|   |               | <u> </u>                |                        |                                |                    |                       |                     |                           |                                       |              |  |
|---|---------------|-------------------------|------------------------|--------------------------------|--------------------|-----------------------|---------------------|---------------------------|---------------------------------------|--------------|--|
| MAXIMA  |               | Transformer Test Report |                        |                                |                    |                       |                     |                           |                                       |              |  |
| No Dokumen :  |               | :                       | FM -03-006-PP          |                                |                    | Tan                   |                     | :                         | 28 Febi                               | ruari 2018   |  |
| Revisi :  |               | :                       | 1                      |                                |                    | Н                     | al                  | :                         |                                       | 1            |  |
| Transformer   | 3             | Phase                   | Freq                   | 50                             | Hz                 |                       | Transform           | ner No                    | :                                     | 190490003-S  |  |
| Vector group  | Dyn5          | Rated power             | <u> </u>               | 60                             | kVA                |                       | Custor              |                           | :                                     |              |  |
| Standard  | •             | •                       |                        |                                |                    | !                     |                     |                           | <u> </u>                              | Į.           |  |
|   | Тар           | Voltage                 | e (volt) Current (ampe |                                | (ampere)           | Resume                |                     |                           |                                       |              |  |
|   |               |                         |                        |                                |                    |                       |                     | Guaranteed                | Measured                              |              |  |
| Primer 3  |               | 20000                   |                        | 4,62                           |                    | No-load losses (watt) |                     |                           | 400                                   | 354,98       |  |
|   |               |                         |                        |                                | Load losse         |                       |                     | 2000                      | 1446,82                               |              |  |
| Secondary   |               |                         | 400 230                |                                | 0,94 Impedant      |                       |                     | 4                         | 3,32                                  |              |  |
|   |               |                         |                        |                                |                    |                       | No load current (%) |                           | 2,3                                   | 0,29         |  |
|   |               |                         |                        | No load le                     | osses meas         | urement               |                     |                           |                                       |              |  |
| Voltage   |               |                         | Current                |                                |                    | Losses                |                     |                           |                                       | lo           |  |
| Volt  |               |                         | Ampere                 |                                |                    | Watt                  |                     |                           | · · · · · · · · · · · · · · · · · · · | %            |  |
| 400   |               |                         | 0,66                   |                                |                    | 354,98                |                     |                           |                                       | 0,286        |  |
|   |               |                         |                        |                                |                    |                       |                     |                           |                                       |              |  |
|   |               |                         | Lo                     | ad losses &                    | Impedance          | measurem              | ont                 |                           |                                       |              |  |
| Load losses & Impedance measurement  Voltage Current Losses |               |                         |                        |                                |                    |                       |                     |                           |                                       |              |  |
| Vsc   |               |                         | IN                     |                                |                    | WTo                   |                     |                           | P(750C)                               | Iz(75°C)     |  |
| Volt  |               |                         | Ampere                 |                                |                    | Watt                  |                     |                           | . (1000)                              | %            |  |
|   | 658,1         |                         |                        | 4,62                           |                    | 1280,8                |                     |                           | 1446,82                               | 3,32         |  |
|   |               |                         |                        |                                |                    |                       |                     |                           |                                       |              |  |
|   |               |                         |                        |                                | 1                  |                       |                     |                           |                                       |              |  |
|   |               | Ratio                   |                        |                                | Resistance winding |                       |                     |                           |                                       |              |  |
| Тар   | Nominal       |                         | Measurement            |                                | 1                  | imary side (Ω)        |                     | 1                         | Secondary side (                      |              |  |
| -   | 90,93         | 90,79                   | 90,82                  | W<br>90,85                     | 1U-1V              | 1V-1VV                | 1U-1W               | 2u-2v                     | 2v-2w                                 | 2u-2w        |  |
| 2   | 88,77         | 88,62                   | 88,65                  | 88,69                          |                    |                       |                     |                           |                                       |              |  |
| 3   | 86,60         | 86,43                   | 86,46                  | 86,52                          | 20,29              | 20.93                 | 21,03               | 0.005965                  | 0.005991                              | 0.005917     |  |
| 4   | 84,44         | 84,29                   | 84,32                  | 84,35                          | 20,20              | 20,00                 | 21,00               | 3,00000                   | 0,000001                              | 0,000017     |  |
| 5   | 82,27         | 82,12                   | 82,14                  | 82,18                          |                    |                       |                     |                           |                                       |              |  |
| 6   | 80,11         | 79,95                   | 79,97                  | 80,01                          |                    |                       |                     |                           |                                       |              |  |
| 7   | 77,94         | 77,79                   | 77,81                  | 77,85                          |                    |                       |                     |                           |                                       |              |  |
|   |               |                         |                        |                                |                    |                       |                     |                           |                                       |              |  |
|   |               | 1                       |                        |                                | sulation te        |                       |                     | 1                         |                                       |              |  |
|   | ced Over volt | -                       | Applied Voltage        |                                |                    |                       |                     | Megger Test               |                                       |              |  |
| Supplied on   |               |                         | Between                |                                |                    | 0                     | KV                  | Took Voltogo              | 0500                                  | VDC          |  |
| At<br>At  | 800,00<br>150 | Volt<br>Hz              |                        | HV-LV+Earth :<br>LV-HV+Earth : |                    | 50<br>3               |                     | Test Voltage<br>HV-G      | 2500<br>11000                         | VDC<br>M Ohm |  |
| Duration  | 40            | sec                     | Duration               |                                | 60                 |                       | KV<br>Sec           | LV-G                      | 11000                                 | M Ohm        |  |
| Result  |               | hstand                  | Result                 |                                | Withstand          |                       | OCC                 | HV-LV                     | 5000                                  | M Ohm        |  |
| ector group check :   |               | Dyn5                    |                        | Dielectric strength of oil :   |                    | 60                    | kV                  | /2.5 mm                   |                                       |              |  |
| Result  | :             |                         | OK                     |                                | Minimum s          | _                     | :                   | 50                        | kV                                    | /2.5 mm      |  |
|   |               |                         |                        | Standard                       |                    |                       | : IEC 60°           |                           |                                       |              |  |
| Oil leak test   |               |                         |                        |                                |                    |                       |                     |                           |                                       |              |  |
| Oil Pressure  | :             | 0,5                     | Bar                    |                                |                    |                       |                     |                           |                                       |              |  |
| Duration  | :             | 24                      | Hour                   |                                |                    |                       |                     |                           |                                       |              |  |
| Result  | :             | No le                   | eak                    |                                |                    |                       |                     |                           |                                       |              |  |
| Witnessed by: Mojokerto, 07/11/2019                         |               |                         |                        |                                |                    |                       |                     |                           |                                       |              |  |
|   | 1.            |                         |                        |                                |                    |                       |                     | PT. MAXIMA DAYA INDONESIA |                                       |              |  |
|   | 2.            |                         |                        |                                |                    |                       |                     |                           | Che.                                  |              |  |
| 3.  |               |                         |                        |                                |                    |                       |                     | L.                        |                                       |              |  |

Juli Rokhmad