

ANNEXURE - 6


(Purushottam Singh)
Director (Operation)
UJVN Ltd.
Dehradun

Name of Project : Kulhal

E&M Expenses

Additional Capitalization Proposed for the FY 2018-19					
Sr. No.	Description	Amount (Rs. In Crores)	Need/Urgency of CAPEX	How the Capex will have improvement in performance of plant/life enhancement	Justification of cost/rate
A	Land	-			
B	Building	-			
C	Major Civil Works	-			
D	Plant & Machinery	-			
1	Major Overhauling of Unit C	2.04	Component Problem	Reduction in downtime of machine, to reduce outage period of unit whenever fault occurred to reduce the down time of m/c & Gen Loss also NAPAF Loss.	Offer Based
2	Water Level Indicator	0.16	proper monitoring	Low equipment failure	
3	Procurement of Submercible Pump	0.20	For improvement in drainage system	Reduced Maintenance time, improves drainage system	Offer Based
		2.40			
E	Vehicles	-			
F	Furniture & Fixtures	-			
G	Office Equipment	-			
	Total	2.40			


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Sr. No.	Description	Amount (Rs. In Crores)	Need/Urgency of CAPEX	How the Capex will have improvement in performance of plant/life enhancement	Justification of cost/rate
A	Land	-			
B	Building	-			
C	Major Civil Works	-			
1	Leakage treatment of Kulhal Colony	0.25	<p>In so many year plaster and concrete due to weathering weakens and deteriorated. Dampness in concrete slabs increasing the rate of deterioration as damp causing rusting in imbedded reinforcement, Due to which plaster and concrete is peeling off. In many places cracks are visible along the line of reinforcement. This is a severe situation which needs remedial measures to increase longevity of structures. Cracks are appeared on most of wall and slab junctions on exterior portion walls through which rain water percolating and causing dampness inside rooms.</p> <p>A number of representations have been received from individuals residing in these residences and also from various Trade Unions/Associations.</p>		
2	Installation of drinking water pipe line for Kulhal Colony	0.40	<p>Kulhal power House colony buildings are more than 40 year old and in such a long service period existing old main water supply lines have completed their use-full life. Old pipe line rusted, there is leakage at various joints which can cause contamination of potable water and service line now became irreparable. Due to thick rust deposit inside pipes inner dia of pipes also reduced.</p> <p>Representations from various unions have been received in this office regarding provision of new water supply line for Kulhal Power House colony.</p>		
		0.65			
D	Plant & Machinery	-			
E	Vehicles	-			
F	Furniture & Fixtures	-			
G	Office Equipment	-			
H	Others	-			
	Total	0.65			

Additional Capitalization Proposed for the FY 2019-20					
Sr. No.	Description	Amount (Rs. In Crores)	Need/Urgency of CAPEX	How the Capex will have improvement in performance of plant/life enhancement	Justification of cost/rate
A	Land	-			
B	Building	-			
C	Major Civil Works	-			
D	Plant & Machinery	-			
1	Major Overhauling of Unit B	2.25	Problem in Machine	Reduction in downtime of machine, to reduce outage period of unit whenever fault occurred in rotor pole coils to reduce the down time of m/c & Gen Loss also NAPAF Loss.	Offer Based
2	Supply, Design, Erection, Testing and Commissioning of LT Breaker and dismantling of existing LT breaker	1.00	For problem free auxiliary supply	Necessary to replace the English Electric make LT breakers of LT room to avoid the possibility of busting of breakers, to ensure safety of employees and No generation loss.	Offer Based
3	Supply, Design, Erection, Testing and Commissioning of TRCM	7.50	Choking at Intake Trash Rack	Reduction in choking increases Generation.	Offer Based
4	Motorization of Stop Log Gantry Crane	0.25	reduce the maintenance time	reduce the maintenance time and operation time of the machine	Proprietary
5	Nitrogen Injection System for Transformer	0.80	enhanced GT temperature	For ready solution of spark at GT, generation loss reduced	Offer Based
6	Servicing and Overhauling of 132 kV SF6 Breakers	0.15	smooth operation and preventive maint.	enhanced operational life,	Proprietary
7	SITC of STP at Colony	0.50	NGT compliance	safe disposal of sewage as per compliance of NGT	Offer Based
8		0.15	present T/F is under capacity	smooth functioning, life enhancement	Offer Based
		12.60			
E	Vehicles	-			
F	Furniture & Fixtures	-			
G	Office Equipment	-			
H	Others	-			
	Total	12.60			


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A	Land	-			
B	Building	-			
1	Manoranjan Sadan at Kulhal	1.25	The colony was made almost 40 years ago. There was no manoranjan sadan and community centre at Kulhal colony. As today standard of living is increasing day by day. Therefore there is demand of construction of manoranjan sadan at colony for the employees residing there. demand is regularly raised by employees and various unions from many years. This work should be consider in capital head.	There was no manoranjan sadan and community centre at Kulhal colony. As today standard of living is increasing day by day. Therefore there is demand from various unions for construction of manoranjan sadan at colony for the employees residing therewill fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
2	EE site Office building at Asan Barrage	0.70	At present there is no building for office of Executive engineer at Asan Barrage. One executive engineer along with one AE, one JE and office staff are posted at barrage. For smooth operation of office works a building is need to be construct at barrage. since it shall be newly constructed therefor different from O&M works and need to be taken in capital head.	office building is necessary for EE office to make efficient the working of Asan employees.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
3	P-IV Residence (4 Nos)	1.80	At present the residence existing in Kulhal colony are not in sufficient numbers and employees regularly demands residential quarters wor there residence. The officers and operating staff has been increased therefor there is urgent need to construct residential quarters. These works are need to be taken in capital head.	The residences existing in the colony are not in sufficient numbers and staff is increasing day be day. Construction of these quarters will increase the ability of employees and ultimately the uninterrupted power generation.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
4	P-III Residence (4 Nos)	1.50	At present the residence existing in Kulhal colony are not in sufficient numbers and employees regularly demands residential quarters wor there residence. The officers and operating staff has been increased therefor there is urgent need to construct residential quarters. These works are need to be taken in capital head.	The residences existing in the colony are not in sufficient numbers and staff is increasing day be day. Construction of these quarters will increase the ability of employees and ultimately the uninterrupted power generation.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
		5.25			


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C	Major Civil Works	-			
1	Repair of Service Road Along Power Channel stage IV Asan Barrage to Kulhal Power House.	1.98	The estimate for the work of "Repair of Service Road Along with Power Channel and Silt-Ejector Channel from Asan Barrage up to Kulhal Power House" constituting the service road both sides along Power Channel which is damaged at various places and not in good condition and right side inspection road along Silt-ejector Channel that does not exist at present. Representations have been received from Gram Pradhan of Gram Panchayat Kunja and Gram Panchayat Kulhal has also requested to Managing Director, UJVNL for construction of these roads. these works could not be done in routine O&M works as these work are essential for inspection of associated structures with smooth running of vehicles, easy to operation and maintenance of hydro structures, for maintaining neat and clean aesthetics and fulfills the demand of villagers residing near Power Channel Bank.	repair of road is necessary to maintain the road from which heavy machinery trucks are used to transport also employees uses this road to move from colony to power house/barrage. therefore to prevent the accidents and smooth movement and generate of uninterrupted power from power house work is necessary.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
2	Repair of Service Road Along Power Channel stage IV D/S of Kulhal Power House .	0.90	This road s main connectivity between main road and deisel power house colony Kulhal village and inter collage. The road is in bad condition, damaged in various places and many pot holes exist on road due to unrepair from many years. The repair of road is necessary to prevent accidents, smooth running of vehicle and for maintaining neat and clean asthetics of colony.	repair of road is necessary to maintain the road from which heavy machinery trucks are used to transport also employees uses this road to move from colony to power house/barrage. therefore to prevent the accidents and smooth movement and generate of uninterrupted power from power house work is necessary.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
3	Reconstruction of Damaged catchment drain parallel to service road and power channel stage 4 from chainage from 0.67 km up to 1.30 km at Asan Barrage	0.85	For protecting the road along the channel also for protection of Power channel construction is necessary.	For protecting the road along the channel also for protection of channel drain construction is necessary.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
		0.25	for the safety of Power House Colony , it is required to protect the premises by fencing .	for the safety of Power House Colony , it is required to protect the premises by fencing .	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.


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1	Renovation and mordanization of P type quarter new power house colony Kulhal	0.20	For Asthetic View and Strengthening & Renovation of window, Doors, Railing's, Floor, Surfaces, Sewage system, Drinking water System of Power House structure Related works and it is required to Facilitate the operation staff at Power House premises. special repair work of dhalipur power house is enhanced, the structural life will increased that will avoid the power generation hindrance	For Asthetic View and Strengthening & Renovation of window, Doors, Railing's, Floor, Surfaces, Sewage system, Drinking water System of Power House structure Related works and it is required to Facilitate the operation staff at Power House premises. special repair work of dhalipur power house is enhanced, the structural life will increased that will avoid the power generation hindrance	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
2	Construction of sewage treatment plant shed at Asan Barrage and Kulhal Power House 2018-19	0.10	For protection of STP at Asan Barrage and Kulhal Power House.	For protection of STP at Asan Barrage and Kulhal Power House.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
3	Special Repair and strenthening of Asan Barrage and other appurtenant structures.	0.60	The Asan Barrage is an Important Structure situated on Asan River. There are maintenance & repair works required to be carried out at Asan Barrage for smooth running of Asan Barrage. Lining of canal is erode due to heavy silt content in water in rainy season and due to fluctuation in power channel water table on adjacent lining the rate of deterioration of lining is increasing every year. In monsoon season there is always risk of erosion of embankments, excessive growth of weeds on banks, damage to downstream structures and damages to lined surfaces of power channel. Bridges constructed across power channel, both side pitching along power channel, service roads, drains also need continuous maintenance. The work proposed in this estimates are must for longevity of civil structures and to prevent further damages and detonation.	The Asan Barrage is an Important Structure situated on Asan River. There are maintenance & repair works required to be carried out at Asan Barrage for smooth running of Asan Barrage. Lining of canal is erode due to heavy silt content in water in rainy season and due to fluctuation in power channel water table on adjacent lining the rate of deterioration of lining is increasing every year. In monsoon season there is always risk of erosion of embankments, excessive growth of weeds on banks, damage to downstream structures and damages to lined surfaces of power channel. Bridges constructed across power channel, both side pitching along power channel, service roads, drains also need continuous maintenance. The work proposed in this estimates are must for longevity of civil structures and to prevent further damages and detonation.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
4	Special Repair and strenthening Down stream structures of Asan Barrage.	0.30	For protection of Down stream apron, stilling basin and structures. Safty measures are required	For protection of Down stream apron, stilling basin and structures. Safty measures are required	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.


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5	Special Repair, strengthening and modernization of Kulhal Power House.	0.80	<p>The Power House is an Important Structure. Various civil maintenance works are required time to time for uninterrupted power generation and safety of the Power House. Some works as leakage prevention measures, repair of office buildings, repair of Power House building and its premises, repair of Intake premises, repair of water supply pipe line and fittings, repair of sanitary fittings, store repair, concrete road and concrete flooring at some places are also required. The work proposed in this estimates are must for longevity of civil structures and to prevent further damages and detonation.</p> <p>Therefore to prevent any generation loss, to avoid any inconvenience to staff working there round the clock and execute the urgent works immediately, the works as proposed in the estimate are necessary.</p>	<p>The Power House is an Important Structure. Various civil maintenance works are required time to time for uninterrupted power generation and safety of the Power House. Some works as leakage prevention measures, repair of office buildings, repair of Power House building and its premises, repair of Intake premises, repair of water supply pipe line and fittings, repair of sanitary fittings, store repair, concrete road and concrete flooring at some places are also required. The work proposed in this estimates are must for longevity of civil structures and to prevent further damages and detonation.</p> <p>Therefore to prevent any generation loss, to avoid any inconvenience to staff working there round the clock and execute the urgent works immediately, the works as proposed in the estimate are necessary.</p>	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
10	Land Demarcation	0.80	Initially project civil works was looked up by UK irrigation but at present land has been transfered to UJVNL. Therefore mutation work of land is in progress to demarcate the asset	This will increase the UJVNL asset value.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
11	Special Repair and modernization of Kulhal Power House colony, Kulhal, Dehradun.	0.50	There are 90 residences in Kulhal Power House Colony (A Type-2Nos.,B type-9Nos., PI Type-32 Nos., PII-32 D Type-15 Nos.) besides these residences inspection house, community center are also there. These buildings are more than 40 year old and need continuous routine maintenance for longevity of these structures.	There are 90 residences in Kulhal Power House Colony (A Type-2Nos.,B type-9Nos., PI Type-32 Nos., PII-32 D Type-15 Nos.) besides these residences inspection house, community center are also there. These buildings are more than 40 year old and need continuous routine maintenance for longevity of these structures.	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
		7.28			
D	Plant & Machinery	-			
E	Vehicles	-			
F	Furniture & Fixtures	-			
G	Office Equipment	-			
H	Others	-			
	Total	12.53			


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A	Land	-			
B	Building	-			
C	Major Civil Works	-			
D	Plant & Machinery	-			
1	SITC of Governor System for Unit A	1.50	obsolete Governor, no spare parts available	Efficiency of Governor enhance, affect Generation	Offer Based
2	SITC of DVR (excitation system) of Unit A	2.00	Old system, obsolete, spares not available	Efficiency of Power Station increases, new technology incorporated,	Offer Based
		3.50			
E	Vehicles	-			
F	Furniture & Fixtures	-			
G	Office Equipment	-			
H	Others	-			
	Total	3.50			


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2	Special Repair and strenthening Down stream structures of Asan Barrage.	0.30	For protection of Down stream apron, stilling basin and structures. Safty measures are required	For protection of Down stream apron, stilling basin and structures. Safty measures are required	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.


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3	Special Repair, strenthening and modernization of Kulhal Power House.	0.40	<p>The Power House is an Important Structure. Various civil maintenance works are required time to time for uninterrupted power generation and safety of the Power House. Some works as leakage prevention measures, repair of office buildings, repair of Power House building and its premises, repair of Intake premises, repair of water supply pipe line and fittings, repair of sanitary fittings, store repair, concrete road and concrete flooring at some places are also required. The work proposed in this estimates are must for longevity of civil structures and to prevent further damages and detonation.</p> <p>Therefore to prevent any generation loss, to avoid any inconvenience to staff working there round the clock and execute the urgent works immediately, the works as proposed in the estimate are necessary.</p>	<p>The Power House is an Important Structure. Various civil maintenance works are required time to time for uninterrupted power generation and safety of the Power House. Some works as leakage prevention measures, repair of office buildings, repair of Power House building and its premises, repair of Intake premises, repair of water supply pipe line and fittings, repair of sanitary fittings, store repair, concrete road and concrete flooring at some places are also required. The work proposed in this estimates are must for longevity of civil structures and to prevent further damages and detonation.</p> <p>Therefore to prevent any generation loss, to avoid any inconvenience to staff working there round the clock and execute the urgent works immediately, the works as proposed in the estimate are necessary.</p>	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
4	Special Repair and modernization of Kulhal Power House colony, Kulhal, Dehradun.	0.50	<p>There are 90 residences in Kulhal Power House Colony (A Type-2Nos.,B type-9Nos., PI Type-32 Nos., PII-32 D Type-15 Nos.) besides these residences inspection house, community center are also there. These buildings are more than 40 year old and need continuous routine maintenance for longevity of these structures.</p>	<p>There are 90 residences in Kulhal Power House Colony (A Type-2Nos.,B type-9Nos., PI Type-32 Nos., PII-32 D Type-15 Nos.) besides these residences inspection house, community center are also there. These buildings are more than 40 year old and need continuous routine maintenance for longevity of these structures.</p>	Rate taken in the estimate are based on PWD SoR/ DSR/ Rate analysis.
		1.60			
D	Plant & Machinery	-			
E	Vehicles	-			
F	Furniture & Fixtures	-			
G	Office Equipment	-			
H	Others	-			
	Total	1.60			


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Additional Capitalization Proposed for the FY 2021-22					
Sr. No.	Description	Amount (Rs. In Crores)	Need/Urgency of CAPEX	How the Capex will have improvement in performance of plant/life enhancement	Justification of cost/rate
A	Land	-			
B	Building	-			
C	Major Civil Works	-			
D	Plant & Machinery	-			
1	SITC of Governor System for Unit B	1.50	obsolete Governor, no spare parts available	Efficiency of Governor enhance, affect Generation	Offer Based
2	SITC of DVR (excitation system) of Unit B	2.00	Old system, obsolete, spares not available	Efficiency of Power Station increases, new technology incorporated,	Offer Based
		3.50			
E	Vehicles	-			
F	Furniture & Fixtures	-			
G	Office Equipment	-			
H	Others	-			
	Total	3.50			


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