

# **A Study On Possible Impact Of Electric Vehicle Energy Consumption Demand And Its Impact On Grid Load Scenario - A Case Study In Kolkata, India**

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UNDER SUPERVISION OF

**Dr. TUSHAR JASH**

JADAVPUR UNIVERSITY

SUBMITTED BY

MOHAMMAD RAMIM MULLICK

EXAM ROLL NO: M4ENR22003

REGISTRATION NUMBER: 154596 OF 2020-2021

SCHOOL OF ENERGY STUDIES

JADAVPUR UNIVERSITY

KOLKATA 700032

INDIA 2022

## CERTIFICATE FOR RECOMMENDATION

This is to certify that the thesis Entitled **A Study On Possible Impact Of Electric Vehicle Energy Consumption Demand And Its Impact On Grid Load Scenario - A Case Study In Kolkata, India**, which is being submitted by Mohammad Ramim Mullick in partial fulfilment of the requirements for the award of the degree of **Master of Energy Studies** at the School of Energy Studies and Application, Jadavpur University, Kolkata700032, during the academic year 2020-2022, is the record of the student's own work carried out by him under our supervision.

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**Thesis Guide**

**Dr. Tushar Jash**

Professor, School of Energy Studies

Jadavpur University

Kolkata

---

**Dr. Ratan Mandal**

**Director**

Professor, School of Energy Studies

Jadavpur University

Kolkata

---

**Dean**

**Faculty of Interdisciplinary Studies, Law and Management**

Jadavpur University

Kolkata

## CERTIFICATE FOR APPROVAL

The foregoing thesis entitled **A Study On Possible Impact Of Electric Vehicle Energy Consumption Demand And Its Impact On Grid Load Scenario - A Case Study In Kolkata, India** , is hereby approved as a creditable study of an engineering subject carried out and presented in a satisfactory manner to warrant its acceptance as a prerequisite for the degree of **Master of Energy Studies** at the School of Energy Studies and Application, Jadavpur University, Kolkata 700032, for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed, or conclusion drawn there in but approve the thesis only for the purpose for which it is submitted.

COMMITTEE ON FINAL EXAMINATION  
FOR EVALUATION OF THESIS

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DECLARATION OF ORIGINALITY & COMPLIANCE OF  
ACADEMIC ETHICS

It is hereby declared that the thesis entitled **A Study On Possible Impact Of Electric Vehicle Energy Consumption Demand And Its Impact On Grid Load Scenario - A Case Study In Kolkata, India** contains literature survey and original research work by the undersigned candidate, as part of his degree of **Master of Energy Studies** at the School of Energy Studies and Application, Jadavpur University, Kolkata700032.

All information in this document has been obtained and presented in accordance with academic rules and ethical conduct.

It is also declared that all materials and results, not original to this work have been fully cited and referred throughout this thesis, according to rules of ethical conduct.

Name: MOHAMMAD RAMIM MULLICK

Registration Number: 154596 of 2020-2021

Examination Roll Number: M4ENR22003

Dated:

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(Signature)

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# ABSTRACT

The world has already been started to pay the consequences of Global warming. In every region of the planet, climate is changing , causing seasonal weather disruptions , natural disasters etc. And many possible solutions for greenhouse gas neutralization have been proposed via various International summits. Electric conversion of conventional fuel powered vehicles is one of the possible solutions as per various national international level research. Developed nations like USA, UK, EU has already made this possible to some extent by actively adopting EVs into their lifestyle and commercial purpose. However many upfront challenges arisen during the adoption and so after adoption and they managed to tackle many of them. However , When it comes to developing nation like India , Upfront challenges might becoming more challenging due factors like huge population , diverse economic and educational disparity and may more. So , for example, if one EV adoption strategy which is successful in Delhi might not be successful in Kolkata because of their different localized behavioral and administrative differences. So, it is very important to analyze and implement EV adoption strategies and their consecutive sectors like power sector, transport sector separately according to their locality. So, a predictive study has been done to provide, possible impact of EV in load scenario of Kolkata only if successfully adopted according to target , which in this case is 30 percent of total sales. Surveyed data showed significantly less Specific energy consumption of currently operating EV compared to conventional counter parts. Distributing charging schedule of considered converted plug in battery electric vehicles to possible realistic way without considering smart charging or quick charging , it causes average 2.37% of total load of Kolkata in 2030 at the demand side and also significant pollution impact due to poor renewable energy mix.

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## Chapter 1

# Introduction

## 1.1 Overview

Now , we are living in 2022 , global warming and climate change that once in the theories and projections now became a reality . The global average mean surface temperature for the period from 2017–2021 (based on data until July), estimated at 1.06°C to 1.26°C above pre-industrial (1850–1900) levels , is among the warmest on record. CO<sub>2</sub> emissions have largely bounced back to pre-pandemic levels , greenhouse gas concentrations continue to rise to new record highs. As a result extreme heat, droughts, heavy rain and floods are more likely because of climate change, sea-level rise has accelerated threatening lives and livelihoods. It will continue for centuries. Observing these concerns The Paris Agreement comes into place. It is a legally binding international treaty on climate change ,was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 then entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. To achieve this long-term goal, countries aim to reduce greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century. As implementation of this agreement made countries to adopt all possible expensive and non-expensive options to meet the goal upto some extent. As research found that a large amount of green house gas is being generated from transportation sector by fossil fuel run vehicles only. Keeping in mind current technological development Electric vehicles adoption seems to be the only practical solution. So, different countries decided different goals for adoption of Electric Vehicle. In case of India , 30 per cent of new vehicle sales in India will be electric by 2030, as per the International Energy Agency in its global EV outlook. FAME II policy of the central government has been proposed and deployed as fulfillment of the outlook. As per IEA , electric vehicle deployment in India will mainly be achieved through the electrification of two/three-wheelers, which will reach a sales share of almost 50 per cent. But, there is a catch. To achieve this 30% EV there are so many barriers in

technological , economical , geographical , political , commercial , psychological point of view .To overcome these barriers government , Original Equipment Manufacturer(OEM) , citizens need to work together . But now the question comes , if we somehow managed to overcome these barriers and meet the 2030 EV goal , are we ready to manage and take on the direct and indirect consequences in every industry. One the directly major affecting sector will be power sector , as large amount of EVs will consider electricity grid as charging source. As grids are fed by conventional power generation, it will be truly pollution free if we can met the EV demand by renewables. Even in present timeline in many places India, power plants sometimes can't met the peak demand because of unorganized domestic and industrial load scheduling. In the upcoming years there will be unavoidable overall increase in demand due to key parameters like Population , GDP etc. And most of the demand will be met by conventional power generation. Currently 39.20% of the India's total installed capacity is from renewables by March,2022[17]. And the eastern region has 18.94% of total installed capacity as renewables[17]. In 2016, India set an ambitious goal of reaching 175 GW of renewable energy by 2022, and as of April 2022, it had 95 GW of operating solar and wind power. This implies a target slippage of about 51 GW[23]. However the government has set a target of increasing non-fossil power capacity to 500 GW by 2030[24]. It wants non-fossil fuel power sources to provide half of its electricity supply by 2030.Whether the target will be met successfully , remains to be seen. However this study explores the demand caused by upcoming EV in Kolkata.

## 1.2 Literature Review

A survey has been done observing lifestyle pattern of Kolkata choosing 500 households distributed across the city , across various income class distribution which presents a clear relation between household's income and per capita carbon footprint from transport use , that is increasing with income. Although low, lower middle and middle income sections generate high total footprints, owing to a larger representation in the total population, it is actually the high income group in the city, whose per capita footprint is increasing and gradually approaching very high levels [12]. No doubt household's income will increase with each passing year , so the carbon footprint. A study shows that road transport sector of Kolkata has an emission level of 65.59 tons of NO<sub>x</sub> , 129.54 tons of CO , 51.02 tons of HC , 10.13 tons of PM in a single day. Only 2% replacement of public transport with BEV can reduce CO<sub>2</sub> level 26.27t per day

[15]. A detailed comparative study has been done[8] between China and Korea in some selected areas, on psychological and behavioral factors affecting EV (electric vehicle) adoption and satisfaction. Results show that for the Chinese early majority , environmental concern is one of the important determinant factor of EV purchase, whereas for the Korean early adopters, minimal operating cost goal is the most important determinant factor. For both cases usage satisfaction is high , with this factor Korean early adopters being higher for the than for the Chinese early majority. Usage satisfaction is also found to be related to the original purchase motive. However battery range and battery charging are the main reason the electric vehicle owners in both countries are not satisfaction. Reducing acquisition cost to reducing vehicle operating cost and increasing convenience is suggested . A study has been done on implication viability assessment to shift to EV at present power generation scenario in India. Where an emission comparison between EV and ICEV shows that NO emissions from electric vehicle are 4 times more than the BS IV standards for I.C. engine vehicles. The indirect Sulphur dioxide (SO<sub>2</sub>) emissions from the electric vehicle are 30 times more than I.C. engine vehicles. According to BS IV standards, there should not be any SO<sub>2</sub> emissions from I.C. engine vehicles. The CO emissions are less in electric vehicles as compared to I.C. engine vehicles. The CO<sub>2</sub> emissions from electric vehicles are approximately 40% higher than I.C. engine vehicles. These results are because India 56% of power generates from coal power plants & 46% from other source including renewable source. And EV draws electricity from these GHG emitting sources. On the other hand ICEV runs on gasolines , and The emissions in coal burning are higher because of the difference in the calorific value of coal and gasoline. That is why energy mixing is necessary and indicates that India's current energy mix ratio of 57% thermal and 43% renewable is somewhat viable (0.9) to implement EVs over ICEVs [6]. However, A study has been done following Nationally Determined Contributions(NDC) emission, cost minimizing and energy mixing target for India to meet its electricity demand in 2030. Electricity demand for 2029-2030 in India is projected to be 2351.505 BU including additional 82 BU demand due to EV which can be met by India by exceeding its NDC of producing forty percent electricity from non-fossil fuel sources [5].A very detailed study has been done[4] about enablers and disablers to plugin electric vehicles adoption in India from a survey of experts. The study reveals that expected share of PEV sales by 2030 is an average of 24.8% where 76% of respondents (total 51 respondents) think that India will fail to achieve 30%

market share goal of PEV and 24% of respondents thinks the opposite. Lack of clarity on PEV support policies observed as major reason followed by High upfront price of PEVs, lack of charging infrastructure, Lack of manufacturing investment of automakers, Lack of local supply chain as other reasons for underachieving PEV market share goal. And Higher market share of two and three wheelers observed as major reason followed by Environmental friendliness, PEV support policies, Low operation & maintenance cost, upcoming business models as other reasons for overachieving PEV market share goal. Higher upfront price of PEV observed as major factor followed by Lack of charging infrastructure, Fewer PEV options, Battery life concerns as other factors for enabling of consumer adoption. And Financial incentives to reduce upfront costs observed as major factor followed by Lower operation & maintenance cost, Reoccurring financial incentives for owning PEV as other factors for disabling of consumer adoption. The respondents also showed agreement and disagreement with stents related to public charging infrastructure and addressed Lack of land availability in cities and high land rent prices as major factor followed by high setting up cost of PEV charging station, Lack of distribution company engagement, Lack of local supply chain as other factors as the greatest barriers of PEV charging infrastructure build up. Agreement and Disagreement of Respondents and their beliefs about National-level & State-level policy measures to achieve 2030 targets also demonstrated here. PV mandate seems to be best policy measurement both in national & state level followed by Fee bate , non-financial & financial incentives, higher credit for PEV sales in CAFE form, Investment in charging infrastructure, New ICEV sales ban as other policy measurements to achieve 2030 targets. About the factors that influence domestic PEV manufacturing in India , respondents addressed Incentives for reducing upfront investment cost as main factor followed by Tax cut incentives, ease of business incentives as other factors to influence domestic PEV manufacturing. And Lack of local consumer demand for PEV in India as major factor followed by Lack of local supply chains, Lack of clarity on support policies, Lack of readiness of PEV after sales ecosystem as other factors to disable the influence of domestic PEV manufacturing in India. Influencing factors for domestic PEV battery manufacturing are similar to domestic PEV manufacturing influencing factors. Some extent of the expected societal gains from achieving PEV sales target by 2030 are also discussed here by the respondents , where they addressed city level air quality improvements as major gain followed by Fuel(petrol/diesel) savings ,GHG emissions reduction,

crude oil import savings as other societal gains [4]. A case study has been done in Bengaluru, Delhi and Kolkata about vehicle ownership and travel behavior. It shows that (20-30) % of 2-wheeler trips was drove alone throughout the week for all kind of purposes, and for 4-wheelers it was (22-40)% . Whereas (8-27)% trips are ridden with others, (3-5)% trips were walk ,(1-7)% trips were bicycle,(5-18)% trips were public transport [13]. This reflects a large number of trips were made solo , making them less viable due to their high sp.energy/passenger.km consumption. A study has been done on light duty electric 2-wheeler,3-wheeler and 4-wheeler in India considering Five Indian driving cycle and three US certified driving cycle. Different parameters such as air conditioning ,ancillary components , motor efficiency ,vehicle mass , passengers have shown good impact on electrical consumption. In city driving conditions, the average electrical consumption is: 33 Wh/km for the scooter, 61 Wh/km for the 3-wheeler, 84 Wh/km for the low power 4-wheeler, and 123 Wh/km for the high power 4-wheeler. For highway driving conditions, the average electrical consumption is: 133 Wh/km for the low power 4-wheeler, and 165 Wh/km for the high power 4-wheeler [3].Performance of electric two wheeler is measured in the traffic condition of Kolkata which shows that whether experimental data of energy consumption(155.64kJ/km) or surveyed data of energy consumption(114.5kJ/km) , it is way lesser than the conventional two wheeler energy consumption(810kJ/km). However the electric two wheelers are observed to be only used for short range around the residence because of charging and range constraints [11].A detailed study has been done on the behavior of BEV users about their charge timing in Japan. The study reflects that there is significant behavioral differences between commercial and private vehicle owners charge timing. In both cases most of the owners do not tend to charge their vehicle immediately after arrival , Night time charging after 11 P.M spikes due to low electricity price tariff. Also if the owner charge their vehicle or not depends on factor like SOC level, vehicle-kilometers of travel (VKT) on next travel day, Interval days before next travel day , experience of fast charging etc. [9] . These observations can provide a little prerequisites about owners behavior for the places where EV is not popularized yet. A power consumption modelling has been done in Japan to show its impact on power demand. Quick charging and night time charging is normally distributed according to type of vehicle in four different scenarios of EV replacement. Results depicts a significant influence on power demand and load peaks , which further suggests betterment of charge scheduling, operation model and charge

rate revision [1]. A modelling of Weekly demand caused by plug-in hybrid electric vehicle has been done in Germany which shows different travel choice behaviors for different purpose. Results shows that 60%-70% mileage is covered by battery only indicating reduced emission, however uncontrolled charging of PHEVs causing peaks when general electricity demand is already high [2]. A PV assisted Fuzzy charge scheduling has been done [14] for demand side energy management by an approach of smoothing Load curve using EV and battery charge scheduling during off peak and feeding grid with charging station integrated PV generation during peak . The smoothing of load curve comes out to be 37.8 percent. Another value proposition study of all EV sales in India 2030 [16] shows that the additional load added due to BEV charging by 2030 is less than 3% of the total electricity load in India (by energy). BEVs can avoid importing 177 million barrels/yr (8% of total crude oil consumption in 2030). The study also find that in the NDC compliant scenario, on a gCO<sub>2</sub>/km basis, BEVs can offer a reduction of nearly 35-37% in case of cars (Vans, Compact Sedans and Subcompact Hatchbacks) and nearly 50% in case of two-wheelers. A study has been done [19] on real-world performance of electric two-wheelers and three-wheelers under heterogeneous traffic conditions of Kolkata . The study reveals that sp. energy consumption for Electric two wheeler and electric three wheel found to be 0.043 kwh/km and 0.075kwh/km respectively. Whereas sp. energy consumption per passenger kilometer found to be 0.02867 kwh/pkm and 0.04325 kwh/km respectively. However for conventional two wheeler & three wheeler , sp. energy consumption is quite higher , 0.233 kwh/km for conventional motorcycle and 0.402 kwh/km for LPG three wheelers , and so, their sp.energy consumption per passenger km is 0.1559 kwh/pkm and 0.2302 kwh/pkm respectively.

Though many research has been done on environmental impacts, vehicles energy consumption pattern and overall demand from EV in India , But there was no real world behavioral EV charge scheduling scenario or solution proposed for a million plus city like Kolkata for the future energy demand of EVs when EV reaches its adopted stage from adoption stage. This study explores the same.

### 1.3 Aims and Objectives

- To predict , year wise increase of conventional vehicle registration from year 2021 to year 2030 in Kolkata. And replacement of the same with certain percentage of EV every year which will reach 30% of total sales for two wheeler, three wheeler, four wheeler individually and 100% for bus in 2030.
- To estimate the future electricity demand and load for replacement of future I.C.engine based vehicles by electric vehicles in Kolkata from year 2021 to year 2030.
- Scheduling of the load for the respective EVs according to their type.
- To Predict future electricity demand from year 2021 to year 2030 using historical data and compare it with demand due to EVs on respective year.
- To estimate fuel cost, emission impact and viability due to replacement of present I.C.engine based vehicles by electric vehicles in Kolkata from year 2021 to year 2030.

## Chapter 2

# Methodology & calculations

To give a brief idea of the methodology, at first, consumption data of currently operating conventional and electric vehicles are collected from questionnaire based survey. Then newly registered vehicle numbers has been projected till year 2030 using historical data of Road transport year books and every year certain percentage of them converted to EV. After that daily energy requirement has been calculated from their average travel distance which then scheduled differently according to vehicle type. However, these steps are elaborated below.

### 2.1 Passenger vehicles in Kolkata

**2.1.1 Diesel bus sp. energy consumption data :** A questionnaire based survey has been done in various private bus gumti's in Kolkata and WBTC bus depo near Howrah station. From the reconfigured data, it is observed that most of both govt. & private buses does cover at least 3 whole trips carrying corresponding seating capacity passengers. The avg. sp. energy consumption of non-AC govt. and private buses are 4.04 kwh/km & 2.42 kwh/km respectively and for govt. AC buses it is 6.93 kwh/km. However average sp. energy consumption per passenger stands at 0.099 kwh/pkm, 0.068 kwh/pkm, 0.173 kwh/pkm for govt. non-AC, private and govt. AC buses respectively shown in annexure *Table A5*.

**2.1.2 Electric bus sp. energy consumption data :** One week data of currently operating electric bus has been collected from WBTC Howrah depo near Howrah station shown in annexure *Table A4*. From the data we calculated average sp. energy consumption of 0.997 kwh/km and Sp. energy consumption per passenger stands at 0.032 kwh/pkm shown in annexure *Table A6*. All the electric buses are TATA ultra-urban 9 meter with seating capacity of 31 and battery capacity of 125 kwh.

**2.1.3 Electric two-wheeler, three wheeler, four wheeler sp. energy consumption data :** From the detailed survey done in [19] sp. energy consumption for Electric two wheeler and electric three wheel found to be 0.043 kwh/km and 0.075kwh/km respectively. Whereas sp. energy consumption per

passenger kilometer found to be 0.02867 kwh/pkm and 0.04325 kwh/km respectively. However for conventional two wheeler & three wheeler , sp. energy consumption is quite higher , 0.233 kwh/km for conventional motorcycle and 0.402 kwh/km for LPG three wheelers , and so, their sp.energy consumption per passenger km is 0.1559 kwh/pkm and 0.2302 kwh/pkm respectively. From [3] sp. energy consumption for electric four wheeler is considered to be 0.165 kwh/km & 0.066 kwh/pkm.

#### **2.1.4 Considered vehicle information for scheduling :**

E2w = Ola s1 pro with battery capacity of 3.97 kWh ,taking 6.5 hour to fully charge the battery , with a company claimed true range of 135 km in full charge.[25]

E3w = Mahindra TREO SFT/HRT with battery capacity of 7.37 kWh ,taking 3.833 hour to fully charge the battery , with a company claimed range of 130 km in full charge.[26]

E4w = Tata Nexon EV with battery capacity of 30.2 kWh , taking 8.5 hours to charge 10% to 90% , with a company claimed range of 300+ kilometer .[27]

In all the above mentioned vehicle Li-ion battery with 80% depth of discharge is considered.

**2.1.5 Daily average travelled kilometer :** From [15] daily average travelled kilometer is found to be 160 km, 150 km, 24 km, 100km for the bus , four wheeler , two wheeler and three wheeler respectively which are assumed to be same till 2030.

**2.1.6 Electric Bus charging station infrastructure :** WBTC Howrah depot has total 7 DC chargers, one of them is fast DC charger with dual charging plug with 3-phase AC input voltage of 415 V +/-15% & frequency of 50Hz+/-10% with DC output voltage of (200-750)V & DC output current of (0-160)A and rated power of 120 kW shown in *fig. 2.2*. Rest of the 6 are slow DC charger with single charging plug with 3-phase AC input voltage of 415 V +/-15% & frequency of 50Hz+/-10% with DC output voltage of (200-750)V & DC output current of (0-80)A and rated power of 60 kW shown in *fig. 2.3*. And from the videographed data a fast charging plug can serve 1.04333 kWh of energy per minute and a slow charger plug can serve 0.87333 kwh of energy per minute with a load of 62.6 kW & 52.4 kW respectively in *fig. 2.5,fig. 2.6 and fig. 2.7,fig. 2.8*. However we have considered these calculated charging rate and load is assumed to be non-fluctuating throughout whole charging ,irrespective

of time & SOC level for all chargers according to their type for simplicity which might not be constant in real case.



Fig. 2.1: Image of charger

TELLUS POWER		DC CHARGER		CE
EQUIPMENT TYPE	TP-EVPD-GB-750120CGY2			
EQUIPMENT DIMENSIONS	800X1900X750mm (W×H×D)			
AC INPUT VOLTAGE/FREQUENCY	3×415V+/-15%, 50Hz+/-10%			
NUMBER OF PHASES	3P+N+PE			
DC OUTPUT VOLTAGE	200-750V			
DC OUTPUT CURRENT	0-160A			
RATED POWER	120 KW			
PROTECTION DEGREE	IP 54			
DATE OF MANUFACTURE	2018. 8			
EQUIPMENT NUMBER	1020180805001006			
APPLICABLE STANDARDS	GB 20234. 1-2015, GB 20234. 3-2015, GB 27930-2015 GB 18478. 1-2015			
Service Address				
Tellus Power Pvt Ltd				
1st Floor, #55A, Road No 12, Opposite to Traffic Police Station,				
Banjara Hills, Hyderabad 500 034      www.TellusPower.in				
Company name: Shanghai Tellus Power Technology Co., Ltd.				
Address: Room 3017, No. 32 Xinxin Road, Chedun Town, Songjiang District, Shanghai				
Web: www.telluspower.cn      Hotline: 400-160-9001				

Fig. 2.2: Specification of DC fast charger


 <span style="float: right;">DC CHARGER</span> <span style="float: right;">CE</span>	
EQUIPMENT TYPE	TP-EVPD-GB-750060CBU1
EQUIPMENT DIMENSIONS	795X1800X400mm (W×H×D)
AC INPUT VOLTAGE/FREQUENCY	3×415V+/-15%, 50Hz+/-10%
NUMBER OF PHASES	3P+N+PE
DC OUTPUT VOLTAGE	200-750V
DC OUTPUT CURRENT	0-80A
RATED POWER	60 KW
PROTECTION DEGREE	IP 54
DATE OF MANUFACTURE	2018. 8
EQUIPMENT NUMBER	1020180805001159
APPLICABLE STANDARDS	GB 20234. 1-2015, GB 20234. 3-2015, GB 27930-2015 GB 18478. 1-2015
Service Address Tellus Power Pvt Ltd 1st Floor, #55A, Road No 12, Opposite to Traffic Police Station, Banjara Hills, Hyderabad 500 034 <span style="float: right;">www.TellusPower.in</span>	
Company name: Shanghai Tellus Power Technology Co., Ltd. Address: Room 3017, No.32 Xinxin Road, Chedun Town, Songjiang District, Shanghai Web: www.telluspowers.cn Hotline: 400-160-9001	

Fig. 2.3: Specification of DC slow charger



Fig. 2.4: Images of DC fast charger plug on left and DC slow charger plug on right

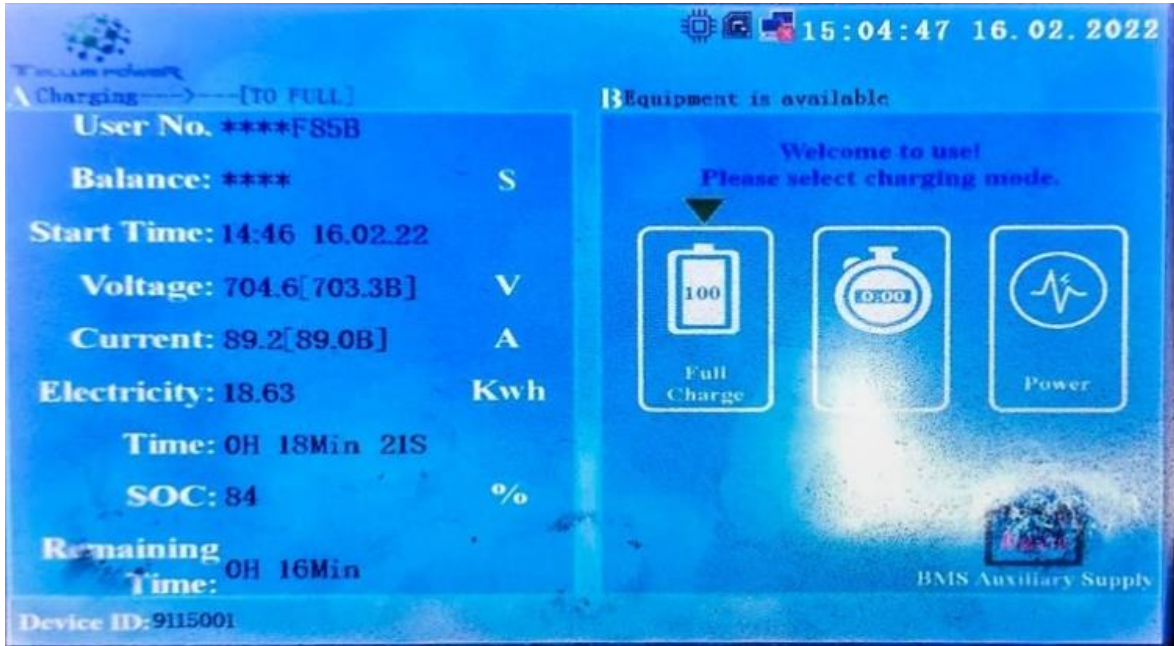


Fig. 2.5: Screen of DC fast charger while charging 1

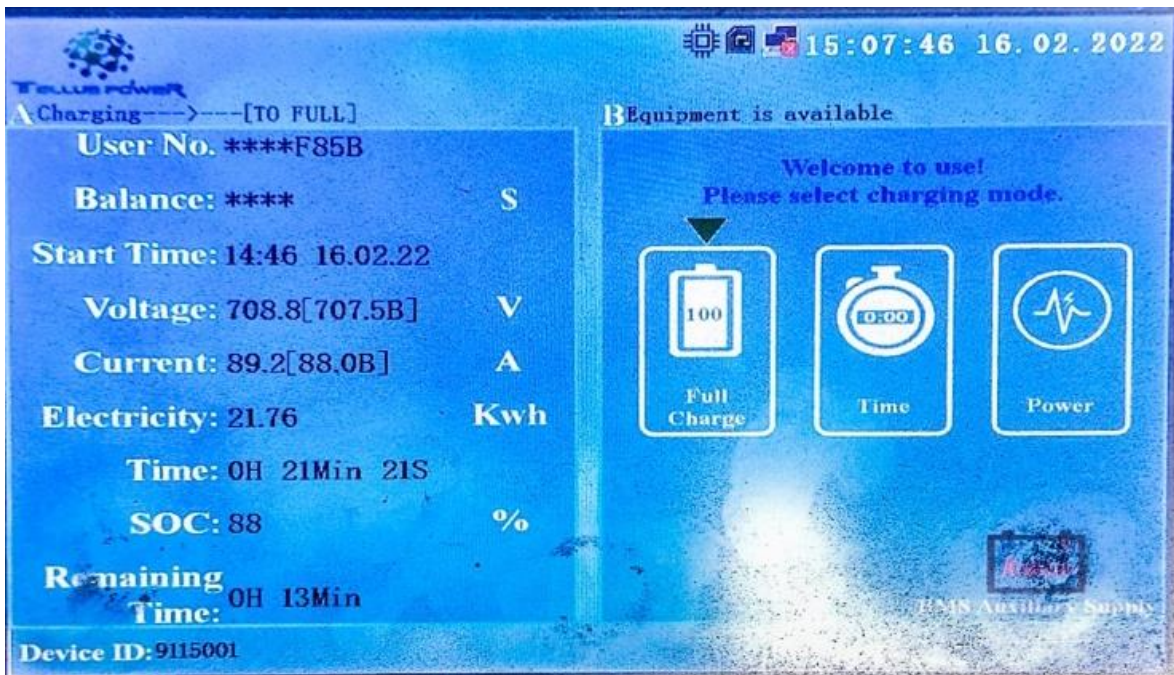


Fig. 2.6: Screen of DC fast charger while charging 2

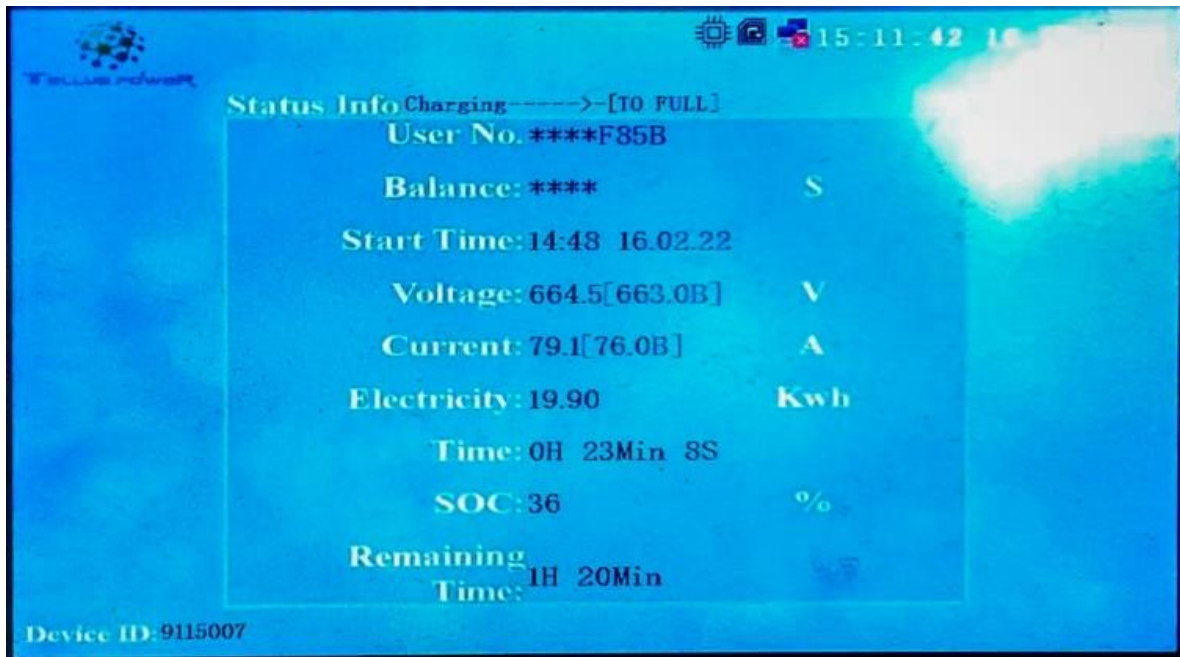


Fig. 2.7: Screen of DC slow charger while charging 1

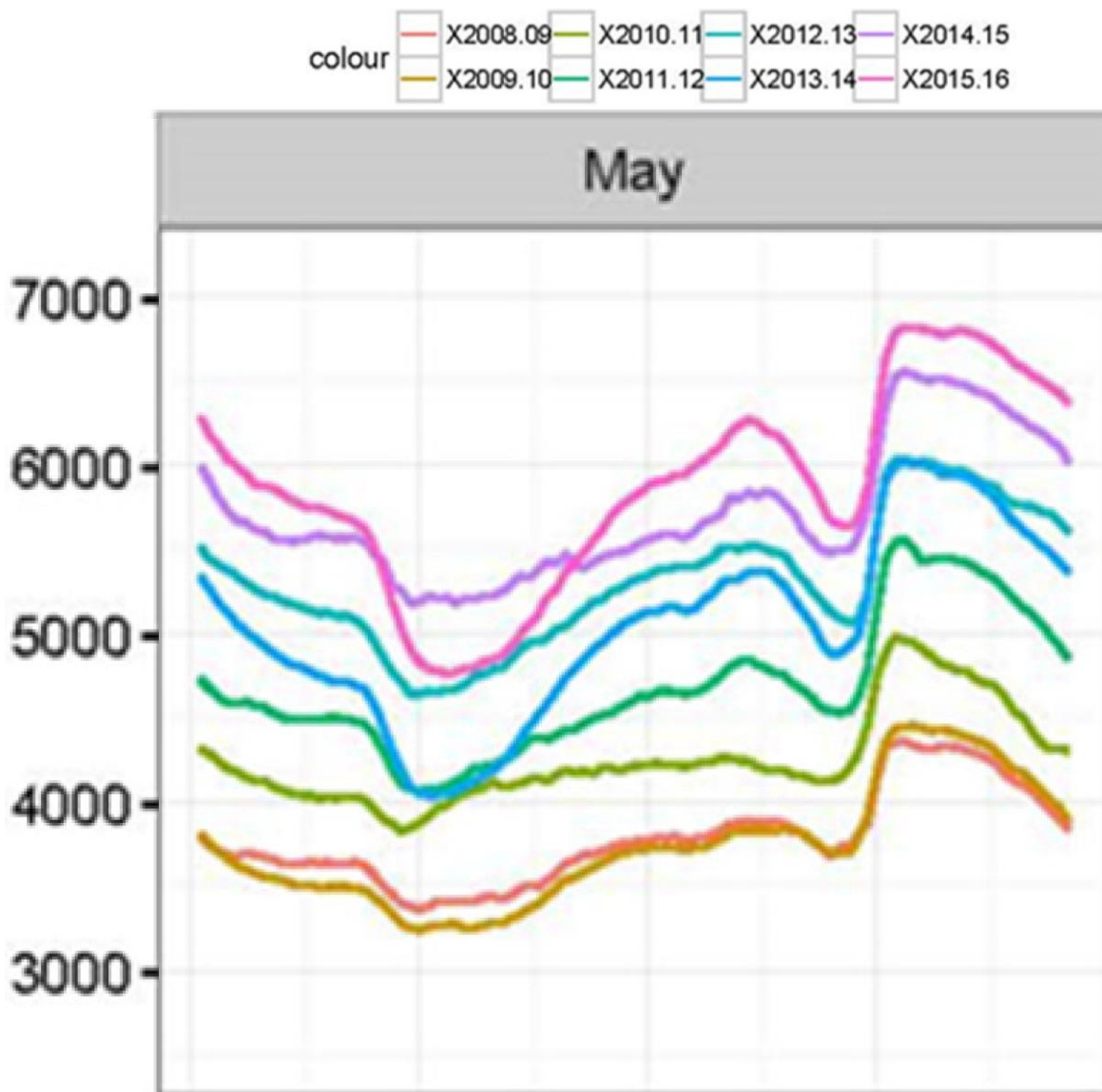


Fig. 2.8: Screen of DC slow charger while charging 2

**2.1.7 Passenger transport scenario :** As per latest Road Transport Year Book 2017-18 & 2018-19 , Kolkata having total 342119 number two wheeler , 6189 number of buses , 52354 number of three wheelers and 20760 number of four wheelers registered till 2017 , combining all respective types of vehicle shown in annexure *Table A1,Table A2*.

## 2.2 Power industry in Kolkata

**2.2.1 Load curve :** Year wise load curve of West Bengal for 2008 to 2015 has been collected for the month of May in *fig. 2.9*. from electricity demand pattern analysis POSOCO 2016 release , to forecast the demand for 2021 to 2030. For Kolkata it is nearly one fifth of the total energy demand.



*Fig. 2.9: Year wise load curve of West Bengal*

### 3.1 Vehicle number prediction

In this study we want to determine the upcoming demand due to EV in Kolkata only. For that we need to know how many fleet will convert into EV every year. But we don't have sufficient source of data except the road transport year book of every year. However in Road transport year books we get vehicle sales & production data for India as a whole . So, we have used category wise number of registered vehicle data from road transport year books , Kolkata as a million plus city. There is no data available for year 2020,2021 and 2018,2019 data are ignored because of being exactly same with 2017. Here data of road transport year books have been used from 2007 to 2017 as historical data and newly registered vehicle in every vehicle category(except bus) are predicted from 2021 to 2030 using forecast sheet in MS Excel , which gives a linear predictive result , equal growth for every year. For bus we calculated total number of bus fleet of nearly 21009 considering 17,507,500 population[21] of Kolkata in 2030 and 1.2 number of bus needed for every 1000 population [20] and distributed increment equally for every year (2021-2030) . However those historical data's are yearly cumulative of (existing+newly registered-old curbed) , which we considered as yearly cumulative of (existing+ newly registered) vehicle , as we did not find any source to remove curbed vehicle data. Due to lack of categorized data , Scooters, mopeds, motor cycles are merged under two wheeler. Stage carriage , contract carriage , private service , others buses are merged under Buses. Motor cab , maxi cab & other taxi are merged under taxis. Three seaters & 4-6 seaters are merged under light motor vehicles passenger auto. However passenger transport vehicles are only considered , no goods vehicle is considered. So, Every year number of newly registered two wheeler , bus , four wheeler & three wheeler will be 23113, 1140, 2681& 819 respectively, which are shown in *Table A3* of annexure.

### 3.2 Electric conversion

Here we are considering Global EV outlook by IEA which is to meet the 30% EV sales target till 2030. We considered certain percentage of newly registered vehicle will become EV starting from 2021 to 2030.

e2w = Scooters, mopeds, motor cycles

e3w = Light motor vehicle(passenger auto)(3seaters,4-6seater)

e-bus = Stage carriage , contract carriage , private service , others buses

e4w = Motor cab , maxi cab & other taxi

So, the percentage conversion goes like this,

Conversion of E2w/E3w/E4w for year (2020+X) = (X\*3)% . Whereas Conversion for e-bus for year (2020+X) = (X\*10)% ; X = {1,2,3,4,5,6,7,8,9,10}

Here we have considered all the existing EV before 2021 included inside 2021 conversion percentage. For E2w , E3w ,E4w the starting & incremental conversion rate are same 3% which touches 30% of newly registered vehicle till 2030. However , we have considered 10% increment every year for e-bus touching 100% of newly registered bus to be EV till 2030 as West Bengal government promises for all WBTC fleet to be electrified till 2030.

### 3.3 Demand projection

For Calculating daily electric energy demand due to each different type of EV , we used the base formula, denoting newly added daily energy demand on present year by  $T_{xy}$  , Daily avg. travelled kilometer by  $D_{xy}$  , vehicle sp.energy consumption(kwh/km) by  $E_{xy}$  , total number of vehicle by  $N_{xy}$  and Total cumulative daily energy demand of a selected vehicle type on that year by  $TC_{xy}$

$$T_{xy} = N_{xy} * D_{xy} * E_{xy}$$

x denoting vehicle types = e2w/ e3w /e4w / e-bus

y denoting the year,  $2021 \leq y \leq 2030$

sp. energy consumption(kwh/km) for e2w,e3w is taken from [19] and for e4w is taken from [3]. However for buses sp.energy consumption is calculated from the data collected from WBTC Howrah depo electric bus charging station which are available in *Table A6* of annexure.

We considered that every upcoming year , new vehicle's sp.energy consumption will reduce by 1% due to technological improvement & reduction in Transmission & Distribution losses. However we also assumed that every passing year sp.energy consumption will increase by 1% due to battery degradation for existing vehicles. So, the expression becomes,

$$TC_{xy} = \sum_{n=0}^9 N_x(y-n) * D_x(y-n) * E_x(y-n) * (100+n)\%$$

Where , n= {0,1,2,3,5,6,7,8,9}

{ $N_x(y-n)$  ,  $D_x(y-n)$  ,  $E_x(y-n)$ } = 0 , if  $2021 > (y-n) > 2030$

And result data have been referred in *Table A7* for e2w, *Table A8* for e3w, *Table A9* for e-bus and *Table A10* for e4w in annexure.

### 3.4 Scheduling

The electric energy demand we get from  $T_{Ce-bus}$  is the demand of the whole day for e-bus, so, it has to be distributed throughout the 24 hours. For e-bus, a charging station consists of 6 single plug 60kw slow charger and a two plug 120kw fast charger. So, according to that energy delivering capacity denoted by  $T_{ch.st}$ , of a charging station is calculated for a single day.

We are considering that the chargers to be operable all day & night, A 90 minute cycle is considered with 84 minute of charging and 6 minutes (0.1 hour) of unplugging or vehicle swapping. So, there will be 14 cycle of 90 minutes for a single charging port throughout the whole day considering no charging will take place between 6 p.m to 9 p.m (3 hr.) as this is the peak demand time.

Number of full cycles in a day =  $((24-3)*60)/90 = 14$  full cycle

So, the charging will truly active for =  $\{(24-(12*0.1))-3\} = 19.8$  hr.

A fast charging plug can deliver energy in a day =  $(19.8*60*1.04333) = 1239.47$  kWh

And a slow charging plug can deliver energy in a day =  $(19.8*60*0.87333) = 1037.51$  kWh

So, one charging station (6 slow charging plug + 2 fast charging plug) can deliver energy in a day,  $T_{ch.st} = \{(6*1037.51)+(2*1239.47)\} = 8704$  kWh

Then required whole charging station is calculated using  $(T_{Ce-bus} / T_{ch.st})$  where whole number representing whole charging station and decimal denoting standalone charging port not belonging to charging station referred in *Table A14* of annexure. However those standalone charging ports collectively act like incomplete charging station. Here we are considering an intermittent constant demand. We are not considering depth of discharge for e-bus. Charging in a station is assumed to be scheduled such a way that in 90 minute cycle unplugging operation does not coincide with another port of that station. And this 90 minute cycle repeat for 24 hours for all charging stations. So, naming slow chargers  $S1$  upto  $S6$  and fast chargers  $F1, F2$  and every 6 minute interval as

$U$ . A 90 minute cycle having  $15U$ . A whole charging station charging scheduled like this , in fig. 2.10

$$\begin{bmatrix} U \\ 2U \\ 3U \\ 4U \\ 5U \\ 6U \\ 7U \\ 8U \\ 9U \\ 10U \\ 11U \\ 12U \\ 13U \\ 14U \\ 15U \\ 16U \end{bmatrix} = \begin{bmatrix} 0 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ S1 \\ 0 \end{bmatrix} + \begin{bmatrix} S2 \\ 0 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \\ S2 \end{bmatrix} + \begin{bmatrix} S3 \\ S3 \\ 0 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \\ S3 \end{bmatrix} + \begin{bmatrix} S4 \\ S4 \\ S4 \\ 0 \\ S4 \\ S4 \\ S4 \\ S4 \\ S4 \\ S4 \\ S4 \\ S4 \\ S4 \\ S4 \\ S4 \\ S4 \end{bmatrix} + \begin{bmatrix} S5 \\ S5 \\ S5 \\ S5 \\ 0 \\ S5 \\ S5 \\ S5 \\ S5 \\ S5 \\ S5 \\ S5 \\ S5 \\ S5 \\ S5 \\ S5 \end{bmatrix} + \begin{bmatrix} S6 \\ S6 \\ S6 \\ S6 \\ S6 \\ 0 \\ S6 \\ S6 \\ S6 \\ S6 \\ S6 \\ S6 \\ S6 \\ S6 \\ S6 \\ S6 \end{bmatrix} + \begin{bmatrix} F1 \\ F1 \\ F1 \\ F1 \\ F1 \\ F1 \\ 0 \\ F1 \\ F1 \\ F1 \\ F1 \\ F1 \\ F1 \\ F1 \\ F1 \\ F1 \end{bmatrix} + \begin{bmatrix} F2 \\ F2 \\ F2 \\ F2 \\ F2 \\ F2 \\ F2 \\ 0 \\ F2 \\ F2 \\ F2 \\ F2 \\ F2 \\ F2 \\ F2 \\ F2 \end{bmatrix}$$

Fig. 2.10: Simplified representation of One full cycle of e-bus charge scheduling

From 1<sup>st</sup> interval which starts at 12 A.M to 8<sup>th</sup> interval , corresponding interval numbered charging plug stay in unplugged condition. From 9<sup>th</sup> interval onwards up to 15<sup>th</sup> interval all charging plug will be charging. And this 15 interval cycle repeats itself all over the day. All charging station follow the same order of charging. In case of standalone charging station , they also follow the same pattern of charging as they collectively act like an incomplete charging station. Charge scheduling for every year has been shown in annexure Table A15 to Table A24 for the year 2021 to 2030 respectively.

Scheduling of e-bus is possible because of direct and indirect govt. influence . However , e2w,e4w are completely private influenced and e3w having their association influenced. For e-bus ,load has been calculated based on how long a charging port remains busy because here one charging port serving multiple e-bus . But in case of e3w , e2w , and e4w every single vehicle having their own charging adapter .So, For e3w , e2w , and e4w we are considering average travelled range covered and the need of charging in home charging over quick charging. However , for e2w, e3w, e4w 80% depth of discharge is considered , so, battery capacity becomes 80% of original capacity. From daily average travelled kilometer and practical sp. energy consumption data ,daily required SOC is calculated for e2w, e3w ,e4w in Table A11, Table A12, Table A13 of annexure respectively which is briefly represented in Table 2.1.

So, required SOC per day = (daily average travelled kilometer\*sp.energy consumption(kwh/km))/ battery capacity

Table 2.1: Daily SOC requirement

Vehicle type	Daily avg. travelled km	Daily required SOC (rounded off)	Daytime SOC charging	Night time SOC charging	Leftover SOC before night time charging
E2w	24	32%	0	64%	36%
E3w	100	128%	48%	80%	20%
E4w	150	102%	22%	80%	20%

For e2w, It is considered that e2w will charge at home at night from leftover SOC till 100% SOC on every 3<sup>rd</sup> day keeping in mind their daily average travelled kilometer is 24 which is required nearly 32% SOC. So , only 1/2 of total e2w fleet is considered as everyday charging load and no day time charging is considered. Night time charging is normally distributed in *Table A27* of annexure ,with mean = 22 p.m , sigma = 0.5 and  $\pm 3$  sigma is considered because it covers 99.73% population. However, the Cumulative distribution will decrease from its 100% population as by the time vehicles charging gets completed gradually , eventually the population came down likely how the population rose.

For e3w, It is considered that a e3w will charge at home at night from leftover SOC till 100% SOC every day keeping in mind their daily average travelled kilometer is 100 km which require nearly 128% SOC. Since 100% SOC cannot serve daily average travelled kilometer , so , another home charging is scheduled at afternoon along with night time home charging and distributed normally. For night time, normal distribution done with mean = 23 p.m. , sigma = 0.5 shown in *Table A26* of annexure. For day time, normal distribution is done with mean = 15 p.m. , sigma = 0.2 shown in *Table A25* of annexure. In both cases  $\pm 3$  sigma is considered because it covers 99.73% population. However, for both time ,the Cumulative distribution will decrease from its 100% population as by the time vehicles charging gets completed gradually , eventually the population came down likely how the population rose. Whole e3w fleet load is considered for night time & day time charging.

For, e4w, It is considered that a e4w will charge at home at night from leftover SOC till 100% SOC every day keeping in mind their daily average travelled kilometer is 150 km which require nearly 102% SOC. Since 100% SOC cannot serve daily average travelled kilometer, so, two other charging are scheduled with half of total fleet population, one at the beginning of 1<sup>st</sup> half & another on the beginning of 2<sup>nd</sup> half along with night time home charging and distributed normally. For night time, normal distribution done with mean = 22 p.m., sigma = 0.5 referred in *Table A28* of annexure. For day time, normal distribution is done with mean = 9.5 p.m., sigma = 0.2 for the first half and mean = 13.5 p.m., sigma = 0.2 for the second half referred in *Table A29* of annexure. In both cases  $\pm 3$  sigma is considered because it covers 99.73% population. However, for both time, the Cumulative distribution will decrease from its 100% population as by the time vehicles charging gets completed gradually, eventually the population came down likely how the population rose. Whole e4w fleet load is considered for night time & day time charging.

With every passing year, required SOC will decrease by little percentage. Resulting into, upto 2-3 minute of less loading time in 2030. So, it is ignored and required SOC for year 2021 is considered for every upcoming year for load scheduling.

### 3.5 Load Calculation

Here we have calculated load based on their charging time and battery capacity, means load = (battery capacity or electricity consumption)/time taken. For electric bus video footage has been taken for both slow and fast chargers, from there load has been calculated. For electric two wheeler, three wheeler and four wheeler same approach has been taken based on the data available by the company with consideration of 80% depth of discharge, shown in *Table 2.2*.

*Table 2.2 : Load calculation of different EVs*

Charger	Battery capacity / energy consumed	Time taken	Load(kW)
e-bus DC fast charger	3.13 kWh consumed	3 min	62.6
e-bus DC slow charger	2.62 kWh consumed	3 min	52.4
E2w home charger	3.176 kWh battery @80% DOD	6 hr. 30 min	0.4886
E3w home charger	5.896 kWh battery @80% DOD	3 hr. 50 min	1.538
E4w home charger	80% of 24.16kWh battery @80% DOD	8 hr. 30 min	2.2738

### 3.6 Load curve

As demand curve of Kolkata is almost  $1/5^{\text{th}}$  of total West Bengal's demand . So, data of West Bengal demand curve obtained from POSOCO is divided with 5 to make it equivalent Kolkata demand. A linear forecasted growth in demand is projected till 2030 in MS EXCEL referred in *Table A31* of annexure, using historical demand data from 2008 to 2016 in the month of may shown in *fig. 2.9*, as it is the hottest month having high demand . Historical data points of demand has been collected using an online software WebPlotDigitizer and rescaled to their nearest axis value in MATLAB. Then total demand from e2w,e3w,e4w,e-bus combined is aligned with daily demand curve from 2021 to 2030 for the month of may in MS EXCEL shown in *fig. 3.6*.

## Chapter 3

# Results

Using previously described methodology , the results have been represented graphically , followed by their respective calculations and tables in annexure.

*Figure 3.1.* Represents how the load due to electric two wheeler will increase every year with increasing market share. So, during night, when half of the fleet will be charging, the peak load will be 169.23 kW in 2021 , all the way upto 9316.86 kW in 2030 shown in annexure Table A27. However there is no daytime charging.

In *fig. 3.2.* load due to electric three wheeler have been showing that two times charging are scheduled one is daytime, another is night time. In both cases the whole vehicle fleet is charging with the peak load of 38.39 kW in 2021 , all the way upto 2076.57 kW in 2030 shown in Table A25,A26 of annexure.

In *fig 3.3.* Charging of electric four wheeler scheduled thrice a day , one in night time with whole fleet with the peak load of 181.90 kW in 2021 , all the way upto 10057.01 kW in 2030 and another two with half of the fleet at the beginning of first half and second half with the peak load of 90.95 kW in 2021 , all the way upto 5028.50 kW in 2030 shown in Table A28,29 of annexure.

In *fig 3.4.* load due to electric bus keep increasing every year with increasing market share has been represented. Charging is scheduled for all over the day except 6 a.m. to 9 p.m. which giving output like a trapezoidal waveform with the peak load of 931.6 kW in 2021 , all the way upto 56938.4 kW in 2030 shown in Table A15 to Table A24 for year 2021 to 2030 respectively.

Whereas in *fig 3.5.* Total load due to all types of EV have been shown which also looks like a trapezoidal waveform , reflecting high influence of e-bus load. So, all types of EV combined ,the peak load in 2021 is 1.3206 MW , all the way upto 78.3581 MW in 2030 which are referred in annexure *Table A32 to Table A41.*

Year wise demand of Kolkata excluding EV demand has been projected from year 2021 to year 2030 in *fig 3.6.*

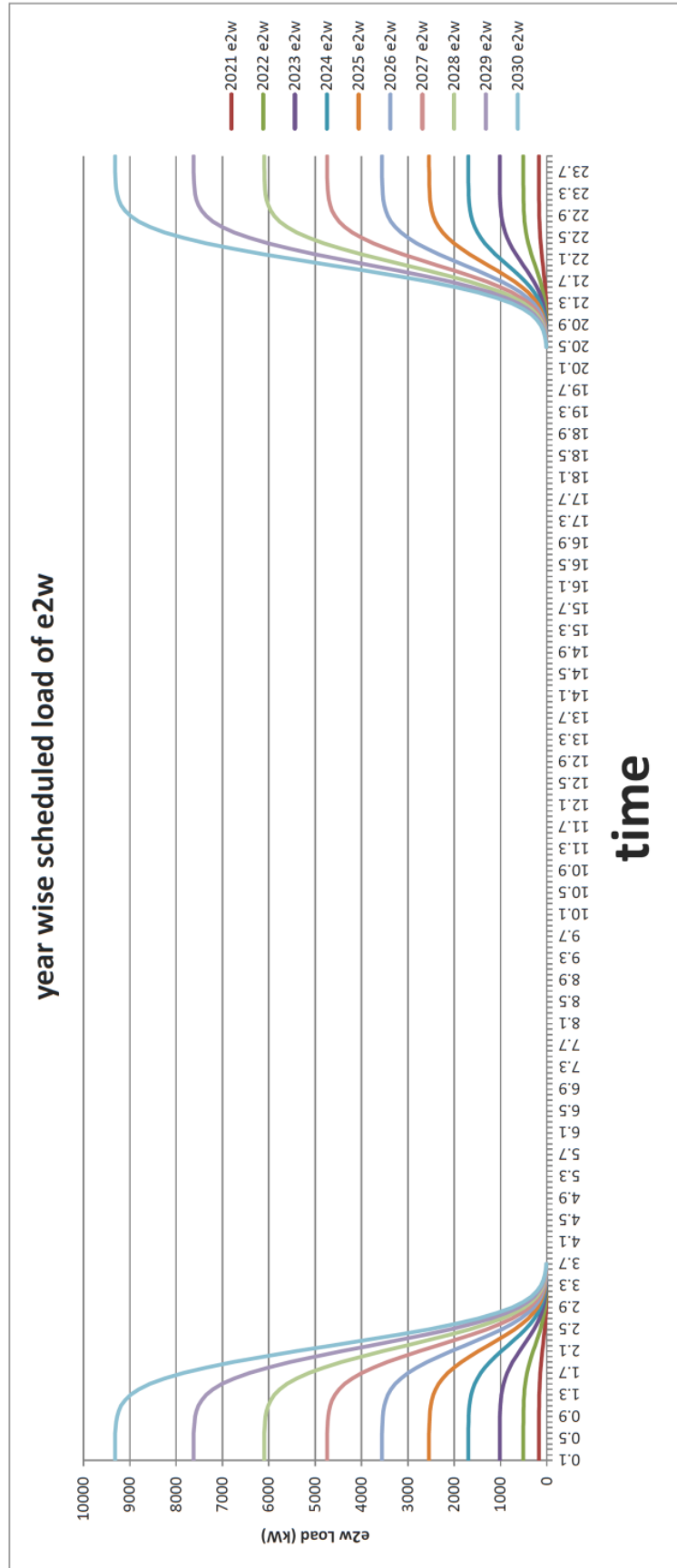


Fig. 3.1: Year wise 24 hour load scheduling of e2w

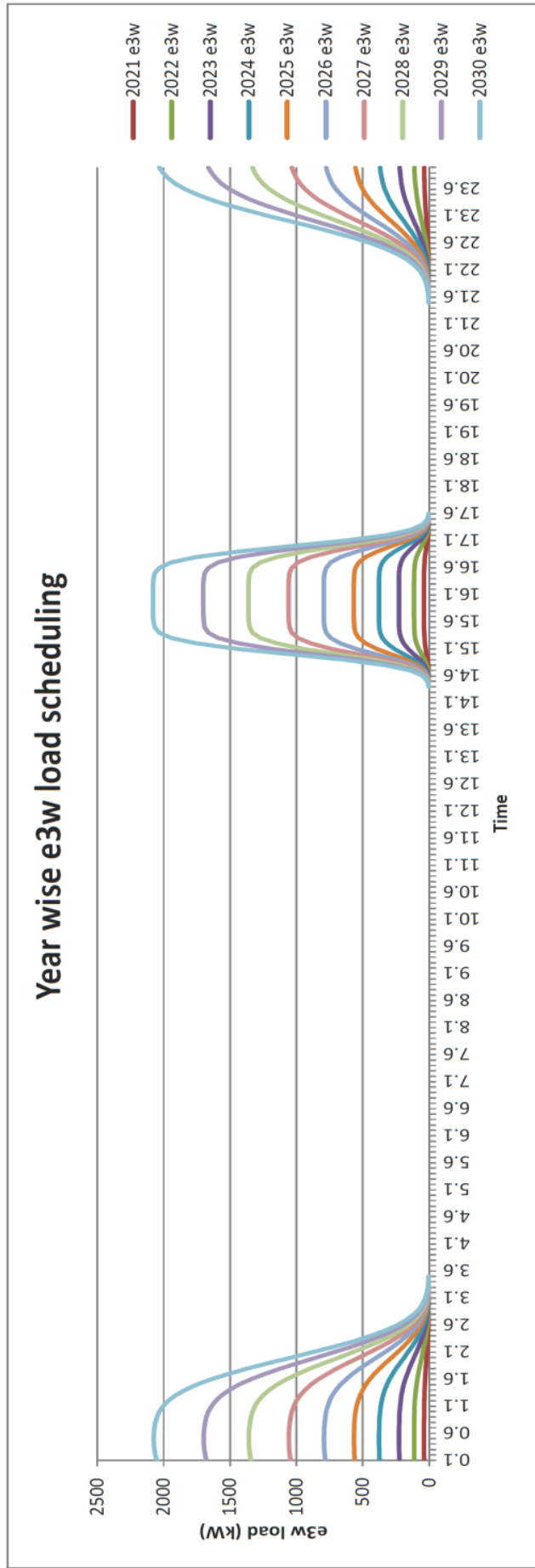


Fig. 3.2: Year wise 24 hour load scheduling of e3w

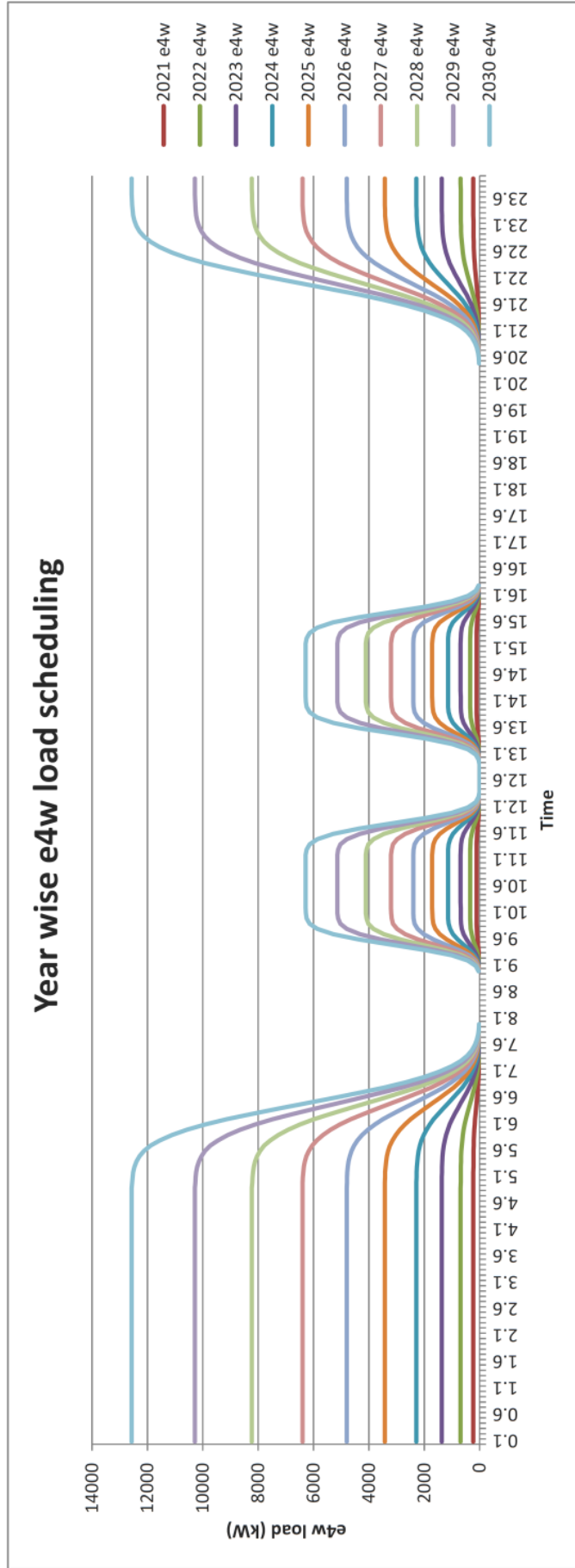
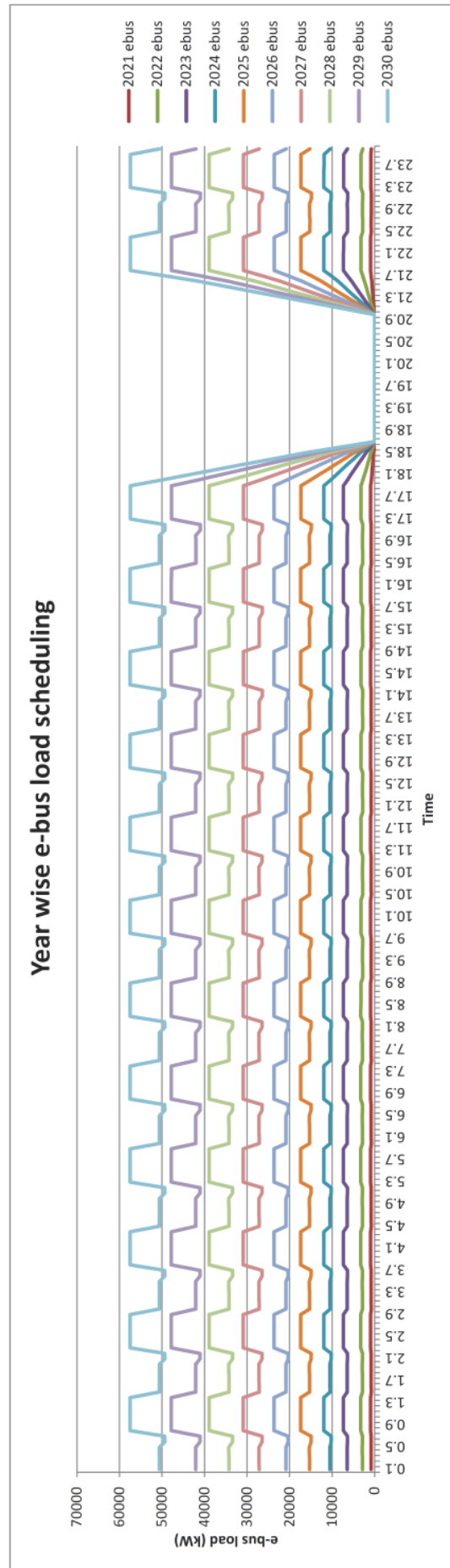
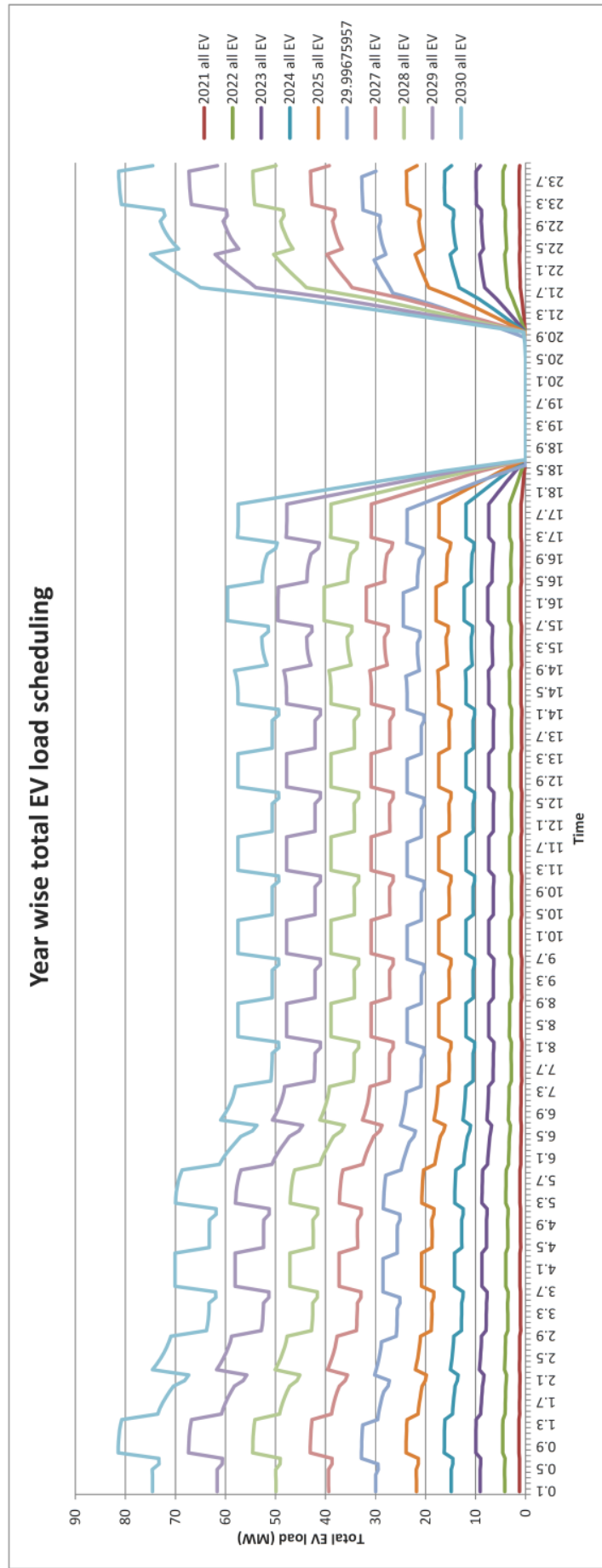


Fig. 3.3: Year wise 24 hour load scheduling of e4w



*Fig.3.4: Year wise 24 hour load scheduling of e-bus*



*Fig.3.5: Year wise 24 hour load scheduling of all EV combined*

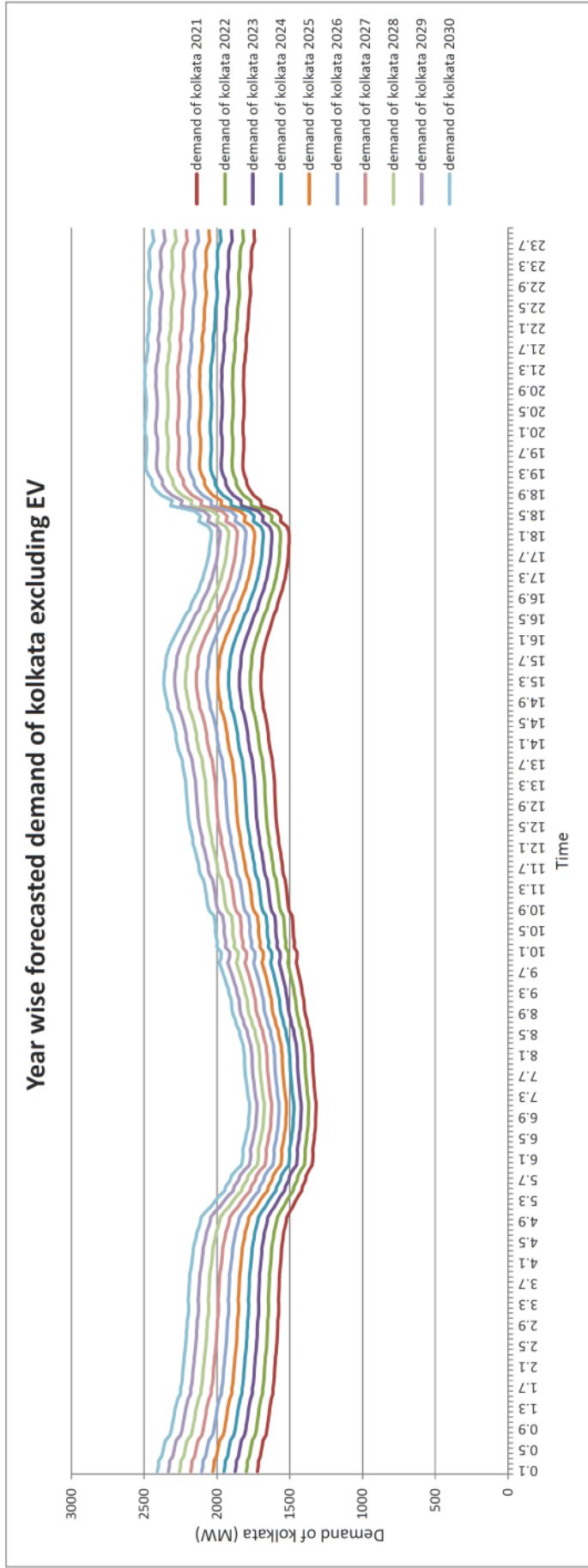


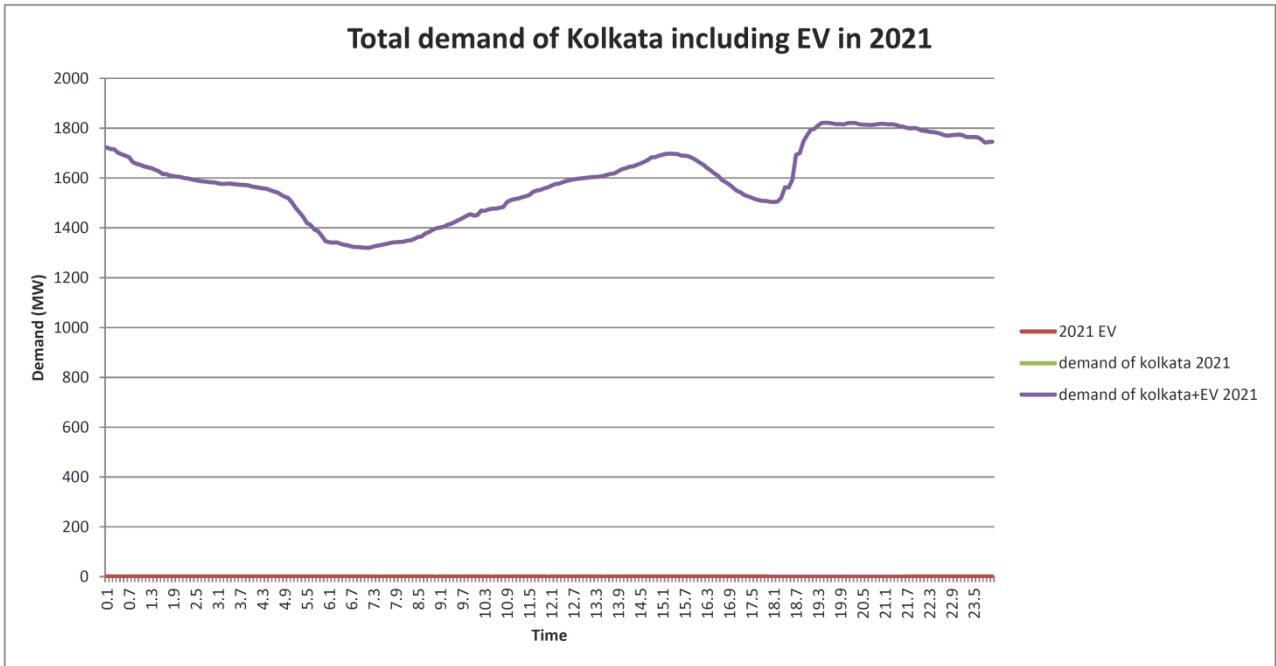
Fig. 3.6: Forecasted demand of Kolkata excluding EV, using historical data

Year wise EV demand with comparison of total load of Kolkata are shown in *Table 3.1*. In year 2021 EV energy demand was only 21.08 MWh in a day which later sought up to 1281.45 MWh in day in 2030.

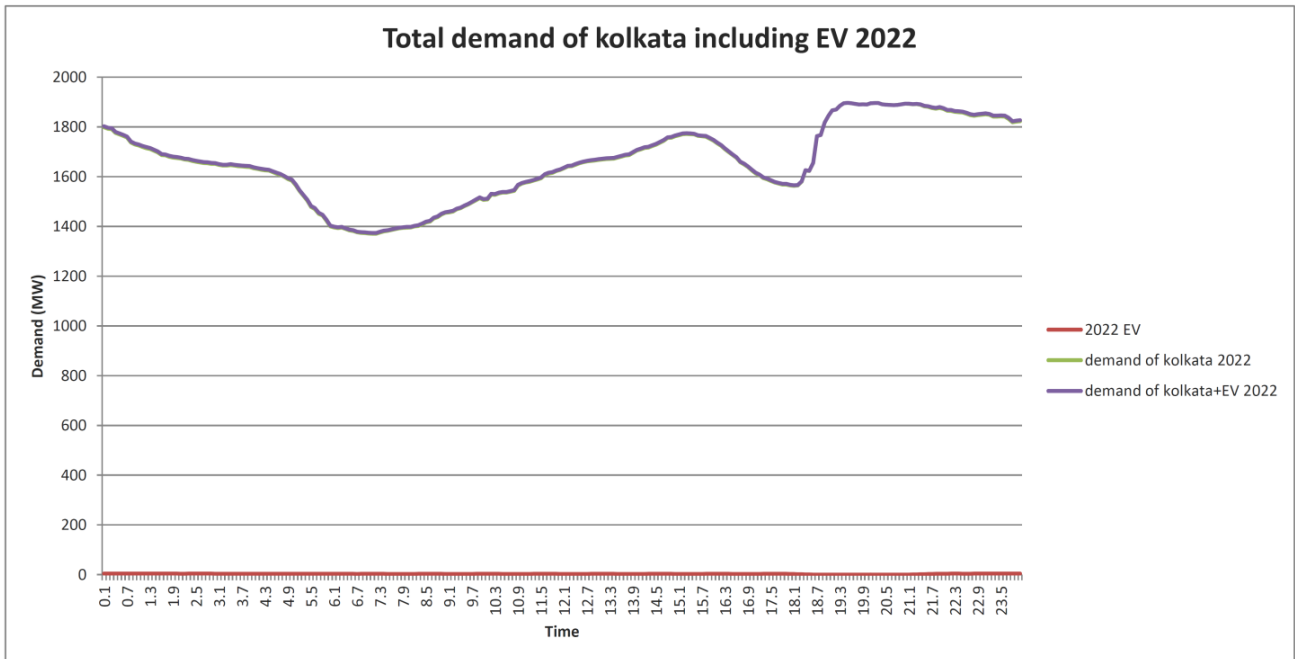
*Table 3.1: Comparison of year wise EV demand*

year	calculated demand from all EV				projected demand of kolkata excluding EV	Total demand of kolkata+EV
	before scheduling(MWh)	after schedule(MWh)	accuracy %	error %		
2021	21.08182197	20.92773714	99.26911047	0.730889533	38195.39669	38216.32443
2022	81.06441007	80.42687862	99.21354951	0.786450492	39792.47565	39872.90253
2023	161.5255533	160.3103972	99.24770042	0.752299582	41389.55461	41549.865
2024	262.2781565	260.4100402	99.28773468	0.712265316	42986.63356	43247.0436
2025	383.1018273	380.5518603	99.33438923	0.665610772	44583.71252	44964.26438
2026	523.8122118	520.5488187	99.37699178	0.62300822	46180.79148	46701.3403
2027	684.1952563	678.5050603	99.1683374	0.831662601	47777.87044	48456.3755
2028	864.0532895	858.538639	99.36176963	0.638230375	49374.94939	50233.48803
2029	1063.208385	1058.063182	99.51606825	0.483931747	50972.02835	52030.09153
2030	1281.450951	1276.143342	99.58581259	0.414187408	52569.10731	53845.25065

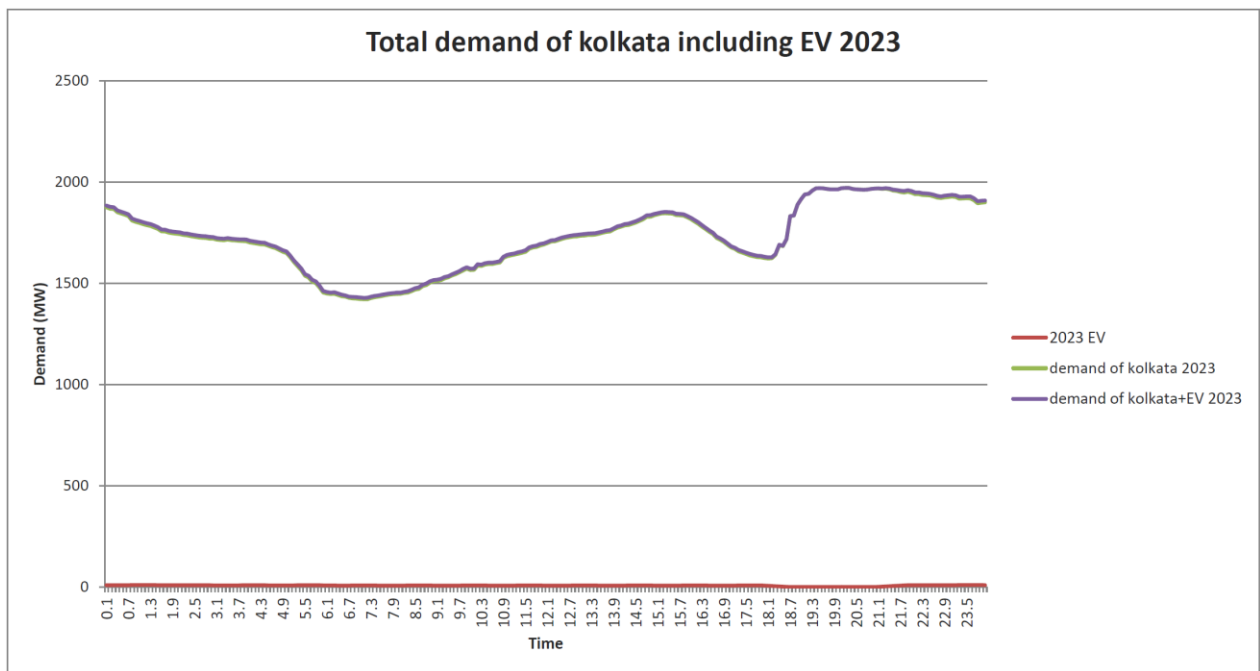
From these *fig 3.7. to fig 3.11.* representing total demand of Kolkata including EV from 2021 to 2025 respectively, we can see that EV will not have that much of impact in the beginning years, where average load due to EV accounts for 0.05, 0.20, 0.38, 0.60, 0.84 percent of average total load of Kolkata respectively. However, we can see that in the next five years, 2026 to 2030, shown in *fig 3.12. to fig 3.16.* respectively, average load due to EV sought up to 1.11, 1.40, 1.70, 2.03, 2.37 percent of average total load of Kolkata respectively, high enough to have significant impact on load curve which are referred in annexure Table A32 to Table A41 for year 2021 to 2030 respectively



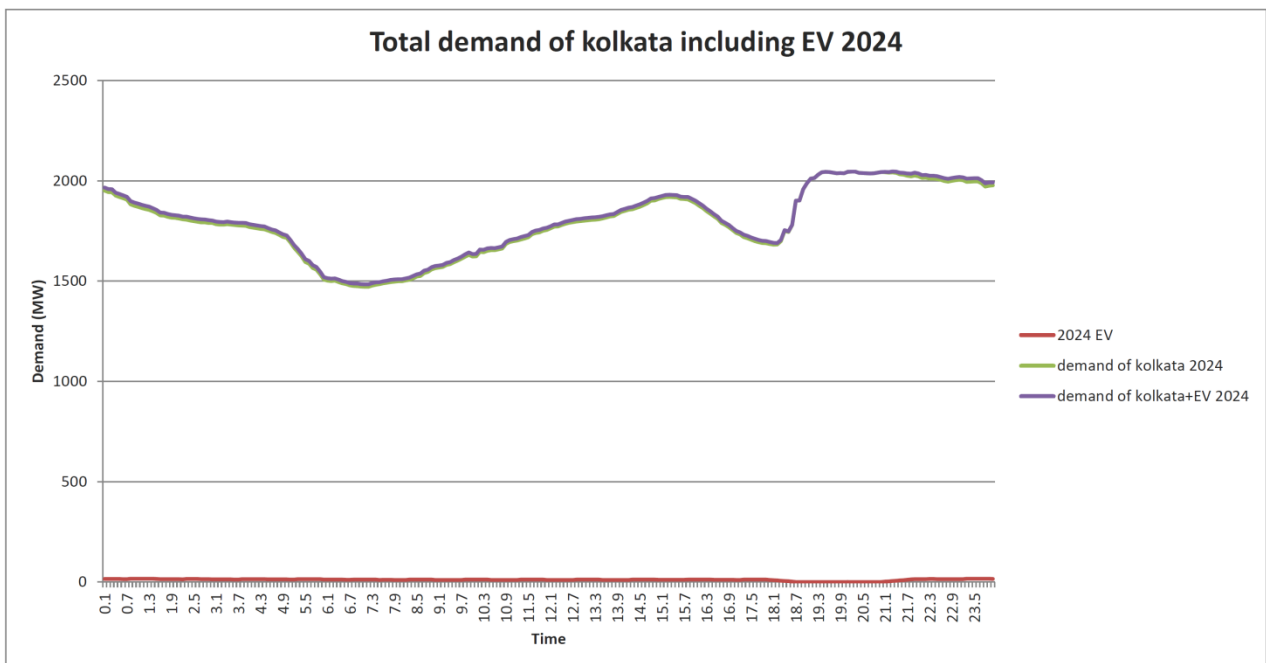
*Fig. 3.7: Total demand of Kolkata including EV in 2021*



*Fig. 3.8: Total demand of Kolkata including EV in 2022*



*Fig. 3.9: Total demand of Kolkata including EV in 2023*



*Fig. 3.10: Total demand of Kolkata including EV in 2024*

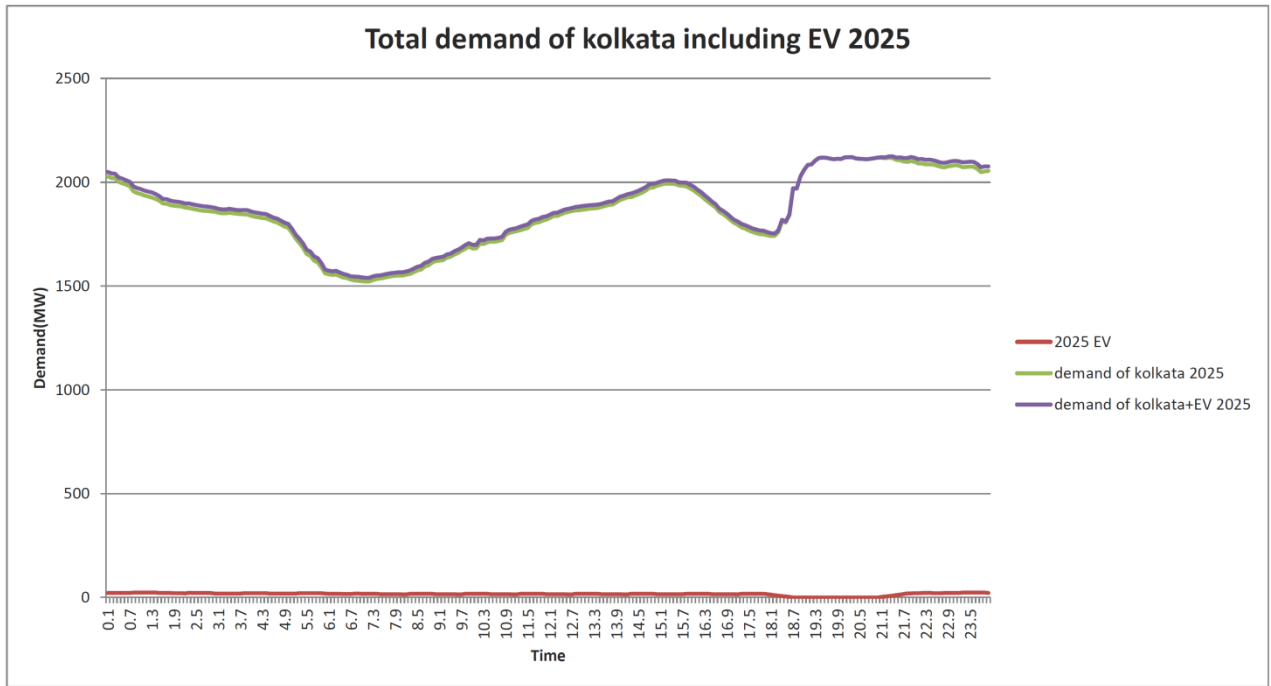


Fig. 3.11: Total demand of Kolkata including EV in 2025

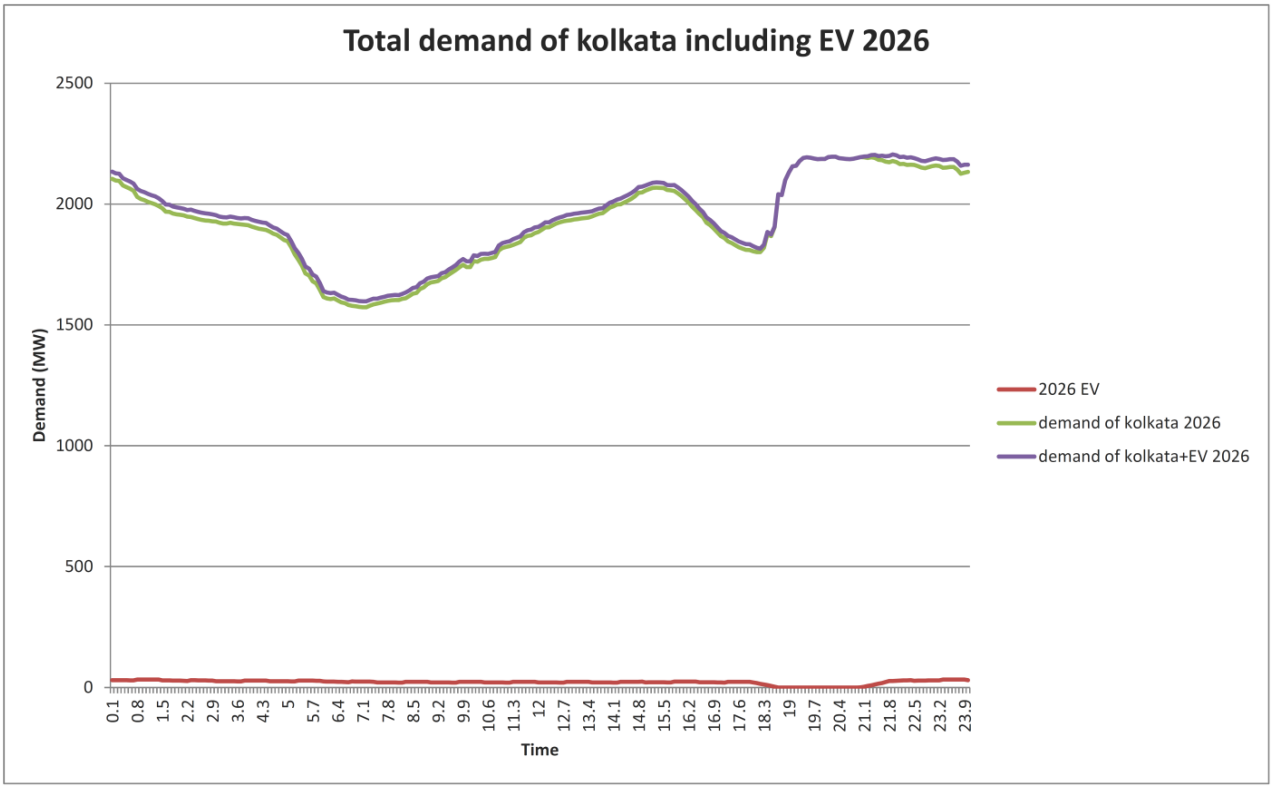
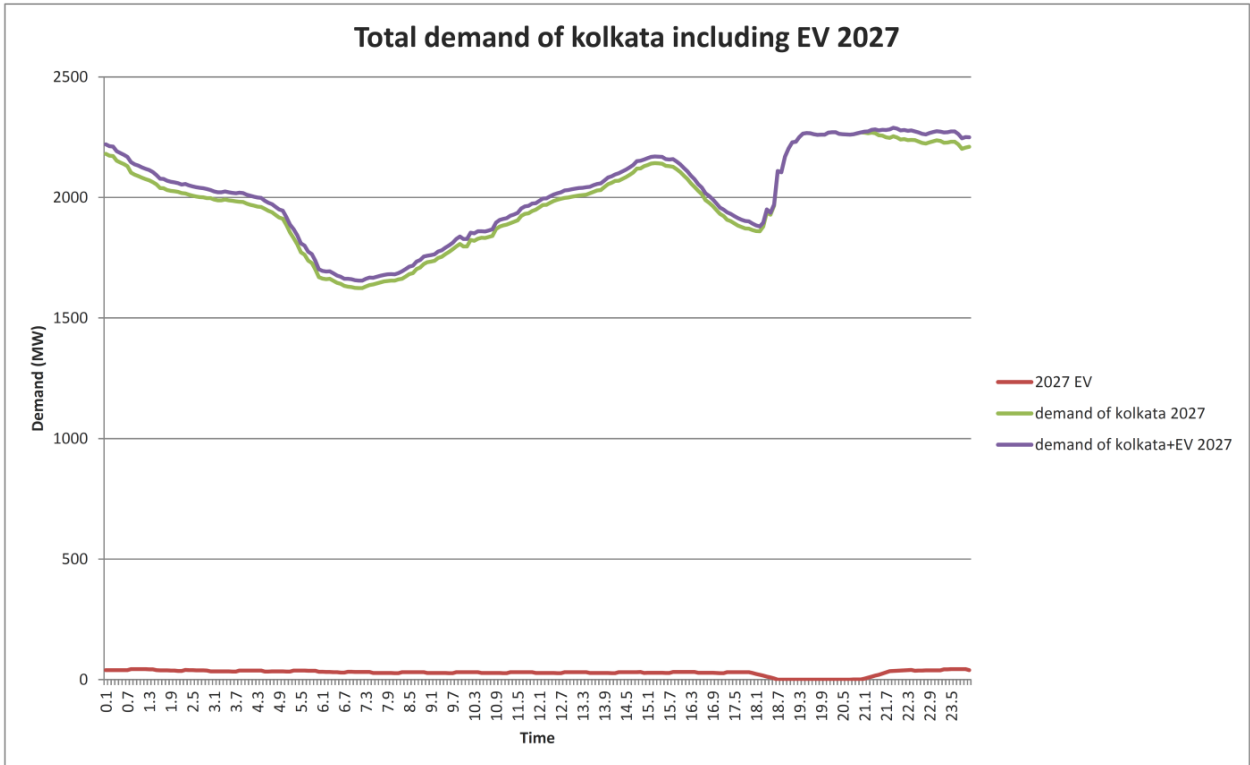
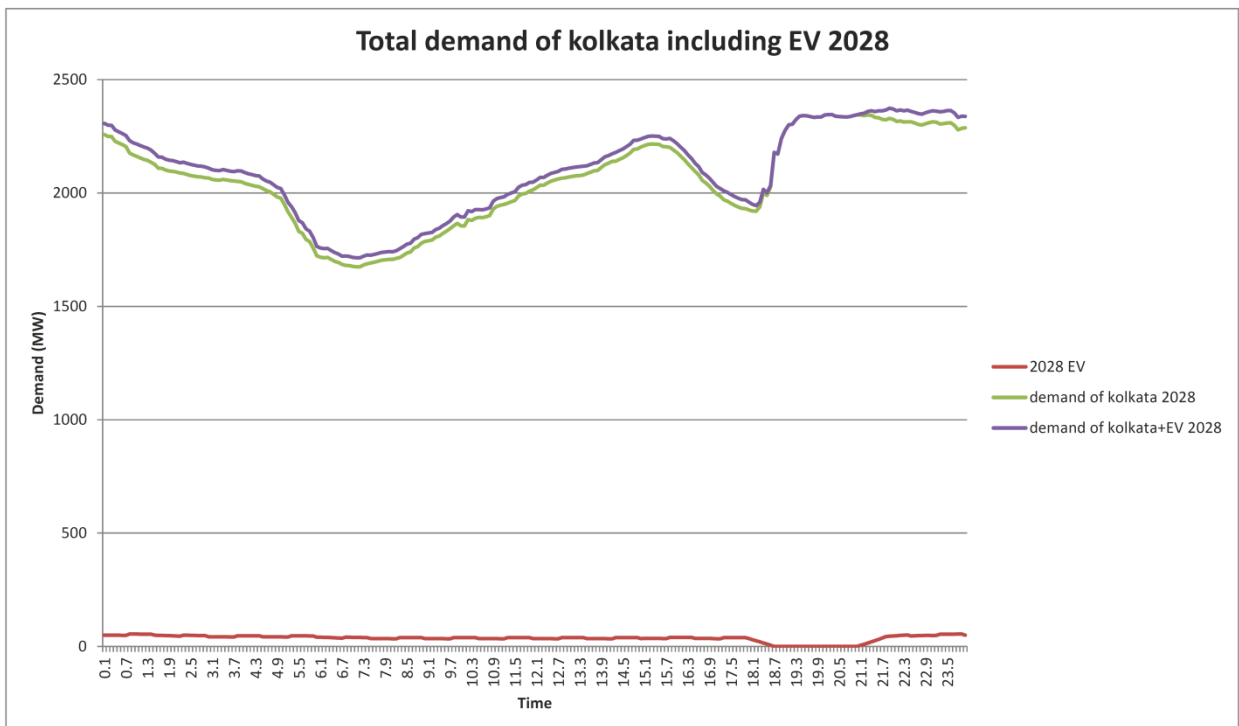


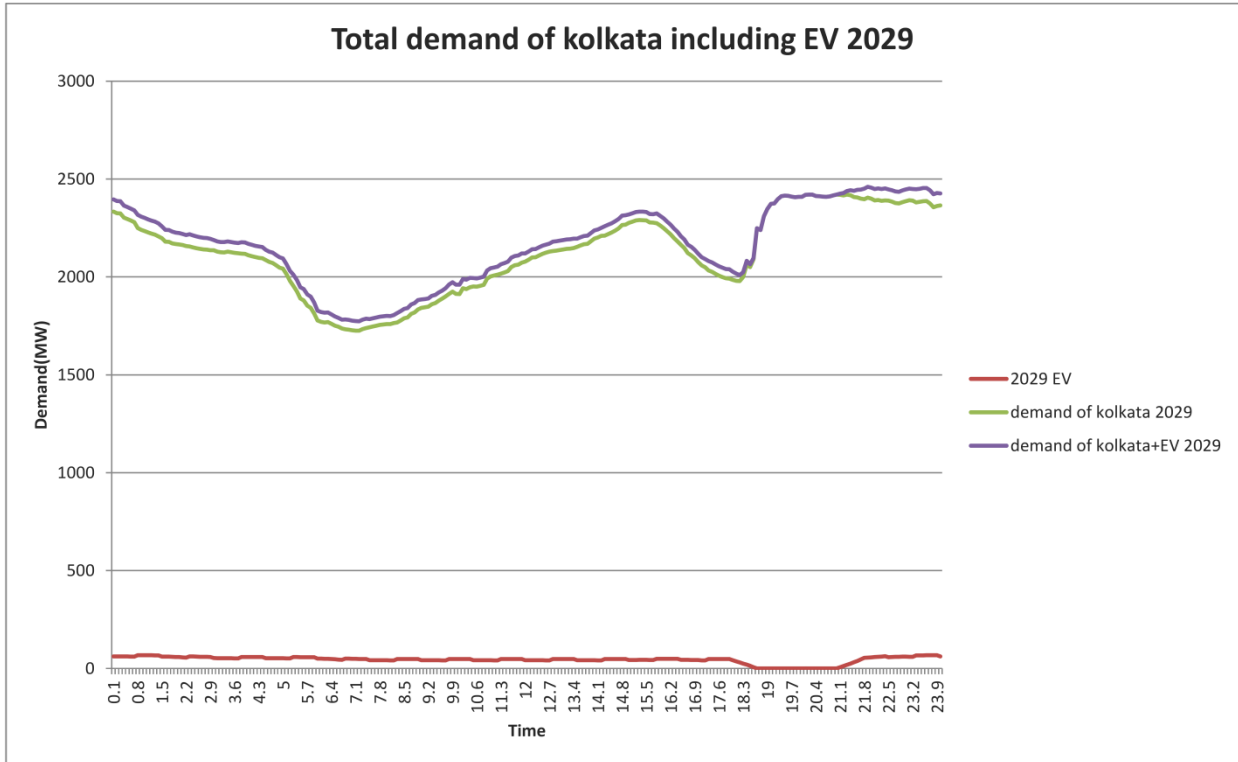
Fig. 3.12: Total demand of Kolkata including EV in 2026



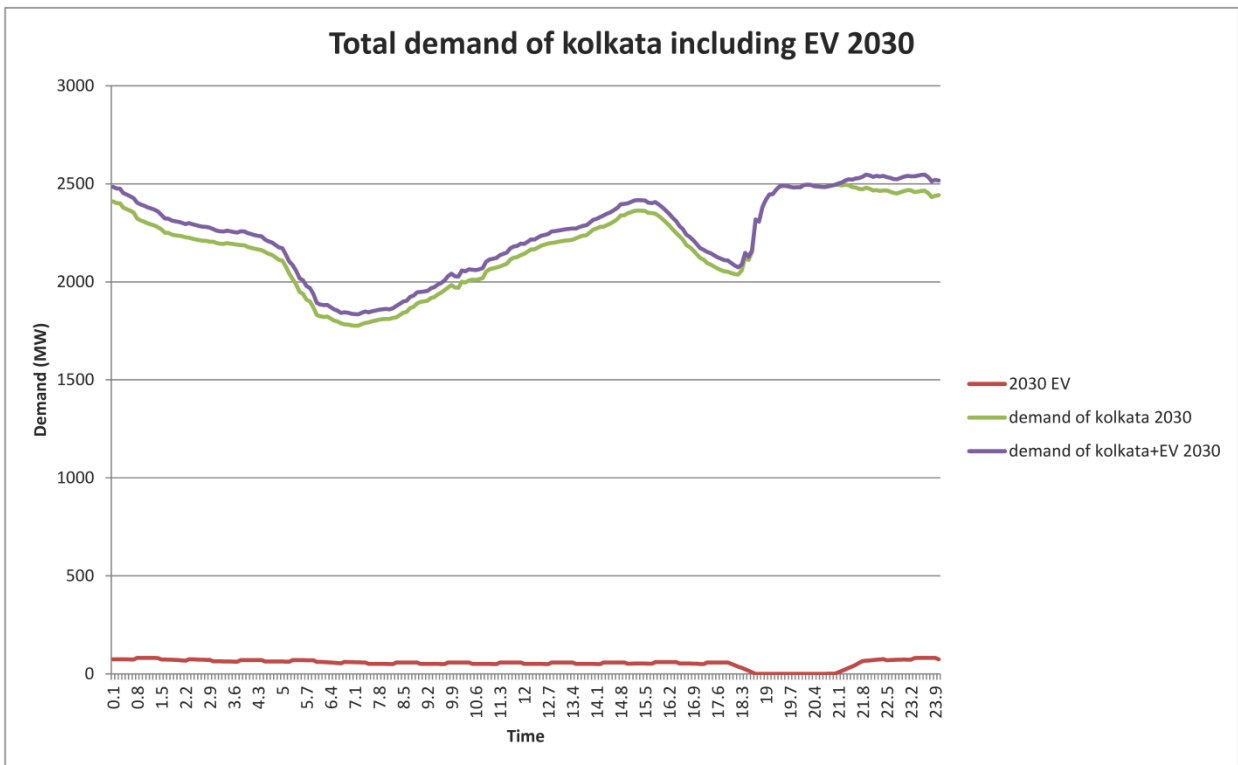
*Fig. 3.13: Total demand of Kolkata including EV in 2027*



*Fig. 3.14: Total demand of Kolkata including EV in 2028*



*Fig. 3.15: Total demand of Kolkata including EV in 2029*



*Fig. 3.16: Total demand of Kolkata including EV in 2030*

## Chapter 4

# Discussion

This study solely describes the situation of intra-city urban traffic condition which in this case is Kolkata . Rural and long route traffic condition is ignored.

For the data of number of registered vehicle of Kolkata , Road transport year books are considered which in this case , has the data upto 2017.

Here we have considered EV conversion percentage equally incrementing every year for every type of vehicle which in real scenario might be very slow at the beginning years and exponentially later on. All the electrically converted vehicles are considered to be battery electric vehicle. Hybrid plug-in electric vehicle , hydrogen fuel electric vehicle is ignored.

All the considered vehicles for load scheduling are the current best options available on market. Specific energy consumption of e-bus is calculated based on current consumption which operates with very less passengers now , that consumption might be getting an increase as e-bus becomes mainstream later on which is not considered. However every year reduction in sp. energy consumption due to technological improvement & less T&D loss is considered, also increase in sp. energy consumption due to battery degradation is considered for every type of EV.

However , for charge scheduling we don't have any idea about upcoming EV driving cycles and charging infrastructural advancement in Kolkata. So, scenarios of quick charging or battery swapping are totally ignored for charging. E-bus charging considered for 21x7 on current charging infrastructure, 6 p.m. to 9 p.m. is no charging period because of very high gradient in load curve. Rest of vehicles type are considered for night time charging and day time charging if required. But the on clock timing of e2w, e3w & e4w charging schedule is considered based on general behavioral observation.

We considered that rate of charge and load due to every single vehicle remains constant during whole charging which might not be the case in real life , where vehicle charges very fast at the beginning and gradually slows down with increasing SOC. However, 80% depth of discharge is considered for e2w,e3w and e4w.

Currently there is no different tariff system for EV charging , so , we also haven't considered this in our study. General electricity tariff is considered for cost analysis.

POSOCO haven't released their latest electricity demand pattern analysis , so , we have to rely on last 2016 release. We also considered the whole EV energy demand will be met by grid only , the grid energy mix will determine its viability. And vehicle to grid technology not considered anywhere.

## Chapter 5

# Economic impact

EV penetration in India will surely have economic impact on various way. A whole economy will build up around EV eco system , like electricity supplying companies , charging infrastructure companies , EV manufacturing companies, Battery and spare parts manufacturing companies , Maintenance companies, Battery waste management companies and many more. But here we are observing economic impact based on owner perspective of savings in refueling vehicle whether it is oil refueling or charge refueling.

So, if we directly jump to 2030 with forecasted price of Petrol Rs.231.80/lit , Diesel price Rs.127.57/lit and Autogas price Rs.83.12 referred in *Table 5.1*. Then the total fuel cost all around is Rs.7.129 Cr. daily , if all the electrically converted vehicle run on their respective conventional fuel referred in *Table 5.2, Table 5.3, Table 5.4, Table 5.5*. But the same will cost only Rs.1.018 Cr. considering conventional grid electricity cost Rs.7.95/kWh [15] and Rs.1.636 Cr. considering solar PV tech. electricity cost Rs.12.77/kWh [15] daily, if converted to electric vehicles, calculated by multiplying electricity cost with column 2 of *Table 3.1*.

*Table 5.1: Comparison of year wise EV demand*

year	petrol price	diesel price	autogas price
2010	76.17391304	51.33721	
2011	80	56.17442	50.89844
2012	79.65217391	62.06977	47.77344
2013	68.34782609	54.81395	51.28906
2014	66.43478261	50.27907	40.9375
2015	69.73913043	57.98837	39.66797
2016	68.69565217	58.59302	39.47266
2017	79.47826087	71.74419	32.83203
2018	74.7826087	69.77907	40.83984
2019	77.91304348	69.47674	42.40234
2020	84	77.33721	42.01172
2021	102.4347826	93.36047	39.86328
2022	115.1304348	100.0116	50.89844
2023	127.8479541	103.0672	52.06874
2024	142.6990333	106.5677	56.50497
2025	157.5501125	110.0681	60.9412
2026	172.4011917	113.5686	65.37743
2027	187.252271	117.069	69.81366
2028	202.1033502	120.5695	74.24989
2029	216.9544294	124.0699	78.68612
2030	231.8055086	127.5704	83.12235

*Table 5.2: Comparison of year wise EV demand*

Year	3w						
	Avg. daily travelled kilometer	Sp.energy(kwh/km)	Newly added vehicle	Total vehicle	daily avg. autogas consumption(litre)	Price(Rs.)	total cost(Rs.)
2021	100	0.4028	25	25	150.9745127	39.86328	6018.339463
2022	100	0.4028	49	74	446.8845577	50.89844	22745.72573
2023	100	0.4028	74	148	893.7691154	52.06874	46537.42759
2024	100	0.4028	98	246	1485.589205	56.50497	83943.16696
2025	100	0.4028	123	369	2228.383808	60.9412	135800.374
2026	100	0.4028	147	516	3116.113943	65.37743	203723.5087
2027	100	0.4028	172	688	4154.818591	69.81366	290063.0767
2028	100	0.4028	197	885	5344.497751	74.24989	396828.3509
2029	100	0.4028	221	1106	6679.112444	78.68612	525553.4206
2030	100	0.4028	246	1352	8164.701649	83.12235	678669.162

*Table 5.3: Comparison of year wise EV demand*

Year	4w						
	Avg. daily travelled kilometer	Sp.energy(kwh/km)	Newly added vehicle	Total vehicle	daily avg. petrol consumption(litre)	Price(Rs.)	total cost(Rs.)
2021	150	0.4732	80	80	624	102.4348	63919.3
2022	150	0.4732	161	241	1879.8	115.1304	216422.2
2023	150	0.4732	241	482	3759.6	127.848	480657.2
2024	150	0.4732	322	804	6271.2	142.699	894894.2
2025	150	0.4732	402	1206	9406.8	157.5501	1482042
2026	150	0.4732	483	1689	13174.2	172.4012	2271248
2027	150	0.4732	563	2252	17565.6	187.2523	3289198
2028	150	0.4732	643	2895	22581	202.1034	4563696
2029	150	0.4732	724	3619	28228.2	216.9544	6124233
2030	150	0.4732	804	4423	34499.4	231.8055	7997151

Table 5.4: Comparison of year wise EV demand

Year	Avg. daily travelled kilometer	Sp.energy(kwh/km)	Newly added vehicle	Total vehicle	daily avg. petrol consumption(litre)	Price(Rs.)	total cost(Rs.)
2021	24	0.2338	693	693	427.3144615	102.4347826	43771.86397
2022	24	0.2338	1387	2080	1282.56	115.1304348	147661.6904
2023	24	0.2338	2080	4160	2565.12	127.8479541	327945.344
2024	24	0.2338	2774	6934	4275.611077	142.6990333	610125.5674
2025	24	0.2338	3467	10401	6413.416615	157.5501125	1010434.509
2026	24	0.2338	4160	14561	8978.536615	172.4011917	1547910.413
2027	24	0.2338	4854	19415	11971.58769	187.252271	2241706.982
2028	24	0.2338	5547	24962	15391.95323	202.1033502	3110765.314
2029	24	0.2338	6241	31203	19240.24985	216.9544294	4174257.427
2030	24	0.2338	6934	38137	23515.86092	231.8055086	5451106.102

2w

Table 5.5: Comparison of year wise EV demand

Year	Avg. daily travelled kilometer	Sp.energy(kwh/km)	Newly added vehicle	Total vehicle	daily avg. diesel consumption(litre)	Price(Rs.)	total cost(Rs.)
2021	160	4.467	114	114	8147.808	93.36047	760683.1
2022	160	4.467	228	342	24443.424	100.0116	2444627
2023	160	4.467	342	684	48886.848	103.0672	5038631
2024	160	4.467	456	1140	81478.08	106.5677	8682929
2025	160	4.467	570	1710	122217.12	110.0681	13452209
2026	160	4.467	684	2394	171103.968	113.5686	19432035
2027	160	4.467	798	3192	228138.624	117.069	26707969
2028	160	4.467	912	4104	293321.088	120.5695	35365575
2029	160	4.467	1026	5130	366651.36	124.0699	45490416
2030	160	4.467	1140	6270	448129.44	127.5704	57168055

bus

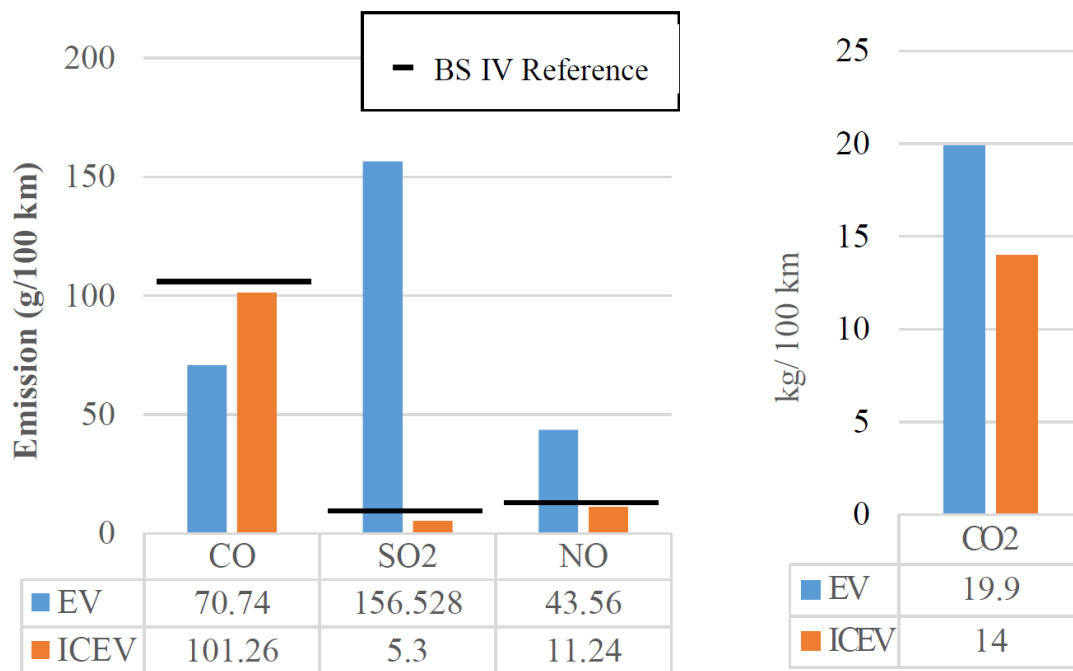
## Chapter 6

# Viability assessment & environmental impact

India's transportation sector contributes about 10 per cent of total national greenhouse gas (GHG) emissions and road transportation contributes about 87 percent of the total emissions in the sector [22].

However from ICEV and EV (powered by coal power plant) emission comparison done according to BS IV standards in [6], NO emissions from electric vehicle are 4 times more than the BS IV standards for I.C. engine vehicles. The indirect Sulphur dioxide (SO<sub>2</sub>) emissions from the electric vehicle are 30 times more than I.C. engine vehicles. The CO emissions are less in electric vehicles as compared to I.C. engine vehicles. The CO<sub>2</sub> emissions from electric vehicles are approximately 40% higher than I.C. engine vehicles, shown in *fig.6.1*. So, using *fig. 6.1* data, in 2030, daily emission due to EV are 540.71 tons CO<sub>2</sub>, 1.92 tons of CO, 4.25 tons of SO<sub>2</sub> and 1.18 tons of NO. However, if those vehicle run on their conventional fuel, the daily emission due to ICEV are 380.39 tons CO<sub>2</sub>, 2.75 tons of CO, 0.14 tons of SO<sub>2</sub> and 0.30 tons of NO. However both cases are referred in Table 6.1, Table 6.2, Table 6.3, Table 6.4.

So, energy mix is the only true solution. An energy mix ratio of 57% thermal and 43% renewable is somewhat viable to implement EVs over ICEVs [6]. Currently 39.20% of the India's installed capacity is from renewables by March, 2022. and the eastern region has 18.94% of total installed capacity as renewables [17]. From [14] we can see that by implementing rooftop solar PV technology to bus stand, bus stops, commercial building rooftop it has the energy delivering capacity of 371.28 MWh which is almost 1/4 of total EV demand 1281.45 MWh in 2030. So, even if we are able to achieve 30% EV sales goal in 2030, it will just shift emission of those vehicle, from city to power generation site, making it unviable unless renewable energy mix is increased.



*Fig. 6.1: Emission comparison from reference[6]*

Table 6.1: Comparison of year wise EV demand

Year	2W									
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Avg. daily travelled kilometer	24	24	24	24	24	24	24	24	24	24
Newly added vehicle	693	1387	2080	2774	3467	4160	4854	5547	6241	6934
Total vehicle	693	2080	4160	6934	10401	14561	19415	24962	31203	38137
CO2 (ton)	2.32848	6.9888	13.9776	23.29824	34.94736	48.92496	65.2344	83.87232	104.84208	128.14032
CO										
IC (ton)	0.016841563	0.050548992	0.101097984	0.168512842	0.252769262	0.353867246	0.471831096	0.606636509	0.758307787	0.926820629
EV SO2 (ton)	0.000881496	0.00264576	0.00529152	0.008820048	0.013230072	0.018521592	0.02469588	0.031751664	0.039690216	0.048510264
NO (ton)	0.001869437	0.005611008	0.011222016	0.018705158	0.028057738	0.039279754	0.052373904	0.067337491	0.084173213	0.102878371
CO2 (ton)	3.309768	9.93408	19.86816	33.116784	49.675176	69.543336	92.72604	119.218512	149.025528	182.142312
CO (ton)	0.011765477	0.035313408	0.070626816	0.117722678	0.176584018	0.247210834	0.329620104	0.423794851	0.529752053	0.647474731
EV SO2 (ton)	0.026033737	0.078138778	0.156277555	0.260487636	0.390731455	0.54700901	0.729357869	0.937740465	1.172194364	1.432682001
NO (ton)	0.007244899	0.021745152	0.043490304	0.07249081	0.108736214	0.152226518	0.202972176	0.260962733	0.326208643	0.398699453

Table 6.2: Comparison of year wise EV demand

		3W									
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Avg. daily travelled kilometer	100	100	100	100	100	100	100	100	100	100	
Newly added vehicle	25	49	74	98	123	147	172	197	221	246	
Total vehicle	25	74	148	246	369	516	688	885	1106	1352	
CO2 (ton)	0.35	1.036	2.072	3.444	5.166	7.224	9.632	12.39	15.484	18.928	
CO											
IC (ton)	0.0025315	0.00749324	0.01498648	0.02490996	0.03736494	0.052225016	0.06966688	0.0896151	0.11199356	0.13690352	
EV SO2 (ton)	0.0001325	0.0003922	0.0007844	0.0013038	0.0019557	0.0027348	0.0036464	0.0046905	0.0058618	0.0071656	
NO											
(ton)	0.000281	0.00083176	0.00166352	0.00276504	0.00414756	0.00579984	0.00773312	0.0099474	0.01243144	0.01519648	
CO2 (ton)	0.4975	1.4726	2.9452	4.8954	7.3431	10.2684	13.6912	17.6115	22.0094	26.9048	
CO											
(ton)	0.0017685	0.00523476	0.01046952	0.01740204	0.02610306	0.03650184	0.048666912	0.0626049	0.07823844	0.09564048	
EV SO2 (ton)	0.0039132	0.011583072	0.023166144	0.038505888	0.057758832	0.080768448	0.107691264	0.13852728	0.173119968	0.211625856	
NO											
(ton)	0.001089	0.00322344	0.00644688	0.010171576	0.01607364	0.02247696	0.02996928	0.0385506	0.04817736	0.05889312	

Table 6.3: Comparison of year wise EV demand

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Avg. daily travelled kilometer	150	150	150	150	150	150	150	150	150	150
Newly added vehicle	80	161	241	322	402	483	563	643	724	804
Total vehicle	80	241	482	804	1206	1689	2252	2895	3619	4423
CO2 (ton)	1.68	5.061	10.122	16.884	25.326	35.469	47.292	60.795	75.999	92.883
CO										
IC (ton)	0.0121512	0.03660549	0.07321098	0.12211956	0.18317934	0.25654221	0.34205628	0.43972155	0.54968991	0.67180947
EV SO2 (ton)	0.000636	0.00191595	0.0038319	0.0063918	0.0095877	0.01342755	0.0179034	0.02301525	0.02877105	0.03516285
NO										
(ton)	0.0013488	0.00406326	0.00812652	0.01355544	0.02033316	0.02847654	0.03796872	0.0488097	0.06101634	0.07457178
CO2 (ton)	2.388	7.19385	14.3877	23.9994	35.9991	50.41665	67.2222	86.41575	108.02715	132.02655
CO										
(ton)	0.0084888	0.02557251	0.05114502	0.08531244	0.12796866	0.17921979	0.23895972	0.30718845	0.38401209	0.46932453
EV SO2 (ton)	0.01878336	0.056584872	0.113169744	0.188772768	0.283159152	0.396563688	0.528751584	0.67972284	0.849712248	1.038485016
NO										
(ton)	0.0052272	0.01574694	0.03149388	0.05253336	0.07880004	0.11035926	0.14714568	0.1891593	0.23646546	0.28899882

Table 6.4: Comparison of year wise EV demand

		BUS										
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Avg. daily travelled kilometer	160	160	160	160	160	160	160	160	160	160	160	
Newly added vehicle	114	228	342	456	570	684	798	912	1026	1140		
Total vehicle	114	342	684	1140	1710	2394	3192	4104	5130	6270		
CO2 (ton)	2.5536	7.6608	15.3216	25.536	38.304	53.6256	71.5008	91.9296	114.912	140.448		
CO (ton)	0.018469824	0.055409472	0.110818944	0.18469824	0.27704736	0.387866304	0.517155072	0.664913664	0.83114208	1.01584032		
SO2 (ton)	0.00096672	0.00290016	0.00580032	0.0096672	0.0145008	0.02030112	0.02706816	0.03480192	0.0435024	0.0531696		
NO (ton)	0.002050176	0.006150528	0.012301056	0.02050176	0.03075264	0.043053696	0.057404928	0.073806336	0.09225792	0.11275968		
CO2 (ton)	3.62976	10.88928	21.77856	36.2976	54.4464	76.22496	101.63328	130.67136	163.3392	199.6368		
CO (ton)	0.012902976	0.038708928	0.077417856	0.12902976	0.19354464	0.270962496	0.361283328	0.464507136	0.58063392	0.70966368		
SO2 (ton)	0.028550707	0.085652122	0.171304243	0.285507072	0.428260608	0.599564851	0.799419802	1.027825459	1.284781824	1.570288896		
NO (ton)	0.007945344	0.023836032	0.047672064	0.07945344	0.11918016	0.166852224	0.222469632	0.286032384	0.35754048	0.43699392		

## Chapter 7

# Conclusion

We hope that this study is able to reflect EV load in Kolkata 2030 , based on possible realistic charge scheduling, by making EV a necessary load rather than making it optional easily schedulable load. We can see that major percentage of EV load is coming from e-bus. So ,if e-bus ,only which can be scheduled , are scheduled properly , it will not impact load curve that much like how we have done by making 6 p.m. to 9 p.m. as no charging period for e-bus. Even with achieving of 30% EV sales goal , load due to EV is only 2.37% of total load of Kolkata in 2030. However daily energy demand due to EV will be 1281.45 MWh in 2030.However these are demand side calculations, if we take 20 percent Transmission and distribution loss into consideration, then generation will have to generate even more than the total EV demand. EV might seem very green on end user basis. However we can also see that EV also comes with many tradeoffs like generation side cost and pollution increase. We can see that at current eastern region generation mix EV is not a viable option, even in 2030.

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[26] <https://www.mahindraelectric.com/vehicles/treo-electric-auto/>

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# Annexure:

*Table A1: Yearwise Kolkata non-transport vehicle count as per Road transport year books*

Kolkata as on year	Non-Transport										Total Non-Transport
	two wheelers			Cars	Jeeps	Omni buses	Tractors	Trailers	other vehicles not covered		
	Scooter	mopeds	motor cycles								
31st march,2019	342119	not available	not available	353373	included in cars	included in cars	94	included in tractors	1401	1401	696987
31st march,2018	342119	not available	not available	353373	included in cars	included in cars	94	included in tractors	1401	1401	696987
31st march,2017	342119	not available	not available	353373	included in cars	included in cars	94	included in tractors	1401	1401	696987
31st march,2016		313508		327388	0	0	94			1209	642199
31st march,2015	76718	10774	512664	541432	514	41144	4610	260	21981		1210097
31st march,2014	68566	10619	492114	514842	512	40497	4610	259	21870		1153889
31st march,2013	62137	10493	470722	489377	512	39689	4607	259	21789		1099585
31st march,2012		202602		222069	included in cars	not available	included in trailers	46	802		425519
31st march,2011		182087		194178	included in cars	not available	included in trailers	82	701		377048
31st march,2010		165799		180644	included in cars	not available	included in trailers	81	628		347152
31st march,2009		173891		313900	Included in cars			609	983		489383
31st march,2008		162753		302821	Included in cars			662	755		466991
31st march,2007		435413		383047	Included in cars			4854	21168		844482

Table A2: Yearwise Kolkata transport vehicle count as per Road transport year books

Kolkata as on year	Multi-Axled/ Articulated vehicles	Truck & Lorries	Transport										Motor cycles on hire	Total Transport	
			Light motor vehicles(goods)		Buses			Taxis			Light motor vehicles(passenger auto)				
			Four Wheeler	Three Wheeler	Stage carriage	Contract carriage	Private service	other buses	Motor cab	Maxi cab	Other taxis	Three seaters			four to six seaters
31st march,2019	not available	not available	12683	11190	2250	1688	563	1688	27315	13658	11381	13840	6920	30	103205
31st march,2018	not available	not available	12683	11190	2250	1688	563	1688	27315	13658	11381	13840	6920	30	103205
31st march,2017	not available	not available	12683	11190	2250	1688	563	1688	27315	13658	11381	13840	6920	30	103205
31st march,2016			22878			6020			49098			20684			98680
31st march,2015	3329	5891	58956	18781	13124	1272	15	4	60941	1611	12	27605	included in three seaters	0	191541
31st march,2014	3310	5736	57724	18781	12498	1036	12	2	57526	1316	10	27354	included in three seaters	0	185305
31st march,2013	3285	5062	56006	18780	12204	1034	12	1	54410	1046	9	26924	not available	0	178773
31st march,2012	15235	included in multi-axled	not available	not available		4316				31807			19429	0	70787
31st march,2011	13773	included in multi-axled	not available	not available		4249				30840			18808	0	67670
31st march,2010	14210	included in multi-axled	not available	not available		4009				27914			17740	0	63873
31st march,2009	35356	Included in Multi-axled	not available	not available		6938				32826			16745	0	91865
31st march,2008	48700	Included in Multi-axled	not available	not available		7310				33524			16258	0	105792
31st march,2007	72576	Included in Multi-axled	not available	not available		11118				40555			18083	0	142332

Table A3: Vehicle number prediction using historical data of road transport year books

Kolkata as on year(31st march)	Two wheeler (scooters,mopeds,motor cycles)	newly registered 2W	Buses(stage carriage,contract carriage,private service,other buses)	newly registered bus	Taxi(mot cabmaxi cab other taxies)	newly registerd taxi	Light motor vehicle(passenger auto)(3seater4-6seater)	newly registered light motor vehicle
2007	435413		11118		40555		18083	
2008	162753	-272660	7310	-3808	33524	-7031	16258	-1825
2009	173891	11138	6938	-372	32826	-698	16745	487
2010	165799	-8092	4009	-2929	27914	-4912	17740	995
2011	182087	16288	4249	240	30840	2926	18808	1068
2012	202602	20515	4316	67	31807	967	19429	621
2013	543352	340750	13251	8935	55465	23658	26924	7495
2014	571299	27947	13548	297	58852	3387	27354	430
2015	600156	28857	14415	867	62564	3712	27605	251
2016	313508	-286648	6020	-8395	49098	-13466	20684	-6921
2017	342119	28611	6189	169	52354	3256	20760	76
2018	382847.5432	40728.5432	7329	1140	55864.01005	3510.01005	26082.85574	5322.85574
2019	405960.2087	23112.6655	8469	1140	58545.07726	2681.06721	26901.91415	819.05841
2020	429072.8742	23112.6655	9609	1140	61226.14447	2681.06721	27720.97257	819.05842
2021	452185.5397	23112.6655	10749	1140	63907.21168	2681.06721	28540.03099	819.05842
2022	475298.2053	23112.6656	11889	1140	66588.27889	2681.06721	29359.08941	819.05842
2023	498410.8708	23112.6655	13029	1140	69269.3461	2681.06721	30178.14783	819.05842
2024	521523.5363	23112.6655	14169	1140	71950.41331	2681.06721	30997.20624	819.05841
2025	544636.2018	23112.6655	15309	1140	74631.48052	2681.06721	31816.26	819.05376
2026	567748.8673	23112.6655	16449	1140	77312.54773	2681.06721	32635.32308	819.06308
2027	590861.5328	23112.6655	17589	1140	79993.61495	2681.06722	33454.3815	819.05842
2028	613974.1983	23112.6655	18729	1140	82674.68216	2681.06721	34273.43991	819.05841
2029	637086.8638	23112.6655	19869	1140	85355.74937	2681.06721	35092.49833	819.05842
2030	660199.5293	23112.6655	21009	1140	88036.81658	2681.06721	35911.55675	819.05842

*Table A4: Surveyed data of e-bus charging from charging station*

Date	Vehicle no.	Charger no.	Before charging			After charging			1% in kWh
			Km reading	SOC%	Time	SOC%	Time	Electricity(kWh)	
11.02.22	7132	1B	23995	36	10:30	100	12:50	53.6	0.8375
11.02.22	7178	2	72411	35	11:58	97	13:10	52.11	0.8404839
11.02.22	7191	1A	74496	25	13:15	100	13:31	63.09	0.8412
11.02.22	7140	2	75781	16	13:26	98	14:49	68.61	0.8367073
11.02.22	6903	7	88550	25	13:30	100	15:35	63.91	0.8521333
11.02.22	7132	7	24047	27	16:50	98	18:01	59.35	0.8359155
11.02.22	7178	7	72460	31	23:43	98	01:20	56.73	0.8467164
11.02.22	6903	6	88618	26	23:44	100	01:34	62.84	0.8491892
11.02.22	7128	3	25657	55	23:43	100	02:30	39.51	0.878
11.02.22	7132	2	24077	67	23:51	100	01:21	29.26	0.8866667
11.02.22	7140	1A	75845	17	23:48	100	01:37	68.33	0.823253
11.02.22	7191	1B	74564	26	23:50	100	01:35	64.36	0.8697297
12.02.22	7128	1A	25707	51	10:00	98	11:35	41.08	0.8740426
12.02.22	7178	1A	72522	24	12:45	95	14:02	61.51	0.866338
12.02.22	7128	1A	25758	32	16:20	96	17:15	52.87	0.8260938
12.02.22	7128	1A	25789	67	19:42	98	20:23	26.94	0.8690323
12.02.22	7178	2	72581	20	23:00	98	00:53	65.52	0.84
12.02.22	7140	1A	75933	26	23:01	100	00:48	64.65	0.8736486
12.02.22	7128	6	25858	33	23:06	100	00:40	59.66	0.8904478
12.02.22	6903	2	88644	76	10:28	100	11:32	20.93	0.8720833
12.02.22	7132	7	24102	75	10:29	100	11:33	21.89	0.8756
12.02.22	7191	3	74589	80	10:30	100	11:34	17.35	0.8675
12.02.22	7140	1A	75996	26	11:40	100	13:35	60.43	0.8166216
12.02.22	6903	7	88706	42	23:00	100	00:31	48.98	0.8444828
12.02.22	7178	5	72773	29	23:01	98	00:46	58.3	0.8449275
12.02.22	7128	3	25988	30	23:02	100	00:49	60.31	0.8615714
12.02.22	7191	1A	74651	48	23:03	100	00:12	45.11	0.8675
12.02.22	7140	1B	76060	23	23:04	100	00:20	63.34	0.8225974
12.02.22	7132	2	24137	63	23:05	100	00:16	32.5	0.8783784
13.02.22	7178	1A	72630	49	09:45	100	10:43	43.46	0.8521569
13.02.22	7140	1A	75996	26	11:40	100	13:35	60.43	0.8166216
13.02.22	6903	2	88644	76	10:28	100	11:32	20.93	0.8720833
13.02.22	7132	7	24102	75	10:29	100	11:32	21.89	0.8756
13.02.22	7191	3	74589	80	10:30	100	11:34	17.35	0.8675
13.02.22	6903	7	88706	42	23:00	100	00:31	48.98	0.8444828
13.02.22	7178	5	72773	29	23:01	98	00:46	58.3	0.8449275
13.02.22	7128	3	25988	30	23:02	100	00:49	60.31	0.8615714
13.02.22	7191	1A	74651	48	23:03	100	00:12	45.11	0.8675
13.02.22	7140	1B	76060	23	23:04	100	00:20	63.34	0.8225974
13.02.22	7132	2	24137	63	23:05	100	00:16	32.05	0.8662162
14.02.22	7178	1A	72822	33	10:10	96	12:28	51.72	0.8209524

Continuation of *Table A4*:

14.02.22	7132		2	24189	40	11:56	98	12:53	48.17	0.8305172
14.02.22	7191	1A		74720	34	12:32	100	13:53	64.5	0.9772727
14.02.22	7140		2	76124	15	13:00	98	14:18	69.47	0.836988
14.02.22	6903		7	88775	17	13:20	100	14:49	70.04	0.8438554
14.02.22	7128	1A		26066	47	14:19	100	14:35	43.04	0.8120755
14.02.22	6903		7	88844	20	23:00	100	00:45	68.85	0.860625
14.02.22	7191		6	74789	23	23:01	100	00:50	65.3	0.8480519
14.02.22	7128		5	26167	27	23:02	100	00:52	60.12	0.8235616
14.02.22	7140		3	76188	14	23:03	100	00:55	71.68	0.8334884
14.02.22	7132		2	24242	32	23:04	100	00:59	59.02	0.8679412
14.02.22	7178	1B		72871	24	23:05	100	00:47	62.69	0.8248684
15.02.22	7178	1A		72920	34	11:36	95	12:29	49.98	0.8193443
15.02.22	7140		2	76237	39	12:18	98	13:13	48.59	0.8235593
15.02.22	6903	1A		88913	19	12:52	88	13:49	56.73	0.8221739
15.02.22	7191		2	74858	24	13:24	100	14:39	63.97	0.8417105
15.02.22	7128	1B		26277	28	15:23	96	16:02	56.24	0.8270588
15.02.22	7128	1B		26345	27	23:00	100	01:40	62.58	0.8572603
15.02.22	7178	1A		72969	32	23:01	100	01:40	55.77	0.8201471
15.02.22	7140		2	76286	33	23:02	100	01:43	60.31	0.9001493
15.02.22	7191		3	74926	25	23:03	100	01:36	65.92	0.8789333
15.02.22	6903		6	88999	29	23:04	100	01:38	63.45	0.893662
15.02.22	7132		7	24343	30	23:05	100	01:36	63.19	0.9027143
16.02.22	7132	1A		24395	30	11:39	100	12:49	58.34	0.8334286
16.02.22	7178		7	73018	29	12:21	95	13:26	55.5	0.8409091
16.02.22	7191	1A		74993	24	13:24	100	14:36	63.38	0.8339474
16.02.22	7128	1B		26455	54	16:58	98	17:53	37.54	0.8531818
16.02.22	7140		7	76379	27	23:00	100	00:41	61.01	0.8357534
16.02.22	7191		5	75059	25	23:00	100	01:00	63.96	0.8528
16.02.22	6903		3	89151	23	23:00	100	01:01	65.79	0.8544156
16.02.22	7178		2	73067	32	23:00	100	00:09	65.6	0.9647059
16.02.22	7132	1A		24447	30	23:05	100	00:10	58.64	0.8377143
16.02.22	7128	1B		26523	22	23:15	79	00:20	48.85	0.8570175
									Average=	0.8537903

*Table A5: Surveyed data of conventional government and private buses*

Bus org. type	Bus route	Bus type	no. of trips in a day / vehicle	Km traveled / trip/vehicle	Seat capacity (avg. passenger count)	Total energy consumption / trip (In kWh)(1lit diesel=10 kWh	Sp.energy (KWh/kilometer) / trip	Sp.energy (kWh/kilometer * passenger) / trip	Time of operation
Govt .	Howrah to Patuli	(AC24)(JAN AC)(Ashok Leyland)-ALFBV 8/1	3	34	40	190	5.588235294	0.139705882	
Govt .	Howrah to Newtown	(S-12)(JAN NON-AC)(Ashok Leyland)-ALFBV8/2	3	60	40	283.3	4.721666667	0.118041667	
Govt .	Howrah to Sapurji	(AC-12)(JAN AC)(Ashok Leyland)-ALFBV 8/1	3	54	40	300	5.555555556	0.138888889	
Govt .	Howrah to Baranagar	(S-57)(JAN NON-AC)(Ashok Leyland)-ALFBV8/2	2	30	40	150	5	0.125	
Govt .	Howrah to Barrackpur	(E-32)(NON-AC)(TATA)-1512TC	2	54	50	210	3.888888889	0.077777778	
Govt .	Howrah to Garia	(AC-5)- Volvo 8400	3	40	40	306.6	7.665	0.191625	
Govt .	Howrah to Amtala	AC-52 (JAN AC)(Ashok Leyland)-ALFBV 8/1	2	60	40	335	5.583333333	0.139583333	
Govt .	Howrah to Ballygaung	(S10-A)(JAN NON-AC)(Ashok Leyland)-ALFBV8/2	3	24	40	113	4.708333333	0.117708333	
Govt .	Howrah to Sarsuna	(7A) (Eicher) -10.90L	3	32	34	53.3	1.665625	0.048988971	
Govt .	Howrah to Joka	S-12D (JAN NON-AC)(Ashok Leyland)-ALFBV8/2	3	40	40	200	5	0.125	5:30 AM to 8:00 PM
Govt .	Howrah to Jadavpur	(E-1)(Tata 1512TC/1613 marcopolo)	3	26	40	103.3	3.973076923	0.099326923	5:30 AM to 8:30 PM
Govt .	Howrah to Jadavpur	(AC-1) (Volvo 8400)	4	24	40	246.6	10.275	0.256875	6:00 AM to 8:30 PM
Pvt.	Dakshineswar to Esplanade	43 (Local Blue bus)	4-5	32	40	95	2.96875	0.07421875	6 AM to 9 PM
Pvt.	Dakshineswar to Sapurji	Dn2/1 (Local blue bus)	3-4	56	40	110	1.964285714	0.049107143	6:30 AM to 8:30 AM
Pvt.	Santoshpur to BBD Bag	mini bus	3-4	38	27	90	2.368421053	0.087719298	
Pvt.	Esplanade to Airport	46 (Local blue Bus)	4	30	40	75	2.5	0.0625	
Pvt.	Esplanade to Batanagar via Birlapur	77A (Local Blue Bus)	3	64	40	300	4.6875	0.1171875	5 AM to 8 PM
Pvt.	Sapurji to Bangur	KB16 (Local Blue Bus)	3	50	40	55	1.1	0.0275	6 AM to 8 PM

Continuation of *Table A5*:

Pvt.	Alampur to Sapurji	SSBTC(deep blue bus)	2.5	128	40	180	1.40625	0.03515625	6.30 AM to 7 PM
Pvt.	Mondirtola to Newtown	white bus	2	46	40	170	3.695652174	0.092391304	
Pvt.	Sapurji to Babughat	239 (Local Blue bus)	3	56	40	110	1.964285714	0.049107143	5:30 AM to 7 PM
Pvt.	Sapurji to Kolkata stn.	K22 (Local blue bus)	3	50	40	90	1.8	0.045	
Pvt.	Dhulagor to Newtown	white bus	3	100	40	170	1.7	0.0425	4 AM to 9 PM
Pvt.	Newtown to Garia stn.	AS-3 (white bus)	5-6	45	40	80	1.777777778	0.044444444	6 AM to 10 PM
Pvt.	Dsk lane to Newtown	42 (white bus)	3	66	40	150	2.272727273	0.056818182	6 AM to 11 PM
Pvt.	Dhulagor to Newtown	white bus	3	98	40	200	2.040816327	0.051020408	5 AM to 7 PM
Pvt.	Dhulagor to sealdah	white bus	4	35	40	125	3.571428571	0.089285714	5 AM to 7 PM
Pvt.	Howrah to golfgreen	mini bus	3	36	27	80	2.222222222	0.082304527	7:30 AM to 8:45 PM
Pvt.	Howrah to Picnic garden	128 (mini bus)	4-5	30	27	70	2.333333333	0.086419753	7:15 AM to 9:10 PM
Pvt.	Howrah to Nagerbazar	mini bus	3-4	22	27	60	2.727272727	0.101010101	6:30 AM to 8:30 PM
Pvt.	Howrah to tangra	mini bus	4-6	20	27	60	3	0.111111111	6:30 AM to 7:30 PM
		<b>Non-AC government bus average=</b>					<b>4.041542913</b>		
		<b>Non-AC pvt. bus average=</b>					<b>2.426353836</b>		
		<b>AC government bus average=</b>					<b>6.933424837</b>		

Table A6: specific .energy calculation from Surveyed data of e-bus

Vehicle no.	Km travelled	charge consumed(%)	SP.energy (kwh/km)	SP.energy (kwh/Passenger.km)
6903	68	74	0.929026471	0.029968596
	62	58	0.798622581	0.025762019
	69	83	1.026914493	0.033126274
	69	80	0.989797101	0.031928939
	69	81	1.002169565	0.03232805
7128	50	49	0.836626	0.026987935
	51	66	1.104788235	0.03563833
	31	29	0.798622581	0.025762019
	69	65	0.804210145	0.025942263
	40	50	1.067125	0.034423387
	68	69	0.866254412	0.027943691
	31	34	0.936316129	0.030203746
	68	76	0.954135294	0.030778558
7132	30	31	0.882156667	0.028456667
	35	37	0.902482857	0.02911235
	52	60	0.985038462	0.031775434
	53	66	1.063098113	0.034293488
	52	70	1.149211538	0.03707134
7140	64	81	1.080464063	0.034853679
	63	74	1.00275873	0.032347056
	64	77	1.027107813	0.03313251
	64	85	1.133820313	0.036574849
	64	84	1.12048125	0.036144556
	49	61	1.062769388	0.034282883
	49	65	1.132459184	0.036530941
7178	49	66	1.149881633	0.037092956
	62	74	1.018932258	0.032868783
	59	75	1.085211864	0.035006834
	49	53	0.923389796	0.029786768
	62	78	1.074009677	0.034645473
	49	65	1.132459184	0.036530941
	49	66	1.149881633	0.037092956
	49	63	1.097614286	0.035406912
	49	63	1.097614286	0.035406912
7191	68	74	0.929026471	0.029968596
	69	66	0.816582609	0.026341374
	69	77	0.95267971	0.030731604
	69	76	0.940307246	0.030332492
	68	75	0.941580882	0.030373577
	67	76	0.968376119	0.031237939
	66	75	0.970113636	0.031293988
		Average=	0.997661407	0.032182626

Table A7: yearwise daily demand calculation of e2w

Year	e2w						
	Avg. daily travelled kilometer	Sp.energy(kwh/km)	Sp.energy(kwh/pkm)	Battery degradation	Newly added vehicle	Newly added demand(kwh)	Daily Total demand(kwh)
2021	24	0.043005	0.02867	1%	693	715.25916	715.25916
2022	24	0.04257495	0.0283833	2%	1387	1417.234936	2139.646687
2023	24	0.042149201	0.028099467	3%	2080	2104.088089	4265.059717
2024	24	0.041727708	0.027818472	4%	2774	2778.063921	7085.48946
2025	24	0.041310431	0.027540288	5%	3467	3437.358377	10592.9943
2026	24	0.040897327	0.027264885	6%	4160	4083.189137	14780.70348
2027	24	0.040488354	0.026992236	7%	4854	4716.731267	19642.78668
2028	24	0.04008347	0.026722314	8%	5547	5336.232232	25171.53816
2029	24	0.039682636	0.02645509	9%	6241	5943.823888	31361.24362
2030	24	0.039285809	0.026190539		6934	6537.787228	38204.35066

Table A8: yearwise daily demand calculation of e3w

Year	e3w						
	Avg. daily travelled kilometer	Sp.energy(kwh/km)	Sp.energy(kwh/pkm)	Battery degradation	Newly added vehicle	Newly added demand(kwh)	Daily Total demand(kwh)
2021	100	0.0756875	0.04325	1%	25	189.21875	189.21875
2022	100	0.074930625	0.0428175	2%	49	367.1600625	558.271
2023	100	0.074181319	0.042389325	3%	74	548.9417588	1112.776547
2024	100	0.073439506	0.041965432	4%	98	719.7071545	1843.536907
2025	100	0.072705111	0.041545777	5%	123	894.2728592	2756.060044
2026	100	0.071978059	0.04113032	6%	147	1058.077473	3841.330523
2027	100	0.071258279	0.040719016	7%	172	1225.642395	5104.746699
2028	100	0.070545696	0.040311826	8%	197	1389.750212	6544.527115
2029	100	0.069840239	0.039908708	9%	221	1543.469283	8151.924105
2030	100	0.069141837	0.039509621		246	1700.889182	9932.175686

*Table A9: yearwise daily demand calculation of e-bus*

e-bus							
year	Avg. daily travelled kilometer	Sp.energy(kwh/km)	Sp.energy(kwh/pkm)	Battery degradation	Newly added vehicle	Newly added demand(kwh)	Daily Total demand(kwh)
2021	160	0.997661407	0.032182626	1%	114	18197.34406	18197.34406
2022	160	0.987684793	0.0318608	2%	228	36030.74123	72421.78988
2023	160	0.977807945	0.031542192	3%	342	53505.65073	144297.714
2024	160	0.968029865	0.03122677	4%	456	70627.45897	233648.6197
2025	160	0.958349567	0.030914502	5%	570	87401.48047	340299.775
2026	160	0.948766071	0.030605357	6%	684	103832.9588	464078.1951
2027	160	0.93927841	0.030299304	7%	798	119927.0674	604812.6247
2028	160	0.929885626	0.029996311	8%	912	135688.9106	762333.521
2029	160	0.92058677	0.029696347	9%	1026	151123.5241	936473.0367
2030	160	0.911380902	0.029399384		1140	166235.8765	1127065.002

*Table A10: yearwise daily demand calculation of e4w*

e4w							
Year	Avg. daily travelled kilometer	Sp.energy(kwh/km)	Sp.energy(kwh/pkm)	Battery degradation	Newly added vehicle	Newly added demand(kwh)	Daily Total demand(kwh)
2021	150	0.165	0.066	1%	80	1980	1980
2022	150	0.16335	0.06534	2%	161	3944.9025	5944.7025
2023	150	0.1617165	0.0646866	3%	241	5846.051475	11850.003
2024	150	0.160099335	0.064039734	4%	322	7732.797881	19700.51042
2025	150	0.158498342	0.063399337	5%	402	9557.450001	29452.99794
2026	150	0.156913358	0.062765343	6%	483	11368.3728	41111.98276
2027	150	0.155344225	0.06213769	7%	563	13118.81977	54635.09828
2028	150	0.153790782	0.061516313	8%	643	14833.12096	70003.70319
2029	150	0.152252875	0.06090115	9%	724	16534.66218	87222.18052
2030	150	0.150730346	0.060292138		804	18178.07971	106249.422

*Table A11: yearwise daily peak load and SOC requirement calculation of e2w*

e2w						
year	daily total demand(kwh)	vehicle count	demand per vehicle(kwh)	soc% demand per vehicle/day	load(kw)	
2021	715.25916	693	1.03212	32.49748111	338.5998	
2022	2139.646687	2080	1.028676292	32.38905201	1016.288	
2023	4265.059717	4160	1.02525474	32.28132052	2032.576	
2024	7085.048815	6934	1.021783792	32.17203376	3387.9524	
2025	10592.54925	10401	1.018416426	32.06600837	5081.9286	
2026	14780.25402	14561	1.015057621	31.96025256	7114.5046	
2027	19642.33282	19415	1.011709133	31.85482157	9486.169	
2028	25171.07989	24962	1.008375927	31.74987176	12196.4332	
2029	31360.78095	31203	1.005056595	31.6453588	15245.7858	
2030	38203.88358	38137	1.001753771	31.5413656	18633.7382	

*Table A12: yearwise daily peak load and SOC requirement calculation of e3w*

e3w						
year	daily total demand(kwh)	vehicle count	demand per vehicle(kwh)	soc% demand per vehicle	load(kw)	
2021	189.21875	25	7.56875	128.3709294	38.45	
2022	558.271	74	7.544202703	127.9545913	113.812	
2023	1112.776547	148	7.518760452	127.5230741	227.624	
2024	1843.536907	246	7.494052468	127.1040106	378.348	
2025	2756.060044	369	7.468997408	126.6790605	567.522	
2026	3841.330523	516	7.444438997	126.2625339	793.608	
2027	5104.746699	688	7.419689969	125.8427742	1058.144	
2028	6544.527115	885	7.394945892	125.4230986	1361.13	
2029	8151.924105	1106	7.370636623	125.0107975	1701.028	
2030	9932.175686	1352	7.346283792	124.5977577	2079.376	

*Table A13: yearwise daily peak load and SOC requirement calculation of e4w*

year	e4w					
	daily total demand(kwh)	vehicle count	demand per vehicle(kwh)	soc% demand per vehicle	load(kw)	
2021	1980	80	24.75	102.442053	181.904	
2022	5944.7025	241	24.66681535	102.0977457	547.9858	
2023	11850.003	482	24.58506846	101.7593893	1095.9716	
2024	19700.51042	804	24.50312241	101.4202087	1828.1352	
2025	29452.99794	1206	24.42205468	101.0846634	2742.2028	
2026	41111.98276	1689	24.34101999	100.7492549	3840.4482	
2027	54635.09828	2252	24.26070084	100.4168081	5120.5976	
2028	70003.70319	2895	24.1808992	100.0865033	6582.651	
2029	87222.18052	3619	24.10118279	99.75655129	8228.8822	
2030	106249.422	4423	24.02202623	99.42891651	10057.0174	

*Table A14: yearwise required number of charging stations and units*

year	Daily total demand(kwh)	Daily output from a single charging station(kwh)	Required charging station	demand due to decimal charging station(kwh)	chargers plug
2021	18197.34406	8704	2.09068751	789.344057	2 chrg stn. + 1 slow
2022	72421.78988	8704	8.32051814	2789.78988	8 chrg stn. + 3 slow
2023	144297.714	8704	16.5783219	5033.71403	16 chrg stn. + 2 fast, 3 slow
2024	233648.6197	8704	26.8438212	7344.61974	26 chrg stn. + 2 fast,5 slow
2025	340299.775	8704	39.0969411	843.775027	39 chrg stn. + 1 slow
2026	464078.1951	8704	53.3178073	2766.19506	53 chrg stn.+ 3 slow
2027	604812.6247	8704	69.4867446	4236.62466	69 chrg stn. + 2 fast,2 slow
2028	762333.521	8704	87.584274	5085.52104	87 chrg stn.+ 5 slow
2029	936473.0367	8704	107.591112	5145.03668	107 chrg stn.+ 5 slow
2030	1127065.002	8704	129.488167	4249.00233	129 chrg stn.+2 fast,2 slow

Table A15: Charge scheduling of e-bus for year 2021

time	Whole station									Standalone charger	grand sum 2021
	S1	S2	S3	S4	S5	S6	F1	F2	sum	S1	
	1	2	3	4	5	6	7	8		1	
0	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	774.4
0.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
0.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
0.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	826.8
0.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	826.8
0.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	826.8
0.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	806.4
0.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	806.4
0.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
0.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
1.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
1.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
1.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
1.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
1.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	774.4
1.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
1.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
1.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	826.8
1.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	826.8
2	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	826.8
2.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	806.4
2.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	806.4
2.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
2.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
2.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
2.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
2.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
2.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
2.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
3	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	774.4
3.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
3.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
3.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	826.8
3.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	826.8
3.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	826.8
3.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	806.4
3.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	806.4
3.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
3.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
4.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
4.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
4.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
4.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6



Continuation of *Table A15*:

9.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	826.8
9.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	826.8
9.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	806.4
9.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	806.4
9.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
9.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
10	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
10.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
10.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
10.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
10.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
10.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	774.4
10.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
10.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
10.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	826.8
10.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	826.8
11	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	826.8
11.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	806.4
11.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	806.4
11.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
11.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
11.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
11.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
11.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
11.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
11.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
12	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	774.4
12.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
12.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
12.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	826.8
12.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	826.8
12.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	826.8
12.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	806.4
12.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	806.4
12.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
12.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
13	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
13.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
13.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
13.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
13.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
13.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	774.4
13.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
13.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
13.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	826.8
13.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	826.8
14	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	826.8
14.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	806.4
14.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	806.4

Continuation of *Table A15*:

14.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	774.4
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	826.8
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	826.8
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	826.8
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	826.8
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	806.4
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	806.4
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	931.6
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2		774.4
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2		774.4
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2		774.4
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2		774.4
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2		774.4
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2		774.4
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377		754
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377		754
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2		774.4
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		669.6
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4		564.8
18.3				0	52.4	52.4	62.6	62.6	230		460
18.4					0	52.4	62.6	62.6	177.6		355.2
18.5						0	62.6	62.6	125.2		250.4
18.6							0	62.6	62.6		125.2
18.7								0	0		0
18.8									0		0
18.9									0		0
19									0		0
19.1									0		0

Continuation of *Table A15:*

19.2									0		0
19.3									0		0
19.4									0		0
19.5									0		0
19.6									0		0
19.7									0		0
19.8									0		0
19.9									0		0
20									0		0
20.1									0		0
20.2									0		0
20.3									0		0
20.4									0		0
20.5									0		0
20.6									0		0
20.7									0		0
20.8									0		0
20.9									0		0
21	0								0		0
21.1	52.4	0							52.4		104.8
21.2	52.4	52.4	0						104.8		209.6
21.3	52.4	52.4	52.4	0					157.2		314.4
21.4	52.4	52.4	52.4	52.4	0				209.6		419.2
21.5	52.4	52.4	52.4	52.4	52.4	0			262		524
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4		628.8
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377		754
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2		774.4
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2		774.4
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2		774.4
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2		774.4
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2		774.4
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2		774.4
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377		754
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377		754
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		879.2
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2		774.4

Table A16: Charge scheduling of e-bus for year 2022

time	Whole station									standalone station				grand sum 2022
	S1	S2	S3	S4	S5	S6	F1	F2	sum	S1	S2	S3	sum	
	1	2	3	4	5	6	7	8		1	2	3		
0	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	104.8	3202.4
0.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	104.8	3202.4
0.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	104.8	3202.4
0.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
0.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
0.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
0.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	157.2	3173.2
0.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	157.2	3173.2
0.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
0.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
1.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
1.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
1.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
1.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
1.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	104.8	3202.4
1.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	104.8	3202.4
1.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	104.8	3202.4
1.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
1.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
2	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
2.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	157.2	3173.2
2.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	157.2	3173.2
2.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
2.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
2.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
2.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
2.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
2.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
2.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
3	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	104.8	3202.4
3.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	104.8	3202.4
3.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	104.8	3202.4
3.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
3.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
3.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	157.2	3254.8
3.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	157.2	3173.2
3.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	157.2	3173.2
3.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
3.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
4.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
4.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
4.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
4.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
4.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	104.8	3202.4





Continuation of *Table A16*:

14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	3674
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	3150
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0		52.4	3150
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4		104.8	3120.8
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4		104.8	3120.8
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	3150
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0		52.4	3150
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4		104.8	3120.8
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4		104.8	3120.8
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	3150
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0		0	2678.4
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4				0	2259.2
18.3				0	52.4	52.4	62.6	62.6	230				0	1840
18.4					0	52.4	62.6	62.6	177.6				0	1420.8
18.5						0	62.6	62.6	125.2				0	1001.6
18.6							0	62.6	62.6				0	500.8
18.7								0	0				0	0
18.8									0				0	0
18.9									0				0	0
19									0				0	0
19.1									0				0	0
19.2									0				0	0

Continuation of *Table A16*:

19.3									0				0	0
19.4									0				0	0
19.5									0				0	0
19.6									0				0	0
19.7									0				0	0
19.8									0				0	0
19.9									0				0	0
20									0				0	0
20.1									0				0	0
20.2									0				0	0
20.3									0				0	0
20.4									0				0	0
20.5									0				0	0
20.6									0				0	0
20.7									0				0	0
20.8									0				0	0
20.9									0				0	0
21	0								0	0			0	0
21.1	52.4	0							52.4	52.4	0		52.4	471.6
21.2	52.4	52.4	0						104.8	52.4	52.4		104.8	943.2
21.3	52.4	52.4	52.4	0					157.2	52.4	52.4		104.8	1362.4
21.4	52.4	52.4	52.4	52.4	0				209.6	52.4	52.4		104.8	1781.6
21.5	52.4	52.4	52.4	52.4	52.4	0			262	52.4	52.4		104.8	2200.8
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4	52.4	52.4		104.8	2620
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4		104.8	3120.8
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	3150
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0		52.4	3150
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4		104.8	3202.4
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4		104.8	3120.8
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4		104.8	3120.8
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	3621.6
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	3150

Table A17: Charge scheduling of e-bus for year 2023

time	Whole station									standalone station						grand sum 2023
	S1	S2	S3	S4	S5	S6	F1	F2	sum	F1	F2	S1	S2	S3	sum	
	1	2	3	4	5	6	7	8		1	2	3	4	5		
0	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	219.8	6415
0.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	52.4	219.8	6415
0.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	52.4	230	6425.2
0.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	52.4	230	6425.2
0.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	0	230	6425.2
0.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	52.4	282.4	6477.6
0.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	52.4	282.4	6314.4
0.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	52.4	282.4	6314.4
0.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
0.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
1.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
1.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
1.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
1.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
1.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	219.8	6415
1.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	52.4	219.8	6415
1.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	52.4	230	6425.2
1.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	52.4	230	6425.2
1.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	0	230	6425.2
2	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	52.4	282.4	6477.6
2.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	52.4	282.4	6314.4
2.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	52.4	282.4	6314.4
2.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
2.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
2.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
2.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
2.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
2.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
2.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
3	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	219.8	6415
3.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	52.4	219.8	6415
3.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	52.4	230	6425.2
3.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	52.4	230	6425.2
3.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	0	230	6425.2
3.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	52.4	282.4	6477.6
3.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	52.4	282.4	6314.4
3.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	52.4	282.4	6314.4
3.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
3.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
4.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
4.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
4.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
4.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	282.4	7316
4.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	219.8	6415
4.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	52.4	219.8	6415





Continuation of Table A17:

14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4		167.4	6362.6
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4		167.4	6362.6
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4		177.6	6372.8
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0		177.6	6372.8
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4		230	6425.2
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4		230	6425.2
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4		230	6262
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4		230	6262
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4		167.4	6362.6
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4		167.4	6362.6
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4		177.6	6372.8
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0		177.6	6372.8
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4		230	6425.2
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4		230	6425.2
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4		230	6262
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4		230	6262
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4		230	7263.6
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4		167.4	6362.6
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0	52.4	52.4		104.8	5461.6
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4			0	52.4		52.4	4570.8
18.3				0	52.4	52.4	62.6	62.6	230				0		0	3680
18.4					0	52.4	62.6	62.6	177.6						0	2841.6
18.5						0	62.6	62.6	125.2						0	2003.2
18.6							0	62.6	62.6						0	1001.6
18.7								0	0						0	0
18.8									0						0	0
18.9									0						0	0
19									0						0	0
19.1									0						0	0
19.2									0						0	0
19.3									0						0	0
19.4									0						0	0
19.5									0						0	0
19.6									0						0	0

Continuation of *Table A17*:

19.7										0					0	0
19.8										0					0	0
19.9										0					0	0
20										0					0	0
20.1										0					0	0
20.2										0					0	0
20.3										0					0	0
20.4										0					0	0
20.5										0					0	0
20.6										0					0	0
20.7										0					0	0
20.8										0					0	0
20.9										0					0	0
21	0									0	0				0	0
21.1	52.4	0								52.4	62.6	0			62.6	901
21.2	52.4	52.4	0							104.8	62.6	62.6	0		125.2	1802
21.3	52.4	52.4	52.4	0						157.2	62.6	62.6	52.4	0	177.6	2692.8
21.4	52.4	52.4	52.4	52.4	0					209.6	62.6	62.6	52.4	52.4	230	3583.6
21.5	52.4	52.4	52.4	52.4	52.4	0				262	62.6	62.6	52.4	52.4	230	4422
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0			314.4	62.6	62.6	52.4	52.4	230	5260.4
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0		377	62.6	62.6	52.4	52.4	230	6262
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6		387.2	0	62.6	52.4	52.4	167.4	6362.6
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6		387.2	62.6	0	52.4	52.4	167.4	6362.6
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6		387.2	62.6	62.6	0	52.4	177.6	6372.8
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6		387.2	62.6	62.6	52.4	0	177.6	6372.8
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6		387.2	62.6	62.6	52.4	52.4	230	6425.2
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6		387.2	62.6	62.6	52.4	52.4	230	6425.2
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6		377	62.6	62.6	52.4	52.4	230	6262
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0		377	62.6	62.6	52.4	52.4	230	6262
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6		439.6	62.6	62.6	52.4	52.4	230	7263.6
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6		387.2	0	62.6	52.4	52.4	167.4	6362.6







Continuation of Table A18:

14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4	52.4	387.2	11816.8	
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4	52.4	387.2	11816.8	
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	52.4		272.2	10339.4	
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	52.4	52.4		272.2	10339.4	
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	52.4	52.4		282.4	10349.6	
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	52.4	52.4		282.4	10349.6	
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	0	52.4		282.4	10349.6	
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	52.4	0		282.4	10349.6	
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	52.4	52.4		334.8	10136.8	
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	52.4	52.4		334.8	10136.8	
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	52.4		272.2	10339.4	
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	52.4	52.4		272.2	10339.4	
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	52.4	52.4		282.4	10349.6	
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	52.4	52.4		282.4	10349.6	
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	0	52.4		282.4	10349.6	
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	52.4	0		282.4	10349.6	
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	52.4	52.4		334.8	10136.8	
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	52.4	52.4		334.8	10136.8	
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4	
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	52.4		272.2	10339.4	
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0	52.4	52.4	52.4	52.4		209.6	8914.4	
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4			0	52.4	52.4	52.4		157.2	7499.6	
18.3				0	52.4	52.4	62.6	62.6	230					0	52.4	52.4		104.8	6084.8
18.4					0	52.4	62.6	62.6	177.6						0	52.4		52.4	4670
18.5						0	62.6	62.6	125.2							0		0	3255.2
18.6							0	62.6	62.6									0	1627.6
18.7								0	0									0	0
18.8									0									0	0
18.9									0									0	0
19									0									0	0
19.1									0									0	0
19.2									0									0	0
19.3									0									0	0
19.4									0									0	0

Continuation of *Table A18*:

19.5									0								0	0
19.6									0								0	0
19.7									0								0	0
19.8									0								0	0
19.9									0								0	0
20									0								0	0
20.1									0								0	0
20.2									0								0	0
20.3									0								0	0
20.4									0								0	0
20.5									0								0	0
20.6									0								0	0
20.7									0								0	0
20.8									0								0	0
20.9									0								0	0
21	0								0	0							0	0
21.1	52.4	0							52.4	62.6	0						62.6	1425
21.2	52.4	52.4	0						104.8	62.6	62.6	0					125.2	2850
21.3	52.4	52.4	52.4	0					157.2	62.6	62.6	52.4	0				177.6	4264.8
21.4	52.4	52.4	52.4	52.4	0				209.6	62.6	62.6	52.4	52.4	0			230	5679.6
21.5	52.4	52.4	52.4	52.4	52.4	0			262	62.6	62.6	52.4	52.4	52.4	0		282.4	7094.4
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4	62.6	62.6	52.4	52.4	52.4	52.4		334.8	8509.2
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	52.4	52.4		334.8	10136.8
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	52.4		272.2	10339.4
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	52.4	52.4		272.2	10339.4
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	52.4	52.4		282.4	10349.6
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	52.4	52.4		282.4	10349.6
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	0	52.4		282.4	10349.6
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	52.4	0		282.4	10349.6
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	52.4	52.4		334.8	10136.8
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	52.4	52.4		334.8	10136.8
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	52.4	52.4		334.8	11764.4
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	52.4	52.4		272.2	10339.4

Table A19: Charge scheduling of e-bus for year 2025

time	Whole station									standalone station		grand sum 2025
	S1	S2	S3	S4	S5	S6	F1	F2	sum	S1	sum	
	1	2	3	4	5	6	7	8		1		
0	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	0	15100.8
0.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
0.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
0.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
0.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
0.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
0.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
0.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4
0.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
0.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
1.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
1.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
1.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
1.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
1.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	0	15100.8
1.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
1.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
1.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
1.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
2	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
2.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
2.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4
2.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
2.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
2.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
2.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
2.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
2.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
2.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
3	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	0	15100.8
3.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
3.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
3.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
3.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
3.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
3.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
3.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4
3.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
3.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
4.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
4.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
4.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
4.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8



Continuation of *Table A19*:

9.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
9.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
9.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
9.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4
9.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
9.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
10	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
10.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
10.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
10.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
10.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
10.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	0	15100.8
10.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
10.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
10.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
10.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
11	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
11.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
11.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4
11.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
11.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
11.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
11.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
11.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
11.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
11.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
12	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	0	15100.8
12.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
12.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
12.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
12.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
12.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
12.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
12.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4
12.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
12.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
13	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
13.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
13.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
13.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
13.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
13.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	0	15100.8
13.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
13.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
13.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
13.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
14	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
14.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
14.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4

Continuation of *Table A19*:

14.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	0	15100.8
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	0	15100.8
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	15153.2
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	15153.2
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	14755.4
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	14755.4
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	17196.8
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2		0	15100.8
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0	13057.2
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4		0	11013.6
18.3				0	52.4	52.4	62.6	62.6	230		0	8970
18.4					0	52.4	62.6	62.6	177.6		0	6926.4
18.5						0	62.6	62.6	125.2		0	4882.8
18.6							0	62.6	62.6		0	2441.4
18.7								0	0		0	0
18.8									0		0	0
18.9									0		0	0
19									0		0	0
19.1									0		0	0

Continuation of *Table A19*:

19.2									0		0	0
19.3									0		0	0
19.4									0		0	0
19.5									0		0	0
19.6									0		0	0
19.7									0		0	0
19.8									0		0	0
19.9									0		0	0
20									0		0	0
20.1									0		0	0
20.2									0		0	0
20.3									0		0	0
20.4									0		0	0
20.5									0		0	0
20.6									0		0	0
20.7									0		0	0
20.8									0		0	0
20.9									0		0	0
21	0								0		0	0
21.1	52.4	0							52.4		0	2043.6
21.2	52.4	52.4	0						104.8		0	4087.2
21.3	52.4	52.4	52.4	0					157.2		0	6130.8
21.4	52.4	52.4	52.4	52.4	0				209.6		0	8174.4
21.5	52.4	52.4	52.4	52.4	52.4	0			262		0	10218
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4		0	12261.6
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377		0	14703
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2		0	15100.8
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2		0	15100.8
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2		0	15100.8
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2		0	15100.8
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2		0	15100.8
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2		0	15100.8
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377		0	14703
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377		0	14703
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6		0	17144.4
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2		0	15100.8

Table A20: Charge scheduling of e-bus for year 2026

time	Whole station									standalone station				grand mean 2026
	S1	S2	S3	S4	S5	S6	F1	F2	sum	S1	S2	S3	sum	
	1	2	3	4	5	6	7	8		1	2	3		
0	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	104.8	20626.4
0.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	104.8	20626.4
0.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	104.8	20626.4
0.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
0.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
0.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
0.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	157.2	20138.2
0.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	157.2	20138.2
0.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
0.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
1.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
1.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
1.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
1.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
1.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	104.8	20626.4
1.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	104.8	20626.4
1.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	104.8	20626.4
1.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
1.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
2	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
2.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	157.2	20138.2
2.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	157.2	20138.2
2.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
2.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
2.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
2.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
2.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
2.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
2.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
3	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	104.8	20626.4
3.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	104.8	20626.4
3.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	104.8	20626.4
3.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
3.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
3.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	157.2	20678.8
3.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	157.2	20138.2
3.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	157.2	20138.2
3.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
3.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
4.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
4.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
4.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
4.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	157.2	23456
4.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	104.8	20626.4





Continuation of *Table A20*:

14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	20574
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0		52.4	20574
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4		104.8	20085.8
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4		104.8	20085.8
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	20574
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0		52.4	20574
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4		104.8	20085.8
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4		104.8	20085.8
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	20574
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0		0	17744.4
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4				0	14967.2
18.3				0	52.4	52.4	62.6	62.6	230				0	12190
18.4					0	52.4	62.6	62.6	177.6				0	9412.8
18.5						0	62.6	62.6	125.2				0	6635.6
18.6							0	62.6	62.6				0	3317.8
18.7								0	0				0	0
18.8									0				0	0
18.9									0				0	0
19									0				0	0
19.1									0				0	0
19.2									0				0	0

Continuation of *Table A20*:

19.3									0				0	0
19.4									0				0	0
19.5									0				0	0
19.6									0				0	0
19.7									0				0	0
19.8									0				0	0
19.9									0				0	0
20									0				0	0
20.1									0				0	0
20.2									0				0	0
20.3									0				0	0
20.4									0				0	0
20.5									0				0	0
20.6									0				0	0
20.7									0				0	0
20.8									0				0	0
20.9									0				0	0
21	0								0	0			0	0
21.1	52.4	0							52.4	52.4	0		52.4	2829.6
21.2	52.4	52.4	0						104.8	52.4	52.4		104.8	5659.2
21.3	52.4	52.4	52.4	0					157.2	52.4	52.4		104.8	8436.4
21.4	52.4	52.4	52.4	52.4	0				209.6	52.4	52.4		104.8	11213.6
21.5	52.4	52.4	52.4	52.4	52.4	0			262	52.4	52.4		104.8	13990.8
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4	52.4	52.4		104.8	16768
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4		104.8	20085.8
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	20574
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0		52.4	20574
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4		104.8	20626.4
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4		104.8	20085.8
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4		104.8	20085.8
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4		104.8	23403.6
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4		52.4	20574

Table A21: Charge scheduling of e-bus for year 2027

time	Whole station									standalone station					grand mean 2027
	S1	S2	S3	S4	S5	S6	F1	F2	sum	F1	F2	S1	S2	sum	
	1	2	3	4	5	6	7	8		1	2	3	4		
0	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	62.6	26779.4
0.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	62.6	26779.4
0.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	125.2	26842
0.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	125.2	26842
0.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	125.2	26842
0.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	125.2	26842
0.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	125.2	26138.2
0.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	125.2	26138.2
0.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
0.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
1.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
1.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
1.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
1.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
1.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	62.6	26779.4
1.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	62.6	26779.4
1.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	125.2	26842
1.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	125.2	26842
1.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	125.2	26842
2	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	125.2	26842
2.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	125.2	26138.2
2.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	125.2	26138.2
2.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
2.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
2.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
2.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
2.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
2.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
2.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
3	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	62.6	26779.4
3.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	62.6	26779.4
3.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	125.2	26842
3.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	125.2	26842
3.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	125.2	26842
3.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	125.2	26842
3.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	125.2	26138.2
3.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	125.2	26138.2
3.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
3.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
4.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
4.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
4.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
4.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
4.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	62.6	26779.4





Continuation of *Table A21*:

14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	125.2	30457.6
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4		62.6	26779.4
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4		62.6	26779.4
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0		125.2	26842
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4		125.2	26138.2
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4		125.2	26138.2
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4		62.6	26779.4
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4		62.6	26779.4
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0		125.2	26842
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4		125.2	26138.2
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4		125.2	26138.2
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4		62.6	26779.4
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0	52.4		0	23101.2
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4			0		0	19485.6
18.3				0	52.4	52.4	62.6	62.6	230					0	15870
18.4					0	52.4	62.6	62.6	177.6					0	12254.4
18.5						0	62.6	62.6	125.2					0	8638.8
18.6							0	62.6	62.6					0	4319.4
18.7								0	0					0	0
18.8									0					0	0
18.9									0					0	0
19									0					0	0
19.1									0					0	0
19.2									0					0	0

Continuation of *Table A21*:

19.3									0					0	0
19.4									0					0	0
19.5									0					0	0
19.6									0					0	0
19.7									0					0	0
19.8									0					0	0
19.9									0					0	0
20									0					0	0
20.1									0					0	0
20.2									0					0	0
20.3									0					0	0
20.4									0					0	0
20.5									0					0	0
20.6									0					0	0
20.7									0					0	0
20.8									0					0	0
20.9									0					0	0
21	0								0	0				0	0
21.1	52.4	0							52.4	62.6	0			62.6	3678.2
21.2	52.4	52.4	0						104.8	62.6	62.6	0		125.2	7356.4
21.3	52.4	52.4	52.4	0					157.2	62.6	62.6	52.4		125.2	10972
21.4	52.4	52.4	52.4	52.4	0				209.6	62.6	62.6	52.4		125.2	14587.6
21.5	52.4	52.4	52.4	52.4	52.4	0			262	62.6	62.6	52.4		125.2	18203.2
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4	62.6	62.6	52.4		125.2	21818.8
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4		125.2	26138.2
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4		62.6	26779.4
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4		62.6	26779.4
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0		125.2	26842
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4		125.2	26842
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4		125.2	26138.2
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4		125.2	26138.2
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4		125.2	30457.6
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4		62.6	26779.4







Continuation of *Table A22*:

14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4	52.4	157.2	33843.6
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	52.4	52.4	157.2	33843.6
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	52.4	52.4	157.2	33843.6
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	0	52.4	157.2	33843.6
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	52.4	0	209.6	33896
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	52.4	52.4	209.6	33896
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	52.4	52.4	209.6	33008.6
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	52.4	52.4	209.6	33008.6
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4	52.4	157.2	33843.6
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	52.4	52.4	157.2	33843.6
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	52.4	52.4	157.2	33843.6
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	0	52.4	157.2	33843.6
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	52.4	0	209.6	33896
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	52.4	52.4	209.6	33896
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	52.4	52.4	209.6	33008.6
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	52.4	52.4	209.6	33008.6
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4	52.4	157.2	33843.6
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0	52.4	52.4	52.4	104.8	29232.4
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4			0	52.4	52.4	52.4	24621.2
18.3				0	52.4	52.4	62.6	62.6	230				0	52.4	0	20010
18.4					0	52.4	62.6	62.6	177.6					0	0	15451.2
18.5						0	62.6	62.6	125.2						0	10892.4
18.6							0	62.6	62.6						0	5446.2
18.7								0	0						0	0
18.8									0						0	0
18.9									0						0	0
19									0						0	0
19.1									0						0	0
19.2									0						0	0

Continuation of *Table A22*:

19.3									0						0	0
19.4									0						0	0
19.5									0						0	0
19.6									0						0	0
19.7									0						0	0
19.8									0						0	0
19.9									0						0	0
20									0						0	0
20.1									0						0	0
20.2									0						0	0
20.3									0						0	0
20.4									0						0	0
20.5									0						0	0
20.6									0						0	0
20.7									0						0	0
20.8									0						0	0
20.9									0						0	0
21	0								0	0					0	0
21.1	52.4	0							52.4	52.4	0				52.4	4611.2
21.2	52.4	52.4	0						104.8	52.4	52.4	0			104.8	9222.4
21.3	52.4	52.4	52.4	0					157.2	52.4	52.4	52.4	0		157.2	13833.6
21.4	52.4	52.4	52.4	52.4	0				209.6	52.4	52.4	52.4	52.4	0	209.6	18444.8
21.5	52.4	52.4	52.4	52.4	52.4	0			262	52.4	52.4	52.4	52.4	52.4	209.6	23003.6
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4	52.4	52.4	52.4	52.4	52.4	209.6	27562.4
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	52.4	52.4	209.6	33008.6
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	209.6	38454.8
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4		157.2	33843.6
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	52.4		157.2	33843.6
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	52.4		157.2	33843.6
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	0		157.2	33843.6
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	52.4		209.6	33896
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	52.4		209.6	33896
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	52.4		209.6	33008.6
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	52.4		209.6	33008.6
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	38454.8
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4		157.2	33843.6







Continuation of *Table A23*:

14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4	52.4	209.6	41640
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	52.4	52.4	209.6	41640
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	52.4	52.4	209.6	41640
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	0	52.4	209.6	41640
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	52.4	0	209.6	41640
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	52.4	52.4	262	41692.4
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	52.4	52.4	262	40601
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	52.4	52.4	262	40601
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4	52.4	209.6	41640
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	52.4	52.4	209.6	41640
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	52.4	52.4	209.6	41640
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	0	52.4	209.6	41640
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	52.4	0	209.6	41640
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	52.4	52.4	262	41692.4
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	52.4	52.4	262	40601
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	52.4	52.4	262	40601
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4	52.4	209.6	41640
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0	52.4	52.4	52.4	157.2	35980.8
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4			0	52.4	52.4	104.8	30321.6
18.3				0	52.4	52.4	62.6	62.6	230				0	52.4	52.4	24662.4
18.4					0	52.4	62.6	62.6	177.6					0	0	19003.2
18.5						0	62.6	62.6	125.2						0	13396.4
18.6							0	62.6	62.6						0	6698.2
18.7								0	0						0	0
18.8									0						0	0
18.9									0						0	0
19									0						0	0
19.1									0						0	0
19.2									0						0	0

Continuation of *Table A23*:

19.3									0						0	0
19.4									0						0	0
19.5									0						0	0
19.6									0						0	0
19.7									0						0	0
19.8									0						0	0
19.9									0						0	0
20									0						0	0
20.1									0						0	0
20.2									0						0	0
20.3									0						0	0
20.4									0						0	0
20.5									0						0	0
20.6									0						0	0
20.7									0						0	0
20.8									0						0	0
20.9									0						0	0
21	0								0	0					0	0
21.1	52.4	0							52.4	52.4	0				52.4	5659.2
21.2	52.4	52.4	0						104.8	52.4	52.4	0			104.8	11318.4
21.3	52.4	52.4	52.4	0					157.2	52.4	52.4	52.4	0		157.2	16977.6
21.4	52.4	52.4	52.4	52.4	0				209.6	52.4	52.4	52.4	52.4	0	209.6	22636.8
21.5	52.4	52.4	52.4	52.4	52.4	0			262	52.4	52.4	52.4	52.4	52.4	262	28296
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4	52.4	52.4	52.4	52.4	52.4	262	33902.8
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	52.4	52.4	262	40601
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4	52.4	209.6	41640
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	52.4	0	52.4	52.4	52.4	209.6	41640
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	52.4	52.4	0	52.4	52.4	209.6	41640
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	52.4	52.4	52.4	0	52.4	209.6	41640
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	52.4	52.4	52.4	52.4	0	209.6	41640
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	52.4	52.4	52.4	52.4	52.4	262	41692.4
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	52.4	52.4	52.4	52.4	52.4	262	40601
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	52.4	52.4	52.4	52.4	52.4	262	40601
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4	52.4	262	47299.2
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	47246.8
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	47246.8
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	47246.8
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	47246.8
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	47246.8
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	52.4	52.4	52.4	52.4		209.6	47246.8
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	52.4	52.4	52.4		157.2	41587.6

Table A24: Charge scheduling of e-bus for year 2030

time	Whole station									standalone station					grand mean 2030
	S1	S2	S3	S4	S5	S6	F1	F2	sum	F1	F2	S1	S2	sum	
	1	2	3	4	5	6	7	8		1	2	3	4		
0	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
0.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
0.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
0.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
0.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
0.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
0.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
0.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
0.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
0.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
1.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
1.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
1.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
1.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
2	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
2.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
2.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
2.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
3	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
3.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
3.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
3.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
3.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
3.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
3.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
3.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
3.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
3.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2





Continuation of Table A24:

14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0	52.4	52.4	104.8	43294
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4			0	52.4	52.4	36482
18.3				0	52.4	52.4	62.6	62.6	230				0	0	29670
18.4					0	52.4	62.6	62.6	177.6					0	22910.4
18.5						0	62.6	62.6	125.2					0	16150.8
18.6							0	62.6	62.6					0	8075.4
18.7								0	0					0	0
18.8									0					0	0
18.9									0					0	0
19									0					0	0
19.1									0					0	0
19.2									0					0	0

Continuation of *Table A24*:

19.3									0					0	0
19.4									0					0	0
19.5									0					0	0
19.6									0					0	0
19.7									0					0	0
19.8									0					0	0
19.9									0					0	0
20									0					0	0
20.1									0					0	0
20.2									0					0	0
20.3									0					0	0
20.4									0					0	0
20.5									0					0	0
20.6									0					0	0
20.7									0					0	0
20.8									0					0	0
20.9									0					0	0
21	0								0	0				0	0
21.1	52.4	0							52.4	62.6	0			62.6	6822.2
21.2	52.4	52.4	0						104.8	62.6	62.6	0		125.2	13644.4
21.3	52.4	52.4	52.4	0					157.2	62.6	62.6	52.4	0	177.6	20456.4
21.4	52.4	52.4	52.4	52.4	0				209.6	62.6	62.6	52.4	52.4	230	27268.4
21.5	52.4	52.4	52.4	52.4	52.4	0			262	62.6	62.6	52.4	52.4	230	34028
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4	62.6	62.6	52.4	52.4	230	40787.6
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2

Table A25: yearwise daily day time load scheduling of e3w

time p	year 2021	year 2022	year 2023	year 2024	year 2025	year 2026	year 2027	year 2028	year 2029	year 2030	
14.4	0.001349898	0.051903579	0.153634595	0.30726919	0.51073122	0.766096831	1.071289877	1.428386503	1.837386708	2.296214349	2.806945569
14.5	0.006209665	0.238761632	0.70673443	1.41346886	2.349414457	3.524121685	4.92804008	6.570720106	8.452161765	10.56281459	12.91222905
14.6	0.022750132	0.874742573	2.589238017	5.178476035	8.607466922	12.91120038	18.05468672	24.07291562	30.9658871	38.69861145	47.30607837
14.7	0.066807201	2.568736889	7.603461191	15.20692238	25.27637099	37.91455648	53.01872938	70.69163918	90.93328586	113.64092	138.9172909
14.8	0.158655254	6.100294514	18.05687176	36.11374352	60.02689801	90.04034702	125.9100788	167.880105	215.9504258	269.8770293	329.9039273
14.9	0.308537539	11.86326836	35.11527436	70.23054871	116.7345607	175.1018411	244.857859	326.4771454	419.9597001	524.8309924	641.5655531
15	0.5	19.225	56.906	113.812	189.174	283.761	396.804	529.072	680.565	850.514	1039.688
15.1	0.691462461	26.58673164	78.69672564	157.3934513	261.6134393	392.4201589	548.750141	731.6668546	941.1702999	1176.197008	1437.810447
15.2	0.841344746	32.34970549	95.75512824	191.5102565	318.321102	477.481653	667.6979212	890.263895	1145.179574	1431.150971	1749.472073
15.3	0.933192799	35.88126311	106.2085388	212.4170776	353.071629	529.6074435	740.5892706	987.4523608	1270.196714	1587.38708	1940.458709
15.4	0.977249868	37.57525743	111.222762	222.445524	369.7405331	554.6107996	775.5533133	1034.071084	1330.164113	1662.329389	2032.069922
15.5	0.993790335	38.21123837	113.1052656	226.2105311	375.9985855	563.9978783	788.6799599	1051.57328	1352.677838	1690.465185	2066.463771
15.6	0.998650102	38.39809642	113.6583654	227.3167308	377.8372688	566.7559032	792.5367101	1056.715613	1359.292613	1698.731786	2076.569054
15.7	0.999767371	38.44105541	113.785524	227.571048	378.2599853	567.3899779	793.4233837	1057.897845	1360.813362	1700.632291	2078.892277
15.8	0.999968329	38.44878224	113.8083954	227.6167909	378.3360172	567.5040259	793.5828654	1058.110487	1361.086891	1700.974126	2079.310144
15.9	0.999996602	38.44986936	113.8116133	227.6232266	378.3467145	567.5200717	793.6053036	1058.140405	1361.125375	1701.02222	2079.368935
16	0.999999713	38.44998898	113.8119674	227.6239348	378.3478915	567.5218373	793.6077725	1058.143697	1361.12961	1701.027512	2079.375404
16.1	0.999999981	38.44999927	113.8119978	227.6239957	378.3479928	567.5219892	793.6079849	1058.14398	1361.129974	1701.027968	2079.375961
16.2	0.999999999	38.44999996	113.8119999	227.6239998	378.3479996	567.5219994	793.6079992	1058.143999	1361.129999	1701.027998	2079.375998
16.3	0.998650102	38.39809642	113.6583654	227.3167308	377.8372688	566.7559032	792.5367101	1056.715613	1359.292613	1698.731786	2076.569054
16.4	0.993790335	38.21123837	113.1052656	226.2105311	375.9985855	563.9978783	788.6799599	1051.57328	1352.677838	1690.465185	2066.463771
16.5	0.977249868	37.57525743	111.222762	222.445524	369.7405331	554.6107996	775.5533133	1034.071084	1330.164113	1662.329389	2032.069922
16.6	0.933192799	35.88126311	106.2085388	212.4170776	353.071629	529.6074435	740.5892706	987.4523608	1270.196714	1587.38708	1940.458709
16.7	0.841344746	32.34970549	95.75512824	191.5102565	318.321102	477.481653	667.6979212	890.263895	1145.179574	1431.150971	1749.472073
16.8	0.691462461	26.58673164	78.69672564	157.3934513	261.6134393	392.4201589	548.750141	731.6668546	941.1702999	1176.197008	1437.810447
16.9	0.5	19.225	56.906	113.812	189.174	283.761	396.804	529.072	680.565	850.514	1039.688
17	0.308537539	11.86326836	35.11527436	70.23054871	116.7345607	175.1018411	244.857859	326.4771454	419.9597001	524.8309924	641.5655531
17.1	0.158655254	6.100294514	18.05687176	36.11374352	60.02689801	90.04034702	125.9100788	167.880105	215.9504258	269.8770293	329.9039273
17.2	0.066807201	2.568736889	7.603461191	15.20692238	25.27637099	37.91455648	53.01872938	70.69163918	90.93328586	113.64092	138.9172909
17.3	0.022750132	0.874742573	2.589238017	5.178476035	8.607466922	12.91120038	18.05468672	24.07291562	30.9658871	38.69861145	47.30607837
17.4	0.006209665	0.238761632	0.70673443	1.41346886	2.349414457	3.524121685	4.92804008	6.570720106	8.452161765	10.56281459	12.91222905
17.5	0.001349898	0.051903579	0.153634595	0.30726919	0.51073122	0.766096831	1.071289877	1.428386503	1.837386708	2.296214349	2.806945569

Table A26: yearwise daily night time load scheduling of e3w

x	p	year 2021	year 2022	year 2023	year 2024	year 2025	year 2026	year 2027	year 2028	year 2029	year 2030
21.5	0.001349898	0.05190358	0.15363459	0.30726919	0.51073122	0.76609683	1.07128988	1.4283865	1.83738671	2.29621435	2.80694557
21.6	0.002555513	0.09824476	0.29080449	0.58160899	0.96672845	1.45009268	2.02777187	2.70369583	3.47786455	4.34634824	5.31307669
21.7	0.004661188	0.17922268	0.53049913	1.06099826	1.76355117	2.64532675	3.69915611	4.93220814	6.34448285	7.92881134	9.69236251
21.8	0.008197536	0.31519526	0.93297796	1.86595592	3.10152132	4.65228198	6.50563009	8.67417345	11.1579121	13.9442381	17.0457595
21.9	0.013903448	0.53458756	1.58237917	3.16475834	5.26034156	7.89051234	11.0338872	14.7118496	18.9243995	23.6501535	28.9104951
22	0.022750132	0.87474257	2.58923802	5.17847603	8.60746692	12.9112004	18.0546867	24.0729156	30.9658871	38.6986114	47.3060784
22.1	0.035930319	1.38152077	4.08930148	8.17860296	13.5941644	20.3912466	28.5145887	38.0194516	48.9058353	61.1184789	74.7126432
22.2	0.054799292	2.10703277	6.23681699	12.473634	20.7332024	31.0998036	43.4891563	57.9855417	74.5889599	93.2151296	113.948332
22.3	0.080756659	3.10509355	9.1910769	18.3821538	30.5541205	45.8311808	64.0891308	85.4521744	109.920312	137.369339	167.923459
22.4	0.11506967	4.42442882	13.0963093	26.1926186	43.5363796	65.3045694	91.3202108	121.760281	156.62478	195.736731	239.273111
22.5	0.158655254	6.10029451	18.0568718	36.1137435	60.026898	90.040347	125.910079	167.880105	215.950426	269.877029	329.903927
22.6	0.211855399	8.14584008	24.1116866	48.2233732	80.1550663	120.2326	168.130139	224.173519	288.362739	360.371965	440.527031
22.7	0.274253118	10.5450324	31.2132958	62.4265917	103.763119	155.644678	217.649468	290.199291	373.294146	466.512232	570.275351
22.8	0.344578258	13.249034	39.2171407	78.4342815	130.370495	195.555742	273.460062	364.613417	469.015805	586.137266	716.507761
22.9	0.420740291	16.1774642	47.8852939	95.7705879	159.186247	238.779371	333.902861	445.203814	572.682232	715.691015	874.877262
23	0.5	19.225	56.906	113.812	189.174	283.761	396.804	529.072	680.565	850.514	1039.688
23.1	0.579259709	22.2725358	65.9267061	131.853412	219.161753	328.742629	459.705139	612.940186	788.447768	985.336985	1204.49874
23.2	0.655421742	25.200966	74.5948593	149.189719	247.977505	371.966258	520.147938	693.530583	892.114195	1114.89073	1362.86824
23.3	0.725746882	27.9049676	82.5987042	165.197408	274.584881	411.877322	575.958532	767.944709	987.835854	1234.51577	1509.10065
23.4	0.788144601	30.3041599	89.7003134	179.400627	298.192934	447.2894	625.477861	833.970481	1072.76726	1340.65604	1638.84897
23.5	0.841344746	32.3497055	95.7551282	191.510256	318.321102	477.481653	667.697921	890.263895	1145.17957	1431.15097	1749.47207
23.6	0.88493033	34.0255712	100.715691	201.431381	334.81162	502.217431	702.287789	936.383719	1204.50522	1505.29127	1840.10289
23.7	0.919243341	35.3449065	104.620923	209.241846	347.793879	521.690819	729.518869	972.691826	1251.20969	1563.65866	1911.45254
23.8	0.945200708	36.3429672	107.575183	215.150366	357.614798	536.422196	750.118844	1000.15846	1286.54104	1607.81287	1965.42767
23.9	0.964069681	37.0684792	109.722699	219.445397	364.753836	547.130753	765.093411	1020.12455	1312.22416	1639.90952	2004.66336
24	0.977249868	37.5752574	111.222762	222.445524	369.740533	554.6108	775.553313	1034.07108	1330.16411	1662.32939	2032.06992
24.1	0.986096552	37.9154124	112.229621	224.459242	373.087658	559.631488	782.574113	1043.43215	1342.2056	1677.37785	2050.4655
24.2	0.991802464	38.1348047	112.879022	225.758044	375.246479	562.869718	787.10237	1049.46983	1349.97209	1687.08376	2062.33024
24.3	0.995338812	38.2707773	113.281501	226.563002	376.584449	564.876673	789.908844	1053.21179	1354.78552	1693.09919	2069.68364
24.4	0.997444487	38.3517552	113.521196	227.042391	377.381272	566.071907	791.580228	1055.4403	1357.65214	1696.68165	2074.06292
24.5	0.998650102	38.3980964	113.658365	227.316731	377.837269	566.755903	792.53671	1056.71561	1359.29261	1698.73179	2076.56905

Continuation of Table A26:

24.6	0.998650102	38.3980964	113.658365	227.316731	377.837269	566.755903	792.53671	1056.71561	1359.29261	1698.73179	2076.56905
24.7	0.99744487	38.3517552	113.521196	227.042391	377.381272	566.071907	791.580228	1055.4403	1357.65214	1696.68165	2074.06292
24.8	0.995338812	38.2707773	113.281501	226.563002	376.584449	564.876673	789.908844	1053.21179	1354.78552	1693.09919	2069.68364
24.9	0.991802464	38.1348047	112.879022	225.758044	375.246479	562.869718	787.10237	1049.46983	1349.97209	1687.08376	2062.33024
25	0.986096552	37.9154124	112.229621	224.459242	373.087658	559.631488	782.574113	1043.43215	1342.2056	1677.37785	2050.4655
25.1	0.977249868	37.5752574	111.222762	222.445524	369.740533	554.6108	775.553313	1034.07108	1330.16411	1662.32939	2032.06992
25.2	0.964069681	37.0684792	109.722699	219.445397	364.753836	547.130753	765.093411	1020.12455	1312.22416	1639.90952	2004.66336
25.3	0.945200708	36.3429672	107.575183	215.150366	357.614798	536.422196	750.118844	1000.15846	1286.54104	1607.81287	1965.42767
25.4	0.919243341	35.3449065	104.620923	209.241846	347.793879	521.690819	729.518869	972.691826	1251.20969	1563.65866	1911.45254
25.5	0.88493033	34.0255712	100.715691	201.431381	334.81162	502.217431	702.287789	936.383719	1204.50522	1505.29127	1840.10289
25.6	0.841344746	32.3497055	95.7551282	191.510256	318.321102	477.481653	667.697921	890.263895	1145.17957	1431.15097	1749.47207
25.7	0.788144601	30.3041599	89.7003134	179.400627	298.192934	447.2894	625.477861	833.970481	1072.76726	1340.65604	1638.84897
25.8	0.725746882	27.9049676	82.5987042	165.197408	274.584881	411.877322	575.958532	767.944709	987.835854	1234.51577	1509.10065
25.9	0.655421742	25.200966	74.5948593	149.189719	247.977505	371.966258	520.147938	693.530583	892.114195	1114.89073	1362.86824
26	0.579259709	22.2725358	65.9267061	131.853412	219.161753	328.742629	459.705139	612.940186	788.447768	985.336985	1204.49874
26.1	0.5	19.225	56.906	113.812	189.174	283.761	396.804	529.072	680.565	850.514	1039.688
26.2	0.420740291	16.1774642	47.8852939	95.7705879	159.186247	238.779371	333.902861	445.203814	572.682232	715.691015	874.877262
26.3	0.344578258	13.249034	39.2171407	78.4342815	130.370495	195.555742	273.460062	364.613417	469.015805	586.137266	716.507761
26.4	0.274253118	10.5450324	31.2132958	62.4265917	103.763119	155.644678	217.649468	290.199291	373.294146	466.512232	570.275351
26.5	0.211855399	8.14584008	24.1116866	48.2233732	80.1550663	120.2326	168.130139	224.173519	288.362739	360.371965	440.527031
26.6	0.158655254	6.10029451	18.0568718	36.1137435	60.026898	90.040347	125.910079	167.880105	215.950426	269.877029	329.903927
26.7	0.11506967	4.42442882	13.0963093	26.1926186	43.5363796	65.3045694	91.3202108	121.760281	156.62478	195.736731	239.273111
26.8	0.080756659	3.10509355	9.1910769	18.3821538	30.5541205	45.8311808	64.0891308	85.4521744	109.920312	137.369339	167.923459
26.9	0.054799292	2.10703277	6.23681699	12.473634	20.7332024	31.0998036	43.4891563	57.9855417	74.5889599	93.2151296	113.948332
27	0.035930319	1.38152077	4.08930148	8.17860296	13.5941644	20.3912466	28.5145887	38.0194516	48.9058353	61.1184789	74.7126432
27.1	0.022750132	0.87474257	2.58923802	5.17847603	8.60746692	12.9112004	18.0546867	24.0729156	30.9658871	38.6986114	47.3060784
27.2	0.013903448	0.53458756	1.58237917	3.16475834	5.26034156	7.89051234	11.0338872	14.7118496	18.9243995	23.6501535	28.9104951
27.3	0.008197536	0.31519526	0.93297796	1.86595592	3.10152132	4.65228198	6.50563009	8.67417345	11.1579121	13.9442381	17.0457595
27.4	0.004661188	0.17922268	0.53049913	1.06099826	1.76355117	2.64532675	3.69915611	4.93220814	6.34448285	7.92881134	9.69236251
27.5	0.00255513	0.09824476	0.29080449	0.58160899	0.96672845	1.45009268	2.02777187	2.70369583	3.47786455	4.34634824	5.31307669
27.6	0.001349898	0.05190358	0.15363459	0.30726919	0.51073122	0.76609683	1.07128988	1.4283865	1.83738671	2.29621435	2.80694557

Table A27: yearwise daily night time load scheduling of e2w

x	p	year 2021	year 2022	year 2023	year 2024	year 2025	year 2026	year 2027	year 2028	year 2029	year 2030
20.5	0.001349898	0.228537602	0.685942585	1.371885171	2.286695138	3.430042707	4.801927878	6.40268043	8.231970585	10.29012812	12.57682326
20.6	0.002555513	0.432583309	1.298374147	2.596748293	4.328329968	6.492494951	9.089243245	12.11919907	15.5817382	19.47748485	23.80581482
20.7	0.004661188	0.789138666	2.368554727	4.737109454	7.895941576	11.84391236	16.58102182	22.10840867	28.42493418	35.53173709	43.42767867
20.8	0.008197536	1.387842012	4.165528695	8.33105739	13.88643075	20.82964613	29.16070352	38.88160558	49.99034965	62.4889384	76.37536915
20.9	0.013903448	2.353852274	7.064953433	14.12990687	23.55210919	35.32816378	49.45807065	65.9452264	84.78623442	105.9844913	129.5366005
21	0.022750132	3.851595064	11.56034305	23.1206861	38.53818207	57.8072731	80.9279592	107.9057982	138.7352323	173.4218193	211.9600014
21.1	0.035930319	6.082999433	18.25777608	36.51555215	60.86510544	91.29765815	127.8132103	170.4205397	219.1108685	273.8929745	334.7580799
21.2	0.054799292	9.277514605	27.84593128	55.69186256	92.82869592	139.2430439	194.9349064	259.9176711	334.1779503	417.7291316	510.5578275
21.3	0.080756659	13.67209433	41.03601185	82.0720237	136.7998587	205.1997881	287.2718118	383.0356587	492.4715999	615.5993643	752.3992223
21.4	0.11506967	19.48128366	58.47196251	116.943925	194.9252827	292.387924	409.3318491	545.7851692	701.7197731	877.1637721	1072.089055
21.5	0.158655254	26.86031863	80.61971535	161.2394307	268.7582242	403.1373362	564.376767	752.5152758	967.5141032	1209.412009	1478.170233
21.6	0.211855399	35.86709779	107.6530497	215.3060993	358.878003	538.3170046	753.6231039	1004.848057	1291.940108	1614.951014	1973.829017
21.7	0.274253118	46.43102541	139.3600763	278.7201525	464.5782542	696.8673814	975.5875339	1300.805712	1672.454915	2090.602144	2555.180398
21.8	0.344578258	58.33706469	175.0953745	350.1907491	583.7073687	875.5610531	1225.751802	1634.363796	2101.312855	2626.683159	3210.390528
21.9	0.420740291	71.23128912	213.7966542	427.5933084	712.7240386	1069.086058	1496.679366	1995.606751	2565.765424	3207.258174	3919.982212
22	0.5	84.64995	254.072	508.144	846.9881	1270.48215	1778.62615	2371.54225	3049.1083	3811.44645	4658.43455
22.1	0.579259709	98.06861088	294.3473458	588.6946916	981.2521614	1471.878242	2060.572934	2747.477749	3532.451176	4415.634726	5396.886888
22.2	0.655421742	110.9628353	333.0486255	666.0972509	1110.268831	1665.403247	2331.500498	3108.720704	3996.903745	4996.209741	6106.478572
22.3	0.725746882	122.8688746	368.7839237	737.5678475	1229.397946	1844.096919	2581.664766	3442.278788	4425.761685	5532.290756	6761.688702
22.4	0.788144601	133.4328022	400.4909503	800.9819007	1335.098197	2002.647295	2803.629196	3738.236443	4806.276492	6007.941886	7343.040083
22.5	0.841344746	142.4395814	427.5242846	855.0485693	1425.217976	2137.826964	2992.875533	3990.569224	5130.702497	6413.480891	7838.698867
22.6	0.88493033	149.8186163	449.6720375	899.344075	1499.050917	2248.576376	3147.920451	4197.299331	5396.496827	6745.729128	8244.780045
22.7	0.919243341	155.6278057	467.1079882	934.2159763	1557.176341	2335.764512	3269.980488	4360.048841	5605.745	7007.293536	8564.469877
22.8	0.945200708	160.0223854	480.2980687	960.5961374	1601.147504	2401.721256	3362.317394	4483.166829	5764.03865	7205.163768	8806.311272
22.9	0.964069681	163.2169006	489.8862239	979.7724478	1633.111095	2449.666642	3429.43909	4572.66396	5879.105732	7348.999926	8982.11102
23	0.977249868	165.4483049	496.583657	993.1673139	1655.438018	2483.157027	3476.324341	4635.178702	5959.481368	7449.471081	9104.909099
23.1	0.986096552	166.9460477	501.0790466	1002.158093	1670.424091	2505.636136	3507.794229	4677.139274	6013.430366	7516.908409	9187.332499
23.2	0.991802464	167.912058	503.9784713	1007.956943	1680.089769	2520.134654	3528.091596	4704.202894	6048.22625	7560.403962	9240.493731
23.3	0.995338812	168.5107613	505.7754453	1011.550891	1686.080258	2529.120388	3540.671278	4720.976091	6069.791666	7587.361163	9273.441421
23.4	0.99744487	168.8673167	506.8456259	1013.691252	1689.64787	2534.471805	3548.163057	4730.965301	6082.634862	7603.415415	9293.063285
23.5	0.998650102	169.0713624	507.4580574	1014.916115	1691.689505	2537.534257	3552.450372	4736.68182	6089.984629	7612.602772	9304.292277
23.6	0.999312862	169.1835676	507.794835	1015.58967	1692.812205	2539.218307	3554.807977	4739.825347	6094.026284	7617.654921	9310.467126

Continuation of Table A27.

23.7	0.999663071	169.2428579	507.9727914	1015.945583	1693.40545	2540.108175	3556.053758	4741.486416	6096.161932	7620.324524	9313.729974
23.8	0.999840891	169.2729629	508.0631499	1016.1263	1693.706674	2540.560011	3556.686311	4742.329835	6097.246321	7621.680032	9315.386706
23.9	0.999927652	169.2876515	508.1072368	1016.214474	1693.853644	2540.780466	3556.99494	4742.741347	6097.775406	7622.341399	9316.195043
24	0.999968329	169.2945381	508.1279064	1016.255813	1693.922255	2540.883825	3557.139637	4742.934281	6098.023462	7622.651474	9316.574023
24.1	0.999986654	169.2976406	508.1372184	1016.274437	1693.953593	2540.930389	3557.204826	4743.0212	6098.135215	7622.791167	9316.744759
24.2	0.999994587	169.2989837	508.1412496	1016.282499	1693.967031	2540.950547	3557.233046	4743.058828	6098.183593	7622.851641	9316.818672
24.3	0.999997888	169.2995424	508.1429266	1016.285853	1693.972622	2540.958932	3557.244785	4743.07448	6098.203718	7622.876797	9316.849419
24.4	0.999999207	169.2997657	508.1435969	1016.287194	1693.974856	2540.962284	3557.249478	4743.080737	6098.211762	7622.886853	9316.861709
24.5	0.999999713	169.2998515	508.1438543	1016.287709	1693.975714	2540.963572	3557.25128	4743.08314	6098.214852	7622.890715	9316.866429
24.6	0.99999999	169.2998831	508.1439494	1016.287899	1693.976031	2540.964047	3557.251946	4743.084027	6098.215992	7622.89214	9316.868172
24.7	0.998650102	169.0713624	507.4580574	1014.916115	1691.689505	2537.534257	3552.450372	4736.68182	6089.984629	7612.602772	9304.292277
24.8	0.99744487	168.8673167	506.8456259	1013.691252	1689.64787	2534.471805	3548.163057	4730.965301	6082.634862	7603.415415	9293.063285
24.9	0.995338812	168.5107613	505.7754453	1011.550891	1686.080258	2529.120388	3540.671278	4720.976091	6069.791666	7587.361163	9273.441421
25	0.991802464	167.912058	503.9784713	1007.956943	1680.089769	2520.134654	3528.091596	4704.202894	6048.22625	7560.403962	9240.493731
25.1	0.986096552	166.9460477	501.0790466	1002.158093	1670.424091	2505.636136	3507.794229	4677.139274	6013.430366	7516.908409	9187.332499
25.2	0.977249868	165.4483049	496.583657	993.1673139	1655.438018	2483.157027	3476.324341	4635.178702	5959.481368	7449.471081	9104.909099
25.3	0.964069681	163.2169006	489.8862239	979.7724478	1633.111095	2449.666642	3429.43909	4572.66396	5879.105732	7348.999926	8982.11102
25.4	0.945200708	160.0223854	480.2980687	960.5961374	1601.147504	2401.721256	3362.317394	4483.166829	5764.03865	7205.163768	8806.311272
25.5	0.919243341	155.6278057	467.1079882	934.2159763	1557.176341	2335.764512	3269.980488	4360.048841	5605.745	7007.293536	8564.469877
25.6	0.88493033	149.8186163	449.6720375	899.344075	1499.050917	2248.576376	3147.920451	4197.299331	5396.496827	6745.729128	8244.780045
25.7	0.841344746	142.4395814	427.5242846	855.0485693	1425.217976	2137.826964	2992.875533	3990.569224	5130.702497	6413.480891	7838.698867
25.8	0.788144601	133.4328022	400.4909503	800.9819007	1335.098197	2002.647295	2803.629196	3738.236443	4806.276492	6007.941886	7343.040083
25.9	0.725746882	122.8688746	368.7839237	737.5678475	1229.397946	1844.096919	2581.664766	3442.278788	4425.761685	5532.290756	6761.688702
26	0.655421742	110.9628353	333.0486255	666.0972509	1110.268831	1665.403247	2331.500498	3108.720704	3996.903745	4996.209741	6106.478572
26.1	0.579259709	98.06861088	294.3473458	588.6946916	981.2521614	1471.878242	2060.572934	2747.477749	3532.451176	4415.634726	5396.886888
26.2	0.5	84.64995	254.072	508.144	846.9881	1270.48215	1778.62615	2371.54225	3049.1083	3811.44645	4658.43455
26.3	0.420740291	71.23128912	213.7966542	427.5933084	712.7240386	1069.086058	1496.679366	1995.606751	2565.765424	3207.258174	3919.982212
26.4	0.344578258	58.33706469	175.0953745	350.1907491	583.7073687	875.5610531	1225.751802	1634.363796	2101.312855	2626.683159	3210.390528
26.5	0.274253118	46.43102541	139.3600763	278.7201525	464.5782542	696.8673814	975.5875339	1300.805712	1672.454915	2090.602144	2555.180398
26.6	0.211855399	35.86709779	107.6530497	215.3060993	358.878003	538.3170046	753.6231039	1004.848057	1291.940108	1614.951014	1973.829017
26.7	0.158655254	26.86031863	80.61971535	161.2394307	268.7582242	403.1373362	564.376767	752.5152758	967.5141032	1209.412009	1478.170233
26.8	0.11506967	19.48128366	58.47196251	116.943925	194.9252827	292.387924	409.3318491	545.7851692	701.7197731	877.1637721	1072.089055
26.9	0.080756659	13.67209433	41.03601185	82.0720237	136.7998587	205.1997881	287.2718118	383.0356587	492.4715999	615.5993643	752.399223
27	0.054799292	9.277514605	27.84593128	55.69186256	92.82869592	139.2430439	194.9349064	259.9176711	334.1779503	417.7291316	510.5578275
27.1	0.035930319	6.082999433	18.25777608	36.51555215	60.86510544	91.29765815	127.8132103	170.4205397	219.1108685	273.8929745	334.7580799
27.2	0.022750132	3.851595064	11.56034305	23.1206861	38.53818207	57.8072731	80.9279592	107.9057982	138.7352323	173.4218193	211.9600014
27.3	0.013903448	2.353852274	7.064953433	14.12990687	23.55210919	35.32816378	49.45807065	65.9452264	84.78623442	105.9844913	129.5366005
27.4	0.008197536	1.387842012	4.165528695	8.33105739	13.88643075	20.82964613	29.16070352	38.88160558	49.99034965	62.4889384	76.37536915
27.5	0.004661188	0.789138666	2.368554727	4.737109454	7.895941576	11.84391236	16.58102182	22.10840867	28.42493418	35.53173709	43.42767867
27.6	0.00255513	0.432583309	1.298374147	2.596748293	4.328329968	6.492494951	9.089243245	12.11919907	15.5817382	19.47748485	23.80581482
27.7	0.001349898	0.228537602	0.685942585	1.371885171	2.286695138	3.430042707	4.801927878	6.40268043	8.231970585	10.29012812	12.57682326

Table A28: yearwise daily night time load scheduling of  $e_{4w}$

x	p	year 2021	year 2022	year 2023	year 2024	year 2025	year 2026	year 2027	year 2028	year 2029	year 2030
20.5	0.00135	0.24555185	0.73972495	1.47944991	2.46779611	3.70169416	5.18421347	6.91228462	8.88590763	11.1081519	13.575948
20.6	0.002555	0.46478843	1.40017514	2.80035028	4.6711237	7.0068555	9.81284568	13.0837942	16.8195312	21.0258665	25.6969902
20.7	0.004661	0.84788875	2.55426485	5.1085297	8.5212819	12.7819228	17.9010512	23.8680682	30.682974	38.3563672	46.8776491
20.8	0.008198	1.49116457	4.49213328	8.98426656	14.986204	22.479306	31.4822121	41.9762828	53.9615181	67.4565575	82.4427614
20.9	0.013903	2.52909272	7.61889181	15.2377836	25.4173818	38.1260727	53.39547	71.19396	91.5215427	114.409832	139.827214
21	0.02275	4.13834	12.4667493	24.9334985	41.590317	62.3854755	87.3707033	116.494271	149.756179	187.208156	228.798473
21.1	0.03593	6.53586877	19.6893047	39.3786093	65.6854811	98.5282217	137.988529	183.984706	236.516751	295.666363	361.351845
21.2	0.054799	9.96821036	30.0292337	60.0584674	100.180514	150.270771	210.453841	280.605122	360.724612	450.936916	551.11743
21.3	0.080757	14.6899593	44.2535025	88.507005	147.634091	221.451137	310.141767	413.522355	531.592904	664.537036	812.171127
21.4	0.11507	20.9316333	63.0565453	126.113091	210.362915	315.544372	441.919108	589.225477	757.46348	946.894761	1157.25768
21.5	0.158655	28.8600253	86.9408262	173.881652	290.043254	435.064882	609.307284	812.409713	1044.37217	1305.5554	1595.59865
21.6	0.211855	38.5373444	116.09375	232.1875	387.300311	580.950467	813.619684	1084.82625	1394.57015	1743.33312	2130.63343
21.7	0.274253	49.8877391	150.286814	300.573628	501.371778	752.057667	1053.25489	1404.33986	1805.31256	2256.7966	2758.16838
21.8	0.344578	62.6801635	188.823993	377.647985	629.935643	944.903465	1323.33495	1764.4466	2268.23842	2835.4939	3465.42954
21.9	0.42074	76.5343418	230.559705	461.119409	769.170135	1153.7552	1615.83129	2154.44172	2769.58649	3462.22229	4231.39242
22	0.5	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
22.1	0.57926	105.369658	317.426095	634.852191	1058.96506	1588.4476	2224.61691	2966.15588	3813.06451	4766.65991	5825.62498
22.2	0.655422	119.223836	359.161807	718.323615	1198.19956	1797.29934	2517.11325	3356.151	4314.41258	5393.3883	6591.58786
22.3	0.725747	132.016261	397.698986	795.397972	1326.76342	1990.14513	2787.19331	3716.25774	4777.33844	5972.0856	7298.84902
22.4	0.788145	143.366656	431.89205	863.7841	1440.83489	2161.25233	3026.82852	4035.77135	5188.08085	6485.54908	7926.38397
22.5	0.841345	153.043975	461.044974	922.089948	1538.09195	2307.13792	3231.14092	4308.18789	5538.27883	6923.3268	8461.41875
22.6	0.88493	160.972367	484.929255	969.858509	1617.77229	2426.65843	3398.52909	4531.37212	5825.18752	7281.98744	8899.75972
22.7	0.919243	167.214041	503.732297	1007.46459	1680.50111	2520.75166	3530.30643	4707.07524	6051.0581	7564.34516	9244.84627
22.8	0.945201	171.93579	517.956566	1035.91313	1727.95469	2591.93203	3629.99436	4839.99248	6221.92639	7777.94528	9505.89997
22.9	0.96407	175.368131	528.296495	1056.59299	1762.44972	2643.67458	3702.45967	4936.61289	6346.13425	7933.21584	9695.66556
23	0.97725	177.76566	535.519051	1071.0381	1786.54488	2679.81732	3753.0775	5004.10333	6432.89482	8041.67404	9828.21893
23.1	0.986097	179.374907	540.366908	1080.73382	1802.71782	2704.07673	3787.05273	5049.40364	6491.12946	8114.47237	9917.19019
23.2	0.991802	180.412835	543.493667	1086.98733	1813.149	2719.72349	3808.96599	5078.62132	6528.68948	8161.42564	9974.57464
23.3	0.995339	181.056111	545.451535	1090.86307	1819.61392	2729.42088	3822.54715	5096.72953	6551.96803	8190.52583	10010.1398
23.4	0.997445	181.439212	546.585625	1093.17125	1823.46408	2735.19611	3830.63535	5107.51381	6565.83147	8207.85633	10031.3204
23.5	0.99865	181.658448	547.246075	1094.49215	1825.6674	2738.50111	3835.26399	5113.68532	6573.76509	8217.77405	10043.4415
23.6	0.999313	181.779007	547.609258	1095.21852	1826.87902	2740.31853	3837.80928	5117.07904	6578.12781	8223.22782	10050.1068

Continuation of Table A28:

23.7	0.999663	181.842711	547.801168	1095.60234	1827.51925	2741.27887	3839.15424	5118.87232	6580.43311	8226.10965	10053.6289
23.8	0.999841	181.875058	547.898611	1095.79722	1827.84433	2741.76649	3839.83715	5119.78287	6581.60364	8227.57291	10055.4172
23.9	0.999928	181.89084	547.946154	1095.89231	1828.00294	2742.00441	3840.17035	5120.22713	6582.17476	8228.28686	10056.2898
24	0.999968	181.898239	547.968445	1095.93689	1828.0773	2742.11595	3840.32657	5120.43542	6582.44252	8228.62158	10056.6989
24.1	0.999987	181.901572	547.978487	1095.95697	1828.1108	2742.1662	3840.39695	5120.52926	6582.56315	8228.77238	10056.8832
24.2	0.999995	181.903015	547.982834	1095.96567	1828.12531	2742.18796	3840.42741	5120.56988	6582.61537	8228.83766	10056.963
24.3	0.999998	181.903616	547.984642	1095.96928	1828.13134	2742.19701	3840.44009	5120.58678	6582.63709	8228.86482	10056.9962
24.4	0.999999	181.903856	547.985365	1095.97073	1828.13375	2742.20062	3840.44515	5120.59354	6582.64578	8228.87567	10057.0094
24.5	1	181.903948	547.985643	1095.97129	1828.13468	2742.20201	3840.4471	5120.59613	6582.64911	8228.87984	10057.0145
24.6	1	181.903982	547.985745	1095.97149	1828.13502	2742.20253	3840.44782	5120.59709	6582.65034	8228.88138	10057.0164
24.7	1	181.903994	547.985782	1095.97156	1828.13514	2742.20271	3840.44807	5120.59743	6582.65078	8228.88193	10057.0171
24.8	1	181.903998	547.985794	1095.97159	1828.13518	2742.20277	3840.44816	5120.59755	6582.65093	8228.88211	10057.0173
24.9	1	181.903999	547.985798	1095.9716	1828.13519	2742.20279	3840.44819	5120.59758	6582.65098	8228.88217	10057.0174
25	1	181.904	547.985799	1095.9716	1828.1352	2742.2028	3840.4482	5120.59759	6582.65099	8228.88219	10057.0174
25.1	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
25.2	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
25.3	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
25.4	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
25.5	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
25.6	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
25.7	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
25.8	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
25.9	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.1	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.2	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.3	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.4	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.5	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.6	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.7	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.8	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
26.9	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174

Continuation of Table A28:

27	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.1	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.2	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.3	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.4	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.5	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.6	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.7	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.8	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
27.9	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.1	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.2	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.3	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.4	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.5	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.6	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.7	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.8	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
28.9	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
29	1	181.904	547.9858	1095.9716	1828.1352	2742.2028	3840.4482	5120.5976	6582.651	8228.8822	10057.0174
29.1	0.99865	181.658448	547.246075	1094.49215	1825.6674	2738.50111	3835.26399	5113.68532	6573.76509	8217.77405	10043.4415
29.2	0.997445	181.439212	546.585625	1093.17125	1823.46408	2735.19611	3830.63535	5107.51381	6565.83147	8207.85633	10031.3204
29.3	0.995339	181.056111	545.431535	1090.86307	1819.61392	2729.42088	3822.54715	5096.72953	6551.96803	8190.52583	10010.1398
29.4	0.991802	180.412835	543.493667	1086.98733	1813.149	2719.72349	3808.96599	5078.62132	6528.68948	8161.42564	9974.57464
29.5	0.9866097	179.374907	540.366908	1080.73382	1802.71782	2704.07673	3787.05273	5049.40364	6491.12946	8114.47237	9917.19019
29.6	0.97725	177.76566	535.519051	1071.0381	1786.54488	2679.81732	3753.0775	5004.10333	6432.89482	8041.67404	9828.21893
29.7	0.96407	175.368131	528.296495	1056.59299	1762.44972	2643.67458	3702.45967	4936.61289	6346.13425	7933.21584	9695.66556
29.8	0.945201	171.93579	517.956566	1035.91313	1727.95469	2591.93203	3629.99436	4839.99248	6221.92639	7777.94528	9505.89997
29.9	0.919243	167.214041	503.732297	1007.46459	1680.50111	2520.75166	3530.30643	4707.07524	6051.0581	7564.34516	9244.84627
30	0.88493	160.972367	484.929255	969.858509	1617.77229	2426.65843	3398.52909	4531.37212	5825.18752	7281.98744	8899.75972
30.1	0.841345	153.043975	461.044974	922.089948	1538.09195	2307.13792	3231.14092	4308.18789	5538.27883	6923.3268	8461.41875
30.2	0.788145	143.366656	431.89205	863.7841	1440.83489	2161.25233	3026.82852	4035.77135	5188.08085	6485.54908	7926.38397

Continuation of Table A28:

30.3	0.725747	132.016261	397.698986	795.397972	1326.76342	1990.14513	2787.19331	3716.25774	4777.33844	5972.0856	7298.84902
30.4	0.655422	119.223836	359.161807	718.323615	1198.19956	1797.29934	2517.11325	3356.151	4314.41258	5393.3883	6591.58786
30.5	0.57926	105.369658	317.426095	634.852191	1058.96506	1588.4476	2224.61691	2966.15588	3813.06451	4766.65991	5825.62498
30.6	0.5	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
30.7	0.42074	76.5343418	230.559705	461.119409	769.170135	1153.7552	1615.83129	2154.44172	2769.58649	3462.22229	4231.39242
30.8	0.344578	62.6801635	188.823993	377.647985	629.935643	944.903465	1323.33495	1764.4466	2268.23842	2835.4939	3465.42954
30.9	0.274253	49.8877391	150.286814	300.573628	501.371778	752.057667	1053.25489	1404.33986	1805.31256	2256.7966	2758.16838
31	0.211855	38.5373444	116.09375	232.1875	387.300311	580.950467	813.619684	1084.82625	1394.57015	1743.33312	2130.63343
31.1	0.158655	28.8600253	86.9408262	173.881652	290.043254	435.064882	609.307284	812.409713	1044.37217	1305.5554	1595.59865
31.2	0.11507	20.9316333	63.0565453	126.113091	210.362915	315.544372	441.919108	589.225477	757.46348	946.894761	1157.25768
31.3	0.080757	14.6899593	44.2535025	88.507005	147.634091	221.451137	310.141767	413.522355	531.592904	664.537036	812.171127
31.4	0.054799	9.96821036	30.0292337	60.0584674	100.180514	150.270771	210.453841	280.605122	360.724612	450.936916	551.11743
31.5	0.03593	6.53586877	19.6893047	39.3786093	65.6854811	98.5282217	137.988529	183.984706	236.516751	295.666363	361.351845
31.6	0.02275	4.13834	12.4667493	24.9334985	41.590317	62.3854755	87.3707033	116.494271	149.756179	187.208156	228.798473
31.7	0.013903	2.52909272	7.61889181	15.2377836	25.4173818	38.1260727	53.39547	71.19396	91.5215427	114.409832	139.827214
31.8	0.008198	1.49116457	4.49213328	8.98426656	14.986204	22.479306	31.4822121	41.9762828	53.9615181	67.4565575	82.4427614
31.9	0.004661	0.84788875	2.55426485	5.1085297	8.5212819	12.7819228	17.9010512	23.8680682	30.682974	38.3563672	46.8776491
32	0.002555	0.46478843	1.40017514	2.80035028	4.6711237	7.00668555	9.81284568	13.0837942	16.8195312	21.0258665	25.6969902
32.1	0.00135	0.24555185	0.73972495	1.47944991	2.46779611	3.70169416	5.18421347	6.91228462	8.88590763	11.1081519	13.575948

Table A29: yearwise daily day time load scheduling of e4w

x	p	year 2021	year 2022	year 2023	year 2024	year 2025	year 2026	year 2027	year 2028	year 2029	year 2030
9	0.00621	0.56478148	1.70140421	3.40280842	5.67605388	8.51408082	11.923949	15.8985987	20.4380298	25.5493022	31.2253561
9.1	0.02275	2.06917	6.23337463	12.4667493	20.7951585	31.1927378	43.6853516	58.2471355	74.8780894	93.6040779	114.399236
9.2	0.066807	6.07624857	18.3046988	36.6093976	61.0662981	91.5994472	128.284798	171.046397	219.884245	274.874295	335.940593
9.3	0.158655	14.4300127	43.4704131	86.9408262	145.021627	217.532441	304.653642	406.204856	522.186083	652.777698	797.799325
9.4	0.308538	28.0621062	84.537095	169.07419	282.024168	423.036251	592.461218	789.94829	1015.49747	1269.45953	1551.4837
9.5	0.5	45.476	136.99645	273.9929	457.0338	685.5507	960.11205	1280.1494	1645.66275	2057.22055	2514.25435
9.6	0.691462	62.8898938	189.455805	378.91161	632.043432	948.065149	1327.76288	1770.35051	2275.82803	2844.98157	3477.025
9.7	0.841345	76.5219873	230.522487	461.044974	769.045973	1153.56896	1615.57046	2154.09394	2769.13942	3461.6634	4230.70938
9.8	0.933193	84.8757514	255.688201	511.376402	853.001302	1279.50195	1791.9393	2389.2524	3071.44125	3839.56681	4692.56811
9.9	0.97725	88.88283	267.759525	535.519051	893.272441	1339.90866	1876.53875	2502.05166	3216.44741	4020.83702	4914.10946
10	0.99379	90.3872185	272.291496	544.582992	908.391546	1362.58732	1908.30015	2544.4002	3270.88747	4088.8918	4997.28334
10.1	0.99865	90.8292241	273.623038	547.246075	912.833702	1369.25055	1917.63199	2556.84266	3286.88255	4108.88702	5021.72073
10.2	0.999767	90.9308419	273.929161	547.858323	913.854961	1370.78244	1919.7774	2559.7032	3290.55984	4113.48396	5027.33892
10.3	0.999968	90.9491194	273.984222	547.968445	914.03865	1371.05798	1920.16328	2560.21771	3291.22126	4114.31079	5028.34944
10.4	0.999997	90.951691	273.991969	547.983938	914.064494	1371.09674	1920.21758	2560.2901	3291.31432	4114.42712	5028.49161
10.5	1	90.9519739	273.992821	547.985643	914.067338	1371.10101	1920.22355	2560.29807	3291.32456	4114.43992	5028.50726
10.6	1	90.9519983	273.992895	547.98579	914.067583	1371.10137	1920.22406	2560.29875	3291.32544	4114.44102	5028.5086
10.7	1	90.9519999	273.9929	547.985799	914.067599	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
10.8	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
10.9	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
11	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
11.1	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
11.2	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
11.3	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
11.4	0.99379	90.3872185	272.291496	544.582992	908.391546	1362.58732	1908.30015	2544.4002	3270.88747	4088.8918	4997.28334
11.5	0.97725	88.88283	267.759525	535.519051	893.272441	1339.90866	1876.53875	2502.05166	3216.44741	4020.83702	4914.10946
11.6	0.933193	84.8757514	255.688201	511.376402	853.001302	1279.50195	1791.9393	2389.2524	3071.44125	3839.56681	4692.56811
11.7	0.841345	76.5219873	230.522487	461.044974	769.045973	1153.56896	1615.57046	2154.09394	2769.13942	3461.6634	4230.70938
11.8	0.691462	62.8898938	189.455805	378.91161	632.043432	948.065149	1327.76288	1770.35051	2275.82803	2844.98157	3477.025
11.9	0.5	45.476	136.99645	273.9929	457.0338	685.5507	960.11205	1280.1494	1645.66275	2057.22055	2514.25435
12	0.308538	28.0621062	84.537095	169.07419	282.024168	423.036251	592.461218	789.94829	1015.49747	1269.45953	1551.4837

Continuation of Table A29:

12.1	0.158655	14.4300127	43.4704131	86.9408262	145.021627	217.532441	304.653642	406.204856	522.186083	652.777698	797.799325
12.2	0.066807	6.07624857	18.3046988	36.6093976	61.0662981	91.5994472	128.284798	171.046397	219.884245	274.874295	335.940593
12.3	0.02275	2.06917	6.23337463	12.4667493	20.7951585	31.1927378	43.6853516	58.2471355	74.8780894	93.6040779	114.399236
12.4	0.00621	0.56478148	1.70140421	3.40280842	5.67605388	8.51408082	11.923949	15.8985987	20.4380298	25.5493022	31.22535561
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
13	0.00621	0.56478148	1.70140421	3.40280842	5.67605388	8.51408082	11.923949	15.8985987	20.4380298	25.5493022	31.22535561
13.1	0.02275	2.06917	6.23337463	12.4667493	20.7951585	31.1927378	43.6853516	58.2471355	74.8780894	93.6040779	114.399236
13.2	0.066807	6.07624857	18.3046988	36.6093976	61.0662981	91.5994472	128.284798	171.046397	219.884245	274.874295	335.940593
13.3	0.158655	14.4300127	43.4704131	86.9408262	145.021627	217.532441	304.653642	406.204856	522.186083	652.777698	797.799325
13.4	0.308538	28.0621062	84.537095	169.07419	282.024168	423.036251	592.461218	789.94829	1015.49747	1269.45953	1551.4837
13.5	0.5	45.476	136.99645	273.9929	457.0338	685.5507	960.11205	1280.1494	1645.66275	2057.22055	2514.25435
13.6	0.691462	62.8898938	189.455805	378.91161	632.043432	948.065149	1327.76288	1770.35051	2275.82803	2844.98157	3477.025
13.7	0.841345	76.5219873	230.522487	461.044974	769.045973	1153.56896	1615.57046	2154.09394	2769.13942	3461.6634	4230.70938
13.8	0.933193	84.8757514	255.688201	511.376402	853.001302	1279.50195	1791.9393	2389.2524	3071.44125	3839.56681	4692.56811
13.9	0.97725	88.88283	267.759525	535.519051	893.272441	1339.90866	1876.53875	2502.05166	3216.44741	4020.83702	4914.10946
14	0.99379	90.3872185	272.291496	544.582992	908.391546	1362.58732	1908.30015	2544.4002	3270.88747	4088.8918	4997.28334
14.1	0.99865	90.8292241	273.623038	547.246075	912.833702	1369.25055	1917.63199	2556.84266	3286.88255	4108.88702	5021.72073
14.2	0.999767	90.9308419	273.929161	547.858323	913.854961	1370.78244	1919.7774	2559.7032	3290.55984	4113.48396	5027.33892
14.3	0.999968	90.9491194	273.984222	547.968445	914.03865	1371.05798	1920.16328	2560.21771	3291.22126	4114.42712	5028.34944
14.4	0.999997	90.951691	273.991969	547.983938	914.064494	1371.09674	1920.21758	2560.2901	3291.31432	4114.42712	5028.49161
14.5	1	90.9519739	273.992821	547.985643	914.067338	1371.10101	1920.22355	2560.29807	3291.32456	4114.43992	5028.50726
14.6	1	90.9519983	273.992895	547.98579	914.067583	1371.10137	1920.22406	2560.29875	3291.32544	4114.44102	5028.5086
14.7	1	90.9519999	273.9929	547.985799	914.067599	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
14.8	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
14.9	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
15	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
15.1	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
15.2	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
15.3	1	90.952	273.9929	547.9858	914.0676	1371.1014	1920.2241	2560.2988	3291.3255	4114.4411	5028.5087
15.4	0.99379	90.3872185	272.291496	544.582992	908.391546	1362.58732	1908.30015	2544.4002	3270.88747	4088.8918	4997.28334
15.5	0.97725	88.88283	267.759525	535.519051	893.272441	1339.90866	1876.53875	2502.05166	3216.44741	4020.83702	4914.10946
15.6	0.933193	84.8757514	255.688201	511.376402	853.001302	1279.50195	1791.9393	2389.2524	3071.44125	3839.56681	4692.56811
15.7	0.841345	76.5219873	230.522487	461.044974	769.045973	1153.56896	1615.57046	2154.09394	2769.13942	3461.6634	4230.70938
15.8	0.691462	62.8898938	189.455805	378.91161	632.043432	948.065149	1327.76288	1770.35051	2275.82803	2844.98157	3477.025
15.9	0.5	45.476	136.99645	273.9929	457.0338	685.5507	960.11205	1280.1494	1645.66275	2057.22055	2514.25435
16	0.308538	28.0621062	84.537095	169.07419	282.024168	423.036251	592.461218	789.94829	1015.49747	1269.45953	1551.4837
16.1	0.158655	14.4300127	43.4704131	86.9408262	145.021627	217.532441	304.653642	406.204856	522.186083	652.777698	797.799325
16.2	0.066807	6.07624857	18.3046988	36.6093976	61.0662981	91.5994472	128.284798	171.046397	219.884245	274.874295	335.940593
16.3	0.02275	2.06917	6.23337463	12.4667493	20.7951585	31.1927378	43.6853516	58.2471355	74.8780894	93.6040779	114.399236
16.4	0.00621	0.56478148	1.70140421	3.40280842	5.67605388	8.51408082	11.923949	15.8985987	20.4380298	25.5493022	31.22535561

Table A30: yearwise sp.energy comparison for e2w, e3w, e4w and e-bus

year	e2w		e3w		e-bus		e4w	
	Sp.energy (kwh/km)	Sp.energy (kwh/pkm)	Sp.energy (kwh/km)	Sp.energy (kwh/pkm)	Sp.energy (kwh/km)	Sp.energy (kwh/pkm)	Sp.energy (kwh/km)	Sp.energy (kwh/pkm)
2021	0.043005	0.02867	0.0756875	0.04325	0.997661407	0.032182626	0.165	0.066
2022	0.04257495	0.0283833	0.074930625	0.0428175	0.987684793	0.0318608	0.16335	0.06534
2023	0.042149201	0.028099467	0.074181319	0.042389325	0.977807945	0.031542192	0.1617165	0.0646866
2024	0.041727708	0.027818472	0.073439506	0.041965432	0.968029865	0.03122677	0.160099335	0.064039734
2025	0.041310431	0.027540288	0.072705111	0.041545777	0.958349567	0.030914502	0.158498342	0.063399337
2026	0.040897327	0.027264885	0.071978059	0.04113032	0.948766071	0.030605357	0.156913358	0.062765343
2027	0.040488354	0.026992236	0.071258279	0.040719016	0.93927841	0.030299304	0.155344225	0.06213769
2028	0.04008347	0.026722314	0.070545696	0.040311826	0.929885626	0.029996311	0.153790782	0.061516313
2029	0.039682636	0.02645509	0.069840239	0.039908708	0.92058677	0.029696347	0.152252875	0.06090115
2030	0.039285809	0.026190539	0.069141837	0.039509621	0.911380902	0.029399384	0.150730346	0.060292138

Table A31: yearwise forecasted load of Kolkata excluding EV

TIME	LOAD 2021	LOAD 2022	LOAD 2023	LOAD 2024	LOAD 2025	LOAD 2026	LOAD 2027	LOAD 2028	LOAD 2029	LOAD 2030
0.1	1721.9905	1798.454	1874.9175	1951.381	2027.8445	2104.308	2180.7715	2257.235	2333.6985	2410.162
0.2	1715.953929	1792.1675	1868.381071	1944.594643	2020.808214	2097.021786	2173.235357	2249.448929	2325.6625	2401.876071
0.3	1714.442143	1790.715	1866.987857	1943.260714	2019.533571	2095.806429	2172.079286	2248.352143	2324.625	2400.897857
0.4	1700.738333	1775.985	1851.231667	1926.478333	2001.725	2076.971667	2152.218333	2227.465	2302.711667	2377.958333
0.5	1694.857619	1769.92	1844.982381	1920.044762	1995.107143	2070.169524	2145.231905	2220.294286	2295.356667	2370.419048
0.6	1689.070238	1763.94	1838.809762	1913.679524	1988.549286	2063.419048	2138.28881	2213.158571	2288.028333	2362.898095
0.7	1682.548571	1757.09	1831.631429	1906.172857	1980.714286	2055.255714	2129.797143	2204.338571	2278.88	2353.421429
0.8	1663.308333	1736.61	1809.911667	1883.213333	1956.515	2029.816667	2103.118333	2176.42	2249.721667	2323.023333
0.9	1656.459048	1729.425	1802.390952	1875.356905	1948.322857	2021.28881	2094.254762	2167.220714	2240.186667	2313.152619
1	1652.176905	1724.98	1797.783095	1870.58619	1943.389286	2016.192381	2088.995476	2161.798571	2234.601667	2307.404762
1.1	1646.554048	1719.085	1791.615952	1864.146905	1936.677857	2009.20881	2081.739762	2154.270714	2226.801667	2299.332619
1.2	1642.080952	1714.415	1786.749048	1859.083095	1931.417143	2003.75119	2076.085238	2148.419286	2220.753333	2293.087381
1.3	1638.705	1710.805	1782.905	1855.005	1927.105	1999.205	2071.305	2143.405	2215.505	2287.605
1.4	1632.335952	1704.135	1775.934048	1847.733095	1919.532143	1991.33119	2063.130238	2134.929286	2206.728333	2278.527381
1.5	1626.387619	1697.725	1769.062381	1840.399762	1911.737143	1983.074524	2054.411905	2125.749286	2197.086667	2268.424048
1.6	1615.982857	1686.5	1757.017143	1827.534286	1898.051429	1968.568571	2039.085714	2109.602857	2180.12	2250.637143
1.7	1614.878095	1685.45	1756.021905	1826.59381	1897.165714	1967.737619	2038.309524	2108.881429	2179.453333	2250.025238
1.8	1609.682857	1679.905	1750.127143	1820.349286	1890.571429	1960.793571	2031.015714	2101.237857	2171.46	2241.682143
1.9	1606.720714	1676.81	1746.899286	1816.988571	1887.077857	1957.167143	2027.256429	2097.345714	2167.435	2237.524286
2	1604.851905	1674.96	1745.068095	1815.17619	1885.284286	1955.392381	2025.500476	2095.608571	2165.716667	2235.824762
2.1	1602.788333	1672.8	1742.811667	1812.823333	1882.835	1952.846667	2022.858333	2092.87	2162.881667	2232.893333
2.2	1598.860714	1668.74	1738.619286	1808.498571	1878.377857	1948.257143	2018.136429	2088.015714	2157.895	2227.774286
2.3	1597.131667	1666.98	1736.828333	1806.676667	1876.525	1946.373333	2016.221667	2086.07	2155.918333	2225.766667
2.4	1593.545238	1663.18	1732.814762	1802.449524	1872.084286	1941.719048	2011.35381	2080.988571	2150.623333	2220.258095
2.5	1590.158333	1659.725	1729.291667	1798.858333	1868.425	1937.991667	2007.583333	2077.125	2146.691667	2216.258333
2.6	1587.635238	1657.085	1726.534762	1795.984524	1865.434286	1934.884048	2004.33381	2073.783571	2143.233333	2212.683095
2.7	1585.541429	1654.895	1724.248571	1793.602143	1862.955714	1932.309286	2001.662857	2071.016429	2140.37	2209.723571
2.8	1584.58381	1653.955	1723.32619	1792.697381	1862.068571	1931.439762	2000.810952	2070.182143	2139.553333	2208.924524
2.9	1582.450476	1651.655	1720.859524	1790.064048	1859.268571	1928.473095	1997.677619	2066.882143	2136.086667	2205.29119
3	1581.98	1651.205	1720.43	1789.655	1858.88	1928.105	1997.33	2066.555	2135.78	2205.005
3.1	1577.809524	1646.69	1715.570476	1784.450952	1853.331429	1922.211905	1991.092381	2059.972857	2128.853333	2197.73381
3.2	1575.895	1644.61	1713.325	1782.04	1850.755	1919.47	1988.185	2056.9	2125.615	2194.33
3.3	1575.580238	1644.28	1712.979762	1781.679524	1850.379286	1919.079048	1987.77881	2056.478571	2125.178333	2193.878095

Continuation of Table A31:

3.4	1577.500476	1646.46	1715.419524	1784.379048	1853.338571	1922.298095	1991.257619	2060.217143	2129.176667	2198.13619
3.5	1575.319762	1644.15	1712.980238	1781.810476	1850.640714	1919.470952	1988.30119	2057.131429	2125.961667	2194.791905
3.6	1573.719048	1642.435	1711.150952	1779.866905	1848.582857	1917.29881	1986.014762	2054.730714	2123.446667	2192.162619
3.7	1572.578095	1641.165	1709.751905	1778.33881	1846.925714	1915.512619	1984.099524	2052.686429	2121.273333	2189.860238
3.8	1571.380238	1639.865	1708.349762	1776.834524	1845.319286	1913.804048	1982.28881	2050.773571	2119.258333	2187.743095
3.9	1570.488095	1638.94	1707.391905	1775.84381	1844.295714	1912.747619	1981.199524	2049.651429	2118.103333	2186.555238
4	1565.869762	1633.95	1702.030238	1770.110476	1838.190714	1906.270952	1974.35119	2042.431429	2110.511667	2178.591905
4.1	1562.973095	1630.795	1698.616905	1766.43881	1834.260714	1902.082619	1969.904524	2037.726429	2105.548333	2173.370238
4.2	1560.424762	1628.015	1695.605238	1763.195476	1830.785714	1898.375952	1965.96619	2033.556429	2101.146667	2168.736905
4.3	1558.127619	1625.515	1692.902381	1760.289762	1827.677143	1895.064524	1962.451905	2029.839286	2097.226667	2164.614048
4.4	1556.750714	1624.03	1691.309286	1758.588571	1825.867857	1893.147143	1960.426429	2027.705714	2094.985	2162.264286
4.5	1551.368571	1618.25	1685.131429	1752.012857	1818.894286	1885.775714	1952.657143	2019.538571	2086.42	2153.301429
4.6	1545.674524	1612.1	1678.525476	1744.950952	1811.376429	1877.801905	1944.227381	2010.652857	2077.078333	2143.50381
4.7	1541.495119	1607.715	1673.934881	1740.154762	1806.374643	1872.594524	1938.814405	2005.034286	2071.254167	2137.474048
4.8	1533.152143	1598.925	1664.697857	1730.470714	1796.243571	1862.016429	1927.789286	1993.562143	2059.335	2125.107857
4.9	1524.756429	1590.135	1655.513571	1720.892143	1786.270714	1851.649286	1917.027857	1982.406429	2047.785	2113.163571
5	1518.909524	1584.335	1649.760476	1715.185952	1780.611429	1846.036905	1911.462381	1976.887857	2042.313333	2107.73881
5.1	1500.995952	1565.1	1629.204048	1693.308095	1757.412143	1821.51619	1885.620238	1949.724286	2013.828333	2077.932381
5.2	1479.29381	1541.83	1604.36619	1666.902381	1729.438571	1791.974762	1854.510952	1917.047143	1979.583333	2042.119524
5.3	1461.716667	1523.23	1584.743333	1646.256667	1707.77	1769.283333	1830.796667	1892.31	1953.823333	2015.336667
5.4	1443.405952	1503.73	1564.054048	1624.378095	1684.702143	1745.02619	1805.350238	1865.674286	1925.998333	1986.322381
5.5	1419.269524	1478.075	1536.880476	1595.685952	1654.491429	1713.296905	1772.102381	1830.907857	1889.713333	1948.51881
5.6	1411.208095	1469.805	1528.401905	1586.99881	1645.595714	1704.192619	1762.789524	1821.386429	1879.983333	1938.580238
5.7	1393.127143	1450.575	1508.022857	1565.470714	1622.918571	1680.366429	1737.814286	1795.262143	1852.71	1910.157857
5.8	1386.220952	1443.215	1500.209048	1557.203095	1614.197143	1671.19119	1728.185238	1785.179286	1842.173333	1899.167381
5.9	1367.731667	1423.39	1479.048333	1534.706667	1590.365	1646.023333	1701.681667	1757.34	1812.998333	1868.656667
6	1346.19	1400.06	1453.93	1507.8	1561.67	1615.54	1669.41	1723.28	1777.15	1831.02
6.1	1342.010238	1395.565	1449.119762	1502.674524	1556.229286	1609.784048	1663.33881	1716.893571	1770.448333	1824.003095
6.2	1340.01119	1393.48	1446.94881	1500.417619	1553.886429	1607.355238	1660.824048	1714.292857	1767.761667	1821.230476
6.3	1341.329286	1394.885	1448.440714	1501.996429	1555.552143	1609.107857	1662.663571	1716.219286	1769.775	1823.330714
6.4	1336.519762	1389.445	1442.370238	1495.295476	1548.220714	1601.145952	1654.07119	1706.996429	1759.921667	1812.846905
6.5	1331.629762	1384.01	1436.390238	1488.770476	1541.150714	1593.530952	1645.91119	1698.291429	1750.671667	1803.051905
6.6	1329.283571	1381.365	1433.446429	1485.527857	1537.609286	1589.690714	1641.772143	1693.853571	1745.935	1798.016429
6.7	1324.579524	1376.075	1427.570476	1479.065952	1530.561429	1582.056905	1633.552381	1685.047857	1736.543333	1788.03881
6.8	1322.420476	1373.64	1424.859524	1476.079048	1527.298571	1578.518095	1629.737619	1680.957143	1732.176667	1783.39619

Continuation of Table A31:

6.9	1321.960476	1373.065	1424.169524	1475.274048	1526.378571	1577.483095	1628.587619	1679.692143	1730.796667	1781.901119
7	1320.137381	1370.995	1421.852619	1472.710238	1523.567857	1574.425476	1625.283095	1676.140714	1726.998333	1777.855952
7.1	1319.34881	1370.075	1420.80119	1471.527381	1522.253571	1572.979762	1623.705952	1674.432143	1725.158333	1775.884524
7.2	1319.739762	1370.425	1421.110238	1471.795476	1522.480714	1573.165952	1623.851119	1674.536429	1725.221667	1775.906905
7.3	1324.658571	1375.725	1426.791429	1477.857857	1528.924286	1579.990714	1631.057143	1682.123571	1733.19	1784.256429
7.4	1328.164524	1379.515	1430.865476	1482.215952	1533.566429	1584.916905	1636.267381	1687.617857	1738.968333	1790.31881
7.5	1330.563095	1382.045	1433.526905	1485.00881	1536.490714	1587.972619	1639.454524	1690.936429	1742.418333	1793.900238
7.6	1333.782381	1385.41	1437.037619	1488.665238	1540.292857	1591.920476	1643.548095	1695.175714	1746.803333	1798.430952
7.7	1336.982381	1388.745	1440.507619	1492.270238	1544.032857	1595.795476	1647.558095	1699.320714	1751.083333	1802.845952
7.8	1340.076905	1391.965	1443.853095	1495.74119	1547.629286	1599.517381	1651.405476	1703.293571	1755.181667	1807.069762
7.9	1341.755476	1393.705	1445.654524	1497.604048	1549.553571	1601.503095	1653.452619	1705.402143	1757.351667	1809.30119
8	1343.153095	1395.11	1447.066905	1499.02381	1550.980714	1602.937619	1654.894524	1706.851429	1758.808333	1810.765238
8.1	1343.761667	1395.625	1447.488333	1499.351667	1551.215	1603.078333	1654.941667	1706.805	1758.668333	1810.531667
8.2	1347.54619	1399.595	1451.64381	1503.692619	1555.741429	1607.790238	1659.839048	1711.887857	1763.936667	1815.985476
8.3	1349.734048	1401.895	1454.055952	1506.216905	1558.377857	1610.53881	1662.699762	1714.860714	1767.021667	1819.182619
8.4	1355.620238	1408.355	1461.089762	1513.824524	1566.559286	1619.294048	1672.02881	1724.763571	1777.498333	1830.233095
8.5	1362.455714	1415.74	1469.024286	1522.308571	1575.592857	1628.877143	1682.161429	1735.445714	1788.73	1842.014286
8.6	1365.535714	1418.99	1472.444286	1525.898571	1579.352857	1632.807143	1686.261429	1739.715714	1793.17	1846.624286
8.7	1377.404286	1431.665	1485.925714	1540.186429	1594.447143	1648.707857	1702.968571	1757.229286	1811.49	1865.750714
8.8	1382.478095	1436.98	1491.481905	1545.98381	1600.485714	1654.987619	1709.489524	1763.991429	1818.493333	1872.995238
8.9	1392.330476	1447.555	1502.779524	1558.004048	1613.228571	1668.453095	1723.677619	1778.902143	1834.126667	1889.35119
9	1398.697857	1454.16	1509.622143	1565.084286	1620.546429	1676.008571	1731.470714	1786.932857	1842.395	1897.857143
9.1	1401.160952	1456.62	1512.079048	1567.538095	1622.997143	1678.45619	1733.915238	1789.374286	1844.833333	1900.292381
9.2	1404.318095	1459.755	1515.191905	1570.62881	1626.065714	1681.502619	1736.939524	1792.376429	1847.813333	1903.250238
9.3	1412.576905	1468.595	1524.613095	1580.63119	1636.649286	1692.667381	1748.685476	1804.703571	1860.721667	1916.739762
9.4	1416.510476	1472.725	1528.939524	1585.154048	1641.368571	1697.583095	1753.797619	1810.012143	1866.226667	1922.44119
9.5	1424.268571	1481.045	1537.821429	1594.597857	1651.374286	1708.150714	1764.927143	1821.703571	1878.48	1935.256429
9.6	1431.00619	1488.195	1545.38381	1602.572619	1659.761429	1716.950238	1774.139048	1831.327857	1888.516667	1945.705476
9.7	1438.782619	1496.51	1554.237381	1611.964762	1669.692143	1727.419524	1785.146905	1842.874286	1900.601667	1958.329048
9.8	1447.127381	1505.39	1563.652619	1621.915238	1680.177857	1738.440476	1796.703095	1854.965714	1913.228333	1971.490952
9.9	1454.565476	1513.35	1572.134524	1630.919048	1689.703571	1748.488095	1807.272619	1866.057143	1924.841667	1983.62619
10	1449.045714	1507.045	1565.044286	1623.043571	1681.042857	1739.042143	1797.041429	1855.040714	1913.04	1971.039286
10.1	1450.67	1508.4	1566.13	1623.86	1681.59	1739.32	1797.05	1854.78	1912.51	1970.24
10.2	1468.589048	1527.71	1586.830952	1645.951905	1705.072857	1764.19381	1823.314762	1882.435714	1941.556667	2000.677619
10.3	1467.901667	1526.64	1585.378333	1644.116667	1702.855	1761.593333	1820.331667	1879.07	1937.808333	1996.546667

Continuation of Table A31:

10.4	1473.670238	1532.885	1592.099762	1651.314524	1710.529286	1769.744048	1828.95881	1888.173571	1947.388333	2006.603095
10.5	1476.663333	1536.05	1595.436667	1654.823333	1714.21	1773.596667	1832.983333	1892.37	1951.756667	2011.143333
10.6	1477.03119	1536.215	1595.39881	1654.582619	1713.766429	1772.950238	1832.134048	1891.317857	1950.501667	2009.685476
10.7	1480.250714	1539.535	1598.819286	1658.103571	1717.387857	1776.672143	1835.956429	1895.240714	1954.525	2013.809286
10.8	1483.590476	1543.1	1602.609524	1662.119048	1721.628571	1781.138095	1840.647619	1900.157143	1959.666667	2019.17619
10.9	1502.982619	1563.955	1624.927381	1685.899762	1746.872143	1807.844524	1868.816905	1929.789286	1990.761667	2051.734048
11	1510.740476	1572.175	1633.609524	1695.044048	1756.478571	1817.913095	1879.347619	1940.782143	2002.216667	2063.65119
11.1	1514.46119	1576.09	1637.71881	1699.347619	1760.976429	1822.605238	1884.234048	1945.862857	2007.491667	2069.120476
11.2	1517.660952	1579.34	1641.019048	1702.698095	1764.377143	1826.05619	1887.735238	1949.414286	2011.093333	2072.772381
11.3	1521.855238	1583.725	1645.594762	1707.464524	1769.334286	1831.204048	1893.07381	1954.943571	2016.813333	2078.683095
11.4	1526.372143	1588.45	1650.527857	1712.605714	1774.683571	1836.761429	1898.839286	1960.917143	2022.995	2085.072857
11.5	1531.186905	1593.52	1655.853095	1718.18619	1780.519286	1842.852381	1905.185476	1967.518571	2029.851667	2092.184762
11.6	1543.580238	1606.92	1670.259762	1733.599524	1796.939286	1860.279048	1923.61881	1986.958571	2050.298333	2113.638095
11.7	1548.992857	1612.775	1676.557143	1740.339286	1804.121429	1867.903571	1931.685714	1995.467857	2059.25	2123.032143
11.8	1551.714048	1615.54	1679.365952	1743.191905	1807.017857	1870.84381	1934.669762	1998.495714	2062.321667	2126.147619
11.9	1558.031429	1622.34	1686.648571	1750.957143	1815.265714	1879.574286	1943.882857	2008.191429	2072.5	2136.808571
12	1562.117857	1626.635	1691.152143	1755.669286	1820.186429	1884.703571	1949.220714	2013.737857	2078.255	2142.772143
12.1	1568.36619	1633.385	1698.40381	1763.422619	1828.441429	1893.460238	1958.479048	2023.497857	2088.516667	2153.535476
12.2	1575.265952	1640.83	1706.394048	1771.958095	1837.522143	1903.08619	1968.650238	2034.214286	2099.778333	2165.342381
12.3	1576.379762	1641.855	1707.330238	1772.805476	1838.280714	1903.755952	1969.23119	2034.706429	2100.181667	2165.656905
12.4	1582.135	1648.085	1714.035	1779.985	1845.935	1911.885	1977.835	2043.785	2109.735	2175.685
12.5	1587.230952	1653.59	1719.949048	1786.308095	1852.667143	1919.02619	1985.385238	2051.744286	2118.103333	2184.462381
12.6	1591.038333	1657.655	1724.271667	1790.888333	1857.505	1924.121667	1990.738333	2057.355	2123.971667	2190.588333
12.7	1594.172619	1660.995	1727.817381	1794.639762	1861.462143	1928.284524	1995.106905	2061.929286	2128.751667	2195.574048
12.8	1596.191429	1663.175	1730.158571	1797.142143	1864.125714	1931.109286	1998.092857	2065.076429	2132.06	2199.043571
12.9	1597.734048	1664.795	1731.855952	1798.916905	1865.977857	1933.03881	2000.099762	2067.160714	2134.221667	2201.282619
13	1599.794762	1667.02	1734.245238	1801.470476	1868.695714	1935.920952	2003.14619	2070.371429	2137.596667	2204.821905
13.1	1601.371429	1668.73	1736.088571	1803.447143	1870.805714	1938.164286	2005.522857	2072.881429	2140.24	2207.598571
13.2	1603.15119	1670.685	1738.21881	1805.752619	1873.286429	1940.820238	2008.354048	2075.887857	2143.421667	2210.955476
13.3	1603.748095	1671.375	1739.001905	1806.62881	1874.255714	1941.882619	2009.509524	2077.136429	2144.763333	2212.390238
13.4	1604.835476	1672.65	1740.464524	1808.279048	1876.093571	1943.908095	2011.722619	2079.537143	2147.351667	2215.16619
13.5	1608.550238	1676.695	1744.839762	1812.984524	1881.129286	1949.274048	2017.41881	2085.563571	2153.708333	2221.853095
13.6	1612.564286	1681.065	1749.565714	1818.066429	1886.567143	1955.067857	2023.568571	2092.069286	2160.57	2229.070714
13.7	1616.32619	1685.095	1753.86381	1822.632619	1891.401429	1960.170238	2028.939048	2097.707857	2166.476667	2235.245476
13.8	1618.109762	1686.96	1755.810238	1824.660476	1893.510714	1962.360952	2031.21119	2100.061429	2168.911667	2237.761905

Continuation of Table A31:

13.9	1626.482381	1695.95	1765.417619	1834.885238	1904.352857	1973.820476	2043.288095	2112.755714	2182.223333	2251.690952
14	1634.706905	1704.825	1774.943095	1845.06119	1915.179286	1985.297381	2055.415476	2125.533571	2195.651667	2265.769762
14.1	1639.132143	1709.47	1779.807857	1850.145714	1920.483571	1990.821429	2061.159286	2131.497143	2201.835	2272.172857
14.2	1644.64881	1715.34	1786.03119	1856.722381	1927.413571	1998.104762	2068.795952	2139.487143	2210.178333	2280.869524
14.3	1646.258333	1716.84	1787.421667	1858.003333	1928.585	1999.166667	2069.748333	2140.33	2210.911667	2281.493333
14.4	1651.87619	1722.76	1793.64381	1864.527619	1935.411429	2006.295238	2077.179048	2148.062857	2218.946667	2289.830476
14.5	1657.312619	1728.49	1799.667381	1870.844762	1942.022143	2013.199524	2084.376905	2155.554286	2226.731667	2297.909048
14.6	1664.590952	1736.12	1807.649048	1879.178095	1950.707143	2022.23619	2093.765238	2165.294286	2236.823333	2308.352381
14.7	1671.947857	1743.96	1815.972143	1887.984286	1959.996429	2032.008571	2104.020714	2176.032857	2248.045	2320.057143
14.8	1682.23619	1755.12	1828.00381	1900.887619	1973.771429	2046.655238	2119.539048	2192.422857	2265.306667	2338.190476
14.9	1683.360476	1756.28	1829.199524	1902.119048	1975.038571	2047.958095	2120.877619	2193.797143	2266.716667	2339.63619
15	1688.994286	1762.395	1835.795714	1909.196429	1982.597143	2055.997857	2129.398571	2202.799286	2276.2	2349.600714
15.1	1692.976667	1766.66	1840.343333	1914.026667	1987.71	2061.393333	2135.076667	2208.76	2282.443333	2356.126667
15.2	1696.754524	1770.705	1844.655476	1918.605952	1992.556429	2066.506905	2140.457381	2214.407857	2288.358333	2362.30881
15.3	1697.663571	1771.74	1845.816429	1919.892857	1993.969286	2068.045714	2142.122143	2216.198571	2290.275	2364.351429
15.4	1696.598095	1770.69	1844.781905	1918.87381	1992.965714	2067.057619	2141.149524	2215.241429	2289.333333	2363.425238
15.5	1695.614048	1769.675	1843.735952	1917.796905	1991.857857	2065.91881	2139.979762	2214.040714	2288.101667	2362.162619
15.6	1690.077381	1763.665	1837.252619	1910.840238	1984.427857	2058.015476	2131.603095	2205.190714	2278.778333	2352.365952
15.7	1688.713571	1762.27	1835.826429	1909.382857	1982.939286	2056.495714	2130.052143	2203.608571	2277.165	2350.721429
15.8	1686.877143	1760.31	1833.742857	1907.175714	1980.608571	2054.041429	2127.474286	2200.907143	2274.34	2347.772857
15.9	1679.74119	1752.625	1825.50881	1898.392619	1971.276429	2044.160238	2117.044048	2189.927857	2262.811667	2335.695476
16	1672.002381	1744.27	1816.537619	1888.805238	1961.072857	2033.340476	2105.608095	2177.875714	2250.143333	2322.410952
16.1	1662.008571	1733.425	1804.841429	1876.257857	1947.674286	2019.090714	2090.507143	2161.923571	2233.34	2304.756429
16.2	1652.592857	1723.25	1793.907143	1864.564286	1935.221429	2005.878571	2076.535714	2147.192857	2217.85	2288.507143
16.3	1640.13619	1709.9075	1779.67881	1849.450119	1919.221429	1988.992738	2058.764048	2128.535357	2198.306667	2268.077976
16.4	1629.388571	1698.355	1767.321429	1836.287857	1905.254286	1974.220714	2043.187143	2112.153571	2181.12	2250.086429
16.5	1618.095476	1686.31	1754.524524	1822.739048	1890.953571	1959.168095	2027.382619	2095.597143	2163.811667	2232.02619
16.6	1607.924048	1675.425	1742.925952	1810.426905	1877.927857	1945.42881	2012.929762	2080.430714	2147.931667	2215.432619
16.7	1591.572619	1657.815	1724.057381	1790.299762	1856.542143	1922.784524	1989.026905	2055.269286	2121.511667	2187.754048
16.8	1583.16	1649.015	1714.87	1780.725	1846.58	1912.435	1978.29	2044.145	2110	2175.855
16.9	1573.108571	1638.335	1703.561429	1768.787857	1834.014286	1899.240714	1964.467143	2029.693571	2094.92	2160.146429
17	1560.834048	1625.26	1689.685952	1754.111905	1818.537857	1882.96381	1947.389762	2011.815714	2076.241667	2140.667619
17.1	1548.986667	1612.73	1676.473333	1740.216667	1803.96	1867.703333	1931.446667	1995.19	2058.933333	2122.676667
17.2	1542.268571	1605.685	1669.101429	1732.517857	1795.934286	1859.350714	1922.767143	1986.183571	2049.6	2113.016429
17.3	1531.662857	1594.325	1656.987143	1719.649286	1782.311429	1844.973571	1907.635714	1970.297857	2032.96	2095.622143

Continuation of Table A31:

17.4	1526.639048	1589.09	1651.540952	1713.991905	1776.442857	1838.893381	1901.344762	1963.795714	2026.246667	2088.697619
17.5	1520.203571	1582.18	1644.156429	1706.132857	1768.109286	1830.085714	1892.062143	1954.038571	2016.015	2077.991429
17.6	1514.686667	1576.155	1637.623333	1699.091667	1760.56	1822.028333	1883.496667	1944.965	2006.433333	2067.901667
17.7	1510.900714	1571.93	1632.959286	1693.988571	1755.017857	1816.047143	1877.076429	1938.105714	1999.135	2060.164286
17.8	1507.759286	1568.405	1629.050714	1689.696429	1750.342143	1810.987857	1871.633571	1932.279286	1992.925	2053.570714
17.9	1507.375	1567.865	1628.355	1688.845	1749.335	1809.825	1870.315	1930.805	1991.295	2051.785
18	1504.516429	1564.555	1624.593571	1684.632143	1744.670714	1804.709286	1864.747857	1924.786429	1984.825	2044.863571
18.1	1503.284762	1562.865	1622.445238	1682.025476	1741.605714	1801.185952	1860.76619	1920.346429	1979.926667	2039.506905
18.2	1505.291429	1564.43	1623.568571	1682.707143	1741.845714	1800.984286	1860.122857	1919.261429	1978.4	2037.538571
18.3	1520.07381	1579.93	1639.78619	1699.642381	1759.498571	1819.354762	1879.210952	1939.067143	1998.923333	2058.779524
18.4	1562.625	1625.1	1687.575	1750.05	1812.525	1875	1937.475	1999.95	2062.425	2124.9
18.5	1561.747381	1622.865	1683.982619	1745.100238	1806.217857	1867.335476	1928.453095	1989.570714	2050.688333	2111.805952
18.6	1593.161667	1655.24	1717.318333	1779.396667	1841.475	1903.553333	1965.631667	2027.71	2089.788333	2151.866667
18.7	1693.330238	1762.72	1832.109762	1901.499524	1970.889286	2040.279048	2109.66881	2179.058571	2248.448333	2317.838095
18.8	1700.006429	1767.47	1834.933571	1902.397143	1969.860714	2037.324286	2104.787857	2172.251429	2239.715	2307.178571
18.9	1747.241429	1817.56	1887.878571	1958.197143	2028.515714	2098.834286	2169.152857	2239.471429	2309.79	2380.108571
19	1772.686429	1844.465	1916.243571	1988.022143	2059.800714	2131.579286	2203.357857	2275.136429	2346.915	2418.693571
19.1	1793.759048	1866.205	1938.650952	2011.096905	2083.542857	2155.98881	2228.434762	2300.880714	2373.326667	2445.772619
19.2	1797.749286	1869.95	1942.150714	2014.351429	2086.552143	2158.752857	2230.953571	2303.154286	2375.355	2447.555714
19.3	1811.808571	1884.975	1958.141429	2031.307857	2104.474286	2177.640714	2250.807143	2323.973571	2397.14	2470.306429
19.4	1821.165714	1895.08	1968.994286	2042.908571	2116.822857	2190.737143	2264.651429	2338.565714	2412.48	2486.394286
19.5	1822.356905	1896.485	1970.613095	2044.74119	2118.869286	2192.997381	2267.125476	2341.253571	2415.381667	2489.509762
19.6	1821.311667	1895.435	1969.558333	2043.681667	2117.805	2191.928333	2266.051667	2340.175	2414.298333	2488.421667
19.7	1818.475714	1892.49	1966.504286	2040.518571	2114.532857	2188.547143	2262.561429	2336.575714	2410.59	2484.604286
19.8	1816.02	1889.925	1963.83	2037.735	2111.64	2185.545	2259.45	2333.355	2407.26	2481.165
19.9	1816.498333	1890.555	1964.611667	2038.668333	2112.725	2186.781667	2260.838333	2334.895	2408.951667	2483.008333
20	1815.895714	1890.03	1964.164286	2038.298571	2112.432857	2186.567143	2260.701429	2334.835714	2408.97	2483.104286
20.1	1820.541667	1895.345	1970.148333	2044.951667	2119.755	2194.558333	2269.361667	2344.165	2418.968333	2493.771667
20.2	1821.196667	1896.115	1971.033333	2045.951667	2120.87	2195.788333	2270.706667	2345.625	2420.543333	2495.461667
20.3	1820.950238	1895.885	1970.819762	2045.754524	2120.689286	2195.624048	2270.55881	2345.493571	2420.428333	2495.363095
20.4	1816.530238	1891.14	1965.749762	2040.359524	2114.969286	2189.579048	2264.18881	2338.798571	2413.408333	2488.018095
20.5	1814.93	1889.535	1964.14	2038.745	2113.35	2187.955	2262.56	2337.165	2411.77	2486.375
20.6	1814.066429	1888.605	1963.143571	2037.682143	2112.220714	2186.759286	2261.297857	2335.836429	2410.375	2484.913571
20.7	1813.151905	1887.685	1962.218095	2036.75119	2111.284286	2185.817381	2260.350476	2334.883571	2409.416667	2483.949762
20.8	1814.019762	1888.705	1963.390238	2038.075476	2112.760714	2187.445952	2262.13119	2336.816429	2411.501667	2486.186905

Continuation of Table A31:

20.9	1816.221667	1891.19	1966.158333	2041.126667	2116.095	2191.063333	2266.031667	2341	2415.968333	2490.936667
21	1818.119524	1893.34	1968.560476	2043.780952	2119.001429	2194.221905	2269.442381	2344.662857	2419.883333	2495.10381
21.1	1817.385714	1892.65	1967.914286	2043.178571	2118.442857	2193.707143	2268.971429	2344.235714	2419.5	2494.764286
21.2	1815.416905	1890.565	1965.713095	2040.86119	2116.009286	2191.157381	2266.305476	2341.453571	2416.601667	2491.749762
21.3	1815.874524	1891.375	1966.875476	2042.375952	2117.876429	2193.376905	2268.877381	2344.377857	2419.878333	2495.37881
21.4	1813.550476	1889.07	1964.589524	2040.109048	2115.628571	2191.148095	2266.667619	2342.187143	2417.706667	2493.22619
21.5	1807.599286	1882.72	1957.840714	2032.961429	2108.082143	2183.202857	2258.323571	2333.444286	2408.565	2483.685714
21.6	1805.370714	1880.515	1955.659286	2030.803571	2105.947857	2181.092143	2256.236429	2331.380714	2406.525	2481.669286
21.7	1800.907857	1875.76	1950.612143	2025.464286	2100.316429	2175.168571	2250.020714	2324.872857	2399.725	2474.577143
21.8	1798.493095	1873.34	1948.186905	2023.03381	2097.880714	2172.727619	2247.574524	2322.421429	2397.268333	2472.115238
21.9	1800.544048	1876.08	1951.615952	2027.151905	2102.687857	2178.22381	2253.759762	2329.295714	2404.831667	2480.367619
22	1796.652143	1872.05	1947.447857	2022.845714	2098.243571	2173.641429	2249.039286	2324.437143	2399.835	2475.232857
22.1	1789.49881	1864.66	1939.82119	2014.982381	2090.143571	2165.304762	2240.465952	2315.627143	2390.788333	2465.949524
22.2	1788.655952	1864.19	1939.724048	2015.258095	2090.792143	2166.32619	2241.860238	2317.394286	2392.928333	2468.462381
22.3	1784.768333	1860.23	1935.691667	2011.153333	2086.615	2162.076667	2237.538333	2313	2388.461667	2463.923333
22.4	1783.380952	1859.24	1935.099048	2010.958095	2086.817143	2162.67619	2238.535238	2314.394286	2390.253333	2466.112381
22.5	1781.738333	1857.745	1933.751667	2009.758333	2085.765	2161.771667	2237.778333	2313.785	2389.791667	2465.798333
22.6	1777.332619	1853.19	1929.047381	2004.904762	2080.762143	2156.619524	2232.476905	2308.334286	2384.191667	2460.049048
22.7	1771.593095	1847.38	1923.166905	1998.95381	2074.740714	2150.527619	2226.314524	2302.101429	2377.888333	2453.675238
22.8	1769.112857	1844.88	1920.647143	1996.414286	2072.181429	2147.948571	2223.715714	2299.482857	2375.25	2451.017143
22.9	1771.261905	1847.5425	1923.823095	2000.10369	2076.384286	2152.664881	2228.945476	2305.226071	2381.506667	2457.787262
23	1772.437143	1849.245	1926.052857	2002.860714	2079.668571	2156.476429	2233.284286	2310.092143	2386.9	2463.707857
23.1	1773.533095	1850.775	1928.016905	2005.25881	2082.500714	2159.742619	2236.984524	2314.226429	2391.468333	2468.710238
23.2	1771.154762	1848.45	1925.745238	2003.040476	2080.335714	2157.630952	2234.92619	2312.221429	2389.516667	2466.811905
23.3	1764.138571	1841.245	1918.351429	1995.457857	2072.564286	2149.670714	2226.777143	2303.883571	2380.99	2458.096429
23.4	1763.689762	1841.12	1918.550238	1995.980476	2073.410714	2150.840952	2228.27119	2305.701429	2383.131667	2460.561905
23.5	1763.868333	1841.715	1919.561667	1997.408333	2075.255	2153.101667	2230.948333	2308.795	2386.641667	2464.488333
23.6	1762.791905	1840.855	1918.918095	1996.98119	2075.044286	2153.107381	2231.170476	2309.233571	2387.296667	2465.359762
23.7	1754.827619	1832.41	1909.992381	1987.574762	2065.157143	2142.739524	2220.321905	2297.904286	2375.486667	2453.069048
23.8	1741.651905	1818.4	1895.148095	1971.89619	2048.644286	2125.392381	2202.140476	2278.888571	2355.636667	2432.384762
23.9	1743.839048	1821.07	1898.300952	1975.531905	2052.762857	2129.99381	2207.224762	2284.455714	2361.686667	2438.917619
24	1744.899048	1822.45	1900.000952	1977.551905	2055.102857	2132.65381	2210.204762	2287.755714	2365.306667	2442.857619

Table A32: Total load scheduling for year 2021

time	2021 ebus Load (kW)	2021 e2w load(kW)	2021 e3w load(kW)	2021 e4w load(kW)	Sum of all EV 2021(MW)	Load of Kolkata 2021(MW)	Load of kolkata+EV 2021(MW)
0.1	826.8	169.2976406	37.91541244	181.9015724	1.215914625	1721.9905	1723.206415
0.2	826.8	169.2989837	38.13480474	181.9030154	1.216136804	1715.953929	1717.170065
0.3	826.8	169.2995424	38.27077732	181.9036157	1.216273935	1714.442143	1715.658417
0.4	826.8	169.2997657	38.35175524	181.9038557	1.216355377	1700.738333	1701.954689
0.5	826.8	169.2998515	38.39809642	181.9039479	1.216401896	1694.857619	1696.074021
0.6	806.4	169.2998831	38.39809642	181.9039819	1.196001961	1689.070238	1690.26624
0.7	806.4	169.0713624	38.35175524	181.9039939	1.195727112	1682.548571	1683.744299
0.8	931.6	168.8673167	38.27077732	181.9039981	1.320642092	1663.308333	1664.628975
0.9	931.6	168.5107613	38.13480474	181.9039994	1.320149565	1656.459048	1657.779197
1	931.6	167.912058	37.91541244	181.9039998	1.31933147	1652.176905	1653.496236
1.1	931.6	166.9460477	37.57525743	181.9039999	1.318025305	1646.554048	1647.872073
1.2	931.6	165.4483049	37.06847923	181.904	1.316020784	1642.080952	1643.396973
1.3	931.6	163.2169006	36.34296723	181.904	1.313063868	1638.705	1640.018064
1.4	931.6	160.0223854	35.34490645	181.904	1.308871292	1632.335952	1633.644824
1.5	774.4	155.6278057	34.02557118	181.904	1.145957377	1626.387619	1627.533576
1.6	826.8	149.8186163	32.34970549	181.904	1.190872322	1615.982857	1617.173729
1.7	826.8	142.4395814	30.30415992	181.904	1.181447741	1614.878095	1616.059543
1.8	826.8	133.4328022	27.90496762	181.904	1.17004177	1609.682857	1610.852899
1.9	826.8	122.8688746	25.20096596	181.904	1.156773841	1606.720714	1607.877488
2	826.8	110.9628353	22.27253583	181.904	1.141939371	1604.851905	1605.993844
2.1	806.4	98.06861088	19.225	181.904	1.105597611	1602.788333	1603.893931
2.2	806.4	84.64995	16.17746417	181.904	1.089131414	1598.860714	1599.949846
2.3	931.6	71.23128912	13.24903404	181.904	1.197984323	1597.131667	1598.329651
2.4	931.6	58.33706469	10.54503238	181.904	1.182386097	1593.545238	1594.727624
2.5	931.6	46.43102541	8.145840076	181.904	1.168080865	1590.158333	1591.326414
2.6	931.6	35.86709779	6.100294514	181.904	1.155471392	1587.635238	1588.790709
2.7	931.6	26.86031863	4.42442882	181.904	1.144788747	1585.541429	1586.686217
2.8	931.6	19.48128366	3.105093548	181.904	1.136090377	1584.58381	1585.7199
2.9	931.6	13.67209433	2.107032766	181.904	1.129283127	1582.450476	1583.579759
3	774.4	9.277514605	1.38152077	181.904	0.966963035	1581.98	1582.946963
3.1	826.8	6.082999433	0.874742573	181.904	1.015661742	1577.809524	1578.825186
3.2	826.8	3.851595064	0.534587557	181.904	1.013090183	1575.895	1576.90809
3.3	826.8	2.353852274	0.315195256	181.904	1.011373048	1575.580238	1576.591611
3.4	826.8	1.387842012	0.17922268	181.904	1.010271065	1577.500476	1578.510747
3.5	826.8	0.789138666	0.098244761	181.904	1.009591383	1575.319762	1576.329353
3.6	806.4	0.432583309	0.051903579	181.904	0.988788487	1573.719048	1574.707836
3.7	806.4	0.228537602	0	181.904	0.988532538	1572.578095	1573.566628
3.8	931.6	0	0	181.904	1.113504	1571.380238	1572.493742
3.9	931.6	0	0	181.904	1.113504	1570.488095	1571.601599
4	931.6	0	0	181.904	1.113504	1565.869762	1566.983266
4.1	931.6	0	0	181.904	1.113504	1562.973095	1564.086599
4.2	931.6	0	0	181.904	1.113504	1560.424762	1561.538266
4.3	931.6	0	0	181.904	1.113504	1558.127619	1559.241123
4.4	931.6	0	0	181.904	1.113504	1556.750714	1557.864218
4.5	774.4	0	0	181.904	0.956304	1551.368571	1552.324875

Continuation of *Table A32*:

4.6	826.8	0	0	181.904	1.008704	1545.674524	1546.683228
4.7	826.8	0	0	181.904	1.008704	1541.495119	1542.503823
4.8	826.8	0	0	181.904	1.008704	1533.152143	1534.160847
4.9	826.8	0	0	181.904	1.008704	1524.756429	1525.765133
5	826.8	0	0	181.904	1.008704	1518.909524	1519.918228
5.1	806.4	0	0	181.6584481	0.988058448	1500.995952	1501.984011
5.2	806.4	0	0	181.4392116	0.987839212	1479.29381	1480.281649
5.3	931.6	0	0	181.0561113	1.112656111	1461.716667	1462.829323
5.4	931.6	0	0	180.4128354	1.112012835	1443.405952	1444.517965
5.5	931.6	0	0	179.3749073	1.110974907	1419.269524	1420.380499
5.6	931.6	0	0	177.76566	1.10936566	1411.208095	1412.317461
5.7	931.6	0	0	175.3681312	1.106968131	1393.127143	1394.234111
5.8	931.6	0	0	171.9357896	1.10353579	1386.220952	1387.324488
5.9	931.6	0	0	167.2140407	1.098814041	1367.731667	1368.830481
6	774.4	0	0	160.9723667	0.935372367	1346.19	1347.125372
6.1	826.8	0	0	153.0439747	0.979843975	1342.010238	1342.990082
6.2	826.8	0	0	143.3666556	0.970166656	1340.01119	1340.981357
6.3	826.8	0	0	132.0162609	0.958816261	1341.329286	1342.288102
6.4	826.8	0	0	119.2238365	0.946023836	1336.519762	1337.465786
6.5	826.8	0	0	105.3696582	0.932169658	1331.629762	1332.561932
6.6	806.4	0	0	90.952	0.897352	1329.283571	1330.180923
6.7	806.4	0	0	76.53434181	0.882934342	1324.579524	1325.462458
6.8	931.6	0	0	62.68016351	0.994280164	1322.420476	1323.414756
6.9	931.6	0	0	49.88773913	0.981487739	1321.960476	1322.941964
7	931.6	0	0	38.53734442	0.970137344	1320.137381	1321.107518
7.1	931.6	0	0	28.86002531	0.960460025	1319.34881	1320.30927
7.2	931.6	0	0	20.93163329	0.952531633	1319.739762	1320.692294
7.3	931.6	0	0	14.68995934	0.946289959	1324.658571	1325.604861
7.4	931.6	0	0	9.968210357	0.94156821	1328.164524	1329.106092
7.5	774.4	0	0	6.535868768	0.780935869	1330.563095	1331.344031
7.6	826.8	0	0	4.138340002	0.83093834	1333.782381	1334.613319
7.7	826.8	0	0	2.529092716	0.829329093	1336.982381	1337.81171
7.8	826.8	0	0	1.491164575	0.828291165	1340.076905	1340.905196
7.9	826.8	0	0	0.847888746	0.827647889	1341.755476	1342.583124
8	826.8	0	0	0.464788428	0.827264788	1343.153095	1343.98036
8.1	806.4	0	0	0.245551852	0.806645552	1343.761667	1344.568312
8.2	806.4	0	0	0	0.8064	1347.54619	1348.35259
8.3	931.6	0	0	0	0.9316	1349.734048	1350.665648
8.4	931.6	0	0	0	0.9316	1355.620238	1356.551838
8.5	931.6	0	0	0	0.9316	1362.455714	1363.387314
8.6	931.6	0	0	0	0.9316	1365.535714	1366.467314
8.7	931.6	0	0	0	0.9316	1377.404286	1378.335886
8.8	931.6	0	0	0	0.9316	1382.478095	1383.409695
8.9	931.6	0	0	0	0.9316	1392.330476	1393.262076
9	774.4	0	0	0.564781481	0.774964781	1398.697857	1399.472822
9.1	826.8	0	0	2.069170001	0.82886917	1401.160952	1401.989822
9.2	826.8	0	0	6.07624857	0.832876249	1404.318095	1405.150971
9.3	826.8	0	0	14.43001266	0.841230013	1412.576905	1413.418135
9.4	826.8	0	0	28.06210622	0.854862106	1416.510476	1417.365338

Continuation of *Table A32*:

9.5	826.8	0	0	45.476	0.872276	1424.268571	1425.140847
9.6	806.4	0	0	62.88989378	0.869289894	1431.00619	1431.87548
9.7	806.4	0	0	76.52198734	0.882921987	1438.782619	1439.665541
9.8	931.6	0	0	84.87575143	1.016475751	1447.127381	1448.143857
9.9	931.6	0	0	88.88283	1.02048283	1454.565476	1455.585959
10	931.6	0	0	90.38721852	1.021987219	1449.045714	1450.067702
10.1	931.6	0	0	90.82922407	1.022429224	1450.67	1451.692429
10.2	931.6	0	0	90.93084192	1.022530842	1468.589048	1469.611578
10.3	931.6	0	0	90.94911944	1.022549119	1467.901667	1468.924216
10.4	931.6	0	0	90.95169097	1.022551691	1473.670238	1474.69279
10.5	774.4	0	0	90.95197393	0.865351974	1476.663333	1477.528685
10.6	826.8	0	0	90.95199827	0.917751998	1477.03119	1477.948942
10.7	826.8	0	0	90.95199991	0.917752	1480.250714	1481.168466
10.8	826.8	0	0	90.952	0.917752	1483.590476	1484.508228
10.9	826.8	0	0	90.952	0.917752	1502.982619	1503.900371
11	826.8	0	0	90.952	0.917752	1510.740476	1511.658228
11.1	806.4	0	0	90.952	0.897352	1514.46119	1515.358542
11.2	806.4	0	0	90.952	0.897352	1517.660952	1518.558304
11.3	931.6	0	0	90.952	1.022552	1521.855238	1522.87779
11.4	931.6	0	0	90.38721852	1.021987219	1526.372143	1527.39413
11.5	931.6	0	0	88.88283	1.02048283	1531.186905	1532.207388
11.6	931.6	0	0	84.87575143	1.016475751	1543.580238	1544.596714
11.7	931.6	0	0	76.52198734	1.008121987	1548.992857	1550.000979
11.8	931.6	0	0	62.88989378	0.994489894	1551.714048	1552.708538
11.9	931.6	0	0	45.476	0.977076	1558.031429	1559.008505
12	774.4	0	0	28.06210622	0.802462106	1562.117857	1562.920319
12.1	826.8	0	0	14.43001266	0.841230013	1568.36619	1569.20742
12.2	826.8	0	0	6.07624857	0.832876249	1575.265952	1576.098829
12.3	826.8	0	0	2.069170001	0.82886917	1576.379762	1577.208631
12.4	826.8	0	0	0.564781481	0.827364781	1582.135	1582.962365
12.5	826.8	0	0	0	0.8268	1587.230952	1588.057752
12.6	806.4	0	0	0	0.8064	1591.038333	1591.844733
12.7	806.4	0	0	0	0.8064	1594.172619	1594.979019
12.8	931.6	0	0	0	0.9316	1596.191429	1597.123029
12.9	931.6	0	0	0	0.9316	1597.734048	1598.665648
13	931.6	0	0	0.564781481	0.932164781	1599.794762	1600.726927
13.1	931.6	0	0	2.069170001	0.93366917	1601.371429	1602.305098
13.2	931.6	0	0	6.07624857	0.937676249	1603.15119	1604.088867
13.3	931.6	0	0	14.43001266	0.946030013	1603.748095	1604.694125
13.4	931.6	0	0	28.06210622	0.959662106	1604.835476	1605.795138
13.5	774.4	0	0	45.476	0.819876	1608.550238	1609.370114
13.6	826.8	0	0	62.88989378	0.889689894	1612.564286	1613.453976
13.7	826.8	0	0	76.52198734	0.903321987	1616.32619	1617.229512
13.8	826.8	0	0	84.87575143	0.911675751	1618.109762	1619.021438
13.9	826.8	0	0	88.88283	0.91568283	1626.482381	1627.398064
14	826.8	0	0	90.38721852	0.917187219	1634.706905	1635.624092
14.1	806.4	0	0	90.82922407	0.897229224	1639.132143	1640.029372
14.2	806.4	0	0	90.93084192	0.897330842	1644.64881	1645.54614
14.3	931.6	0	0	90.94911944	1.022549119	1646.258333	1647.280882

Continuation of *Table A32*:

14.4	931.6	0	0	90.95169097	1.022551691	1651.87619	1652.898742
14.5	931.6	0	0.051903579	90.95197393	1.022603878	1657.312619	1658.335223
14.6	931.6	0	0.238761632	90.95199827	1.02279076	1664.590952	1665.613743
14.7	931.6	0	0.874742573	90.95199991	1.023426742	1671.947857	1672.971284
14.8	931.6	0	2.568736889	90.952	1.025120737	1682.23619	1683.261311
14.9	931.6	0	6.100294514	90.952	1.028652295	1683.360476	1684.389128
15	774.4	0	11.86326836	90.952	0.877215268	1688.994286	1689.871501
15.1	826.8	0	19.225	90.952	0.936977	1692.976667	1693.913644
15.2	826.8	0	26.58673164	90.952	0.944338732	1696.754524	1697.698863
15.3	826.8	0	32.34970549	90.952	0.950101705	1697.663571	1698.613673
15.4	826.8	0	35.88126311	90.38721852	0.953068482	1696.598095	1697.551164
15.5	826.8	0	37.57525743	88.88283	0.953258087	1695.614048	1696.567306
15.6	806.4	0	38.21123837	84.87575143	0.92948699	1690.077381	1691.006868
15.7	806.4	0	38.39809642	76.52198734	0.921320084	1688.713571	1689.634892
15.8	931.6	0	38.44105541	62.88989378	1.032930949	1686.877143	1687.910074
15.9	931.6	0	38.44878224	45.476	1.015524782	1679.74119	1680.756715
16	931.6	0	38.44986936	28.06210622	0.998111976	1672.002381	1673.000493
16.1	931.6	0	38.44998898	14.43001266	0.984480002	1662.008571	1662.993051
16.2	879.2	0	38.44999927	6.07624857	0.923726248	1652.592857	1653.516583
16.3	879.2	0	38.44999996	2.069170001	0.91971917	1640.13619	1641.05591
16.4	879.2	0	38.39809642	0.564781481	0.918162878	1629.388571	1630.306734
16.5	774.4	0	38.21123837	0	0.812611238	1618.095476	1618.908087
16.6	774.4	0	37.57525743	0	0.811975257	1607.924048	1608.736023
16.7	774.4	0	35.88126311	0	0.810281263	1591.572619	1592.3829
16.8	774.4	0	32.34970549	0	0.806749705	1583.16	1583.96675
16.9	774.4	0	26.58673164	0	0.800986732	1573.108571	1573.909558
17	774.4	0	19.225	0	0.793625	1560.834048	1561.627673
17.1	754	0	11.86326836	0	0.765863268	1548.986667	1549.75253
17.2	754	0	6.100294514	0	0.760100295	1542.268571	1543.028672
17.3	879.2	0	2.568736889	0	0.881768737	1531.662857	1532.544626
17.4	879.2	0	0.874742573	0	0.880074743	1526.639048	1527.519122
17.5	879.2	0	0.238761632	0	0.879438762	1520.203571	1521.08301
17.6	879.2	0	0.051903579	0	0.879251904	1514.686667	1515.565919
17.7	879.2	0	0	0	0.8792	1510.900714	1511.779914
17.8	879.2	0	0	0	0.8792	1507.759286	1508.638486
17.9	879.2	0	0	0	0.8792	1507.375	1508.2542
18	774.4	0	0	0	0.7744	1504.516429	1505.290829
18.1	669.6	0	0	0	0.6696	1503.284762	1503.954362
18.2	564.8	0	0	0	0.5648	1505.291429	1505.856229
18.3	460	0	0	0	0.46	1520.07381	1520.53381
18.4	355.2	0	0	0	0.3552	1562.625	1562.9802
18.5	250.4	0	0	0	0.2504	1561.747381	1561.997781
18.6	125.2	0	0	0	0.1252	1593.161667	1593.286867
18.7	0	0	0	0	0	1693.330238	1693.330238
18.8	0	0	0	0	0	1700.006429	1700.006429
18.9	0	0	0	0	0	1747.241429	1747.241429
19	0	0	0	0	0	1772.686429	1772.686429
19.1	0	0	0	0	0	1793.759048	1793.759048
19.2	0	0	0	0	0	1797.749286	1797.749286

Continuation of *Table A32*:

19.3	0	0	0	0	0	1811.808571	1811.808571
19.4	0	0	0	0	0	1821.165714	1821.165714
19.5	0	0	0	0	0	1822.356905	1822.356905
19.6	0	0	0	0	0	1821.311667	1821.311667
19.7	0	0	0	0	0	1818.475714	1818.475714
19.8	0	0	0	0	0	1816.02	1816.02
19.9	0	0	0	0	0	1816.498333	1816.498333
20	0	0	0	0	0	1815.895714	1815.895714
20.1	0	0	0	0	0	1820.541667	1820.541667
20.2	0	0	0	0	0	1821.196667	1821.196667
20.3	0	0	0	0	0	1820.950238	1820.950238
20.4	0	0	0	0	0	1816.530238	1816.530238
20.5	0	0.228537602	0	0.245551852	0.000474089	1814.93	1814.930474
20.6	0	0.432583309	0	0.464788428	0.000897372	1814.066429	1814.067326
20.7	0	0.789138666	0	0.847888746	0.001637027	1813.151905	1813.153542
20.8	0	1.387842012	0	1.491164575	0.002879007	1814.019762	1814.022641
20.9	0	2.353852274	0	2.529092716	0.004882945	1816.221667	1816.22655
21	0	3.851595064	0	4.138340002	0.007989935	1818.119524	1818.127514
21.1	104.8	6.082999433	0	6.535868768	0.117418868	1817.385714	1817.503133
21.2	209.6	9.277514605	0	9.968210357	0.228845725	1815.416905	1815.64575
21.3	314.4	13.67209433	0	14.68995934	0.342762054	1815.874524	1816.217286
21.4	419.2	19.48128366	0	20.93163329	0.459612917	1813.550476	1814.010089
21.5	524	26.86031863	0.051903579	28.86002531	0.579772248	1807.599286	1808.179058
21.6	628.8	35.86709779	0.098244761	38.53734442	0.703302687	1805.370714	1806.074017
21.7	754	46.43102541	0.17922268	49.88773913	0.850497987	1800.907857	1801.758355
21.8	879.2	58.33706469	0.315195256	62.68016351	1.000532423	1798.493095	1799.493628
21.9	879.2	71.23128912	0.534587557	76.53434181	1.027500218	1800.544048	1801.571548
22	879.2	84.64995	0.874742573	90.952	1.055676693	1796.652143	1797.70782
22.1	879.2	98.06861088	1.38152077	105.3696582	1.08401979	1789.49881	1790.582829
22.2	879.2	110.9628353	2.107032766	119.2238365	1.111493705	1788.655952	1789.767446
22.3	879.2	122.8688746	3.105093548	132.0162609	1.137190229	1784.768333	1785.905524
22.4	879.2	133.4328022	4.42442882	143.3666556	1.160423887	1783.380952	1784.541376
22.5	774.4	142.4395814	6.100294514	153.0439747	1.075983851	1781.738333	1782.814317
22.6	774.4	149.8186163	8.145840076	160.9723667	1.093336823	1777.332619	1778.425956
22.7	774.4	155.6278057	10.54503238	167.2140407	1.107786879	1771.593095	1772.700882
22.8	774.4	160.0223854	13.24903404	171.9357896	1.119607209	1769.112857	1770.232464
22.9	774.4	163.2169006	16.17746417	175.3681312	1.129162496	1771.261905	1772.391067
23	774.4	165.4483049	19.225	177.76566	1.136838965	1772.437143	1773.573982
23.1	754	166.9460477	22.27253583	179.3749073	1.122593491	1773.533095	1774.655689
23.2	754	167.912058	25.20096596	180.4128354	1.127525859	1771.154762	1772.282288
23.3	879.2	168.5107613	27.90496762	181.0561113	1.25667184	1764.138571	1765.395243
23.4	879.2	168.8673167	30.30415992	181.4392116	1.259810688	1763.689762	1764.949573
23.5	879.2	169.0713624	32.34970549	181.6584481	1.262279516	1763.868333	1765.130613
23.6	879.2	169.1835676	34.02557118	181.7790069	1.264188146	1762.791905	1764.056093
23.7	879.2	169.2428579	35.34490645	181.8427112	1.265630476	1754.827619	1756.09325
23.8	879.2	169.2729629	36.34296723	181.8750575	1.266690988	1741.651905	1742.918596
23.9	879.2	169.2876515	37.06847923	181.8908396	1.26744697	1743.839048	1745.106495
24	774.4	169.2945381	37.57525743	181.8982389	1.163168034	1744.899048	1746.062216

*Table A33: Total load scheduling for year 2022*

time	2022 ebus load(kW)	2022 e2w load(kW)	2022 e3w load(kW)	2022 e4w load(kW)	Sum of all EV 2022(MW)	Load of Kolkata 2022(MW)	Load of kolkata+EV 2022(MW)
0.1	3202.4	508.1372184	112.2296208	547.9784867	4.370745326	1798.454	1802.824745
0.2	3202.4	508.1412496	112.879022	547.982834	4.371403106	1792.1675	1796.538903
0.3	3254.8	508.1429266	113.2815009	547.9846424	4.42420907	1790.715	1795.139209
0.4	3254.8	508.1435969	113.5211955	547.9853653	4.424450158	1775.985	1780.40945
0.5	3254.8	508.1438543	113.6583654	547.9856429	4.424587863	1769.92	1774.344588
0.6	3173.2	508.1439494	113.6583654	547.9857454	4.34298806	1763.94	1768.282988
0.7	3173.2	507.4580574	113.5211955	547.9857817	4.342165035	1757.09	1761.432165
0.8	3674	506.8456259	113.2815009	547.9857941	4.842112921	1736.61	1741.452113
0.9	3674	505.7754453	112.879022	547.9857982	4.840640265	1729.425	1734.26564
1	3674	503.9784713	112.2296208	547.9857995	4.838193892	1724.98	1729.818194
1.1	3674	501.0790466	111.222762	547.9857998	4.834287608	1719.085	1723.919288
1.2	3674	496.583657	109.7226985	547.9858	4.828292155	1714.415	1719.243292
1.3	3674	489.8862239	107.575183	547.9858	4.819447207	1710.805	1715.624447
1.4	3674	480.2980687	104.6209231	547.9858	4.806904792	1704.135	1708.941905
1.5	3202.4	467.1079882	100.7156907	547.9858	4.318209479	1697.725	1702.043209
1.6	3202.4	449.6720375	95.75512824	547.9858	4.295812966	1686.5	1690.795813
1.7	3202.4	427.5242846	89.70031338	547.9858	4.267610398	1685.45	1689.71761
1.8	3254.8	400.4909503	82.59870416	547.9858	4.285875455	1679.905	1684.190875
1.9	3254.8	368.7839237	74.59485926	547.9858	4.246164583	1676.81	1681.056165
2	3254.8	333.0486255	65.92670605	547.9858	4.201761132	1674.96	1679.161761
2.1	3173.2	294.3473458	56.906	547.9858	4.072439146	1672.8	1676.872439
2.2	3173.2	254.072	47.88529395	547.9858	4.023143094	1668.74	1672.763143
2.3	3674	213.7966542	39.21714074	547.9858	4.474999595	1666.98	1671.455
2.4	3674	175.0953745	31.21329584	547.9858	4.42829447	1663.18	1667.608294
2.5	3674	139.3600763	24.11168662	547.9858	4.385457563	1659.725	1664.110458
2.6	3674	107.6530497	18.05687176	547.9858	4.347695721	1657.085	1661.432696
2.7	3674	80.61971535	13.09630931	547.9858	4.315701825	1654.895	1659.210702
2.8	3674	58.47196251	9.191076901	547.9858	4.289648839	1653.955	1658.244649
2.9	3674	41.03601185	6.236816987	547.9858	4.269258629	1651.655	1655.924259
3	3202.4	27.84593128	4.089301479	547.9858	3.782321033	1651.205	1654.987321
3.1	3202.4	18.25777608	2.589238017	547.9858	3.771232814	1646.69	1650.461233
3.2	3202.4	11.56034305	1.582379168	547.9858	3.763528522	1644.61	1648.373529
3.3	3254.8	7.064953433	0.932977959	547.9858	3.810783731	1644.28	1648.090784
3.4	3254.8	4.165528695	0.530499131	547.9858	3.807481828	1646.46	1650.267482
3.5	3254.8	2.368554727	0.290804493	547.9858	3.805445159	1644.15	1647.955445
3.6	3173.2	1.298374147	0.153634595	547.9858	3.722637809	1642.435	1646.157638
3.7	3173.2	0.685942585	0	547.9858	3.721871743	1641.165	1644.886872
3.8	3674	0	0	547.9858	4.2219858	1639.865	1644.086986
3.9	3674	0	0	547.9858	4.2219858	1638.94	1643.161986
4	3674	0	0	547.9858	4.2219858	1633.95	1638.171986
4.1	3674	0	0	547.9858	4.2219858	1630.795	1635.016986
4.2	3674	0	0	547.9858	4.2219858	1628.015	1632.236986
4.3	3674	0	0	547.9858	4.2219858	1625.515	1629.736986
4.4	3674	0	0	547.9858	4.2219858	1624.03	1628.251986
4.5	3202.4	0	0	547.9858	3.7503858	1618.25	1622.000386
4.6	3202.4	0	0	547.9858	3.7503858	1612.1	1615.850386

Continuation of *Table A33*:

4.7	3202.4	0	0	547.9858	3.7503858	1607.715	1611.465386
4.8	3254.8	0	0	547.9858	3.8027858	1598.925	1602.727786
4.9	3254.8	0	0	547.9858	3.8027858	1590.135	1593.937786
5	3254.8	0	0	547.9858	3.8027858	1584.335	1588.137786
5.1	3173.2	0	0	547.246075	3.720446075	1565.1	1568.820446
5.2	3173.2	0	0	546.5856249	3.719785625	1541.83	1545.549786
5.3	3674	0	0	545.4315352	4.219431535	1523.23	1527.449432
5.4	3674	0	0	543.4936667	4.217493667	1503.73	1507.947494
5.5	3674	0	0	540.3669082	4.214366908	1478.075	1482.289367
5.6	3674	0	0	535.5190507	4.209519051	1469.805	1474.014519
5.7	3674	0	0	528.2964953	4.202296495	1450.575	1454.777296
5.8	3674	0	0	517.9565663	4.191956566	1443.215	1447.406957
5.9	3674	0	0	503.7322975	4.177732297	1423.39	1427.567732
6	3202.4	0	0	484.9292547	3.687329255	1400.06	1403.747329
6.1	3202.4	0	0	461.0449738	3.663444974	1395.565	1399.228445
6.2	3202.4	0	0	431.8920499	3.63429205	1393.48	1397.114292
6.3	3254.8	0	0	397.6989859	3.652498986	1394.885	1398.537499
6.4	3254.8	0	0	359.1618074	3.613961807	1389.445	1393.058962
6.5	3254.8	0	0	317.4260953	3.572226095	1384.01	1387.582226
6.6	3173.2	0	0	273.9929	3.4471929	1381.365	1384.812193
6.7	3173.2	0	0	230.5597047	3.403759705	1376.075	1379.47876
6.8	3674	0	0	188.8239926	3.862823993	1373.64	1377.502824
6.9	3674	0	0	150.2868141	3.824286814	1373.065	1376.889287
7	3674	0	0	116.0937501	3.79009375	1370.995	1374.785094
7.1	3674	0	0	86.94082625	3.760940826	1370.075	1373.835941
7.2	3674	0	0	63.05654529	3.737056545	1370.425	1374.162057
7.3	3674	0	0	44.25350252	3.718253503	1375.725	1379.443254
7.4	3674	0	0	30.0292337	3.704029234	1379.515	1383.219029
7.5	3202.4	0	0	19.68930466	3.222089305	1382.045	1385.267089
7.6	3202.4	0	0	12.46674926	3.214866749	1385.41	1388.624867
7.7	3202.4	0	0	7.618891808	3.210018892	1388.745	1391.955019
7.8	3254.8	0	0	4.492133282	3.259292133	1391.965	1395.224292
7.9	3254.8	0	0	2.554264848	3.257354265	1393.705	1396.962354
8	3254.8	0	0	1.400175138	3.256200175	1395.11	1398.3662
8.1	3173.2	0	0	0.739724953	3.173939725	1395.625	1398.79894
8.2	3173.2	0	0	0	3.1732	1399.595	1402.7682
8.3	3674	0	0	0	3.674	1401.895	1405.569
8.4	3674	0	0	0	3.674	1408.355	1412.029
8.5	3674	0	0	0	3.674	1415.74	1419.414
8.6	3674	0	0	0	3.674	1418.99	1422.664
8.7	3674	0	0	0	3.674	1431.665	1435.339
8.8	3674	0	0	0	3.674	1436.98	1440.654
8.9	3674	0	0	0	3.674	1447.555	1451.229
9	3202.4	0	0	1.701404211	3.204101404	1454.16	1457.364101
9.1	3202.4	0	0	6.233374628	3.208633375	1456.62	1459.828633
9.2	3202.4	0	0	18.30469882	3.220704699	1459.755	1462.975705
9.3	3254.8	0	0	43.47041312	3.298270413	1468.595	1471.89327
9.4	3254.8	0	0	84.53709499	3.339337095	1472.725	1476.064337
9.5	3254.8	0	0	136.99645	3.39179645	1481.045	1484.436796

Continuation of *Table A33*:

9.6	3173.2	0	0	189.455805	3.362655805	1488.195	1491.557656
9.7	3173.2	0	0	230.5224869	3.403722487	1496.51	1499.913722
9.8	3674	0	0	255.6882012	3.929688201	1505.39	1509.319688
9.9	3674	0	0	267.7595254	3.941759525	1513.35	1517.29176
10	3674	0	0	272.2914958	3.946291496	1507.045	1510.991291
10.1	3674	0	0	273.6230375	3.947623038	1508.4	1512.347623
10.2	3674	0	0	273.9291613	3.947929161	1527.71	1531.657929
10.3	3674	0	0	273.9842223	3.947984222	1526.64	1530.587984
10.4	3674	0	0	273.9919691	3.947991969	1532.885	1536.832992
10.5	3202.4	0	0	273.9928215	3.476392821	1536.05	1539.526393
10.6	3202.4	0	0	273.9928948	3.476392895	1536.215	1539.691393
10.7	3202.4	0	0	273.9928997	3.4763929	1539.535	1543.011393
10.8	3254.8	0	0	273.9929	3.5287929	1543.1	1546.628793
10.9	3254.8	0	0	273.9929	3.5287929	1563.955	1567.483793
11	3254.8	0	0	273.9929	3.5287929	1572.175	1575.703793
11.1	3173.2	0	0	273.9929	3.4471929	1576.09	1579.537193
11.2	3173.2	0	0	273.9929	3.4471929	1579.34	1582.787193
11.3	3674	0	0	273.9929	3.9479929	1583.725	1587.672993
11.4	3674	0	0	272.2914958	3.946291496	1588.45	1592.396291
11.5	3674	0	0	267.7595254	3.941759525	1593.52	1597.46176
11.6	3674	0	0	255.6882012	3.929688201	1606.92	1610.849688
11.7	3674	0	0	230.5224869	3.904522487	1612.775	1616.679522
11.8	3674	0	0	189.455805	3.863455805	1615.54	1619.403456
11.9	3674	0	0	136.99645	3.81099645	1622.34	1626.150996
12	3202.4	0	0	84.53709499	3.286937095	1626.635	1629.921937
12.1	3202.4	0	0	43.47041312	3.245870413	1633.385	1636.63087
12.2	3202.4	0	0	18.30469882	3.220704699	1640.83	1644.050705
12.3	3254.8	0	0	6.233374628	3.261033375	1641.855	1645.116033
12.4	3254.8	0	0	1.701404211	3.256501404	1648.085	1651.341501
12.5	3254.8	0	0	0	3.2548	1653.59	1656.8448
12.6	3173.2	0	0	0	3.1732	1657.655	1660.8282
12.7	3173.2	0	0	0	3.1732	1660.995	1664.1682
12.8	3674	0	0	0	3.674	1663.175	1666.849
12.9	3674	0	0	0	3.674	1664.795	1668.469
13	3674	0	0	1.701404211	3.675701404	1667.02	1670.695701
13.1	3674	0	0	6.233374628	3.680233375	1668.73	1672.410233
13.2	3674	0	0	18.30469882	3.692304699	1670.685	1674.377305
13.3	3674	0	0	43.47041312	3.717470413	1671.375	1675.09247
13.4	3674	0	0	84.53709499	3.758537095	1672.65	1676.408537
13.5	3202.4	0	0	136.99645	3.33939645	1676.695	1680.034396
13.6	3202.4	0	0	189.455805	3.391855805	1681.065	1684.456856
13.7	3202.4	0	0	230.5224869	3.432922487	1685.095	1688.527922
13.8	3254.8	0	0	255.6882012	3.510488201	1686.96	1690.470488
13.9	3254.8	0	0	267.7595254	3.522559525	1695.95	1699.47256
14	3254.8	0	0	272.2914958	3.527091496	1704.825	1708.352091
14.1	3173.2	0	0	273.6230375	3.446823038	1709.47	1712.916823
14.2	3173.2	0	0	273.9291613	3.447129161	1715.34	1718.787129
14.3	3674	0	0	273.9842223	3.947984222	1716.84	1720.787984
14.4	3674	0	0	273.9919691	3.947991969	1722.76	1726.707992

Continuation of *Table A33*:

14.5	3674	0	0	273.9928215	3.947992821	1728.49	1732.438146
14.6	3674	0	0	273.9928948	3.947992895	1736.12	1740.0687
14.7	3621.6	0	0	273.9928997	3.8955929	1743.96	1747.858182
14.8	3621.6	0	0	273.9929	3.8955929	1755.12	1759.023196
14.9	3621.6	0	0	273.9929	3.8955929	1756.28	1760.19365
15	3150	0	0	273.9929	3.4239929	1762.395	1765.854108
15.1	3150	0	0	273.9929	3.4239929	1766.66	1770.140899
15.2	3202.4	0	0	273.9929	3.4763929	1770.705	1774.26009
15.3	3202.4	0	0	273.9929	3.4763929	1771.74	1775.312148
15.4	3202.4	0	0	272.2914958	3.474691496	1770.69	1774.2709
15.5	3202.4	0	0	267.7595254	3.470159525	1769.675	1773.256382
15.6	3120.8	0	0	255.6882012	3.376488201	1763.665	1767.154593
15.7	3120.8	0	0	230.5224869	3.351322487	1762.27	1765.734981
15.8	3621.6	0	0	189.455805	3.811055805	1760.31	1764.234841
15.9	3621.6	0	0	136.99645	3.75859645	1752.625	1756.497405
16	3621.6	0	0	84.53709499	3.706137095	1744.27	1748.089949
16.1	3621.6	0	0	43.47041312	3.665070413	1733.425	1737.203882
16.2	3621.6	0	0	18.30469882	3.639904699	1723.25	1727.003717
16.3	3621.6	0	0	6.233374628	3.627833375	1709.9075	1713.649145
16.4	3621.6	0	0	1.701404211	3.623301404	1698.355	1702.09196
16.5	3150	0	0	0	3.15	1686.31	1689.573105
16.6	3150	0	0	0	3.15	1675.425	1678.686223
16.7	3202.4	0	0	0	3.2024	1657.815	1661.123609
16.8	3202.4	0	0	0	3.2024	1649.015	1652.313155
16.9	3202.4	0	0	0	3.2024	1638.335	1641.616097
17	3202.4	0	0	0	3.2024	1625.26	1628.519306
17.1	3120.8	0	0	0	3.1208	1612.73	1615.885915
17.2	3120.8	0	0	0	3.1208	1605.685	1608.823857
17.3	3621.6	0	0	0	3.6216	1594.325	1597.954203
17.4	3621.6	0	0	0	3.6216	1589.09	1592.714189
17.5	3621.6	0	0	0	3.6216	1582.18	1585.802307
17.6	3621.6	0	0	0	3.6216	1576.155	1579.776754
17.7	3621.6	0	0	0	3.6216	1571.93	1575.5516
17.8	3621.6	0	0	0	3.6216	1568.405	1572.0266
17.9	3621.6	0	0	0	3.6216	1567.865	1571.4866
18	3150	0	0	0	3.15	1564.555	1567.705
18.1	2678.4	0	0	0	2.6784	1562.865	1565.5434
18.2	2259.2	0	0	0	2.2592	1564.43	1566.6892
18.3	1840	0	0	0	1.84	1579.93	1581.77
18.4	1420.8	0	0	0	1.4208	1625.1	1626.5208
18.5	1001.6	0	0	0	1.0016	1622.865	1623.8666
18.6	500.8	0	0	0	0.5008	1655.24	1655.7408
18.7	0	0	0	0	0	1762.72	1762.72
18.8	0	0	0	0	0	1767.47	1767.47
18.9	0	0	0	0	0	1817.56	1817.56
19	0	0	0	0	0	1844.465	1844.465
19.1	0	0	0	0	0	1866.205	1866.205
19.2	0	0	0	0	0	1869.95	1869.95
19.3	0	0	0	0	0	1884.975	1884.975

Continuation of *Table A33*:

19.4	0	0	0	0	0	1895.08	1895.08
19.5	0	0	0	0	0	1896.485	1896.485
19.6	0	0	0	0	0	1895.435	1895.435
19.7	0	0	0	0	0	1892.49	1892.49
19.8	0	0	0	0	0	1889.925	1889.925
19.9	0	0	0	0	0	1890.555	1890.555
20	0	0	0	0	0	1890.03	1890.03
20.1	0	0	0	0	0	1895.345	1895.345
20.2	0	0	0	0	0	1896.115	1896.115
20.3	0	0	0	0	0	1895.885	1895.885
20.4	0	0	0	0	0	1891.14	1891.14
20.5	0	0.685942585	0	0.739724953	0.001425668	1889.535	1889.536426
20.6	0	1.298374147	0	1.400175138	0.002698549	1888.605	1888.607699
20.7	0	2.368554727	0	2.554264848	0.00492282	1887.685	1887.689923
20.8	0	4.165528695	0	4.492133282	0.008657662	1888.705	1888.713658
20.9	0	7.064953433	0	7.618891808	0.014683845	1891.19	1891.204684
21	0	11.56034305	0	12.46674926	0.024027092	1893.34	1893.364027
21.1	471.6	18.25777608	0	19.68930466	0.509547081	1892.65	1893.159547
21.2	943.2	27.84593128	0	30.0292337	1.001075165	1890.565	1891.566075
21.3	1362.4	41.03601185	0	44.25350252	1.447689514	1891.375	1892.82269
21.4	1781.6	58.47196251	0	63.05654529	1.903128508	1889.07	1890.973129
21.5	2200.8	80.61971535	0.153634595	86.94082625	2.368514176	1882.72	1885.088514
21.6	2620	107.6530497	0.290804493	116.0937501	2.844037604	1880.515	1883.359038
21.7	3120.8	139.3600763	0.530499131	150.2868141	3.41097739	1875.76	1879.170977
21.8	3621.6	175.0953745	0.932977959	188.8239926	3.986452345	1873.34	1877.326452
21.9	3621.6	213.7966542	1.582379168	230.5597047	4.067538738	1876.08	1880.147539
22	3621.6	254.072	2.589238017	273.9929	4.152254138	1872.05	1876.202254
22.1	3621.6	294.3473458	4.089301479	317.4260953	4.237462743	1864.66	1868.897463
22.2	3621.6	333.0486255	6.236816987	359.1618074	4.32004725	1864.19	1868.510047
22.3	3621.6	368.7839237	9.191076901	397.6989859	4.397273987	1860.23	1864.627274
22.4	3621.6	400.4909503	13.09630931	431.8920499	4.46707931	1859.24	1863.707079
22.5	3150	427.5242846	18.05687176	461.0449738	4.05662613	1857.745	1861.801626
22.6	3150	449.6720375	24.11168662	484.9292547	4.108712979	1853.19	1857.298713
22.7	3202.4	467.1079882	31.21329584	503.7322975	4.204453581	1847.38	1851.584454
22.8	3202.4	480.2980687	39.21714074	517.9565663	4.239871776	1844.88	1849.119872
22.9	3202.4	489.8862239	47.88529395	528.2964953	4.268468013	1847.5425	1851.810968
23	3202.4	496.583657	56.906	535.5190507	4.291408708	1849.245	1853.536409
23.1	3120.8	501.0790466	65.92670605	540.3669082	4.228172661	1850.775	1855.003173
23.2	3120.8	503.9784713	74.59485926	543.4936667	4.242866997	1848.45	1852.692867
23.3	3621.6	505.7754453	82.59870416	545.4315352	4.755405685	1841.245	1846.000406
23.4	3621.6	506.8456259	89.70031338	546.5856249	4.764731564	1841.12	1845.884732
23.5	3621.6	507.4580574	95.75512824	547.246075	4.772059261	1841.715	1846.487059
23.6	3621.6	507.794835	100.7156907	547.6092582	4.777719784	1840.855	1845.63272
23.7	3621.6	507.9727914	104.6209231	547.8011675	4.781994882	1832.41	1837.191995
23.8	3621.6	508.0631499	107.575183	547.8986108	4.785136944	1818.4	1823.185137
23.9	3621.6	508.1072368	109.7226985	547.9461543	4.78737609	1821.07	1825.857376
24	3150	508.1279064	111.222762	547.9684446	4.317319113	1822.45	1826.767319

Table A34: Total load scheduling for year 2023

time	2023 ebus Load (kW)	2023 e2w load(kW)	2023 e3w load(kW)	2023 e4w load(kW)	Sum of all EV 2023(MW)	Load of Kolkata 2023(MW)	Load of kolkata+EV 2023(MW)
0.1	6415	1016.274437	224.4592417	1095.956973	8.751690652	1874.9175	1883.669191
0.2	6425.2	1016.282499	225.7580441	1095.965668	8.763206211	1868.381071	1877.144278
0.3	6425.2	1016.285853	226.5630017	1095.969285	8.76401814	1866.987857	1875.751875
0.4	6425.2	1016.287194	227.042391	1095.970731	8.764500315	1851.231667	1859.996167
0.5	6477.6	1016.287709	227.3167308	1095.971286	8.817175725	1844.982381	1853.799557
0.6	6314.4	1016.287899	227.3167308	1095.971491	8.65397612	1838.809762	1847.463738
0.7	6314.4	1014.916115	227.042391	1095.971563	8.652330069	1831.631429	1840.283759
0.8	7316	1013.691252	226.5630017	1095.971588	9.652225842	1809.911667	1819.563893
0.9	7316	1011.550891	225.7580441	1095.971596	9.649280531	1802.390952	1812.040233
1	7316	1007.956943	224.4592417	1095.971599	9.644387783	1797.783095	1807.427483
1.1	7316	1002.158093	222.445524	1095.9716	9.636575217	1791.615952	1801.252528
1.2	7316	993.1673139	219.445397	1095.9716	9.624584311	1786.749048	1796.373632
1.3	7316	979.7724478	215.150366	1095.9716	9.606894414	1782.905	1792.511894
1.4	7316	960.5961374	209.2418462	1095.9716	9.581809584	1775.934048	1785.515857
1.5	6415	934.2159763	201.4313814	1095.9716	8.646618958	1769.062381	1777.709
1.6	6415	899.344075	191.5102565	1095.9716	8.601825931	1757.017143	1765.618969
1.7	6425.2	855.0485693	179.4006268	1095.9716	8.555620796	1756.021905	1764.577526
1.8	6425.2	800.9819007	165.1974083	1095.9716	8.487350909	1750.127143	1758.614494
1.9	6425.2	737.5678475	149.1897185	1095.9716	8.407929166	1746.899286	1755.307215
2	6477.6	666.0972509	131.8534121	1095.9716	8.371522263	1745.068095	1753.439618
2.1	6314.4	588.6946916	113.812	1095.9716	8.112878292	1742.811667	1750.924545
2.2	6314.4	508.144	95.7705879	1095.9716	8.014286188	1738.619286	1746.633572
2.3	7316	427.5933084	78.43428149	1095.9716	8.91799919	1736.828333	1745.746333
2.4	7316	350.1907491	62.42659167	1095.9716	8.824588941	1732.814762	1741.639351
2.5	7316	278.7201525	48.22337325	1095.9716	8.738915126	1729.291667	1738.030582
2.6	7316	215.3060993	36.11374352	1095.9716	8.663391443	1726.534762	1735.198153
2.7	7316	161.2394307	26.19261861	1095.9716	8.599403649	1724.248571	1732.847975
2.8	7316	116.943925	18.3821538	1095.9716	8.547297679	1723.32619	1731.873488
2.9	7316	82.0720237	12.47363397	1095.9716	8.506517258	1720.859524	1729.366041
3	6415	55.69186256	8.178602958	1095.9716	7.574842066	1720.43	1728.004842
3.1	6415	36.51555215	5.178476035	1095.9716	7.552665628	1715.570476	1723.123142
3.2	6425.2	23.1206861	3.164758337	1095.9716	7.547457044	1713.325	1720.872457
3.3	6425.2	14.12990687	1.865955917	1095.9716	7.537167463	1712.979762	1720.516929
3.4	6425.2	8.33105739	1.060998263	1095.9716	7.530563656	1715.419524	1722.950087
3.5	6477.6	4.737109454	0.581608986	1095.9716	7.578890318	1712.980238	1720.559128
3.6	6314.4	2.596748293	0.30726919	1095.9716	7.413275617	1711.150952	1718.564228
3.7	6314.4	1.371885171	0	1095.9716	7.411743485	1709.751905	1717.163648
3.8	7316	0	0	1095.9716	8.4119716	1708.349762	1716.761734
3.9	7316	0	0	1095.9716	8.4119716	1707.391905	1715.803876
4	7316	0	0	1095.9716	8.4119716	1702.030238	1710.44221
4.1	7316	0	0	1095.9716	8.4119716	1698.616905	1707.028876
4.2	7316	0	0	1095.9716	8.4119716	1695.605238	1704.01721
4.3	7316	0	0	1095.9716	8.4119716	1692.902381	1701.314353
4.4	7316	0	0	1095.9716	8.4119716	1691.309286	1699.721257
4.5	6415	0	0	1095.9716	7.5109716	1685.131429	1692.6424

Continuation of *Table A34*:

4.6	6415	0	0	1095.9716	7.5109716	1678.525476	1686.036448
4.7	6425.2	0	0	1095.9716	7.5211716	1673.934881	1681.456053
4.8	6425.2	0	0	1095.9716	7.5211716	1664.697857	1672.219029
4.9	6425.2	0	0	1095.9716	7.5211716	1655.513571	1663.034743
5	6477.6	0	0	1095.9716	7.5735716	1649.760476	1657.334048
5.1	6314.4	0	0	1094.49215	7.40889215	1629.204048	1636.61294
5.2	6314.4	0	0	1093.17125	7.40757125	1604.36619	1611.773762
5.3	7316	0	0	1090.86307	8.40686307	1584.743333	1593.150196
5.4	7316	0	0	1086.987333	8.402987333	1564.054048	1572.457035
5.5	7316	0	0	1080.733816	8.396733816	1536.880476	1545.27721
5.6	7316	0	0	1071.038101	8.387038101	1528.401905	1536.788943
5.7	7316	0	0	1056.592991	8.372592991	1508.022857	1516.39545
5.8	7316	0	0	1035.913133	8.351913133	1500.209048	1508.560961
5.9	7316	0	0	1007.464595	8.323464595	1479.048333	1487.371798
6	6415	0	0	969.8585094	7.384858509	1453.93	1461.314859
6.1	6415	0	0	922.0899475	7.337089948	1449.119762	1456.456852
6.2	6425.2	0	0	863.7840998	7.2889841	1446.94881	1454.237794
6.3	6425.2	0	0	795.3979717	7.220597972	1448.440714	1455.661312
6.4	6425.2	0	0	718.3236148	7.143523615	1442.370238	1449.513762
6.5	6477.6	0	0	634.8521906	7.112452191	1436.390238	1443.50269
6.6	6314.4	0	0	547.9858	6.8623858	1433.446429	1440.308814
6.7	6314.4	0	0	461.1194094	6.775519409	1427.570476	1434.345996
6.8	7316	0	0	377.6479852	7.693647985	1424.859524	1432.553172
6.9	7316	0	0	300.5736283	7.616573628	1424.169524	1431.786097
7	7316	0	0	232.1875002	7.5481875	1421.852619	1429.400807
7.1	7316	0	0	173.8816525	7.489881652	1420.80119	1428.291072
7.2	7316	0	0	126.1130906	7.442113091	1421.110238	1428.552351
7.3	7316	0	0	88.50700503	7.404507005	1426.791429	1434.195936
7.4	7316	0	0	60.0584674	7.376058467	1430.865476	1438.241535
7.5	6415	0	0	39.37860933	6.454378609	1433.526905	1439.981283
7.6	6415	0	0	24.93349851	6.439933499	1437.037619	1443.477553
7.7	6425.2	0	0	15.23778362	6.440437784	1440.507619	1446.948057
7.8	6425.2	0	0	8.984266563	6.434184267	1443.853095	1450.28728
7.9	6425.2	0	0	5.108529696	6.43030853	1445.654524	1452.084832
8	6477.6	0	0	2.800350276	6.48040035	1447.066905	1453.547305
8.1	6314.4	0	0	1.479449906	6.31587945	1447.488333	1453.804213
8.2	6314.4	0	0	0	6.3144	1451.64381	1457.95821
8.3	7316	0	0	0	7.316	1454.055952	1461.371952
8.4	7316	0	0	0	7.316	1461.089762	1468.405762
8.5	7316	0	0	0	7.316	1469.024286	1476.340286
8.6	7316	0	0	0	7.316	1472.444286	1479.760286
8.7	7316	0	0	0	7.316	1485.925714	1493.241714
8.8	7316	0	0	0	7.316	1491.481905	1498.797905
8.9	7316	0	0	0	7.316	1502.779524	1510.095524
9	6415	0	0	3.402808421	6.418402808	1509.622143	1516.040546
9.1	6415	0	0	12.46674926	6.427466749	1512.079048	1518.506514
9.2	6425.2	0	0	36.60939763	6.461809398	1515.191905	1521.653714
9.3	6425.2	0	0	86.94082625	6.512140826	1524.613095	1531.125236
9.4	6425.2	0	0	169.07419	6.59427419	1528.939524	1535.533798

Continuation of *Table A34*:

9.5	6477.6	0	0	273.9929	6.7515929	1537.821429	1544.573021
9.6	6314.4	0	0	378.91161	6.69331161	1545.38381	1552.077121
9.7	6314.4	0	0	461.0449738	6.775444974	1554.237381	1561.012826
9.8	7316	0	0	511.3764024	7.827376402	1563.652619	1571.479995
9.9	7316	0	0	535.5190507	7.851519051	1572.134524	1579.986043
10	7263.6	0	0	544.5829916	7.808182992	1565.044286	1572.852469
10.1	7263.6	0	0	547.246075	7.810846075	1566.13	1573.940846
10.2	7263.6	0	0	547.8583226	7.811458323	1586.830952	1594.642411
10.3	7263.6	0	0	547.9684446	7.811568445	1585.378333	1593.189902
10.4	7263.6	0	0	547.9839381	7.811583938	1592.099762	1599.911346
10.5	6362.6	0	0	547.9856429	6.910585643	1595.436667	1602.347252
10.6	6362.6	0	0	547.9857896	6.91058579	1595.39881	1602.309395
10.7	6372.8	0	0	547.9857995	6.920785799	1598.819286	1605.740072
10.8	6372.8	0	0	547.9858	6.9207858	1602.609524	1609.53031
10.9	6425.2	0	0	547.9858	6.9731858	1624.927381	1631.900567
11	6425.2	0	0	547.9858	6.9731858	1633.609524	1640.58271
11.1	6262	0	0	547.9858	6.8099858	1637.71881	1644.528795
11.2	6262	0	0	547.9858	6.8099858	1641.019048	1647.829033
11.3	7263.6	0	0	547.9858	7.8115858	1645.594762	1653.406348
11.4	7263.6	0	0	544.5829916	7.808182992	1650.527857	1658.33604
11.5	7263.6	0	0	535.5190507	7.799119051	1655.853095	1663.652214
11.6	7263.6	0	0	511.3764024	7.774976402	1670.259762	1678.034738
11.7	7263.6	0	0	461.0449738	7.724644974	1676.557143	1684.281788
11.8	7263.6	0	0	378.91161	7.64251161	1679.365952	1687.008464
11.9	7263.6	0	0	273.9929	7.5375929	1686.648571	1694.186164
12	6362.6	0	0	169.07419	6.53167419	1691.152143	1697.683817
12.1	6362.6	0	0	86.94082625	6.449540826	1698.40381	1704.85335
12.2	6372.8	0	0	36.60939763	6.409409398	1706.394048	1712.803457
12.3	6372.8	0	0	12.46674926	6.385266749	1707.330238	1713.715505
12.4	6425.2	0	0	3.402808421	6.428602808	1714.035	1720.463603
12.5	6425.2	0	0	0	6.4252	1719.949048	1726.374248
12.6	6262	0	0	0	6.262	1724.271667	1730.533667
12.7	6262	0	0	0	6.262	1727.817381	1734.079381
12.8	7263.6	0	0	0	7.2636	1730.158571	1737.422171
12.9	7263.6	0	0	0	7.2636	1731.855952	1739.119552
13	7263.6	0	0	3.402808421	7.267002808	1734.245238	1741.512241
13.1	7263.6	0	0	12.46674926	7.276066749	1736.088571	1743.364638
13.2	7263.6	0	0	36.60939763	7.300209398	1738.21881	1745.519019
13.3	7263.6	0	0	86.94082625	7.350540826	1739.001905	1746.352446
13.4	7263.6	0	0	169.07419	7.43267419	1740.464524	1747.897198
13.5	6362.6	0	0	273.9929	6.6365929	1744.839762	1751.476355
13.6	6362.6	0	0	378.91161	6.74151161	1749.565714	1756.307226
13.7	6372.8	0	0	461.0449738	6.833844974	1753.86381	1760.697654
13.8	6372.8	0	0	511.3764024	6.884176402	1755.810238	1762.694414
13.9	6425.2	0	0	535.5190507	6.960719051	1765.417619	1772.378338
14	6425.2	0	0	544.5829916	6.969782992	1774.943095	1781.912878
14.1	6262	0	0	547.246075	6.809246075	1779.807857	1786.617103
14.2	6262	0	0	547.8583226	6.809858323	1786.03119	1792.841049
14.3	7263.6	0	0	547.9684446	7.811568445	1787.421667	1795.233235

Continuation of *Table A34*:

14.4	7263.6	0	0	547.9839381	7.811583938	1793.64381	1801.455393
14.5	7263.6	0	0	547.9856429	7.811585643	1799.667381	1807.479274
14.6	7263.6	0	0	547.9857896	7.81158579	1807.649048	1815.462047
14.7	7263.6	0	0	547.9857995	7.811585799	1815.972143	1823.788907
14.8	7263.6	0	0	547.9858	7.8115858	1828.00381	1835.830602
14.9	7263.6	0	0	547.9858	7.8115858	1829.199524	1837.047223
15	6362.6	0	0	547.9858	6.9105858	1835.795714	1842.776531
15.1	6362.6	0	0	547.9858	6.9105858	1840.343333	1847.367731
15.2	6372.8	0	0	547.9858	6.9207858	1844.655476	1851.733655
15.3	6372.8	0	0	547.9858	6.9207858	1845.816429	1852.928725
15.4	6425.2	0	0	544.5829916	6.969782992	1844.781905	1851.964105
15.5	6425.2	0	0	535.5190507	6.960719051	1843.735952	1850.919117
15.6	6262	0	0	511.3764024	6.773376402	1837.252619	1844.252206
15.7	6262	0	0	461.0449738	6.723044974	1835.826429	1842.77679
15.8	7263.6	0	0	378.91161	7.64251161	1833.742857	1841.61294
15.9	7263.6	0	0	273.9929	7.5375929	1825.50881	1833.274019
16	7263.6	0	0	169.07419	7.43267419	1816.537619	1824.197916
16.1	7263.6	0	0	86.94082625	7.350540826	1804.841429	1812.419593
16.2	7263.6	0	0	36.60939763	7.300209398	1793.907143	1801.434976
16.3	7263.6	0	0	12.46674926	7.276066749	1779.67881	1787.1825
16.4	7263.6	0	0	3.402808421	7.267002808	1767.321429	1774.815748
16.5	6362.6	0	0	0	6.3626	1754.524524	1761.113334
16.6	6362.6	0	0	0	6.3626	1742.925952	1749.510998
16.7	6372.8	0	0	0	6.3728	1724.057381	1730.642598
16.8	6372.8	0	0	0	6.3728	1714.87	1721.43431
16.9	6425.2	0	0	0	6.4252	1703.561429	1710.144022
17	6425.2	0	0	0	6.4252	1689.685952	1696.224964
17.1	6262	0	0	0	6.262	1676.473333	1682.805564
17.2	6262	0	0	0	6.262	1669.101429	1675.399542
17.3	7263.6	0	0	0	7.2636	1656.987143	1664.26595
17.4	7263.6	0	0	0	7.2636	1651.540952	1658.809731
17.5	7263.6	0	0	0	7.2636	1644.156429	1651.421442
17.6	7263.6	0	0	0	7.2636	1637.623333	1644.887241
17.7	7263.6	0	0	0	7.2636	1632.959286	1640.222886
17.8	7263.6	0	0	0	7.2636	1629.050714	1636.314314
17.9	7263.6	0	0	0	7.2636	1628.355	1635.6186
18	6362.6	0	0	0	6.3626	1624.593571	1630.956171
18.1	5461.6	0	0	0	5.4616	1622.445238	1627.906838
18.2	4570.8	0	0	0	4.5708	1623.568571	1628.139371
18.3	3680	0	0	0	3.68	1639.78619	1643.46619
18.4	2841.6	0	0	0	2.8416	1687.575	1690.4166
18.5	2003.2	0	0	0	2.0032	1683.982619	1685.985819
18.6	1001.6	0	0	0	1.0016	1717.318333	1718.319933
18.7	0	0	0	0	0	1832.109762	1832.109762
18.8	0	0	0	0	0	1834.933571	1834.933571
18.9	0	0	0	0	0	1887.878571	1887.878571
19	0	0	0	0	0	1916.243571	1916.243571
19.1	0	0	0	0	0	1938.650952	1938.650952
19.2	0	0	0	0	0	1942.150714	1942.150714

Continuation of *Table A34*:

19.3	0	0	0	0	0	1958.141429	1958.141429
19.4	0	0	0	0	0	1968.994286	1968.994286
19.5	0	0	0	0	0	1970.613095	1970.613095
19.6	0	0	0	0	0	1969.558333	1969.558333
19.7	0	0	0	0	0	1966.504286	1966.504286
19.8	0	0	0	0	0	1963.83	1963.83
19.9	0	0	0	0	0	1964.611667	1964.611667
20	0	0	0	0	0	1964.164286	1964.164286
20.1	0	0	0	0	0	1970.148333	1970.148333
20.2	0	0	0	0	0	1971.033333	1971.033333
20.3	0	0	0	0	0	1970.819762	1970.819762
20.4	0	0	0	0	0	1965.749762	1965.749762
20.5	0	1.371885171	0	1.479449906	0.002851335	1964.14	1964.142851
20.6	0	2.596748293	0	2.800350276	0.005397099	1963.143571	1963.148969
20.7	0	4.737109454	0	5.108529696	0.009845639	1962.218095	1962.227941
20.8	0	8.33105739	0	8.984266563	0.017315324	1963.390238	1963.407553
20.9	0	14.12990687	0	15.23778362	0.02936769	1966.158333	1966.187701
21	0	23.1206861	0	24.93349851	0.048054185	1968.560476	1968.60853
21.1	901	36.51555215	0	39.37860933	0.976894161	1967.914286	1968.89118
21.2	1802	55.69186256	0	60.0584674	1.91775033	1965.713095	1967.630846
21.3	2692.8	82.0720237	0	88.50700503	2.863379029	1966.875476	1969.738855
21.4	3583.6	116.943925	0	126.1130906	3.826657016	1964.589524	1968.416181
21.5	4422	161.2394307	0.30726919	173.8816525	4.757428352	1957.840714	1962.598143
21.6	5260.4	215.3060993	0.581608986	232.1875002	5.708475208	1955.659286	1961.367761
21.7	6262	278.7201525	1.060998263	300.5736283	6.842354779	1950.612143	1957.454498
21.8	7263.6	350.1907491	1.865955917	377.6479852	7.99330469	1948.186905	1956.180209
21.9	7263.6	427.5933084	3.164758337	461.1194094	8.155477476	1951.615952	1959.77143
22	7263.6	508.144	5.178476035	547.9858	8.324908276	1947.447857	1955.772765
22.1	7263.6	588.6946916	8.178602958	634.8521906	8.495325485	1939.82119	1948.316516
22.2	7263.6	666.0972509	12.47363397	718.3236148	8.6604945	1939.724048	1948.384542
22.3	7263.6	737.5678475	18.3821538	795.3979717	8.814947973	1935.691667	1944.506615
22.4	7263.6	800.9819007	26.19261861	863.7840998	8.954558619	1935.099048	1944.053606
22.5	6362.6	855.0485693	36.11374352	922.0899475	8.17585226	1933.751667	1941.927519
22.6	6362.6	899.344075	48.22337325	969.8585094	8.280025958	1929.047381	1937.327407
22.7	6372.8	934.2159763	62.42659167	1007.464595	8.376907163	1923.166905	1931.543812
22.8	6372.8	960.5961374	78.43428149	1035.913133	8.447743552	1920.647143	1929.094886
22.9	6425.2	979.7724478	95.7705879	1056.592991	8.557336026	1923.823095	1932.380431
23	6425.2	993.1673139	113.812	1071.038101	8.603217415	1926.052857	1934.656075
23.1	6262	1002.158093	131.8534121	1080.733816	8.476745322	1928.016905	1936.49365
23.2	6262	1007.956943	149.1897185	1086.987333	8.506133995	1925.745238	1934.251372
23.3	7263.6	1011.550891	165.1974083	1090.86307	9.531211369	1918.351429	1927.88264
23.4	7263.6	1013.691252	179.4006268	1093.17125	9.549863128	1918.550238	1928.100101
23.5	7263.6	1014.916115	191.5102565	1094.49215	9.564518521	1919.561667	1929.126185
23.6	7263.6	1015.58967	201.4313814	1095.218516	9.575839568	1918.918095	1928.493935
23.7	7263.6	1015.945583	209.2418462	1095.602335	9.584389764	1909.992381	1919.576771
23.8	7263.6	1016.1263	215.150366	1095.797222	9.590673887	1895.148095	1904.738769
23.9	7263.6	1016.214474	219.445397	1095.892309	9.595152179	1898.300952	1907.896105
24	6362.6	1016.255813	222.445524	1095.936889	8.697238226	1900.000952	1908.698191

*Table A35: Total load scheduling for year 2024*

time	2024 ebus load (kW)	2024 e2w load(kW)	2024 e3w load(kW)	2024 e4w load(kW)	Sum of all EV 2024(MW)	Load of Kolkata 2024(MW)	Load of kolkata+EV 2024(MW)
0.1	10391.8	1693.953593	373.0876584	1828.110802	14.28695205	1951.381	1965.667952
0.2	10402	1693.967031	375.2464787	1828.125305	14.29933882	1944.594643	1958.893982
0.3	10402	1693.972622	376.5844488	1828.131338	14.30068841	1943.260714	1957.561403
0.4	10402	1693.974856	377.3812715	1828.13375	14.30148988	1926.478333	1940.779823
0.5	10402	1693.975714	377.8372688	1828.134676	14.30194766	1920.044762	1934.34671
0.6	10136.8	1693.976031	377.8372688	1828.135018	14.03674832	1913.679524	1927.716272
0.7	10189.2	1691.689505	377.3812715	1828.135139	14.08640592	1906.172857	1920.259263
0.8	11816.8	1689.64787	376.5844488	1828.13518	15.7111675	1883.213333	1898.924501
0.9	11816.8	1686.080258	375.2464787	1828.135194	15.70626193	1875.356905	1891.063167
1	11816.8	1680.089769	373.0876584	1828.135198	15.69811263	1870.58619	1886.284303
1.1	11816.8	1670.424091	369.7405331	1828.135199	15.68509982	1864.146905	1879.832005
1.2	11816.8	1655.438018	364.7538356	1828.1352	15.66512705	1859.083095	1874.748222
1.3	11816.8	1633.111095	357.6147976	1828.1352	15.63566109	1855.005	1870.640661
1.4	11816.8	1601.147504	347.7938795	1828.1352	15.59387658	1847.733095	1863.326972
1.5	10391.8	1557.176341	334.8116204	1828.1352	14.11192316	1840.399762	1854.511685
1.6	10391.8	1499.050917	318.321102	1828.1352	14.03730722	1827.534286	1841.571593
1.7	10402	1425.217976	298.1929337	1828.1352	13.95354611	1826.59381	1840.547356
1.8	10402	1335.098197	274.5848814	1828.1352	13.83981828	1820.349286	1834.189104
1.9	10402	1229.397946	247.9775051	1828.1352	13.70751065	1816.988571	1830.696082
2	10402	1110.268831	219.1617525	1828.1352	13.55956578	1815.17619	1828.735756
2.1	10136.8	981.2521614	189.174	1828.1352	13.13536136	1812.823333	1825.958695
2.2	10189.2	846.9881	159.1862475	1828.1352	13.02350955	1808.498571	1821.522081
2.3	11816.8	712.7240386	130.3704949	1828.1352	14.48802973	1806.676667	1821.164696
2.4	11816.8	583.7073687	103.7631186	1828.1352	14.33240569	1802.449524	1816.781929
2.5	11816.8	464.5782542	80.15506634	1828.1352	14.18966852	1798.858333	1813.048002
2.6	11816.8	358.878003	60.02689801	1828.1352	14.0638401	1795.984524	1810.048364
2.7	11816.8	268.7582242	43.53637959	1828.1352	13.9572298	1793.602143	1807.559373
2.8	11816.8	194.9252827	30.55412051	1828.1352	13.8704146	1792.697381	1806.567796
2.9	11816.8	136.7998587	20.73320242	1828.1352	13.80246826	1790.064048	1803.866516
3	10391.8	92.82869592	13.59416438	1828.1352	12.32635806	1789.655	1801.981358
3.1	10391.8	60.86510544	8.607466922	1828.1352	12.28940777	1784.450952	1796.74036
3.2	10402	38.53818207	5.26034156	1828.1352	12.27393372	1782.04	1794.313934
3.3	10402	23.55210919	3.101521322	1828.1352	12.25678883	1781.679524	1793.936313
3.4	10402	13.88643075	1.763551166	1828.1352	12.24578518	1784.379048	1796.624833
3.5	10402	7.895941576	0.96672845	1828.1352	12.23899787	1781.810476	1794.049474
3.6	10136.8	4.328329968	0.51073122	1828.1352	11.96977426	1779.866905	1791.836679
3.7	10189.2	2.286695138	0	1828.1352	12.0196219	1778.33881	1790.358431
3.8	11816.8	0	0	1828.1352	13.6449352	1776.834524	1790.479459
3.9	11816.8	0	0	1828.1352	13.6449352	1775.84381	1789.488745
4	11816.8	0	0	1828.1352	13.6449352	1770.110476	1783.755411
4.1	11816.8	0	0	1828.1352	13.6449352	1766.43881	1780.083745
4.2	11816.8	0	0	1828.1352	13.6449352	1763.195476	1776.840411
4.3	11816.8	0	0	1828.1352	13.6449352	1760.289762	1773.934697
4.4	11816.8	0	0	1828.1352	13.6449352	1758.588571	1772.233507
4.5	10391.8	0	0	1828.1352	12.2199352	1752.012857	1764.232792

Continuation of *Table A35*:

4.6	10391.8	0	0	1828.1352	12.2199352	1744.950952	1757.170888
4.7	10402	0	0	1828.1352	12.2301352	1740.154762	1752.384897
4.8	10402	0	0	1828.1352	12.2301352	1730.470714	1742.700849
4.9	10402	0	0	1828.1352	12.2301352	1720.892143	1733.122278
5	10402	0	0	1828.1352	12.2301352	1715.185952	1727.416088
5.1	10136.8	0	0	1825.667404	11.9624674	1693.308095	1705.270563
5.2	10189.2	0	0	1823.464076	12.01266408	1666.902381	1678.915045
5.3	11816.8	0	0	1819.613918	13.63641392	1646.256667	1659.893081
5.4	11816.8	0	0	1813.148996	13.629949	1624.378095	1638.008044
5.5	11816.8	0	0	1802.717818	13.61951782	1595.685952	1609.30547
5.6	11816.8	0	0	1786.544883	13.60334488	1586.99881	1600.602154
5.7	11816.8	0	0	1762.449719	13.57924972	1565.470714	1579.049964
5.8	11816.8	0	0	1727.954686	13.54475469	1557.203095	1570.74785
5.9	11816.8	0	0	1680.501109	13.49730111	1534.706667	1548.203968
6	10391.8	0	0	1617.772285	12.00957229	1507.8	1519.809572
6.1	10391.8	0	0	1538.091946	11.92989195	1502.674524	1514.604416
6.2	10402	0	0	1440.834889	11.84283489	1500.417619	1512.260454
6.3	10402	0	0	1326.763422	11.72876342	1501.996429	1513.725192
6.4	10402	0	0	1198.199557	11.60019956	1495.295476	1506.895676
6.5	10402	0	0	1058.965065	11.46096506	1488.770476	1500.231441
6.6	10136.8	0	0	914.0676	11.0508676	1485.527857	1496.578725
6.7	10189.2	0	0	769.1701352	10.95837014	1479.065952	1490.024323
6.8	11816.8	0	0	629.9356433	12.44673564	1476.079048	1488.525783
6.9	11816.8	0	0	501.3717783	12.31817178	1475.274048	1487.592219
7	11816.8	0	0	387.3003115	12.20410031	1472.710238	1484.914338
7.1	11816.8	0	0	290.0432544	12.10684325	1471.527381	1483.634224
7.2	11816.8	0	0	210.3629146	12.02716291	1471.795476	1483.822639
7.3	11816.8	0	0	147.6340914	11.96443409	1477.857857	1489.822291
7.4	11816.8	0	0	100.1805141	11.91698051	1482.215952	1494.132933
7.5	10391.8	0	0	65.68548112	10.45748548	1485.00881	1495.466295
7.6	10391.8	0	0	41.59031702	10.43339032	1488.665238	1499.098628
7.7	10402	0	0	25.4173818	10.42741738	1492.270238	1502.697655
7.8	10402	0	0	14.98620398	10.4169862	1495.74119	1506.158177
7.9	10402	0	0	8.5212819	10.41052128	1497.604048	1508.014569
8	10402	0	0	4.671123698	10.40667112	1499.02381	1509.430481
8.1	10136.8	0	0	2.467796108	10.1392678	1499.351667	1509.490934
8.2	10189.2	0	0	0	10.1892	1503.692619	1513.881819
8.3	11816.8	0	0	0	11.8168	1506.216905	1518.033705
8.4	11816.8	0	0	0	11.8168	1513.824524	1525.641324
8.5	11816.8	0	0	0	11.8168	1522.308571	1534.125371
8.6	11816.8	0	0	0	11.8168	1525.898571	1537.715371
8.7	11816.8	0	0	0	11.8168	1540.186429	1552.003229
8.8	11816.8	0	0	0	11.8168	1545.98381	1557.80061
8.9	11816.8	0	0	0	11.8168	1558.004048	1569.820848
9	10391.8	0	0	5.676053881	10.39747605	1565.084286	1575.481762
9.1	10391.8	0	0	20.79515851	10.41259516	1567.538095	1577.95069
9.2	10402	0	0	61.06629813	10.4630663	1570.62881	1581.091876
9.3	10402	0	0	145.0216272	10.54702163	1580.63119	1591.178212
9.4	10402	0	0	282.0241675	10.68402417	1585.154048	1595.838072

Continuation of *Table A35*:

9.5	10402	0	0	457.0338	10.8590338	1594.597857	1605.456891
9.6	10136.8	0	0	632.0434325	10.76884343	1602.572619	1613.341462
9.7	10189.2	0	0	769.0459728	10.95824597	1611.964762	1622.923008
9.8	11816.8	0	0	853.0013019	12.6698013	1621.915238	1634.585039
9.9	11816.8	0	0	893.2724415	12.71007244	1630.919048	1643.62912
10	11816.8	0	0	908.3915461	12.72519155	1623.043571	1635.768763
10.1	11816.8	0	0	912.8337019	12.7296337	1623.86	1636.589634
10.2	11816.8	0	0	913.8549613	12.73065496	1645.951905	1658.68256
10.3	11816.8	0	0	914.0386503	12.73083865	1644.116667	1656.847505
10.4	11816.8	0	0	914.0644943	12.73086449	1651.314524	1664.045388
10.5	10391.8	0	0	914.067338	11.30586734	1654.823333	1666.129201
10.6	10391.8	0	0	914.0675826	11.30586758	1654.582619	1665.888487
10.7	10402	0	0	914.0675991	11.3160676	1658.103571	1669.419639
10.8	10402	0	0	914.0676	11.3160676	1662.119048	1673.435115
10.9	10402	0	0	914.0676	11.3160676	1685.899762	1697.21583
11	10402	0	0	914.0676	11.3160676	1695.044048	1706.360115
11.1	10136.8	0	0	914.0676	11.0508676	1699.347619	1710.398487
11.2	10189.2	0	0	914.0676	11.1032676	1702.698095	1713.801363
11.3	11816.8	0	0	914.0676	12.7308676	1707.464524	1720.195391
11.4	11816.8	0	0	908.3915461	12.72519155	1712.605714	1725.330906
11.5	11816.8	0	0	893.2724415	12.71007244	1718.18619	1730.896263
11.6	11816.8	0	0	853.0013019	12.6698013	1733.599524	1746.269325
11.7	11816.8	0	0	769.0459728	12.58584597	1740.339286	1752.925132
11.8	11816.8	0	0	632.0434325	12.44884343	1743.191905	1755.640748
11.9	11816.8	0	0	457.0338	12.2738338	1750.957143	1763.230977
12	10391.8	0	0	282.0241675	10.67382417	1755.669286	1766.34311
12.1	10391.8	0	0	145.0216272	10.53682163	1763.422619	1773.959441
12.2	10402	0	0	61.06629813	10.4630663	1771.958095	1782.421162
12.3	10402	0	0	20.79515851	10.42279516	1772.805476	1783.228271
12.4	10402	0	0	5.676053881	10.40767605	1779.985	1790.392676
12.5	10402	0	0	0	10.402	1786.308095	1796.710095
12.6	10136.8	0	0	0	10.1368	1790.888333	1801.025133
12.7	10189.2	0	0	0	10.1892	1794.639762	1804.828962
12.8	11816.8	0	0	0	11.8168	1797.142143	1808.958943
12.9	11816.8	0	0	0	11.8168	1798.916905	1810.733705
13	11816.8	0	0	5.676053881	11.82247605	1801.470476	1813.292952
13.1	11816.8	0	0	20.79515851	11.83759516	1803.447143	1815.284738
13.2	11816.8	0	0	61.06629813	11.8778663	1805.752619	1817.630485
13.3	11816.8	0	0	145.0216272	11.96182163	1806.62881	1818.590631
13.4	11816.8	0	0	282.0241675	12.09882417	1808.279048	1820.377872
13.5	10391.8	0	0	457.0338	10.8488338	1812.984524	1823.833358
13.6	10391.8	0	0	632.0434325	11.02384343	1818.066429	1829.090272
13.7	10402	0	0	769.0459728	11.17104597	1822.632619	1833.803665
13.8	10402	0	0	853.0013019	11.2550013	1824.660476	1835.915477
13.9	10402	0	0	893.2724415	11.29527244	1834.885238	1846.180511
14	10402	0	0	908.3915461	11.31039155	1845.06119	1856.371582
14.1	10136.8	0	0	912.8337019	11.0496337	1850.145714	1861.195348
14.2	10189.2	0	0	913.8549613	11.10305496	1856.722381	1867.825436
14.3	11816.8	0	0	914.0386503	12.73083865	1858.003333	1870.734172

Continuation of *Table A35*:

14.4	11816.8	0	0	914.0644943	12.73086449	1864.527619	1877.258484
14.5	11816.8	0	0	914.067338	12.73086734	1870.844762	1883.57614
14.6	11816.8	0	0	914.0675826	12.73086758	1879.178095	1891.911312
14.7	11764.4	0	0	914.0675991	12.6784676	1887.984286	1900.671361
14.8	11764.4	0	0	914.0676	12.6784676	1900.887619	1913.591363
14.9	11764.4	0	0	914.0676	12.6784676	1902.119048	1914.857542
15	10339.4	0	0	914.0676	11.2534676	1909.196429	1920.566631
15.1	10339.4	0	0	914.0676	11.2534676	1914.026667	1925.469308
15.2	10349.6	0	0	914.0676	11.2636676	1918.605952	1930.131233
15.3	10349.6	0	0	914.0676	11.2636676	1919.892857	1931.474846
15.4	10349.6	0	0	908.3915461	11.25799155	1918.87381	1930.484873
15.5	10349.6	0	0	893.2724415	11.24287244	1917.796905	1929.409518
15.6	10136.8	0	0	853.0013019	10.9898013	1910.840238	1922.206038
15.7	10136.8	0	0	769.0459728	10.90584597	1909.382857	1920.66654
15.8	11764.4	0	0	632.0434325	12.39644343	1907.175714	1919.950418
15.9	11764.4	0	0	457.0338	12.2214338	1898.392619	1910.992389
16	11764.4	0	0	282.0241675	12.04642417	1888.805238	1901.230009
16.1	11764.4	0	0	145.0216272	11.90942163	1876.257857	1888.545627
16.2	11764.4	0	0	61.06629813	11.8254663	1864.564286	1876.7681
16.3	11764.4	0	0	20.79515851	11.78519516	1849.450119	1861.613662
16.4	11764.4	0	0	5.676053881	11.77007605	1836.287857	1848.43577
16.5	10339.4	0	0	0	10.3394	1822.739048	1833.454446
16.6	10339.4	0	0	0	10.3394	1810.426905	1821.136045
16.7	10349.6	0	0	0	10.3496	1790.299762	1801.002434
16.8	10349.6	0	0	0	10.3496	1780.725	1791.392921
16.9	10349.6	0	0	0	10.3496	1768.787857	1779.399071
17	10349.6	0	0	0	10.3496	1754.111905	1764.650679
17.1	10136.8	0	0	0	10.1368	1740.216667	1750.470201
17.2	10136.8	0	0	0	10.1368	1732.517857	1742.714684
17.3	11764.4	0	0	0	11.7644	1719.649286	1731.438962
17.4	11764.4	0	0	0	11.7644	1713.991905	1725.764912
17.5	11764.4	0	0	0	11.7644	1706.132857	1717.899607
17.6	11764.4	0	0	0	11.7644	1699.091667	1710.856577
17.7	11764.4	0	0	0	11.7644	1693.988571	1705.752971
17.8	11764.4	0	0	0	11.7644	1689.696429	1701.460829
17.9	11764.4	0	0	0	11.7644	1688.845	1700.6094
18	10339.4	0	0	0	10.3394	1684.632143	1694.971543
18.1	8914.4	0	0	0	8.9144	1682.025476	1690.939876
18.2	7499.6	0	0	0	7.4996	1682.707143	1690.206743
18.3	6084.8	0	0	0	6.0848	1699.642381	1705.727181
18.4	4670	0	0	0	4.67	1750.05	1754.72
18.5	3255.2	0	0	0	3.2552	1745.100238	1748.355438
18.6	1627.6	0	0	0	1.6276	1779.396667	1781.024267
18.7	0	0	0	0	0	1901.499524	1901.499524
18.8	0	0	0	0	0	1902.397143	1902.397143
18.9	0	0	0	0	0	1958.197143	1958.197143
19	0	0	0	0	0	1988.022143	1988.022143
19.1	0	0	0	0	0	2011.096905	2011.096905
19.2	0	0	0	0	0	2014.351429	2014.351429

Continuation of *Table A35*:

19.3	0	0	0	0	0	2031.307857	2031.307857
19.4	0	0	0	0	0	2042.908571	2042.908571
19.5	0	0	0	0	0	2044.74119	2044.74119
19.6	0	0	0	0	0	2043.681667	2043.681667
19.7	0	0	0	0	0	2040.518571	2040.518571
19.8	0	0	0	0	0	2037.735	2037.735
19.9	0	0	0	0	0	2038.668333	2038.668333
20	0	0	0	0	0	2038.298571	2038.298571
20.1	0	0	0	0	0	2044.951667	2044.951667
20.2	0	0	0	0	0	2045.951667	2045.951667
20.3	0	0	0	0	0	2045.754524	2045.754524
20.4	0	0	0	0	0	2040.359524	2040.359524
20.5	0	2.286695138	0	2.467796108	0.004754491	2038.745	2038.749754
20.6	0	4.328329968	0	4.671123698	0.008999454	2037.682143	2037.691142
20.7	0	7.895941576	0	8.5212819	0.016417223	2036.75119	2036.767608
20.8	0	13.88643075	0	14.98620398	0.028872635	2038.075476	2038.104349
20.9	0	23.55210919	0	25.4173818	0.048969491	2041.126667	2041.175636
21	0	38.53818207	0	41.59031702	0.080128499	2043.780952	2043.861081
21.1	1425	60.86510544	0	65.68548112	1.551550587	2043.178571	2044.730122
21.2	2850	92.82869592	0	100.1805141	3.04300921	2040.86119	2043.9042
21.3	4264.8	136.7998587	0	147.6340914	4.54923395	2042.375952	2046.925186
21.4	5679.6	194.9252827	0	210.3629146	6.084888197	2040.109048	2046.193936
21.5	7094.4	268.7582242	0.51073122	290.0432544	7.65371221	2032.961429	2040.615141
21.6	8509.2	358.878003	0.96672845	387.3003115	9.256345043	2030.803571	2040.059916
21.7	10136.8	464.5782542	1.763551166	501.3717783	11.10451358	2025.464286	2036.568799
21.8	11764.4	583.7073687	3.101521322	629.9356433	12.98114453	2023.03381	2036.014954
21.9	11764.4	712.7240386	5.26034156	769.1701352	13.25155452	2027.151905	2040.403459
22	11764.4	846.9881	8.607466922	914.0676	13.53406317	2022.845714	2036.379777
22.1	11764.4	981.2521614	13.59416438	1058.965065	13.81821139	2014.982381	2028.800592
22.2	11764.4	1110.268831	20.73320242	1198.199557	14.09360159	2015.258095	2029.351697
22.3	11764.4	1229.397946	30.55412051	1326.763422	14.35111549	2011.153333	2025.504449
22.4	11764.4	1335.098197	43.53637959	1440.834889	14.58386947	2010.958095	2025.541965
22.5	10339.4	1425.217976	60.02689801	1538.091946	13.36273682	2009.758333	2023.12107
22.6	10339.4	1499.050917	80.15506634	1617.772285	13.53637827	2004.904762	2018.44114
22.7	10349.6	1557.176341	103.7631186	1680.501109	13.69104057	1998.95381	2012.64485
22.8	10349.6	1601.147504	130.3704949	1727.954686	13.80907268	1996.414286	2010.223358
22.9	10349.6	1633.111095	159.1862475	1762.449719	13.90434706	2000.10369	2014.008038
23	10349.6	1655.438018	189.174	1786.544883	13.9807569	2002.860714	2016.841471
23.1	10136.8	1670.424091	219.1617525	1802.717818	13.82910366	2005.25881	2019.087913
23.2	10136.8	1680.089769	247.9775051	1813.148996	13.87801627	2003.040476	2016.918492
23.3	11764.4	1686.080258	274.5848814	1819.613918	15.54467906	1995.457857	2011.002536
23.4	11764.4	1689.64787	298.1929337	1823.464076	15.57570488	1995.980476	2011.556181
23.5	11764.4	1691.689505	318.321102	1825.667404	15.60007801	1997.408333	2013.008411
23.6	11764.4	1692.812205	334.8116204	1826.879019	15.61890284	1996.98119	2012.600093
23.7	11764.4	1693.40545	347.7938795	1827.519248	15.63311858	1987.574762	2003.20788
23.8	11764.4	1693.706674	357.6147976	1827.844328	15.6435658	1971.89619	1987.539756
23.9	11764.4	1693.853644	364.7538356	1828.002938	15.65101042	1975.531905	1991.182915
24	10339.4	1693.92255	369.7405331	1828.077301	14.23114038	1977.551905	1991.783045

*Table A36: Total load scheduling for year 2025*

time	2025 ebus load (kW)	2025 e2w load(kW)	2025 e3w load(kW)	2025 e4w load(kW)	Sum of all EV 2025(MW)	Load of Kolkata 2025(MW)	Load of kolkata+EV 2025(MW)
0.1	15153.2	2540.930389	559.6314877	2742.166203	20.99592808	2027.8445	2048.840428
0.2	15153.2	2540.950547	562.869718	2742.187958	20.99920822	2020.808214	2041.807423
0.3	15153.2	2540.958932	564.8766733	2742.197007	21.00123261	2019.533571	2040.534804
0.4	15153.2	2540.962284	566.0719073	2742.200625	21.00243482	2001.725	2022.727435
0.5	15153.2	2540.963572	566.7559032	2742.202014	21.00312149	1995.107143	2016.110264
0.6	14755.4	2540.964047	566.7559032	2742.202527	20.60532248	1988.549286	2009.154608
0.7	14755.4	2537.534257	566.0719073	2742.202709	20.60120887	1980.714286	2001.315495
0.8	17196.8	2534.471805	564.8766733	2742.202771	23.03835125	1956.515	1979.553351
0.9	17196.8	2529.120388	562.869718	2742.202791	23.0309929	1948.322857	1971.35385
1	17196.8	2520.134654	559.6314877	2742.202797	23.01876894	1943.389286	1966.408055
1.1	17196.8	2505.636136	554.6107996	2742.202799	22.99924974	1936.677857	1959.677107
1.2	17196.8	2483.157027	547.1307534	2742.2028	22.96929058	1931.417143	1954.386433
1.3	17196.8	2449.666642	536.4221964	2742.2028	22.92509164	1927.105	1950.030092
1.4	17196.8	2401.721256	521.6908192	2742.2028	22.86241488	1919.532143	1942.394558
1.5	15100.8	2335.764512	502.2174306	2742.2028	20.68098474	1911.737143	1932.418128
1.6	15153.2	2248.576376	477.481653	2742.2028	20.62146083	1898.051429	1918.672889
1.7	15153.2	2137.826964	447.2894005	2742.2028	20.48051916	1897.165714	1917.646233
1.8	15153.2	2002.647295	411.8773221	2742.2028	20.30992742	1890.571429	1910.881356
1.9	15153.2	1844.096919	371.9662576	2742.2028	20.11146598	1887.077857	1907.189323
2	15153.2	1665.403247	328.7426288	2742.2028	19.88954868	1885.284286	1905.173834
2.1	14755.4	1471.878242	283.761	2742.2028	19.25324204	1882.835	1902.088242
2.2	14755.4	1270.48215	238.7793712	2742.2028	19.00686432	1878.377857	1897.384721
2.3	17196.8	1069.086058	195.5557424	2742.2028	21.2036446	1876.525	1897.728645
2.4	17196.8	875.5610531	155.6446779	2742.2028	20.97020853	1872.084286	1893.054494
2.5	17196.8	696.8673814	120.2325995	2742.2028	20.75610278	1868.425	1889.181103
2.6	17196.8	538.3170046	90.04034702	2742.2028	20.56736015	1865.434286	1886.001646
2.7	17196.8	403.1373362	65.30456938	2742.2028	20.40744471	1862.955714	1883.363159
2.8	17196.8	292.387924	45.83118076	2742.2028	20.2772219	1862.068571	1882.345793
2.9	17196.8	205.1997881	31.09980362	2742.2028	20.17530239	1859.268571	1879.443874
3	15100.8	139.2430439	20.39124656	2742.2028	18.00263709	1858.88	1876.882637
3.1	15153.2	91.29765815	12.91120038	2742.2028	17.99961166	1853.331429	1871.33104
3.2	15153.2	57.8072731	7.89051234	2742.2028	17.96110059	1850.755	1868.716101
3.3	15153.2	35.32816378	4.652281983	2742.2028	17.93538325	1850.379286	1868.314669
3.4	15153.2	20.82964613	2.64532675	2742.2028	17.91887777	1853.338571	1871.257449
3.5	15153.2	11.84391236	1.450092675	2742.2028	17.90869681	1850.640714	1868.549411
3.6	14755.4	6.492494951	0.766096831	2742.2028	17.50486139	1848.582857	1866.087719
3.7	14755.4	3.430042707	0	2742.2028	17.50103284	1846.925714	1864.426747
3.8	17196.8	0	0	2742.2028	19.9390028	1845.319286	1865.258289
3.9	17196.8	0	0	2742.2028	19.9390028	1844.295714	1864.234717
4	17196.8	0	0	2742.2028	19.9390028	1838.190714	1858.129717
4.1	17196.8	0	0	2742.2028	19.9390028	1834.260714	1854.199717
4.2	17196.8	0	0	2742.2028	19.9390028	1830.785714	1850.724717
4.3	17196.8	0	0	2742.2028	19.9390028	1827.677143	1847.616146
4.4	17196.8	0	0	2742.2028	19.9390028	1825.867857	1845.80686
4.5	15100.8	0	0	2742.2028	17.8430028	1818.894286	1836.737289

Continuation of *Table A36*:

4.6	15153.2	0	0	2742.2028	17.8954028	1811.376429	1829.271831
4.7	15153.2	0	0	2742.2028	17.8954028	1806.374643	1824.270046
4.8	15153.2	0	0	2742.2028	17.8954028	1796.243571	1814.138974
4.9	15153.2	0	0	2742.2028	17.8954028	1786.270714	1804.166117
5	15153.2	0	0	2742.2028	17.8954028	1780.611429	1798.506831
5.1	14755.4	0	0	2738.501106	17.49390111	1757.412143	1774.906044
5.2	14755.4	0	0	2735.196114	17.49059611	1729.438571	1746.929168
5.3	17196.8	0	0	2729.420877	19.92622088	1707.77	1727.696221
5.4	17196.8	0	0	2719.723494	19.91652349	1684.702143	1704.618666
5.5	17196.8	0	0	2704.076727	19.90087673	1654.491429	1674.392305
5.6	17196.8	0	0	2679.817324	19.87661732	1645.595714	1665.472332
5.7	17196.8	0	0	2643.674578	19.84047458	1622.918571	1642.759046
5.8	17196.8	0	0	2591.932029	19.78873203	1614.197143	1633.985875
5.9	17196.8	0	0	2520.751663	19.71755166	1590.365	1610.082552
6	15100.8	0	0	2426.658428	17.52745843	1561.67	1579.197458
6.1	15153.2	0	0	2307.137918	17.46033792	1556.229286	1573.689624
6.2	15153.2	0	0	2161.252333	17.31445233	1553.886429	1571.200881
6.3	15153.2	0	0	1990.145133	17.14334513	1555.552143	1572.695488
6.4	15153.2	0	0	1797.299335	16.95049934	1548.220714	1565.171214
6.5	15153.2	0	0	1588.447597	16.7416476	1541.150714	1557.892362
6.6	14755.4	0	0	1371.1014	16.1265014	1537.609286	1553.735787
6.7	14755.4	0	0	1153.755203	15.9091552	1530.561429	1546.470584
6.8	17196.8	0	0	944.903465	18.14170346	1527.298571	1545.440275
6.9	17196.8	0	0	752.0576674	17.94885767	1526.378571	1544.327429
7	17196.8	0	0	580.9504672	17.77775047	1523.567857	1541.345608
7.1	17196.8	0	0	435.0648816	17.63186488	1522.253571	1539.885436
7.2	17196.8	0	0	315.5443719	17.51234437	1522.480714	1539.993059
7.3	17196.8	0	0	221.4511371	17.41825114	1528.924286	1546.342537
7.4	17196.8	0	0	150.2707711	17.34707077	1533.566429	1550.913499
7.5	15100.8	0	0	98.52822168	15.19932822	1536.490714	1551.690043
7.6	15153.2	0	0	62.38547553	15.21558548	1540.292857	1555.508443
7.7	15153.2	0	0	38.1260727	15.19132607	1544.032857	1559.224183
7.8	15153.2	0	0	22.47930597	15.17567931	1547.629286	1562.804965
7.9	15153.2	0	0	12.78192285	15.16598192	1549.553571	1564.719553
8	15153.2	0	0	7.006685546	15.16020669	1550.980714	1566.140921
8.1	14755.4	0	0	3.701694162	14.75910169	1551.215	1565.974102
8.2	14755.4	0	0	0	14.7554	1555.741429	1570.496829
8.3	17196.8	0	0	0	17.1968	1558.377857	1575.574657
8.4	17196.8	0	0	0	17.1968	1566.559286	1583.756086
8.5	17196.8	0	0	0	17.1968	1575.592857	1592.789657
8.6	17196.8	0	0	0	17.1968	1579.352857	1596.549657
8.7	17196.8	0	0	0	17.1968	1594.447143	1611.643943
8.8	17196.8	0	0	0	17.1968	1600.485714	1617.682514
8.9	17196.8	0	0	0	17.1968	1613.228571	1630.425371
9	15100.8	0	0	8.514080822	15.10931408	1620.546429	1635.655743
9.1	15153.2	0	0	31.19273776	15.18439274	1622.997143	1638.181536
9.2	15153.2	0	0	91.59944719	15.24479945	1626.065714	1641.310514
9.3	15153.2	0	0	217.5324408	15.37073244	1636.649286	1652.020018
9.4	15153.2	0	0	423.0362513	15.57623625	1641.368571	1656.944808

Continuation of *Table A36*:

9.5	15153.2	0	0	685.5507	15.8387507	1651.374286	1667.213036
9.6	14755.4	0	0	948.0651487	15.70346515	1659.761429	1675.464894
9.7	14755.4	0	0	1153.568959	15.90896896	1669.692143	1685.601112
9.8	17196.8	0	0	1279.501953	18.47630195	1680.177857	1698.654159
9.9	17196.8	0	0	1339.908662	18.53670866	1689.703571	1708.24028
10	17196.8	0	0	1362.587319	18.55938732	1681.042857	1699.602244
10.1	17196.8	0	0	1369.250553	18.56605055	1681.59	1700.156051
10.2	17196.8	0	0	1370.782442	18.56758244	1705.072857	1723.64044
10.3	17196.8	0	0	1371.057976	18.56785798	1702.855	1721.422858
10.4	17196.8	0	0	1371.096741	18.56789674	1710.529286	1729.097182
10.5	15100.8	0	0	1371.101007	16.47190101	1714.21	1730.681901
10.6	15153.2	0	0	1371.101374	16.52430137	1713.766429	1730.29073
10.7	15153.2	0	0	1371.101399	16.5243014	1717.387857	1733.912159
10.8	15153.2	0	0	1371.1014	16.5243014	1721.628571	1738.152873
10.9	15153.2	0	0	1371.1014	16.5243014	1746.872143	1763.396444
11	15153.2	0	0	1371.1014	16.5243014	1756.478571	1773.002873
11.1	14755.4	0	0	1371.1014	16.1265014	1760.976429	1777.10293
11.2	14755.4	0	0	1371.1014	16.1265014	1764.377143	1780.503644
11.3	17196.8	0	0	1371.1014	18.5679014	1769.334286	1787.902187
11.4	17196.8	0	0	1362.587319	18.55938732	1774.683571	1793.242959
11.5	17196.8	0	0	1339.908662	18.53670866	1780.519286	1799.055994
11.6	17196.8	0	0	1279.501953	18.47630195	1796.939286	1815.415588
11.7	17196.8	0	0	1153.568959	18.35036896	1804.121429	1822.471798
11.8	17196.8	0	0	948.0651487	18.14486515	1807.017857	1825.162722
11.9	17196.8	0	0	685.5507	17.8823507	1815.265714	1833.148065
12	15100.8	0	0	423.0362513	15.52383625	1820.186429	1835.710265
12.1	15153.2	0	0	217.5324408	15.37073244	1828.441429	1843.812161
12.2	15153.2	0	0	91.59944719	15.24479945	1837.522143	1852.766942
12.3	15153.2	0	0	31.19273776	15.18439274	1838.280714	1853.465107
12.4	15153.2	0	0	8.514080822	15.16171408	1845.935	1861.096714
12.5	15153.2	0	0	0	15.1532	1852.667143	1867.820343
12.6	14755.4	0	0	0	14.7554	1857.505	1872.2604
12.7	14755.4	0	0	0	14.7554	1861.462143	1876.217543
12.8	17196.8	0	0	0	17.1968	1864.125714	1881.322514
12.9	17196.8	0	0	0	17.1968	1865.977857	1883.174657
13	17196.8	0	0	8.514080822	17.20531408	1868.695714	1885.901028
13.1	17196.8	0	0	31.19273776	17.22799274	1870.805714	1888.033707
13.2	17196.8	0	0	91.59944719	17.28839945	1873.286429	1890.574828
13.3	17196.8	0	0	217.5324408	17.41433244	1874.255714	1891.670047
13.4	17196.8	0	0	423.0362513	17.61983625	1876.093571	1893.713408
13.5	15100.8	0	0	685.5507	15.7863507	1881.129286	1896.915636
13.6	15153.2	0	0	948.0651487	16.10126515	1886.567143	1902.668408
13.7	15153.2	0	0	1153.568959	16.30676896	1891.401429	1907.708198
13.8	15153.2	0	0	1279.501953	16.43270195	1893.510714	1909.943416
13.9	15153.2	0	0	1339.908662	16.49310866	1904.352857	1920.845966
14	15153.2	0	0	1362.587319	16.51578732	1915.179286	1931.695073
14.1	14755.4	0	0	1369.250553	16.12465055	1920.483571	1936.608222
14.2	14755.4	0	0	1370.782442	16.12618244	1927.413571	1943.539754
14.3	17196.8	0	0	1371.057976	18.56785798	1928.585	1947.152858

Continuation of *Table A36*:

14.4	17196.8	0	0	1371.096741	18.56789674	1935.411429	1953.979325
14.5	17196.8	0	0	1371.101007	18.56790101	1942.022143	1960.59081
14.6	17196.8	0	0	1371.101374	18.56790137	1950.707143	1969.278568
14.7	17196.8	0	0	1371.101399	18.5679014	1959.996429	1978.577241
14.8	17196.8	0	0	1371.1014	18.5679014	1973.771429	1992.377245
14.9	17196.8	0	0	1371.1014	18.5679014	1975.038571	1993.696513
15	15100.8	0	0	1371.1014	16.4719014	1982.597143	1999.244146
15.1	15153.2	0	0	1371.1014	16.5243014	1987.71	2004.518062
15.2	15153.2	0	0	1371.1014	16.5243014	1992.556429	2009.47315
15.3	15153.2	0	0	1371.1014	16.5243014	1993.969286	2010.971069
15.4	15153.2	0	0	1362.587319	16.51578732	1992.965714	2010.011109
15.5	15153.2	0	0	1339.908662	16.49310866	1991.857857	2008.905577
15.6	14755.4	0	0	1279.501953	16.03490195	1984.427857	2001.026757
15.7	14755.4	0	0	1153.568959	15.90896896	1982.939286	1999.415011
15.8	17196.8	0	0	948.0651487	18.14486515	1980.608571	1999.320827
15.9	17196.8	0	0	685.5507	17.8823507	1971.276429	1989.726283
16	17196.8	0	0	423.0362513	17.61983625	1961.072857	1979.260213
16.1	17196.8	0	0	217.5324408	17.41433244	1947.674286	1965.65614
16.2	17196.8	0	0	91.59944719	17.28839945	1935.221429	1953.07735
16.3	17196.8	0	0	31.19273776	17.22799274	1919.221429	1937.016943
16.4	17196.8	0	0	8.514080822	17.20531408	1905.254286	1923.026356
16.5	15100.8	0	0	0	15.1008	1890.953571	1906.618369
16.6	15153.2	0	0	0	15.1532	1877.927857	1893.635668
16.7	15153.2	0	0	0	15.1532	1856.542143	1872.22495
16.8	15153.2	0	0	0	15.1532	1846.58	1862.210682
16.9	15153.2	0	0	0	15.1532	1834.014286	1849.559906
17	15153.2	0	0	0	15.1532	1818.537857	1833.974818
17.1	14755.4	0	0	0	14.7554	1803.96	1818.890502
17.2	14755.4	0	0	0	14.7554	1795.934286	1810.779726
17.3	17196.8	0	0	0	17.1968	1782.311429	1799.546143
17.4	17144.4	0	0	0	17.1444	1776.442857	1793.600168
17.5	17144.4	0	0	0	17.1444	1768.109286	1785.25721
17.6	17144.4	0	0	0	17.1444	1760.56	1777.705166
17.7	17144.4	0	0	0	17.1444	1755.017857	1772.162257
17.8	17144.4	0	0	0	17.1444	1750.342143	1767.486543
17.9	17144.4	0	0	0	17.1444	1749.335	1766.4794
18	15100.8	0	0	0	15.1008	1744.670714	1759.771514
18.1	13057.2	0	0	0	13.0572	1741.605714	1754.662914
18.2	11013.6	0	0	0	11.0136	1741.845714	1752.859314
18.3	8970	0	0	0	8.97	1759.498571	1768.468571
18.4	6926.4	0	0	0	6.9264	1812.525	1819.4514
18.5	4882.8	0	0	0	4.8828	1806.217857	1811.100657
18.6	2441.4	0	0	0	2.4414	1841.475	1843.9164
18.7	0	0	0	0	0	1970.889286	1970.889286
18.8	0	0	0	0	0	1969.860714	1969.860714
18.9	0	0	0	0	0	2028.515714	2028.515714
19	0	0	0	0	0	2059.800714	2059.800714
19.1	0	0	0	0	0	2083.542857	2083.542857
19.2	0	0	0	0	0	2086.552143	2086.552143

Continuation of *Table A36*:

19.3	0	0	0	0	0	2104.474286	2104.474286
19.4	0	0	0	0	0	2116.822857	2116.822857
19.5	0	0	0	0	0	2118.869286	2118.869286
19.6	0	0	0	0	0	2117.805	2117.805
19.7	0	0	0	0	0	2114.532857	2114.532857
19.8	0	0	0	0	0	2111.64	2111.64
19.9	0	0	0	0	0	2112.725	2112.725
20	0	0	0	0	0	2112.432857	2112.432857
20.1	0	0	0	0	0	2119.755	2119.755
20.2	0	0	0	0	0	2120.87	2120.87
20.3	0	0	0	0	0	2120.689286	2120.689286
20.4	0	0	0	0	0	2114.969286	2114.969286
20.5	0	3.430042707	0	3.701694162	0.007131737	2113.35	2113.357132
20.6	0	6.492494951	0	7.006685546	0.01349918	2112.220714	2112.234213
20.7	0	11.84391236	0	12.78192285	0.024625835	2111.284286	2111.308912
20.8	0	20.82964613	0	22.47930597	0.043308952	2112.760714	2112.804023
20.9	0	35.32816378	0	38.1260727	0.073454236	2116.095	2116.168454
21	0	57.8072731	0	62.38547553	0.120192749	2119.001429	2119.121621
21.1	2043.6	91.29765815	0	98.52822168	2.23342588	2118.442857	2120.676283
21.2	4087.2	139.2430439	0	150.2707711	4.376713815	2116.009286	2120.386
21.3	6130.8	205.1997881	0	221.4511371	6.557450925	2117.876429	2124.433879
21.4	8174.4	292.387924	0	315.5443719	8.782332296	2115.628571	2124.410904
21.5	10218	403.1373362	0.766096831	435.0648816	11.05696831	2108.082143	2119.139111
21.6	12261.6	538.3170046	1.450092675	580.9504672	13.38231756	2105.947857	2119.330175
21.7	14703	696.8673814	2.64532675	752.0576674	16.15457038	2100.316429	2116.470999
21.8	17144.4	875.5610531	4.652281983	944.903465	18.9695168	2097.880714	2116.850231
21.9	17144.4	1069.086058	7.89051234	1153.755203	19.37513177	2102.687857	2122.062989
22	17144.4	1270.48215	12.91120038	1371.1014	19.79889475	2098.243571	2118.042466
22.1	17144.4	1471.878242	20.39124656	1588.447597	20.22511709	2090.143571	2110.368689
22.2	17144.4	1665.403247	31.09980362	1797.299335	20.63820239	2090.792143	2111.430345
22.3	17144.4	1844.096919	45.83118076	1990.145133	21.02447323	2086.615	2107.639473
22.4	17144.4	2002.647295	65.30456938	2161.252333	21.3736042	2086.817143	2108.190747
22.5	15100.8	2137.826964	90.04034702	2307.137918	19.63580523	2085.765	2105.400805
22.6	15100.8	2248.576376	120.2325995	2426.658428	19.8962674	2080.762143	2100.65841
22.7	15100.8	2335.764512	155.6446779	2520.751663	20.11296085	2074.740714	2094.853675
22.8	15100.8	2401.721256	195.5557424	2591.932029	20.29000903	2072.181429	2092.471438
22.9	15100.8	2449.666642	238.7793712	2643.674578	20.43292059	2076.384286	2096.817206
23	15100.8	2483.157027	283.761	2679.817324	20.54753535	2079.668571	2100.216107
23.1	14703	2505.636136	328.7426288	2704.076727	20.24145549	2082.500714	2102.74217
23.2	14703	2520.134654	371.9662576	2719.723494	20.31482441	2080.335714	2100.650539
23.3	17144.4	2529.120388	411.8773221	2729.420877	22.81481859	2072.564286	2095.379104
23.4	17144.4	2534.471805	447.2894005	2735.196114	22.86135732	2073.410714	2096.272072
23.5	17144.4	2537.534257	477.481653	2738.501106	22.89791702	2075.255	2098.152917
23.6	17144.4	2539.218307	502.2174306	2740.318528	22.92615427	2075.044286	2097.97044
23.7	17144.4	2540.108175	521.6908192	2741.278872	22.94747787	2065.157143	2088.104621
23.8	17144.4	2540.560011	536.4221964	2741.766492	22.9631487	2048.644286	2071.607434
23.9	17144.4	2540.780466	547.1307534	2742.004407	22.97431563	2052.762857	2075.737173
24	15100.8	2540.883825	554.6107996	2742.115951	20.93841058	2055.102857	2076.041268

*Table A37: Total load scheduling for year 2026*

time	2026 ebus load (kW)	2026 e2w load(kW)	2026 e3w load(kW)	2026 e4w load(kW)	Sum of all EV 2026(MW)	Load of Kolkata 2026(MW)	Load of kolkata+EV 2026(MW)
0.1	20626.4	3557.204826	782.5741128	3840.396946	28.80657588	2104.308	2133.114576
0.2	20626.4	3557.233046	787.1023699	3840.427413	28.81116283	2097.021786	2125.832949
0.3	20678.8	3557.244785	789.9088439	3840.440087	28.86639372	2095.806429	2124.672822
0.4	20678.8	3557.249478	791.5802281	3840.445153	28.86807486	2076.971667	2105.839742
0.5	20678.8	3557.25128	792.5367101	3840.447099	28.86903509	2070.169524	2099.038559
0.6	20138.2	3557.251946	792.5367101	3840.447817	28.32843647	2063.419048	2091.747484
0.7	20138.2	3552.450372	791.5802281	3840.448072	28.32267867	2055.255714	2083.578393
0.8	23456	3548.163057	789.9088439	3840.448159	31.63452006	2029.816667	2061.451187
0.9	23456	3540.671278	787.1023699	3840.448187	31.62422184	2021.28881	2052.913031
1	23456	3528.091596	782.5741128	3840.448196	31.60711391	2016.192381	2047.799495
1.1	23456	3507.794229	775.5533133	3840.448199	31.57979574	2009.20881	2040.788605
1.2	23456	3476.324341	765.0934113	3840.4482	31.53786595	2003.75119	2035.289056
1.3	23456	3429.43909	750.1188437	3840.4482	31.47600613	1999.205	2030.681006
1.4	23456	3362.317394	729.5188692	3840.4482	31.38828446	1991.33119	2022.719475
1.5	20626.4	3269.980488	702.2877892	3840.4482	28.43911648	1983.074524	2011.51364
1.6	20626.4	3147.920451	667.6979212	3840.4482	28.28246657	1968.568571	1996.851038
1.7	20626.4	2992.875533	625.4778608	3840.4482	28.08520159	1967.737619	1995.822821
1.8	20678.8	2803.629196	575.9585317	3840.4482	27.89883593	1960.793571	1988.692407
1.9	20678.8	2581.664766	520.1479375	3840.4482	27.6210609	1957.167143	1984.788204
2	20678.8	2331.500498	459.7051395	3840.4482	27.31045384	1955.392381	1982.702835
2.1	20138.2	2060.572934	396.804	3840.4482	26.43602513	1952.846667	1979.282692
2.2	20138.2	1778.62615	333.9028605	3840.4482	26.09117721	1948.257143	1974.34832
2.3	23456	1496.679366	273.4600625	3840.4482	29.06658763	1946.373333	1975.439921
2.4	23456	1225.751802	217.6494683	3840.4482	28.73984947	1941.719048	1970.458897
2.5	23456	975.5875339	168.1301392	3840.4482	28.44016587	1937.991667	1966.431833
2.6	23456	753.6231039	125.9100788	3840.4482	28.17598138	1934.884048	1963.060029
2.7	23456	564.376767	91.32021085	3840.4482	27.95214518	1932.309286	1960.261431
2.8	23456	409.3318491	64.08913082	3840.4482	27.76986918	1931.439762	1959.209631
2.9	23456	287.2718118	43.48915629	3840.4482	27.62720917	1928.473095	1956.100304
3	20626.4	194.9349064	28.51458869	3840.4482	24.6902977	1928.105	1952.795298
3.1	20626.4	127.8132103	18.05468672	3840.4482	24.6127161	1922.211905	1946.824621
3.2	20626.4	80.9279592	11.03388717	3840.4482	24.55881005	1919.47	1944.02881
3.3	20678.8	49.45807065	6.50563009	3840.4482	24.5752119	1919.079048	1943.65426
3.4	20678.8	29.16070352	3.699156105	3840.4482	24.55210806	1922.298095	1946.850203
3.5	20678.8	16.58102182	2.027771871	3840.4482	24.53785699	1919.470952	1944.008809
3.6	20138.2	9.089243245	1.071289877	3840.4482	23.98880873	1917.29881	1941.287618
3.7	20138.2	4.801927878	0	3840.4482	23.98345013	1915.512619	1939.496069
3.8	23456	0	0	3840.4482	27.2964482	1913.804048	1941.100496
3.9	23456	0	0	3840.4482	27.2964482	1912.747619	1940.044067
4	23456	0	0	3840.4482	27.2964482	1906.270952	1933.567401
4.1	23456	0	0	3840.4482	27.2964482	1902.082619	1929.379067
4.2	23456	0	0	3840.4482	27.2964482	1898.375952	1925.672401
4.3	23456	0	0	3840.4482	27.2964482	1895.064524	1922.360972
4.4	23456	0	0	3840.4482	27.2964482	1893.147143	1920.443591
4.5	20626.4	0	0	3840.4482	24.4668482	1885.775714	1910.242562

Continuation of *Table A37*:

4.6	20626.4	0	0	3840.4482	24.4668482	1877.801905	1902.268753
4.7	20626.4	0	0	3840.4482	24.4668482	1872.594524	1897.061372
4.8	20678.8	0	0	3840.4482	24.5192482	1862.016429	1886.535677
4.9	20678.8	0	0	3840.4482	24.5192482	1851.649286	1876.168534
5	20678.8	0	0	3840.4482	24.5192482	1846.036905	1870.556153
5.1	20138.2	0	0	3835.263987	23.97346399	1821.51619	1845.489654
5.2	20138.2	0	0	3830.635354	23.96883535	1791.974762	1815.943597
5.3	23456	0	0	3822.547149	27.27854715	1769.283333	1796.56188
5.4	23456	0	0	3808.965988	27.26496599	1745.02619	1772.291156
5.5	23456	0	0	3787.05273	27.24305273	1713.296905	1740.539957
5.6	23456	0	0	3753.077497	27.2090775	1704.192619	1731.401697
5.7	23456	0	0	3702.459671	27.15845967	1680.366429	1707.524888
5.8	23456	0	0	3629.994359	27.08599436	1671.19119	1698.277185
5.9	23456	0	0	3530.306433	26.98630643	1646.023333	1673.00964
6	20626.4	0	0	3398.529092	24.02492909	1615.54	1639.564929
6.1	20626.4	0	0	3231.140916	23.85754092	1609.784048	1633.641589
6.2	20626.4	0	0	3026.828516	23.65322852	1607.355238	1631.008467
6.3	20678.8	0	0	2787.193308	23.46599331	1609.107857	1632.57385
6.4	20678.8	0	0	2517.113248	23.19591325	1601.145952	1624.341866
6.5	20678.8	0	0	2224.616908	22.90341691	1593.530952	1616.434369
6.6	20138.2	0	0	1920.2241	22.0584241	1589.690714	1611.749138
6.7	20138.2	0	0	1615.831292	21.75403129	1582.056905	1603.810936
6.8	23456	0	0	1323.334952	24.77933495	1578.518095	1603.29743
6.9	23456	0	0	1053.254892	24.50925489	1577.483095	1601.99235
7	23456	0	0	813.6196841	24.26961968	1574.425476	1598.695096
7.1	23456	0	0	609.3072844	24.06530728	1572.979762	1597.045069
7.2	23456	0	0	441.9191079	23.89791911	1573.165952	1597.063871
7.3	23456	0	0	310.1417666	23.76614177	1579.990714	1603.756856
7.4	23456	0	0	210.4538412	23.66645384	1584.916905	1608.583359
7.5	20626.4	0	0	137.9885294	20.76438853	1587.972619	1608.737008
7.6	20626.4	0	0	87.37070329	20.7137707	1591.920476	1612.634247
7.7	20626.4	0	0	53.39546998	20.67979547	1595.795476	1616.475272
7.8	20678.8	0	0	31.48221209	20.71028221	1599.517381	1620.227663
7.9	20678.8	0	0	17.90105116	20.69670105	1601.503095	1622.199796
8	20678.8	0	0	9.812845678	20.68861285	1602.937619	1623.626232
8.1	20138.2	0	0	5.184213466	20.14338421	1603.078333	1623.221718
8.2	20138.2	0	0	0	20.1382	1607.790238	1627.928438
8.3	23456	0	0	0	23.456	1610.53881	1633.99481
8.4	23456	0	0	0	23.456	1619.294048	1642.750048
8.5	23456	0	0	0	23.456	1628.877143	1652.333143
8.6	23456	0	0	0	23.456	1632.807143	1656.263143
8.7	23456	0	0	0	23.456	1648.707857	1672.163857
8.8	23456	0	0	0	23.456	1654.987619	1678.443619
8.9	23456	0	0	0	23.456	1668.453095	1691.909095
9	20626.4	0	0	11.92394901	20.63832395	1676.008571	1696.646895
9.1	20626.4	0	0	43.68535165	20.67008535	1678.45619	1699.126276
9.2	20626.4	0	0	128.2847979	20.7546848	1681.502619	1702.257304
9.3	20678.8	0	0	304.6536422	20.98345364	1692.667381	1713.650835
9.4	20678.8	0	0	592.4612176	21.27126122	1697.583095	1718.854356

Continuation of *Table A37*:

9.5	20678.8	0	0	960.11205	21.63891205	1708.150714	1729.789626
9.6	20138.2	0	0	1327.762882	21.46596288	1716.950238	1738.416201
9.7	20138.2	0	0	1615.570458	21.75377046	1727.419524	1749.173294
9.8	23456	0	0	1791.939302	25.2479393	1738.440476	1763.688415
9.9	23456	0	0	1876.538748	25.33253875	1748.488095	1773.820634
10	23456	0	0	1908.300151	25.36430015	1739.042143	1764.406443
10.1	23456	0	0	1917.631993	25.37363199	1739.32	1764.693632
10.2	23456	0	0	1919.7774	25.3757774	1764.19381	1789.569587
10.3	23456	0	0	1920.163284	25.37616328	1761.593333	1786.969497
10.4	23456	0	0	1920.217576	25.37621758	1769.744048	1795.120265
10.5	20626.4	0	0	1920.22355	22.54662355	1773.596667	1796.14329
10.6	20626.4	0	0	1920.224064	22.54662406	1772.950238	1795.496862
10.7	20626.4	0	0	1920.224098	22.5466241	1776.672143	1799.218767
10.8	20678.8	0	0	1920.2241	22.5990241	1781.138095	1803.737119
10.9	20678.8	0	0	1920.2241	22.5990241	1807.844524	1830.443548
11	20678.8	0	0	1920.2241	22.5990241	1817.913095	1840.512119
11.1	20138.2	0	0	1920.2241	22.0584241	1822.605238	1844.663662
11.2	20138.2	0	0	1920.2241	22.0584241	1826.05619	1848.114615
11.3	23456	0	0	1920.2241	25.3762241	1831.204048	1856.580272
11.4	23456	0	0	1908.300151	25.36430015	1836.761429	1862.125729
11.5	23456	0	0	1876.538748	25.33253875	1842.852381	1868.18492
11.6	23456	0	0	1791.939302	25.2479393	1860.279048	1885.526987
11.7	23456	0	0	1615.570458	25.07157046	1867.903571	1892.975142
11.8	23456	0	0	1327.762882	24.78376288	1870.84381	1895.627572
11.9	23456	0	0	960.11205	24.41611205	1879.574286	1903.990398
12	20626.4	0	0	592.4612176	21.21886122	1884.703571	1905.922433
12.1	20626.4	0	0	304.6536422	20.93105364	1893.460238	1914.391292
12.2	20626.4	0	0	128.2847979	20.7546848	1903.08619	1923.840875
12.3	20678.8	0	0	43.68535165	20.72248535	1903.755952	1924.478438
12.4	20678.8	0	0	11.92394901	20.69072395	1911.885	1932.575724
12.5	20678.8	0	0	0	20.6788	1919.02619	1939.70499
12.6	20138.2	0	0	0	20.1382	1924.121667	1944.259867
12.7	20138.2	0	0	0	20.1382	1928.284524	1948.422724
12.8	23456	0	0	0	23.456	1931.109286	1954.565286
12.9	23456	0	0	0	23.456	1933.03881	1956.49481
13	23456	0	0	11.92394901	23.46792395	1935.920952	1959.388876
13.1	23456	0	0	43.68535165	23.49968535	1938.164286	1961.663971
13.2	23456	0	0	128.2847979	23.5842848	1940.820238	1964.404523
13.3	23456	0	0	304.6536422	23.76065364	1941.882619	1965.643273
13.4	23456	0	0	592.4612176	24.04846122	1943.908095	1967.956556
13.5	20626.4	0	0	960.11205	21.58651205	1949.274048	1970.86056
13.6	20626.4	0	0	1327.762882	21.95416288	1955.067857	1977.02202
13.7	20626.4	0	0	1615.570458	22.24197046	1960.170238	1982.412209
13.8	20678.8	0	0	1791.939302	22.4707393	1962.360952	1984.831692
13.9	20678.8	0	0	1876.538748	22.55533875	1973.820476	1996.375815
14	20678.8	0	0	1908.300151	22.58710015	1985.297381	2007.884481
14.1	20138.2	0	0	1917.631993	22.05583199	1990.821429	2012.877261
14.2	20085.8	0	0	1919.7774	22.0055774	1998.104762	2020.110339
14.3	23403.6	0	0	1920.163284	25.32376328	1999.166667	2024.49043

Continuation of *Table A37*:

14.4	23403.6	0	0	1920.217576	25.32381758	2006.295238	2031.619056
14.5	23403.6	0	0	1920.22355	25.32382355	2013.199524	2038.524419
14.6	23403.6	0	0	1920.224064	25.32382406	2022.23619	2047.564943
14.7	23403.6	0	0	1920.224098	25.3238241	2032.008571	2057.35045
14.8	23403.6	0	0	1920.2241	25.3238241	2046.655238	2072.032081
14.9	23403.6	0	0	1920.2241	25.3238241	2047.958095	2073.407829
15	20574	0	0	1920.2241	22.4942241	2055.997857	2078.736939
15.1	20574	0	0	1920.2241	22.4942241	2061.393333	2084.284361
15.2	20626.4	0	0	1920.2241	22.5466241	2066.506905	2089.602279
15.3	20626.4	0	0	1920.2241	22.5466241	2068.045714	2091.260036
15.4	20626.4	0	0	1908.300151	22.53470015	2067.057619	2090.332908
15.5	20626.4	0	0	1876.538748	22.50293875	2065.91881	2089.197302
15.6	20085.8	0	0	1791.939302	21.8777393	2058.015476	2080.681895
15.7	20085.8	0	0	1615.570458	21.70137046	2056.495714	2078.989621
15.8	23403.6	0	0	1327.762882	24.73136288	2054.041429	2079.566215
15.9	23403.6	0	0	960.11205	24.36371205	2044.160238	2069.317533
16	23403.6	0	0	592.4612176	23.99606122	2033.340476	2058.130143
16.1	23403.6	0	0	304.6536422	23.70825364	2019.090714	2043.592576
16.2	23403.6	0	0	128.2847979	23.5318848	2005.878571	2030.204064
16.3	23403.6	0	0	43.68535165	23.44728535	1988.992738	2013.233631
16.4	23403.6	0	0	11.92394901	23.41552395	1974.220714	1998.428775
16.5	20574	0	0	0	20.574	1959.168095	1980.530775
16.6	20574	0	0	0	20.574	1945.42881	1966.778363
16.7	20626.4	0	0	0	20.6264	1922.784524	1944.151513
16.8	20626.4	0	0	0	20.6264	1912.435	1933.729098
16.9	20626.4	0	0	0	20.6264	1899.240714	1920.415864
17	20626.4	0	0	0	20.6264	1882.96381	1903.987014
17.1	20085.8	0	0	0	20.0858	1867.703333	1888.033991
17.2	20085.8	0	0	0	20.0858	1859.350714	1879.562424
17.3	23403.6	0	0	0	23.4036	1844.973571	1868.43019
17.4	23403.6	0	0	0	23.4036	1838.89381	1862.315464
17.5	23403.6	0	0	0	23.4036	1830.085714	1853.494242
17.6	23403.6	0	0	0	23.4036	1822.028333	1845.433005
17.7	23403.6	0	0	0	23.4036	1816.047143	1839.450743
17.8	23403.6	0	0	0	23.4036	1810.987857	1834.391457
17.9	23403.6	0	0	0	23.4036	1809.825	1833.2286
18	20574	0	0	0	20.574	1804.709286	1825.283286
18.1	17744.4	0	0	0	17.7444	1801.185952	1818.930352
18.2	14967.2	0	0	0	14.9672	1800.984286	1815.951486
18.3	12190	0	0	0	12.19	1819.354762	1831.544762
18.4	9412.8	0	0	0	9.4128	1875	1884.4128
18.5	6635.6	0	0	0	6.6356	1867.335476	1873.971076
18.6	3317.8	0	0	0	3.3178	1903.553333	1906.871133
18.7	0	0	0	0	0	2040.279048	2040.279048
18.8	0	0	0	0	0	2037.324286	2037.324286
18.9	0	0	0	0	0	2098.834286	2098.834286
19	0	0	0	0	0	2131.579286	2131.579286
19.1	0	0	0	0	0	2155.98881	2155.98881
19.2	0	0	0	0	0	2158.752857	2158.752857

Continuation of *Table A37*:

19.3	0	0	0	0	0	2177.640714	2177.640714
19.4	0	0	0	0	0	2190.737143	2190.737143
19.5	0	0	0	0	0	2192.997381	2192.997381
19.6	0	0	0	0	0	2191.928333	2191.928333
19.7	0	0	0	0	0	2188.547143	2188.547143
19.8	0	0	0	0	0	2185.545	2185.545
19.9	0	0	0	0	0	2186.781667	2186.781667
20	0	0	0	0	0	2186.567143	2186.567143
20.1	0	0	0	0	0	2194.558333	2194.558333
20.2	0	0	0	0	0	2195.788333	2195.788333
20.3	0	0	0	0	0	2195.624048	2195.624048
20.4	0	0	0	0	0	2189.579048	2189.579048
20.5	0	4.801927878	0	5.184213466	0.009986141	2187.955	2187.964986
20.6	0	9.089243245	0	9.812845678	0.018902089	2186.759286	2186.778188
20.7	0	16.58102182	0	17.90105116	0.034482073	2185.817381	2185.851863
20.8	0	29.16070352	0	31.48221209	0.060642916	2187.445952	2187.506595
20.9	0	49.45807065	0	53.39546998	0.102853541	2191.063333	2191.166187
21	0	80.9279592	0	87.37070329	0.168298662	2194.221905	2194.390203
21.1	2829.6	127.8132103	0	137.9885294	3.09540174	2193.707143	2196.802545
21.2	5659.2	194.9349064	0	210.4538412	6.064588748	2191.157381	2197.22197
21.3	8436.4	287.2718118	0	310.1417666	9.033813578	2193.376905	2202.410718
21.4	11213.6	409.3318491	0	441.9191079	12.06485096	2191.148095	2203.212946
21.5	13990.8	564.376767	1.071289877	609.3072844	15.16555534	2183.202857	2198.368412
21.6	16768	753.6231039	2.027771871	813.6196841	18.33727056	2181.092143	2199.429413
21.7	20085.8	975.5875339	3.699156105	1053.254892	22.11834158	2175.168571	2197.286913
21.8	23403.6	1225.751802	6.50563009	1323.334952	25.95919238	2172.727619	2198.686811
21.9	23403.6	1496.679366	11.03388717	1615.831292	26.52714455	2178.22381	2204.750954
22	23403.6	1778.62615	18.05468672	1920.2241	27.12050494	2173.641429	2200.761934
22.1	23403.6	2060.572934	28.51458869	2224.616908	27.71730443	2165.304762	2193.022066
22.2	23403.6	2331.500498	43.48915629	2517.113248	28.2957029	2166.32619	2194.621893
22.3	23403.6	2581.664766	64.08913082	2787.193308	28.8365472	2162.076667	2190.913214
22.4	23403.6	2803.629196	91.32021085	3026.828516	29.32537792	2162.67619	2192.001568
22.5	20574	2992.875533	125.9100788	3231.140916	26.92392653	2161.771667	2188.695593
22.6	20574	3147.920451	168.1301392	3398.529092	27.28857968	2156.619524	2183.908103
22.7	20626.4	3269.980488	217.6494683	3530.306433	27.64433639	2150.527619	2178.171955
22.8	20626.4	3362.317394	273.4600625	3629.994359	27.89217181	2147.948571	2175.840743
22.9	20626.4	3429.43909	333.9028605	3702.459671	28.09220162	2152.664881	2180.757083
23	20626.4	3476.324341	396.804	3753.077497	28.25260584	2156.476429	2184.729034
23.1	20085.8	3507.794229	459.7051395	3787.05273	27.8403521	2159.742619	2187.582971
23.2	20085.8	3528.091596	520.1479375	3808.965988	27.94300552	2157.630952	2185.573958
23.3	23403.6	3540.671278	575.9585317	3822.547149	31.34277696	2149.670714	2181.013491
23.4	23403.6	3548.163057	625.4778608	3830.635354	31.40787627	2150.840952	2182.248829
23.5	23403.6	3552.450372	667.6979212	3835.263987	31.45901228	2153.101667	2184.560679
23.6	23403.6	3554.807977	702.2877892	3837.809282	31.49850505	2153.107381	2184.605886
23.7	23403.6	3556.053758	729.5188692	3839.154241	31.52832687	2142.739524	2174.267851
23.8	23403.6	3556.686311	750.1188437	3839.837152	31.55024231	2125.392381	2156.942623
23.9	23403.6	3556.99494	765.0934113	3840.170351	31.5658587	2129.99381	2161.559668
24	20574	3557.139637	775.5533133	3840.326568	28.74701952	2132.65381	2161.400829

Table A38: Total load scheduling for year 2027

time	2027 ebus load (kW)	2027 e2w load(kW)	2027 e3w load(kW)	2027 e4w load(kW)	Sum of all EV 2027(MW)	Load of Kolkata 2027(MW)	Load of kolkata+EV 2027(MW)
0.1	26779.4	4743.0212	1043.43215	5120.529262	37.68638261	2180.7715	2218.457883
0.2	26842	4743.058828	1049.469827	5120.569885	37.75509854	2173.235357	2210.990456
0.3	26842	4743.07448	1053.211792	5120.586783	37.75887306	2172.079286	2209.838159
0.4	26842	4743.080737	1055.440304	5120.593538	37.76111458	2152.218333	2189.979448
0.5	26842	4743.08314	1056.715613	5120.596132	37.76239489	2145.231905	2182.9943
0.6	26138.2	4743.084027	1056.715613	5120.59709	37.05859673	2138.28881	2175.347406
0.7	26138.2	4736.68182	1055.440304	5120.597429	37.05091955	2129.797143	2166.848062
0.8	30457.6	4730.965301	1053.211792	5120.597545	41.36237464	2103.118333	2144.480708
0.9	30457.6	4720.976091	1049.469827	5120.597583	41.3486435	2094.254762	2135.603405
1	30457.6	4704.202894	1043.43215	5120.597595	41.32583264	2088.995476	2130.321309
1.1	30457.6	4677.139274	1034.071084	5120.597599	41.28940796	2081.739762	2123.02917
1.2	30457.6	4635.178702	1020.124548	5120.5976	41.23350085	2076.085238	2117.318739
1.3	30457.6	4572.66396	1000.158458	5120.5976	41.15102002	2071.305	2112.45602
1.4	30457.6	4483.166829	972.6918256	5120.5976	41.03405625	2063.130238	2104.164294
1.5	26779.4	4360.048841	936.3837189	5120.5976	37.19643016	2054.411905	2091.608335
1.6	26779.4	4197.299331	890.263895	5120.5976	36.98756083	2039.085714	2076.073275
1.7	26842	3990.569224	833.9704811	5120.5976	36.78713731	2038.309524	2075.096661
1.8	26842	3738.236443	767.944709	5120.5976	36.46877875	2031.015714	2067.484493
1.9	26842	3442.278788	693.5305834	5120.5976	36.09840697	2027.256429	2063.354836
2	26842	3108.720704	612.940186	5120.5976	35.68425849	2025.500476	2061.184735
2.1	26138.2	2747.477749	529.072	5120.5976	34.53534735	2022.858333	2057.393681
2.2	26138.2	2371.54225	445.203814	5120.5976	34.07554366	2018.136429	2052.211972
2.3	30457.6	1995.606751	364.6134166	5120.5976	37.93841777	2016.221667	2054.160084
2.4	30457.6	1634.363796	290.199291	5120.5976	37.50276069	2011.35381	2048.85657
2.5	30457.6	1300.805712	224.1735189	5120.5976	37.10317683	2007.558333	2044.66151
2.6	30457.6	1004.848057	167.880105	5120.5976	36.75092576	2004.33381	2041.084735
2.7	30457.6	752.5152758	121.7602811	5120.5976	36.45247316	2001.662857	2038.11533
2.8	30457.6	545.7851692	85.45217443	5120.5976	36.20943494	2000.810952	2037.020387
2.9	30457.6	383.0356587	57.98554172	5120.5976	36.0192188	1997.677619	2033.696838
3	26779.4	259.9176711	38.01945159	5120.5976	32.19793472	1997.33	2029.527935
3.1	26779.4	170.4205397	24.07291562	5120.5976	32.09449106	1991.092381	2023.186872
3.2	26842	107.9057982	14.71184957	5120.5976	32.08521525	1988.185	2020.270215
3.3	26842	65.9452264	8.674173453	5120.5976	32.037217	1987.77881	2019.816027
3.4	26842	38.88160558	4.93220814	5120.5976	32.00641141	1991.257619	2023.26403
3.5	26842	22.10840867	2.703695828	5120.5976	31.9874097	1988.30119	2020.2886
3.6	26138.2	12.11919907	1.428386503	5120.5976	31.27234519	1986.014762	2017.287107
3.7	26138.2	6.40268043	0	5120.5976	31.26520028	1984.099524	2015.364724
3.8	30457.6	0	0	5120.5976	35.5781976	1982.28881	2017.867007
3.9	30457.6	0	0	5120.5976	35.5781976	1981.199524	2016.777721
4	30457.6	0	0	5120.5976	35.5781976	1974.35119	2009.929388
4.1	30457.6	0	0	5120.5976	35.5781976	1969.904524	2005.482721
4.2	30457.6	0	0	5120.5976	35.5781976	1965.96619	2001.544388
4.3	30457.6	0	0	5120.5976	35.5781976	1962.451905	1998.030102
4.4	30457.6	0	0	5120.5976	35.5781976	1960.426429	1996.004626
4.5	26779.4	0	0	5120.5976	31.8999976	1952.657143	1984.55714

Continuation of *Table A38*:

4.6	26779.4	0	0	5120.5976	31.8999976	1944.227381	1976.127379
4.7	26842	0	0	5120.5976	31.9625976	1938.814405	1970.777002
4.8	26842	0	0	5120.5976	31.9625976	1927.789286	1959.751883
4.9	26842	0	0	5120.5976	31.9625976	1917.027857	1948.990455
5	26842	0	0	5120.5976	31.9625976	1911.462381	1943.424979
5.1	26138.2	0	0	5113.685315	31.25188532	1885.620238	1916.872123
5.2	26138.2	0	0	5107.513806	31.24571381	1854.510952	1885.756666
5.3	30457.6	0	0	5096.729532	35.55432953	1830.796667	1866.350996
5.4	30457.6	0	0	5078.621317	35.53622132	1805.350238	1840.886459
5.5	30457.6	0	0	5049.40364	35.50700364	1772.102381	1807.609385
5.6	30457.6	0	0	5004.103329	35.46170333	1762.789524	1798.251227
5.7	30457.6	0	0	4936.612894	35.39421289	1737.814286	1773.208499
5.8	30457.6	0	0	4839.992478	35.29759248	1728.185238	1763.482831
5.9	30457.6	0	0	4707.075245	35.16467524	1701.681667	1736.846342
6	26779.4	0	0	4531.372123	31.31077212	1669.41	1700.720772
6.1	26779.4	0	0	4308.187887	31.08758789	1663.33881	1694.426397
6.2	26842	0	0	4035.771354	30.87777135	1660.824048	1691.701819
6.3	26842	0	0	3716.257743	30.55825774	1662.663571	1693.221829
6.4	26842	0	0	3356.150997	30.198151	1654.07119	1684.269341
6.5	26842	0	0	2966.155878	29.80815588	1645.91119	1675.719346
6.6	26138.2	0	0	2560.2988	28.6984988	1641.772143	1670.470642
6.7	26138.2	0	0	2154.441722	28.29264172	1633.552381	1661.845023
6.8	30457.6	0	0	1764.446603	32.2220466	1629.737619	1661.959666
6.9	30457.6	0	0	1404.339857	31.86193986	1628.587619	1660.449559
7	30457.6	0	0	1084.826246	31.54242625	1625.283095	1656.825521
7.1	30457.6	0	0	812.4097125	31.27000971	1623.705952	1654.975962
7.2	30457.6	0	0	589.2254772	31.04682548	1623.85119	1654.898016
7.3	30457.6	0	0	413.5223555	30.87112236	1631.057143	1661.928265
7.4	30457.6	0	0	280.6051216	30.73820512	1636.267381	1667.005586
7.5	26779.4	0	0	183.9847058	26.96338471	1639.454524	1666.417909
7.6	26779.4	0	0	116.4942711	26.89589427	1643.548095	1670.44399
7.7	26842	0	0	71.19395997	26.91319396	1647.558095	1674.471289
7.8	26842	0	0	41.97628278	26.88397628	1651.405476	1678.289452
7.9	26842	0	0	23.86806821	26.86586807	1653.452619	1680.318487
8	26842	0	0	13.08379424	26.85508379	1654.894524	1681.749608
8.1	26138.2	0	0	6.912284621	26.14511228	1654.941667	1681.086779
8.2	26138.2	0	0	0	26.1382	1659.839048	1685.977248
8.3	30457.6	0	0	0	30.4576	1662.699762	1693.157362
8.4	30457.6	0	0	0	30.4576	1672.02881	1702.48641
8.5	30457.6	0	0	0	30.4576	1682.161429	1712.619029
8.6	30457.6	0	0	0	30.4576	1686.261429	1716.719029
8.7	30457.6	0	0	0	30.4576	1702.968571	1733.426171
8.8	30457.6	0	0	0	30.4576	1709.489524	1739.947124
8.9	30457.6	0	0	0	30.4576	1723.677619	1754.135219
9	26779.4	0	0	15.89859868	26.7952986	1731.470714	1758.266013
9.1	26779.4	0	0	58.24713553	26.83764714	1733.915238	1760.752885
9.2	26842	0	0	171.0463972	27.0130464	1736.939524	1763.95257
9.3	26842	0	0	406.2048563	27.24820486	1748.685476	1775.933681
9.4	26842	0	0	789.9482902	27.63194829	1753.797619	1781.429567

Continuation of *Table A38*:

9.5	26842	0	0	1280.1494	28.1221494	1764.927143	1793.049292
9.6	26138.2	0	0	1770.35051	27.90855051	1774.139048	1802.047598
9.7	26138.2	0	0	2154.093944	28.29229394	1785.146905	1813.439199
9.8	30457.6	0	0	2389.252403	32.8468524	1796.703095	1829.549948
9.9	30457.6	0	0	2502.051664	32.95965166	1807.272619	1840.232271
10	30457.6	0	0	2544.400201	33.0020002	1797.041429	1830.043429
10.1	30457.6	0	0	2556.842658	33.01444266	1797.05	1830.064443
10.2	30457.6	0	0	2559.7032	33.0173032	1823.314762	1856.332065
10.3	30457.6	0	0	2560.217712	33.01781771	1820.331667	1853.349484
10.4	30457.6	0	0	2560.290101	33.0178901	1828.95881	1861.9767
10.5	26779.4	0	0	2560.298066	29.33969807	1832.983333	1862.323031
10.6	26779.4	0	0	2560.298751	29.33969875	1832.134048	1861.473746
10.7	26842	0	0	2560.298797	29.4022988	1835.956429	1865.358727
10.8	26842	0	0	2560.2988	29.4022988	1840.647619	1870.049918
10.9	26842	0	0	2560.2988	29.4022988	1868.816905	1898.219204
11	26842	0	0	2560.2988	29.4022988	1879.347619	1908.749918
11.1	26138.2	0	0	2560.2988	28.6984988	1884.234048	1912.932546
11.2	26138.2	0	0	2560.2988	28.6984988	1887.735238	1916.433737
11.3	30457.6	0	0	2560.2988	33.0178988	1893.07381	1926.091708
11.4	30457.6	0	0	2544.400201	33.0020002	1898.839286	1931.841286
11.5	30457.6	0	0	2502.051664	32.95965166	1905.185476	1938.145128
11.6	30457.6	0	0	2389.252403	32.8468524	1923.61881	1956.465662
11.7	30457.6	0	0	2154.093944	32.61169394	1931.685714	1964.297408
11.8	30457.6	0	0	1770.35051	32.22795051	1934.669762	1966.897712
11.9	30457.6	0	0	1280.1494	31.7377494	1943.882857	1975.620607
12	26779.4	0	0	789.9482902	27.56934829	1949.220714	1976.790063
12.1	26779.4	0	0	406.2048563	27.18560486	1958.479048	1985.664652
12.2	26842	0	0	171.0463972	27.0130464	1968.650238	1995.663284
12.3	26842	0	0	58.24713553	26.90024714	1969.23119	1996.131438
12.4	26842	0	0	15.89859868	26.8578986	1977.835	2004.692899
12.5	26842	0	0	0	26.842	1985.385238	2012.227238
12.6	26138.2	0	0	0	26.1382	1990.738333	2016.876533
12.7	26138.2	0	0	0	26.1382	1995.106905	2021.245105
12.8	30457.6	0	0	0	30.4576	1998.092857	2028.550457
12.9	30457.6	0	0	0	30.4576	2000.099762	2030.557362
13	30457.6	0	0	15.89859868	30.4734986	2003.14619	2033.619689
13.1	30457.6	0	0	58.24713553	30.51584714	2005.522857	2036.038704
13.2	30457.6	0	0	171.0463972	30.6286464	2008.354048	2038.982694
13.3	30457.6	0	0	406.2048563	30.86380486	2009.509524	2040.373329
13.4	30457.6	0	0	789.9482902	31.24754829	2011.722619	2042.970167
13.5	26779.4	0	0	1280.1494	28.0595494	2017.41881	2045.478359
13.6	26779.4	0	0	1770.35051	28.54975051	2023.568571	2052.118322
13.7	26842	0	0	2154.093944	28.99609394	2028.939048	2057.935142
13.8	26842	0	0	2389.252403	29.2312524	2031.21119	2060.442443
13.9	26842	0	0	2502.051664	29.34405166	2043.288095	2072.632147
14	26842	0	0	2544.400201	29.3864002	2055.415476	2084.801876
14.1	26138.2	0	0	2556.842658	28.69504266	2061.159286	2089.854328
14.2	26138.2	0	0	2559.7032	28.6979032	2068.795952	2097.493856
14.3	30457.6	0	0	2560.217712	33.01781771	2069.748333	2102.766151

Continuation of *Table A38*:

14.4	30457.6	0	0	2560.290101	33.0178901	2077.179048	2110.196938
14.5	30457.6	0	0	2560.298066	33.01789807	2084.376905	2117.396231
14.6	30457.6	0	0	2560.298751	33.01789875	2093.765238	2126.789708
14.7	30457.6	0	0	2560.298797	33.0178988	2104.020714	2137.062686
14.8	30457.6	0	0	2560.2988	33.0178988	2119.539048	2152.627638
14.9	30457.6	0	0	2560.2988	33.0178988	2120.877619	2154.063398
15	26779.4	0	0	2560.2988	29.3396988	2129.398571	2159.064747
15.1	26779.4	0	0	2560.2988	29.3396988	2135.076667	2164.945437
15.2	26842	0	0	2560.2988	29.4022988	2140.457381	2170.591347
15.3	26842	0	0	2560.2988	29.4022988	2142.122143	2172.414706
15.4	26842	0	0	2544.400201	29.3864002	2141.149524	2171.523376
15.5	26842	0	0	2502.051664	29.34405166	2139.979762	2170.357885
15.6	26138.2	0	0	2389.252403	28.5274524	2131.603095	2161.182121
15.7	26138.2	0	0	2154.093944	28.29229394	2130.052143	2159.401152
15.8	30457.6	0	0	1770.35051	32.22795051	2127.474286	2160.760134
15.9	30457.6	0	0	1280.1494	31.7377494	2117.044048	2149.839908
16	30457.6	0	0	789.9482902	31.24754829	2105.608095	2137.913784
16.1	30457.6	0	0	406.2048563	30.86380486	2090.507143	2122.429091
16.2	30457.6	0	0	171.0463972	30.6286464	2076.535714	2108.222505
16.3	30457.6	0	0	58.24713553	30.51584714	2058.764048	2090.338039
16.4	30457.6	0	0	15.89859868	30.4734986	2043.187143	2074.717357
16.5	26779.4	0	0	0	26.7794	2027.382619	2055.213592
16.6	26779.4	0	0	0	26.7794	2012.929762	2040.743233
16.7	26842	0	0	0	26.842	1989.026905	2016.856357
16.8	26842	0	0	0	26.842	1978.29	2006.022264
16.9	26842	0	0	0	26.842	1964.467143	1992.04081
17	26842	0	0	0	26.842	1947.389762	1974.760834
17.1	26138.2	0	0	0	26.1382	1931.446667	1957.911344
17.2	26138.2	0	0	0	26.1382	1922.767143	1949.073223
17.3	30457.6	0	0	0	30.4576	1907.635714	1938.164006
17.4	30457.6	0	0	0	30.4576	1901.344762	1931.826435
17.5	30457.6	0	0	0	30.4576	1892.062143	1922.526314
17.6	30457.6	0	0	0	30.4576	1883.496667	1913.955695
17.7	30457.6	0	0	0	30.4576	1877.076429	1907.534029
17.8	30457.6	0	0	0	30.4576	1871.633571	1902.091171
17.9	30457.6	0	0	0	30.4576	1870.315	1900.7726
18	26779.4	0	0	0	26.7794	1864.747857	1891.527257
18.1	23101.2	0	0	0	23.1012	1860.76619	1883.86739
18.2	19485.6	0	0	0	19.4856	1860.122857	1879.608457
18.3	15870	0	0	0	15.87	1879.210952	1895.080952
18.4	12254.4	0	0	0	12.2544	1937.475	1949.7294
18.5	8638.8	0	0	0	8.6388	1928.453095	1937.091895
18.6	4319.4	0	0	0	4.3194	1965.631667	1969.951067
18.7	0	0	0	0	0	2109.66881	2109.66881
18.8	0	0	0	0	0	2104.787857	2104.787857
18.9	0	0	0	0	0	2169.152857	2169.152857
19	0	0	0	0	0	2203.357857	2203.357857
19.1	0	0	0	0	0	2228.434762	2228.434762
19.2	0	0	0	0	0	2230.953571	2230.953571

Continuation of *Table A38*:

19.3	0	0	0	0	0	2250.807143	2250.807143
19.4	0	0	0	0	0	2264.651429	2264.651429
19.5	0	0	0	0	0	2267.125476	2267.125476
19.6	0	0	0	0	0	2266.051667	2266.051667
19.7	0	0	0	0	0	2262.561429	2262.561429
19.8	0	0	0	0	0	2259.45	2259.45
19.9	0	0	0	0	0	2260.838333	2260.838333
20	0	0	0	0	0	2260.701429	2260.701429
20.1	0	0	0	0	0	2269.361667	2269.361667
20.2	0	0	0	0	0	2270.706667	2270.706667
20.3	0	0	0	0	0	2270.55881	2270.55881
20.4	0	0	0	0	0	2264.18881	2264.18881
20.5	0	6.40268043	0	6.912284621	0.013314965	2262.56	2262.573315
20.6	0	12.11919907	0	13.08379424	0.025202993	2261.297857	2261.32306
20.7	0	22.10840867	0	23.86806821	0.045976477	2260.350476	2260.396453
20.8	0	38.88160558	0	41.97628278	0.080857888	2262.13119	2262.212048
20.9	0	65.9452264	0	71.19395997	0.137139186	2266.031667	2266.168806
21	0	107.9057982	0	116.4942711	0.224400069	2269.442381	2269.666781
21.1	3678.2	170.4205397	0	183.9847058	4.032605245	2268.971429	2273.004034
21.2	7356.4	259.9176711	0	280.6051216	7.896922793	2266.305476	2274.202399
21.3	10972	383.0356587	0	413.5223555	11.76855801	2268.877381	2280.645939
21.4	14587.6	545.7851692	0	589.2254772	15.72261065	2266.667619	2282.39023
21.5	18203.2	752.5152758	1.428386503	812.4097125	19.76955337	2258.323571	2278.093125
21.6	21818.8	1004.848057	2.703695828	1084.826246	23.911178	2256.236429	2280.147607
21.7	26138.2	1300.805712	4.93220814	1404.339857	28.84827778	2250.020714	2278.868992
21.8	30457.6	1634.363796	8.674173453	1764.446603	33.86508457	2247.574524	2281.439608
21.9	30457.6	1995.606751	14.71184957	2154.441722	34.62236032	2253.759762	2288.382122
22	30457.6	2371.54225	24.07291562	2560.2988	35.41351397	2249.039286	2284.4528
22.1	30457.6	2747.477749	38.01945159	2966.155878	36.20925308	2240.465952	2276.675205
22.2	30457.6	3108.720704	57.98554172	3356.150997	36.98045724	2241.860238	2278.840695
22.3	30457.6	3442.278788	85.45217443	3716.257743	37.70158871	2237.538333	2275.239922
22.4	30457.6	3738.236443	121.7602811	4035.771354	38.35336808	2238.535238	2276.888606
22.5	26779.4	3990.569224	167.880105	4308.187887	35.24603722	2237.778333	2273.024371
22.6	26779.4	4197.299331	224.1735189	4531.372123	35.73224497	2232.476905	2268.20915
22.7	26842	4360.048841	290.199291	4707.075245	36.19932338	2226.314524	2262.513847
22.8	26842	4483.166829	364.6134166	4839.992478	36.52977272	2223.715714	2260.245487
22.9	26842	4572.66396	445.203814	4936.612894	36.79648067	2228.945476	2265.741957
23	26842	4635.178702	529.072	5004.103329	37.01035403	2233.284286	2270.29464
23.1	26138.2	4677.139274	612.940186	5049.40364	36.4776831	2236.984524	2273.462207
23.2	26138.2	4704.202894	693.5305834	5078.621317	36.61455479	2234.92619	2271.540745
23.3	30457.6	4720.976091	767.944709	5096.729532	41.04325033	2226.777143	2267.820393
23.4	30457.6	4730.965301	833.9704811	5107.513806	41.13004959	2228.27119	2269.40124
23.5	30457.6	4736.68182	890.263895	5113.685315	41.19823103	2230.948333	2272.146564
23.6	30457.6	4739.825347	936.3837189	5117.079043	41.25088811	2231.170476	2272.421364
23.7	30457.6	4741.486416	972.6918256	5118.872321	41.29065056	2220.321905	2261.612555
23.8	30457.6	4742.329835	1000.158458	5119.782869	41.31987116	2202.140476	2243.460347
23.9	30457.6	4742.741347	1020.124548	5120.227135	41.34069303	2207.224762	2248.565455
24	26779.4	4742.934281	1034.071084	5120.435424	37.67684079	2210.204762	2247.881603

Table A39: Total load scheduling for year 2028

time	2028 ebus load (kW)	2028 e2w load(kW)	2028 e3w load(kW)	2028 e4w load(kW)	Sum of all EV 2028(MW)	Load of Kolkata 2028(MW)	Load of kolkata+EV 2028(MW)
0.1	33843.6	6098.135215	1342.2056	6582.56315	47.86650396	2257.235	2305.101504
0.2	33843.6	6098.183593	1349.972088	6582.615371	47.87437105	2249.448929	2297.3233
0.3	33843.6	6098.203718	1354.785517	6582.637094	47.87922633	2248.352143	2296.231369
0.4	33896	6098.211762	1357.652135	6582.645778	47.93450968	2227.465	2275.39951
0.5	33896	6098.214852	1359.292613	6582.649113	47.93615658	2220.294286	2268.230442
0.6	33008.6	6098.215992	1359.292613	6582.650344	47.04875895	2213.158571	2260.20733
0.7	33008.6	6089.984629	1357.652135	6582.650781	47.03888755	2204.338571	2251.377459
0.8	38454.8	6082.634862	1354.785517	6582.650929	52.47487131	2176.42	2228.894871
0.9	38454.8	6069.791666	1349.972088	6582.650978	52.45721473	2167.220714	2219.677929
1	38454.8	6048.22625	1342.2056	6582.650994	52.42788284	2161.798571	2214.226454
1.1	38454.8	6013.430366	1330.164113	6582.650998	52.38104548	2154.270714	2206.65176
1.2	38454.8	5959.481368	1312.224165	6582.650999	52.30915653	2148.419286	2200.728442
1.3	38454.8	5879.105732	1286.54104	6582.651	52.20309777	2143.405	2195.608098
1.4	38454.8	5764.03865	1251.209688	6582.651	52.05269934	2134.929286	2186.981985
1.5	33843.6	5605.745	1204.50522	6582.651	47.23650122	2125.749286	2172.985787
1.6	33843.6	5396.496827	1145.179574	6582.651	46.9679274	2109.602857	2156.570785
1.7	33843.6	5130.702497	1072.767261	6582.651	46.62972076	2108.881429	2155.511149
1.8	33843.6	4806.276492	987.8358538	6582.651	46.22036335	2101.237857	2147.45822
1.9	33896	4425.761685	892.1141952	6582.651	45.79652688	2097.345714	2143.142241
2	33896	3996.903745	788.4477683	6582.651	45.26400251	2095.608571	2140.872574
2.1	33008.6	3532.451176	680.565	6582.651	43.80426718	2092.87	2136.674267
2.2	33008.6	3049.1083	572.6822317	6582.651	43.21304153	2088.015714	2131.228756
2.3	38454.8	2565.765424	469.0158048	6582.651	48.07223223	2086.07	2134.142232
2.4	38454.8	2101.312855	373.2941462	6582.651	47.512058	2080.988571	2128.500629
2.5	38454.8	1672.454915	288.3627387	6582.651	46.99826865	2077.125	2124.123269
2.6	38454.8	1291.940108	215.9504258	6582.651	46.54534153	2073.783571	2120.328913
2.7	38454.8	967.5141032	156.6247802	6582.651	46.16158988	2071.016429	2117.178018
2.8	38454.8	701.7197731	109.9203116	6582.651	45.84909108	2070.182143	2116.031234
2.9	38454.8	492.4715999	74.58895991	6582.651	45.60451156	2066.882143	2112.486654
3	33843.6	334.1779503	48.90583525	6582.651	40.80933479	2066.555	2107.364335
3.1	33843.6	219.1108685	30.9658871	6582.651	40.67632776	2059.972857	2100.649185
3.2	33843.6	138.7352323	18.92439951	6582.651	40.58391063	2056.9	2097.483911
3.3	33843.6	84.78623442	11.15791207	6582.651	40.52219515	2056.478571	2097.000767
3.4	33896	49.99034965	6.344482855	6582.651	40.53498583	2060.217143	2100.752129
3.5	33896	28.42493418	3.477864547	6582.651	40.5105538	2057.131429	2097.641982
3.6	33008.6	15.5817382	1.837386708	6582.651	39.60867012	2054.730714	2094.339384
3.7	33008.6	8.231970585	0	6582.651	39.59948297	2052.686429	2092.285912
3.8	38454.8	0	0	6582.651	45.037451	2050.773571	2095.811022
3.9	38454.8	0	0	6582.651	45.037451	2049.651429	2094.68888
4	38454.8	0	0	6582.651	45.037451	2042.431429	2087.46888
4.1	38454.8	0	0	6582.651	45.037451	2037.726429	2082.76388
4.2	38454.8	0	0	6582.651	45.037451	2033.556429	2078.59388
4.3	38454.8	0	0	6582.651	45.037451	2029.839286	2074.876737
4.4	38454.8	0	0	6582.651	45.037451	2027.705714	2072.743165
4.5	33843.6	0	0	6582.651	40.426251	2019.538571	2059.964822

Continuation of *Table A39*:

4.6	33843.6	0	0	6582.651	40.426251	2010.652857	2051.079108
4.7	33843.6	0	0	6582.651	40.426251	2005.034286	2045.460537
4.8	33843.6	0	0	6582.651	40.426251	1993.562143	2033.988394
4.9	33896	0	0	6582.651	40.478651	1982.406429	2022.88508
5	33896	0	0	6582.651	40.478651	1976.887857	2017.366508
5.1	33008.6	0	0	6573.765092	39.58236509	1949.724286	1989.306651
5.2	33008.6	0	0	6565.831469	39.57443147	1917.047143	1956.621574
5.3	38454.8	0	0	6551.968026	45.00676803	1892.31	1937.316768
5.4	38454.8	0	0	6528.689482	44.98348948	1865.674286	1910.657775
5.5	38454.8	0	0	6491.129457	44.94592946	1830.907857	1875.853787
5.6	38454.8	0	0	6432.894821	44.88769482	1821.386429	1866.274123
5.7	38454.8	0	0	6346.134249	44.80093425	1795.262143	1840.063077
5.8	38454.8	0	0	6221.926388	44.67672639	1785.179286	1829.856012
5.9	38454.8	0	0	6051.058096	44.5058581	1757.34	1801.845858
6	33843.6	0	0	5825.18752	39.66878752	1723.28	1762.948788
6.1	33843.6	0	0	5538.278834	39.38187883	1716.893571	1756.27545
6.2	33843.6	0	0	5188.080849	39.03168085	1714.292857	1753.324538
6.3	33843.6	0	0	4777.33844	38.62093844	1716.219286	1754.840224
6.4	33896	0	0	4314.412583	38.21041258	1706.996429	1745.206841
6.5	33896	0	0	3813.064506	37.70906451	1698.291429	1736.000493
6.6	33008.6	0	0	3291.3255	36.2999255	1693.853571	1730.153497
6.7	33008.6	0	0	2769.586494	35.77818649	1685.047857	1720.826044
6.8	38454.8	0	0	2268.238417	40.72303842	1680.957143	1721.680181
6.9	38454.8	0	0	1805.31256	40.26011256	1679.692143	1719.952255
7	38454.8	0	0	1394.570151	39.84937015	1676.140714	1715.990084
7.1	38454.8	0	0	1044.372166	39.49917217	1674.432143	1713.931315
7.2	38454.8	0	0	757.4634798	39.21226348	1674.536429	1713.748692
7.3	38454.8	0	0	531.5929037	38.9863929	1682.123571	1721.109964
7.4	38454.8	0	0	360.7246123	38.81552461	1687.617857	1726.433382
7.5	33843.6	0	0	236.516751	34.08011675	1690.936429	1725.016545
7.6	33843.6	0	0	149.7561788	33.99335618	1695.175714	1729.16907
7.7	33843.6	0	0	91.52154268	33.93512154	1699.320714	1733.255836
7.8	33843.6	0	0	53.96151805	33.89756152	1703.293571	1737.191133
7.9	33896	0	0	30.68297401	33.92668297	1705.402143	1739.328826
8	33896	0	0	16.81953122	33.91281953	1706.851429	1740.764248
8.1	33008.6	0	0	8.885907628	33.01748591	1706.805	1739.822486
8.2	33008.6	0	0	0	33.0086	1711.887857	1744.896457
8.3	38454.8	0	0	0	38.4548	1714.860714	1753.315514
8.4	38454.8	0	0	0	38.4548	1724.763571	1763.218371
8.5	38454.8	0	0	0	38.4548	1735.445714	1773.900514
8.6	38454.8	0	0	0	38.4548	1739.715714	1778.170514
8.7	38454.8	0	0	0	38.4548	1757.229286	1795.684086
8.8	38454.8	0	0	0	38.4548	1763.991429	1802.446229
8.9	38454.8	0	0	0	38.4548	1778.902143	1817.356943
9	33843.6	0	0	20.43802983	33.86403803	1786.932857	1820.796895
9.1	33843.6	0	0	74.87808941	33.91847809	1789.374286	1823.292764
9.2	33843.6	0	0	219.8842451	34.06348425	1792.376429	1826.439913
9.3	33843.6	0	0	522.186083	34.36578608	1804.703571	1839.069358
9.4	33896	0	0	1015.497469	34.91149747	1810.012143	1844.92364

Continuation of *Table A39*:

9.5	33896	0	0	1645.66275	35.54166275	1821.703571	1857.245234
9.6	33008.6	0	0	2275.828031	35.28442803	1831.327857	1866.612285
9.7	33008.6	0	0	2769.139417	35.77773942	1842.874286	1878.652025
9.8	38454.8	0	0	3071.441255	41.52624125	1854.965714	1896.491956
9.9	38454.8	0	0	3216.447411	41.67124741	1866.057143	1907.72839
10	38454.8	0	0	3270.88747	41.72568747	1855.040714	1896.766402
10.1	38454.8	0	0	3286.882546	41.74168255	1854.78	1896.521683
10.2	38454.8	0	0	3290.559842	41.74535984	1882.435714	1924.181074
10.3	38454.8	0	0	3291.22126	41.74602126	1879.07	1920.816021
10.4	38454.8	0	0	3291.314317	41.74611432	1888.173571	1929.919686
10.5	33843.6	0	0	3291.324557	37.13492456	1892.37	1929.504925
10.6	33843.6	0	0	3291.325437	37.13492544	1891.317857	1928.452783
10.7	33843.6	0	0	3291.325497	37.1349255	1895.240714	1932.37564
10.8	33843.6	0	0	3291.3255	37.1349255	1900.157143	1937.292068
10.9	33896	0	0	3291.3255	37.1873255	1929.789286	1966.976611
11	33896	0	0	3291.3255	37.1873255	1940.782143	1977.969468
11.1	33008.6	0	0	3291.3255	36.2999255	1945.862857	1982.162783
11.2	33008.6	0	0	3291.3255	36.2999255	1949.414286	1985.714211
11.3	38454.8	0	0	3291.3255	41.7461255	1954.943571	1996.689697
11.4	38454.8	0	0	3270.88747	41.72568747	1960.917143	2002.64283
11.5	38454.8	0	0	3216.447411	41.67124741	1967.518571	2009.189819
11.6	38454.8	0	0	3071.441255	41.52624125	1986.958571	2028.484813
11.7	38454.8	0	0	2769.139417	41.22393942	1995.467857	2036.691797
11.8	38454.8	0	0	2275.828031	40.73062803	1998.495714	2039.226342
11.9	38454.8	0	0	1645.66275	40.10046275	2008.191429	2048.291891
12	33843.6	0	0	1015.497469	34.85909747	2013.737857	2048.596955
12.1	33843.6	0	0	522.186083	34.36578608	2023.497857	2057.863643
12.2	33843.6	0	0	219.8842451	34.06348425	2034.214286	2068.27777
12.3	33843.6	0	0	74.87808941	33.91847809	2034.706429	2068.624907
12.4	33896	0	0	20.43802983	33.91643803	2043.785	2077.701438
12.5	33896	0	0	0	33.896	2051.744286	2085.640286
12.6	33008.6	0	0	0	33.0086	2057.355	2090.3636
12.7	33008.6	0	0	0	33.0086	2061.929286	2094.937886
12.8	38454.8	0	0	0	38.4548	2065.076429	2103.531229
12.9	38454.8	0	0	0	38.4548	2067.160714	2105.615514
13	38454.8	0	0	20.43802983	38.47523803	2070.371429	2108.846667
13.1	38454.8	0	0	74.87808941	38.52967809	2072.881429	2111.411107
13.2	38454.8	0	0	219.8842451	38.67468425	2075.887857	2114.562541
13.3	38454.8	0	0	522.186083	38.97698608	2077.136429	2116.113415
13.4	38454.8	0	0	1015.497469	39.47029747	2079.537143	2119.00744
13.5	33843.6	0	0	1645.66275	35.48926275	2085.563571	2121.052834
13.6	33843.6	0	0	2275.828031	36.11942803	2092.069286	2128.188714
13.7	33843.6	0	0	2769.139417	36.61273942	2097.707857	2134.320597
13.8	33843.6	0	0	3071.441255	36.91504125	2100.061429	2136.97647
13.9	33896	0	0	3216.447411	37.11244741	2112.755714	2149.868162
14	33896	0	0	3270.88747	37.16688747	2125.533571	2162.700459
14.1	33008.6	0	0	3286.882546	36.29548255	2131.497143	2167.792625
14.2	33008.6	0	0	3290.559842	36.29915984	2139.487143	2175.786303
14.3	38454.8	0	0	3291.22126	41.74602126	2140.33	2182.076021

Continuation of *Table A39*:

14.4	38454.8	0	0	3291.314317	41.74611432	2148.062857	2189.808971
14.5	38454.8	0	0	3291.324557	41.74612456	2155.554286	2197.302248
14.6	38454.8	0	0	3291.325437	41.74612544	2165.294286	2207.048863
14.7	38454.8	0	0	3291.325497	41.7461255	2176.032857	2217.809949
14.8	38454.8	0	0	3291.3255	41.7461255	2192.422857	2234.259916
14.9	38454.8	0	0	3291.3255	41.7461255	2193.797143	2235.759219
15	33843.6	0	0	3291.3255	37.1349255	2202.799286	2240.354171
15.1	33843.6	0	0	3291.3255	37.1349255	2208.76	2246.575491
15.2	33843.6	0	0	3291.3255	37.1349255	2214.407857	2252.483953
15.3	33843.6	0	0	3291.3255	37.1349255	2216.198571	2254.478677
15.4	33896	0	0	3270.88747	37.16688747	2215.241429	2253.678513
15.5	33896	0	0	3216.447411	37.11244741	2214.040714	2252.483326
15.6	33008.6	0	0	3071.441255	36.08004125	2205.190714	2242.623433
15.7	33008.6	0	0	2769.139417	35.77773942	2203.608571	2240.745603
15.8	38454.8	0	0	2275.828031	40.73062803	2200.907143	2242.998584
15.9	38454.8	0	0	1645.66275	40.10046275	2189.927857	2231.389407
16	38454.8	0	0	1015.497469	39.47029747	2177.875714	2218.707137
16.1	38454.8	0	0	522.186083	38.97698608	2161.923571	2202.261687
16.2	38454.8	0	0	219.8842451	38.67468425	2147.192857	2187.228671
16.3	38454.8	0	0	74.87808941	38.52967809	2128.535357	2168.426165
16.4	38454.8	0	0	20.43802983	38.47523803	2112.153571	2151.988102
16.5	33843.6	0	0	0	33.8436	2095.597143	2130.793421
16.6	33843.6	0	0	0	33.8436	2080.430714	2115.604478
16.7	33843.6	0	0	0	33.8436	2055.269286	2090.383082
16.8	33843.6	0	0	0	33.8436	2044.145	2079.13378
16.9	33896	0	0	0	33.896	2029.693571	2064.530742
17	33896	0	0	0	33.896	2011.815714	2046.392279
17.1	33008.6	0	0	0	33.0086	1995.19	2028.61856
17.2	33008.6	0	0	0	33.0086	1986.183571	2019.408122
17.3	38454.8	0	0	0	38.4548	1970.297857	2008.84359
17.4	38454.8	0	0	0	38.4548	1963.795714	2002.28148
17.5	38454.8	0	0	0	38.4548	1954.038571	1992.501824
17.6	38454.8	0	0	0	38.4548	1944.965	1983.421637
17.7	38454.8	0	0	0	38.4548	1938.105714	1976.560514
17.8	38454.8	0	0	0	38.4548	1932.279286	1970.734086
17.9	38454.8	0	0	0	38.4548	1930.805	1969.2598
18	33843.6	0	0	0	33.8436	1924.786429	1958.630029
18.1	29232.4	0	0	0	29.2324	1920.346429	1949.578829
18.2	24621.2	0	0	0	24.6212	1919.261429	1943.882629
18.3	20010	0	0	0	20.01	1939.067143	1959.077143
18.4	15451.2	0	0	0	15.4512	1999.95	2015.4012
18.5	10892.4	0	0	0	10.8924	1989.570714	2000.463114
18.6	5446.2	0	0	0	5.4462	2027.71	2033.1562
18.7	0	0	0	0	0	2179.058571	2179.058571
18.8	0	0	0	0	0	2172.251429	2172.251429
18.9	0	0	0	0	0	2239.471429	2239.471429
19	0	0	0	0	0	2275.136429	2275.136429
19.1	0	0	0	0	0	2300.880714	2300.880714
19.2	0	0	0	0	0	2303.154286	2303.154286

Continuation of *Table A39*:

19.3	0	0	0	0	0	2323.973571	2323.973571
19.4	0	0	0	0	0	2338.565714	2338.565714
19.5	0	0	0	0	0	2341.253571	2341.253571
19.6	0	0	0	0	0	2340.175	2340.175
19.7	0	0	0	0	0	2336.575714	2336.575714
19.8	0	0	0	0	0	2333.355	2333.355
19.9	0	0	0	0	0	2334.895	2334.895
20	0	0	0	0	0	2334.835714	2334.835714
20.1	0	0	0	0	0	2344.165	2344.165
20.2	0	0	0	0	0	2345.625	2345.625
20.3	0	0	0	0	0	2345.493571	2345.493571
20.4	0	0	0	0	0	2338.798571	2338.798571
20.5	0	8.231970585	0	8.885907628	0.017117878	2337.165	2337.182118
20.6	0	15.5817382	0	16.81953122	0.032401269	2335.836429	2335.86883
20.7	0	28.42493418	0	30.68297401	0.059107908	2334.883571	2334.942679
20.8	0	49.99034965	0	53.96151805	0.103951868	2336.816429	2336.92038
20.9	0	84.78623442	0	91.52154268	0.176307777	2341	2341.176308
21	0	138.7352323	0	149.7561788	0.288491411	2344.662857	2344.951349
21.1	4611.2	219.1108685	0	236.516751	5.066827619	2344.235714	2349.302542
21.2	9222.4	334.1779503	0	360.7246123	9.917302563	2341.453571	2351.370874
21.3	13833.6	492.4715999	0	531.5929037	14.8576645	2344.377857	2359.235522
21.4	18444.8	701.7197731	0	757.4634798	19.90398325	2342.187143	2362.091126
21.5	23003.6	967.5141032	1.837386708	1044.372166	25.01732366	2333.444286	2358.461609
21.6	27562.4	1291.940108	3.477864547	1394.570151	30.25238812	2331.380714	2361.633102
21.7	33008.6	1672.454915	6.344482855	1805.31256	36.49271196	2324.872857	2361.365569
21.8	38454.8	2101.312855	11.15791207	2268.238417	42.83550918	2322.421429	2365.256938
21.9	38454.8	2565.765424	18.92439951	2769.586494	43.80907632	2329.295714	2373.104791
22	38454.8	3049.1083	30.9658871	3291.3255	44.82619969	2324.437143	2369.263343
22.1	38454.8	3532.451176	48.90583525	3813.064506	45.84922152	2315.627143	2361.476364
22.2	38454.8	3996.903745	74.58895991	4314.412583	46.84070529	2317.394286	2364.234991
22.3	38454.8	4425.761685	109.9203116	4777.33844	47.76782044	2313	2360.76782
22.4	38454.8	4806.276492	156.6247802	5188.080849	48.60578212	2314.394286	2363.000068
22.5	33843.6	5130.702497	215.9504258	5538.278834	44.72853176	2313.785	2358.513532
22.6	33843.6	5396.496827	288.3627387	5825.18752	45.35364709	2308.334286	2353.687933
22.7	33843.6	5605.745	373.2941462	6051.058096	45.87369724	2302.101429	2347.975126
22.8	33843.6	5764.03865	469.0158048	6221.926388	46.29858084	2299.482857	2345.781438
22.9	33896	5879.105732	572.6822317	6346.134249	46.69392221	2305.226071	2351.919994
23	33896	5959.481368	680.565	6432.894821	46.96894119	2310.092143	2357.061084
23.1	33008.6	6013.430366	788.4477683	6491.129457	46.30160759	2314.226429	2360.528036
23.2	33008.6	6048.22625	892.1141952	6528.689482	46.47762993	2312.221429	2358.699058
23.3	38454.8	6069.791666	987.8358538	6551.968026	52.06439555	2303.883571	2355.947967
23.4	38454.8	6082.634862	1072.767261	6565.831469	52.17603359	2305.701429	2357.877462
23.5	38454.8	6089.984629	1145.179574	6573.765092	52.2637293	2308.795	2361.058729
23.6	38454.8	6094.026284	1204.50522	6578.127811	52.33145931	2309.233571	2361.565031
23.7	38454.8	6096.161932	1251.209688	6580.433112	52.38260473	2297.904286	2350.28689
23.8	38454.8	6097.246321	1286.54104	6581.603644	52.42019101	2278.888571	2331.308762
23.9	38454.8	6097.775406	1312.224165	6582.174758	52.44697433	2284.455714	2336.902689
24	33843.6	6098.023462	1330.164113	6582.442519	47.85423009	2287.755714	2335.609944

Table A40: Total load scheduling for year 2029

time	2029 ebus load (kW)	2029 e2w load(kW)	2029 e3w load(kW)	2029 e4w load(kW)	Sum of all EV 2029(MW)	Load of Kolkata 2029(MW)	Load of kolkata+EV 2029(MW)
0.1	41640	7622.791167	1677.377846	8228.772379	59.16894139	2333.6985	2392.867441
0.2	41640	7622.851641	1687.083762	8228.837661	59.17877306	2325.6625	2384.841273
0.3	41640	7622.876797	1693.099189	8228.864817	59.1848408	2324.625	2383.809841
0.4	41640	7622.886853	1696.681652	8228.875672	59.18844418	2302.711667	2361.900111
0.5	41692.4	7622.890715	1698.731786	8228.879841	59.24290234	2295.356667	2354.599569
0.6	40601	7622.89214	1698.731786	8228.88138	58.15150531	2288.028333	2346.179839
0.7	40601	7612.602772	1696.681652	8228.881926	58.13916635	2278.88	2337.019166
0.8	47299.2	7603.415415	1693.099189	8228.882112	64.82459672	2249.721667	2314.546263
0.9	47299.2	7587.361163	1687.083762	8228.882173	64.8025271	2240.186667	2304.989194
1	47299.2	7560.403962	1677.377846	8228.882192	64.765864	2234.601667	2299.367531
1.1	47299.2	7516.908409	1662.329389	8228.882198	64.70731999	2226.801667	2291.508987
1.2	47299.2	7449.471081	1639.909521	8228.882199	64.6174628	2220.753333	2285.370796
1.3	47299.2	7348.999926	1607.81287	8228.8822	64.484895	2215.505	2279.989895
1.4	47299.2	7205.163768	1563.658661	8228.8822	64.29690463	2206.728333	2271.025238
1.5	41640	7007.293536	1505.291269	8228.8822	58.381467	2197.086667	2255.468134
1.6	41640	6745.729128	1431.150971	8228.8822	58.0457623	2180.12	2238.165762
1.7	41640	6413.480891	1340.656035	8228.8822	57.62301913	2179.453333	2237.076352
1.8	41640	6007.941886	1234.515768	8228.8822	57.11133985	2171.46	2228.57134
1.9	41640	5532.290756	1114.890734	8228.8822	56.51606369	2167.435	2223.951064
2	41692.4	4996.209741	985.336985	8228.8822	55.90282893	2165.716667	2221.619496
2.1	40601	4415.634726	850.514	8228.8822	54.09603093	2162.881667	2216.977698
2.2	40601	3811.44645	715.691015	8228.8822	53.35701966	2157.895	2211.25202
2.3	47299.2	3207.258174	586.1372657	8228.8822	59.32147764	2155.918333	2215.239811
2.4	47299.2	2626.683159	466.5122324	8228.8822	58.62127759	2150.623333	2209.244611
2.5	47299.2	2090.602144	360.3719649	8228.8822	57.97905631	2146.691667	2204.670723
2.6	47299.2	1614.951014	269.8770293	8228.8822	57.41291024	2143.233333	2200.646244
2.7	47299.2	1209.412009	195.736731	8228.8822	56.93323094	2140.37	2197.303231
2.8	47299.2	877.1637721	137.3693385	8228.8822	56.54261531	2139.553333	2196.095949
2.9	47299.2	615.5993643	93.21512956	8228.8822	56.23689669	2136.086667	2192.323563
3	41640	417.7291316	61.11847886	8228.8822	50.34772981	2135.78	2186.12773
3.1	41640	273.8929745	38.69861145	8228.8822	50.18147379	2128.853333	2179.034807
3.2	41640	173.4218193	23.65015352	8228.8822	50.06595417	2125.615	2175.680954
3.3	41640	105.9844913	13.94423814	8228.8822	49.98881093	2125.178333	2175.167144
3.4	41640	62.4889384	7.928811342	8228.8822	49.93929995	2129.176667	2179.115967
3.5	41692.4	35.53173709	4.346348236	8228.8822	49.96116029	2125.961667	2175.922827
3.6	40601	19.47748485	2.296214349	8228.8822	48.8516559	2123.446667	2172.298323
3.7	40601	10.29012812	0	8228.8822	48.84017233	2121.273333	2170.113506
3.8	47299.2	0	0	8228.8822	55.5280822	2119.258333	2174.786416
3.9	47299.2	0	0	8228.8822	55.5280822	2118.103333	2173.631416
4	47299.2	0	0	8228.8822	55.5280822	2110.511667	2166.039749
4.1	47299.2	0	0	8228.8822	55.5280822	2105.548333	2161.076416
4.2	47299.2	0	0	8228.8822	55.5280822	2101.146667	2156.674749
4.3	47299.2	0	0	8228.8822	55.5280822	2097.226667	2152.754749
4.4	47299.2	0	0	8228.8822	55.5280822	2094.985	2150.513082
4.5	41640	0	0	8228.8822	49.8688822	2086.42	2136.288882

Continuation of *Table A40*:

4.6	41640	0	0	8228.8822	49.8688822	2077.078333	2126.947216
4.7	41640	0	0	8228.8822	49.8688822	2071.254167	2121.123049
4.8	41640	0	0	8228.8822	49.8688822	2059.335	2109.203882
4.9	41640	0	0	8228.8822	49.8688822	2047.785	2097.653882
5	41692.4	0	0	8228.8822	49.9212822	2042.313333	2092.234616
5.1	40601	0	0	8217.774048	48.81877405	2013.828333	2062.647107
5.2	40601	0	0	8207.856334	48.80885633	1979.583333	2028.39219
5.3	47299.2	0	0	8190.525833	55.48972583	1953.823333	2009.313059
5.4	47299.2	0	0	8161.425643	55.46062564	1925.998333	1981.458959
5.5	47299.2	0	0	8114.472368	55.41367237	1889.713333	1945.127006
5.6	47299.2	0	0	8041.674044	55.34087404	1879.983333	1935.324207
5.7	47299.2	0	0	7933.215837	55.23241584	1852.71	1907.942416
5.8	47299.2	0	0	7777.945284	55.07714528	1842.173333	1897.250479
5.9	47299.2	0	0	7564.345164	54.86354516	1812.998333	1867.861878
6	41640	0	0	7281.987439	48.92198744	1777.15	1826.071987
6.1	41640	0	0	6923.326805	48.5633268	1770.448333	1819.01166
6.2	41640	0	0	6485.549082	48.12554908	1767.761667	1815.887216
6.3	41640	0	0	5972.085601	47.6120856	1769.775	1817.387086
6.4	41640	0	0	5393.388303	47.0333883	1759.921667	1806.955055
6.5	41692.4	0	0	4766.659912	46.45905991	1750.671667	1797.130727
6.6	40601	0	0	4114.4411	44.7154411	1745.935	1790.650441
6.7	40601	0	0	3462.222288	44.06322229	1736.543333	1780.606556
6.8	47299.2	0	0	2835.493897	50.1346939	1732.176667	1782.311361
6.9	47299.2	0	0	2256.796599	49.5559966	1730.796667	1780.352663
7	47299.2	0	0	1743.333118	49.04253312	1726.998333	1776.040866
7.1	47299.2	0	0	1305.555395	48.6047554	1725.158333	1773.763089
7.2	47299.2	0	0	946.894761	48.24609476	1725.221667	1773.467761
7.3	47299.2	0	0	664.5370357	47.96373704	1733.19	1781.153737
7.4	47299.2	0	0	450.936916	47.75013692	1738.968333	1786.71847
7.5	41640	0	0	295.6663634	41.93566636	1742.418333	1784.354
7.6	41640	0	0	187.2081558	41.82720816	1746.803333	1788.630541
7.7	41640	0	0	114.4098318	41.75440983	1751.083333	1792.837743
7.8	41640	0	0	67.45655745	41.70745656	1755.181667	1796.889123
7.9	41640	0	0	38.35636716	41.67835637	1757.351667	1799.030023
8	41692.4	0	0	21.02586649	41.71342587	1758.808333	1800.521759
8.1	40601	0	0	11.10815188	40.61210815	1758.668333	1799.280441
8.2	40601	0	0	0	40.601	1763.936667	1804.537667
8.3	47299.2	0	0	0	47.2992	1767.021667	1814.320867
8.4	47299.2	0	0	0	47.2992	1777.498333	1824.797533
8.5	47299.2	0	0	0	47.2992	1788.73	1836.0292
8.6	47299.2	0	0	0	47.2992	1793.17	1840.4692
8.7	47299.2	0	0	0	47.2992	1811.49	1858.7892
8.8	47299.2	0	0	0	47.2992	1818.493333	1865.792533
8.9	47299.2	0	0	0	47.2992	1834.126667	1881.425867
9	41640	0	0	25.54930223	41.6655493	1842.395	1884.060549
9.1	41640	0	0	93.60407792	41.73360408	1844.833333	1886.566937
9.2	41640	0	0	274.8742947	41.91487429	1847.813333	1889.728208
9.3	41640	0	0	652.7776975	42.2927777	1860.721667	1903.014444
9.4	41640	0	0	1269.45953	42.90945953	1866.226667	1909.136126

Continuation of *Table A40*:

9.5	41692.4	0	0	2057.22055	43.74962055	1878.48	1922.229621
9.6	40601	0	0	2844.98157	43.44598157	1888.516667	1931.962648
9.7	40601	0	0	3461.663402	44.0626634	1900.601667	1944.66433
9.8	47299.2	0	0	3839.566805	51.13876681	1913.228333	1964.3671
9.9	47299.2	0	0	4020.837022	51.32003702	1924.841667	1976.161704
10	47299.2	0	0	4088.891798	51.3880918	1913.04	1964.428092
10.1	47299.2	0	0	4108.887024	51.40808702	1912.51	1963.918087
10.2	47299.2	0	0	4113.483961	51.41268396	1941.556667	1992.969351
10.3	47299.2	0	0	4114.310791	51.41351079	1937.808333	1989.221844
10.4	47299.2	0	0	4114.42712	51.41362712	1947.388333	1998.80196
10.5	41640	0	0	4114.439921	45.75443992	1951.756667	1997.511107
10.6	41640	0	0	4114.441022	45.75444102	1950.501667	1996.256108
10.7	41640	0	0	4114.441096	45.7544411	1954.525	2000.279441
10.8	41640	0	0	4114.4411	45.7544411	1959.666667	2005.421108
10.9	41640	0	0	4114.4411	45.7544411	1990.761667	2036.516108
11	41692.4	0	0	4114.4411	45.8068411	2002.216667	2048.023508
11.1	40601	0	0	4114.4411	44.7154411	2007.491667	2052.207108
11.2	40601	0	0	4114.4411	44.7154411	2011.093333	2055.808774
11.3	47299.2	0	0	4114.4411	51.4136411	2016.813333	2068.226974
11.4	47299.2	0	0	4088.891798	51.3880918	2022.995	2074.383092
11.5	47299.2	0	0	4020.837022	51.32003702	2029.851667	2081.171704
11.6	47299.2	0	0	3839.566805	51.13876681	2050.298333	2101.4371
11.7	47299.2	0	0	3461.663402	50.7608634	2059.25	2110.010863
11.8	47299.2	0	0	2844.98157	50.14418157	2062.321667	2112.465848
11.9	47299.2	0	0	2057.22055	49.35642055	2072.5	2121.856421
12	41640	0	0	1269.45953	42.90945953	2078.255	2121.16446
12.1	41640	0	0	652.7776975	42.2927777	2088.516667	2130.809444
12.2	41640	0	0	274.8742947	41.91487429	2099.778333	2141.693208
12.3	41640	0	0	93.60407792	41.73360408	2100.181667	2141.915271
12.4	41640	0	0	25.54930223	41.6655493	2109.735	2151.400549
12.5	41692.4	0	0	0	41.6924	2118.103333	2159.795733
12.6	40601	0	0	0	40.601	2123.971667	2164.572667
12.7	40601	0	0	0	40.601	2128.751667	2169.352667
12.8	47299.2	0	0	0	47.2992	2132.06	2179.3592
12.9	47299.2	0	0	0	47.2992	2134.221667	2181.520867
13	47299.2	0	0	25.54930223	47.3247493	2137.596667	2184.921416
13.1	47299.2	0	0	93.60407792	47.39280408	2140.24	2187.632804
13.2	47299.2	0	0	274.8742947	47.57407429	2143.421667	2190.995741
13.3	47299.2	0	0	652.7776975	47.9519777	2144.763333	2192.715311
13.4	47299.2	0	0	1269.45953	48.56865953	2147.351667	2195.920326
13.5	41640	0	0	2057.22055	43.69722055	2153.708333	2197.405554
13.6	41640	0	0	2844.98157	44.48498157	2160.57	2205.054982
13.7	41640	0	0	3461.663402	45.1016634	2166.476667	2211.57833
13.8	41640	0	0	3839.566805	45.47956681	2168.911667	2214.391233
13.9	41640	0	0	4020.837022	45.66083702	2182.223333	2227.88417
14	41692.4	0	0	4088.891798	45.7812918	2195.651667	2241.432958
14.1	40601	0	0	4108.887024	44.70988702	2201.835	2246.544887
14.2	40601	0	0	4113.483961	44.71448396	2210.178333	2254.892817
14.3	47299.2	0	0	4114.310791	51.41351079	2210.911667	2262.325177

Continuation of *Table A40*:

14.4	47299.2	0	0	4114.42712	51.41362712	2218.946667	2270.360294
14.5	47299.2	0	0	4114.439921	51.41363992	2226.731667	2278.147603
14.6	47299.2	0	0	4114.441022	51.41364102	2236.823333	2288.247537
14.7	47299.2	0	0	4114.441096	51.4136411	2248.045	2299.49734
14.8	47299.2	0	0	4114.4411	51.4136411	2265.306667	2316.833949
14.9	47299.2	0	0	4114.4411	51.4136411	2266.716667	2318.400185
15	41640	0	0	4114.4411	45.7544411	2276.2	2322.479272
15.1	41640	0	0	4114.4411	45.7544411	2282.443333	2329.048288
15.2	41640	0	0	4114.4411	45.7544411	2288.358333	2335.288971
15.3	41640	0	0	4114.4411	45.7544411	2290.275	2337.460592
15.4	41640	0	0	4088.891798	45.7288918	2289.333333	2336.649612
15.5	41692.4	0	0	4020.837022	45.71323702	2288.101667	2335.477233
15.6	40601	0	0	3839.566805	44.44056681	2278.778333	2324.909365
15.7	40601	0	0	3461.663402	44.0626634	2277.165	2322.926395
15.8	47299.2	0	0	2844.98157	50.14418157	2274.34	2326.184814
15.9	47299.2	0	0	2057.22055	49.35642055	2262.811667	2313.869061
16	47299.2	0	0	1269.45953	48.56865953	2250.143333	2300.413015
16.1	47299.2	0	0	652.7776975	47.9519777	2233.34	2282.993005
16.2	47299.2	0	0	274.8742947	47.57407429	2217.85	2267.125102
16.3	47299.2	0	0	93.60407792	47.39280408	2198.306667	2247.400499
16.4	47299.2	0	0	25.54930223	47.3247493	2181.12	2230.143481
16.5	41640	0	0	0	41.64	2163.811667	2207.142132
16.6	41640	0	0	0	41.64	2147.931667	2191.233996
16.7	41640	0	0	0	41.64	2121.511667	2164.739054
16.8	41640	0	0	0	41.64	2110	2153.071151
16.9	41640	0	0	0	41.64	2094.92	2137.736197
17	41692.4	0	0	0	41.6924	2076.241667	2118.784581
17.1	40601	0	0	0	40.601	2058.933333	2100.059164
17.2	40601	0	0	0	40.601	2049.6	2090.470877
17.3	47299.2	0	0	0	47.2992	2032.96	2080.372841
17.4	47299.2	0	0	0	47.2992	2026.246667	2073.584565
17.5	47299.2	0	0	0	47.2992	2016.015	2063.324763
17.6	47299.2	0	0	0	47.2992	2006.433333	2053.73483
17.7	47299.2	0	0	0	47.2992	1999.135	2046.4342
17.8	47299.2	0	0	0	47.2992	1992.925	2040.2242
17.9	47299.2	0	0	0	47.2992	1991.295	2038.5942
18	41640	0	0	0	41.64	1984.825	2026.465
18.1	35980.8	0	0	0	35.9808	1979.926667	2015.907467
18.2	30321.6	0	0	0	30.3216	1978.4	2008.7216
18.3	24662.4	0	0	0	24.6624	1998.923333	2023.585733
18.4	19003.2	0	0	0	19.0032	2062.425	2081.4282
18.5	13396.4	0	0	0	13.3964	2050.688333	2064.084733
18.6	6698.2	0	0	0	6.6982	2089.788333	2096.486533
18.7	0	0	0	0	0	2248.448333	2248.448333
18.8	0	0	0	0	0	2239.715	2239.715
18.9	0	0	0	0	0	2309.79	2309.79
19	0	0	0	0	0	2346.915	2346.915
19.1	0	0	0	0	0	2373.326667	2373.326667
19.2	0	0	0	0	0	2375.355	2375.355

Continuation of *Table A40*:

19.3	0	0	0	0	0	2397.14	2397.14
19.4	0	0	0	0	0	2412.48	2412.48
19.5	0	0	0	0	0	2415.381667	2415.381667
19.6	0	0	0	0	0	2414.298333	2414.298333
19.7	0	0	0	0	0	2410.59	2410.59
19.8	0	0	0	0	0	2407.26	2407.26
19.9	0	0	0	0	0	2408.951667	2408.951667
20	0	0	0	0	0	2408.97	2408.97
20.1	0	0	0	0	0	2418.968333	2418.968333
20.2	0	0	0	0	0	2420.543333	2420.543333
20.3	0	0	0	0	0	2420.428333	2420.428333
20.4	0	0	0	0	0	2413.408333	2413.408333
20.5	0	10.29012812	0	11.10815188	0.02139828	2411.77	2411.791398
20.6	0	19.47748485	0	21.02586649	0.040503351	2410.375	2410.415503
20.7	0	35.53173709	0	38.35636716	0.073888104	2409.416667	2409.490555
20.8	0	62.4889384	0	67.45655745	0.129945496	2411.501667	2411.631612
20.9	0	105.9844913	0	114.4098318	0.220394323	2415.968333	2416.188728
21	0	173.4218193	0	187.2081558	0.360629975	2419.883333	2420.243963
21.1	5659.2	273.8929745	0	295.6663634	6.228759338	2419.5	2425.728759
21.2	11318.4	417.7291316	0	450.936916	12.18706605	2416.601667	2428.788733
21.3	16977.6	615.5993643	0	664.5370357	18.2577364	2419.878333	2438.13607
21.4	22636.8	877.1637721	0	946.894761	24.46085853	2417.706667	2442.167525
21.5	28296	1209.412009	2.296214349	1305.555395	30.81326362	2408.565	2439.378264
21.6	33902.8	1614.951014	4.346348236	1743.333118	37.26543048	2406.525	2443.79043
21.7	40601	2090.602144	7.928811342	2256.796599	44.95632755	2399.725	2444.681328
21.8	47299.2	2626.683159	13.94423814	2835.493897	52.77532129	2397.268333	2450.043655
21.9	47299.2	3207.258174	23.65015352	3462.222288	53.99233061	2404.831667	2458.823997
22	47299.2	3811.44645	38.69861145	4114.4411	55.26378616	2399.835	2455.098786
22.1	47299.2	4415.634726	61.11847886	4766.659912	56.54261312	2390.788333	2447.330946
22.2	47299.2	4996.209741	93.21512956	5393.388303	57.78201317	2392.928333	2450.710347
22.3	47299.2	5532.290756	137.3693385	5972.085601	58.9409457	2388.461667	2447.402612
22.4	47299.2	6007.941886	195.736731	6485.549082	59.9884277	2390.253333	2450.241761
22.5	41640	6413.480891	269.8770293	6923.326805	55.24668473	2389.791667	2445.038351
22.6	41640	6745.729128	360.3719649	7281.987439	56.02808853	2384.191667	2440.219755
22.7	41640	7007.293536	466.5122324	7564.345164	56.67815093	2377.888333	2434.566484
22.8	41640	7205.163768	586.1372657	7777.945284	57.20924632	2375.25	2432.459246
22.9	41640	7348.999926	715.691015	7933.215837	57.63790678	2381.506667	2439.144573
23	41692.4	7449.471081	850.514	8041.674044	58.03405912	2386.9	2444.934059
23.1	40601	7516.908409	985.336985	8114.472368	57.21771776	2391.468333	2448.686051
23.2	40601	7560.403962	1114.890734	8161.425643	57.43772034	2389.516667	2446.954387
23.3	47299.2	7587.361163	1234.515768	8190.525833	64.31160276	2380.99	2445.301603
23.4	47246.8	7603.415415	1340.656035	8207.856334	64.39872778	2383.131667	2447.530394
23.5	47246.8	7612.602772	1431.150971	8217.774048	64.50832779	2386.641667	2451.149994
23.6	47246.8	7617.654921	1505.291269	8223.227823	64.59297401	2387.296667	2451.889641
23.7	47246.8	7620.324524	1563.658661	8226.109649	64.65689283	2375.486667	2440.14356
23.8	47246.8	7621.680032	1607.81287	8227.572914	64.70386582	2355.636667	2420.340532
23.9	47246.8	7622.341399	1639.909521	8228.286856	64.73733778	2361.686667	2426.424004
24	41587.6	7622.651474	1662.329389	8228.621581	59.10120244	2365.306667	2424.407869

Table A41: Total load scheduling for year 2030

time	Whole station									standalone station					grand mean 2030
	S1	S2	S3	S4	S5	S6	F1	F2	sum	F1	F2	S1	S2	sum	
	1	2	3	4	5	6	7	8		1	2	3	4		
0	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
0.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
0.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
0.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
0.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
0.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
0.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
0.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
0.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
0.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
1.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
1.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
1.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
1.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
1.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
2	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
2.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
2.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
2.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
2.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
3	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
3.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
3.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
3.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
3.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
3.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
3.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
3.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
3.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
3.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
4.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2





Continuation of *Table A41*:

14.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
14.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
15	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
15.1	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
15.2	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
15.3	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
15.4	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
15.5	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
15.6	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
15.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
15.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
15.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
16.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
16.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
16.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
16.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
16.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
17	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
17.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
17.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
17.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
17.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
18	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
18.1		0	52.4	52.4	52.4	52.4	62.6	62.6	334.8		0	52.4	52.4	104.8	43294
18.2			0	52.4	52.4	52.4	62.6	62.6	282.4			0	52.4	52.4	36482
18.3				0	52.4	52.4	62.6	62.6	230				0	0	29670
18.4					0	52.4	62.6	62.6	177.6					0	22910.4
18.5						0	62.6	62.6	125.2					0	16150.8
18.6							0	62.6	62.6					0	8075.4
18.7								0	0					0	0
18.8									0					0	0
18.9									0					0	0
19									0					0	0
19.1									0					0	0
19.2									0					0	0

Continuation of *Table A41*:

19.3									0					0	0
19.4									0					0	0
19.5									0					0	0
19.6									0					0	0
19.7									0					0	0
19.8									0					0	0
19.9									0					0	0
20									0					0	0
20.1									0					0	0
20.2									0					0	0
20.3									0					0	0
20.4									0					0	0
20.5									0					0	0
20.6									0					0	0
20.7									0					0	0
20.8									0					0	0
20.9									0					0	0
21	0								0	0				0	0
21.1	52.4	0							52.4	62.6	0			62.6	6822.2
21.2	52.4	52.4	0						104.8	62.6	62.6	0		125.2	13644.4
21.3	52.4	52.4	52.4	0					157.2	62.6	62.6	52.4	0	177.6	20456.4
21.4	52.4	52.4	52.4	52.4	0				209.6	62.6	62.6	52.4	52.4	230	27268.4
21.5	52.4	52.4	52.4	52.4	52.4	0			262	62.6	62.6	52.4	52.4	230	34028
21.6	52.4	52.4	52.4	52.4	52.4	52.4	0		314.4	62.6	62.6	52.4	52.4	230	40787.6
21.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
21.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
21.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.1	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
22.5	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2
22.6	52.4	0	52.4	52.4	52.4	52.4	62.6	62.6	387.2	62.6	0	52.4	52.4	167.4	50116.2
22.7	52.4	52.4	0	52.4	52.4	52.4	62.6	62.6	387.2	62.6	62.6	0	52.4	177.6	50126.4
22.8	52.4	52.4	52.4	0	52.4	52.4	62.6	62.6	387.2	62.6	62.6	52.4	0	177.6	50126.4
22.9	52.4	52.4	52.4	52.4	0	52.4	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
23	52.4	52.4	52.4	52.4	52.4	0	62.6	62.6	387.2	62.6	62.6	52.4	52.4	230	50178.8
23.1	52.4	52.4	52.4	52.4	52.4	52.4	0	62.6	377	62.6	62.6	52.4	52.4	230	48863
23.2	52.4	52.4	52.4	52.4	52.4	52.4	62.6	0	377	62.6	62.6	52.4	52.4	230	48863
23.3	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.4	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.5	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.6	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.7	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.8	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
23.9	52.4	52.4	52.4	52.4	52.4	52.4	62.6	62.6	439.6	62.6	62.6	52.4	52.4	230	56938.4
24	0	52.4	52.4	52.4	52.4	52.4	62.6	62.6	387.2	0	62.6	52.4	52.4	167.4	50116.2