



Approval of ARR and Tariff for FY 2020-21, APR of FY 2019-20 and True-Up of FY 2018-19 for NPCL



UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION

LUCKNOW

Petition No. 1541/ 2019

APPROVAL OF AGGREGATE REVENUE REQUIREMENT (ARR) AND TARIFF FOR FY 2020-21

AND

TRUE-UP OF ARR AND REVENUE FOR FY 2018-19

FOR

Noida Power Company Limited., (NPCL) – (Petition No. – 1541/2019)

ORDER UNDER SECTION 62 & 64 OF

THE ELECTRICITY ACT, 2003

December 04th, 2020



TABLE OF CONTENTS

| | | |
|----------|--|------------|
| 1 | BACKGROUND AND PROCEDURAL HISTORY..... | 23 |
| 1.1 | BACKGROUND | 23 |
| 1.2 | DISTRIBUTION TARIFF REGULATION | 23 |
| | PROCEDURAL HISTORY | 24 |
| 1.3 | BUSINESS PLAN, MULTI YEAR ARR & TARIFF AND TRUE UP PETITION BY THE LICENSEE 24 | |
| 1.4 | TRUE UP FOR FY 2016-17, ANNUAL PERFORMANCE REVIEW (APR) FOR FY 2017-18, AND AGGREGATE REVENUE REQUIREMENT (ARR) FOR FY 2018-19 FILED BY THE PETITIONER | 24 |
| 1.5 | DETERMINATION OF TARIFF, ANNUAL PERFORMANCE REVIEW (APR) AND TRUING UP OF TARIFF | 24 |
| 1.6 | PRELIMINARY SCRUTINY OF THE PETITIONS..... | 26 |
| 1.7 | ADMITTANCE OF THE TRUE-UP, APR AND ARR / TARIFF FILINGS..... | 26 |
| 1.8 | PUBLICITY OF THE LICENSEE FILINGS | 26 |
| 2 | PUBLIC HEARING PROCESS | 27 |
| 2.1 | PUBLIC HEARING: | 27 |
| 2.2 | VIEWS / COMMENTS / SUGGESTION / OBJECTIONS / REPRESENTATION ON TRUE-UP, APRD AND ARR / TARIFF FILLINGS. | 27 |
| 3 | TRUE UP FOR FY 2018-19..... | 140 |
| 3.1 | BACKGROUND | 140 |
| 3.2 | INDEPENDENT AUDIT FOR FY 2018-19..... | 140 |
| 3.3 | NUMBER OF CONSUMERS AND CONNECTED LOAD | 140 |
| 3.4 | ENERGY SALES | 141 |
| 3.5 | ENERGY BALANCE AND DISTRIBUTION LOSS | 144 |



*Approval of ARR and Tariff for FY 2020-21, APR of FY 2019-20 and
True- Up of FY 2018-19 for NPCL*

| | | |
|----------|--|------------|
| 3.6 | POWER PURCHASE | 148 |
| 3.7 | OPERATION AND MAINTENANCE EXPENSE | 185 |
| 3.8 | EXPENSES INCURRED DUE TO CHANGE IN LAW- GST | 198 |
| 3.9 | CAPITAL EXPENDITURE..... | 202 |
| 3.10 | INTEREST AND FINANCE CHARGES | 242 |
| 3.11 | INTEREST ON LONG TERM LOANS..... | 242 |
| 3.12 | INTEREST ON WORKING CAPITAL..... | 247 |
| 3.13 | INTEREST ON CONSUMER SECURITY DEPOSITS | 251 |
| 3.14 | FINANCE CHARGES | 254 |
| 3.15 | TOTAL INTEREST & FINANCE COST..... | 256 |
| 3.16 | EFFICIENCY GAIN ON LOAN SWAPING | 257 |
| 3.17 | GROSS FIXED ASSETS (GFA) | 260 |
| 3.18 | DEPRECIATION | 261 |
| 3.19 | RETURN ON EQUITY..... | 265 |
| 3.20 | INCOME TAX | 267 |
| 3.21 | MISCELLANEOUS EXPENSES | 269 |
| 3.22 | PROVISION FOR DOUBTFUL DEBTS | 271 |
| 3.23 | CONTINGENCY RESERVE..... | 274 |
| 3.24 | NON-TARIFF INCOME | 274 |
| 3.25 | REVENUE FROM SALE OF POWER | 293 |
| 3.26 | ARR AND REVENUE GAP | 295 |
| 4 | ANNUAL PERFORMANCE REVIEW OF FY 2019-20 | 299 |
| 4.1 | INTRODUCTION | 299 |
| 4.2 | NUMBER OF CONSUMERS AND CONNECTED LOAD | 301 |



*Approval of ARR and Tariff for FY 2020-21, APR of FY 2019-20 and
True- Up of FY 2018-19 for NPCL*

| | | |
|----------|---|------------|
| 4.3 | ENERGY SALES | 304 |
| 4.4 | ENERGY BALANCE AND DISTRIBUTION LOSSES | 306 |
| 4.5 | POWER PROCUREMENT QUANTUM AND COST | 310 |
| 4.6 | OPERATION AND MAINTENANCE EXPENSES (O&M) | 317 |
| 4.7 | EXPENSES INCURRED DUE TO CHANGE IN LAW- GST | 321 |
| 4.8 | CAPITAL EXPENDITURE..... | 324 |
| 4.9 | INTEREST & FINANCE CHARGE | 330 |
| 4.10 | INTEREST ON LONG TERM LOANS..... | 330 |
| 4.11 | INTEREST ON WORKING CAPITAL..... | 332 |
| 4.12 | INTEREST ON CONSUMER SECURITY DEPOSIT | 333 |
| 4.13 | FINANCE CHARGES | 334 |
| 4.14 | TOTAL INTEREST AND FINANCE COST | 337 |
| 4.15 | GROSS FIXED ASSETS (GFA) AND DEPRECIATION | 337 |
| 4.16 | MISCELLANEOUS EXPENSE | 339 |
| 4.17 | PROVISION FOR DOUBTFUL DEBTS | 339 |
| 4.18 | INCOME TAX | 340 |
| 4.19 | CONTINGENCY RESERVE | 341 |
| 4.20 | RETURN ON EQUITY..... | 341 |
| 4.21 | EFFICIENCY GAIN ON LOAN SWAPPING | 342 |
| 4.22 | NON-TARIFF INCOME | 343 |
| 4.23 | REVENUE FROM SALE OF ENERGY..... | 345 |
| 4.24 | ARR AND REVENUE GAP | 346 |
| 4.25 | CARRYING COST | 348 |
| 5 | AGGREGATE REVENUE REQUIREMENT (ARR) FOR FY 2020-21 | 349 |



| | | |
|----------|---|------------|
| 5.1 | INTRODUCTION | 349 |
| 5.2 | BILLING DETERMINANTS | 349 |
| 5.3 | ENERGY BALANCE AND DISTRIBUTION LOSSES | 351 |
| 5.4 | POWER PROCUREMENT | 352 |
| 5.5 | O&M EXPENSES | 366 |
| 5.6 | IMPACT OF GOODS AND SERVICE TAX | 381 |
| 5.7 | CAPITAL EXPENDITURE | 383 |
| 5.8 | DEPRECIATION | 413 |
| 5.9 | INTEREST ON TERM LOAN | 418 |
| 5.10 | INTEREST ON WORKING CAPITAL | 423 |
| 5.11 | INTEREST ON CONSUMER SECURITY DEPOSIT | 426 |
| 5.12 | FINANCE CHARGES | 428 |
| 5.13 | SUMMARY OF INTEREST CHARGES | 429 |
| 5.14 | EFFICIENCY GAIN DUE TO SWAPPING OF LOANS | 429 |
| 5.15 | RETURN ON EQUITY | 429 |
| 5.16 | INCOME TAX | 431 |
| 5.17 | CONTINGENCY RESERVE | 433 |
| 5.18 | PROVISION FOR WRITE OFF OF BAD AND DOUBTFUL DEBTS | 434 |
| 5.19 | LOSS ON RETIREMENT / IMPAIRMENT OF ASSET | 436 |
| 5.20 | NON-TARIFF INCOME | 438 |
| 5.21 | REVENUE FROM SALE OF ELECTRICITY | 439 |
| 5.22 | SUMMARY OF ARR FOR FY 2020-21 | 441 |
| 6 | OPEN ACCESS | 442 |
| 6.1 | BACKGROUND | 442 |



*Approval of ARR and Tariff for FY 2020-21, APR of FY 2019-20 and
True- Up of FY 2018-19 for NPCL*

| | | |
|-----------|--|------------|
| 6.2 | OPEN ACCESS CHARGES | 443 |
| 6.3 | WHEELING CHARGES..... | 443 |
| 6.4 | CROSS SUBSIDY CHARGE | 448 |
| 6.5 | ADDITIONAL SURCHARGE | 452 |
| 7 | TARIFF PHILOSOPHY..... | 457 |
| 7.1 | CONSIDERATION IN TARIFF DESIGN..... | 457 |
| 7.2 | APPLICABILITY OF TARIFF CATEGORY..... | 459 |
| 8 | REVENUE GAP | 460 |
| 8.1 | REVENUE FROM SALE OF POWER AT APPROVED TARIFF | 460 |
| 8.2 | AVERAGE COST OF SUPPLY | 464 |
| 9 | DIRECTIVES | 467 |
| 9.1 | STATUS OF DIRECTIVES FOR FY 2019-20..... | 467 |
| 9.2 | DIRECTIVES ISSUED IN THIS ORDER..... | 481 |
| 10 | APPLICABILITY OF THE ORDER | 483 |
| 11 | ANNEXURES..... | 484 |
| 11.1 | RATE SCHEDULE FOR FY 2020-21 | 485 |
| 11.2 | LIST OF PERSONS WHO HAVE ATTENDED PUBLIC HEARING..... | 540 |
| 11.3 | SUB-CATEGORY WISE AVERAGE BILLING RATE FOR FY 2020-21..... | 541 |
| 11.4 | ADMITTANCE ORDER..... | 544 |



List of Tables

| | |
|---|----|
| Table 2-1: Details regarding analysis between revenue and expenditure | 30 |
| Table 2-2: Objectors response to NPCL's Reply | 31 |
| Table 2-3: NPCL Distribution losses for the past years | 36 |
| Table 2-4: Energy sale of LMV-1 Category | 38 |
| Table 2-5: Energy sale of LMV-5 Category | 39 |
| Table 2-6: Detail submitted average coincident peak demand and allocation of amount | 39 |
| Table 2-7: Detail of the sales as submitted by the Objector | 40 |
| Table 2-8: Power purchase cost as submitted by the objector | 43 |
| Table 2-9: N2 Region Price on IEX | 45 |
| Table 2-10: Sources of Power Procurement | 48 |
| Table 2-11: Year on year comparison of sales, power purchase annual expenditure and revenue | 50 |
| Table 2-12: Expenses over the years for IT projects and Process system automation | 51 |
| Table 2-13: Capex on civil works and office infrastructure facility | 52 |
| Table 2-14: Detail of the projects undertaken as submitted by the Objector | 53 |
| Table 2-15: Cost of substation with double pole of ST Pole | 57 |
| Table 2-16: Cost of secondary substation | 57 |
| Table 2-17: Details of Capex done on 33/11kV Substation | 59 |
| Table 2-18: Details of Capex on 33/11 kV S/s during FY 2018-19 | 59 |
| Table 2-19: Details of Capex on 33/11 kV S/s during FY 2019-20 | 59 |
| Table 2-20: Details of capex claimed on 220kV substation | 61 |
| Table 2-21: Details of capital expenditure claimed on 220kV substation in FY 2018-19 | 63 |
| Table 2-22: Summary of Capital expenditure | 64 |
| Table 2-23: Comparison of O&M Expenses | 68 |
| Table 2-24: Comparison of O&M Expenses with Delhi Discoms | 68 |
| Table 2-25: Comparison of O&M expenses with Delhi Discoms for FY 2018-19 | 69 |
| Table 2-26: Details of employee cost | 72 |



| | |
|--|-----|
| Table 2-27: Details of analysis of analysis of employee expense of the Petitioner as submitted by the Objector | 72 |
| Table 2-28: Details of erection cost and supply cost | 73 |
| Table 2-29: Recommendations for reduction of expenses..... | 75 |
| Table 2-30: Comparison of O&M Expenses | 77 |
| Table 2-31: O&M expense comparison with Delhi Discoms | 78 |
| Table 2-32: Comparison of O&M expenses with Delhi Discoms for FY 2018-19..... | 79 |
| Table 2-33: Details of Professional charges..... | 80 |
| Table 2-34: Details regarding R&M Expenses..... | 81 |
| Table 2-35: Details of percentage increase in R&M Expenses with reference to GFA & Sales | 83 |
| Table 2-36: Comparison of O&M Expenses with Delhi Discoms | 84 |
| Table 2-37: Comparison of the O&M Expenses with Delhi Discoms for FY 2018-19 | 84 |
| Table 2-38: Details of the Cross Subsidy as submitted by the Objector..... | 87 |
| Table 2-39: Details of the vehicles purchased and capitalised by NPCL as submitted by the Objector | 90 |
| Table 2-40: Comparison of Fixed Asset Register of FY 2018-19 with Cost Data Book, 2016 as submitted by the Petitioner..... | 93 |
| Table 2-41: Transformer Cost variance as submitted by the Objector | 96 |
| Table 2-42: Details of 11kV, 3C X 300 Sqmm Cable as submitted by the Objector..... | 97 |
| Table 2-43: Details of 11kV, 3C X 150 Sqmm Cable as submitted by the Objector..... | 98 |
| Table 2-44: Details of 33 kV, 3C X 300 Sqmm and 3C x 400 Sqmm Cable as submitted by the Objector | 99 |
| Table 2-45: Details of 12-meter-Long ST Pole as submitted by the Objector | 100 |
| Table 2-46: Details of ACSR Dog Conductor as submitted by the Objector | 102 |
| Table 2-47: Details of Assets capitalised at zero value | 103 |
| Table 2-48: Comparison of cost of LT Substations | 106 |
| Table 2-49: Comparison of Cost of HT Substations | 106 |
| Table 2-50: Comparison of Cost of cables and Conductors..... | 106 |



*Approval of ARR and Tariff for FY 2020-21, APR of FY 2019-20 and
True- Up of FY 2018-19 for NPCL*

| | |
|---|-----|
| Table 2-51: Extract of FAR or FY 2018-19 | 108 |
| Table 2-52: Cost of the retired assets for FY 2018-19 | 109 |
| Table 2-53: Comparison of Employee Expenses..... | 115 |
| Table 2-54: Details of tax provision as submitted by the Objector | 120 |
| Table 2-55: Details of power transformers and distribution transformers..... | 122 |
| Table 2-56: Details of transformers | 123 |
| Table 3-1: No. of consumers and connected load for FY 2018-19 as submitted by the Petitioner | 140 |
| Table 3-2: Category-wise Energy Sales for FY 2018-19 submitted by the Petitioner (MU) .. | 141 |
| Table 3-3: Category wise Sales for FY 2018-19 as approved by the Commission (in MU) | 142 |
| Table 3-4: Category wise No. of Consumers, Connected Load & Energy Sales as approved for FY 2018-19 | 143 |
| Table 3-5: Norms for NPCL for Sales..... | 144 |
| Table 3-6: Energy balance and distribution losses for FY 2018-19 as submitted by the Petitioner | 146 |
| Table 3-7: Energy Balance as submitted by the Petitioner for FY 2018-19..... | 147 |
| Table 3-8: Approved Energy Balance for FY 2018-19 | 147 |
| Table 3-9:RPO Status for FY 2018-19 as submitted by the Petitioner..... | 153 |
| Table 3-10: Power Purchase Cost for FY 2018-19 as submitted by Petitioner..... | 154 |
| Table 3-11: Power Purchase from Long Term Source (DIL) as submitted by the Petitioner. | 156 |
| Table 3-12: Computation of Charges for DIL at rates approved in T.O dated February 05, 2019 as submitted by the Petitioner | 158 |
| Table 3-13: Power purchase from Long Term source as approved for True Up of FY 2018-19 | 159 |
| Table 3-14: Power procurement for Medium Term for FY 2018-19 as submitted by the Petitioner | 160 |
| Table 3-15: Power procured from M/s SKS power Generation through PTC during True Up for FY 2018-19 | 160 |
| Table 3-16: Details of Charges for Medium Term Source as submitted by the Petitioner ... | 161 |



*Approval of ARR and Tariff for FY 2020-21, APR of FY 2019-20 and
True-Up of FY 2018-19 for NPCL*

| | |
|--|-----|
| Table 3-17: Approved Medium-term purchase for FY 2018-19 | 162 |
| Table 3-18: RPO details as submitted by NPCL for FY 2018-19 | 162 |
| Table 3-19: RPO Target approved by the Commission vide its Order dated November 15, 2018 | 163 |
| Table 3-20: RPO accrued & fulfilled upto FY 2017-18 and balance carried forward as at FY 2017-18 as submitted by the Petitioner | 164 |
| Table 3-21: RPO accrued & fulfilled in FY 2018-19 and balance carried forward as at FY 2018- 19 as submitted by the Petitioner | 164 |
| Table 3-22: Summary of Power Purchase made through MPPL (Solar) as submitted by the Petitioner for FY 2018-19..... | 165 |
| Table 3-23: RPO computed for FY 2017-18 | 166 |
| Table 3-24: RPO computed for FY 2018-19 | 166 |
| Table 3-25: RPO details computed by the Commission for FY 2018-19 (MU)..... | 166 |
| Table 3-26: Details of Renewable purchase as submitted by the Petitioner for FY 2018-19 | 167 |
| Table 3-27: Power purchase from Short-Term sources as claimed by the Petitioner | 168 |
| Table 3-28: Power purchase from Short-Term as approved by the Commission vide Order dated August 06, 2018..... | 168 |
| Table 3-29: Source wise power purchase as claimed by the Petitioner including Transmission cost..... | 168 |
| Table 3-30: Details of Power banking as submitted by the Petitioner for FY 2018-19 | 170 |
| Table 3-31: Average RTC prices at IEX | 178 |
| Table 3-32: Power procurement for Short-Term for FY 2018-19 (excluding Transmission) . | 179 |
| Table 3-33: Power banking approved for FY 2018-19 | 179 |
| Table 3-34: Power Sold by the Petitioner in FY 2018-19 | 180 |
| Table 3-35: Power Purchase Cost and quantum as approved by the Commission for FY 2018- 19 | 184 |
| Table 3-36: Disallowance in PPC for FY 2018-19 (Rs. Crore) | 185 |
| Table 3-37: Net Power Purchase Cost as approved by the Commission for FY 2018-19 | 185 |
| Table 3-38: O & M expenses (Rs. Cr) for FY 2018-19 as submitted by Petitioner | 187 |