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STANDING COMMITTEE ON ENERGY

(2015-16)

SIXTEENTH LOK SABHA

MINISTRY OF POWER

**(Action Taken on the recommendations contained in the
Forty-Third Report (15th Lok Sabha) on 'Development of Hydro
Sector')**

NINTH REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

December, 2015/ Agrahayana, 1937 (Saka)

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(2015-16)**

(SIXTEENTH LOK SABHA)

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**[Action Taken on the recommendations contained in
the
Forty-Third Report (15th Lok Sabha) on Development of
Hydro Sector]**

Presented to Lok Sabha on 09.12.2015

Laid in Rajya Sabha on 10.12.2015



**LOK SABHA SECRETARIAT
NEW DELHI**

December, 2015/ Agrahayana, 1937 (Saka)

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**COMPOSITION OF THE STANDING COMMITTEE ON
ENERGY
(2015-16)**

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(ii)

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| 3. | Ms. Deepika | Executive Assistant |

CHAPTER – I

This Report of the Standing Committee on Energy deals with the action taken by the Government on the Recommendations/Observations contained in their Forty-Third Report (Fifteenth Lok Sabha) on the 'Development of Hydro Sector' of the Ministry of Power for the year 2013-2014.

2. The Forty-Third Report was presented to Lok Sabha on 13th December, 2013 and was laid on the Table of Rajya Sabha on the same day. The Report contained 15 Recommendations/Observations.

3. Action Taken Notes in respect of all the Recommendations/Observations contained in the Report have been received from the Government. These have been categorized as follows:

- | | | |
|-------|---|---------------------------|
| (i) | Recommendations/Observations which have been accepted by the Government:
Serial Nos. 1,2,3,4,5,6,8,10,11,13, and 14. | Total - 11
Chapter-II |
| (ii) | Recommendation/Observation which the Committee do not desire to pursue in view of the Government's replies:
Serial No. 15. | Total - 01
Chapter-III |
| (iii) | Recommendations/Observations in respect of which the replies of the Government have not been accepted by the Committee and which require reiteration:
Serial Nos. 7, 9 and 12. | Total– 03
Chapter-IV |
| (iv) | Recommendation/Observation in respect of which the final replies of the Government are still awaited:
Nil. | Total - 00 |

4. The Committee desire that Action Taken Notes on the Recommendations/Observations contained in Chapter-I of the Report may be furnished to the Committee within three months of the presentation of this Report.

5. The Committee will now deal with action taken by the Government on some of their Recommendations that require reiteration or merit comments.

(Recommendation Serial No. 1, Paragraph No. 2.1)

6. The Committee had found that there was a huge gap in the requirements of power and the energy supply in the country. Despite various policy initiatives and measures taken to minimize the gap between demand and supply, the capacity addition of power is not commensurate with the exponentially increasing power demands in the country. Although the capacity addition in the 11th Plan (54,964 MW) had been significant, as claimed by the Government, but even this increase was not sufficient to mitigate the power woes of the people. This is perhaps due to the unbalanced emphasis only on one of the types and segments of energy, i.e. thermal. Capacity addition through thermal energy no doubt is a welcome step, but whether this only can help us in overcoming our problem is yet to be proved. Moreover, it has its own inherent cost ingredients which, if not taken care of, may lead to a situation wherein the common man will have forced deprivation to this type of electricity. The Committee stressed that instead of a lop sided preference for a particular type of energy, it would be prudent if all types of energy based on the availability of resources in the country were taken care of for their due development and proper harnessing. Hydro energy along with all sorts of renewable energies and nuclear energy could be the best and cost effective supplement of the thermal energy besides, being eco-friendly. India has been endowed with natural resources which include water, wind and solar. However, we are far from converting these resources into energy substantially and that is why we are still an energy deficit nation. The abundant availability of water in our country can offset the energy deficit if hydro energy is developed properly and in a time-bound manner. Although the hydro projects involved a very tedious process from conception to implementation, yet we have no option but to go for it if we genuinely intend to resolve our energy issues. Owing to its inherent

characteristics, hydro power can be the best and competitive choice in meeting our energy requirements and also in minimizing the gap between demand and supply. Hydro power is a renewable, non-polluting and an environmental-friendly sources of energy. Hydro power stations have inherent ability for instantaneous starting, stopping and managing load variations which are helpful in improving reliability of power system. The life of hydroelectric projects are also well over 50 years and they are free from green house gases, toxic wastes and particulate matters. Development of hydro power projects provides the added advantage of development of remote and inaccessible areas of the country. The cost of hydro power economizes with the passage of time and does not involve any unforeseen or overhead expenses. In view of the foregoing, the Committee had strongly recommended that Government must strive hard and pull all armories up its sleeve for proper, effective and time-bound development of hydro potential in the country so as to ensure its optimum harnessing for the benefits of its people and progress of the country.

7. The Ministry of Power in their Action Taken Reply have stated as under:

"The following hydro capacity has been proposed for time bound development of hydro potential in the country.

Hydro Capacity at the end of 11th Plan: 38,990 MW

Plan Period	Hydro Capacity Addition (MW)	Total Hydro Capacity at the end of plan (MW)
12th Plan(2012-13 to 2016-17)	10897	49887
13th Plan (2017-18 to 2021-22)	12000	61887
14th Plan (2022-23 to 2026-27)	15000	76887
15th Plan (2027-28 to 2031-32)	20000	96887
16th Plan (2032-33 to 2036-37)	25000	121887
17th Plan (2037-38 to 2041-42)	23433	145320

It is expected that total identified hydro potential of the country will be harnessed by the end of 17th Plan i.e. by 2041-42.

Further the following steps have been taken by the Government to ensure the fast growth of the hydro sector in the country:

- Central Electricity Authority (CEA) is monitoring the progress of each project regularly through frequent site visits, interaction with the developers and critical study of monthly progress reports. Chairperson, CEA holds review meetings with the

- developers and other stakeholders to sort out the critical issues.
- A Power Project Monitoring Panel (PPMP) has been set up by the Ministry of Power to independently follow up and monitor the progress of the hydro projects.
 - Review meetings are taken by the Ministry of Power regularly with the concerned officers of CEA, equipment manufacturers, State Utilities/CPSUs/Project developers, etc. to sort out the critical issues.
 - Review meetings are taken by the MoP/CEA with Border Road Organization, Ministry of Road Transport and Highways etc. to sort out the infrastructure issues".

8. In regard to the Recommendation of the Committee that Government must strive hard for proper, effective and time-bound development of Hydro potential in the country, the Ministry, in their reply, have given a time frame for proposed hydro capacity addition and stated that the total identified hydro potential of the country is expected to be harnessed by the end of the 17th Plan i.e. by 2041-42. But the Committee note that the proposed Hydro capacity addition during the 12th plan period is 10,897MW. However, up to 15.01.2015, the actual capacity addition is only 1,895.11 MW, which is just about 17% of the proposed capacity addition. Although no year-wise targets are fixed for achievement, yet more than three years of the 12th Plan are already over and if the achievements are taken into account on an annual basis, the targets of this plan are sure to meet the fate of the previous Plan. As such, the Committee will like the Government to ensure that the implementation of the projects is time bound and result oriented. Any time over-run not only delays the target achievement but also has a cascading effect on the entire hydro sector. The routine and repetitive

monitoring mechanisms need to be replaced by some concrete and responsible mechanisms, so that the targets are achieved as envisaged.

(Recommendation Serial No. 4, Paragraph No.2.4)

9. The Committee had noted that the progress in harnessing the hydro power potential had been extremely tardy. The factors responsible for sluggishness in the sector are same and identical which have been plaguing it since its inception. As usual, they have been enumerated like difficult and inaccessible terrain, land acquisition problems, resettlement and rehabilitation issues, environment and forest clearances, law and order problems, longer gestation period, geological surprises and inter-State aspects. These factors are inherently ingrained in the establishment of the hydro plant and hence in the view of the Committee they cannot be treated as hurdles affecting the pace of the development. While conceptualizing the project these factors (so-called reasons for delay) are taken into consideration with their thread bare analysis and in-depth studies before taking a final call in this regard. These issues, the Committee, believed, if handled deftly, should help in curtailing the gestation period of hydro projects. Land acquisition is an issue which may pose some problem, but a consensus can be arrived at with concerned parties or stakeholders highlighting the benefits which are likely to accrue to them, to their areas as well as to the country. Other issues like inaccessible terrain do not hold good in today's advanced technological era wherein road and communication network can be spread sooner than expected. Geological surprises are also a very lame excuse as it should be taken care of at the stage of Survey and Investigation itself. Environment & Forests clearances can be taken care of by conforming to all the statutory requirements and the problem of Law and Order can be minimized by ensuring that the interests of the local people are not unduly harmed. The Committee, therefore, did not consider reasons for slow development of hydro sector of the country unmanageable and had pointed out that these were not insurmountable reasons and should not become a ploy for excuses and non-performance by the concerned agencies.

10. In their Action Taken Reply, the Ministry have stated as under:

" The issues responsible for slow development of hydro potential and the suggested solution to be implemented by State/Central Govt. to overcome them are given below:

➤ **Land Acquisition**

Issue:

Land acquisition is a persistent issue involved in the implementation of hydro projects. Acquisition of land for various locations of the project such as Dam, HRT, Power House, Switch yard etc. delay the commencement/progress of work.

Suggested solution:

It is suggested that land required for construction of hydro projects and also for afforestation purposes should be arranged to be allotted to developer by the respective state authorities and cost recovered later on, from the developer.

➤ **Environment and Forest Issues**

Issue:

Due to the time taken in the process of environment and Forest Clearances, the commencement of construction works often gets delayed.

Suggested solution:

- It is desirable that all the clearances relating to Environment & Forest, Wildlife etc. should be given in time bound manner.
- The e-flows may be prescribed for hydro projects considering case to case basis and in a judicious manner.

➤ **Rehabilitation and Resettlement**

Issue:

Dislocation of the people from their houses/fields/workplaces etc. and their resettlement is a sensitive issue and involves a lot of time and money. Many times this issue leads to court cases resulting in delay in project execution/completion.

Suggested solution:

Implementation of R&R Plan in close co-ordination with the State Authorities may mitigate the issue.

➤ **Natural Calamities**

Issue:

Natural calamities like unprecedented rain/flash floods, cloud burst, earthquake etc. delay the completion of project.

Suggested solution:

Efficient preparedness and Disaster Management Plan should be in place.

➤ **Law & Order Problem & Local Issues**

Issue:

Protest by the local people against the construction activities, like blasting, muck disposal, etc. and also for various demands like employment, extra compensation, etc. often create law and order

problems and delays the commencement as well as completion of work.

Suggested solution:

Implementation of various Corporate Social Responsibility Plans and proper co-ordination with local bodies & State Authorities can minimize the issues.

➤ **Geological Surprises, Difficult Terrain & Poor Accessibility**

Issue:

A large number of HE Projects has been delayed due to geological surprises. Difficult terrain & poor accessibility of the hydro project site takes lot of time & money to develop/maintain the infrastructures like road, establishments, etc. causing the delay in completion of hydro projects

Suggested solution:

With the advent of latest technologies, the percentage of geological surprises in hydro sector need to be reduced to minimal level. Development of proper infrastructure facilities by State Authorities with the development of the power project is required.

➤ **Change in Design**

Issue:

Many projects in Himalayan regions are affected by poor geology & other unforeseen site conditions entailing change in design or change in construction methodology which delays the completion of project and also sometimes leads to contractual disputes resulting in delay in completion of hydro projects

Suggested solution:

Extensive geological investigations may mitigate the issue.

➤ **Contractual problems**

Issue:

In some cases, contractual issues come in the way of completion of the projects and projects get delayed.

Suggested solution:

Standard Bidding Document and efficient contract management can minimize the issues".

11. The Committee note with satisfaction that the Government have come up with requisite solutions to the roadblocks which have been plaguing the hydro sector since its inception. The Ministry, in their reply, have suggested some solutions to various difficulties facing the

Hydro Sector. The Committee are of the view that the Government must make efforts to implement these solutions, so that the reasons cited for slow development of the Hydro Sector, do not lead to inefficiency and non-performance of the agencies concerned .

(Recommendation Serial No. 7, Paragraph No.2.7)

12. The Committee had noted that there had not been consistency in the development of hydro energy during the Five Year Plans. It has been a saga of ups and downs wherein the downs are weighing heavily. In the Third Plan, the capacity addition from hydro was 2207 MW constituting above 45 per cent of the total installed capacity. Thereafter, in the 4th Plan, it plummeted to 1058 MW, registering a decline of more than 100 per cent as against the achievement of the 3rd Plan. Similar was the growth in the 6th Plan which was 3706 MW as compared to 3867 MW of the 5th Plan. The 8th Plan registered a growth of 2427 MW against the 7th Plan achievement of 3828 MW. During the 10th Plan the achievement had been 7886 MW but again it nose-dived in the 11th Plan to 5544 MW. It has seen a consistent decline in the proportionate share of hydro right from the 3rd Plan period onwards when it was 45.68 per cent of the total installed capacity and now it is only 17 per cent of the total installed capacity. Any developmental activity has a rising tendency in itself, and vis-à-vis other similar competitive activities. However, the hydro developmental activity has failed on both these counts. In its own secluded growth it has not maintained a trend whereas when compared with other such activities it has registered only a downtrend. This is frustrating and cannot be allowed to happen. It is a time when a message should be sent in clear and stern terms that the organizations and individuals concerned, will have to perform, lest other measures are taken recourse to ensure their performance.

The Committee had been informed that nine NHPC projects of 11th Plan had slipped into the 12th Plan of which only four projects for total generation of about 450 MW could be commissioned whereas projects for 2800 MW were likely to slip to the next Plan. The Committee were not convinced about the steps, including policy measures, taken to augment the hydro capacity in the country. The sector was opened in 1991 to private entrepreneurs streamlining the clearance process by introducing the 3 stage clearance approach for development of hydro projects in Central Sector. The Policy measures like the National Electricity Act 2003, National Electricity Policy 2005, Tariff Policy 2006 and Hydro Policy 2008 have squarely failed to enthuse the hydro sector. Reasons adduced for slow pace of development are same and repetitive. The futility of these measures can be gauged from the fact that the Government has been unable to give any firm timeline for completion of the projects categorized under various stages of development.

The Committee, had therefore, recommended that a realistic approach should be adopted for the growth of the hydro sector in the country. This approach should encompass all the problems besetting the sector with their plausible and logical solution and the working in this sector should be such as to provide transparency and level playing field to all the stakeholders.

13. In their reply, the Ministry of Power have stated as under :

" Nine projects of NHPC Ltd. totaling to 4172 MW have slipped from 11th Plan. Out of the slipped capacity of 4172 MW, capacity of 3172 MW is programmed for 12th Plan and 1000 MW for 13th plan. The status of this capacity is as under.

Capacity commissioned so far upto 31.12.2014	:	1212 MW
Capacity likely to be commissioned in remaining period of 12th Plan	:	160 MW
Capacity critical for commissioning during 12th Plan	:	1800 MW
Total	:	3172 MW

14. In regard to the recommendation of the Committee that a realistic approach should be adopted for the growth of the Hydro Sector in the country and that this approach should encompass all the problems besetting the sector with their plausible and logical solutions and also that the working in this sector should be such as to provide transparency and level playing field to all the stakeholders, the Ministry, in their reply, have stated that 9 projects of NHPC Ltd. totalling to 4,172MW have slipped from the 11th Plan. Out of this slipped capacity of 4,172MW, 3,172MW is programmed for the 12th Plan and the remaining 1,000MW has further slipped to the 13th Plan.

The Committee are unhappy with the reply of the Ministry, as it merely mentions the factual position and does not talk about the efforts of the Ministry to overcome the hurdles in this vital sector.

Since policy measures like the National Electricity Act, 2003; National Electricity Policy, 2005; Tariff Policy, 2006; and Hydro Policy, 2008, have failed to invigorate the Hydro Sector and the Government has not been able to give any firm timeline for completion of the projects categorized under various stages of development, *the Committee reiterate their recommendation and desire the Government to come up with a framework to rejuvenate the Hydro Sector and also to ensure transparency and level playing field to all the stakeholders as this sorry state of affairs in the Hydro Sector cannot be allowed to continue any further.*

(Recommendation Serial 8 Paragraph No.2.8)

15. The Committee had noted that about 75 per cent of the conventional hydro potential is yet to be developed. A capacity addition target of 10,897 MW has been set for the 12th Plan period whereas projects of 13,320 MW (inclusive of 12th Plan target) are under construction. This constitute only about 9 per cent of the identified potential. The Committee had been informed that 36 projects with a capacity of 20,873 MW having concurrence by Central Electricity Authority were yet to be taken up for construction since 2002-03. Usually the construction work of hydro electric projects starts within a year after clearance by CEA. The reasons for delay had been attributed to the non-clearance from environment and forest angle and would be taken up for construction after receiving the required statutory clearance tying up of funds and award of work. The Committee had also been told that 23 projects with capacity of 11,836 MW were under examination of Central Electricity Authority and other involved agencies. Instead of spelling out as to why these projects were stuck the details regarding procedure adopted by CEA, CWC and GSI for clearances of projects had been provided. This inter-alia included aspects related to hydrology, dam/barrage design, hydel civil design, foundation engineering, Seismicity construction machinery, civil cost, geology of the area, adequacy and suitability of construction material, pondage provision, quantities of civil work, etc. Here, it is worthwhile to mention that CEA is required to give concurrence within 90 working days from the receipt of the complete Detailed Project Reports. 28 Hydro Projects with a capacity of 9590 MW were returned to Project Authority for re-

submission after tying up all the requisite inputs. The reasons for returning the DPRs have been stated to be the inadequacies in geological and geo-technical investigations, hydrological data and other investigations important for selection of type of project and its components. The Committee had also been informed that 87 Hydroelectric Projects with capacity of 18564 MW were under Survey and Investigation. The Government had not replied clearly as to the time since when the S&I work was going on and also by which time these works would be completed. The Committee were disappointed by the dismal scenario of hydro sector as capacity of about 61,000 MW were stuck in procedures and wrangles. It was incomprehensible as to why the projects that got the concurrence of CEA and other bodies more than a decade ago were still in limbo. This was unpardonable and warranted exemplary action. The Committee felt that the entire mechanism – from concept to start of the project – for installing the hydro project needed complete over-hauling. Various agencies of the Union Government were responsible for this state of affairs. The Committee wondered why there could not be a system wherein all the agencies concerned involved in the process of according concurrence ranging from environment/forest Departments, CEA, CWC, GSI, MHA and Ministry of Defence (wherever required), Environment etc, made a uniform platform for examining their aspects of the project and provided concurrence or alternatively suggest solutions if some shortcomings were noticed hindering the smooth passage of the project. This system would also help in curbing the submission of incomplete DPRs, wastage of time in their appraisals and subsequently returning them on being found wanting. The Committee, therefore, were wary of the reasons given for non-performance in the hydro sector and had recommended that structural arrangements consisting of representatives from the respective quarters with unified command be immediately thought of for prompt and positive disposal of the issues hindering the growth of the hydro sector and paving the way for expeditious development of the hydro energy in the country. The preparation of pre-feasibility report should also be made compulsory before undertaking any hydro project.

16. The Ministry of Power in their reply have stated as under:

" Concurrence process of detailed project reports of hydro power projects is highly technical in nature. Various Organizations namely Central Electricity Authority (CEA), Central Water Commission (CWC), Central Soil and materials Research Station (CSMRS) and Geological Survey of India (GSI) are involved in appraisal process. Clearances from MHA and Ministry of Defence are generally administrative in nature. Clearance from MOEF is required for environmental and forest aspects and these are accorded based on recommendations of EAC & FAC. Proposal of clearances from MHA, Ministry of Defence and MOEF are generally sent to these Ministries by the developers during the concurrence process. In case,

clearances from these Ministries are not available till the concurrence to DPRs, the concurrences to such DPRs, are accorded with the condition that the developer would obtain clearances from these ministries, so that the developer can proceed for pre-construction activities.

In view of Fast Tracking of DPRs of hydro power projects, the process of according concurrence to DPRs of Hydro electric projects has been finalized by Ministry of Power in consultation with Central Electricity Authority and Central Water Commission. However, this process would be applicable for new hydro power projects, which are still under survey and investigations and DPR formulation stage.

The new procedure is given below:

After signing of MOA with State Govt., developer shall carry out topographical survey and geological surface mapping of the project and submit the proposed layout of the project and detailed investigation plans to CEA for appraisal and finalization. CEA along with CWC, GSI and CSMRS shall hold consultation meeting with developer to finalize different alternatives of project layout for which investigations are to be carried out by the developer along with detailed investigation plans to be carried out in first phase.

After completion of the first phase investigations, developer shall submit the results to CEA. CEA along with CWC, GSI and CSMRS shall hold another consultation meeting with the developer for finalization of project layout and final phase-II investigations to be carried out by the developer.

Prior to submission of DPR to the Authority for its Concurrence/Appraisal, generating company shall get following chapters examined/approved by concerned appraising groups:

Sl. No	Chapters/Aspects	Appraising Groups
1	General Layout	CWC and CEA
2	Hydrology	CWC
3.	Power Potential	CEA
4	Foundation Engg. and Seismic	CWC
5	Geological	GSI
6	Construction Material and Geotechnical	CSMRS
7	Inter-State	CWC
8.	International	MOWR
9	ROR/Storage	Standing Technical Committee (CEA). CWC and MOEF are also members of this Committee

For taking clearance on a particular aspect, developer shall submit its report only after completion of all investigations/studies as suggested by CEA, CWC, GSI and CSMRS.

For preparation of a good quality DPR, typically about 30 months would be required considering zero date as signing of MOA by Developer with the concerned State Govt. extendable by 6 months for reasons beyond the control of Developer.

After approval of above chapters from concerned appraising groups, the developer shall make these a part of DPR to be submitted to CEA for Concurrence/appraisal.

In case Hydro Electric Scheme is found technically and economically viable with necessary inputs and clearances having been tied-up, the Authority may accord concurrence for its implementation, as far as practicable, within a period of 150 (One hundred fifty) working days (excluding time taken by developer for compliance of observations of CEA/CWC/GSI/CSMRS etc.) from the date of acceptance of the DPR from Developer".

17. The Committee note with satisfaction that the Government have evolved a new and improved procedure for according concurrence to DPRs of new Hydro Power Projects which will fast-track the implementation of such Projects and pave the way for expeditious development of Hydro energy in the country. However, it would have been better, had definite information regarding reduction in time-line been intimated following the introduction of the new procedure. The Committee believe that despite the involvement of a number of clearances, every effort will be made to ensure the curtailment of gestation period of the hydro projects.

(Recommendation Serial No. 9, Paragraph No. 2.9)

18. The Committee had observed that the role of the Central Government in the development of Hydro Sector in the country should not be limited to a facilitator but expanded to an active promoter as well. Despite division of responsibilities and involvement of state and private sector, its role cannot be minimized. Given the availability of resources, manpower, technical know-how and opportunities at its disposal, the Union Government must play a role of torchbearer for hydro energy development of the country. The hydro potential is available in abundance and the projects below 25 MW (not under the domain of Ministry of Power) also have great potential. If efforts are properly synchronized to harness the above potential, it will definitely solve our energy woes and over a period become economical for the people. There can be no better agency to coordinate these efforts than the Government of India. As a lot of time has been lost and we have done precious little for harnessing the potential of this important energy sector. Instead of identifying the reasons for non-performance or deflecting responsibilities, it is high time that sincere and coordinated approach should guide us in our endeavour to develop hydro potential. We should also ponder over the fact as to why various measures taken in this regard have not yielded the desired results. There is acute need of electricity while no dearth of talent and resources in our country. It is, perhaps, our resolve which is not as determined and that is a crucial factor for our backwardness in utilizing the hydro potential. No State or private entity can take the lead in this regard. It is only the Government of India with which the initiative vests and it cannot allow the situation to drift any further. Most of the agencies involved in clearances are its own and it can play a very constructive, positive and lead role for timely development of hydro energy in the country. The Committee had, therefore, strongly recommended that the Union Government should discharge its duties with a sense of responsibility that had been bestowed on it for the development of available hydro potential in the country in a time-bound manner.

19. The Ministry of Power in their Action Taken Reply have stated as under:

"The Ministry of Power, Government of India is involved in various activities for expediting the hydro power development in the country:-

- Review meetings are taken by Ministry of Power regularly with the concerned officers of CEA, equipment manufacturers, State Utilities/CPSUs/project developers, etc. to sort out the critical issues.
- Review meetings are taken by MoP/CEA with Border Road Organization, Ministry of Road Transport and highways etc. to sort out the infrastructure issues.

- Meetings are held between MoP & MoEF regularly to sort out the issues related to Environment & Forest Clearances".

20. In regard to the recommendation of the Committee that the Union Government should play a leading role in the hydro sector, as most of the agencies involved in clearances are its own and it can play a constructive and positive role in timely development of hydro energy in the country, the Government, in their reply, have stated that the Ministry of Power is undertaking review meetings with various Ministries, State Utilities, PSUs, Project developers, etc. to expedite the hydro power development. However, the Committee note that the Union Government itself had lagged far behind its proposed targets of generation of hydro energy in successive Five Year Plans. During the 11th Plan Period, the target of total capacity addition of 15,627 MW had been reduced to 8,237MW by midterm review, out of which 2,922MW was the share of the Central Sector, but the Central Sector was able to add only 1,550MW during the entire 11th Plan period. Moreover, the target for the Central Sector, for the entire 12th Plan, had been fixed at 6,004 MW, out of a total capacity addition target of 10,897 MW and upto 15.01.2015, the Central Sector has been able to add only 1,624.11 MW of hydro energy.

The Committee are of the view that there is a wide gap between the target and the actual addition of hydro energy; it is a matter of concern that even the Central Sector, despite having all the resources,

manpower and technical know-how at its disposal, is not able to meet its target.

So, the Committee reiterate their recommendation and desire the Union Government to discharge its duties regarding the development of available hydro potential in the country and also improve its own performance in this sector, so as to become not just a facilitator but also an active promoter and leading player in the development of hydro potential.

(Recommendation Serial No. 12, Paragraph No.2.12)

21. The Committee had noted that the hydro sector development in the country was mainly done by the Central Government, State Governments and Private Entrepreneurs. Of the developed capacity of 39788 MW of hydro power the share of private sector is only 2694 MW constituting 7 per cent of the developed capacity. This is too meager and marginal. Despite a plethora of steps, private sector has not responded the way it was expected to in the development of the hydro sector. In the 12th Plan, the private sector has been given the target of 3285 MW out of a total target of 10897 MW of hydro power. Given the past performance and achievements in the 11th Plan, which was only 1292 MW, this seems to be an ambitious target. The returned incomplete DPRs of the aggregate installed capacity of 9590 MW mostly belong to private sector. However, the Committee were sure that it would not have any bearing in the target pursuit as work on any of these DPRs might not have begun and it is only from the ongoing projects that this 12th Plan target is decided. The involvement of private sector brings in additional resources for capacity addition and power and create competitive spirit in the sector. However, this has not happened in out hydro sectors despite the required measures taken in this regard. 17 projects with a capacity of 12144 MW have got concurrence of CEA but yet to be taken up for construction, project worth 588 MW under examination of CEA and capacity of 17529 MW in 64 projects are under Survey and Investigation of private sector. These projects are for 13th Plan and beyond as the target for 12th Plan has already been decided. This leads to a very disappointing scenario as far as the private participation is concerned as the capacity addition under various categories of projects will take decades to materialize and by that time their proportionate share may not be as expected. The Committee were not

satisfied with the present status about private participation. The Committee had, therefore, strongly recommended that a conducive atmosphere should be created through requisite measures to encourage private participation in the hydro sector of the country.

22. In their Action Taken Reply, the Ministry have stated as under:

" The hydro power projects under operation and under various stages of development in private sector are given below":

Sl. No.	Category	No. of Projects	Installed Capacity (MW)
1	Projects under Operation	24	2843.45
2.	Projects under Execution	21	4981
3	Cleared/issued concurrence by CEA & yet to be taken up for execution	19	14362
4.	DPRs under examination in CEA	10	5093
5.	Projects for which DPRs returned for resubmission	13	4112
6.	Projects under S&I	46	10642.20
	Total	133	42033.65

23. In response to the recommendation of the Committee that a conducive environment should be created through requisite measures to encourage private participation in the hydro sector of the country, the Ministry have stated that 24 hydro projects with installed capacity of 2,843.45 MW are under operation and 21 projects with capacity of 4,981 MW are under execution in the private sector. It is also stated that 19 projects with capacity of 14,362 MW have been cleared and issued concurrence by CEA but these projects are yet to be taken up for execution. However, the Ministry have not stated in their reply any time frame as to when these 19 projects are expected to be taken up for execution and what are the reasons for this delay. Moreover, about 69

Projects with a capacity of 19,847.20 MW are under various stages of process of according concurrence to DPRs.

Further, the Ministry, in their reply, have not mentioned any measure that has been taken or proposed to be taken by the Government to expedite the process of clearance and to identify and solve other problems which might be hindering the execution of hydro projects in the private sector.

The Committee are of the view that the private sector should be facilitated in getting installed their share of hydro capacity which will contribute in realizing the targets set in the 12th Plan. *Therefore, the Committee reiterate their recommendation and desire the Government to come up with some proactive measures to encourage private sector participation in the hydro sector.*

CHAPTER II

OBSERVATIONS/ RECOMMENDATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

Status of implementation of the recommendations of the Committee contained in Forty-Third Report, under Direction 73A of the 'Directions by the Speaker'

(Recommendation Sl. No.1, Para No. 2.1)

The Committee find that there is huge gap in the requirements of power and the energy supply in the country. Despite various policy initiatives and measures taken to minimize the gap between demand and supply, the capacity addition of power is not commensurating with the exponentially increasing power demands in the country. Although the capacity addition in the 11th Plan (54964 MW) has been significant, as claimed by the Government, but even this increase is not sufficient to mitigate the power woes of the people. This is perhaps due to the unbalanced emphasis only on one of the type and segment of energy i.e. thermal. Capacity addition through thermal energy no doubt is a welcome step, but whether this only can help us in overcoming our problem is yet to be proved. Moreover, it has its own inherent cost ingredients which if not taken care of, may lead to a situation wherein common man will have forced deprivation to this type of electricity. The Committee believe that instead of a lop sided preference for a particular type of energy, it will be prudent if all types of energy based on the availability of resources in the country are taken care of for their due development and proper harnessing. Hydro energy alongwith all sorts of renewable energies and nuclear energy can be the best and cost effective supplement of the thermal energy besides being eco-friendly. India has been endowed with all kinds of natural resources which include water, wind and solar. However, we are far from converting these resources into energy substantially and that is why we are still an energy deficit nation. The abundant availability of water in our country can offset the energy deficit if hydro energy is developed properly and in a time-bound manner. Although the hydro projects involves a very tedious process from conception to implementation, yet we have no option but to go for it if we genuinely intend to resolve our energy issues. Owing to its inherent characteristics hydro power can be the best and competitive choice in meeting our energy requirements and also in minimizing the gap between demand and supply. Hydro power is a renewable, non-polluting and an environmental-friendly sources of energy. Hydro power stations have inherent ability for

instantaneous starting, stopping and managing load variations which are helpful in improving reliability of power system. The life of hydroelectric projects are also well over 50 years and they are free from green house gases, toxic wastes and particulate matters. Development of hydro power projects provides the added advantage of development of remote and inaccessible areas of the country. The cost of hydro power economizes with the passage of time and does not involve any unforeseen or overhead expenses. In view of the foregoing, the Committee strongly recommend that Government must strive hard and pull all armories up its sleeve for proper, effective and time-bound development of hydro potential in the country so as to ensure its optimum harnessing for the benefits of its people and progress of the country.

Reply of the Government

The following hydro capacity has been proposed for time bound development of hydro potential in the country.

Hydro Capacity at the end of 11th Plan: 38990 MW

Plan Period	Hydro Capacity Addition (MW)	Total Hydro Capacity at the end of plan (MW)
12th Plan(2012-13 to 2016-17)	10897	49887
13th Plan (2017-18 to 2021-22)	12000	61887
14th Plan (2022-23 to 2026-27)	15000	76887
15th Plan (2027-28 to 2031-32)	20000	96887
16th Plan (2032-33 to 2036-37)	25000	121887
17th Plan (2037-38 to 2041-42)	23433	145320

It is expected that total identified hydro potential of the country will be harnessed by the end of 17th Plan i.e. by 2041-42.

Further the following steps have been taken by the Government to ensure the fast growth of the hydro sector in the country:

- Central Electricity Authority (CEA) is monitoring the progress of each project regularly through frequent site visits, interaction with the developers and critical study of monthly progress reports. Chairperson, CEA holds review meetings with the developers and other stakeholders to sort out the critical issues.
- A Power Project Monitoring Panel (PPMP) has been set up by the Ministry of Power to independently follow up and monitor the progress of the hydro projects.
- Review meetings are taken by the Ministry of Power regularly with the concerned officers of CEA, equipment manufacturers,

State Utilities/CPSUs/Project developers, etc. to sort out the critical issues.

- Review meetings are taken by the MoP/CEA with Border Road Organization, Ministry of Road Transport and Highways etc. to sort out the infrastructure issues".

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation Sl. No.2, Para No. 2.2)

PERIODICITY OF HYDRO POTENTIAL ASSESSMENT

The Committee have been apprised that the assessment studies of hydro electric potential in the country was done by Central Electricity Authority during 1978 to 1987. Since then, about more than two and half decades have passed with regard to any methodological and scientific assessment of hydro power potential in the country. The Committee have also been informed that there is no set timeline to determine the validity of such studies. Regarding practice in other countries for assessment of hydro potential in terms of its periodicity no information has been made available to the Committee. However, in India the first systematic hydro electric survey was done during 1953-59 and the same was updated from time to time. If the time gap between the two studies done in India is taken into account to determine the criteria for assessment of hydro potential, the next assessment has become due. With regard to any need for re-evaluation of hydro power potential in the country, it has been stated that the re-assessment studies carried out earlier were desktop studies which were based on available survey India maps at that time and available hydrological data. As such there is a need for review of the hydroelectric potential in the country to take into account the additional hydrological, topographical and other data about upstream and downstream water usage in the last 25 years. Such review must be carried taking into consideration the actual site constraints in terms of geology, submergence and other aspects including impact on environment and forests. The Committee are of strong view that it should be done at reasonable and quick periodicity taking into account the factors which are impeding the growth of hydro sector in the country. The potential assessment study may also look into aspects which are responsible for the delay of the execution of the projects and how best they can be addressed from time and cost viewpoint. The Committee, therefore, strongly recommend that in spite of the fact that there is no set timeline to determine the need for hydro potential assessment study, it will be befitting if it is done at regular intervals taking into its fold the reasons responsible for delay in harnessing the potential alongwith the plausible solutions for ensuring the proper development of hydroelectric projects in the country.

Reply of the Government

The first systematic Hydro Electric Survey of India was undertaken by erstwhile Central Water & Power Commission (CW&PC) during 1953-59. Subsequently, the studies for Reassessment of Hydro Electric Potential were undertaken by Central Electricity Authority (CEA) in 1978-87.

There is a need to review the hydro electric potential in the country to take into account the features of the schemes already developed or are in different stages of development. The review has also been necessitated due to the availability of additional hydrological, topographical and other data about upstream and downstream water uses in last 25 years. The study aims to carry out basin-wise review of the hydro potential within the country including identification of new schemes, wherever possible. The review would be carried out taking also into consideration the actual site constraints in terms of site geology, submergence and other aspects including impacts of these projects on the Environment and Forests.

There may be additional environmental and social impacts that emerge when the entire river basin is taken as the unit of analysis, which do not emerge from project level assessment of these impacts. The cumulative Environment Impact assessment studies are being carried out for different basins. The outcome of these studies would also be taken into account in this review.

The scheme for Basin wise Review of H.E. Potential in the country has been approved and the award of the project is under process.

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation Sl. No.3, Para No. 2.3)

HYDROELECTRIC POTENTIAL

The Committee note that the hydro power potential in terms of installed capacity has been estimated to be 1,48,701 MW of which 1,45,320 MW of the potential consists of hydro electric schemes having capacity above 25 MW. As on May, 2013, the basin-wise details of the present installed capacity of hydroelectric projects reflects that Brahmaputra basin has the highest capacity followed by Indus river whereas Central Indian rivers has lowest capacity followed by the west flowing rivers. Although Brahmaputra basin has the maximum potential yet the capacity under operation alongwith the capacity under construction is the lowest here which is only about 11.33% of the potential. Out of the 66065 only 2120 MW capacity is in operation whereas a capacity of 5292 MW is under construction. This is very sorry state of affairs. The Committee feel that because of the under development of hydro potential in this region, the overall hydro development of the country

has suffered as the minimum development among the basin-wise region is in Ganga which is about 32%. In central Indian rivers, it is about 92%, west flowing rivers it is about 64% while in east flowing rivers it is 60%. Similarly, the negligible development of hydro potential in the North-eastern Region (less than 7%) has affected the overall growth figure of the hydro potential in the country. Despite having the largest share in terms of potential, the development in the North-eastern Region of hydro power has not been done. The Northern Region, though relatively has performed well but 29,716 MW capacity is yet to be developed out of the potential of 52,263 MW which is about 57%. Western Region has developed about 73% of its potential which is 5552 MW out of the potential of 8131 MW while a capacity of 400 MW is under development. The picture in the Southern and Eastern Region is also not very satisfactory at about 38% and 48% of the hydro potential is yet to be developed there. The Committee feel that huge work is yet to be undertaken to harness the hydro potential of the various regions of the country particularly North-Eastern Region. In spite of the fact that hydro projects are site specific and tailor made depending upon the topography and geology of that area, yet it should also be assessed as to which river or basin can be more quickly acclimatized to our requirements from hydro station viewpoint. As it is a tailor made exercise and hence there is sufficient weighing options for a decision as to which site may be more appropriate for installing a power plant. The Committee, therefore, recommend that hydro power potential in the least developed region i.e. Brahmaputra Basin and North-Eastern Region should be given top most priority. It should also be assessed to which areas of the basin may be lesser unfriendly for the purpose of exploitation of hydro power potential.

Reply of the Government

Brahmaputra Basin of the country, especially the North Eastern Region has enormous hydro-electric power potential. Based on the studies for re-assessment of hydro-electric potential of the country, completed by Central Electricity Authority in 1987, identified hydro capacity in the country is about 1,48,701 MW (1,45,320 MW – above 25 MW). This includes 62604 MW of potential in North Eastern (NE) Region including 4248 MW in Sikkim. The identified potential in NE Region including Sikkim together constitutes about 43% of the total identified hydro power potential in the country.

Presently, 13 HE schemes (above 25 MW capacity) with aggregate capacity of 1911 MW are in operation in NE Region including Sikkim while 16 HE projects (above 25 MW) with aggregate capacity of 5576 MW are under construction. Further, with a view to expedite implementation of hydro power development, a total of 134 HE Projects (above 25 MW) with aggregate capacity of 56467.5 MW have been allotted to Central & Private Sector for implementation during 12th Plan and beyond. Out of the above, a total of 21 HE Schemes (above 25 MW) with an aggregate capacity of 20404 MW have been cleared by CEA & DPRs of 10 schemes (above 25 MW) with

an aggregate capacity of 4786 MW are under examination in CEA while the remaining schemes are under Survey & Investigation.

Regarding the areas of the basin that may be lesser unfriendly for the purpose of exploitation of Hydro Power Potential, it is felt that run of the river HE projects involving lesser distress in the areas in the middle and lower reaches of the basin, involving minimal international/inter-state aspects, would prima-facie fall into that category. Therefore, such projects in these stretches which have already been investigated/concurred by Central Electricity Authority (CEA) could be taken up for implementation in the first instance.

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation SI. No.4, Para No. 2.4)

The Committee note that the progress in harnessing the hydro power potential has been extremely tardy. The factors responsible for sluggishness in the sector are same and identical which have been plaguing it since its inception. As usual, they have been enumerated like difficult and inaccessible terrain, land acquisition problems, resettlement and rehabilitation issues, environment and forest clearances, law and order problems, longer gestation period, geological surprises and inter-state aspects. These factors are inherently ingrained with the establishment of the hydro plant and hence in the view of the Committee they cannot be treated as hurdles affecting the pace of the development. While conceptualizing the project these factors (so-called reasons for delay) are taken into consideration with their thread bare analysis and indepth studies before taking a final call in this regard. These issues, the Committee, believe, if handled deftly should help in curtailing the gestation period of hydro projects. Land acquisition is an issue which may pose some problem, but a consensus can be arrived at with concerned parties or stakeholders highlighting the benefits which are likely to accrue to them, to their areas as well as to the country. Other issues like inaccessible terrain does not hold good in today's' advanced technological era wherein road and communication network can be spread sooner than expected. Geological surprises is also a very lame excuse as it should be taken care of at the stage of Survey and Investigation itself. Environment & Forests clearances can be taken care of by conforming to all the statutory requirements and the problem of Law and Order can be minimized by ensuring that the interests of the local people are not unduly harmed. The Committee, therefore, do not consider reasons for slow development of hydro sector of the country unmanageable and recommend that these are not the insurmountable reasons and should not become a ploy for excuses and non-performance by the concerned agencies.

Reply of the Government

The issues responsible for slow development of hydro potential and the suggested solution to be implemented by State/Central Govt. to overcome them are given below:

➤ **Land Acquisition**

Issue:

Land acquisition is a persistent issue involved in the implementation of hydro projects. Acquisition of land for various locations of the project such as Dam, HRT, Power House, Switch yard etc. delay the commencement/progress of work.

Suggested solution:

It is suggested that land required for construction of hydro projects and also for afforestation purposes should be arranged to be allotted to developer by the respective state authorities and cost recovered later on, from the developer.

➤ **Environment and Forest Issues**

Issue:

Due to the time taken in the process of environment and Forest Clearances, the commencement of construction works often gets delayed.

Suggested solution:

- It is desirable that all the clearances relating to Environment & Forest, Wildlife etc. should be given in time bound manner.
- The e-flows may be prescribed for hydro projects considering case to case basis and in a judicious manner.

➤ **Rehabilitation and Resettlement**

Issue:

Dislocation of the people from their houses/fields/workplaces etc. and their resettlement is a sensitive issue and involves a lot of time and money. Many times this issue leads to court cases resulting in delay in project execution/completion.

Suggested solution:

Implementation of R&R Plan in close co-ordination with the State Authorities may mitigate the issue.

➤ **Natural Calamities**

Issue:

Natural calamities like unprecedented rain/flash floods, cloud burst, earthquake etc. delay the completion of project.

Suggested solution:

Efficient preparedness and Disaster Management Plan should be in place.

➤ **Law & Order Problem & Local Issues**

Issue:

Protest by the local people against the construction activities, like blasting, muck disposal, etc. and also for various demands like employment, extra compensation, etc. often create law and order problems and delays the commencement as well as completion of work.

Suggested solution:

Implementation of various Corporate Social Responsibility Plans and proper co-ordination with local bodies & State Authorities can minimize the issues.

➤ **Geological Surprises, Difficult Terrain & Poor Accessibility**

Issue:

A large number of HE Projects has been delayed due to geological surprises. Difficult terrain & poor accessibility of the hydro project site takes lot of time & money to develop/maintain the infrastructures like road, establishments, etc. causing the delay in completion of hydro projects

Suggested solution:

With the advent of latest technologies, the percentage of geological surprises in hydro sector need to be reduced to minimal level. Development of proper infrastructure facilities by State Authorities with the development of the power project is required.

➤ **Change in Design**

Issue:

Many projects in Himalayan regions are affected by poor geology & other unforeseen site conditions entailing change in design or change in construction methodology which delays the completion of project and also sometimes leads to contractual disputes resulting in delay in completion of hydro projects

Suggested solution:

Extensive geological investigations may mitigate the issue.

➤ **Contractual problems**

Issue:

In some cases, contractual issues come in the way of completion of the projects and projects get delayed.

Suggested solution:

Standard Bidding Document and efficient contract management can minimize the issues".

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation Sl. No.5, Para No. 2.5)

STATUS OF DEVELOPMENT OF HYDRO POWER

The Committee note that the hydro power generation in the country is 39,788 MW against the estimated potential of 148701 MW. This is about 27% of the identified potential. A capacity of 13,320 MW is under construction which is fully about 9% of the potential. Of this, the share of central sector is only 9612 MW. The Committee are aware that hydro sector is open to private and sector as well state. Nonetheless central sector also has its significant presence in the arena and can do much better if proper attention paid to the cause and appropriate steps are taken with sincerity in pursuit of the cause. There is no dearth of resources, manpower, expertise and other infrastructural support. Despite this backup, the achievement of central sector in hydro power betrays the capacity of the Government to push forward the sector and speaks volumes about their apathy. Despite a number of benefits that hydro energy provides, the non-attention to this sector by the Government has preposterously twirled the balance among the types of energies available in the country, tilted it dangerously in favour of thermal energy making the nation disappointingly dependent on thermal energy with no control on the prices of energy fuel and with no certainty about its availability. The Committee, therefore, strongly recommend that with a view to ensure the proper percentage blend of the various types of available energies in the country, hydro energy should be given proper attention for its time-bound development. This will go a long way in strengthening the energy security of the country beside making available the green energy in competitive terms ultimately benefiting the people.

Reply of the Government

The Government is taking steps to develop hydro power potential in the country. The hydro projects of 74134 MW are under various stages of development as given below:

HE Projects under various stages of development		Capacity (MW)
I	Capacity under construction	13138.0
II	Schemes cleared by CEA and yet to be taken up for construction	26062
III	Schemes under Examination in CEA	10058
IV	Schemes returned to project authorities for re-submission after compliance of observations	7430
V	Schemes under S&I	17446
	Total (I-V)	74134

Emphasis is being given to remove the bottlenecks associated with these projects expeditiously.

As on 31.12.2014 the installed capacity of the country is 255681.46 MW out of which hydro power share is (including 4785.6 MW from pumped storage plants) 40867.4 MW (16%). A hydro capacity addition of 10,897 MW is programmed for the 12th Plan (2012-17). At the end of 12th plan the total hydro capacity in the country is expected to be 49887 MW. In the subsequent five year plans it is expected that total identified hydro potential of the country may be harnessed by the end of 17th Plan i.e. by 2041-42.

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation SI. No.6, Para No. 2.6)

The Committee note that the performance with regard to capacity addition during the 11th Plan has been extremely disappointing. The 11th Plan target of capacity addition of 15627 MW was curtailed to 8237 MW during mid-term review. Of it, 2922 MW was the share of Central Sector for achievement 2854 MW in State Sector and 2561 MW in private sector. However, only 5544 MW could be achieved wherein the performance of central sector was only 1550 MW during the entire 11th Plan. The Capacity Addition target for the 12th Plan has been set to be 10897 MW. This is ridiculous more so when States and private sector share is also in this figure. The target for central sector for the entire 12th Plan has been fixed as 6004 MW and 527 MW has been commissioned from the target of 12th Plan period so far. Although no year-wise targets are fixed for achievements, yet more than one and half year of the 12th Plan is already over and if the achievements are taken into account on annual basis, the targets of this plan are sure to meet the fate of the previous plan. As of now, the NHPC projects under construction are of 3810 MW. NHPC is a leading Central PSU. Of the 3,810 MW, the capacity of Subansiri lower project is 2,000 MW and the work there has been stopped since December, 2011. Even if the work is started in the project right now it may not be possible to complete it by the end of the 12th Plan. Similarly, the 800 MW of Parbati II is scheduled for commissioning in July 2018. The Committee are not sure about the targets of other Central Sector PSUs i.e. THDC, SJVNL, DVC, etc. Even if their capacity addition programme go as targeted, yet it cannot be said that it will help in achieving the central sector target of the 12th Five Year Plan. The Committee feel that there is a great devoid in the target fixation and the ground realities of the hydro power sector. Despite all these uncertainties the Committee feel that the target of the 12th Plan may be attainable for the Government as there are still three more years to go. Since the targets for 12th Plan are much less as compared to the targets of the previous plan, the Committee strongly recommend that

every effort should be made to ensure that the target for the 12th Plan are achieved.

Reply of the Government

At the beginning of 11th Plan, Planning Commission finalized a hydro capacity addition programmed of 15,627 MW (8,654 MW in Central Sector 3,482 MW in State Sector and 3,491 MW in Private Sector). During the Mid Term review, hydro capacity was revised to 8237 MW (2922 MW in Central Sector, 2854 MW in State Sector & 2461 MW in Private Sector). Hydro Projects with aggregate installed capacity of 5544 MW (15550 MW in Central Sector, 2702 MW in State Sector & 1292 MW in Private Sector) have been commissioned in 11th Plan Period (2007-12) and hydro projects of 10083 MW (7104 MW in Central Sector, 780 MW in State Sector & 2199 MW in Private Sector) has slipped from the 11th Plan targeted programmed. The reasons of slippages from 11th Plan are enclosed at Annex-I.

The target for Central Sector for the entire 12th Plan has been fixed as 6004 MW and 1624 MW has been commissioned so far upto 31.12.2014 from the Central Sector target of 12th Plan period. As on date, the year-wise phasing of the Central projects is as under:

Organisation	2012-13	2013-14	2014-15	2015-16	2016-17	Total
NHPC	374	708	130	40	2250	3502
NTPC	-	-	-	800	520	1320
SJVNL	-	206	206	-	-	412
NEEPCO	-	-	-	110	660	770
Total:	374	914	336	950	3430	6004

As of now, Central Sector Projects totaling to 6995 MW are under construction for benefits during 12th Plan and beyond. The details of these projects are as under:

Sl. No.	Name of Project & I.C. (No.xMW), State	Benefits (MW)		Total (MW)
	NHPC			
1.	Kishanganga, 3X110, J&K	330	-	330
2.	Parbati-II, 4x200, H.P	800	-	800
3.	Teesta Low Dam-IV, 4x40, W.B	160	-	160
4.	Subansiri Lower, 8x250, Ar. PR.	1000	1000	2000
	Sub-total: NHPC	2290	1000	3290
	NTPC			
5.	Kol Dam, 4x200 MW, H.P.	800	-	800
6.	Tapovan Vishnugad, 4x130 MW, Uttarakhand	520	-	520

7.	Lata Tapovan, 3x57 MW, Uttarakhand	-	171	171
	Sub-total: NTPC	1320	171	1491
	NEEPCO			
8.	Kameng, 4x150 Mw, Ar. Pr.	600	-	600
9.	Pare, 2x55 MW, Ar. Pr.	110	-	110
10.	Tuirial, 2x30 MW, Mizoram	60	-	60
	Sub-total: NEEPCO	770	-	770
	THDCIL			
11	Tehri PSS, 4x250 MW, Uttarakhand	-	1000	1000
12	Vishnugad Pipalkoti, 4x111 MW, Uttarakhand	-	444	444
	Sub-total: THDCIL	-	1444	1444
	Total:	4380	2615	6995

Projects Critical for commissioning during 12th Plan:

i) Subansiri HEP (2000 MW), NHPC: 1000 MW has been programmed for 12th Plan & 1000 MW for first year of 13th Plan. Due to agitation launched by Anti Dam Activists in Assam against construction of Project, the project works are held up since Dec., 2011 and government is making all out efforts to restart the works. At present, 1000 MW capacity addition from the project is critical for commissioning during 12th plan.

ii) Parbati-II HEP (800 MW), NHPC: The project is critical for commissioning during 12th plan due to termination of civil contract for HRT works, about two years were lost to re-award the works.

iii) Tapovan Vishnugad (520 MW), NTPC: the project is critical for commissioning in 12th plan due to Flash flood in June-2013 in Uttarakhand and termination of Contract for HRT package on 9.1.14.

The target V/s achievement upto 31.12.2014 of 12th Plan for CPSU's is as under:

Organisation	Target	Achievement upto 31.12.2014
NHPC	3502	1212
NTPC	1320	-
SJVNL	412	412
NEEPCO	770	-
Total:	6004	1624

The hydro capacity addition target fixation for five year plan is done on the basis of the status of projects at the beginning of the plan. However, the following reasons at times delay the commissioning of Hydro Electric Project:

- **Land Acquisition:** Land acquisition is a persistent issue involved in the implementation of hydro projects. Delay in acquisition of land for various locations of the project such as Dam, HRT, Power House, Switchyard etc. delays the commencement/progress of works.
- **Environment and Forest Issues:** Due to the environmental concerns, environment and Forest issues need to be addressed properly which delays the commencement of works.
- **Rehabilitation & Resettlement:** Dislocation of the people from their houses/fields/workplaces etc. and their resettlement is a sensitive issue and involves a lot of time and money. Many times this issue leads to court cases resulting in delay in project execution/completion.
- **Natural Calamities:** Natural calamities like unprecedented rain/flash flood, cloud burst, earthquake etc delay the completion of project.
- **Law & order problem & Local issues:** Protest by the local people against the construction activities, like blasting, muck disposal, etc. and also for various demands like employment, extra compensation, etc. often create law and order problems and delays the completion of works.
- **Contractual problems:** In some cases, change in scope of work on account of geological surprises leading to change in design/change in construction methodology may lead to contractual issues. Due to this, projects may get delayed.
- **Geological uncertainties:** many projects in Himalayan regions are affected by poor geology & other unforeseen site conditions entailing change in design or change in construction methodology which delays the completion of project and also sometimes leads to contractual disputes resulting in delay in completion of hydro projects.
- **Difficult Terrain & Poor Accessibility:** Difficult terrain & poor accessibility of the hydro projects site takes lot of time & money to develop/maintain the infrastructures like road, establishments, etc. causing the delay in completion of hydro projects.
- **Financial constraints:** Financial constraints with the developers/Contractors in some cases also delay the completion of hydro projects.

In order to ensure that the projects are commissioned in time, the following mechanism is in place to expedite/sort out various critical issues:

- Central Electricity Authority (CEA) is monitoring the hydro power projects (above 25 MW) in pursuance of section 73 (f) of Electricity Act, 2003. The progress of each project is monitored continuously through site visits, interaction with the developers & other stakeholders and critical study of monthly progress reports. Chairperson, CEA holds review meetings with the developers and other stakeholders to sort out the critical issues.

- Power Project Monitoring Panel (PPMP), set up by the Ministry of Power, independently follow up and monitor the progress of the hydro projects.

Review meetings are taken by Ministry of Power regularly with equipment manufacturers, State Utilities/CPSUs/Project developers, etc.

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation SI. No.8, Para No. 2.8)

The Committee note that about 75 per cent of the conventional hydro potential is yet to be developed. A capacity addition target of 10,897 MW has been set for the 12th Plan period whereas projects of 13,320 MW (inclusive of 12th Plan target) are under construction. This constitute only about 9 per cent of the identified potential. The Committee has also been informed that 36 projects having a capacity of 20,873 MW having concurrence by Central Electricity Authority but are yet to be taken up for construction since 2002-03. Usually the construction work of hydro electric projects starts within a year after clearance by CEA. The reasons for delay has been attributed to the non-clearance from environment and forest angle and would be taken up for construction after receiving the required statutory clearance tying up of funds and award of work. The Committee have also been told that 23 projects with capacity of 11,836 MW are under examination of Central Electricity Authority and other involved agencies. Instead of spelling out as to why these projects are stuck the details regarding procedure adopted by CEA, CWC and GSI for clearances of projects have been provided. This inter-alia include aspects related to hydrology, dam/barrage design, hydel civil design, foundation engineering, Seismicity construction machinery, civil cost, geology of the area, adequacy and suitability of construction material, pondage provision, quantities of civil work etc. Here, it is worthwhile to mention that CEA is required to give concurrence within 90 working days from the receipt of the complete Detailed Project Reports. 28 Hydro Projects with a capacity of 9590 MW were returned to Project Authority for re-submission after tying up all the requisite inputs. The reasons for returning the DPRs have been stated to be the inadequacies in geological and geo-technical investigations, hydrological data and other investigations important for selection of type of project and its components. The Committee have also been informed that 87 Hydroelectric Projects with capacity of 18564 MW are under Survey and Investigation. The Government has not replied clearly as to the time since when the S&I work is going on and also by which time these work will be completed. The Committee are disappointed by the dismal scenario of hydro sector as capacity of about 61,000 MW is stuck in procedures and wrangles. It is incomprehensible as to why the projects that got the concurrence of CEA and other bodies more than a decade ago are still in limbo. This is unpardonable and merits exemplary action. The Committee feel that the

entire mechanism – from concept to start of the project – for installing the hydro project needs complete over-hauling. The various agencies of the Union Government are responsible for this state of affairs. Why can't there be a system wherein all the concerned agencies involved in the process of according concurrence ranging from environment/forest Departments, CEA, CWC, GSI, MHA and Ministry of Defence (wherever required), Environment etc, make a uniform platform for examining their aspects of the project and provide concurrence or alternatively suggest solutions if some shortcomings are noticed hindering the smooth passage of the project. This system will also help in curbing the submission of incomplete DPRs, wastage of time in their appraisals and subsequently returning them on being found wanting. The Committee, therefore, are wary of the reasons given for non-performance in the hydro sector and recommend that structural arrangements consisting of representatives from the respective quarters with unified command be immediately thought of for prompt and positive disposal of the issues obstructing the growth of hydro sector and paving the way for expeditious development of the hydro energy in the country. The preparation of pre-feasibility report should be also be made compulsory before undertaking any hydro project.

Reply of the Government

Concurrence process of detailed project reports of hydro power projects is highly technical in nature. Various Organizations namely Central Electricity Authority (CEA), Central Water Commission (CWC), Central Soil and materials Research Station (CSMRS) and Geological Survey of India (GSI) are involved in appraisal process. Clearances from MHA and Ministry of Defence are generally administrative in nature. Clearance from MOEF is required for environmental and forest aspects and these are accorded based on recommendations of EAC & FAC. Proposal of clearances from MHA, Ministry of Defence and MOEF are generally sent to these Ministries by the developers during the concurrence process. In case, clearances from these Ministries are not available till the concurrence to DPRs, the concurrences to such DPRs, are accorded with the condition that the developer would obtain clearances from these ministries, so that the developer can proceed for pre-construction activities.

In view of Fast Tracking of DPRs of hydro power projects, the process of according concurrence to DPRs of Hydro electric projects has been finalized by Ministry of Power in consultation with Central Electricity Authority and Central Water Commission. However, this process would be applicable for new hydro power projects, which are still under survey and investigations and DPR formulation stage.

The new procedure is given below:

After signing of MOA with State Govt., developer shall carry out topographical survey and geological surface mapping of the project and submit the proposed layout of the project and detailed investigation plans to CEA for appraisal and finalization. CEA along with CWC, GSI and CSMRS shall hold consultation meeting with developer to finalize different alternatives of project layout for which investigations are to be carried out by the developer along with detailed investigation plans to be carried out in first phase.

After completion of the first phase investigations, developer shall submit the results to CEA. CEA along with CWC, GSI and CSMRS shall hold another consultation meeting with the developer for finalization of project layout and final phase-II investigations to be carried out by the developer.

Prior to submission of DPR to the Authority for its Concurrence/Appraisal, generating company shall get following chapters examined/approved by concerned appraising groups:

Sl. No	Chapters/Aspects	Appraising Groups
1	General Layout	CWC and CEA
2	Hydrology	CWC
3.	Power Potential	CEA
4	Foundation Engg. and Seismic	CWC
5	Geological	GSI
6	Construction Material and Geotechnical	CSMRS
7	Inter-State	CWC
8.	International	MOWR
9	ROR/Storage	Standing Technical Committee (CEA). CWC and MOEF are also members of this Committee

For taking clearance on a particular aspect, developer shall submit its report only after completion of all investigations/studies as suggested by CEA, CWC, GSI and CSMRS.

For preparation of a good quality DPR, typically about 30 months would be required considering zero date as signing of MOA by Developer with the concerned State Govt. extendable by 6 months for reasons beyond the control of Developer.

After approval of above chapters from concerned appraising groups, the developer shall make these a part of DPR to be submitted to CEA for Concurrence/appraisal.

In case Hydro Electric Scheme is found technically and economically viable with necessary inputs and clearances having been tied-up, the Authority may accord concurrence for its implementation, as far as practicable, within a period of 150 (One hundred fifty) working days (excluding time taken by developer for compliance of observations of CEA/CWC/GSI/CSMRS etc.) from the date of acceptance of the DPR from Developer".

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation Sl. No.10, Para No. 2.10)

PUMPED STORAGE SCHEME

The Committee note that there is 96, 524 MW identified hydro power capacity under Pumped Storage Scheme in the country. 4785 MW is under operation while 1080 MW is under construction. It is general practice to develop conventional Hydro Projects on priority and subsequently develop pumped storage schemes to provide system reliability etc. when surplus/economical off peak power is available. The electricity produced by pumped storage schemes may be used during Peak hour. During off-peak time, the water is pumped from the lower reservoir of pumped storage project to upper reservoir and during peak hour, electricity is generated. The concept of pumped storage scheme can provide enumerable opportunities of generating hydro power. The Committee are not sure about the land area requirement for such projects, its geology and topography, hydrological data, geo-technical investigations and requirement of water etc. alongwith its flow but the scheme can be a multi barrel instrument in fulfilling our energy demands. It can also be an agency for providing local irrigation and other water related requirements. Over a period of time it may become economically competitive and provide the base for large scale water storage. In our country, this concept is perhaps only at an experimental stage. It should be ascertained in what manner it has been working elsewhere and how it can be made conducive and competitive to our requirement and environment. The Committee, therefore, recommend that the identified potential under the Pumped Storage Scheme should be developed optimally and it should also be explored as to how this capacity can be further augmented in the minimum possible time-frame.

Reply of the Government

Pumped storage plants in operation:

At present 9 pumped storage schemes with aggregate installed capacity of 4785.6 MW are in operation in the country. The details of these schemes are given below:

Sl. No.	Name of Project/State	Installed Capacity	
		No. of units x Unit size (MW)	(MW)
1.	Kadana St. I&II –Gujarat	2X60+2X60	240
2	Nagarajuna Sagar-Andhra Pradesh	7X100.80	705.60
3	Kadmparai-Tamilnadu	4X100	400
4	Panchet Hill-DVC	1X40	40
5.	Bhira-Maharashtra	1X150	150
6.	Srisaillam LBPH-Andhra Pradesh	6X150	900
7	Sardar Sarovar-Gujarat	6X200	1200
8	Purlia PSS-West Bengal	4X225	900
9	Ghatgar-Mahrashtra	2X125	250
		Total	4785.60

At present, 2 Pumped Storage Plants with aggregate installed capacity of 1080 MW are under construction in the country as given below:

Sl. No.	Name of Project/State	Installed Capacity	
		No. of units x Unit size (MW)	(MW)
1.	Tehri St-II-	4X250	1000
2	Koyna Left Bank-	2X40	80
		Total	1080

These Plants are likely to give benefits beyond 12th Plan.

Pumped Storage Plants being taken up for development in India:

Detailed Project Report of one (1) pumped storage scheme with installed capacity of 500 MW has been returned to the state authorities for re-submission after taking into account the comments of CEA and CWC as given below:

Sl. No.	Name of the Scheme	State	Installed Capacity (MW)	Remarks
1.	Kundah	Tamil Nadu	500	DPR retuned due to non-resolution of inter-state aspects.

Further, 3 pumped storage plants with aggregate installed capacity of 2100 MW are under Survey & Investigation in the country. Details of these schemes are given below:

Sl. No.	Name of the Scheme	State	Installed Capacity (MW)	Remarks
1.	Malshej Ghat	Maharashtra	700	DPR prepared by THDC. Implementation agreement to be signed
2.	Humbarli	Maharashtra	400	Under Survey & Investigation by THDC for preparation of DPR
3.	Turga	West Bengal	1000	Under Survey & Investigation by WAPCOS for preparation of DPR
Total			2100	

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation Sl. No.11, Para No. 2.11)

HYDRO POLICY

The Committee are aware that the Government notified Hydro Policy 2008 to augment the developmental activities of the hydro sector. The policy inter-alia included the cost plus tariff regime being extended for public as well as private sector Hydro Power Projects, transparent criteria for awarding sites to private developers, enabling developer to recover his additional cost through merchant sale of 40 per cent of the energy etc. The policy also stipulated some responsibilities to private developers of the hydro projects. Prior to this policy announcements were made in the year 1991 and 1998. They also laid emphasis for accelerating pace of hydro development and included, Basin-wise development of hydro potential for optimal use of river basins, execution of mega projects with an installed capacity of 500 MW and above through Central Public Sector Undertakings in case State or private sector is not in a position to implement these projects, Encouragement to private investment through joint ventures or independent power producers, through survey and investigation of the potential hydro sites on an advanced scientific basis before preparation of Detailed Project Report (DPRs), simplification of procedure for clearances to save time, money and reduce gestation period, development of small and mini hydro projects and allotment of hydro projects upto 100 MW to the private developers through MoU route. The Government set the goal of power to all by the year 2012. Hydro Policy 2008 also attempted the pursuit of the above goal by inducing private

investment in hydro power development, harnessing the balance hydro-electric potential, improving resettlement and rehabilitation, facilitating financial viability of hydro projects etc. The Committee note that these policy initiatives and thrust measures of the Government have not been able to make the desired impact. They have failed to generate conducive environment, all-round participation for the development of the hydro sector. Policy measures like merchant sale of energy upto 40 per cent has also not helped in attracting the required investment. The Committee are of the opinion that unless substantive issues like Survey and Investigations, Preparation of DPRs, Statutory Clearances, Rehabilitation and Resettlement, Arrangements of Funds at competitive rates, Reduction in the Gestation Period are addressed effectively, any exercise will only be superficial and unsubstantive without any concrete results. Policy initiative results can be expected to accrue after a particular time gap. However, in the instant case the policy measures of 1998 as well as up to 2008 have not succeeded in a scaring away the gloomy scenario of hydro sector. This has raised doubts about the validity and efficacy of the policy measures itself. The Committee, therefore, strongly recommend that a thorough review of the policy measures should be done and new elements in the policy be introduced for making it more meaningful and sector friendly addressing the issues which are hampering the growth of hydro sector.

Reply of the Government

Policy steps taken in the hydro Power Policy are expected to give boost to hydro power development in the country. However, these steps will take some time to show the desired results. Based on the feedback from various developers & stakeholders, provisions of Policy are reviewed and modifications, if necessary are done by Ministry of Power from time to time.

In order to encourage private sector to setup hydro power projects in India, following provisions have been made in Hydro Power Policy, 2008:

- Provides level playing field to private developers-tariff to be determined by the regulator under section 62 of Electricity Act, 2003, as is being done for PSUs upto Dec-2015.
- Transparent selection criteria for awarding sites to private developers.
- Enables all developers to recover their additional costs through merchant sale of upto a maximum of 40% of the saleable energy. 5% reduction for a delay of every six months. – Remarketing 60% through long term PPAs.

Review meetings are taken by CEA/MoP with developers to sort out issues and encourage private sector development.

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation Sl. No.13, Para No. 2.13)

CONSTRAINTS IN DEVELOPMENT OF HYDRO SECTOR

The Committee note that the constraints affecting the development of hydro sector are more or less similar as mentioned in the preceding recommendations and vary from long gestation period to local issues including law and order problem. On technical aspects clearances from CEA, CWC, GSI, MoEF also appear more like a problem than a solution and facilitation. Of late, the issue of rehabilitation and resettlement of the project affected persons has also attained such proportion which can not only delay the projects but also halt it altogether. The issue at hand can best be illustrated by the fate of Subansiri Project. Recently a tendency is cropping up wherein the imaginary rather than realistic problems tend to throw the entire activities out of gear. If not quelled affectively this may become a major cause of concern for all hydro projects. Although natural calamities have not significantly affected the pace of development yet we cannot afford to ignore this aspect as well for unhindered growth of the sector. In the view of the Committee, the transfer of projects to other developers after the completion of Survey and Investigation is going to pose major constraints if continued unabated. The Committee are of the opinion that to overcome the constraints of development of hydro sector, the measures such as timely completion of Survey & Investigation works, preparation of DPRs and their time bound clearances from various organizations, proper and smooth road connectivity, reliable communication infrastructure and effective coordination with various agencies like Border Road Organisation, State PWD, State Police, Ministry of Road and Highways etc., development of useful waterways which are helpful in developing hydro power projects, easy access to construction material near and around the site of Hydro Power Projects, farsighted leadership in resolving various local issues in coordination with the State Government and other concerned agencies/persons, adequate security measures to safeguard personnel and machinery deployed for the implementation of various projects without time and cost overrun, will go a long way in strengthening the sector and removing the bottlenecks impeding its growth. The Committee, therefore, recommends that adequate steps should be taken to remove the identified, known, perceived and notional constraints for ensuring the fast growth of the hydro sector in the country.

Reply of the Government

The steps taken by the Government to remove the issues/bottlenecks and to ensure the fast growth of the hydro sector in the country are as under:-

- Central Electricity Authority (CEA) is monitoring the progress of each project regularly through frequent site visits, interaction with the

developers and critical study of monthly progress reports. chairperson, CEA holds review meetings with the developers and other stakeholders to sort out the critical issues.

- A Power Project Monitoring Panel (PPMP) has been set up by the Ministry of Power to independently follow up and monitor the progress of the hydro projects.
- Review meetings are taken by Ministry of Power regularly with the concerned officers of CEA, equipment manufacturers, State Utilities/CPUs/Project developers, etc. to sort out the critical issues.
- Review meetings are taken by MoP/CEA with Border Road Organization, Ministry of Road Transport and Highways etc. to sort out the infrastructure issues.

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

(Recommendation Sl. No.14, Para No. 2.14)

IMPACT OF FLASH FLOOD

The Committee note that there has been worst devastation of life and property in Uttarakhand due to the sudden and flash flood occurring there in July, 2013. A large number of hydro projects are in operation or coming up in the State of Uttarakhand and hence it is likely that these projects might not have been let off from the flood fury. The projects such as Tapovan Vishnugad, Lata Tapovan, Tehri HPP, Tehri PSP, Singoli Bhatwari, Phata Byung HP, Dhauliganga Power Station, Vishnuprayag Hydro Electric Project and Tiloth Power Station have been damaged extensively. Important and vital structures have been washed away and the water resources have been filled with slush and boulders. Besides, Plant and Machinery have also been affected leading to halting of work and delay in the functioning of the projects. It has also been stated that the Tehri Dam has helped in containing the damage otherwise it could have been of huge proportions and irreparable dimensions. This could happen because the large reservoir of the Tehri Dam could accommodate the maximum quantity of water of the flash flood. Had this not happened, large swathes of land even in the plains could have been washed away. The Committee find the outcome and impact of the flood to be of mixed nature. On the one hand good number of hydro projects have been affected involving thousands MW of electricity whereas on the other Tehri Dam could save us from large scale destruction. In this regard, the Committee would like to emphasize that such preventive measures should be taken which can ensure the lesser damage to the plants in the eventuality of nature's vagary of this dimension. It is not an impracticable proposition given the fact that Tehri Dam could withstand the same catastrophe. This mechanism could be inbuilt in the operational plant while it can be a pre-emptive measures for those plants which are in the offing. Simultaneously, the Committee would also recommend that the positives of the Tehri Dam

episode containing the flood ravages should be appropriately highlighted informing the people that the Hydro Projects can also act as shield of the people from nature's quandary.

Reply of the Government

It is mentioned in the para that Tehri HPP and Tehri PSP have been damaged extremely during the Flash Floods held in Uttarakhand in June, 2013. The fact is that, there was no damage at all in Tehri HPP and Tehri PSP due to Flash Floods.

The positive aspects of Tehri Dam in saving downstream area of Devprayag and Rishikesh have been displayed by various news channels, paper articles etc. All out efforts were made by THDCIL to highlight the positive aspects of Tehri Dam in various forums/meetings/seminars etc. This was also well displayed in India International Trade Fair, 2013. THDCIL has also opened its official page on social networking site (Face book) wherein the positive aspects of Tehri Dam are well highlighted in the form of press release, news paper cuttings etc. Sustainability Report of THDCIL is being published since 2008-09. These reports are also uploaded on THDC's website and cover the contribution to society as well as environment. Efforts will be made to highlight the same in future also.

[Ministry of Power
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CHAPTER III

OBSERVATION/ RECOMMENDATION WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES

(Recommendation Sl. No.15, Para No. 2.15)

PERFORMANCE OF CENTRAL PSUs IN HYDRO-SECTOR

The Committee note that a leading hydro organization of Government of India like NHPC is being run without a regular Chief Executive for the last about three years. Various reasons have been given for poor performance of NHPC in capacity addition programmes. The Ministry has however, failed to list the major reason i.e. continuous vacancy at the level of CMD in the organisation. The Committee are aware of the laid down procedure for selection of incumbent and the preparatory steps taken by the Government in this regard. However, it is intriguing that the outcome of all the efforts has not yielded the desired results creating a situation wherein not only the institution but also the hydro-sector has been affected adversely because it is unprecedented that two panels selected after arduous exercise have been recommended for scrapping. From the replies submitted to the Committee it can be seen that out of the four incumbents recommended for the position in two exercises one after the other undertaken for selecting CMD, three are the senior most functional directors of the NHPC and at both the times the first nominee was from the organization itself. Not only that the first nominee of the second exercise has also discharged functions of the CMD from 1st January, 2011 to 23rd July, 2012. If the post of CMD could not be filled because of the vigilance issue, it is baffling how the three of them are still continuing in board level positions and how one among them discharged the functions of CMD for considerable period. The Committee strongly feel that the Ministry owes an explanation for this serious lapse. It appears that the role of CVC in according vigilance clearance needs review. CVC took about 6 months to deny or accord vigilance clearance for the first panel and 11 months to deny or accord vigilance clearance for the second panel. Similarly, it is inexplicable as to how the four nominees have not been accorded the CVC clearance after recommended by PESB particularly when three of them are occupying board level positions in NHPC and are still working there. Similarly, there ought to be some time-frame for according vigilance clearance by the concerned agencies. The Committee believe that before forwarding the names for interview to PESB, vigilance angle should have been taken into account by the controlling authority particularly for in-house candidates. There is no reason why the Ministry did not learn any lesson after the first fiasco and allowed repeat performance for the second attempt. In the entire scenario the role of the Ministry is highly questionable as the issue has been handled in a callous manner resulting in impacting a major hydro sector PSU. Out of 3 in-house officers, 2 have gone for court's intervention resulting

in wasting the time and resources of the Government. The Committee feel that the entire issue should be properly enquired and responsible persons should be identified for their acts of omissions and commissions. The entire events have also led the Committee to believe the process of selection of board level positions needs a revisit exploring the avenues whether the role of administrative Ministry should at all be there in the selections of officers of Public Sector Undertakings under their administrative control. In the view of the Committee it is high time that selection procedure for PESB aspirants be made more objective, transparent and independent ensuring the element of justice and fair play till the nominee selected by PESB occupies the position within a defined time period and without the interference of administrative Ministry. The Committee, therefore, strongly recommend that the process of selection of board level position should be formulated in such a way that none of the bodies involved in the process can delay or halt it as an afterthought and the recommendations of PESB with regard to appointment of PSUs should not be scrapped unless an extraordinary situation has arisen which may seriously compromise the national interest.

Reply of the Government

The post of CMD, NHPC is lying vacant w.e.f. 01.01.2011. PSEB had recommended its panel containing names of Sh. D.P. Bhargava and Sh. S.K. Mittal on 22.10.2010 Central Vigilance Commission denied vigilance clearance in respect of both the candidates recommended by PESB. The post was re-circulated by PESB and PESB recommended the name of Sh. A.B.L. Srivastava, Director (Finance) vide letter dated 30.09.2011. CVC vide letter dated 03.08.2012 denied vigilance clearance to Shri Srivastava also. Subsequently, Ministry of Power took up the matter with DoPT vide letter dated 12th September, 2012 requesting disclosure of reserve name of the panel of CMD, NHPC Ltd., as recommended by PESB.

2. PESB vide their D.O. letter dated 9th October, 2012 disclosed the reserve name of Sh. J.K. Sharma, Director (Project); NHPC for the post of CMD, NHPC. Accordingly, vigilance clearance for Shri J.K. Sharma was sought by this Ministry from CVC.

3. CVC, vide their letter dated 17th July, 2013 informed that a number of complaints are being examined in the Commission and conveyed their inability to accord clearance to Shri J.K. Sharma till the examination of all the cases pending in the Commission. As such with the approval of competent authority the proposal for scrapping the panel was sent to DoPT on 11.10.2013. DoPT had sought final status of vigilance clearance from this Ministry received from CVC in respect of Shri J.K. Sharma. On receipt of CVC letter dated 16.09.2014 conveying the imposition of minor penalty and also CVC letter dated 19.09.2014 conveying the denial of vigilance clearance,

MoP has requested DoPT to obtain approval of ACC for non-extension of term of Shri J.K. Sharma beyond 09.04.2014.

4. With the approval of HMOP, a proposal had been sent to DoPT for approval of ACC for scrapping of Panel. DoPT vide their letter dated 12.11.2014 has conveyed the approval of competent authority for scrapping of the panel dated 30.09.2011 recommended by PESB. PESB vide their Notification dated 25.11.2014 has notified the vacancy of CMD, NHPC considering the date of occurrence of vacancy as 12.11.2014.

5. PESB, vide their latter dated 16.2.2015, has forwarded its recommendations for the post of CMD, NHPC recommending the name of Shri K.M. Singh, Executive Director, NHPC. This Ministry has requested Central Vigilance Commission (CVC) for the vigilance clearance in respect of the officer recommended for the post. the Process of obtaining approval of ACC is being expedited in order to appoint Shri K.M. Singh as CMD, NHPC.

6. In light of the above facts, it is clear that Ministry followed all the procedure for the appointment of Board level executive in NHPC Ltd. The delay in the appointment was mainly due to non-availability of CVC clearance to candidates recommended for the post of CMD, NHPC by PESB. As a number of cases were registered in CVC against those recommended candidates, it took a lot of time in reaching of decision by CVC regarding their vigilance clearance.

7. PESB have recommended the name of Shri Jayant Kumar, Executive Director (Finance) and this Ministry has forwarded the proposal for approval of ACC. Further, the matter is in the process of obtaining CVC clearance in respect of Shri K.M. Singh, Executive Director, NHPC for post of CMD, NHPC as the officer has been recommended for post by PESB vide their latter dated 16.02.2015.

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

CHAPTER IV

OBSERVATIONS/ RECOMMENDATIONS IN RESPECT OF WHICH THE REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE AND WHICH REQUIRE REITERATION

(Recommendation SI. No.7, Para No. 2.7)

The Committee note that there has not been consistency in the development of hydro energy during the Five Year Plans. It has been a saga of ups and downs wherein the downs are weighing heavily while in the third plan, the capacity addition from hydro was 2207 MW constituting above 45 per cent of the total installed capacity. Thereafter, in the 4th Plan, it plummeted to 1058 MW registering the decline of more than 100 per cent as against the achievement of 3rd Plan. Similar was the growth in 6th Plan which was 3706 MW as compared to 3867 MW of the 5th Plan. The 8th Plan registered the growth of 2427 MW against the 7th Plan achievement of 3828 MW. During 10th Plan the achievement has been 7886 MW but again it nose dived in the 11th Plan making it 5544 MW. It has seen a consistent decline in the proportionate share of hydro right from 3rd Plan period onwards when it was 45.68 per cent of the total installed capacity and now it is only 17 per cent of the total installed capacity. Any developmental activity has rising tendency in itself and vis-à-vis other similar competitive activities. However, the hydro developmental activity has failed on both these counts. In its own secluded growth it has not maintained a trend whereas when compared with other such activities it has registered only a downtrend. This is frustrating and cannot be allowed to happen. It is a time when message should be sent in clear and stern terms that the concerned organizations and individuals will have to perform lest other measures are taken recourse to ensure their performance.

The Committee have been informed that nine NHPC projects of 11th Plan have slipped into 12th Plan of which only four projects for total generation of about 450 MW could be commissioned whereas projects for 2800 MW are likely to slip to the next plan. The Committee are not convinced about the various steps, including policy measures, taken to augment the hydro capacity in the country. The sector was opened in 1991 to private entrepreneurs streamlining the clearance process by introducing 3 stage clearance approach for development of hydro projects in central sector. The policy measures like National Electricity Act, 2003, National Electricity Policy 2005, Tariff Policy 2006 and Hydro Policy 2008 have squarely failed to enthuse the hydro sector. Reasons adduced for slow pace of development are same and repetitive. The futility of these measures can be gauged from the fact that the Government has been unable to give any firm timeline for completion of the projects categorized under various stages of development. The Committee, therefore, recommend that a realistic and panoramic

approach should be adopted for the growth of hydro sector in the country. This approach should encompass all the problems besetting the sector with their plausible and logical solution and the working in this sector should be such as to provide transparency and level playing field to all the stakeholders.

Reply of the Government

Nine projects of NHPC Ltd. totaling to 4172 MW have slipped from 11th Plan. Out of the slipped capacity of 4172 MW, capacity of 3172 MW is programmed for 12th Plan and 1000 MW for 13th plan. The status of this capacity is as under.

Capacity commissioned so far upto 31.12.2014	:	1212 MW
Capacity likely to be commissioned in remaining period of 12th Plan	:	160 MW
Capacity critical for commissioning during 12th Plan	:	1800 MW
Total	:	3172 MW

[Ministry of Power
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Comments of the Committee

(Please see Para No. 14 of Chapter – I of the Report)

(Recommendation No.9 Para No.2.9)

The Committee observe that the role of the Central Government in the development of Hydro Sector in the country should not be limited to a facilitator but expand to an active promoter as well. Despite division of responsibilities and involvement of state and private sector, its role cannot be minimized. Given the availability of resources, manpower, technical know-how and opportunities at its disposal, the Union Government must play a role of torchbearer for hydro energy development of the country. The hydro potential is available in abundance and the projects below 25 MW (not under the domain of Ministry of Power) also have great potential. If efforts are properly synchronized to harness the above potential, it will definitely solve our energy woes and over a period become economical for the people. There can be no better agency to coordinate these efforts than the Government of India. As a lot of time has been lost and we have done precious little for harnessing the potential of this important energy sector. Instead of identifying the reasons for non-performance or deflecting responsibilities, it is high time that sincere and coordinated approach should guide us in our endeavour to develop hydro potential. We should also ponder over the fact as to why various measures taken in this regard have not yielded the desired results.

There is acute need of electricity while no dearth of talent and resources in our country. It is, perhaps, our resolve which is not as determined and that is a crucial factor for our backwardness in utilizing the hydro potential. No State or private entity can take the lead in this regard. It is only the Government of India with which the initiative vests and it cannot allow the situation to drift any further. Most of the agencies involved in clearances are its own and it can play a very constructive, positive and lead role for timely development of hydro energy in the country. The Committee, therefore, strongly recommend that Union Government should discharge its duties with a sense of responsibility that has been bestowed on it for the development of available hydro potential in the country in a time-bound manner.

Reply of the Government

The Ministry of Power, Government of India is involved in various activities for expediting the hydro power development in the country:-

- Review meetings are taken by Ministry of Power regularly with the concerned officers of CEA, equipment manufacturers, State Utilities/CPSUs/project developers, etc. to sort out the critical issues.
- Review meetings are taken by MoP/CEA with Border Road Organization, Ministry of Road Transport and highways etc. to sort out the infrastructure issues.
- Meetings are held between MoP & MoEF regularly to sort out the issues related to Environment & Forest Clearances".

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

Comments of the Committee

(Please see Para No. 20 of Chapter – I of the Report)

(Recommendation No.12 Para No.2.12)

PRIVATE SECTOR PARTICIPATION

The Committee note that the hydro sector development in the country is mainly done by the Central Government, State Government and the Private Entrepreneurs. Of the developed capacity of 39788 MW of hydro power the share of private sector is only 2694 MW constituting 7 per cent of the developed capacity. This is too meager and marginal. Despite a plethora of steps, private sector has not responded the way it was expected to in the development of the hydro sector. In the 12th Plan, the private sector has been given the target of 3285 MW out of a total target of 10897 MW of hydro power. Given the past performance and achievements in the 11th Plan, which

was only 1292 MW, this seems to be an ambitious target. The returned incomplete DPRs of the aggregate installed capacity of 9590 MW mostly belong to private sector. However, the Committee are sure that it will not have any bearing in the target pursuit as work on any of these DPRs might not have begun and it is only from the ongoing projects that this 12th Plan target is decided. The involvement of private sector brings in additional resources for capacity addition and power and create competitive spirit in the sector. However, this has not happened in out hydro sectors despite the required measures taken in this regard. 17 projects with a capacity of 12144 MW have got concurrence of CEA but yet to be taken up for construction, project worth 588 MW under examination of CEA and capacity of 17529 MW in 64 projects are under Survey and Investigation of private sector. These projects are for 13th Plan and beyond as the target for 12th Plan has already been decided. This leads to a very disappointing scenario as far as the private participation is concerned as the capacity addition under various categories of projects will take decades to materialize and by that time their proportionate share may not be as expected. The Committee are not satisfied with the present status about private participation. The Committee, therefore, strongly recommend that a conducive atmosphere should be created through requisite measures to encourage private participation in the hydro sector of the sector.

Reply of the Government

The hydro power projects under operation and under various stages of developers in private sector are given below":

Sl. No.	Category	No. of Projects	Installed Capacity (MW)
1	Projects under Operation	24	2843.45
2.	Projects under Execution	21	4981
3	Cleared/issued concurrence by CEA & yet to be taken up for execution	19	14362
4.	DPRs under examination in CEA	10	5093
5.	Projects for which DPRs returned for resubmission	13	4112
6.	Projects under S&I	46	10642.20
	Total	133	42033.65

[Ministry of Power
OM No.8/4/2013-H-II, Dated:06/04/2015]

Comments of the Committee

(Please see Para No. 23 of Chapter – I of the Report)

CHAPTER V

**OBSERVATIONS/ RECOMMENDATIONS IN RESPECT OF WHICH THE
FINAL REPLIES OF THE GOVERNMENT ARE STILL AWAITED**

Nil

**New Delhi
7th December,2015
Agrahayana 16 ,1937 (Saka)**

**DR. KIRIT SOMAIYA,
Chairperson,
Standing Committee on Energy**

APPENDIX-I

MINUTES OF THE EIGHTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2015-16), HELD ON 3rd DECEMBER, 2015, IN COMMITTEE ROOM 'B', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee met from 1800 hrs. to 1830 hrs.

PRESENT

LOK SABHA

Shri Kirit Somaiya - **Chairperson**

- 2 Shri M. Chandrakasi
- 3 Shri Harish Dwivedi
- 4 Shri Bhagat Singh Koshyari
- 5 Shri Ravindra Kumar Pandey
- 6 Shrimati Krishna Raj
- 7 Shri Vinayak Bhaurao Raut
- 8 Shri Malyadri Sriram
- 9 Shri Bhanu Pratap Singh Verma

RAJYA SABHA

- 10 Shri Oscar Fernandes
- 11 Shri Pyarimohan Mohapatra
- 12 Shri Ananda Bhaskar Rapolu

SECRETARIAT

1. Shri K. Vijayakrishnan Additional Secretary
2. Shri N.K.Pandey Director
3. Smt. L. Nemjalhing Haokip Under Secretary

2. At the outset, the Chairman welcomed the Members and apprised them of the agenda for the sitting. The Committee then took up for consideration the following draft Reports:-

- i) Measures to Check Commercial Losses.
- ii) Action Taken by the Government on the recommendations contained in the 43rd Report (15th Lok Sabha) on 'Development of Hydro Sector'.
- iii) Action Taken by the Government on the recommendations contained in the 2nd Report (16th Lok Sabha) on Demands for Grants of the Ministry of New and Renewable Energy for the year 2014-15.
- iv) Action Taken by the Government on the recommendations contained in the 5th Report (16th Lok Sabha) on Demands for Grants of the Ministry of Power for the year 2015-16.

3. After discussing the content of the Reports in detail, the Committee adopted the aforementioned draft Reports. The draft Report on 'Measures to Check Commercial Losses' was adopted with slight modification. However, the remaining draft Action Taken Reports were adopted without any change. The Committee authorized the Chairperson to finalize the above-mentioned Reports and present the same to both the Houses of Parliament in the current Session.

4. X X X X X X X X X X X X.

The Committee then adjourned.

APPENDIX II

(Vide Introduction of Report)

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE OBSERVATIONS/ RECOMMENDATIONS CONTAINED IN THE FORTY-THIRD REPORT (15TH LOK SABHA) OF THE STANDING COMMITTEE ON ENERGY

(i)	Total number of Recommendations	15
(ii)	Observations/Recommendations which have been accepted by the Government:	
	Sl.Nos.1,2,3,4,5,6,8,10,11,13 and 14.	
	Total:	11
	Percentage	73.33%
(iii)	Observations/Recommendations which the Committee do not desire to pursue in view of the Government's replies:	
	Sl.No. 15.	
	Total:	01
	Percentage	6.67%
(iv)	Observations/Recommendations in respect of which the replies of the Government have not been accepted by the Committee and which require reiteration:	
	Sl.Nos. 7,9 and 12.	
	Total:	03
	Percentage	20%
(v)	Observations/Recommendations in respect of which final replies of the Government are still awaited:	
	Nil	
	Total:	00
	Percentage	00%