the material availability i.e., CFRD, Concrete, Rock Fill, Geo membrane Faced rock fill with justification. • The consultant shall give Salient features such as type of the Pumped storage scheme, cycle

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
			<p>efficiency peaking hours, continuous running hours, reservoir capacity of the upper and lower reservoir in the project layout chapter.</p> <ul style="list-style-type: none"> • The consultant shall prepare the separate Electromechanical chapters which includes type of reversible pumped turbine (static head, variable head, ternary, Hydro short-circuiting) and its justification for selection, technical parameters like efficiency, operating head, etc. • The consultant shall prepare the separate Hydro mechanical chapter containing type of gates and hoisting arrangement.
10	New Clause No. 7: Deliverables		<ul style="list-style-type: none"> • The consultant shall submit the screening reports at part of inception report along with proper justification note of selection criteria of 10 nos. of site from 26 nos. of potentials locations attached in Annexure C. • The consultant shall prepare 2 sets of reports and drawings required for pre- Feasibility covering General

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
			<p>arrangement/layout of the projects L-section/plan/ section of the project components, Reservoir plan, Vicinity map, Single Line diagrams (SLD) of the Electromechanical, Powerhouse plan and sections.</p> <ul style="list-style-type: none"> The number of drawings covered in the report shall be discussed and mutually agreeable.
The Detailed Feasibility Reports shall contain as follows: -			
11	Clause No. 2: Topographic Survey	<ul style="list-style-type: none"> The Topographical Survey includes taking cross sections of the river/stream, reservoirs data (seasonal maximum and minimum discharges, capacity, etc), grid survey for possible locations of the HRT, powerhouse, switchyard, intake channel, Tail race channel, TRT, dumping areas for muck disposal, colony, office accommodation, and all other miscellaneous structures and facilities required for power project. After completion of the topographical survey, a detailed report along with drawings of cross 	<ul style="list-style-type: none"> Key expert's site visits as per requirement for detail FR studies as & when required shall be conducted by the consultant. <ul style="list-style-type: none"> The consultant shall procure the SOI topo sheets, SOI Benchmarks from Survey of India for preliminary studies and alternative studies. The consultant shall prepare DEM (Digital Elevation Model) and topographic contour map by using satellite imageries procured from NRSC/ detailed topographic survey using DGPS/total station. The consultant shall procure the high-resolution satellite images from NRSC on its own cost. The consultant shall establish

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
		<p>sections, River grid survey, contour map at a minimum interval of 1.0 m or below as per requirement, etc shall be submitted to GRIDCO. The consultant shall finalize the provisional layout of the project after getting approval from GRIDCO.</p>	<p>sufficient numbers of Ground Control Points.</p> <ul style="list-style-type: none"> • (GCPs)/Benchmarks for each project using Differential Global Positioning System (DGPS) in UTM WGS-84 coordinate system. The reference point for establishing GCPs shall be taken from Benchmarks established by SOI/ Government of State/Railways/Forest. • The consultant shall follow the norms of Govt. of Odisha for working in Wildlife area/sanctuary. • The consultant shall close and connect GCPs network of each PSP by Datum Levelling depicting MSL height with accuracy as per IS standard. The traverse length shall be taken as planned by consultant according to GCPs network for each PSP. • The consultant shall generate Topographical /prepare Contour plan map with Universal Transverse Mercator (UTM) projection on Auto Cad

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
			<p>format(.dwg) with contour interval of 1.0 m.</p> <ul style="list-style-type: none"> • Topographical map shall also show prominent features like water body, roads, Electric Substation & Transmission lines, Temples, etc. • The Topographical Survey includes taking cross sections of the river/ stream, reservoirs data (seasonal maximum and minimum discharges, capacity, etc), grid survey for possible locations of the HRT, powerhouse, switchyard, intake channel, Tail race channel, TRT, dumping areas for muck disposal, colony, office accommodation, and all other miscellaneous structures and facilities required for power project. <p>After completion of the topographical survey, a detailed report along with drawings of cross sections, River grid survey, contour map at a minimum interval of 1.0 m or below as per</p>

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
			requirement, etc. shall be submitted to GRIDCO. The consultant shall finalize the provisional layout of the project after getting approval from GRIDCO.
12	Clause no. 3: Geological Investigations & Testing by MOWR guidelines:	<ul style="list-style-type: none"> Investigations by the method of drilling at all project components. The depth of drilling shall be as per MOWR guidelines. 	<p>Geological Investigations & Testing by MOWR guidelines is replaced as Geological Surface Investigations:</p> <ul style="list-style-type: none"> Investigations by the method of drilling at all project components. The depth of drilling shall be as per MOWR guidelines.:- <p>Above points are Deleted from Scope.</p>
13	New Clause no. 9: Environment, Forest and Wildlife and Socio-Economic Aspects:		<p>Environment, Forest and Wildlife and Socio-Economic Aspects:</p> <ul style="list-style-type: none"> The Consultant shall mark and mention project components / location with respect to proximity/falling in wildlife sanctuary/ national park/protect area / heritage/migrating birds/habitations or monuments sites etc., as notified by government agencies/statutory/autonomous body time to time in reports & marked on Map and KML file.

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
			<ul style="list-style-type: none"> The consultant shall prepare extent of physical disturbance within Protected Area during investigation (tree cutting/earthwork/others) with tentative quantities and Justification for locating project in Protected Area.
14	<p>New Clause No. 10: Cost Estimation and Economic & Financial analysis:</p>		<p>Cost Estimation and Economic & Financial analysis:</p> <ul style="list-style-type: none"> The Consultant shall prepare cost estimation of the Civil & HM works of the final selected project layout including tentative Bill of Quantities (BoQ), rate of the major items on prevalent market rate / past experiences including Interest During Construction (IDC). The Consultant shall prepare cost estimation of the Electro-mechanical works based upon past experience and budgetary offers from the manufacturers/OEM. The Consultant shall carry out economic & financial analysis which includes IRR & ERR calculation based upon guidelines of GOI investment approvals and tariff calculation

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
15	New Clause no. 11: Data To be arranged by the Consultant		<p>based upon CERC or state regulations/guideline as applicable.</p> <p>Data to be arranged by the Consultant:</p> <ul style="list-style-type: none"> • Hydrological and Hydro Meteorological data like G&D data, IMD hydro-meteorological data, etc needed for the studies shall be collected by the consultant on his own cost. • SOI Topo sheets, SOI Benchmarks nearby project area shall be arranged by consultant. • Regional Geological maps, regional seismicity maps and local geological map shall be arranged by the consultant. • Any data required for marking of the boundaries from State government, Wildlife department, Forest department required for this assignment shall be arranged by the consultant on his own cost.
16	New Clause no. 12: Deliverables and Submission by Consultant:		<p>Deliverables and Submission by Consultant:</p> <ul style="list-style-type: none"> • The consultant shall prepare AutoCAD (.DWG) format Georeferenced topographical map of

Sr.No.	Original Clause	Original Clause Description	Revised Clause Description
			<p>the project area with, Topo sheets, GPS survey and established GCPS.</p> <ul style="list-style-type: none"> • The Consultant shall prepare & submit both soft and hard copy of all study reports. • All the report, design calculations, drawings shall be submitted by the consultant in both soft editable format for example excel spread sheet (in.xls format) and Auto Cad drawings (in .dwg format), etc and hard copy. <p>The consultant shall prepare 3 sets of reports along with drawings required for detailed Feasibility covering General arrangement/layout of the projects L-section/plan/ section of the project components, Reservoir plan, Vicinity map, Single Line diagrams (SLD) of the Electromechanical, Powerhouse plan and sections. Power Evacuation arrangements, main single line diagram and interconnection with grid. The number of drawings covered in the report shall be discussed and mutually agreeable</p>

5.3 Deliverables, Timelines and Payment Schedule

5.3.1 The selected Consultant shall submit the following reports as per the timeline mentioned against each.

Sl. No.	Name of the Deliverable/Report	Nos of Site	Timeline (From T where T=Date of issue of LoA	% contracted fees payable against successful sign-off of the deliverable
1	Inception Report (Screening Report of 26 sites)	10	T+0.5 months	5%
2	Pre-Feasibility Report submission	10	T+2 Months	20%
3	Draft Detailed Feasibility Report with Technical details submission	5	T+4 Months	20%
4	Draft Detailed Feasibility Report, incorporating Financial, Regulatory, Environmental and Social due diligence	5	T+6 Months	20%
5	Final Detailed Feasibility Report submission	5	T+8 Months	15%
6	Concurrence from CEA & CWC	5	T+12 Months	10%
7	Retention for Data safeguard	5	T+24 Months	10%

5.3.2 GRIDCO shall review and sign off the deliverables/reports submitted by the selected Consultant in complete shape within 15 (fifteen) working days of submission of the deliverable / report.

5.3.3 10% of the Retention amount will be paid after the support period. During the support period, GRIDCO may ask any clarification covering not limiting to interpretation and validation of data and report so submitted, understanding of developer and their queries thereof, any other things as required by statutory bodies and Government Authority.

5.3.4 The selected Consultant shall arrange for a presentation to the GRIDCO and / or any designated persons, following the submission of the deliverable / report. GRIDCO shall arrange the venue and any other facilities required for the presentation(s).

5.3.5 The selected Consultant shall ensure to make available such experts during such presentations who can effectively answer the queries of the participants, which may include representatives from the Government of Odisha, the Managing Director and other Directors of GRIDCO and the senior officers of the Renewable Energy Nodal Agency.

Annexure-A

COMPARISON MATRIX FOR HYDRO PUMPED STORAGE SITES											Annexure-A
Sl No	Parameters	Site1	Site2	Site3	Site4	Site5	Site6	Site7	Site8	Site9	Site10
1	Storage Capacity (MWh)										
2	Community Impact										
3	Environmental Impact										
4	Location										
5	Water Source										
6	Installed Capacity (MW)										
7	Number of generation hours										
8	Net Rated Head (meters)										
9	Head (Max/Min)										
10	Regulatory Challenges										
11	Total Water Discharge (Cumecs)										
12	Hydrology										
13	Cycle Efficiency										
14	MUs/year 95% availability (Approx figures)										
15	Upper Reservoir Capacity (MCM)										
16	Upper Dam(length/perimeter & height) meters										
17	Lower Reservoir Capacity (MCM)										
18	Lower Dam (length/perimeter & height) in Mtrs										
19	Water Conductor System (length in meters)										
20	L/H ratio										
21	Surge Shaft										
22	Powerhouse (excl. service bay)										
23	Access road										
24	Power Evacuation Options										
25	Land Details (Wildlife Sanctuary, Forest, R&R, Temples etc)										
26	Estimated project cost										

COMPARISON MATRIX FOR HYDRO PUMPED STORAGE SITES						Annexure-A					
SI No	Parameters	Site1	Site2	Site3	Site4	Site5	Site6	Site7	Site8	Site9	Site10
27	Misc issues (if any)										
28	Consultant Ranking (Scale of 1-10)										

ANNEXURE B

PROFORMA OF INDEMNITY BOND

(On non-Judicial stamp paper of appropriate value)

INDEMNITY BOND THIS INDEMNITY BOND is made this..... day of 20by M/s/ Shri..... and Address a Company registered under the Companies Act, 1956/ Partnership Firm/ Proprietary/trust/ societies Concern and having its Registered Office at(hereinafter called as ‘Consultant’ which expression shall include its successors and permitted assigns) shall be executed in favour of GRIDCO Ltd., a Company incorporated under the Companies Act, 1956 having its Registered Office at Janapath, Bhubaneswar (hereinafter called “GRIDCO” which expression shall include its successors/administrator and assign) :

WHEREAS THE GRIDCO has awarded to the Consultant vide its Letter of Award/Contract Agreement No..... dated..... and its Amendment No..... and Amendment No. (applicable as and when amendments have been issued) (hereinafter called as the “Contract”) forin terms of which the Consultant is to deliver the services to GRIDCO as per tender, in consideration of payment received against such services from GRIDCO.

AND WHEREAS such services are required to be delivered by the consultant at consultant’s site for execution of the Contract.

And WHEREAS by virtue of Clause No..... of the said Contract, the Consultant is required to execute an Indemnity Bond in favour of GRIDCO for the purpose of performance of the Contract.

NOW THEREFORE, This Indemnity Bond witnesses as follows:

1. For the purpose of execution of the Contract, the Consultant hereby undertakes to indemnify and shall keep GRIDCO*** indemnified, for the full value of the services.
2. That, the Consultant is obliged and shall remain absolutely responsible for the safe transit/ protection and custody of the persons/ Materials/Equipment at project Site against all risks, whatsoever till the completion of assignment in accordance with the terms of the Contract. The Consultant undertakes to keep GRIDCO harmless against any loss or damage that may be caused to the Persons/Materials/Equipment.
3. That, this Indemnity Bond is irrevocable. The Consultant binds itself and undertakes to replace the lost and/or damaged Materials/Equipment at his own cost. This is without prejudice to any other right or remedy that may be available to GRIDCO against the Consultant under the Contract and under this Indemnity Bond.

NOW THE CONDITION of this Bond is that the Consultant shall duly and punctually comply with the terms and conditions of this Bond to the satisfaction of GRIDCO. The above Bond shall be void after all the obligations under this Bond are fulfilled by the Consultant, otherwise, it shall remain in full force in perpetuity and virtue.

IN WITNESS WHERE OF, the Consultant has hereunto set its hand through its authorized representative under the common seal of the Company, the day, month and year first above mentioned.

For and on behalf of M/s.....

WITNESS

- 1. Signature
- 2. Name
- 3. Address

- Signature.
- Name
- Designation

Authorised representative\$

- 1. Signature
- 2. Name
- 3. Address

(Common Seal)
(In case of Company)

\$ Indemnity Bonds are to be executed by the authorised person and (i) in case of Contracting Company under common seal of the Company or (ii) having the Power of Attorney issued under common seal of the company with authority to execute Indemnity Bond, (iii) In case of (ii), the original Power of Attorney specifically executed for this Contract should be attached to Indemnity Bond.

*** to insert the designation of the Authorised Person appointed by GRIDCO for this purpose

Annexure C: List of 26 nos Potential Sites (Ref: Data Source -ANU Map)

s.no	District	Lower Reservoir			Upper Reservoir			Pumped Hydro storage project			
		Latitude	longitude	Elevation(m)	Latitude 2	longitude2	Elevation(m)2	Head (m)	Separation (km)	Energy Storage	Capacity MW
1	Gajapati	18.962302 78	84.08965 556	288	18.9572	84.0689	730	442	2.3	24862.31	4143.72
2	Malkangiri	18.684913 89	82.13997 5	283	18.6833	82.17	571	288	3.4	19075.94	3179.32
3	Gajapati	18.9506	84.2678	460	19.0197	84.3369	1121	661	8.3	14279.64	2379.94
4	Sundergarh	21.8467	84.5503	321	21.8786	84.5714	584	263	4	9701.62	1616.94
5	Gajapati	19.3097	84.3606	171	19.2519	84.3833	651	480	6.6	6945.6	1157.6
6	Kehdular	21.5108	85.3278	220	21.5208	85.3708	631	411	4.6	6701.03	1116.84
7	Ganjam	19.455113 89	84.40699 722	170	19.4758	84.3408	647	477	7.3	6027.26	1004.54
8	Gajapati	19.2519	84.0989	292	19.28	84.0456	712	420	6.4	5324.14	887.36
9	Koraput	18.944413 89	83.22446 389	230	18.9553	83.1989	785	555	4.1	3619.54	603.26
10	Kalahandi	19.645	82.5919	360	19.6153	82.5394	651	291	1.6	3499.09	583.18
11	Ganjam	19.1206	84.3883	100	19.0681	84.3914	930	830	5.9	3044.81	507.47
12	Nayagarh	20.3622	84.6608	160	20.3406	84.6856	651	491	3.6	2901.95	483.66
13	Malkangiri	18.146280 56	82.31035 278	576	18.1381	82.3222	850	274	1.7	2792.1	465.35
14	Koraput	18.93	83.1131	450	18.9631	83.1083	830	380	3.86	2788.02	464.67
15	Gajapati	19.0322	84.1431	170	19.1167	84.1556	861	691	9.5	2534.9	422.48
16	Kehdular	21.3569	85.4922	190	21.405	85.5317	730	540	6	2201.07	366.84
17	Malkangiri	18.321447 22	82.34393 333	472	18.3153	82.4197	900	428	8.28	2093.46	348.91
18	Kandhamal	19.7875	84.2275	201	19.8222	84.1722	761	560	7.1	2054.33	342.39
19	Kandhamal	19.9575	84.4286	141	19.9569	84.3503	691	550	8.3	1793.46	298.91
20	Sundergarh	22.0944	84.7847	200	22.0128	84.7781	531	331	4.7	1619.01	269.83
21	Kalahandi	19.429008 33	82.70858 611	270	19.4117	82.6719	600	330	3.5	1479.61	246.6

s.no	District	Lower Reservoir			Upper Reservoir			Pumped Hydro storage project			
		Latitude	longitude	Elevation(m)	Latitude 2	longitude2	Elevation(m)2	Head (m)	Separation (km)	Energy Storage	Capacity MW
22	Malkangiri	18.319711 11	82.24325	465	18.3369	82.2272	860	395	5	1449.04	241.51
23	Nayagarh	20.3789	84.6817	140	20.3722	84.6933	420	280	1.4	1369.55	228.26
24	Malkangiri	18.673972 22	82.21798 333	302	18.6878	82.2247	583	281	1.7	1259.91	209.98
25	Ganjam	19.6394	84.3206	160	19.5864	84.2814	571	411	3.3	1256.44	209.41
26	Malkangiri	18.4767	82.2181	260	18.455	82.29	850	590	5.3	1202.44	200.41

Note: The above revised clause will supersede the any related clauses of the tender document.

S/D
CPM (RE)