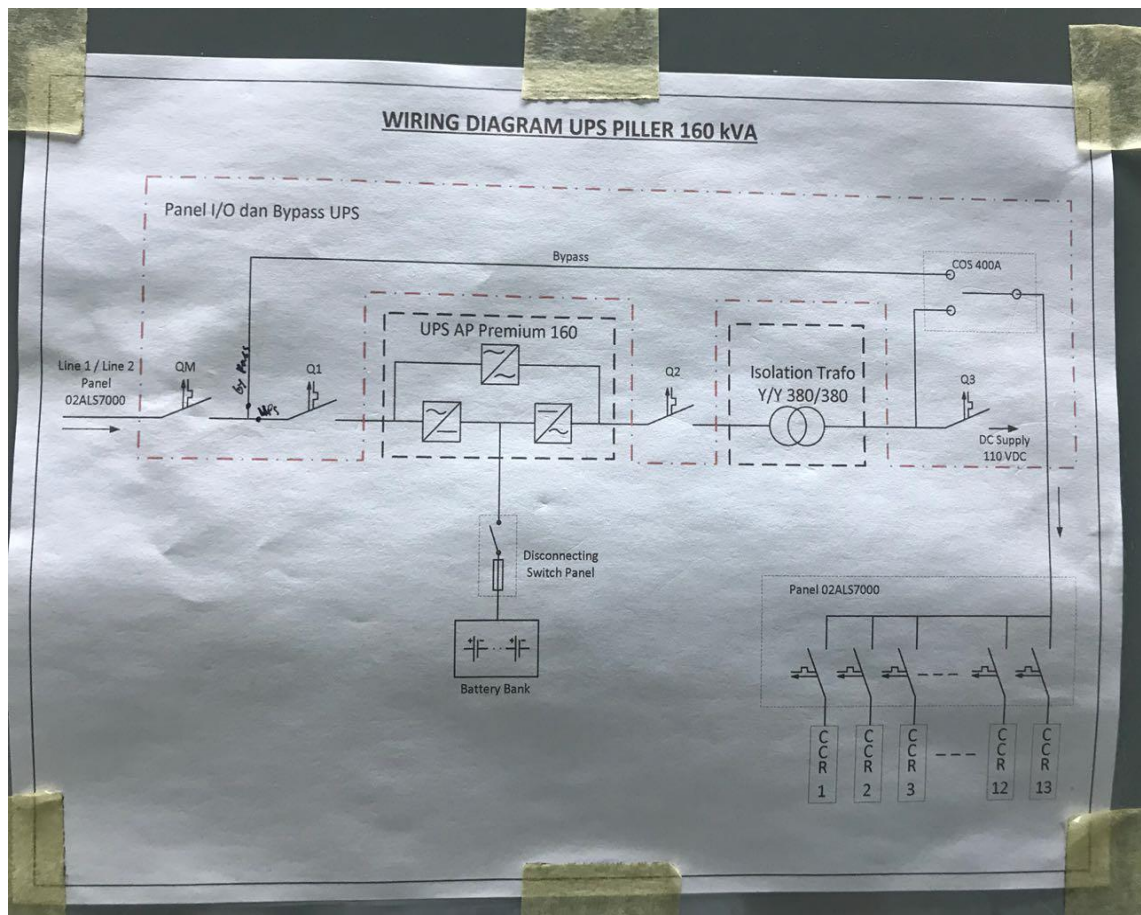


## DAFTAR LAMPIRAN

|                                                                 |    |
|-----------------------------------------------------------------|----|
| Lampiran A Lembar Bimbingan Skripsi .....                       | A1 |
| Lampiran B <i>Wiring</i> Diagram UPS.....                       | B1 |
| Lampiran C <i>Check List</i> Harian Pada UPS .....              | C1 |
| Lampiran D Komponen Pada UPS .....                              | D1 |
| Lampiran E UPS Jenis Piller .....                               | E1 |
| Lampiran F UPS Jenis Rocket.....                                | F1 |
| Lampiran G Data <i>Sheet</i> Beban yang di <i>Back-up</i> ..... | G1 |
| Lampiran H Tampilan Dvor .....                                  | H1 |
| Lampiran I Tampilan ATC .....                                   | I1 |
| Lampiran J Tampilan <i>Run Away</i> .....                       | J1 |
| Lampiran K Tampilan NDB .....                                   | K1 |
| Lampiran L Bagian dari CCR .....                                | L1 |

## LAMPIRAN B1 WIRING DIAGRAM UPS



## LAMPIRAN C1 CHECK LIST HARIAN PADA UPS

|                                          |                                             |                 |  |
|------------------------------------------|---------------------------------------------|-----------------|--|
| CABANG BANDARA INTERNASIONAL MINANGKABAU |                                             | ANGKASA PURA II |  |
| UNIT                                     | DINAS TEKNIK LMP                            |                 |  |
| NAMA PERALATAN                           | UPS AP-PREMIUM 160 kVA – CCR & CONTROL DESK |                 |  |
| LOKASI                                   | RUANG CCR – MSS                             |                 |  |
| TGL/BLN/THN                              | 29 - 08 - 2018                              |                 |  |

**HARIAN CHECKLIST UPS DAN PENGUKURAN BATTERY**

|                         |    |         |        |         |
|-------------------------|----|---------|--------|---------|
| INPUT PLN I/O           | L1 | 403,2 V | 14,8 A | 50,2 Hz |
|                         | L2 | 403,9 V | 15,9 A |         |
|                         | L3 | 406,3 V | 14,2 A |         |
| NORMAL OPERATION (LOAD) | L1 |         |        | 4 %     |
|                         | L2 |         |        | 0 %     |
|                         | L3 |         |        | 5 %     |
| OUTPUT UPS              | L1 | 219 V   | 19 A   | 50,1 Hz |
|                         | L2 | 219 V   | 14 A   |         |
|                         | L3 | 219 V   | 20 A   |         |
| INPUT UPS               | L1 | 233 V   | 11 A   | 50,1 Hz |
|                         | L2 | 231 V   | 12 A   |         |
|                         | L3 | 232 V   | 11 A   |         |
| BYPASS INPUT UPS        | L1 | 233 V   | 0 A    | 50,1 Hz |
|                         | L2 | 231 V   | 0 A    |         |
|                         | L3 | 232 V   | 0 A    |         |
| INVERTER                | L1 | 210 V   | 37 A   | 50,1 Hz |
|                         | L2 | 210 V   | 42 A   |         |
|                         | L3 | 210 V   | 38 A   |         |
| UPS TEMPERATUR          |    |         |        | 25,2 °C |
| BATTERY CURRENTS        |    |         |        | 0 A     |
| BATTERY VOLTAGE         |    |         |        | 432 V   |
| REMAINING TIME          |    |         |        | 459 Min |
| BATTERY CAPASITY        |    |         |        | 100 %   |
|                         |    |         |        | 300 Ah  |

POSISI MANUAL SWITCH PANEL I/O UPS : ☒ UPS  
☐ OFF  
☐ BY PASS

POSISI LCD PANEL UPS : ☒ NORMAL OPERATION  
☐ BY PASS OPERATION

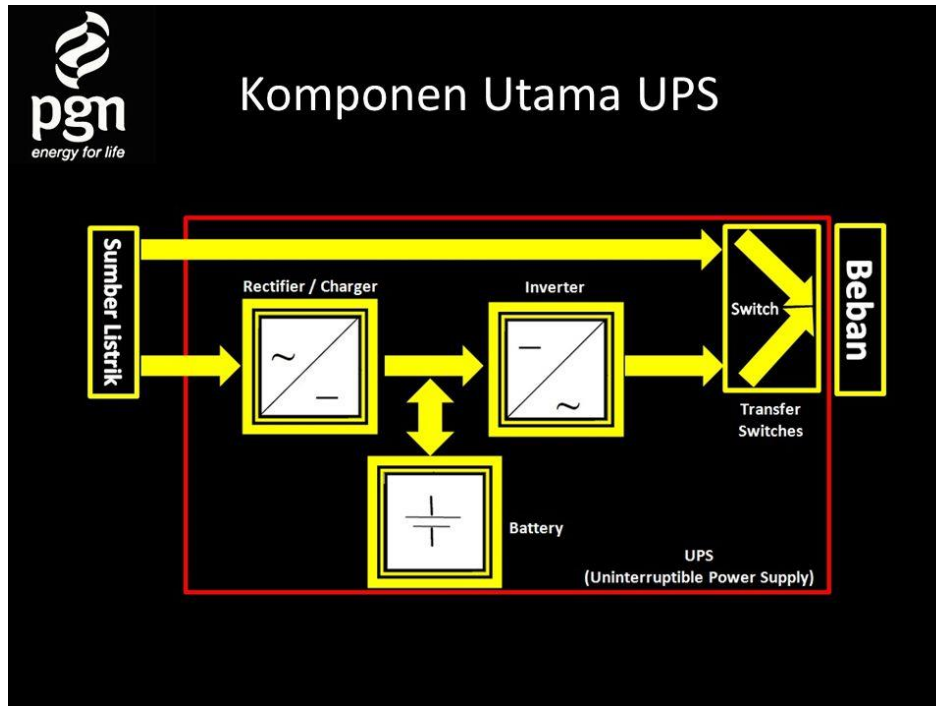
CATATAN :

.....

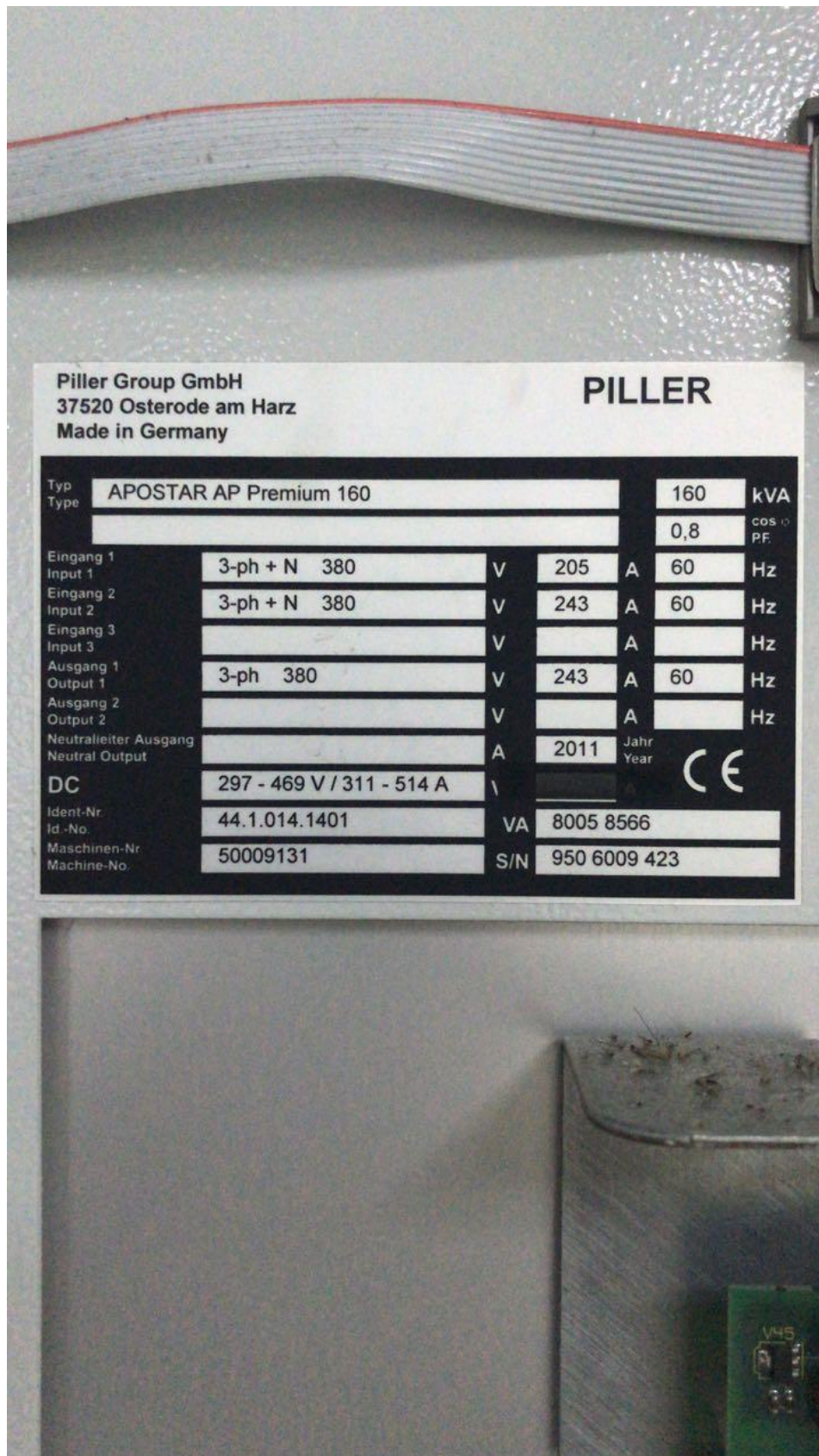
.....

|                                                          |                                                                  |                                               |
|----------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------|
| PETUGAS CHECK<br><i>Agus Sapriadi</i><br>(Agus Sapriadi) | PTO / KOORDINATOR<br><i>Heri Mustika P.</i><br>(Heri Mustika P.) | EME FACILITY JUNIOR MANAGER<br>(HERI MUSTIKA) |
|----------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------|

## LAMPIRAN D1 KOMPONEN PADA UPS



## LAMPIRAN E1 UPS JENIS PILLER



LAMPIRAN F1 UPS JENIS ROCKET



## LAMPIRAN G1 DATA SHEET BEBAN YANG DI BACK-UP

### a. NDB (NON DIRECTIONAL BEACON)

Paste Format Painter B I U Font Alignment Merge & C

Clipboard Font Alignment Merge & C

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H15 13,2

ANGKASA PURA II

Kepada Yth : LPPNPI - Engineering & APP  
 NOMOR : DNTL. 10/06/BA.MLA/08/AP-II. 2018  
 No. Pelanggan : -  
 Tarif/Daya : B 2 / 13.200 VA  
 Alamat : BANDARA INTERNASIONAL MINANGKABAU  
 Pemakaian Bulan : AGUSTUS 2018

| Uraian                                                                 | Stand Meter |      | Faktor Meter | Pemakaian kWh  | Tarif    | Rupiah    |
|------------------------------------------------------------------------|-------------|------|--------------|----------------|----------|-----------|
|                                                                        | Sekarang    | Lalu |              |                |          |           |
| Stand Meter                                                            | 1.022       | 981  | 20           | 820            | 1.467,28 | 1.203.170 |
| Non Subsidi                                                            |             |      |              |                |          |           |
| Rp. Biaya Beban (Pemakaian Min 40 jam/bulan)                           |             |      |              |                |          |           |
| Rp. Pemakaian Trafo                                                    |             |      |              |                | 1.467,28 |           |
| Rp. Rekening Listrik                                                   |             |      |              | 0%             |          |           |
| Rp. Biaya Pajak Penerangan Jalan (PPJ)                                 |             |      |              | 10%            |          | 1.203.170 |
| Rp. Angsuran                                                           |             |      |              |                |          |           |
|                                                                        |             |      |              | Rp. Angsuran A |          |           |
|                                                                        |             |      |              | Rp. Angsuran B |          |           |
|                                                                        |             |      |              | Rp. Angsuran C |          |           |
| Rp. PPN                                                                |             |      |              |                |          |           |
| Rp. Meterai                                                            |             |      |              | 10%            |          | 120.317   |
| Rp. Lain-lain / Adm                                                    |             |      |              |                |          | 6.000     |
| Rp. Biaya Keterlambatan (BK)                                           |             |      |              | 15%            |          | 180.476   |
| TOTAL TAGIHAN REKENING LISTRIK                                         |             |      |              |                |          | 1.509.963 |
| Sembilan Ratus Sembilan Puluh Enam Ribu Empat Ratus Empat Belas Rupiah |             |      |              |                |          |           |
| Padang Pariaman, Agustus 2018                                          |             |      |              |                |          |           |
| A.M of ELECTRICAL AND MECHANICAL FACILITY                              |             |      |              |                |          |           |

LISTRIK PERTAMINA CETAK TAGIHAN L. PERTAMINA CETAK CFC Met. Listrik TRIAS

Ready

b. DVOR Parameter Selatan

| ANGKASA PURA II<br>INDONESIA'S AIRPORT COMPANY |                                                                       |                                       |        |                |       |          |
|------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------|--------|----------------|-------|----------|
| 5                                              | Kepada Yth                                                            | : LPPNPI - Gidepath                   |        |                |       |          |
| 6                                              | NOMOR                                                                 | : DNTL. 08/06/BA.MLA/ 08 /AP-II. 2018 |        |                |       |          |
| 7                                              | No. Pelanggan                                                         | : -                                   |        |                |       |          |
| 8                                              | Tarif/Daya                                                            | : B 2 / 23.000 VA                     |        |                |       |          |
| 9                                              | Alamat                                                                | : BANDARA INTERNASIONAL MINANGKABAU   |        |                |       |          |
| 10                                             | Pemakaian Bulan                                                       | : AGUSTUS 2018                        |        |                |       |          |
| 13                                             | Uraian                                                                | Stand Meter                           | Faktor | Pemakaian      | Tarif | Rupiah   |
| 14                                             |                                                                       | Sekarang                              | Lalu   | kWh            |       |          |
| 15                                             | Stand Meter                                                           | 10.030                                | 9.797  | 1              | 233   | 1.467,28 |
| 16                                             | Non Subsidi                                                           |                                       |        |                |       | 341.876  |
| 17                                             | Rp. Biaya Beban (Pemakaian Min 40 Jam/bulan)                          |                                       |        |                |       |          |
| 18                                             | Rp. Pemakaian Trafo                                                   |                                       |        | 20%            |       | 68.375   |
| 19                                             | Rp. Rekening Listrik                                                  |                                       |        |                |       | 410.251  |
| 20                                             | Rp. Biaya Pajak Penerangan Jalan (PPJ)                                |                                       |        | 10%            |       |          |
| 21                                             | Rp. Angsuran                                                          |                                       |        | Rp. Angsuran A |       |          |
| 22                                             |                                                                       |                                       |        | Rp. Angsuran B |       |          |
| 23                                             |                                                                       |                                       |        | Rp. Angsuran C |       |          |
| 24                                             | Rp. PPN                                                               |                                       |        | 10%            |       | 41.025   |
| 25                                             | Rp. Meterai                                                           |                                       |        |                |       | 6.000    |
| 26                                             | Rp. Lain-lain / Adm                                                   |                                       |        | 15%            |       | 61.538   |
| 27                                             | Rp. Biaya Keterlambatan (BK)                                          |                                       |        |                |       |          |
| 28                                             | TOTAL TAGIHAN REKENING LISTRIK                                        |                                       |        |                |       | 518.814  |
| 29                                             | Tiga Ratus Enam Puluh Dua Ribu Lima Ratus Empat Puluh Sembilan Rupiah |                                       |        |                |       |          |
| 30                                             |                                                                       |                                       |        |                |       |          |
| 31                                             |                                                                       |                                       |        |                |       |          |

c. DVOR Parameter Tower

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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------|--------|--------|----------------|-----------|
| N26                                                                         |                                                                         |                                       |        |        |                |           |
| A                                                                           | B                                                                       | C                                     | D      | E      | F              | G         |
| 5                                                                           | Kepada Yth                                                              | : LPPNPI - VOR                        |        |        |                |           |
| 6                                                                           | NOMOR                                                                   | : DNTL. 07/06/BA.MLA/ 08 /AP-II. 2018 |        |        |                |           |
| 7                                                                           | No. Pelanggan                                                           | : -                                   |        |        |                |           |
| 8                                                                           | Tarif/Daya                                                              | : B 2 / 23.000 VA                     |        |        |                |           |
| 9                                                                           | Alamat                                                                  | : BANDARA INTERNASIONAL MINANGKABAU   |        |        |                |           |
| 10                                                                          | Pemakaian Bulan                                                         | : AGUSTUS 2018                        |        |        |                |           |
| 11                                                                          |                                                                         |                                       |        |        |                |           |
| 12                                                                          |                                                                         |                                       |        |        |                |           |
| 13                                                                          | Uraian                                                                  | Stand Meter                           |        | Faktor | Pemakaian      | Tarif     |
| 14                                                                          |                                                                         | Sekarang                              | Lalu   | Meter  | kWh            | Rupiah    |
| 15                                                                          | Stand Meter                                                             | 84.890                                | 83.028 | 1      | 1.862          | 1.467,28  |
| 16                                                                          | Non Subsidi                                                             |                                       |        |        |                | 2.732.075 |
| 17                                                                          | Rp. Biaya Beban (Pemakaian Min 40 Jam/bulan)                            |                                       |        |        |                | -         |
| 18                                                                          | Rp. Pemakaian Trafo                                                     |                                       |        |        |                | -         |
| 19                                                                          | Rp. Rekening Listrik                                                    |                                       |        |        | 20%            | 1.467,28  |
| 20                                                                          | Rp. Biaya Pajak Penerangan Jalan (PPJ)                                  |                                       |        |        |                | 546.415   |
| 21                                                                          | Rp. Angsuran                                                            |                                       |        |        | 10%            | 3.278.490 |
| 22                                                                          |                                                                         |                                       |        |        | Rp. Angsuran A |           |
| 23                                                                          |                                                                         |                                       |        |        | Rp. Angsuran B |           |
| 24                                                                          | Rp. PPN                                                                 |                                       |        |        | Rp. Angsuran C |           |
| 25                                                                          | Rp. Meterai                                                             |                                       |        |        | 10%            | 327.849   |
| 26                                                                          | Rp. Lain-lain / Adm                                                     |                                       |        |        |                | 6.000     |
| 27                                                                          | Rp. Biaya Keterlambatan (BK)                                            |                                       |        |        | 15%            | 491.774   |
| 28                                                                          | TOTAL TAGIHAN REKENING LISTRIK                                          |                                       |        |        |                | 4.104.113 |
| 29                                                                          | Tiga Juta Tujuh Ratus Tiga Puluh Enam Ribu Lima Ratus Enam Puluh Rupiah |                                       |        |        |                |           |

|                         |
|-------------------------|
| d. DVOR parameter Utara |
|-------------------------|

The screenshot displays an Excel spreadsheet titled "ANGKASA PURA II INDONESIA'S AIRPORT COMPANY". It contains a detailed calculation of electricity costs based on meter readings and usage.

| A                                                                           | B                                     | C      | D      | E              | F        | G         |
|-----------------------------------------------------------------------------|---------------------------------------|--------|--------|----------------|----------|-----------|
| N33                                                                         | f <sub>x</sub>                        |        |        |                |          |           |
| Kepada Yth                                                                  | : LPPNPI - Localizer                  |        |        |                |          |           |
| NOMOR                                                                       | : DNTL. 06/06/BA.MLA/ 08 /AP-II. 2018 |        |        |                |          |           |
| No. Pelanggan                                                               | : -                                   |        |        |                |          |           |
| Tarif/Daya                                                                  | : B 2 / 23.000 VA                     |        |        |                |          |           |
| Alamat                                                                      | : BANDARA INTERNASIONAL MINANGKABAU   |        |        |                |          |           |
| Pemakaian Bulan                                                             | : AGUSTUS 2018                        |        |        |                |          |           |
| Uraian                                                                      | Stand Meter                           |        | Faktor | Pemakaian      | Tarif    | Rupiah    |
|                                                                             | Sekarang                              | Lalu   | Meter  | kWh            |          |           |
| Stand Meter                                                                 | 33.810                                | 33.035 | 1      | 775            | 1.467,28 | 1.137.142 |
| Non Subsidi                                                                 |                                       |        |        |                | -        | -         |
| Rp. Biaya Beban (Pemakaian Min 40 Jam/bulan)                                |                                       |        |        |                |          |           |
| Rp. Pemakaian Trafo                                                         |                                       |        |        | 20%            |          | 227.428   |
| Rp. Rekening Listrik                                                        |                                       |        |        |                |          | 1.364.570 |
| Rp. Biaya Pajak Penerangan Jalan (PPJ) Prosen PJ                            |                                       |        |        | 10%            |          |           |
| Rp. Angsuran                                                                |                                       |        |        | Rp. Angsuran A |          | -         |
|                                                                             |                                       |        |        | Rp. Angsuran B |          | -         |
|                                                                             |                                       |        |        | Rp. Angsuran C |          | -         |
| Rp. PPN                                                                     |                                       |        |        | 10%            |          | 136.457   |
| Rp. Meterai                                                                 |                                       |        |        |                |          | 6.000     |
| Rp. Lain-lain / Adm                                                         |                                       |        |        | 15%            |          | 204.686   |
| Rp. Biaya Keterlambatan (BK)                                                |                                       |        |        |                |          | -         |
| TOTAL TAGIHAN REKENING LISTRIK                                              |                                       |        |        |                |          | 1.711.713 |
| <i>Satu Juta Dua Ratus Enam Puluh Ribu Lima Ratus Dua Puluh Lima Rupiah</i> |                                       |        |        |                |          |           |

At the bottom, there are navigation buttons: CETAK KWH Meter Listrik BIM, CETAK Meter Air BIM, LISTRIK PERTAMINA, and CETAK TAGIHA. The taskbar shows standard Windows icons including Internet Explorer, Photoshop, Chrome, and Word.

e. ATC (air traffic control)

Clipboard Font Alignment

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A17 Rp. Biaya Beban (Pemakaian Min 40 Jam/bulan)

|    | A                                                                             | B                                     | C     | D               | E                | F        | G         |
|----|-------------------------------------------------------------------------------|---------------------------------------|-------|-----------------|------------------|----------|-----------|
| 1  |                                                                               |                                       |       |                 |                  |          |           |
| 2  |                                                                               |                                       |       |                 |                  |          |           |
| 3  |                                                                               |                                       |       |                 |                  |          |           |
| 4  |                                                                               |                                       |       |                 |                  |          |           |
| 5  | Kepada Yth                                                                    | : LPPNPI - Administrasi & BO          |       |                 |                  |          |           |
| 6  | NOMOR                                                                         | : DNTL. 09/06/BA.MLA/ 08 /AP-II. 2018 |       |                 |                  |          |           |
| 7  | No. Pelanggan                                                                 | : -                                   |       |                 |                  |          |           |
| 8  | Tarif/Daya                                                                    | : B 2 / 66.000 VA                     |       |                 |                  |          |           |
| 9  | Alamat                                                                        | : BANDARA INTERNASIONAL MINANGKABAU   |       |                 |                  |          |           |
| 10 | Pemakaian Bulan                                                               | : AGUSTUS 2018                        |       |                 |                  |          |           |
| 11 |                                                                               |                                       |       |                 |                  |          |           |
| 12 |                                                                               |                                       |       |                 |                  |          |           |
| 13 |                                                                               |                                       |       |                 |                  |          |           |
| 14 | Uraian                                                                        | Stand Meter<br>Sekarang               | Lalu  | Faktor<br>Meter | Pemakaian<br>kWh | Tarif    | Rupiah    |
| 15 | Stand Meter                                                                   | 8.106                                 | 7.855 | 20              | 5.020            | 1.467,28 | 7.365.74  |
| 16 | Non Subsidi                                                                   |                                       |       |                 |                  |          |           |
| 17 | Rp. Biaya Beban (Pemakaian Min 40 Jam/bulan)                                  |                                       |       |                 |                  | 1.467,28 |           |
| 18 | Rp. Pemakaian Trafo                                                           |                                       |       |                 | 0%               |          |           |
| 19 | Rp. Rekening Listrik                                                          |                                       |       |                 |                  |          | 7.365.746 |
| 20 | Rp. Biaya Pajak Penerangan Jalan (PPJ)                                        |                                       |       | Prosen P        | 10%              |          |           |
| 21 | Rp. Angsuran                                                                  |                                       |       |                 |                  |          |           |
| 22 |                                                                               |                                       |       |                 | Rp. Angsuran A   |          |           |
| 23 |                                                                               |                                       |       |                 | Rp. Angsuran B   |          |           |
| 24 | Rp. PPN                                                                       |                                       |       |                 | Rp. Angsuran C   |          |           |
| 25 | Rp. Meterai                                                                   |                                       |       |                 | 10%              |          | 736.575   |
| 26 | Rp. Lain-lain / Adm                                                           |                                       |       |                 | 15%              |          | 6.000     |
| 27 | Rp. Biaya Keterlambatan (BK)                                                  |                                       |       |                 |                  |          | 1.104.862 |
| 28 | TOTAL TAGIHAN REKENING LISTRIK                                                |                                       |       |                 |                  |          | 9.213.183 |
| 29 | Sembilan Juta Tiga Ratus Dua Puluh Tiga Ribu Dua Ratus Dua puluh Tujuh Rupiah |                                       |       |                 |                  |          |           |
| 30 |                                                                               |                                       |       |                 |                  |          |           |

Page 1

CETAK Meter Air BIM LISTRIK PERTAMINA CETAK TAGIHAN L. PERTAMINA CETAK

Ready

## **DAFTAR H1 LAMPIRAN TAMPILAN DVOR**



## **DAFTAR I1 LAMPIRAN TAMPILAN AIR TRAFFIC CONTROL (ATC)**



**DAFTAR J1 LAMPIRAN TAMPILAN *RUN AWAY***



**DAFTAR K1 LAMPIRAN TAMPILAN *NON DIRECTIONAL BEACON (NDB)***



DAFTAR LAMPIRAN L1 BAGIAN DARI CCR

| Requirement & Action : |    |
|------------------------|----|
| <u>CHECK :</u>         |    |
| CCR                    | VO |
| RUNWAY I               |    |
| RUNWAY II              |    |
| PALS I                 |    |
| PALS II                |    |
| PALS III               |    |
| TAXIWAY                |    |
| SALS I                 |    |
| SALS II                |    |
| PAPI I                 |    |
| PAPI II                |    |
|                        |    |