Summary of the comments and suggestions received on Approach Paper on Terms and Conditions of Tariff Regulations for the tariff period 1.4.2014 to 31.3.2019

(Ref No. 20/2013/CERC/Fin(Vol-I)/Tariff Reg/CERC Date: 25th June'2013)

3.2 Renovation & Modernisation

The Comments are invited in regard to following the issue :

Whether there is a need to address the above issues & review the provision relating to Renovation & Modernisation and Special allowance to make it more responsive to the requirement of generating stations and transmission assets?"

Sr. No.	Name of organization/ stakeholder	Comments/ Suggestions
A) Autonomous Bodies (JERCs/SERCs/Other Commissions)		
A.1	Rajasthan Electricity Regulatory Commission	No comments
A.2	Uttar Pradesh Electricity Regulatory Commission	The country is short of power generation in respect to the actual requirement. It is therefore necessary to improve the generation. By renovation and modernization of existing power stations extra power is generated through the existing power stations. It is therefore in the public interest that the schemes of R&M of existing power stations may be encouraged. Further, the scheme of R&M should be supported with reduction in fuel cost and extension in useful life of the plant. These aspects can be taken up while approving any proposal for R&M of old generating station.
A.3	Chhattisgarh State Electricity Regulatory Commission (CSERC)	Special allowance should be linked to the O&M by way of a linear indexation. In package base Renovation, life extension should be accounted for.
B) Government Departments		
B.1	Govt. of Odisha	• R& M policy may be framed in consultation of CEA • Useful life may of thermal power plants may be revised to 30 years • If special allowance is allowed to a generator then extension of life should be mandatory. • The R& M proposal should be an economical and viable proposition. While allowing capitalization through R&M the cost of old assets need to be reduced from the gross block. • R& M activities shall be considered after proper scrutiny of cost benefit analysis by taking into consideration the improvement in the operational parameters including the reduction in Gross Station

		Heat Rate of the plant and with due consent of the beneficiary. • R & M should be allowed only if the assets have outlived their useful life or else the required capital expenditures if any should be covered under regular O & M expenses. • The accumulated depreciation should be deducted to arrive at the Net Capital Base for the purpose of tariff determination during the extended period of useful life of the asset.
B.2	Gujarat Urja Vikas Nigam Limited	There should be prudence check to ascertain that generating companies are actually spending for R&M for ensuring supply of power to beneficiaries. Moreover, R&M of generating units should be undertaken after due consultation with beneficiaries considering cost benefit analysis. Thereafter, generating companies should avail option of Special Compensatory Allowance in lieu of R&M.
B.3	Government of Punjab, Dept. of Power	Since R&M is an exclusive job separate petition may be filed by the generator giving DPR, justification, cost benefit analysis, estimated life extension, schedule of completion, reference of price level and estimated completion cost including FERV and record of consultation with the beneficiaries. Further, for super critical technology plants, there should not be any R&M expenses. ICB must be adopted for R&M schemes which are on turnkey basis.
B.4	Power Trading Corporation	To avoid investment in R&M at fag end, it is suggested that CERC may specify a period with reference to COD of the station when R&M proposal has to be submitted in CERC to maximize the benefit: Eg. Between 15 and 20 years after COD for coal based power station and between 12 and 15 years after COD for CCGT plant. Further, R&M needs to be implemented on turnkey basis with guaranteed capacity and heat rate efficiency based on residual life assessment by a competent agency approved by CERC.
C) Central Sector (Generators/Transmission Cos./ NLDCs/RLDCs)		
C.1	Tehri Hydro Development Corporation Limited (THDC Ltd.)	Special Allowance in lieu of R&M may be allowed for hydro station also, on a systematic basis.
C.2	Narmada Hydroelectric Development Corporation Ltd. (NHDC Ltd.)	A *Special Allowance* in lieu of renovation and modernization of thermal power stations may be continued without any need for resetting of Capital base, on completion of 25 years of useful life. Further, such Renovation and Modernization Works cannot be denied in case of hydro generating stations as well, the provision for allowing such Special Allowance after completion of 35 years of useful life, may also be considered.

C.3	Damodar Valley Corporation (DVC)	Regulation on Renovation and Modernization and "Special Allowance" in lieu of expenditure on Renovation & Modernisation in terms of the provision as per Tariff Regulation 2009 should be continued since this will allow the generating companies to operate upon the old units, R & M for which is not techno-commercially viable as per the recommendations of expert group. However quantum of "Special Allowance" as per the existing regulation is insufficient to meet the requirement of old generating stations and considered to be enhanced and implemented in an accelerated manner within the range of Rs. 8 lakh to Rs. 11 lakh per MW/Year.
C.4	National Hydroelectric Power Corporation (NHPC)	Expenditure on minor assets is also required in Hydro stations after COD. CERC have the provision regarding Renovation & Modernization (R&M) of power stations for extension of life beyond the prescribed useful life. Tariff of such generating stations would be determined after deducting the accumulated depreciation from capital cost including expenditure of approved R&M by the appropriate approving agency. CERC Tariff regulations, 2009 do not have provisions, how tariff of Hydro Generating Stations, which do not claim R&M beyond its useful life would be determined.
C.5	North Eastern Electric Power Corporation Ltd. (NEEPCO)	The provision for Renovation and Modernization needs review to make it more simplified and workable for assessing & justifying the extended life for a project beyond its normal useful life. Considering the long normative useful life of thermal projects (25 years) and hydro projects (35 years), as well as obsolesce of existing technology and availability of new/efficient technology, renovation & modernization should be allowed within normative life of a project, subject to the condition that the same will enhance efficiency and life of the project.
C.6	National Thermal Power Corporation (NTPC)	With regard to the Capital Expenditure at the fag end of Useful Life, in case there is additional capital expenditure near the end of useful life, the depreciation recovery gets accelerated due to short balance life. Therefore, in such cases such capital expenditure required at the fag end of useful life (say after 22nd year) depreciation for the same may be separately serviced as individual stream during the next 10 years. The period of 10 years would be reasonable considering the residual life that may be available. Further, both the provisions/options available to the generator for carrying out R&M i.e. based on actual capitalization as well as the

		provision of normative Special Allowance on annual basis as provided in the present Tariff Regulations 2009 needs to be continued for providing comfort and regulatory certainty to the generators. Prescribe the special allowance of Rs 18 lakh/MW for the Tariff Period 2014-19 with an escalation to be worked out with weightage of 50% WPI and 50% CPI based on 2012-13 indices. Any expenditure towards change in law and/or ash dyke and ash handling system and expenditure on equipment other than BTG for life extension beyond 25 years would need to be considered exclusive of special allowance so arrived and will need to be serviced separately as additional capital expenditure.
C.7	Neyveli Lignite Corporation	R&M expenditure may be allowed with estimated life extension period. The present special allowance provided may be enhanced. Special Allowance should be extended for plants like TPS which have completed the extended life under LEP. For old plants like TPS-I whose capital got depreciated fully, provision shall be made in the forthcoming Tariff Regulations for extending this Special Allowance at suitable enhanced rate for covering the expenditure incurred towards RLA study and also considering the ageing and vintage nature of such plants.
C.8	Power Grid	Proposals containing DPR, cost benefit analysis etc. together with expected life extension for the respective projects shall be submitted by POWERGRID for consideration of the Commission. Life extension which can be achieved after R&M cannot be generalized. Further, till the time the utility decides to undertake R&M, it may be allowed to recover a special allowance equivalent to O&M charges for the asset having completed their useful life till they are put into R&M.
C.9	North Eastern Region Power Committee (NERPC)	The useful life of Air Insulated Substation (AIS), Gas Insulated Substation (GIS) and transmission lines may be increased to at least 30 years, 35 years and 40 years, respectively.
D) State Sector (Generators /Transmission Cos./Distribution Cos./SEBs/SLDCs)		
D.1	APTRANSCO	Renovation and Modernization should be examined on case to case basis. Only those cases should be considered where there is value for money spent on renovation and modernization
D.2	Rajasthan Discom Power Procurement Centre	Since R&M is an exclusive technical job, separate petition may be filed by the generator giving DPR, justification, cost benefit analysis, estimate life extension, schedule of completion, reference of price level and estimated completion cost including FERV and record of consultation with the beneficiaries.
D.3	Uttar Pradesh Power Corporation Ltd. (UPPCL)	1. Since R&M is an exclusive technical job separate petition may be filed by the generator giving DPR, justification, cost benefit analysis, estimated life extension, schedule of completion, reference of price level and estimated completion cost including FERV

		and record of consultation with the beneficiaries. 2. The criterion of R&M for TPS should be running of machine for one lakh hours as well as the cost of R&M should be limited to 35%/capital cost. 3. A monitoring wing will keep a close watch on the various parameters of the machines and suggest R&M or LE. 4. The same monitoring wing will also monitor the post R&M achievement of expected values of operating norms.
D.4	GRIDCO	The useful life of thermal power plants may be revised to 30 years instead of 25 years existing now. The useful life of a thermal plant may be considered to be extended upto 20 years from the date of completion of R & M work unlike TTPS which was done retrospectively from 2001 to 2021 when R & M activities were still under progress. If special allowance is allowed to a generator, then extension of life should be made mandatory. The R&M proposal should be an economical and viable proposition. While allowing capitalization through R&M, the cost of old assets needs to be reduced from the gross block. R & M activities shall be considered after proper scrutiny of cost benefit analysis by taking into consideration the improvement in the operational parameters including the reduction in Gross Station Heat Rate of the plant and with due consent of the beneficiary. R & M should be allowed only if the assets have outlived their useful life or else the required capital expenditures if any should be covered under regular O & M expenses. The accumulated depreciation should be deducted to arrive at the Net Capital Base for the purpose of tariff determination during the extended period of useful life of the asset.
D.5	Tripura State Electricity Corporation Ltd.	There is a need to bring clear guideline for R&M of generation and transmission. It should be discussed with all the beneficiaries and may be allowed only against demonstration of life cycle benefit by generator and developer.
D.6	Power Company of Karnataka Ltd.	The techno commercial feasibility report has to be submitted by the generating station/transmission licensee before CEA for approval of extension of useful life of the project. On approval by the CEA, the Commission may extend the useful life of the generating station/transmission system based on the recommendation of the CEA before allowing the Renovation & Modernization allowances. Even for the special allowances to be allowed the recommendation of the Commission regarding the extension of useful life of the project is required.
D.7	Orissa Power Generation	• R&M may not be necessary only for plant life extension but

	Corporation Ltd.	sometimes it is required under certain cases like change in law, stringent environmental norms, etc., or technological phase out where support is not available from OEM. However, prudence check is needed for the same.
D.8	Chhattisgarh State Power Distribution Co. Ltd.	The provision relating to special allowance towards renovation and modernization required to be reviewed whether operational efficiencies has been improved or not. A need based R&M activity may be carried out by the Generator after obtaining approval of the Central Commission clearly indicating the expected extension in life of the plant.
D.9	MP Power Management Company Ltd.	The provision relating to renovation and modernization and special allowance requires urgent attention of Central Commission for its review and abolish the same. Experience shows that despite of claiming crores of rupees in the form of special allowance allowed in lieu of R&M for coal / lignite based thermal power station, the power producers always approaches the Commission for claiming additional capital expenditure being incurred by them even on minor nature of additional capital expenditure and there would be every possibility of doubling of the financial burden on the beneficiary in this account. Thus, the existing provision should not be continued. Further, a need based R&M activity may be carried by the plant developer after obtaining approval of the Central Commission. In this regard, the plant developer should file DPR consisting of need, justification, payback period and expected extension in useful life of the plant, benefits to existing beneficiaries and its impact on the tariff. The Central Commission, after carrying out the detailed examination and evaluation of the project may allow R&M expenses, looking to the cost benefit ratio, extension in useful life of the project and the payback period. It is also proposed that R&M expenses may be burdened in the ratio of 50:50 % i.e. 50% to be borne by the power developer for which no tariff hike will be given and rest of the 50% after prudence check may be considered for allowing as additional capital expenditure. Suggestions i) Since R&M is an exclusive technical job separate petition may be filed by the generator giving DPR, justification, cost benefit analysis, estimated life extension, schedule of completion, reference of price level and estimated completion cost including FERV and record of consultation with the beneficiaries. ii) The criterion of R&M for TPS should be overall improvement in performance as well as the cost of R&M should be limited to 35%/capital cost. iii) A monitoring wing to be established by Central Commission may keep a close watch on the various

		parameters of the machines and suggest R&M. iv) The same monitoring wing will also monitor the post R&M achievement of expected values of operating norms.
D.10	Maharashtra State Power Generation Co. Ltd.	The objective of R&M activity must not only be confined to the extension of life beyond the useful life but also include the restoration of the lost capacity, upgradation of capacity and improvement of the performance indices of the plant and equipment. No R&M expense shall be capitalized if it does not result into life extension with capacity restoration or capacity upgradation.
D.11	Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL)	Renovation and Modernisation matter should be discussed with all the beneficiaries and may be allowed for only demonstration of life cycle benefits by the generators/ developers. The operating norms after Renovation and Modernisation should comply with the regulations. Other additional capital expenditure may not be allowed and should form part of routine O&M expenses. Hence there is a definite need to bring in more clear guidelines for Renovation and Modernisation for generation as well as transmission projects.
D.12	Kerala State Electricity Board (KSEB)	The R&M for the purpose of extension of useful life can be permitted. Further, R&M shall be more beneficial compared to the replacing the old assets with the new one. As proposed by the Commission, R&M for life extension between 15 to 20 years shall only be admitted. Further, as an alternative to R&M, special allowance can be allowed to coal and lignite based generating plants as provided in the Tariff Regulation, 2009 to meet the additional expenditure including part of the R&M works on completion of its useful life, etc.
D.13	Tamil Nadu Generation and Distribution corporation limited (TANGEDCO)	Any expenditure in R&M should be based on improvement in performance and the minimum level of improvement in performance to be achieved should be quantified either on normative basis or based on the estimate prepared for the additional investment in R&M works. After establishing the improved performance level contemplated, the actual expenditure incurred shall be allowed on truing up at the end of tariff period with adequate establishment of proof and gain.
D.14	Assam Power Distribution Company Ltd.	In no case R&M should be allowed within the useful life. Further, all R&M proposal should be made on the basis of R&M study duly approved by competent authority, before specifying the life expenditure of the project.
E) Private Sector (Generators/Transcos./Distribution Cos)		
E.1	Moser Baer Electric Power Plant	No comments
E.2	Calcutta Electric Supply Corporation Limited	R&M expenses may be allowed where a Detailed Project Report for the same is submitted giving complete details of

	(CESC Ltd.)	benefits like life extension, improvement of performance norms etc. A separate filing and approval might be required for approval of R&M with a complete DPR to avoid cases of R&M expenditure being allowed without commensurate benefits accruing to the consumers. Also there may be a mechanism to allow R&M expenses to comply with Norms given under Perform-Achieve-Trade scheme notified under The Energy Conservation Act, 2001. There is a need for upward revision of the existing O&M norm as new equipment like desalination plant; Flue-Gas De-sulfurisation units etc. are becoming essential for proper operation of the plant. Also there is a need for additional O&M cost to comply with Perform-Achieve-Trade scheme notified under The Energy Conservation Act, 2001. Escalation rate may be linked to WPI & CPI variation. In last few years, the country has seen unforeseen inflationary trend. It becomes difficult for any operator to survive in such an environment unless some protection is given to combat against such inflationary trend. CERC may devise and publish an index on half yearly basis or may adopt escalation factors for payment notified in pursuance of Clause 5.6 (vi) of Ministry of Power Notification dated 19.05.2005. Provision may kindly be built-in for recovery of any increase in statutory levies/duties/cess/taxes etc. Suitable provision may kindly be provided for recovery of license fees at actual.
E.3	Bajaj Energy Pvt. Ltd.	The necessity of Special Renovation and Modernization expenditure should be considered for CFBC plants due to use of huge quantum of refractory in the boiler. The period of special R&M should be prescribed separately for CFBC technology based plants.
E.4	BSES Rajdhani Power Ltd.	BSES Rajdhani Power Ltd. submitted that with stranded capacity available, R&M beyond initially approved life should be discouraged. Any R&M shall be allowed after taking beneficiaries into confidence with cost–benefit analysis and tariff support. The Cost–benefit analysis shall consider the capacity charges and energy charges along with the period over which any R&M expenditure with or without life extension or any additional capital expenditure is justifiable. Further, there is an urgent need to come up with standard bidding documents and model agreements for taking up R&M and Life Extension Project of Generation and Transmission assets. In this regard, CEA National Perspective Plan on R&M provides for the following routes of private participation: • Lease, rehabilitate, operate and transfer (LROT),

		• Sale of Plant, • Joint Venture between the Power Utility and public or private companies.
E.5	BSES Yamuna Power Limited	Given the experience of Commission that generating companies have filing claims without DPR, allowing discretionary spending under special allowance needs to be reassessed. A detailed technical study of the plant should be undertaken every five years, after the completion of initial 15 years of the station. Based on the diagnostic study, R&M scheme should be prepared by an independent body giving a cost benefit analysis enumerating in detail impact on operational performance and on life of the plant. Cost of financing such R&M expenditure should be met by accumulated depreciations funds. Amount incurred in excess of depreciation should be capitalized.
E.6	Association of Power Producers (APP)	• A suitable and comprehensive criterion should be developed taking into account commercial, environmental and economic impacts for approving R&M expenditure especially for old/very old power plant. Commission should also facilitate plan closure of units not meeting this criterion. • Approval of R&M expenditure should be provided through a separate exercise by the Commission after specified years of operation (to be fixed by Commission). Plants completing specified number of years of operation (say 20 years) should be taken up for R&M evaluation by the Commission. Based on the evaluation, R&M schemes for the plant should be approved by the Commission based on a cost benefit analysis and expected life extension. Taking up projects for R&M before completing 25 years of operation will give sufficient time for recovery of R&M expenses through tariff without significant increase in tariff. Taking up R&M on completion of 25 years could deteriorate the unit to such a condition that the R&M will not bring intended results. • R&M may also be necessary due to equipment becoming obsolete and non-availability of spares and enhanced requirement of reliability as per revised guidelines and other reasons. R&M on account of above reasons may be allowed with prior approval of the Commission. • Gas turbines require refurbishment in every 4 years to 6 years and life extension every 12 years. This fact needs to be recognised during collection of data and provided for in tariff regulations. • Declaring re-assessed useful life should be made mandatory while submitting the application before the

		Commission for approval of additional Capex on account of R&M. • Provision made in the Tariff Regulations, 2009 in the form of special allowance provided in tariff in lieu of R&M for coal/lignite based thermal power stations should be discontinued. For the Projects which received payment for R&M expenditure through such tariff during 2009-14, this can be suitably adjusted in future.
E.7	Rudraksh Energy	R & M should be encouraged. Project owner should file a Petition about 5 years before the completion of normal useful life of the Project, giving full justification and expected Life Extension.
E.8	Alstom India Ltd.	Utilities should be allowed to retain RoE component based on the originally approved gross block value of the Unit. The special allowance on R&M should be increased to atleast INR 20 lakh per MW per year to promote implementation of efficiency improvement by Utilities. Utilities availing such allowance should mandatorily commit to efficiency improvement and lifetime extension beyond useful life. Decision to spend this amount should ideally lie with the Utility. Tariff Policy should also facilitate Component Retrofits (continual efficiency improvement process with manageable scope and lesser risk), wherein Utilities can undertake efficiency improvement in a phased manner. Further, energy efficient R&M should be incentivized.
F) Other Organizations/Institutions/Banks/Investors		
F.1	National Institute of Public Finance and Policy (NIPFP)	Decision on allowing renovation and modernization expenditure in the capital cost is possible only if the estimates on life extension period and the productivity in those years are available. Even if the estimates are in a broad range, they are better than having no estimates to work with. From first principles of determining the capital cost, renovation and modernization expenditure can be allowed only if it helps extend the life of the project and/or improve its productivity and efficiency in a cost effective manner. At the very least, it should help the plant maintain the current productivity level beyond its currently estimated life. We do not understand the need for the special allowance for the coal / lignite based thermal power stations. Ideally, all renovation and modernization expenditure should be considered on a case by case basis, for all kind of generation and transmission projects. The Commission should publish detailed rules / regulations on how renovation and modernization expenditure plans must be submitted, and how they will be evaluated.
F.2	Federation of Indian Chambers of Commerce	Existing practice of Special allowance may be continued in lieu of R&M expenses. The Special allowance may be

	and Industry (FICCI)	reviewed and enhanced in light of higher requirement of efficient operation and higher performance standards in the regulations. Option of declaring re-assessed useful life should be made mandatory while submitting the application before the Commission for approval of additional Capex.
G) Individual /Public Group/Any others		
G.1	Shri R .B. Sharma	No R&M expense shall be capitalized if it does not result in to life extension along with capacity restoration or capacity upgradation. A separate compensation allowance without seeking to resettling the capital base is presently available to meet expenses on new assets of capital nature for coal/lignite based thermal power station and the same may continue at the present level to tackle the age related problems by meeting the expenses on new assets of capital nature including in the nature of minor assets in the operation of the thermal plants.
G.2	Dr. Ashok Kundapur	Yes, there is an urgent need for serious consideration on this issue, as suggested by CERC viz., on estimated life extension period (and also updating the machinery to improve performance). At the same time, it is not advisable to apply 25 years life term to all new generating units using alternate energy sources.
G.3	Shri Arun Kumar Dutta	For all (Renovation and modernization (R & M) of I5 years for Generating stations the future life due to extra capacity created should be supported by cost benefit analysis and accordingly tariff should be fixed. However R&M expenses shall be maintained at the old level because renovation remains within warranty period and maintenance is for at least 3 years. Because of new asset, R&M expenses can be modified. Accordingly after 3 years, future life should be indicated for economical realization of capital expenses and ROCE. For transmission utility no such complication is required other than justifying the expenses with minimum 20 years extra life and additional capacity to enable extra transmission capacity by 20% for the next 20 years. a) Where the gradual commissioning of the plants had taken place within 2 years, weighted average method can be adopted for a useful life. For a longer period separate WAC should be taken even for the same station. This should also be applicable for bay equipments of transmission utility in substation. Additional expenditure at the fag end should justify future reassessed life and special allowance should be continued. There is no necessity for Regulatory Mechanism to be derived in case of re-assed life and existing system is adequate with renewed capital expenditure and depreciation. However incentive of 1% on

		the production/transmission may be allowed. b) In case of reassessment of useful life depreciation may be calculated on the depreciated value (90% of the original capital value) plus the additional capital expenditure for the revised/useful life. c) Target availability should be realistically assessed and not arbitrarily (80% or 70%). In case the target is exceeded, incentive should be allowed. However, depreciation should be recovered under the circumstances and adjusted against the incentive. d) It is necessary to revise the useful life of transmission asset to arrive at the depreciation and a pass through to fixed charges. Lines, towers, cable and switch yard have a very long life of over 40 years. Transformer and bay equipment have a life of 30 years and hence may be assessed realistically.