## ANNEXURE - 3



|     | Additional Capitalization Proposed for the FY 2018-19   |                              |   |  |                            |  |
|-----|---|------------------------------|---|--|----------------------------|--|
| Sr. | Description I   | Amount<br>(Rs. In<br>Crores) | Need/Urgency of CAPEX   | How the Capex will have improvement in performance of plant/life enhancement   | Justification of cost/rate |  |
| Α   | Land  | -                            |   |  |                            |  |
| В   | Building  | -                            |   |  |                            |  |
| С   | Major Civil Works   |                              | ·   |  |                            |  |
| D   | Plant & Machinery   |                              |   |  |                            |  |
| 1   | Major rehabilitation of<br>Turbine, Generator and<br>associated Equipment of<br>Unit # 4 of Khodrl Power<br>Station | 10.96                        | The water conducting system comprise only one Surge tank gate for Generating Unit #3 and 4. For Major overhauling of MIV of Unit #4, the Surge tank gate of Unit #3 and 4 both has to be lowered and both Units wIII be under shut down at a time. Higher management of Khodri Power Station has decided to optimize this down time to avoid further down time if Major rehabilitation of turbine and associated equipment of Unit#3 is planned in next year. | The leakage from MIV joint will be trapped. The efficiency of Unit # 4 will enhance at the same time the frequency of fault will reduce to enhance the generating capacity in term of Million Units. | Open Tender                |  |
| 2   | Major rehabilitation of<br>Turbine, Generator and<br>associated Equipment of<br>Unit #3 of Khodrl Power<br>Station  | 9.37                         | The water conducting system comprise only one Surge tank gate for Generating Unit #3 and 4. For Major overhauling of MIV of Unit #3, the Surge tank gate of Unit #3 and 4 both has to be lowered and both Units will be under shut down at a time. Higher management of Khodri Power Station has decided to optimize this down time to avoid further down time if Major rehabilitation of turbine and associated equipment of Unit#3 is planned in next year. | the generating capacity in term of Million Units.  | Open Tender                |  |
| 3   | Supply And Installation<br>of Flood Water<br>Evacuation System in<br>MIV Gallery of Khodri<br>Power station         | 0.4\$                        | As per the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Amendment Regulations, 2016, there must be a water evacuation system in the MIV floor/gallery for evacuation of flood water or heavy leakage water to be discharge in TRC.  | in emergency the drainage water shall be allowed to flow out to the tall race above the maximum tall water level using pumps, if required.   | Open Tender                |  |
| 4   | Procurement of TGB<br>pads for 30 MW machine<br>of Khodri Power Station   | 0.26                         | Khodri Power Station do not have any spare TGB pads in central store. In case of any failure of TGB pads, maintenance unit do not have any measure for rectification of fault.  | Availability of spare TGB pads will enhance the availability of Units.   | Open Tender                |  |
| S   | Supply of Governor Oil pump   | 0.47                         | The governor oil pump are very old. The frequency of faults in Oil pumps has been rising. It requires immediate replacement.  | This will enhance the efficiency of the whole governing system by supply hydralic oll efficiently  | Open Tender                |  |



| 6   | Supply of Proportional<br>Control Valve   | 0.43 | The proportaional valve are in service for last 10 years. It has been repaired few times during these years. The efficiency of these valve has declined and it requires, replacement.  | Proportional Control Valve is important part of governing system. This procurment and installation will enhance the efficiency of the whole governing system  | Open Tender                    |
|-----|---|------|--|---|--------------------------------|
| 7   | Supply of different kind of gate Valve  | 0.58 | Most of existing gate valve are too old and erosion has been observed in various parts in the gate valve. These valve have leakages as well as some valve who are directly connect to penstock need replacement on urgent basis.   | The existing gate valve are very old and required replacement as soon as possible.  | Open Tender                    |
| . 8 | Major overhauling of 02<br>no Surge tank Crane  | 0.65 | The surge tank cranes is in operation since 1984. The minor repair of the cranes has been completed in year 2011-12. Some very severe faults has been observed during the maintenance of Unit#1 and 2. These cranes required urgent overhauling for safety point of view.                                  | The surge tank gate Hoisting arrangement is very old and required immediate overhauling.  | Open Tender                    |
| ٤   | Procurement &<br>Installation General<br>purpose Compressor and<br>compressed air pipeline<br>works                             | 0.36 | Khodri Power Station has one number of general purpose compressor, which is too old and not in operation for few years. This general purpose compressor is required for various kind of utilities of power house.  | There are many requirement of compressed air at many places in power house. At present, a lot of arrangement has to make to fulfill the requirement. This facility will assist the maintenance of the Generating units.   | Open Tender                    |
| 1   | Supply and installation of Cooling & by pass valve actuator   | 0.47 | The actuators, installed at the bypass and cooling valves, are very old and working since 1984. The frequency of faults has been rising. These actuators need urgent replacement.  | The existing actuators are very old and Rotork has stopped manufatcuring its spare parts. And also these actuator has been causing issue resulting in tripping of generating units. Therefore, this work is urgent in nature.   | Open Tender                    |
| 1   | Overhauling of dewtaering, drainage and Cooling water pumps   | 0.35 | These pumps have been in service for very long and requires overhauling for working life enhancement.  | These pumps have been in service for very long and requires overhauling for working life enhancement.   | Single order(proprietary item) |
| 1   | Supply and Installation self cleaning fileration Unit for supply of cooling water to heat exchanger at GGB and Thrust bearings. | 0.47 | The duplex filter system installed in the power house do not have capabity to remove small particles which passes through to the heat exchanger at GGB and thrust bearing. A thin layer of mud is deposited on heat exchanger of GGB and thrust bearing resulting in less efficiency of the heat exchanger | Self cleaning filter will enchance the firtratio system resulting in better efficiency of heat exchangers as well as it will remove the requirement of lowering of gerating load for cleaning of the existing duplex filter by adding capability of automatic self cleaning | Open Tender                    |
| 1   | Procurement of 10 ton<br>Hydra  | 0.20 | There is no any hydra in Khodri & Chibro unit For proper material handling.  | For proper & quick handling of material   | Open Tender .                  |



| 14 | Supply,Retrofitting,<br>Installation, Testing &<br>Commissioning of 220 kV<br>CT/PT |       | For improving metering and protection system of feeders as per guidelenes of Central Electricity Authority.   | Incompliance direction given by Central Electricity<br>Authority | Open Tender    |
|----|---|-------|---|--|----------------|
| 15 | Supply of necessary<br>spares for Z20 kV<br>SF6(CB) and isolators                   |       | For reducing the downtime in case of preventive maintenace and breakdown as to reduce the generation losses.  | For Attending faults and replacement of defective components     | Limited Tender |
| 16 | Fire Protection system for cable gallery  | 1.14  | The old integrated fire protection system installed in power statio is not working and needs to replace due to ageing of the old systems. This is also required and necessary for the protection of the power and control cables, and moreover very important for the safety of the plant as per fire protection norms. | For improvement of safety of power house                         | Open Tender    |
| 17 | Procurment of Cleaning<br>Machine   | 0.05  | for improving and quality of the cleaning cleaning system.  | for improving cleaning of power house.                           | Open Tender    |
|    | Total   | 28.87 |   |  |                |
| Ε  | Vehicles  | -     |   |  |                |
| F  | Furniture & Fixtures  |       |   |  |                |
| G  | Office Equipment  | -     |   |  |                |
|    |   |       |   |  |                |
|    | Total   | 28.87 |   |  |                |

|            | Additional Capitalization Proposed for the FY 2018-19   |                              |  |   |  |
|------------|---|------------------------------|--|---|--|
| Şr.<br>No. |   | Amount<br>(Rs. In<br>Crores) | Need/Urgency of CAPEX  | How the Capex will have improvement in performance of plant/life enhancement  | Justification of cost/rate   |
| Α          |   | -                            |  |   |  |
| В          | Building  | -                            |  |   |  |
| 1          | Treatment of leakage in F-Type & CPT-Type Residential buildings at Dakpathar Colony, Dakpathar, Dehradun                              | 0.09                         | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 2          | Treatment of leakage in D, FH & LCT Type Residential buildings at Dakpathar Colony, Dakpathar, Dehradun                               | 0.09                         | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 3          | Treatment of leakage in Type-C, residential buildings of Tons Colony, New Yamuna Colony and Old Yamuna Colony at Dakpathar, Dehradun. | 0.08                         | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms. | At present quarters are not as per the mark of standard of employees. residences are worn out due to aging and are in very bad condition which may prone to accident. old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 44 | Providing and Laying of<br>Bituminous Macadam<br>(BM) & Semi Dense<br>Bituminous Concrete<br>(SDBC) on Internal Roads<br>of Tons Colony,<br>Dakpathar (Dehradun). | 0.55 | The roads of colony have not been repaired for around last nine years except minor repair works carried out on few internal roads in 2010-11 & 2013-14. Due to lack of repair and maintenance since long, the roads have deteriorated very badly and the condition of internal roads of Dakpathar colony has become poor. Traffic movement has become highly inconvenient and uncomfortable. Considering the poor condition of colony roads, it has become necessary to carry out repair and maintenance work of colony roads. Nigam personnel residing in the colony have been pressing hard for the repair and maintenance work of colony roads. In view of above mention facts, it is proposed that the colony roads should be repaired and maintained the proposed repair and maintenance work will prevent the roads from further deterioration and make them convenient and comfortable for |  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|----|---|------|---|--|--|
| 5  | Providing and Laying of Bituminous Macadam (BM) & Semi Dense Bituminous Concrete (SDBC) on Dakpathar Barrage Road, Dakpathar (D.Dun).                             | 0.44 | The roads of colony have not been repaired for around last nine years except. Due to lack of repair and maintenance since long, the roads have deteriorated very badly and the condition of roads of Dakpathar barrage has become poor. Traffic movement has become highly inconvenient and uncomfortable. Considering the poor condition of barrage roads, it has become necessary to carry out repair and maintenance work of barrage roads. In view of above mention facts, it is proposed that the Barrage roads should be repaired and maintained the proposed repair and maintenance work will prevent the roads from further deterioration and make them convenient and comfortable for traffic movement.  | Repair and maintenance work of colony roads will prevent the roads from further deterioration and make them convenient and comfortable for traffic movement. Also, the probability of accidents will reduce. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



|   |      |  | ,  |  |
|---|------|--|--|--|
| Providing and Laying of Bituminous Macadam (BM) and Semi Dense Bituminous Concrete (SDBC) on External Road/Outer Road (Ring road) of Tons Colony from Vidyut Bhawan to St. Mary's School at Dakpathar colony, Dakpathar (Dehradun). | 0.36 | condition of colony roads, it has become necessary to carry out repair and maintenance work of colony roads. Nigam | make them convenient and comfortable for traffic | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| Providing and Laying of Bituminous Macadam (BM) and Semi Dense Bituminous Concrete (SDBC) on Internal Roads of New Yamuna Colony and Old yamuna colony at Dakpathar (Dehradun).   | 0.20 | condition of colony roads, it has become necessary to carry out  |  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 8  | Renovation of floor tile<br>in C Type residences at<br>Tons colony Dakpathar  | 0.04 | have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market: Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these   | the life of family of employees. Renovation and   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|----|---|------|--|---|--|
| g  | Exterlor and Interior Painting work of Khodri Power House and its associated structure at Khodri                                  |      | Khodri Power house is the second largest power house of yamuna valley in terms of capacity. It is a surface power house. The existing interior as well as exterior surfaces of paints, whitewashing etc has completed its duration i.e three years. The protective layer of water proof cement paint, weather coat etc over the exposed surfaces of power house has been damaged.  | To protect the concrete surfaces from weathering effect and to enhance the apperance of the power house, the above works as proposed in the estimate are required to be executed.   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 10 | Treatment of Leakage of EE, AE, A, LA and P-IV Type Residential Building of Tons Colony at Dakpathar Colony, Dakpathar, Dehradun. | 0.04 | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 11 | Renovation of floor tile in C-Type Residences of New Yamuna Colony and Old Yamuna Colony at Dakpathar Dehradun. | . 0.08 | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and ungradation work in these             | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |  |
|----|---|--------|--|--|--|--|
| 12 | Renovation of floor tiles<br>in CPT-Type and LCT-<br>Type Residences at   | 0.04   | required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained.  These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting | will enhance the positivity and ultimately ability and power generation of plants.  At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016                             |  |
|    | Dakpathar colony,<br>Dakpathar, Dehradun  |        | renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained.   | mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants.  | and rates approved by nigam  |  |



|    |   | r    |   |   |  |
|----|---|------|---|---|--|
|    | Renovation and Modernization of P-Type Residences at Dakpathar colony, Dakpathar, Dehradun            | 0.06 | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 14 | Construction of Store in CT, P, F type residential quarters at Dakpathar Colony, Dakpathar, Dehradun. | 0.07 | The Residences are older than 40 years, only one or two rooms are available in these residences. There is not enough space available in these residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.   | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 15 | Construction of Store for<br>C-Type residential at<br>Dakpathar, Colony,<br>Dakpathar, Dehradun.      | 0.06 | The Residences are older than 40 years, there is not enough space available in the C type residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.   | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the regulrement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 16 | Treatment of leakage in P Type Residential buildings at Dakpathar Colony, Dakpathar, Dehradun         | 0.08 | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms.  | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 17 | Treatment of leakage in CT Type Residential buildings at Dakpathar Colony, Dakpathar, Dehradun              | 0.08 | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms.   | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|----|---|------|--|---|--|
| 18 | Construction of Sewer<br>line, Drain, Septik Tank<br>and other miscellaneous<br>work at Dakpathar<br>Colony | 0.05 | UJVN Limited and Irrigation department's residences in dakpathar colony are more than 30 years old. The sewerage system of the colony is too much old and it is insufficient to meet out the day -to- day need. In compliance of mandate number -2270/II-2016/7(12)/2016 Date- 14.10.2016 Irrigation department has transfer many type of residences to UJVN Limited. The condition of transferred residences is not good especially in sewerage system, septic tanks and drainage systems. Sewer systems, septic tanks, drainage systems are partially or completely damaged in many residences or habitat blocks. There are various repairs and maintenance works in the transferred house such as white washing, dry distemper, acrylic distemper, painting or varnishing, brick, plaster, PCC & RCC, doors and windows/ ventilators, water supply and sanitary works/items, heavy iron/structural steel works, leakage problem, water-proof cement paint etc. are required to be executed. Apart from this, repair of CC Road has also been taken in the estimation, where drainage water is collected | Sewage water and drainage water is collected in the areas outside the housing and housing. It is directly related to the health and hygiene of its residents. It's also has a very bad effect on environment. For above problem nigam employee and nigam unions have requested to repair the sewerage system and drainage system in colony.   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 19 | Renovation of floor tile<br>in D-Type, E-Type and F-<br>Type Residences at<br>Dakpathar colony,<br>Dakpathar, Dehradun      |      | be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these | the life of family of employees. Renovation and<br>mordanization will fulfill the requirement of<br>employees and also will prevent accidents that   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|----|---|------|---|--|--|
| 20 | Construction of Store in<br>CPT, D, FH and LCT Type<br>residential quarters at<br>Dakpathar Colony,<br>Dakpathar, Dehradun. | 0.07 | The Residences are older than 40 years, there is not enough space available in the residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.  | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 21 | Renovation of floor tiles<br>in CT-Type and FH-Type<br>Residences at Dakpathar<br>colony, Dakpathar,<br>Dehradun            | 0.02 | renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these   | the life of family of employees. Renovation and<br>mordanization will fulfill the requirement of<br>employees and also will prevent accidents that   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 22 | Exterior painting work of<br>C-type residences of<br>New Hydel Colony and<br>Old Yamuna Colony at.<br>Dakpathar<br>Colony(Dehradun)                                     | 0.03 | residences look very poor. This works are needed to execute to  | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|----|---|------|---|---|--|
| 23 | Construction of Store B Type residences at Dakpathar Colony, Dakpathar, Dehradun.   | 0.07 | The Residences are older than 40 years, there is not enough space available in the residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.  | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 24 | Treatment of leakage at<br>various places in Khodri<br>Power House at Khodri  | 0.25 | Khodri power House is one of the oldest power house of the Nigam and generating electricity for the last 34 years. During this period it has been successfully generating electricity against adverse weather condition/ impact. Due to the adverse weathering condition seepage/ leakage occurs at different location at the Power House. In view of the above, estimate of "Treatment of leakage at various places in Khodri Power House at Khodri" Has been prepared. In this estimate Treatment of construction joints, cracks by crystalline mortar, waterproofing treatment to retaining walls/structure by crystalline slurry and cementitious Peneplug material has been taken. | It is very necessary to treat this seepage problem so that generation loss may be avoided.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 25 | Treatment of Leakage of<br>B-Type Residential<br>Building of Tons Colony,<br>New Yamuna Colony and<br>Old Yamuna Colony at<br>Dakpathar Colony,<br>Dakpathar, Dehradun. | 0.03 | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms.  | At present quarters are not as per the mark of standard of employees. residences are worn out due to aging and are in very bad condition which may prone to accident. old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



|          |  |      | <u> </u>   |  |  |
|----------|--|------|--|--|--|
| 26       | Special M & R of<br>Inspection House at<br>Dakpathar(Dehradun) | 0.04 | concerned Executive Engineers (E&M), Dy. General Manager (E&M) Dhakrani and General Manager (E&M-YV) Direction   | Nigams higher official frequently used to visit the site as various programs are conducted here. These programs are essential to inhance the knowledge of staff that will convert in ability and power generation of plants.   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 27       | Special M & R of Field<br>Hostal at<br>Dakpathar(Dehradun)     |      | The field hostel is more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. | At present the field hostel are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees.  Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|          |  | 3.09 |  |  |  |
| С        | Major Civil Works  | -    |  |  | ,  |
| D        | Plant & Machinery  | -    |  |  |  |
| E        | Vehicles   | -    |  |  |  |
| F        | Furniture & Fixtures   | -    |  |  |  |
| G        | Office Equipment   | -    |  |  |  |
| н        | Others   | -    |  |  |  |
| <u> </u> |  |      |  | ·  | ·  |
|          | Tota!  | 3.09 | . * *  |  |  |



E&M Expenses

|            | Additional Capitalization Proposed for the FY 2019-20   |                              |  |   |                             |
|------------|---|------------------------------|--|---|-----------------------------|
| Sr.<br>No. | Description   | Amount<br>(Rs. In<br>Crores) | Need/Urgency of CAPEX  | How the Capex wlll have improvement in<br>performance of plant/life enhancement   | Justification of cost/rate  |
| 1          | Land  | ,                            |  |   |                             |
| 2          | Building  | 1                            |  |   |                             |
| 3          | Major Cîvil Works   | -                            | •  |   |                             |
| 4          | Plant & Machinery   | -                            |  |   |                             |
| 1          | Gland leakage water drainage pump   | 0.20                         | The pumps, installed at the gland sumps, are very old. The frequency of faults has been rising. These pumps need urgent replacement.   | These pumps are old and required replacement as it has been required many times.  | Open Tender                 |
| 2          | Procurement of turbine oil filtration machine   | 0.25                         | The filtration machine has been very old and working from 2005-06. The technology has change and it will provide better filtration of turbine oil resulting in less fault in proporational valve and governor.   | The filtration machine has been very old and working from 2005-06. The technology has change and it will provide better filtration of turbine oil resulting in less fault in proporational valve and governor.  | Open Tender                 |
| 3          | Supply and Installation self cleaning fileration Unit for supply of cooling water to heat exchanger at GGB and Thrust bearings. | 1.00                         | The duplex filter system installed in the power house do not have capabity to remove small particles which passes through to the heat exchanger at GGB and thrust bearing. A thin layer of mud is deposited on heat exchanger of GGB and thrust bearing resulting in less efficiency of the heat exchanger | Self cleaning filter will enchance the firtratio system resulting in better efficiency of heat exchangers as well as it will remove the requirement of lowering of gerating load for cleaning of the existing duplex filter by adding capability of automatic self cleaning | Open Tender                 |
| 4          | Supply and fixing of<br>220/132 kV post<br>insulators, LA, Surge<br>Counter located at<br>switchyard                            | 1.00                         | To reduce breakdown hours of feeders , machines so that generation loss of plant reduce.   | To reduce breakdown hours of feeders , machines so that generation loss of plant reduce.  | Open Tender                 |
| 5          | Revamping of Switchyard   | 2.40                         | for improving earthing system & safety of switchyard   | for improving earthing system & safety of switchyard  | Open Tender                 |
| 6          | Supply,Retrofitting,<br>Installation, Testing &<br>Commissioning of new<br>electronic panels for AC<br>plant                    | 0.25                         | For renovation & modernation of AC plant,  | For renovation & modernation of AC plant,   | Single Offer through Voltas |
| 7          | Supply ,<br>Inspection, Testing &<br>Commissioning of "Kill<br>Waste-fuel free solid<br>waste disposer"                         | 0.4\$                        | for prevention of spreding of deseases and illness casused by disposed and unhygenic waste material and garbage as per the instruction NGT and as per policy of govt, under Swatch Bharat Abhiyan.   |   | Open Tender                 |



| 8 | Modernisation of Old<br>Elevator System.          | 0.45 | the elevator installed in the power plant in the year 1980. Its performance got deterioted and also its service are frequently fails in spite of regular maintenance, and the maintenance cost is too high due to nonavailability of spare parts. The replacement of the elevator is required. | For safety in transportation of man and materials.                            | Open Tender |
|---|---|------|--|---|-------------|
| 9 | Hydraulic lifting platform<br>& safety equipment. | 0.15 | For providing material on the top with easiness with safety of man & material  | For providing material on the top with easiness with safety of man & material | Open Tender |
|   | -   | 6.15 |  |   |             |
| 5 | Vehicles  | -    |  |   |             |
| 6 | Furniture & Fixtrues                              |      |  |   |             |
|   | Procurement of office furniture                   | 0.09 | Procurement of office furniture  |   | ·           |
|   |   | 0.09 |  |   |             |
| 7 | Office Equipment                                  | -    |  |   |             |
|   |   |      |  |   |             |
|   | Total   | 6.24 |  |   |             |



|           | Additional Capitalization Proposed for the FY 2019-20   |                              |   |   |  |
|-----------|---|------------------------------|---|---|--|
| Sr.<br>No | Description   | Amount<br>(Rs. in<br>Crores) | Need/Urgency of CAPEX   | How the Capex will have improvement in<br>performance of plant/life enhancement   | Justification of cost/rate   |
| Α         | land  | •                            |   |   |  |
| В         | Building  | -                            | <u> </u>  |   |  |
| 1         | Renovation of floor tile in<br>C Type residences at<br>Tons colony Dakpathar  | 0.04                         | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 2         | Exterior and Interior Painting work of Khodri Power House and its associated structure at Khodri                                  | 0.10                         | Khodri Power house is the second largest power house of yamuna valley in terms of capacity. It is a surface power house. The existing interior as well as exterior surfaces of paints, whitewashing etc has completed its duration i.e three years. The protective layer of water proof cement paint, weather coat etc over the exposed surfaces of power house has been damaged.   | To protect the concrete surfaces from weathering effect and to enhance the apperance of the power house, the above works as proposed in the estimate are required to be executed.   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 3         | Treatment of Leakage of EE, AE, A, LA and P-IV Type Residential Building of Tons Colony at Dakpathar Colony, Dakpathar, Dehradun. | 0.02                         | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms.  | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



|   | Renovation of floor tile<br>in C-Type Residences of<br>New Yamuna Colony and<br>Old Yamuna Colony at<br>Dakpathar Dehradun. |      | due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market.  Representations of unions have been received requesting renovation of residences. These works could not be done in   |  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|---|---|------|---|--|--|
| S | Renovation of floor tiles<br>in CPT-Type and LCT-<br>Type Residences at<br>Dakpathar colony,<br>Dakpathar, Dehradun         | 0.02 | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses-can be liveable and hygenic can be maintained. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old bulldings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 6 | Renovation and<br>Modernization of P-Type<br>Residences at Dakpathar<br>colony, Dakpathar,<br>Dehradun |      | many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these   | the life of family of employees. Renovation and   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|---|--|------|--|---|--|
| 7 | Construction of Store in CT, P, F type residential quarters at Dakpathar Colony, Dakpathar, Dehradun.  | 0.10 | The Residences are older than 40 years, only one or two rooms are available in these residences. There is not enough space available in these residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.  | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18; DSR 2016 and rates approved by nigam |
| 8 | Construction of Store for<br>C-Type residential at<br>Dakpathar, Colony,<br>Dakpathar, Dehradun.       | 0.06 | The Residences are older than 40 years, there is not enough space available in the C type residences, employees are facing the problem to keep thair goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.  | •   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 2 | Treatment of leakage in P Type Residential buildings at Dakpathar Colony, Dakpathar, Dehradun          | 0.08 | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



|   | _  |  |      |   |   |  |
|---|----|--|------|---|---|--|
| 1 | .0 | Treatment of leakage in<br>CT Type Residential<br>buildings at Dakpathar<br>Colony, Dakpathar,<br>Dehradun             | 0.05 | rate of deterioration as dampness caused rusting in imbedded reinforcement. Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and  | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 1 | 11 | Renovation of floor tile in<br>D-Type, E-Type and F-<br>Type Residences at<br>Dakpathar colony,<br>Dakpathar, Dehradun |      | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken In capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| : | 12 | Construction of Store in CPT, D, FH and LCT Type residential quarters at Dakpathar Colony, Dakpathar, Dehradun.        | 0.07 | The Residences are older than 40 years, there is not enough space available in the residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.  | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 13 | Renovation of floor tiles<br>in CT-Type and FH-Type<br>Residences at Dakpathar<br>colony, Dakpathar,<br>Dehradun                   |        | due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market.  Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these  | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam. |
|----|--|--------|---|---|---|
| 14 | Exterior painting work of<br>C-type residences of New<br>Hydel Colony and Old<br>Yamuna Colony at<br>Dakpathar<br>Colony(Dehradun) | . 0.02 | The Residences are older than 40 years and Exterior painting work have not done for many years. Therefore these residences look very poor. This works are needed to execute to maintain. These works are different than the routine works as these need to be done as a whole, not in parts. therefore it was necessary to take these works in capital works.   | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam  |
| 15 | Construction of Store B<br>Type residences at<br>Dakpathar Colony,<br>Dakpathar, Dehradun.   |        | The Residences are older than 40 years, there is not enough space available in the residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.  | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam  |
| 16 | Treatment of leakage at various places in Khodri<br>Power House at Khodri  | 0.07   | Khodri power House is one of the oldest power house of the Nigam and generating electricity for the last 34 years. During this period it has been successfully generating electricity against adverse weather condition/ impact. Due to the adverse weathering condition seepage/ leakage occurs at different location at the Power House. In view of the above, estimate of "Treatment of leakage at various places in Khodri Power House at Khodri" Has been prepared. In this estimate Treatment of construction joints, cracks by crystalline mortar, waterproofing treatment to retaining walls/structure by crystalline slurry and cementitious Peneplug material has been taken. | It is very necessary to treat this seepage problem so that generation loss may be avoided.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam  |



| 17 | Treatment of Leakage of<br>B-Type Residential<br>Building of Tons Colony,<br>New Yamuna Colony and<br>Old Yamuna Colony at<br>Dakpathar Colony,<br>Dakpathar, Dehradun. | 0.00 | deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and | the life of family of employees. Renovation and  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|----|---|------|---|--|--|
| 18 | Replacement of A C sheet by C G I sheet and fencing work back side of C-Type residence at Tons Colony Dakpathar, Dehradun   | 0.05 |   | At present residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 19 | Construction of Garrage<br>of C-Type residential<br>quarters at Dakpathar,<br>Colony, Dehradun.   | 0.10 | These type of Residences are more than 40 years old. There is no provision of a garage at the time of construction. At present most of the employees have their own vehicle. So the construction of garage is necessary for the safety of the vehicle.  | The probability of theft and feeling of insecurity of vehicle will be reduced.   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |

| _        |    |  |        |   |   |  |
|----------|----|--|--------|---|---|--|
|          | 20 | Renovation of floor tile<br>in C-Type Residences of<br>Tons Colony at<br>Dakpathar Dehradun.                 | 0.05   | due settlement. Repaired patches of floor could be seen at  | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|          | 21 | Construction of garrage for B-Type residential quarters at DakpatharColony, Dakpathar, Dehradun.             | 0.10   | These type of Residences are more than 40 years old. There is no provision of a garage at the time of construction. At present most of the employees have their own vehicle. So the construction of garage is necessary for the safety of the vehicle.  | The probability of theft and feeling of insecurity of vehicle will be reduced.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|          | 22 | Renovation of Floor Tiles<br>in B-Type Residences of<br>New & Old Yamuna<br>Colony , Dakpathar,<br>Dehradun. | . 0.10 | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| t        | _  |  | 1.38   |   |   | ·  |
|          | С  | Major Civil Works  | -      |   |   |  |
|          |    | Plant & Machinery  | -      | ****  |   |  |
|          | Ε  | Vehicles   | -      |   |   |  |
| L        | F  | Furniture & Fixtures   | ,      |   |   |  |
| L        | G  | Offsce Equipment   |        |   |   |  |
| F        | H  | Others   | -      |   |   |  |
| $\vdash$ |    | Total  | 1.38   | · · · · · · · · · · · · · · · · · · ·   |   |  |
| L        |    | IULAI  | 1.38   |   |   |  |



E&M Expenses

|            | Additional Capitalization Proposed for the FY 2020-21 |                              |  |  |                            |  |
|------------|---|------------------------------|--|--|----------------------------|--|
| Sr.<br>No. | Description   | Amount<br>(Rs. In<br>Crores) | Need/Urgency of CAPEX  | How the Capex will have improvement in performance of plant/life enhancement       | Justification of cost/rate |  |
| 1          | Land  | -                            |  |  |                            |  |
| 2          | Building  | -                            |  |  |                            |  |
| 3          | Major Civil Works                                     | -                            |  |  |                            |  |
| 4          | Plant & Machinery                                     | -                            |  |  |                            |  |
| . 1        | Replacement of Gate valve                             | 0.50                         | Most of existing gate valve are too old and erosion has been observed in various parts in the gate valve. These valve have leakages as well as some valve who are directly connect to penstock need replacement on urgent basis. | The existing gate valve are very old and required replacement as soon as possible. | Open Tender                |  |
|            |   | 0.50                         |  |  |                            |  |
| 5          | Vehicles  | -                            | ·  |  |                            |  |
| 6          | Furniture & Fixtrues                                  | -                            |  |  |                            |  |
| 7          | Office Equipments                                     | -                            |  |  |                            |  |
|            |   |                              |  |  |                            |  |
|            | Total   | 0.50                         |  |  |                            |  |

|   | Additional Capitalization Proposed for the FY 2020-21   |                              |   |   |  |
|---|---|------------------------------|---|---|--|
| S | Description .   | Amount<br>(Rs. In<br>Crores) | Need/Urgency of CAPEX   | How the Capex will have improvement in performance of plant/life enhancement  | Justification of cost/rate   |
| _ | Land  | -                            |   |   |  |
| L | Building  |                              |   | _   |  |
|   | Exterior and Interior Painting work of Khodri Power House and its associated structure at Khodri                                  | 0.15                         | Khodrl Power house is the second largest power house of yamuna valley in terms of capacity. It is a surface power house. The existing interior as well as exterior surfaces of paints, whitewashing etc has completed its duration i.e three years. The protective layer of water proof cement paint, weather coat etc over the exposed surfaces of power house has been damaged.   | To protect the concrete surfaces from weathering effect and to enhance the apperance of the power house, the above works as proposed in the estimate are required to be executed.   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|   | Treatment of Leakage of EE, AE, A, LA and P-IV Type Residential Building of Tons Colony at Dakpathar Colony, Dakpathar, Dehradun. | . 0.02                       | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms.  | the life of family of employees. Renovation and   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|   | Renovation of floor tile<br>in C-Type Residences of<br>New Yamuna Colony and<br>Old Yamuna Colony at<br>Dakpathar Dehradun.       | 0.04                         | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settiement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained. | At present quarters are not as per the mark of standard of employees. residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 4 | Renovation of floor tiles<br>in CPT-Type and LCT-<br>Type Residences at<br>Dakpathar colony,<br>Dakpathar, Dehradun | 0.02 | have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these  | the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|---|---|------|---|--|--|
| s | Renovation and<br>Modernization of P-Type<br>Residences at Dakpathar<br>colony, Dakpathar,<br>Dehradun              | 0.03 | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained. | employees and also will prevent accidents that   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 6 | Construction of Store in CT, P, F type residential quarters at Dakpathar Colony, Dakpathar, Dehradun.               | 0.04 | The Residences are older than 40 years, only one or two rooms are available in these residences. There is not enough space available in these residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.   | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 7 | Construction of Store for<br>C-Type residential at<br>Dakpathar, Colony,<br>Dakpathar, Dehradun.           | 0.06 | the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the   | mordanization will fulfill the requirement of   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam   |
|---|--|------|--|---|--|
| 8 | Treatment of leakage in<br>P Type Residential<br>buildings at Dakpathar<br>Colony, Dakpathar,<br>Dehradun  | 0.08 | reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and  |   | . The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 9 | Treatment of leakage in<br>CT Type Residential<br>buildings at Dakpathar<br>Colony, Dakpathar,<br>Dehradun | 0.05 | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam   |

| 10 | Construction of Sewer<br>line, Drain, Septik Tank<br>and other miscellaneous<br>work at Dakpathar<br>Colony            | 0.10 | partially or completely damaged in many residences or habitat   | Sewage water and drainage water is collected in the areas outside the housing and housing. It is directly related to the health and hygiene of its residents. It's also has a very bad effect on environment. For above problem nigam employee and nigam unions have requested to repair the sewerage system and drainage system in colony.   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|----|--|------|---|---|--|
| 11 | Renovation of floor tile<br>in D-Type, E-Type and F-<br>Type Residences at<br>Dakpathar colony,<br>Dakpathar, Dehradun | 0.02 | be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 1 | 2  | Construction of Store in<br>CPT, D, FH and LCT Type<br>residential quarters at<br>Dakpathar Colony,<br>Dakpathar, Dehradun.        |      | problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital  | ·   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam   |
|---|----|--|------|---|---|--|
|   | 13 | Renovation of floor tiles<br>in CT-Type and FH-Type<br>Residences at Dakpathar<br>colony, Dakpathar,<br>Dehradun                   |      | be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam   |
|   | 14 | Exterior painting work of<br>C-type residences of<br>New Hydel Colony and<br>Old Yamuna Colony at<br>Dakpathar<br>Colony(Dehradun) | 0.02 | The Residences are older than 40 years and Exterior painting work have not done for many years. Therefore these residences look very poor. This works are needed to execute to maintain. These works are different than the routine works as these need to be done as a whole, not in parts. therefore it was necessary to take these works in capital works.             | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam   |
|   | 15 | Construction of Store B<br>Type residences at<br>Dakpathar Colony,<br>Dakpathar, Dehradun.   | 0.05 | The Residences are older than 40 years, there is not enough space available in the residences, employees are facing the problem to keep their goods and things. Employees regularly demand store for their residence. Therefore this work is required. These works are needed to be taken in the capital head.  | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam . |



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|----|---|------|--|---|---|
| 16 | Treatment of leakage at<br>various places in Khodri<br>Power House at Khodri  | 0.07 |  | It is very necessary to treat this seepage problem so that generation loss may be avoided.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam          |
| 17 | Treatment of Leakage of B-Type Residential Building of Tons Colony, New Yamuna Colony and Old Yamuna Colony at Dakpathar Colony, Dakpathar, Dehradun. | 0.06 | Due to weathering plaster and concrete has been deteriorated. Dampness in concrete slabs has increased the rate of deterioration as dampness caused rusting in imbedded reinforcement, Due to which plaster and concrete is peeled 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 of walls through which rain water percolating and causing dampness inside rooms. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have<br>been taken from UK PWD SOR 2017-18, DSR 2016 of<br>and rates approved by nigam |
| 18 | Replacement of A C sheet by C G I sheet and fencing work back side of C-Type residence at Tons Colony Dakpathar, Dehradun                             | 0.0s |  | At present residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants. (  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam          |



| 19 | Maintenance & Repair Drain of C-type residences at Dakpathar Colony , Dehradun.                                |      | Residences have been damaged severely. Some special works are need to execute to maintain the drains. These works are   | At present Residences are not as per the mark of standard of employees. Renovation and mordanization will fulfill the requirement of employees that will enhance the positivity and ultimately ability and power generation of plants.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|----|--|------|---|---|--|
| 20 | Construction of Garrage of C-Type residential quarters at Dakpathar, Colony, Dehradun.                         | 0.10 | These type of Residences are more than 40 years old. There is no provision of a garage at the time of construction. At present most of the employees have their own vehicle. So the construction of garage is necessary for the safety of the vehicle.  | The probability of theft and feeling of insecurity of vehicle will be reduced.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 2: | Renovation of floor tile<br>in C-Type Residences of<br>Tons Colony at<br>Dakpathar Dehradun.                   | 0.07 | These buildings are more than 40 year old and in such a long service period old IPS flooring flooring surface have roughened, edges of most of floor panels broken and joints have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these residences to that the problem can be addressed in comprehensive way and the houses can be liveable and hygenic can be maintained. | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 2  | Construction of garrage<br>for B-Type residential<br>2 quarters at<br>DakpatharColony,<br>Dakpathar, Dehradun. | 0.10 | These type of Residences are more than 40 years old. There is no provision of a garage at the time of construction. At present most of the employees have their own vehicle. So the construction of garage is necessary for the safety of the vehicle.  | The probability of theft and feeling of insecurity of vehicle will be reduced.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



|    | , ,  |        |   |   |  |
|----|--|--------|---|---|--|
| 23 | Renovation of Floor Tiles<br>in B-Type Residences of<br>New & Old Yamuna<br>Colony , Dakpathar,<br>Dehradun.                                 |        | have widened due settlement. Repaired patches of floor could be seen at many places. The old floors have became obsolete as new types of flooring materials are available in the market. Representations of unions have been received requesting renovation of residences. These works could not be done in routine O&M work and need to be taken in capital head. It is required to carryout renovation and upgradation work in these  | At present quarters are not as per the mark of standard of employees, residences are worn out due to aging and are in very bad condition which may prone to accident, old buildings are threating the life of family of employees. Renovation and mordanization will fulfill the requirement of employees and also will prevent accidents that will enhance the positivity and ultimately ability and power generation of plants. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 24 | Construction of G.I. chain<br>link fabric fencing of<br>Dakpathar Colony for<br>boundry wall at<br>Dakpathar colony,<br>Dakpathar, Dehradun. | 0.14   | There is need of fencing and boundry wall around Dakpathar colony for the security of Solar power plant. The proposed work is necessary for the safety of Nigam's assets and property. The scope of work is chain link fencing around stores tied with ISMC-100XS0mm fencing post, ISA 50x50x5mm, MS strips 25x5mm. These works could not be done in routine O&M work and need to be taken in capital head. It is proposed to build fencing around the Dakpathar colony to restrict entry of outsiders.   | The proposed works are necessary for the safety of Nigams assets and property.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 25 | Special repair of miscellaneous work of P,D,E,F,FH,LCT,CPT- type residens at dakpathar colony, dakpathar                                     | . 0.10 | The condition of transferred residences is not good. In Dakpathar colony most of residences need special repair as they were abandoned earlier but aliotted now. These buildings are more than 40 year old. There are various repairs and maintenance works in the transferred house such as white washing, dry distemper, acrylic distemper, painting or varnishing, brick, plaster, PCC & RCC, doors and windows/ventilators, water supply and sanitary works/items, heavy iron/structural steel works, leakage problem, water-proof cement paint etc. are required to be done. Apart from this, repair of CC Road has also been taken in the estimation. | Special repair is required to maintain the life of residences. These residences have became old and need repair to prevent accidents.   | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



|   | Special repair of sewer line, drain and other miscellaneous work at dakpathar colony, dakpathar | 0.14 | Residences in dakpathar colony are more than 40 years old. The condition of transferred residences is not good. The sewerage system of the colony is also very old and it is insufficient to meet out the day -to- day need. In compliance of mandate number -2270/II-2016/7(12)/2016 Date-14.10.2016 Irrigation department has transfer many type of residences to UJVN Limited. The condition of transferred residences is not good especially ithe sewerage system, septic tanks and drainage systems. Sewer systems, septic tanks, drainage systems are partially or completely damaged in many residences or habitat blocks. | Residences in dakpathar colony are more than 40 years old. In many Residences or housing blocks sewer systems, septic tanks, drainage systems are partially damaged. It is directly related to the health of emloyees. The area outside the house will also be clean and help in the prevention of health related problems such as dengue, malaria etc. | The cost details are as per estimate / rates have been taken from UK PWD SOR 18, DSR 2016 and rates approved by nigam |
|---|---|------|---|---|---|
|   |   | 1.77 |   | -   |   |
| С | Major Civil Works   | -    |   |   |   |
| D | Plant & Machinery   | _    |   |   |   |
| Ε | Vehicles  | -    |   |   |   |
| F | Furniture & Fixtures  | _    |   | ·   |   |
| G | Office Equipment  | -    |   | i   | ·   |
| Н | Others · -  | -    | ·   |   |   |
|   |   |      |   | ,   |   |
|   | Total   | 1.77 |   |   |   |

· Civil Expenses

|            |   |                              |  |   | · Civil Expenses   |  |  |
|------------|---|------------------------------|--|---|--|--|--|
|            | Additional Capitalization Proposed for the FY 2021-22   |                              |  |   |  |  |  |
| Sr.<br>No. | Description   | Amount<br>(Rs. In<br>Crores) | Need/Urgency of CAPEX  | How the Capex will have improvement in performance of plant/life enhancement  | Justification of cost/rate   |  |  |
| Α          | Land  | -                            |  |   |  |  |  |
| В          | Building  | -                            |  |   |  |  |  |
| 1          | Construction of Sewer line, Drain, Septik Tank and other miscellaneous work at Dakpathar Colony | 0.30                         | UJVN Limited and Irrigation department's residences in dakpathar colony are more than 30 years old. The sewerage system of the colony is too much old and it is insufficient to meet out the day -to- day need. In compliance of mandate number -2270/II-2016/7(12)/2016 Date- 14.10.2016 Irrigation department has transfer many type of residences to UJVN Limited. The condition of transferred residences is not good especially in sewerage system, septic tanks and drainage systems. Sewer systems, septic tanks, drainage systems are partially or completely damaged in many residences or habitat blocks. There are various repairs and maintenance works in the transferred house such as white washing, dry distemper, acrylic distemper, painting or varnishing, brick, plaster, PCC & RCC, doors and windows/ ventilators, water supply and sanitary works/Items, heavy iron/structural steel works, leakage problem, water-proof cement paint etc. are required to be executed. Apart from this, repair of CC Road has also been taken in the estimation, where drainage water is collected | Sewage water and drainage water is collected in the areas outside the housing and housing. It is directly related to the health and hygiene of its residents. It's also has a very bad effect on environment. For above problem nigam employee and nigam unions have requested to repair the sewerage system and drainage system in colony. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |  |  |



| 2 | Treatment of leakage at<br>various places in Khodri<br>Power House at Khodri  | 0.07 | Khodri power House is one of the oldest power house of the Nigam and generating electricity for the last 34 years. During this period it has been successfully generating electricity against adverse weather condition/impact. Due to the adverse weathering condition seepage/leakage occurs at different location at the Power House.  In view of the above, estimate of "Treatment of leakage at various places in Khodri Power House at Khodri" Has been prepared. In this estimate Treatment of construction joints, cracks by crystalline mortar, waterproofing treatment to   | It is very necessary to treat this seepage problem so that generation loss may be avoided.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
|---|---|------|---|---|--|
|   |   |      | retaining walls/structure by crystalline slurry and cementitious<br>Peneplug material has been taken.   |   |  |
| 3 | Construction of G.l. chain link fabric fencing of Dakpathar Colony for boundry wall at Dakpathar colony, Dakpathar, Dehradun. | 0.14 | There is need of fencing and boundry wall around Dakpathar colony for the security of Solar power plant. The proposed work is necessary for the safety of Nigam's assets and property. The scope of work is chain link fencing around stores tied with ISMC-100XS0mm fencing post, ISA S0xS0x5mm, MS strips 25x5mm. These works could not be done in routine O&M work and need to be taken in capital head. It is proposed to build fencing around the Dakpathar colony to restrict entry of outsiders.   | . The proposed works are necessary for the safety of Nigams assets and property.  | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |
| 2 | Special repair of miscellaneous work of P,D,E,F,FH,LCT,CPT- type residens at dakpathar colony, dakpathar                      | 0.10 | The condition of transferred residences is not good. In Dakpathar colony most of residences need special repair as they were abandoned earlier but allotted now. These buildings are more than 40 year old. There are various repairs and maintenance works in the transferred house such as white washing, dry distemper, acrylic distemper, painting or varnishing, brick, plaster, PCC & RCC, doors and windows/ventilators, water supply and sanitary works/items, heavy iron/structural steel works, leakage problem, water-proof cement paint etc. are required to be done. Apart from this, repair of CC Road has also been taken in the estimation. | Special repair is required to maintain the life of residences. These residences have became old and need repair to prevent accidents. | The cost details are as per estimate / rates have been taken from UK PWD SOR 2017-18, DSR 2016 and rates approved by nigam |



| 5        | Special repair of sewer line, drain and other miscellaneous work at dakpathar colony, dakpathar |      | meet out the day -to- day need. In compliance of mandate number -2270/II-2016/7(12)/2016 Date-14.10.2016 Irrigation department has transfer many type of residences to UJVN Limited. The condition of transferred residences is not good especially ithe sewerage system, septic tanks and drainage systems. Sewer systems are | Residences in dakpathar colony are more than 40 years old. In many Residences or housing blocks sewer systems, septic tanks, drainage systems are partially damaged. It is directly related to the health of emloyees. The area outside the house will also be clean and help in the prevention of health related problems such as dengue, malaria etc. | The cost details are as per estimate / rates have been taken from UK PWD SOR 18, DSR 2016 and rates approved by nigam |
|----------|---|------|--|---|---|
| <u> </u> |   | 1.11 | ·  |   |   |
| С        | Major Civil Works   | -    |  | •   |   |
| D        | Plant & Machinery   | -    |  |   |   |
| E        | Vehicles  | -    |  |   | ,   |
| F        | Furniture & Fixtures  | -    |  |   |   |
| G        | Office Equipment  | -    | ·  |   |   |
| Н        | Others  | -    |  |   |   |
|          |   |      |  |   |   |
|          | Total   | 1.11 |  |   | <u>,                                      </u>  |

