

**Development of Grid Connected Small/Mini/Micro Hydel  
Projects in the State of Orissa – Practice Direction of the Orissa  
Electricity Regulatory Commission**

1. The State of Orissa has good potential for generation of electricity from renewable sources of energy such as solar, wind, small hydro, biomass and co-generation etc. As per the Electricity Act, 2003, promotion of cogeneration and generation of electricity from renewable sources of energy have been made the explicit responsibility of the SERCs. According to Clause 6.4 of Tariff Policy and provisions of section 86(1)(e) of the Act, the Appropriate Commission shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such resources in the State and its impact on retail tariffs. Such percentage for purchase of energy should be made applicable for the tariffs to be determined by the SERCs w.e.f. April 1, 2006. Again the National Action Plan on Climate Change (NAPCC), prepared by Prime Minister's Council on Climate Change under Clause 4.2.2 states that at the National level for FY 2010, target for RE Purchase may be set at 5% of total grid purchase, to be increased by 1% each year for 10 years. SERCs may set higher target than this minimum at any point of time.
2. The Commission, therefore, wanted to interact with officers entrusted for development Small/Mini/Micro Hydel Projects along with relevant records so that an appropriate mechanism can be worked out to avoid delay in clearance of such Hydro projects and fix the time limit for clearance by different agencies and to issue a practice direction under Regulation 75 of OERC (Conduct of Business) Regulations, 2004 in order to comply with the Renewable Purchase Obligation (RPO) in Orissa and requested the Head of the organizations to attend the meeting along with other senior officers dealing with the subject scheduled on 27.08.2010 at 4.00 PM.
3. Accordingly the meeting was held on 27.08.2010 at 4.00 PM in the Conference Hall of OERC. The list of participants from different Departments and Licensees are at Annexure-I. At the outset of the meeting Shri K C Badu, Member, OERC said that as per Section 61 (h) and 86 (e) the State Commission shall have to promote Co-generation and generation of electricity from renewable energy sources. Section 61 of the said Act prescribes the philosophy to be followed by the SERCs while determining tariffs whereas Section 86 prescribes the functions of the SERCs. Both these Sections are mandatory and therefore put significant responsibility on the SERCs for promotion of renewable sources of energy. OERC has already issued order on 08.10.2010 in Case No.59 of 2010 for Renewable Purchase Obligation (RPO) in the State yearwise upto the year 2014-15. In case our State fails to meet the RPO we have to purchase Renewable Energy Certificates (REC) at higher cost without even availing the quantum of energy. In our State there is a vast potential for development of small hydro projects. By utilizing these resources we may meet our target RPO as well as to generate substantial revenue in selling REC or through sale of power through Open Access route. Many project developers have applied for establishment of Small Hydro Projects in Orissa. But due to lack of effective co-ordination at State Technical Committee (STC) level it has been difficult to develop the projects. The proposals are lying at different stages in the offices of EIC, Water Resources and EIC (Elct.)-cum-PCEI, Orissa for last 5 to 7 years.
4. Shri B K Misra, Member, OERC added that presently in the year 2009-10, the total generation from Renewable Sources (excluding co-generation) in the State of Orissa

was only in the order of 0.8% and the same is estimated at 1.49% during 2010-11. It is understood that Govt. of Orissa is coming out with a Revised Policy Guidelines for Small/Mini/ Micro hydel projects and the same should be expedited. EIC (Elect.)-cum-PCEI being the Chairman of STC and the Nodal Officer for all SHEP Projects should take full responsibility for quick approval of Pre-Feasibility Reports (PFRs), Detailed Project Reports (DPRs), issue of Techno-Economic Clearance (TEC) and recommendation of Implementation Agreements (IA) to the Government. As reported by EIC (Elec.), approved DPR of 14 nos. of small hydro projects are pending at approval stages for about three/four years even after TEC. Substantial number of these projects would see the light of the day if construction drawings are approved and Implementation Agreements are executed. Similarly, there are 15 other projects for which MoUs have been signed and DPRs have been circulated among the STC members for about three/four years. But TEC has not been accorded so far. These are classic examples of delay and show our utter apathy for making use of the available resources to generate clean energy at a very reasonable cost.

5. EIC (Elect.)-cum-PCEI stated that the delay in approval of projects are mainly due to general apathy of the members of STC. There are inordinate delay in receiving the comments of the STC members on various issues and absence of many STC members in the meeting. In addition, there is a delay in approval of construction drawings of the projects by the EIC, Water Resources. In some cases the developers have not obtained some of the statutory clearances such as forest clearances and connectivity clearances from OPTCL etc. Further, sometimes there is also delay for scrutiny of PFRs, DPRs due to shortage of man power in the office of EIC (Elect.).
6. EIC, Water Resources expressed that they can clear the PFRs/DPRs within one month in respect of scrutiny of hydrological data only. But due to shortage of adequate manpower it is not possible for them for scrutiny of design and construction drawings. Further, EIC, Water Resources opined that in case of drawings are vetted by IIT, Roorkee, they have also to verify certain issues for according the necessary approval of the drawings.
7. Additional Secretary to Govt. of Orissa, Department of Energy and Additional Secretary to Govt. of Orissa, Department of Water Resources assured in the meeting that they would review the reasons of delay on implementation of small hydro projects in the State with EIC (Elect.) and EIC, Water Resources and sort out the problems so that there would not be any unnecessary delay for giving clearance to the small hydro projects from now onwards.
8. Shri K C Mohapatra from Project Development Consultants expressed that the projects which will utilize the water released from the existing reservoirs should be taken up immediately. He has submitted six nos. of such projects as given below which are pending for approval of design and drawings in the Water Resources Dept.
  - (i) Balinala SHP (20 MW), (ii) Gouda Gotha SHP (6 MW), (iii) Padma SHP (6 MW), (iv) Kanpur Dam Toe SHP Power Project (3 MW), (v) Jambira Dam Toe Power House (2.4 MW) & (vi) Ong Dam Toe Power Project (2 MW).

He also explained that priority should be given for projects which are proposed for utilizing the discharge from the dams under construction by the W. R Dept.

He said that there are many other Project Reports pending with EIC (Elect.). EIC (Elect.) should shortlist the Project Reports by rejecting those which don't qualify

financial criteria already approved by the Energy Dept. and which are not in line with CEA guidelines /IREDA guidelines.

9. The representatives of WAPCOS stated that they have been assigned for preparation of PFR/DPR by Water Resources Department of Govt. of Orissa in different large hydro projects in Orissa. Now, they are also taking up the jobs of small hydro projects in other states. If the job of preparation and/or vetting of PFR/DPR including construction drawings is offered to them, they can also take up the same in Orissa. They can also take up the complete 'turn-key' work as consultant right from Survey & Investigation, preparation of PFR, DPR and Construction drawing and monitoring of the Project implementation.

10. The Commission perused the existing guidelines/notification of Govt. of Orissa on Small, Mini, Micro Hydel Projects mentioned as under:

10.1 Govt of Orissa, Dept. of Energy vide Lr. No. 7400 dtd. 23.06.2003 issued Revised Police Guidelines for execution of Mini/Micro/Small HE Projects by Private Developers

- **Micro HE Schemes with a total installed capacity upto 100 KW**
- **Mini H.E. Scheme with a total installed capacity upto 2000 KW**
- **Small H.E. Scheme with a total installed capacity upto 25 MW**

10.1.1 The State Govt. will sign MoU with such Public Sector or Private Sector for execution of Projects where Project cost is less than Rs.250 cr and installed capacity is 25 MW or less after considering the various aspects as per the following:

- Technical soundness of the pre-feasibility study
- Detail survey and investigation report
- Financial standing of the party
- Experience in the relevant fields and
- Commercial viability.

10.1.2 The Developer after signing MoU

- Shall arrange to prepare Detailed Project Report (DPR) through reputed consultants
- Submit the DPR to EIC (Elect.)-Cum-PCEI and Govt. of Orissa for detailed scrutiny.
- Clearance of State Technical Committee (STC) which consists of 6 members and EIC (Elect.) is the Chairman.
- EIC (Elect.) is the Nodal Officer for such projects and information on Govt. subsidies/grant etc. are available with Nodal officer.
- STC should normally consider the viability of the project within 3 months from the date of submission of DPR.
- Clearance from State Pollution Control Board, Dept. of Forest & Environment and Water Resources Dept. are to be obtained by the Developer.

- In principle clearance of OPTCL/ the concerned DISCOM is to be obtained by the Developer.
- 10.1.3 Developers interested in setting up Small/Mini/Micro HEP may apply to Engineer-in-Chief (Electricity), Govt. of Orissa in the prescribed form [available in EIC (Elect.) office on payment of Rs.500/- per set] who will process and submit the same to Govt. for approval.
- 10.2 Govt. of Orissa, DoE vide Lr. No. 6603 dtd. 03.08.2005 issued an addendum to the earlier Letter No. 7400 dtd. 23.06.2003.
- 10.2.1 The Addendum says that National Electricity Policy (NEP) issued by GoI provides that “Feasible potential of non-conventional energy sources mainly Small Hydro, Wind and Bio-mass would also need to be exploited fully to create additional power generation capacity. With a view to increase the overall share of non-conventional energy sources in the electricity mix, efforts will be made to encourage private sector participation through suitable promotional measures.”
- 10.2.2 In order to facilitate **sale of power to State Grid, these units (hydel/biomass sources) generating Renewable Energy in the State should submit their proposal for sale of power to EIC, Electricity-cum-PCEI, Orissa, Bhubaneswar who will examine the same and recommended to the State Govt. for purchase for power.** The proposal will be endorsed to a State Designated Entity (SDE) i.e. GRIDCO for execution of PPA with Developer.
- 10.2.3 **The Developers supplying power to the outside State should supply 12% free power to a SDE. The tariff for all such Mini/Micro and Small Hydro Project which have not been commissioned till 01.04.2004 should factor into such supply of 12% free power to the SDE.**
- 10.3 Parallaly, Govt. of Orissa, Dept. of Science and Technology (S&T) vide Resolution No. 6971 dtd. 03.12.2005 issued Policy Guidelines on Power Generation from Non-conventional Energy Sources (NCES) which will remain in force upto 2<sup>nd</sup> December, 2015.
- 10.3.1 As per Para 1 of the said Resolution, potential sources of NCES are from
- Solar Power
  - Biomass Energy
  - Wind Energy
  - Ocean/Tidal/Wave Energy
  - Micro/Mini/Small Hydro Energy
  - Geothermal Energy
- 10.3.2 As per Para 9.5 of the Resolution, the norms and guidelines would apply to New and Renewable Sources of Energy (NRSE) Power Projects and are subject to change pursuant to any change in Regulatory Framework and Power Scenario of the State. **In case there is any conflict between the Policy Guidelines and other statutory provisions, the latter shall prevail.**

- 10.3.3 As per Para 11 of the said Resolution, the intending Promoters, after signing the MoU, shall arrange to prepare the DPR through a reputed consultant and submit the same to Chief Executive, OREDA for detailed scrutiny.
- 10.3.4 As per Para 13.3 of the Resolution, OREDA will act as Nodal Agency for the entire programme and function as the Single Window for provision and facilitation of all projects.
- 10.3.5 **As per Para 13.4 of the Resolution, for Small, Mini and Micro Hydel Projects, administrative Dept. will be Energy Department and S&T Dept. will handle the rest.**
- 10.4 As per the minutes of Meeting (MoM) held on 11.05.2010 under the Chairmanship of Chief Secretary for review of the progress of Small Hydro Electric Projects, among others, the following decisions were taken.
- 10.4.1 OHPC is to take up a few of the SHP proposals and at least complete one SHP in a financial year. OHPC has the manpower and can invest from its own sources.
- 10.4.2 OHPC shall be given first preference before opting for Private Developers. Some Civil and Mechanical Engineers would be brought from Water Resources Dept. to OHPC for such activities.
- 10.4.3 The development of Micro hydel project sites (upto 100 KW) should be entrusted to OREDA and those are to be developed either as Decentralized Distribution Generation under DDG Scheme provision of RGGVY a with the help of NGOs/SHG.
- 10.4.4 To cancel the MoUs in respect of those developers who have not submitted the DPR in the prescribed time limit or not achieved any significant progress after signing of MoUs.
- 10.4.5 A Roadmap for such development of SHP is to be prepared to achieve additional generation capacity in a time bound manner.
- 10.4.6 Water Resources Department may take the institutional support to check up Design and Drawings from IIT, Roorkee or any other Premier Institutions having good reputation.
- 10.4.7 It was also decided that such institutions will be given the assignment on behalf of Govt. of Orissa for checking and vetting of Design and Drawings with a condition that the Institution would not have rendered any consultancy to the same private developer for the same project for which WR Dept. has assigned the job.
11. The Commission perused the aforesaid guidelines, Policies and decisions issued/ taken by the Govt. of Orissa from time to time and has drawn up the following inference as regards to development of Small/Mini/Micro Hydel Projects in the State.
- 11.1 For Small/Mini/Micro Hydel Projects the Energy Department is the Administrative Department and EIC (Elect.) is the Nodal Officer and the Chairman of the STC for scrutiny and clearance of all such projects. For convenience, it is called STC (Hydro) or only STC, hereon .
- 11.2 For all other Renewable Energy Projects such as Solar, Biomass, Wind, Ocean/Tidal/Wave energy and Geothermal, OREDA is the Nodal Agency to

function as the single window for promotion and facilitation of all such renewable projects. The Science and Technology Department is the Administrative Department and the Secretary, Science and Technology Department is the Chairman of the STC constituted for the purpose for scrutiny and clearance of all such renewable projects. For convenience, it is called STC (Renewable) hereon.

- 11.3 The Developer after signing the MoU (PFR is pre approved) with Government shall arrange to prepare the DPR through a reputed consultant and submit the same to EIC (Elect.) for hydro projects and to Chief Executive, OREDA for Renewable projects for further scrutiny by STC (Hydro) and STC (Renewable) respectively.
  - 11.4 A Road Map for development of Small /Mini/Micro Hydel Projects is to be prepared to achieve additional generation capacity in time bound manner.
  - 11.5 All non-serious projects for which DPRs are yet to be submitted to STC and those projects which have not achieved any significant progress after signing the MoUs are to be identified and cancelled.
  - 11.6 OHPC shall be given first preference for development of Small /Mini/Micro Hydel Projects before awarding to the private developers as OHPC has the manpower and financial resources.
  - 11.7 Water Resources Department may take institutional support to check up Designs and Drawings from IIT, Roorke or any other Premier Institutions and in no case these Hydro Projects shall be delayed under plea of shortage of manpower.
12. The Commission also reviewed the workings up of the existing Investigation Circles under EIC (Elect.) at Jaipur and Keonjhar. As per the written submission to the Commission by EIC (Elect.), both the Investigation Circles, so far, have completed Survey and Investigation works of 7 nos. of projects totaling to about 20 MW but are yet to finalize a single PFR. Shri K C Mohapatra, intervened to inform the Commission that during the last seven years both the Investigation Circles have not taken any initiative for Hydro Power Development in the State. Both EIC (Elect.) and Additional Secretary, Dept. of Energy informed the Commission that due to shortage of manpower, both the Investigation Circles are unable to take up any survey and investigation works of any new hydro projects and the existing skeleton staff are being utilized for other important works under EIC (Elect.).
  13. The Commission observed that the 'Survey and Investigation' are key activities for development of Small/Mini/Micro Hydel Projects for allotment to Project Developers through MoU or bidding route. The revised policy guidelines being issued by the Department of Energy Govt. of Orissa may address this important issue whether the existing two Investigating Circles under EIC (Elect.) need to be strengthened infusing adequate manpower and be given a target for preparation of PFR after due survey and investigation work of at least 5/7 projects in a year or alternately the survey and investigating circles can be merged with OHPC. In addition, Government of Orissa may also explore to outsource the survey and investigating works to any State or Central PSUs like NHPC, OHPC, WAPCOS etc. or to any reputed consultants. The outsourced agency may have to be advised first to prepare PFRs for the seven nos. of projects for which survey and investigation works have been completed and as well as

to prepare the PFRs of the new projects after the survey and investigation. In the new projects, priority shall have to be given to Dam Toe and Canal Drop projects having less ecological and construction risk.

It is reported that the few irrigation dams presently under construction have also the potential for harnessing hydel power if Dam Toe small hydro power (SHP) Projects are also considered to be developed there. Such projects shall be immediately outsourced to prepare PFRs for obtaining the approval of the STC for floating the competitive bids. The preparation of the PFRs and approval of STC should have to be completed on priority by March, 2011 for tariff based competitive bidding within the ceiling tariff to be fixed by OERC.

**[Action – Deptt. of Energy, Govt. of Orissa]**

14. The Commission also perused the statements furnished by EIC (Elect.) as well as by the EIC, Water Resources on the status of 84 nos. of identified Small/Mini/Micro Hydel Projects which can be grouped/classified as under:
- (A) DPRs of 14 Projects already approved and TEC accorded by STC – **Pending at the approval stage of Construction Drawings.**
  - (B) PFRs of 15 Projects already approved by STC. Developers have already submitted DPRs to STC and the same have been circulated to the Members of STC – **Pending at STC for approval of DPR and TEC.**
  - (C) Projects for which in-principle approval PFR has been accorded by STC, but the Developers are yet to submit DPRs – **Pending with Developers.**
  - (D) PFRs submitted by the Developers to STC – **Pending for in-principle approval of STC and signing of MoU with Govt.**
  - (E) Rest of the feasible Projects for which Survey & Investigation are to be carried out and to be prepared either by EIC (Elect.) and/or outsourced Agency – **Govt. should address Revised Hydro Policy and prepare a Road Map.**

## **PRACTICE DIRECTION**

### **Category ‘A’ Projects**

15. Regarding the DPRs of 14 Projects already approved and TEC accorded by STC (Hydro), the Commission has examined in details of each projects as per the Statement at Annexure-II. The Commission has observed that except two projects i.e. Jalaput Dam Toe (18 MW) which is now sub-judice in AP High Court and Kharagpur (10 MW) where the Govt. of Orissa has stopped execution, all the balance 12 projects can be taken up for implementation on priority so that the actual construction works for these projects can be commenced within a period of 9 -12 months from now on. EIC (Elect.) being the Nodal Officer for Small/Mini/Micro Hydel Projects should co-ordinate and take up the full responsibility for implementation and take up the project to construction stage.

The Commission has observed that one of the main reasons for delay in implementation is due to non-approval of construction drawings by EIC, Water Resources. It has been reported that in few cases, Developers have got the construction drawings vetted by IIT, Roorke and in some cases, EIC, Water Resources has also asked Developers to get the construction drawings vetted from

IIT, Roorke but still the aforesaid drawings could not be approved by EIC, Water Resources. During the deliberation on the subject, EIC, Water Resources informed that due to shortage of staff, it was not becoming possible to accord final approval on some of the construction drawings even if it is vetted by IIT, Roorke. EIC, Water Resources, however, agreed to approve the Hydrology-related aspect of such projects on priority.

The Commission desires that if the Construction Drawings have already been vetted by a Premier Institution or any State or Central PSUs (like OHPC, NHPC, WAPCOS etc.), the formal approval of EIC, Water Resources should not be delayed beyond one month of the date of submission of duly vetted construction drawings as decided in the meeting taken by Chief Secretary on 11.05.2010.

Accordingly, the Commission directs as under:-

- (a) STC may identify the list of Premier Institutes/Agencies/State and Central PSUs who can be either assigned to vet the construction drawing by EIC, Water Resources or by Developer themselves in the next STC meetings. The approved list should be widely circulated and posted in the Websites of Energy Department/WR Department/OHPC/OREDA etc.

**[Action – EIC(Elect.)]**

- (b) Both the Deptt. of Energy and Deptt. of Water Resources may hold a meeting specifically for review of the category-A projects and give clear direction to EIC, Water Resources to give formal clearance on vetted construction drawings by Premier Institutions and entrust the balance construction drawings for vetting by Premier Institutes within 45 days. In a case, EIC, Water Resource finds difficulty in entrusting the work to Premier Institutes due to compliance of departmental formalities, the Developer may be advised to get the Construction Drawings vetted from any of the approved Institution/Agency [refer para(a)]. The vetted construction drawings should be approved by EIC, Water Resources Department within a month of the date of submission, failing which STC should be authorized to approve the vetted construction drawing in its next meeting.

**[Action – Deptt. of Energy & Deptt. of Water Resources, GoO]**

- (c) EIC (Elect.), as nodal officer may recommend DoE for signing of Implementation Agreement with Govt.; PPA with SDE i.e. GRIDCO and OPTCL/concerned DISCOM for connectivity by the Developer.

**[Action – EIC(Elect.)]**

- (d) Developer may be advised to obtain all statutory clearances and financial package approval and start construction within six (06) month of signing of Implementation Agreement with a clear intimation that failing which there is likelihood of cancellation of MoU/IA. Such cancelled projects, if any could be immediately be put up for tariff based bidding.

**[Action – Developers]**

### **Category ‘B’ Projects**

16. Regarding the 15 projects for which PFRs have been cleared by STC, and the Developers have since submitted DPRs, the Commission viewed the main reason of



delay for non-approval of DPR and TEC that there is a general apathy and lack of co-ordination among the STC members. Though there is a clear guidelines of DoE vide ltr. No.7400 dt.23.06.2003 that STC should normally consider the viability of the project within 3 months of the date of submission of DPR, **but in practice, the Commission has observed that the aforesaid guidelines have been conveniently forgotten by all concerned.** The general plea of shortage of staff at EIC (Elect.) and EIC (Water Resources) offices, and, therefore, the proposals are languishing as many as 4 to 5 years at STC level cannot be accepted. In case there is really shortage of staff, Govt. may strengthen these offices or empower them to outsource the DPR scrutiny work to reputed consultancy organization or to one of the approved list of Premier Institutions/Agencies by STC as per para-15(a) above.

The Commission accordingly directs as under:-

- (a) STC in the next meeting may meet and decide whether the 15 nos. circulated DPRs will be scrutinized by individual members of STC or the DPRs will be withdrawn from circulation and assigned to the outsourced expert agency for scrutiny. In case the DPR scrutiny will be done departmentally then the individual member may forward their comments latest by 60 days, failing which it would be construed by STC that the member concerned has no comments to offer contrary to DPR provision;

**[Action – EIC(Elect.)/STC Members]**

- (b) In case the DPR scrutiny is outsourced, the outsourced agency may be assigned to offer the comments on DPR within 45 days. The comments of expert agency will be circulated by STC to the individual members to furnish their views within 30 days. If no views received from any individual member, it shall be construed by STC that the member concerned agrees with the views of expert agency on the DPRs;

**[Action – Monitoring by STC Secretariat]**

- (c) The consolidated comments on each DPR shall be communicated to the Developer by STC-Secretariat for compliance and the Developer may be advised to give a detailed presentation of the project to the STC members for approval of DPR and according TEC. The expert of the outsourced agency may also be invited to the STC meeting;

**[Action –STC Secretariat & Developers]**

- (d) The whole of the above process (a) to (c) shall be completed within three (3) months as per the existing guidelines of the DoE, Govt. of Orissa;
- (e) On approval of TEC, the Developer may be advised to take action on obtaining statutory clearances and to submit the Construction Drawings within 6 months of the date of TEC by STC, failing which the Project sanction is liable to be cancelled. The Developer may be informed by STC- Secretariat accordingly; and

**[Action –STC Secretariat & Developers]**

- (f) On receipt of the Construction Drawings from the Developer, the project could be considered as “Category-A Project” and the practice directions applicable to “Category-A Projects” would follow.

### **Category 'C' Projects**

17. The Commission noted that quite a number of projects among the listed 84 nos. have been accorded 'In-principle clearance' by STC; MoU has been signed by the Govt.; but the Developers have not taken adequate interest to submit DPRs to STC. In the Chief Secretaries meeting, it was deliberated that the MoU of the non-serious developers would be cancelled.

Accordingly, the Commission directs as under:

- (g) EIC (Elect.) shall forward to the Developers the list of approved Premier Institutions/Agencies/State & Central PSUs for taking expert assistance, if required;
- (h) Developer may be given a notice to submit DPR latest by 90 days, failing which the MoU with Developer may be cancelled and put up for development through competitive bidding route; and

**[Action –STC Secretariat for (a) & (b)]**

- (i) On receipt of DPR in complete form, the Project shall be considered as 'Category-B' project and practice direction applicable to 'Category-B' and 'Category-A' would follow.

### **Category 'D' Projects**

18. The Commission noted that quite a number of Developers conducted their own survey and investigation works and have submitted PFRs to STC, but no tangible progress has done on the matter. During deliberation, it was reported that while submitting PFRs; adequate survey and investigation work have not been made by the Developers for which the in-principle approval of STC is pending. The Commission feels that the reason put forth for delaying the process is not satisfactory. Another reason reported for delay is on account of general shortage of manpower at Energy and Water Resources Deptt.

The Commission observed that the basic work of 'Survey and Investigation' for preparation of PFR for development of hydro project is basically a departmental work and should have been carried out by two existing Investigation Circles by EIC (Elect.). If due to logistic problems, departmental work is not being carried out effectively, either Govt. outsource the survey and investigation work to the reputed consultant or may advise the developers to prepare PFR based on the field survey and investigation work by reputed consultant. STC may have a panel of reputed consultants/agencies to take up the assignment of field survey and investigation and preparation of PFR.

Accordingly, the Commission directs as under:

- (a) DoE, Govt. of Orissa/STC may have a panel of consultants/agency who can take up the assignment of field survey and investigation work and preparation of PFR.

**[Action – STC Secretariat]**

- (b) The developer may be advised to have a re-examination of PFR and get vetted by any one of the approved panel of consultants.

**[Action – Developers]**

- (c) STC may in its next meeting decide the procedure for :

- (i) the projects for which PFR is required to be returned to the Developer for re-submission duly vetted by a reputed consultant/premier institute/Central or State PSU;
- (ii) the projects for which comments have been sought for from the developer; but the compliance is awaited, STC may give one more chance to them to comply the comments examined by reputed consultant within 30 days, failing which the projects should be withdrawn from such non-serious developers;

**[Action – STC Secretariat]**

- (iii) the projects for which PFRs are in order, EIC (Elect.) may seek comments/views of the members of STC within 45 days, if no comments received within 45 days, it will be construed that the individual members and the concerned Deptt. have no view to offer contrary to PFR provision. STC may accord 'In-principle approval' of such PFR within 60 days.

**[Action – STC Members]**

- (d) The whole process (a) to (c) must be completed within 60 days from the date of the next STC meeting.
- (e) The projects which are withdrawn from the developers shall be entrusted to the reputed consultants to prepare PFR with due survey and investigation work and put up for bidding. The cost of PFR preparation through outsourced agency along with departmental overhead charge may be charged to the successful bidder.

**[Action – STC Secretariat]**

- (f) The project for which In-principle approval accorded by STC shall be recommended to Govt. for signing MoU and the project shall be considered as Category 'C' project and the practice directions of Category 'C', 'B' & 'A' would follow.

**Category-'E' Project**

19. During the meeting, it was reported to the Commission that apart from the above 84 projects, there are many other better feasible projects having relatively less construction and ecological impact which need to be harnessed to develop renewable portfolio. In this context, Mr. K.C. Mohapatra of Project Development Consultants has, among others, referred to the following Dam Toe/ Canal drop projects which could be harnessed with least cost and least time.

- (a) BALINALA SHP (20 MW)  
Revised project report has been cleared on 16.12.08. Recommendation for allotment has been forwarded to Energy Department on 28.01.2009 for issue of allotment order by EIC. EIC have further reminded Energy Department on 19.05.2010. Allotment order is awaited from Energy Department.
- (b) GOUDA GOTHA SHP (6 MW) on the down stream of Balimela Project.  
Status is same as Serial (a).
- (c) PADMA SHP (6 MW) on downstream of Gouda Gotha Project.

Status as stated in item (a).

The detailed project reports for all the above 3 projects have also been submitted by the developer to the EIC on 22.12.2008. Issue of Techno-Economic clearance of the DPR is awaited from EIC.

(d) KANPUR DAM TOE SHP Power Project (3 MW)

Project report has been cleared in 43<sup>rd</sup> special STC held on 27.08.2008. The EIC have recommended Energy Department vide letter No.194 dated 09.02.2009 for issue of allotment. Same is awaited.

(e) JAMBIRA DAM TOE POWER HOUSE (2.4 MW)

In-principle clearance of the project accorded by 43<sup>rd</sup> STC meeting Dated 27.08.2008. STC have recommended vide letter No.1589 dated 03.12.2008 for issue of allotment order. Allotment order is yet to be issued by Energy Department.

(f) ONG DAM TOE POWER PROJECT (2 MW)

Project report has been submitted to EIC dated 17.5.2008. The decision of STC is awaited.

The projects at (a) to (c) are Captive to M/s Jayashree Chemicals Ltd., Ganjam, the project at (d) is Captive to M/s Power Electrical & Minerals and at (e) is Captive to M/s Jambira Power Ltd. The Project at (f) is an IPP.

He also intimated that many industry having its fossil fuel based CGPs, in the state are interested to have captive small/mini/micro hydel projects primarily to meet their own 'Renewable Purchase Obligation (PPO) and sell surplus power to the State Grid after supplying free power. Further, the Commission observed that in the meeting taken by Chief Secretary on 11.05.2009, among others, it was decided that the development of Micro hydro projects (upto 100 KW), not connected to grid shall be entrusted to OREDA under DDG Scheme and other Grid connected scheme will be first offered to OHPC before opting for private developers.

The Commission accordingly directs as under:

- (a) DoE, Govt. of Orissa, in its revised policy guidelines may address the issue of speedy implementation of small hydro projects specifying the condition for allocation to the projects to Public sector or Private sector developers on competitive bidding route.
- (b) The policy guidelines may also make it clear that all Grid connected hydel schemes will be looked into by EIC (Elect.) i.e. STC (Hydro) and all other renewable projects including non-grid connected hydel schemes shall be looked into by OREDA under S&T Deptt., Govt. of Orissa.
- (c) The policy may also address the Roadmap with timelines and monitoring mechanism for different stages of hydro projects categorized for convenience sake as category A, B, C, D & E above.

**[Action - DoE, GoO for (a) to (c)]**

## **General**

20. In order to have a streamlined approach, the Commission in addition to the above, like to suggest as under:

- (a) STC may have a fixed date and time for holding its meeting say on 2<sup>nd</sup> Monday of every month (In case of holiday, the meeting could be held on the next working day).
- (b) The designated members of STC should personally attend the meeting, in case of preoccupation of the members of STC, they may duly authorize, in writing, their representatives who will take decision on their behalf in the meeting. Leave of absence may be allowed in extra-ordinary case; however, two nos. continuous leave of absence of any individual member may be immediately reported by STC Secretariat to the concerned administrative deptt. of the Govt.
- (c) (i) GRIDCO may prepare a standard P.P.A. for Small/Mini/Micro Hydel Projects within two months. GRIDCO should approve the draft PPA as submitted by the developer within 4 weeks of issue of TEC by E.I.C. Electricity.  
(ii) OPTCL should prepare a general guideline for connectivity condition as per CEA notification and orders of CERC & OERC on the subject time to time. Connectivity approval should not be delayed for beyond 90 days.

### **[Action- STC Secretariat, GRIDCO & OPTCL]**

- (d) The Commission desires that STC Secretariat may circulate a note among the STC members to decide on planning, but not limited to, in its next meeting to be convened on 2<sup>nd</sup> Monday of November, 2010.
  - (i) To identify and approve a list of Premier Institutes like IITs, NITs etc. reputed agencies and State and Central PSUs dealing with hydro project consultancy work who could be engaged in preparation and/or vetting construction drawings and examination of DPRs.
  - (ii) To identify and approve list of reputed consultancy organization State and Central PSUs dealing with hydro project consultancy work who could be entrusted the work of “Survey & Investigation” work and preparation of PFR and DPRs and monitoring of erection and commissioning.
  - (iii) To identify and to recommend the govt. the list of non-serious developers whose MoUs need to be cancelled and such projects will be put on competitive bidding.
  - (iv) To have a Code of Conduct for holding the STC meetings for proper Co-ordination among the members for adhering to the timelines as prescribed under the existing/to be revised Govt. notifications on the subject and decisions taken in the Chief Secretary meeting held on 11.05.2010.

The representative of Deptt. of Energy and Deptt. of Water Resources and the Commission staff may be invited as observers in the November STC meeting.

### **[Action – STC Secretariat]**

21. Both the Members of the Commission Sri K.C. Badu and Sri B.K. Misra thanked the participating officers of Deptt. of Energy, Deptt. of Water Resources, GRIDCO, Representatives of WAPCOS and Sri K.C. Mohapatra of Project Development Consultant and requested that expeditious actions should be taken by all concerned to draw a Roadmap to complete all the probable 206 nos. of identified sites for development of Small/Mini/Micro hydel projects in the State of Orissa by 2020 so that Orissa can easily meet the Renewable Purchase Obligation (RPO) as mandated by National Action Plan for Climate Change (NAPCC).
22. The Practice Direction of the Commission for Development of Grid Connected Small/Mini/Micro Hydel Projects in the State of Orissa shall be forwarded to all concerned including all members of STC, OHPC, OREDA, Deptt. of Energy, Deptt. of Water Resources, Deptt. of Science & Technology, GoO. Commission would review the other renewable projects including DDG schemes separately.
23. These practice guidelines are being issued with the approval of the Chairperson of the Commission.

**Sd/-**  
**(B.K. Misra)**  
**Member**

**Sd/-**  
**(K.C. Badu)**  
**Member**

**Members Present:**

1. Shri K C Badu, Member, OERC
2. Shri B K Misra, Member, OERC
3. Shri B K Sahoo, Director (Engg.), OERC
4. Shri M S Panigrahi, Director (Tariff), OERC
5. Shri B Mohapatra, Addl. Secretary, Dept. of Energy, Govt. of Orissa.
6. Shri D K Das, Addl. Secretary, Dept. of Water Resources, Govt. of Orissa.
7. Shri S N Mishra, EIC (Elect.)-Cum-PCEI, Orissa
8. Shri H C Bebehra, EIC, Water Resources
9. Shri J K Das, Sr. GM (PP), GRIDCO Ltd.
10. Shri P C Sahoo, GRIDCO Ltd.
11. Shri Santosh Das, EE, O/o EIC (Elect.)
12. Shri K C Mohapatra, Project Development Consultant
13. Shri R C Tripathy, WAPCOS
14. Shri S K Patnaik, WAPCOS
15. Shri D K Mohanty, WAPCOS

**Annexure-2**

**Status of the Projects for which DPR has been cleared by STC furnished by EIC (Elec)-cum-PCEI, Odisha**

<b>Sl No.</b>	<b>Name of the SHE Project/ Installed capacity</b>	<b>Progress of work</b>	<b>Requirements</b>	<b>Remarks</b>
1	Saptadhara (18MW)	STC clearance – 14.10.2004 TEC – 29.04.2005 Drawings vetted by IIT, Roorkee and sent to WR on 14.08.2009 by the developer for approval. PCB clearance – 19.10.2006 Forest clearance – 13.11.2006 (not for transmission line) Land acquisition completed	Drawings vetted by IIT, Roorkee not approved by WR. PPA not executed with GRIDCO. Implementation agreement not done	WR to indicate the reasons for delay for approval of IIT vetted drawings even after one year. GRIDCO to indicate the status of PPA.
2	Jeypore Main Canal (6 MW)	STC clearance – 23.02.2005 TEC – 20.04.2005 Drawing submitted to WR on 27.10.2005 and WR returned the drawings for vetting by IIT, Roorkee. PCB clearance – 27.01.2006 (for five years) Forest clearance – Obtained Land acquisition - completed Connectivity – clearance not obtained from OPTCL PPA signed with GRIDCO	Implementation agreement not done Drawing not approved Connectivity not approved	Whether the Developer is serious for vetting the drawings by IIT, Roorkee?  OPTCL to indicate the status of connectivity.
3	Kharagpur (10 MW)	STC clearance – 18.02.2003 TEC – 08.12.2003 Drawing returned from WR for vetting by IIT, Roorkee. PCB clearance – 05.04.2004 (for five years, expired) Forest clearance – Obtained Land acquisition - completed Connectivity – cleared by OPTCL PPA signed with GRIDCO Implementation Agreement – 02.11.2006		Later Govt. have stopped any execution.  Whether the promoter has re-submitted the vetted drawings or not?
4	Bargarh Head Regulator	STC clearance – 03.01.2004 TEC – 13.02.2004	Drawing pending with WR for vetting.	WR to indicate the status of approval of drawing.



	(9 MW)	PCB clearance – 06.09.2007 (for five years) Land acquisition - completed PPA signed with GRIDCO	Forest clearance to be obtained. Connectivity to be obtained. Implementation Agreement not done.	Whether forest clearance is required or not?
5	Dumajhori (15 MW)	STC clearance – 14.07.2006 TEC – 27.09.2006 NOC obtained from WR on design and drawings – 24.06.2010 PCB clearance – 26.04.2007 (for five years) Forest clearance – Obtained Land acquisition - completed Connectivity – clearance obtained from site PPA signed with GRIDCO	Connectivity from OPTCL head office is awaited. Implementation Agreement – under scrutiny.	What are the reasons for delay in Implementation Agreement.  OPTCL to indicate the reasons for delay in connectivity clearance.
6	Lower Baitarani (24 MW)	STC clearance – 15.11.2007 TEC – 14.12.2007 Drawings submitted with WR on 10.05.2010 after vetted by IIT, Roorkee. PCB clearance – 11.09.2008	Drawings not approved. Forest clearance not obtained. Connectivity not cleared by OPTCL. Land acquisition applied with IDCO. PPA not executed with GRIDCO. Implementation Agreement not given.	WR to indicate the reasons for delay for approval of IIT vetted drawings.  What is the status of land acquisition?
7	Tentuliguma (15 MW)	STC clearance – 21.12.2009 TEC – 02.11.2006 PCB clearance – 25.05.2009 Connectivity – cleared by OPTCL PPA signed with GRIDCO	Drawings submitted to WR on 09.03.2009. Forest clearance not obtained. Land acquisition not completed. Connectivity not cleared by OPTCL. PPA not executed with GRIDCO. Implementation Agreement not given.	WR to indicate the status for approval of construction drawings.  What is the status of land acquisition and forest clearance?
8	Salandi Dam Toe	STC clearance – 14.09.2005	WR returned the drawings for	Whether the developer

	(9 MW)	TEC – 03.11.2005 PPA signed with GRIDCO	vetting by IIT, Roorkee on 30.06.2010. PCB clearance not obtained. Forest clearance not obtained. Land acquisition not completed. Connectivity clearance from OPTCL is awaited. Implementation Agrnt. not done.	approach to IIT, Roorkee for vetting of drawings. Whether the developer has approached for PCB and forest clearance? What is the status of land acquisition?
9	Saheed Lakshman Nayak (25 MW)	STC clearance – 18.04.2005 TEC – 07.07.2005 PCB clearance – 26.04.2007 (for five years) Forest clearance – Obtained	Drawing not submitted by developer. Connectivity – clearance from OPTCL is awaited. PPA proposal submitted to GRIDCO. Implementation agreement not done.	Whether the developer is serious for submission of drawings?
10	Hatipathar (10 MW)	STC clearance – 23.02.2005 TEC – 22.03.2005 PCB clearance – 15.12.2006 Forest clearance – not required PPA signed with GRIDCO	WR has returned the drawing for checking by EIC (Elec) since they have no manpower. Implementation Agreement not given.	WR and EIC(Elec) to indicate who will check the drawings?
11	Jalaput Dam Toe (18 MW)	STC clearance – 24.12.2001 TEC – 29.12.2007.	Drawing not submitted by developer.	An interstate river project. Since developer has filed a case in AP High Court, all clearances are pending.
12	Lower Machhkund (20 MW)	STC clearance – 08.09.2003 TEC – 08.10.2003 PCB clearance – 26.07.2005 (for five years, expired) Forest clearance – Obtained (Odisha portion). PPA signed with GRIDCO.	Drawing not submitted by developer. Implementation Agreement not given.	An interstate river project. AP Govt. allowed the developer on BoT basis for 30 years and thereafter the ownership would revert back to APGENCO

				and OHPC on 50:50.
13	Salimi (12 MW)	STC clearance – 14.07.2006	Connectivity not obtained from OPTCL.	The status of other issues is not indicated in the status report submitted by EIC(Elec)
14	Sindhiguda (15 MW)	STC clearance – 14.07.2006	Connectivity not obtained from OPTCL.	The status of other issues is not indicated in the status report submitted by EIC(Elec)