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| **Load Profile 1** | | | |
|  | | This load profile shows the electricity demand for domestic use and water heating. For our CEP we have considered the demand during the winter season while The actual load profile compares demand during summer and winter, where the demand for heating during winters is quite high due to lower ambient external temperatures. | |
| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
| The load curve has high variations, with the demand increasing in early morning and during the night time for a typical winter day. The peaks in the load curves are due to high demand for heating purposes as the ambient temperature in those hours are pretty low. | Load Factor =  Demand Factor =  Units Consumed= | To manage this highly volatile load profile the generators at the power station should be turned on and off repeatedly. The base load can be powered by a nuclear power plant while a diesel generator is suitable for this to manage the peaks during high demand hours, as they take less time to start up. | [1] |
| **Load Profile 2** | | | |
|  | | Electrical load profile of a commercial building (shopping center) in Indonesia. The original load profile in the case study includes shopping centers, hotels, private and government offices and hospitals. Load (kW) is on Y axis and time is on X axis. Since shopping centers have the highest electrical load due to major utilities including air conditioners and lighting systems, we have chosen this load profile for technical and economic analysis. | |
| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
| The electricity consumption pattern for commercial buildings are usually periodic as commercial outlets, by law, operate in predefined hours. In this case, the shopping center opens around 9 AM and then continues to consume an almost constant amount of electricity (7000 KW) until its closing time, which is around 11 PM. After the closing there is low constant power demand of 1000 KW which can be attributed to the night lights, security systems and air condition of security rooms etc. | Load Factor =  Demand Factor =  Units Consumed= | This type of non-varying load for specific period of time can be supplied with a steam power plant, as generating station can be setup before the peak load on the system is expected. | [2] |
| **Load Profile 3** | | | |
|  | | Load profile analysis for commercial buildings micro grids under demand response in Hangzhou region, china. The load profile originally Simulated the load variations of commercial users in micro grids before and after the demand response. We have chosen the load profile before the demand response application as to access the raw data of the region | |
| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
| Commercial buildings usually don’t operate during the night time hence the demand is quite low at night. During the day the demand is moderate while at around 9 and 10 PM the peak demand occurs due to lighting and air conditioning load | Load Factor =  Demand Factor =  Units Consumed= | As before this load is manageable with a steam based power plant or a hydro power plant as the commercial load is periodic. During the off time (after midnight) the power station can be shut down as the demand is very low, for energy savings. | [3] |
| **Load Profile 4** | | | |
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| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
|  | Load Factor =  Demand Factor =  Units Consumed= |  |  |
| **Load Profile 5** | | | |
|  | | Daily load profile for an industry where the electricity consumption could be attributed to the operations of mechanical machineries and equipment, electricity-driven thermal equipment (i.e. induction furnace and electric heater), heating, ventilation and cooling (HVAC) facilities, lighting, as well as control and instrumentation systems. | |
| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
| The load profile suggests that the main operation occurs after the midnight as the power demand during those hours is high, this could be due to the fact that electricity tariff is low during low demand which could be beneficial for the industry. | Load Factor =  Demand Factor =  Units Consumed= | Averagely the demand is between 1500 and 2500 KW with occasional peaks during day time. To supply such a load a diesel station can be used as they can handle occasional load peaks and have less standby losses. | [5] |
| **Load Profile 6** | | | |
|  | | This graph shows the average daily load profile for the electricity consumption pattern of Zambia’s residential sector in 2008. This study was done alongside the annual electricity consumption survey to suggest policy options for suitable development of Zambia’s electricity sector. | |
| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
| Demand during the day (7AM to 2PM) is almost constant i.e. at 1150 MW while after midnight hours it is very low. The demand becomes high during peak load hours i.e. between 8 PM and 11 PM because of the lighting load at night. | Load Factor =  Demand Factor =  Units Consumed= |  | [6] |
| **Load Profile 7** | | | |
|  | | The graph shows the load curve of a single day of 1000 households with around 12 appliances each, composing thus an amount of approximately 12000 simulation elements. This type of simulation can provide the relevance of a determined power consumer in the household consumption. The 1000 household sample is composed of a distribution of the diﬀerent social groups according to real statistical data, in order to obtain a sample of households that is as close as possible to reality. | |
| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
| Similar to typical residential load profile the demand for power increases during the night time of peak load hours (8 PM to 11 PM) because of the lighting load. The demand stays capped at around 400 KW during the day time (6 AM to 6 PM), with only occasional peaks occurring due to coincidental operation of heavy appliances. While during the sleeping hours (after 12 AM to 5 AM) the demand is the lowest at 200 KW since only fans and air conditioning is used during those hours. | Load Factor =  Demand Factor =  Units Consumed= |  | [7] |
| **Load Profile 8** | | | |
|  | | The given load profile depicts the variations of electricity load of an industrial park with an electric-heat system which provide electricity and heating facility to all its users. | |
| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
| Industrial parks have a constant power demand as the production in industries continues 24/7. During the day the demand is averagely 50 MW. The load profile has 2 very sharp peaks the latter one (8PM to 11PM) which occurs during night is because of the additional lighting and heating load. The other peak occurs in the early morning when the shift starts at industries (7 AM to 9AM). This can attributed to the startup of machines and boiler rooms that are required for production purposes. | Load Factor =  Demand Factor =  Units Consumed= |  | [8] |
| **Load Profile 9** | | | |
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| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
|  | Load Factor =  Demand Factor =  Units Consumed |  |  |
| **Load Profile 10** | | | |
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| Load Profile Analysis | Technical Parameters | Recommendations | Reference |
|  | Load Factor =  Demand Factor =  Units Consumed |  |  |