

Project:
Location:
Contract:
Engineer:
Filename: BALANCE LAOD avareg

ETAP
12.6.0H

Study Case: HA

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Revision: Base
Config.: Normal

System Harmonics Bus Information

| Bus | | Voltage Distortion | | | | | | | | |
|-----------|--------|--------------------|----------|-----------|----------|-------|-----------|-----------|-----------|-----------|
| ID | kV | Fund. % | RMS % | ASUM % | THD % | TIF | TIHD % | TSHD % | THDG % | THDS % |
| # Bus1 | 33.000 | 100.00 | 100.02 | 103.52 | 2.22 | 8.55 | 0.00 | 0.00 | 2.22 | 2.22 |
| # Bus2 | 33.000 | 99.99 | 100.01 | 103.52 | 2.23 | 8.59 | 0.00 | 0.00 | 2.23 | 2.23 |
| # Bus3 | 33.000 | 99.99 | 100.01 | 103.53 | 2.23 | 8.59 | 0.00 | 0.00 | 2.23 | 2.23 |
| # Bus4 | 33.000 | 99.97 | 100.00 | 103.53 | 2.24 | 8.61 | 0.00 | 0.00 | 2.24 | 2.24 |
| # * Bus5 | 0.400 | 98.93 | 99.02 | 106.45 | 4.25 | 9.28 | 0.00 | 0.00 | 4.25 | 4.25 |
| # Bus6 | 33.000 | 99.96 | 99.98 | 103.54 | 2.27 | 8.64 | 0.00 | 0.00 | 2.27 | 2.27 |
| # Bus7 | 33.000 | 99.91 | 99.94 | 103.56 | 2.31 | 8.70 | 0.00 | 0.00 | 2.31 | 2.31 |
| # * Bus8 | 0.400 | 99.38 | 99.48 | 107.30 | 4.43 | 10.09 | 0.00 | 0.00 | 4.43 | 4.43 |
| # Bus9 | 33.000 | 99.91 | 99.94 | 103.56 | 2.32 | 8.71 | 0.00 | 0.00 | 2.32 | 2.32 |
| # Bus10 | 33.000 | 99.90 | 99.93 | 103.57 | 2.32 | 8.72 | 0.00 | 0.00 | 2.32 | 2.32 |
| # Bus11 | 33.000 | 99.90 | 99.93 | 103.57 | 2.32 | 8.72 | 0.00 | 0.00 | 2.32 | 2.32 |
| # * Bus12 | 0.400 | 99.21 | 99.30 | 106.66 | 4.21 | 9.37 | 0.00 | 0.00 | 4.21 | 4.21 |
| # Bus13 | 33.000 | 99.90 | 99.93 | 103.57 | 2.33 | 8.72 | 0.00 | 0.00 | 2.33 | 2.33 |
| # * Bus14 | 0.400 | 99.33 | 99.43 | 107.08 | 4.36 | 9.79 | 0.00 | 0.00 | 4.36 | 4.36 |
| # Bus15 | 33.000 | 99.90 | 99.92 | 103.57 | 2.33 | 8.73 | 0.00 | 0.00 | 2.33 | 2.33 |
| # Bus17 | 33.000 | 99.89 | 99.92 | 103.57 | 2.33 | 8.73 | 0.00 | 0.00 | 2.33 | 2.33 |
| # Bus18 | 33.000 | 99.89 | 99.92 | 103.57 | 2.33 | 8.73 | 0.00 | 0.00 | 2.33 | 2.33 |
| # * Bus19 | 0.400 | 99.25 | 99.34 | 106.96 | 4.34 | 9.64 | 0.00 | 0.00 | 4.34 | 4.34 |
| # * Bus20 | 0.400 | 99.02 | 99.12 | 106.76 | 4.37 | 9.47 | 0.00 | 0.00 | 4.37 | 4.37 |
| # Bus21 | 33.000 | 99.98 | 100.00 | 103.53 | 2.24 | 8.64 | 0.00 | 0.00 | 2.24 | 2.24 |
| # * Bus22 | 0.400 | 98.86 | 98.95 | 106.28 | 4.21 | 8.96 | 0.00 | 0.00 | 4.21 | 4.21 |
| # Bus24 | 33.000 | 99.92 | 99.95 | 103.54 | 2.28 | 8.88 | 0.00 | 0.00 | 2.28 | 2.28 |
| # * Bus25 | 0.400 | 99.17 | 99.27 | 106.99 | 4.39 | 9.91 | 0.00 | 0.00 | 4.39 | 4.39 |
| # Bus26 | 33.000 | 99.92 | 99.95 | 103.54 | 2.28 | 8.88 | 0.00 | 0.00 | 2.28 | 2.28 |
| # * Bus27 | 0.400 | 99.22 | 99.31 | 106.63 | 4.17 | 9.40 | 0.00 | 0.00 | 4.17 | 4.17 |
| # Bus28 | 33.000 | 99.89 | 99.92 | 103.55 | 2.30 | 9.00 | 0.00 | 0.00 | 2.30 | 2.30 |
| # * Bus30 | 0.400 | 99.46 | 99.56 | 107.36 | 4.41 | 10.21 | 0.00 | 0.00 | 4.41 | 4.41 |
| # Bus31 | 33.000 | 99.88 | 99.91 | 103.56 | 2.31 | 9.07 | 0.00 | 0.00 | 2.31 | 2.31 |
| # Bus32 | 33.000 | 99.88 | 99.90 | 103.56 | 2.32 | 9.07 | 0.00 | 0.00 | 2.32 | 2.32 |
| # * Bus34 | 0.400 | 98.89 | 98.99 | 106.56 | 4.34 | 9.40 | 0.00 | 0.00 | 4.34 | 4.34 |
| # Bus35 | 33.000 | 99.88 | 99.90 | 103.56 | 2.32 | 9.07 | 0.00 | 0.00 | 2.32 | 2.32 |
| # * Bus37 | 0.400 | 98.98 | 99.07 | 106.60 | 4.30 | 9.50 | 0.00 | 0.00 | 4.30 | 4.30 |
| # Bus38 | 33.000 | 99.86 | 99.89 | 103.56 | 2.33 | 9.15 | 0.00 | 0.00 | 2.33 | 2.33 |
| # * Bus41 | 0.400 | 99.11 | 99.21 | 107.01 | 4.42 | 10.11 | 0.00 | 0.00 | 4.42 | 4.42 |
| # Bus42 | 33.000 | 99.86 | 99.89 | 103.56 | 2.33 | 9.15 | 0.00 | 0.00 | 2.33 | 2.33 |
| # Bus43 | 33.000 | 99.86 | 99.89 | 103.56 | 2.33 | 9.15 | 0.00 | 0.00 | 2.33 | 2.33 |
| # Bus44 | 33.000 | 99.85 | 99.88 | 103.56 | 2.34 | 9.16 | 0.00 | 0.00 | 2.34 | 2.34 |
| # * Bus46 | 0.400 | 97.72 | 97.80 | 104.66 | 4.02 | 8.17 | 0.00 | 0.00 | 4.02 | 4.02 |
| # Bus47 | 33.000 | 99.85 | 99.88 | 103.56 | 2.34 | 9.16 | 0.00 | 0.00 | 2.34 | 2.34 |
| # Bus51 | 33.000 | 99.85 | 99.87 | 103.57 | 2.34 | 9.17 | 0.00 | 0.00 | 2.34 | 2.34 |
| # * Bus52 | 0.400 | 99.21 | 99.30 | 106.75 | 4.24 | 9.76 | 0.00 | 0.00 | 4.24 | 4.24 |

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| Bus | | Voltage Distortion | | | | | | | | |
|------------|--------|--------------------|----------|-----------|----------|-------|-----------|-----------|-----------|-----------|
| ID | kV | Fund. % | RMS % | ASUM % | THD % | TIF | TIHD % | TSHD % | THDG % | THDS % |
| # Bus53 | 33.000 | 99.85 | 99.87 | 103.57 | 2.34 | 9.24 | 0.00 | 0.00 | 2.34 | 2.34 |
| # Bus54 | 33.000 | 99.83 | 99.86 | 103.58 | 2.35 | 9.32 | 0.00 | 0.00 | 2.35 | 2.35 |
| # * Bus56 | 0.400 | 99.14 | 99.23 | 106.65 | 4.23 | 9.68 | 0.00 | 0.00 | 4.23 | 4.23 |
| # Bus57 | 33.000 | 99.83 | 99.85 | 103.58 | 2.36 | 9.36 | 0.00 | 0.00 | 2.36 | 2.36 |
| # * Bus59 | 0.400 | 99.08 | 99.17 | 107.02 | 4.45 | 10.26 | 0.00 | 0.00 | 4.45 | 4.45 |
| # Bus60 | 33.000 | 99.82 | 99.85 | 103.58 | 2.36 | 9.36 | 0.00 | 0.00 | 2.36 | 2.36 |
| # * Bus62 | 0.400 | 98.89 | 98.98 | 106.43 | 4.27 | 9.14 | 0.00 | 0.00 | 4.27 | 4.27 |
| # Bus63 | 33.000 | 99.82 | 99.85 | 103.58 | 2.36 | 9.42 | 0.00 | 0.00 | 2.36 | 2.36 |
| # Bus64 | 33.000 | 99.80 | 99.83 | 103.59 | 2.37 | 9.52 | 0.00 | 0.00 | 2.37 | 2.37 |
| # * Bus66 | 0.400 | 98.49 | 98.58 | 106.13 | 4.34 | 9.32 | 0.00 | 0.00 | 4.34 | 4.34 |
| # * Bus68 | 0.400 | 99.37 | 99.47 | 107.40 | 4.47 | 10.63 | 0.00 | 0.00 | 4.47 | 4.47 |
| # Bus69 | 33.000 | 99.80 | 99.83 | 103.59 | 2.37 | 9.52 | 0.00 | 0.00 | 2.37 | 2.37 |
| # Bus70 | 33.000 | 99.78 | 99.81 | 103.60 | 2.39 | 9.68 | 0.00 | 0.00 | 2.39 | 2.39 |
| # * Bus72 | 0.400 | 98.80 | 98.89 | 106.59 | 4.40 | 9.76 | 0.00 | 0.00 | 4.40 | 4.40 |
| # Bus73 | 33.000 | 99.78 | 99.81 | 103.61 | 2.40 | 9.69 | 0.00 | 0.00 | 2.40 | 2.40 |
| # * Bus75 | 0.400 | 99.35 | 99.45 | 107.42 | 4.49 | 10.80 | 0.00 | 0.00 | 4.49 | 4.49 |
| # Bus76 | 33.000 | 99.78 | 99.80 | 103.61 | 2.40 | 9.70 | 0.00 | 0.00 | 2.40 | 2.40 |
| # * Bus78 | 0.400 | 99.30 | 99.39 | 107.23 | 4.43 | 10.52 | 0.00 | 0.00 | 4.43 | 4.43 |
| # Bus79 | 33.000 | 99.77 | 99.80 | 103.61 | 2.40 | 9.70 | 0.00 | 0.00 | 2.40 | 2.40 |
| # * Bus81 | 0.400 | 98.89 | 98.99 | 106.62 | 4.36 | 9.72 | 0.00 | 0.00 | 4.36 | 4.36 |
| # Bus82 | 33.000 | 99.77 | 99.80 | 103.61 | 2.40 | 9.70 | 0.00 | 0.00 | 2.40 | 2.40 |
| # Bus83 | 33.000 | 99.78 | 99.81 | 103.61 | 2.39 | 9.76 | 0.00 | 0.00 | 2.39 | 2.39 |
| # * Bus85 | 0.400 | 98.90 | 99.00 | 106.58 | 4.34 | 9.59 | 0.00 | 0.00 | 4.34 | 4.34 |
| # Bus86 | 33.000 | 99.78 | 99.80 | 103.61 | 2.40 | 9.76 | 0.00 | 0.00 | 2.40 | 2.40 |
| # Bus87 | 33.000 | 99.77 | 99.79 | 103.62 | 2.40 | 9.91 | 0.00 | 0.00 | 2.40 | 2.40 |
| # * Bus89 | 0.400 | 98.74 | 98.83 | 106.45 | 4.35 | 9.77 | 0.00 | 0.00 | 4.35 | 4.35 |
| # Bus90 | 33.000 | 99.75 | 99.78 | 103.64 | 2.42 | 10.18 | 0.00 | 0.00 | 2.42 | 2.42 |
| # * Bus92 | 0.400 | 98.93 | 99.03 | 106.90 | 4.46 | 10.43 | 0.00 | 0.00 | 4.46 | 4.46 |
| # Bus93 | 33.000 | 99.74 | 99.77 | 103.64 | 2.43 | 10.19 | 0.00 | 0.00 | 2.43 | 2.43 |
| # * Bus95 | 0.400 | 98.69 | 98.79 | 106.53 | 4.40 | 10.25 | 0.00 | 0.00 | 4.40 | 4.40 |
| # Bus96 | 33.000 | 99.74 | 99.77 | 103.65 | 2.43 | 10.19 | 0.00 | 0.00 | 2.43 | 2.43 |
| # * Bus98 | 0.400 | 99.30 | 99.41 | 107.44 | 4.51 | 11.06 | 0.00 | 0.00 | 4.51 | 4.51 |
| # Bus99 | 33.000 | 99.74 | 99.77 | 103.65 | 2.43 | 10.19 | 0.00 | 0.00 | 2.43 | 2.43 |
| # * Bus101 | 0.400 | 99.13 | 99.23 | 107.39 | 4.57 | 11.70 | 0.00 | 0.00 | 4.57 | 4.57 |
| # Bus102 | 33.000 | 99.74 | 99.77 | 103.65 | 2.43 | 10.20 | 0.00 | 0.00 | 2.43 | 2.43 |
| # Bus103 | 33.000 | 99.73 | 99.76 | 103.65 | 2.43 | 10.19 | 0.00 | 0.00 | 2.43 | 2.43 |
| # * Bus105 | 0.400 | 98.83 | 98.93 | 106.66 | 4.40 | 10.16 | 0.00 | 0.00 | 4.40 | 4.40 |
| # Bus106 | 33.000 | 99.73 | 99.76 | 103.65 | 2.43 | 10.20 | 0.00 | 0.00 | 2.43 | 2.43 |
| # * Bus108 | 0.400 | 98.63 | 98.73 | 106.35 | 4.36 | 9.77 | 0.00 | 0.00 | 4.36 | 4.36 |
| # Bus113 | 33.000 | 99.74 | 99.77 | 103.65 | 2.42 | 10.26 | 0.00 | 0.00 | 2.42 | 2.42 |
| # Bus114 | 33.000 | 99.74 | 99.77 | 103.65 | 2.42 | 10.40 | 0.00 | 0.00 | 2.42 | 2.42 |
| # * Bus116 | 0.400 | 99.12 | 99.21 | 107.06 | 4.43 | 10.69 | 0.00 | 0.00 | 4.43 | 4.43 |
| # * Bus119 | 0.400 | 99.22 | 99.32 | 107.21 | 4.44 | 10.88 | 0.00 | 0.00 | 4.44 | 4.44 |

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| Bus | | Voltage Distortion | | | | | | | | |
|------------|--------|--------------------|----------|-----------|----------|-------|-----------|-----------|-----------|-----------|
| ID | kV | Fund. % | RMS % | ASUM % | THD % | TIF | TIHD % | TSHD % | THDG % | THDS % |
| # Bus120 | 33.000 | 99.74 | 99.77 | 103.65 | 2.42 | 10.40 | 0.00 | 0.00 | 2.42 | 2.42 |
| # Bus121 | 33.000 | 99.74 | 99.77 | 103.67 | 2.42 | 10.63 | 0.00 | 0.00 | 2.42 | 2.42 |
| # Bus124 | 33.000 | 99.74 | 99.77 | 103.67 | 2.42 | 10.63 | 0.00 | 0.00 | 2.42 | 2.42 |
| # * Bus125 | 0.400 | 98.75 | 98.84 | 106.53 | 4.37 | 10.14 | 0.00 | 0.00 | 4.37 | 4.37 |
| # Bus126 | 33.000 | 99.74 | 99.77 | 103.68 | 2.41 | 10.85 | 0.00 | 0.00 | 2.41 | 2.41 |
| # Bus127 | 33.000 | 99.74 | 99.77 | 103.69 | 2.41 | 11.06 | 0.00 | 0.00 | 2.41 | 2.41 |
| # * Bus129 | 0.400 | 99.18 | 99.28 | 107.11 | 4.40 | 10.80 | 0.00 | 0.00 | 4.40 | 4.40 |
| # Bus132 | 33.000 | 99.75 | 99.78 | 103.70 | 2.40 | 11.39 | 0.00 | 0.00 | 2.40 | 2.40 |
| # * Bus133 | 0.400 | 99.18 | 99.28 | 107.17 | 4.41 | 11.28 | 0.00 | 0.00 | 4.41 | 4.41 |
| # Bus134 | 33.000 | 99.75 | 99.78 | 103.70 | 2.40 | 11.39 | 0.00 | 0.00 | 2.40 | 2.40 |
| # Bus135 | 33.000 | 99.76 | 99.78 | 103.71 | 2.39 | 11.58 | 0.00 | 0.00 | 2.39 | 2.39 |
| # Bus138 | 33.000 | 99.76 | 99.79 | 103.73 | 2.37 | 11.95 | 0.00 | 0.00 | 2.37 | 2.37 |
| # * Bus139 | 0.400 | 98.26 | 98.35 | 106.00 | 4.33 | 10.62 | 0.00 | 0.00 | 4.33 | 4.33 |
| # Bus142 | 33.000 | 99.74 | 99.77 | 103.68 | 2.42 | 10.85 | 0.00 | 0.00 | 2.42 | 2.42 |
| # * Bus143 | 0.400 | 98.62 | 98.71 | 106.37 | 4.36 | 10.10 | 0.00 | 0.00 | 4.36 | 4.36 |
| # Bus145 | 33.000 | 99.89 | 99.92 | 103.60 | 2.36 | 8.77 | 0.00 | 0.00 | 2.36 | 2.36 |
| # Bus146 | 33.000 | 99.89 | 99.92 | 103.61 | 2.37 | 8.78 | 0.00 | 0.00 | 2.37 | 2.37 |
| # * Bus148 | 0.400 | 98.73 | 98.82 | 106.34 | 4.32 | 9.27 | 0.00 | 0.00 | 4.32 | 4.32 |
| # * Bus150 | 0.400 | 99.55 | 99.65 | 107.45 | 4.42 | 10.18 | 0.00 | 0.00 | 4.42 | 4.42 |
| # Bus151 | 33.000 | 99.89 | 99.91 | 103.62 | 2.37 | 8.79 | 0.00 | 0.00 | 2.37 | 2.37 |
| # Bus152 | 33.000 | 99.89 | 99.92 | 103.61 | 2.37 | 8.78 | 0.00 | 0.00 | 2.37 | 2.37 |
| # * Bus154 | 0.400 | 99.77 | 99.87 | 107.78 | 4.45 | 10.72 | 0.00 | 0.00 | 4.45 | 4.45 |
| # Bus155 | 33.000 | 99.88 | 99.91 | 103.63 | 2.38 | 8.80 | 0.00 | 0.00 | 2.38 | 2.38 |
| # * Bus157 | 0.400 | 99.55 | 99.65 | 107.46 | 4.43 | 10.21 | 0.00 | 0.00 | 4.43 | 4.43 |
| # Bus158 | 33.000 | 99.88 | 99.91 | 103.63 | 2.39 | 8.81 | 0.00 | 0.00 | 2.39 | 2.39 |
| # Bus159 | 33.000 | 99.88 | 99.91 | 103.64 | 2.40 | 8.82 | 0.00 | 0.00 | 2.40 | 2.40 |
| # Bus160 | 33.000 | 99.88 | 99.91 | 103.65 | 2.40 | 8.83 | 0.00 | 0.00 | 2.40 | 2.40 |
| # * Bus162 | 0.400 | 99.33 | 99.43 | 107.18 | 4.42 | 9.92 | 0.00 | 0.00 | 4.42 | 4.42 |
| # Bus163 | 33.000 | 99.87 | 99.90 | 103.65 | 2.41 | 8.84 | 0.00 | 0.00 | 2.41 | 2.41 |
| # * Bus165 | 0.400 | 99.31 | 99.40 | 107.16 | 4.42 | 9.94 | 0.00 | 0.00 | 4.42 | 4.42 |
| # Bus166 | 33.000 | 99.87 | 99.90 | 103.65 | 2.41 | 8.84 | 0.00 | 0.00 | 2.41 | 2.41 |
| # Bus167 | 33.000 | 99.87 | 99.90 | 103.66 | 2.41 | 8.84 | 0.00 | 0.00 | 2.41 | 2.41 |
| # Bus168 | 33.000 | 99.87 | 99.90 | 103.66 | 2.41 | 8.84 | 0.00 | 0.00 | 2.41 | 2.41 |
| # * Bus170 | 0.400 | 99.24 | 99.33 | 106.84 | 4.29 | 9.68 | 0.00 | 0.00 | 4.29 | 4.29 |
| # Bus171 | 33.000 | 99.87 | 99.90 | 103.66 | 2.41 | 8.85 | 0.00 | 0.00 | 2.41 | 2.41 |
| # Bus172 | 33.000 | 99.88 | 99.91 | 103.62 | 2.37 | 8.79 | 0.00 | 0.00 | 2.37 | 2.37 |
| # Bus173 | 33.000 | 99.85 | 99.88 | 103.63 | 2.41 | 8.84 | 0.00 | 0.00 | 2.41 | 2.41 |
| # * Bus175 | 0.400 | 98.64 | 98.73 | 106.08 | 4.24 | 9.23 | 0.00 | 0.00 | 4.24 | 4.24 |
| # Bus176 | 33.000 | 99.84 | 99.87 | 103.63 | 2.42 | 8.85 | 0.00 | 0.00 | 2.42 | 2.42 |
| # * Bus178 | 0.400 | 98.28 | 98.36 | 105.50 | 4.16 | 8.66 | 0.00 | 0.00 | 4.16 | 4.16 |
| # Bus179 | 33.000 | 99.84 | 99.87 | 103.63 | 2.42 | 8.85 | 0.00 | 0.00 | 2.42 | 2.42 |
| # Bus180 | 33.000 | 99.82 | 99.85 | 103.64 | 2.44 | 8.88 | 0.00 | 0.00 | 2.44 | 2.44 |
| # Bus181 | 33.000 | 99.81 | 99.84 | 103.65 | 2.45 | 8.90 | 0.00 | 0.00 | 2.45 | 2.45 |

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| Bus | | Voltage Distortion | | | | | | | | |
|------------|--------|--------------------|----------|-----------|----------|--------|-----------|-----------|-----------|-----------|
| ID | kV | Fund. % | RMS % | ASUM % | THD % | TIF | TIHD % | TSHD % | THDG % | THDS % |
| # * Bus183 | 0.400 | 99.04 | 99.14 | 106.83 | 4.41 | 9.60 | 0.00 | 0.00 | 4.41 | 4.41 |
| # Bus184 | 33.000 | 99.81 | 99.84 | 103.65 | 2.45 | 8.90 | 0.00 | 0.00 | 2.45 | 2.45 |
| # Bus185 | 33.000 | 99.81 | 99.84 | 103.66 | 2.46 | 8.91 | 0.00 | 0.00 | 2.46 | 2.46 |
| # * Bus188 | 0.400 | 99.48 | 99.58 | 107.48 | 4.49 | 10.34 | 0.00 | 0.00 | 4.49 | 4.49 |
| # Bus189 | 33.000 | 99.81 | 99.84 | 103.66 | 2.46 | 8.91 | 0.00 | 0.00 | 2.46 | 2.46 |
| # * Bus191 | 0.400 | 99.56 | 99.66 | 107.60 | 4.50 | 10.46 | 0.00 | 0.00 | 4.50 | 4.50 |
| # Bus192 | 33.000 | 99.81 | 99.84 | 103.66 | 2.46 | 8.91 | 0.00 | 0.00 | 2.46 | 2.46 |
| # Bus193 | 33.000 | 99.81 | 99.84 | 103.66 | 2.46 | 8.91 | 0.00 | 0.00 | 2.46 | 2.46 |
| # Bus194 | 33.000 | 99.82 | 99.85 | 103.64 | 2.44 | 8.89 | 0.00 | 0.00 | 2.44 | 2.44 |
| # Bus195 | 33.000 | 99.81 | 99.84 | 103.64 | 2.45 | 8.90 | 0.00 | 0.00 | 2.45 | 2.45 |
| # Bus196 | 33.000 | 99.81 | 99.84 | 103.64 | 2.45 | 8.90 | 0.00 | 0.00 | 2.45 | 2.45 |
| # Bus197 | 33.000 | 99.81 | 99.84 | 103.64 | 2.45 | 8.90 | 0.00 | 0.00 | 2.45 | 2.45 |
| # Bus198 | 33.000 | 99.80 | 99.83 | 103.64 | 2.45 | 8.90 | 0.00 | 0.00 | 2.45 | 2.45 |
| # * Bus200 | 0.400 | 98.74 | 98.83 | 106.58 | 4.46 | 9.62 | 0.00 | 0.00 | 4.46 | 4.46 |
| # Bus201 | 33.000 | 99.80 | 99.83 | 103.64 | 2.46 | 8.91 | 0.00 | 0.00 | 2.46 | 2.46 |
| # * Bus203 | 0.400 | 99.49 | 99.59 | 107.52 | 4.50 | 10.44 | 0.00 | 0.00 | 4.50 | 4.50 |
| # Bus204 | 33.000 | 99.80 | 99.83 | 103.64 | 2.46 | 8.91 | 0.00 | 0.00 | 2.46 | 2.46 |
| # Bus205 | 33.000 | 99.80 | 99.83 | 103.64 | 2.46 | 8.91 | 0.00 | 0.00 | 2.46 | 2.46 |
| # Bus206 | 33.000 | 99.80 | 99.83 | 103.64 | 2.46 | 8.91 | 0.00 | 0.00 | 2.46 | 2.46 |
| # * Bus208 | 0.400 | 99.31 | 99.41 | 107.32 | 4.50 | 10.14 | 0.00 | 0.00 | 4.50 | 4.50 |
| # Bus209 | 33.000 | 99.80 | 99.83 | 103.64 | 2.45 | 8.91 | 0.00 | 0.00 | 2.45 | 2.45 |
| # * Bus211 | 0.400 | 99.05 | 99.15 | 106.98 | 4.48 | 9.82 | 0.00 | 0.00 | 4.48 | 4.48 |
| # * Bus212 | 0.400 | 99.64 | 99.83 | 116.07 | 6.13 | 225.21 | 0.00 | 0.00 | 6.13 | 6.13 |
| # Bus213 | 33.000 | 99.76 | 99.79 | 103.73 | 2.37 | 11.95 | 0.00 | 0.00 | 2.37 | 2.37 |

* Indicates THD (Total Harmonic Distortion) Exceeds the Limit.

Indicates IHD (Individual Harmonic Distortion) Exceeds the Limit.

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System Harmonics Branch Information

| Bus | | Current Distortion | | | | | | | | | | | |
|-------------|-----------|--------------------|------------|-------------|----------|-------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| From Bus ID | To Bus ID | Fund. Amp | RMS Amp | ASUM Amp | THD % | TIF | IT Amp | ITB Amp | ITR Amp | TIHD % | TSHD % | THDG % | THDS % |
| Bus1 | Bus2 | 101.06 | 104.60 | 139.25 | 26.73 | 57.00 | 5962.71 | 5962.71 | 0.00 | 0.00 | 0.00 | 26.73 | 26.73 |
| Bus2 | Bus3 | 33.37 | 35.23 | 48.53 | 33.83 | 62.83 | 2213.46 | 2213.46 | 0.00 | 0.00 | 0.00 | 33.83 | 33.83 |
| | Bus21 | 67.69 | 69.50 | 90.91 | 23.30 | 58.72 | 4081.05 | 4081.05 | 0.00 | 0.00 | 0.00 | 23.30 | 23.30 |
| | Bus1 | 101.06 | 104.60 | 139.25 | 26.73 | 57.00 | 5962.71 | 5962.71 | 0.00 | 0.00 | 0.00 | 26.73 | 26.73 |
| Bus3 | Bus2 | 33.37 | 35.23 | 48.53 | 33.83 | 62.83 | 2213.46 | 2213.46 | 0.00 | 0.00 | 0.00 | 33.83 | 33.83 |
| | Bus4 | 33.37 | 35.23 | 48.53 | 33.83 | 62.83 | 2213.46 | 2213.46 | 0.00 | 0.00 | 0.00 | 33.83 | 33.83 |
| Bus4 | Bus3 | 33.37 | 35.23 | 48.53 | 33.83 | 62.83 | 2213.46 | 2213.46 | 0.00 | 0.00 | 0.00 | 33.83 | 33.83 |
| | Bus6 | 31.78 | 33.57 | 46.33 | 34.08 | 63.26 | 2123.89 | 2123.89 | 0.00 | 0.00 | 0.00 | 34.08 | 34.08 |
| | Bus5 | 1.61 | 1.62 | 1.92 | 14.06 | 28.56 | 46.40 | 46.40 | 0.00 | 0.00 | 0.00 | 14.06 | 14.06 |
| Bus5 | Bus4 | 132.74 | 151.86 | 229.65 | 55.58 | 26.90 | 4085.27 | 3827.79 | 1427.41 | 0.00 | 0.00 | 55.58 | 55.58 |
| Bus6 | Bus4 | 31.78 | 33.57 | 46.33 | 34.08 | 63.26 | 2123.89 | 2123.89 | 0.00 | 0.00 | 0.00 | 34.08 | 34.08 |
| | Bus7 | 31.78 | 33.57 | 46.33 | 34.08 | 63.26 | 2123.89 | 2123.89 | 0.00 | 0.00 | 0.00 | 34.08 | 34.08 |
| Bus7 | Bus9 | 27.96 | 29.58 | 40.93 | 34.56 | 64.05 | 1894.62 | 1894.62 | 0.00 | 0.00 | 0.00 | 34.56 | 34.56 |
| | Bus6 | 31.78 | 33.57 | 46.33 | 34.08 | 63.26 | 2123.89 | 2123.89 | 0.00 | 0.00 | 0.00 | 34.08 | 34.08 |
| | Bus8 | 3.82 | 3.87 | 4.63 | 15.30 | 31.34 | 121.27 | 121.27 | 0.00 | 0.00 | 0.00 | 15.30 | 15.30 |
| Bus8 | Bus7 | 315.52 | 366.82 | 562.55 | 59.29 | 29.00 | 10638.13 | 10005.06 | 3615.06 | 0.00 | 0.00 | 59.29 | 59.29 |
| Bus9 | Bus7 | 27.96 | 29.58 | 40.93 | 34.56 | 64.05 | 1894.62 | 1894.62 | 0.00 | 0.00 | 0.00 | 34.56 | 34.56 |
| | Bus10 | 6.51 | 6.80 | 9.13 | 29.97 | 56.14 | 381.50 | 381.50 | 0.00 | 0.00 | 0.00 | 29.97 | 29.97 |
| | Bus145 | 21.45 | 22.79 | 31.80 | 35.96 | 66.39 | 1513.19 | 1513.19 | 0.00 | 0.00 | 0.00 | 35.96 | 35.96 |
| Bus10 | Bus11 | 0.72 | 0.78 | 1.12 | 40.89 | 74.32 | 57.89 | 57.89 | 0.00 | 0.00 | 0.00 | 40.89 | 40.89 |
| | Bus9 | 6.51 | 6.80 | 9.13 | 29.97 | 56.14 | 381.50 | 381.50 | 0.00 | 0.00 | 0.00 | 29.97 | 29.97 |
| | Bus13 | 5.79 | 6.02 | 8.01 | 28.60 | 53.75 | 323.68 | 323.68 | 0.00 | 0.00 | 0.00 | 28.60 | 28.60 |
| Bus11 | Bus10 | 0.72 | 0.78 | 1.12 | 40.89 | 74.32 | 57.89 | 57.89 | 0.00 | 0.00 | 0.00 | 40.89 | 40.89 |
| | Bus12 | 0.72 | 0.74 | 0.92 | 20.35 | 40.38 | 29.71 | 29.71 | 0.00 | 0.00 | 0.00 | 20.35 | 20.35 |
| Bus12 | Bus11 | 59.48 | 76.07 | 121.79 | 79.73 | 34.40 | 2617.17 | 2451.23 | 917.08 | 0.00 | 0.00 | 79.73 | 79.73 |
| Bus13 | Bus15 | 4.71 | 4.86 | 6.32 | 25.32 | 47.86 | 232.69 | 232.69 | 0.00 | 0.00 | 0.00 | 25.32 | 25.32 |
| | Bus10 | 5.79 | 6.02 | 8.01 | 28.60 | 53.75 | 323.68 | 323.68 | 0.00 | 0.00 | 0.00 | 28.60 | 28.60 |
| | Bus14 | 1.08 | 1.10 | 1.39 | 21.55 | 42.82 | 47.15 | 47.15 | 0.00 | 0.00 | 0.00 | 21.55 | 21.55 |
| Bus14 | Bus13 | 88.80 | 115.75 | 186.58 | 83.61 | 35.82 | 4146.00 | 3889.84 | 1434.73 | 0.00 | 0.00 | 83.61 | 83.61 |
| Bus15 | Bus17 | 1.27 | 1.36 | 1.89 | 36.23 | 66.83 | 90.58 | 90.58 | 0.00 | 0.00 | 0.00 | 36.23 | 36.23 |
| | Bus13 | 4.71 | 4.86 | 6.32 | 25.32 | 47.86 | 232.69 | 232.69 | 0.00 | 0.00 | 0.00 | 25.32 | 25.32 |
| | Bus20 | 3.44 | 3.46 | 3.94 | 10.50 | 21.96 | 75.95 | 75.95 | 0.00 | 0.00 | 0.00 | 10.50 | 10.50 |
| Bus17 | Bus15 | 1.27 | 1.36 | 1.89 | 36.23 | 66.83 | 90.58 | 90.58 | 0.00 | 0.00 | 0.00 | 36.23 | 36.23 |
| | Bus18 | 1.27 | 1.36 | 1.89 | 36.23 | 66.83 | 90.58 | 90.58 | 0.00 | 0.00 | 0.00 | 36.23 | 36.23 |
| Bus18 | Bus17 | 1.27 | 1.36 | 1.89 | 36.23 | 66.83 | 90.58 | 90.58 | 0.00 | 0.00 | 0.00 | 36.23 | 36.23 |
| | Bus19 | 1.27 | 1.29 | 1.59 | 18.05 | 36.26 | 46.96 | 46.96 | 0.00 | 0.00 | 0.00 | 18.05 | 18.05 |
| Bus19 | Bus18 | 105.13 | 128.65 | 202.70 | 70.52 | 32.11 | 4130.87 | 3874.21 | 1433.38 | 0.00 | 0.00 | 70.52 | 70.52 |
| Bus20 | Bus15 | 283.75 | 307.35 | 439.21 | 41.62 | 21.70 | 6669.48 | 6265.56 | 2285.77 | 0.00 | 0.00 | 41.62 | 41.62 |
| Bus21 | Bus2 | 67.69 | 69.50 | 90.91 | 23.30 | 58.72 | 4081.05 | 4081.05 | 0.00 | 0.00 | 0.00 | 23.30 | 23.30 |
| | Bus24 | 65.63 | 67.39 | 88.25 | 23.34 | 59.55 | 4013.30 | 4013.30 | 0.00 | 0.00 | 0.00 | 23.34 | 23.34 |
| | Bus22 | 2.06 | 2.07 | 2.37 | 10.84 | 22.34 | 46.25 | 46.25 | 0.00 | 0.00 | 0.00 | 10.84 | 10.84 |

Project:
Location:
Contract:
Engineer:
Filename: BALANCE LAOD avareg

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Study Case: HA

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| Bus | | Current Distortion | | | | | | | | | | | |
|-------------|-----------|--------------------|------------|-------------|----------|-------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| From Bus ID | To Bus ID | Fund. Amp | RMS Amp | ASUM Amp | THD % | TIF | IT Amp | ITB Amp | ITR Amp | TIHD % | TSHD % | THDG % | THDS % |
| Bus22 | Bus21 | 169.83 | 185.10 | 266.42 | 43.35 | 22.01 | 4073.41 | 3815.81 | 1425.59 | 0.00 | 0.00 | 43.35 | 43.35 |
| Bus24 | Bus28 | 59.88 | 61.47 | 80.59 | 23.17 | 61.87 | 3802.62 | 3802.62 | 0.00 | 0.00 | 0.00 | 23.17 | 23.17 |
| | Bus26 | 0.72 | 0.78 | 1.12 | 40.91 | 74.34 | 57.90 | 57.90 | 0.00 | 0.00 | 0.00 | 40.91 | 40.91 |
| | Bus21 | 65.63 | 67.39 | 88.25 | 23.34 | 59.55 | 4013.30 | 4013.30 | 0.00 | 0.00 | 0.00 | 23.34 | 23.34 |
| | Bus25 | 5.04 | 5.07 | 5.84 | 11.45 | 23.95 | 121.52 | 121.52 | 0.00 | 0.00 | 0.00 | 11.45 | 11.45 |
| | Bus24 | 415.84 | 455.72 | 661.92 | 44.83 | 23.38 | 10654.26 | 10025.80 | 3605.10 | 0.00 | 0.00 | 44.83 | 44.83 |
| Bus26 | Bus24 | 0.72 | 0.78 | 1.12 | 40.91 | 74.34 | 57.90 | 57.90 | 0.00 | 0.00 | 0.00 | 40.91 | 40.91 |
| | Bus27 | 0.72 | 0.74 | 0.92 | 20.37 | 40.40 | 29.72 | 29.72 | 0.00 | 0.00 | 0.00 | 20.37 | 20.37 |
| Bus27 | Bus26 | 59.48 | 76.07 | 121.80 | 79.74 | 34.41 | 2617.82 | 2451.92 | 917.08 | 0.00 | 0.00 | 79.74 | 79.74 |
| Bus28 | Bus31 | 58.08 | 59.55 | 77.80 | 22.62 | 62.08 | 3696.39 | 3696.39 | 0.00 | 0.00 | 0.00 | 22.62 | 22.62 |
| | Bus24 | 59.88 | 61.47 | 80.59 | 23.17 | 61.87 | 3802.62 | 3802.62 | 0.00 | 0.00 | 0.00 | 23.17 | 23.17 |
| | Bus30 | 1.80 | 1.84 | 2.31 | 20.78 | 41.57 | 76.46 | 76.46 | 0.00 | 0.00 | 0.00 | 20.78 | 20.78 |
| Bus30 | Bus28 | 148.57 | 190.35 | 305.62 | 80.09 | 35.27 | 6713.30 | 6307.59 | 2298.42 | 0.00 | 0.00 | 80.09 | 80.09 |
| Bus31 | Bus32 | 5.70 | 5.82 | 7.30 | 20.80 | 39.52 | 230.19 | 230.19 | 0.00 | 0.00 | 0.00 | 20.80 | 20.80 |
| | Bus28 | 58.08 | 59.55 | 77.80 | 22.62 | 62.08 | 3696.39 | 3696.39 | 0.00 | 0.00 | 0.00 | 22.62 | 22.62 |
| | Bus38 | 52.38 | 53.73 | 70.55 | 22.86 | 65.86 | 3538.27 | 3538.27 | 0.00 | 0.00 | 0.00 | 22.86 | 22.86 |
| Bus32 | Bus31 | 5.70 | 5.82 | 7.30 | 20.80 | 39.52 | 230.19 | 230.19 | 0.00 | 0.00 | 0.00 | 20.80 | 20.80 |
| | Bus35 | 1.66 | 1.72 | 2.28 | 27.55 | 51.85 | 89.43 | 89.43 | 0.00 | 0.00 | 0.00 | 27.55 | 27.55 |
| | Bus34 | 4.04 | 4.06 | 4.54 | 8.86 | 18.80 | 76.26 | 76.26 | 0.00 | 0.00 | 0.00 | 8.86 | 8.86 |
| Bus34 | Bus32 | 333.34 | 353.56 | 488.47 | 35.35 | 18.93 | 6692.21 | 6291.19 | 2281.78 | 0.00 | 0.00 | 35.35 | 35.35 |
| Bus35 | Bus32 | 1.66 | 1.72 | 2.28 | 27.55 | 51.85 | 89.43 | 89.43 | 0.00 | 0.00 | 0.00 | 27.55 | 27.55 |
| | Bus37 | 1.66 | 1.68 | 1.97 | 13.60 | 27.76 | 46.59 | 46.59 | 0.00 | 0.00 | 0.00 | 13.60 | 13.60 |
| Bus37 | Bus35 | 137.19 | 155.81 | 234.24 | 53.84 | 26.32 | 4100.58 | 3843.42 | 1429.29 | 0.00 | 0.00 | 53.84 | 53.84 |
| Bus38 | Bus42 | 7.74 | 7.93 | 10.07 | 22.44 | 42.62 | 338.02 | 338.02 | 0.00 | 0.00 | 0.00 | 22.44 | 22.44 |
| | Bus31 | 52.38 | 53.73 | 70.55 | 22.86 | 65.86 | 3538.27 | 3538.27 | 0.00 | 0.00 | 0.00 | 22.86 | 22.86 |
| | Bus53 | 44.65 | 45.81 | 60.55 | 23.00 | 72.49 | 3320.83 | 3320.83 | 0.00 | 0.00 | 0.00 | 23.00 | 23.00 |
| Bus41 | Bus42 | 415.99 | 455.85 | 662.06 | 44.81 | 23.40 | 10666.48 | 10038.78 | 3605.10 | 0.00 | 0.00 | 44.81 | 44.81 |
| Bus42 | Bus38 | 7.74 | 7.93 | 10.07 | 22.44 | 42.62 | 338.02 | 338.02 | 0.00 | 0.00 | 0.00 | 22.44 | 22.44 |
| | Bus43 | 2.70 | 2.76 | 3.47 | 21.33 | 40.39 | 111.49 | 111.49 | 0.00 | 0.00 | 0.00 | 21.33 | 21.33 |
| | Bus41 | 5.04 | 5.08 | 5.84 | 11.43 | 23.98 | 121.68 | 121.68 | 0.00 | 0.00 | 0.00 | 11.43 | 11.43 |
| | Bus43 | 2.70 | 2.76 | 3.47 | 21.33 | 40.39 | 111.49 | 111.49 | 0.00 | 0.00 | 0.00 | 21.33 | 21.33 |
| Bus43 | Bus44 | 2.70 | 2.76 | 3.47 | 21.33 | 40.39 | 111.49 | 111.49 | 0.00 | 0.00 | 0.00 | 21.33 | 21.33 |
| | Bus47 | 0.62 | 0.69 | 1.02 | 47.38 | 84.26 | 58.19 | 58.19 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| Bus44 | Bus43 | 2.70 | 2.76 | 3.47 | 21.33 | 40.39 | 111.49 | 111.49 | 0.00 | 0.00 | 0.00 | 21.33 | 21.33 |
| | Bus46 | 2.08 | 2.08 | 2.26 | 6.43 | 13.57 | 28.23 | 28.23 | 0.00 | 0.00 | 0.00 | 6.43 | 6.43 |
| Bus46 | Bus44 | 171.26 | 177.44 | 231.65 | 27.11 | 14.07 | 2497.30 | 2328.63 | 902.22 | 0.00 | 0.00 | 27.11 | 27.11 |
| Bus47 | Bus44 | 0.62 | 0.69 | 1.02 | 47.38 | 84.26 | 58.19 | 58.19 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| | Bus51 | 0.62 | 0.69 | 1.02 | 47.38 | 84.26 | 58.19 | 58.19 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| Bus51 | Bus47 | 0.62 | 0.69 | 1.02 | 47.38 | 84.26 | 58.19 | 58.19 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| | Bus52 | 0.62 | 0.64 | 0.82 | 23.68 | 46.57 | 29.86 | 29.86 | 0.00 | 0.00 | 0.00 | 23.68 | 23.68 |
| Bus52 | Bus51 | 51.48 | 70.03 | 113.93 | 92.22 | 37.54 | 2629.08 | 2463.71 | 917.72 | 0.00 | 0.00 | 92.22 | 92.22 |
| Bus53 | Bus54 | 44.65 | 45.81 | 60.55 | 23.00 | 72.49 | 3320.83 | 3320.83 | 0.00 | 0.00 | 0.00 | 23.00 | 23.00 |
| | Bus38 | 44.65 | 45.81 | 60.55 | 23.00 | 72.49 | 3320.83 | 3320.83 | 0.00 | 0.00 | 0.00 | 23.00 | 23.00 |

Project:
Location:
Contract:
Engineer:
Filename: BALANCE LAOD avareg

ETAP
12.6.0H

Study Case: HA

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Revision: Base
Config.: Normal

| Bus | | Current Distortion | | | | | | | | | | | |
|-------------|-----------|--------------------|------------|-------------|----------|--------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| From Bus ID | To Bus ID | Fund. Amp | RMS Amp | ASUM Amp | THD % | TIF | IT Amp | ITB Amp | ITR Amp | TIHD % | TSHD % | THDG % | THDS % |
| Bus54 | Bus57 | 43.93 | 45.04 | 59.44 | 22.72 | 72.92 | 3284.74 | 3284.74 | 0.00 | 0.00 | 0.00 | 22.72 | 22.72 |
| | Bus53 | 44.65 | 45.81 | 60.55 | 23.00 | 72.49 | 3320.83 | 3320.83 | 0.00 | 0.00 | 0.00 | 23.00 | 23.00 |
| | Bus56 | 0.72 | 0.74 | 0.92 | 20.33 | 40.38 | 29.72 | 29.72 | 0.00 | 0.00 | 0.00 | 20.33 | 20.33 |
| Bus56 | Bus54 | 59.51 | 76.09 | 121.83 | 79.69 | 34.41 | 2618.13 | 2452.26 | 917.08 | 0.00 | 0.00 | 79.69 | 79.69 |
| Bus57 | Bus54 | 43.93 | 45.04 | 59.44 | 22.72 | 72.92 | 3284.74 | 3284.74 | 0.00 | 0.00 | 0.00 | 22.72 | 22.72 |
| | Bus63 | 36.49 | 37.44 | 49.90 | 23.05 | 82.99 | 3107.21 | 3107.21 | 0.00 | 0.00 | 0.00 | 23.05 | 23.05 |
| | Bus60 | 2.43 | 2.47 | 3.04 | 18.65 | 35.38 | 87.55 | 87.55 | 0.00 | 0.00 | 0.00 | 18.65 | 18.65 |
| | Bus59 | 5.04 | 5.08 | 5.84 | 11.42 | 24.00 | 121.83 | 121.83 | 0.00 | 0.00 | 0.00 | 11.42 | 11.42 |
| Bus59 | Bus57 | 416.08 | 455.93 | 662.16 | 44.80 | 23.42 | 10677.62 | 10050.61 | 3605.10 | 0.00 | 0.00 | 44.80 | 44.80 |
| Bus60 | Bus57 | 2.43 | 2.47 | 3.04 | 18.65 | 35.38 | 87.55 | 87.55 | 0.00 | 0.00 | 0.00 | 18.65 | 18.65 |
| | Bus62 | 2.43 | 2.44 | 2.74 | 9.11 | 19.10 | 46.66 | 46.66 | 0.00 | 0.00 | 0.00 | 9.11 | 9.11 |
| Bus62 | Bus60 | 200.68 | 213.77 | 297.36 | 36.71 | 19.21 | 4105.55 | 3849.48 | 1427.25 | 0.00 | 0.00 | 36.71 | 36.71 |
| Bus63 | Bus57 | 36.49 | 37.44 | 49.90 | 23.05 | 82.99 | 3107.21 | 3107.21 | 0.00 | 0.00 | 0.00 | 23.05 | 23.05 |
| | Bus64 | 36.49 | 37.44 | 49.90 | 23.05 | 82.99 | 3107.21 | 3107.21 | 0.00 | 0.00 | 0.00 | 23.05 | 23.05 |
| Bus64 | Bus69 | 1.73 | 1.88 | 2.73 | 43.08 | 77.94 | 146.60 | 146.60 | 0.00 | 0.00 | 0.00 | 43.08 | 43.08 |
| | Bus63 | 36.49 | 37.44 | 49.90 | 23.05 | 82.99 | 3107.21 | 3107.21 | 0.00 | 0.00 | 0.00 | 23.05 | 23.05 |
| | Bus70 | 29.59 | 30.41 | 41.13 | 23.69 | 97.54 | 2966.38 | 2966.38 | 0.00 | 0.00 | 0.00 | 23.69 | 23.69 |
| | Bus66 | 5.17 | 5.18 | 5.66 | 6.79 | 14.85 | 76.95 | 76.95 | 0.00 | 0.00 | 0.00 | 6.79 | 6.79 |
| Bus66 | Bus64 | 426.52 | 442.33 | 580.75 | 27.48 | 15.24 | 6742.49 | 6348.40 | 2271.33 | 0.00 | 0.00 | 27.48 | 27.48 |
| Bus68 | Bus69 | 142.51 | 185.66 | 299.58 | 83.50 | 36.17 | 6715.88 | 6310.32 | 2298.46 | 0.00 | 0.00 | 83.50 | 83.50 |
| | Bus64 | 1.73 | 1.88 | 2.73 | 43.08 | 77.94 | 146.60 | 146.60 | 0.00 | 0.00 | 0.00 | 43.08 | 43.08 |
| Bus70 | Bus68 | 1.73 | 1.77 | 2.24 | 21.66 | 43.27 | 76.49 | 76.49 | 0.00 | 0.00 | 0.00 | 21.66 | 21.66 |
| | Bus83 | 21.08 | 21.61 | 29.59 | 22.68 | 128.49 | 2776.78 | 2776.78 | 0.00 | 0.00 | 0.00 | 22.68 | 22.68 |
| | Bus64 | 29.59 | 30.41 | 41.13 | 23.69 | 97.54 | 2966.38 | 2966.38 | 0.00 | 0.00 | 0.00 | 23.69 | 23.69 |
| | Bus73 | 4.47 | 4.77 | 6.71 | 37.21 | 68.48 | 326.92 | 326.92 | 0.00 | 0.00 | 0.00 | 37.21 | 37.21 |
| Bus72 | Bus72 | 4.04 | 4.06 | 4.54 | 8.84 | 18.88 | 76.62 | 76.62 | 0.00 | 0.00 | 0.00 | 8.84 | 8.84 |
| | Bus70 | 333.54 | 353.74 | 488.70 | 35.33 | 19.00 | 6720.42 | 6321.20 | 2281.78 | 0.00 | 0.00 | 35.33 | 35.33 |
| | Bus76 | 2.82 | 2.96 | 4.05 | 32.68 | 60.82 | 180.22 | 180.22 | 0.00 | 0.00 | 0.00 | 32.68 | 32.68 |
| | Bus70 | 4.47 | 4.77 | 6.71 | 37.21 | 68.48 | 326.92 | 326.92 | 0.00 | 0.00 | 0.00 | 37.21 | 37.21 |
| Bus75 | Bus75 | 1.66 | 1.70 | 2.17 | 22.58 | 44.98 | 76.51 | 76.51 | 0.00 | 0.00 | 0.00 | 22.58 | 22.58 |
| | Bus73 | 136.88 | 181.38 | 293.98 | 86.95 | 37.04 | 6717.56 | 6312.04 | 2298.65 | 0.00 | 0.00 | 86.95 | 86.95 |
| | Bus79 | 1.87 | 1.92 | 2.48 | 24.43 | 46.17 | 88.88 | 88.88 | 0.00 | 0.00 | 0.00 | 24.43 | 24.43 |
| | Bus73 | 2.82 | 2.96 | 4.05 | 32.68 | 60.82 | 180.22 | 180.22 | 0.00 | 0.00 | 0.00 | 32.68 | 32.68 |
| Bus78 | Bus78 | 0.95 | 0.98 | 1.26 | 24.63 | 48.56 | 47.36 | 47.36 | 0.00 | 0.00 | 0.00 | 24.63 | 24.63 |
| | Bus76 | 78.13 | 107.84 | 176.13 | 95.15 | 38.60 | 4162.62 | 3907.05 | 1436.10 | 0.00 | 0.00 | 95.15 | 95.15 |
| | Bus79 | 1.87 | 1.92 | 2.48 | 24.43 | 46.17 | 88.88 | 88.88 | 0.00 | 0.00 | 0.00 | 24.43 | 24.43 |
| | Bus82 | 1.87 | 1.92 | 2.48 | 24.43 | 46.17 | 88.88 | 88.88 | 0.00 | 0.00 | 0.00 | 24.43 | 24.43 |
| Bus81 | Bus82 | 154.27 | 171.03 | 251.26 | 47.85 | 24.03 | 4109.00 | 3852.43 | 1429.21 | 0.00 | 0.00 | 47.85 | 47.85 |
| Bus82 | Bus79 | 1.87 | 1.92 | 2.48 | 24.43 | 46.17 | 88.88 | 88.88 | 0.00 | 0.00 | 0.00 | 24.43 | 24.43 |
| | Bus81 | 1.87 | 1.88 | 2.18 | 12.01 | 24.79 | 46.70 | 46.70 | 0.00 | 0.00 | 0.00 | 12.01 | 12.01 |
| | Bus70 | 21.08 | 21.61 | 29.59 | 22.68 | 128.49 | 2776.78 | 2776.78 | 0.00 | 0.00 | 0.00 | 22.68 | 22.68 |
| Bus83 | Bus87 | 19.03 | 19.52 | 26.98 | 23.00 | 140.78 | 2748.61 | 2748.61 | 0.00 | 0.00 | 0.00 | 23.00 | 23.00 |
| | Bus86 | 2.06 | 2.11 | 2.67 | 22.17 | 42.00 | 88.46 | 88.46 | 0.00 | 0.00 | 0.00 | 22.17 | 22.17 |

Project:
Location:
Contract:
Engineer:
Filename: BALANCE LAOD avareg

ETAP
12.6.0H

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Revision: Base
Config.: Normal

| Bus | | Current Distortion | | | | | | | | | | | |
|-------------|-----------|--------------------|------------|-------------|----------|--------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| From Bus ID | To Bus ID | Fund. Amp | RMS Amp | ASUM Amp | THD % | TIF | IT Amp | ITB Amp | ITR Amp | TIHD % | TSHD % | THDG % | THDS % |
| Bus85 | Bus86 | 169.63 | 184.98 | 266.55 | 43.50 | 22.23 | 4112.75 | 3856.54 | 1428.92 | 0.00 | 0.00 | 43.50 | 43.50 |
| Bus86 | Bus83 | 2.06 | 2.11 | 2.67 | 22.17 | 42.00 | 88.46 | 88.46 | 0.00 | 0.00 | 0.00 | 22.17 | 22.17 |
| | Bus85 | 2.06 | 2.07 | 2.36 | 10.88 | 22.60 | 46.75 | 46.75 | 0.00 | 0.00 | 0.00 | 10.88 | 10.88 |
| Bus87 | Bus83 | 19.03 | 19.52 | 26.98 | 23.00 | 140.78 | 2748.61 | 2748.61 | 0.00 | 0.00 | 0.00 | 23.00 | 23.00 |
| | Bus90 | 17.08 | 17.53 | 24.48 | 23.34 | 155.30 | 2722.93 | 2722.93 | 0.00 | 0.00 | 0.00 | 23.34 | 23.34 |
| | Bus89 | 1.95 | 1.97 | 2.26 | 11.44 | 23.70 | 46.57 | 46.57 | 0.00 | 0.00 | 0.00 | 11.44 | 11.44 |
| Bus89 | Bus87 | 161.09 | 177.15 | 257.87 | 45.74 | 23.14 | 4098.54 | 3842.08 | 1427.04 | 0.00 | 0.00 | 45.74 | 45.74 |
| Bus90 | Bus113 | 5.07 | 5.51 | 9.76 | 42.46 | 474.07 | 2613.61 | 2613.61 | 0.00 | 0.00 | 0.00 | 42.46 | 42.46 |
| | Bus93 | 9.24 | 9.80 | 13.66 | 35.56 | 65.80 | 645.16 | 645.16 | 0.00 | 0.00 | 0.00 | 35.56 | 35.56 |
| | Bus87 | 17.08 | 17.53 | 24.48 | 23.34 | 155.30 | 2722.93 | 2722.93 | 0.00 | 0.00 | 0.00 | 23.34 | 23.34 |
| | Bus92 | 3.07 | 3.09 | 3.57 | 11.83 | 24.74 | 76.43 | 76.43 | 0.00 | 0.00 | 0.00 | 11.83 | 11.83 |
| Bus92 | Bus90 | 253.12 | 279.38 | 408.96 | 46.71 | 24.01 | 6707.57 | 6305.34 | 2287.84 | 0.00 | 0.00 | 46.71 | 46.71 |
| Bus93 | Bus96 | 7.63 | 8.13 | 11.43 | 37.07 | 68.32 | 555.75 | 555.75 | 0.00 | 0.00 | 0.00 | 37.07 | 37.07 |
| | Bus90 | 9.24 | 9.80 | 13.66 | 35.56 | 65.80 | 645.16 | 645.16 | 0.00 | 0.00 | 0.00 | 35.56 | 35.56 |
| | Bus95 | 1.61 | 1.63 | 1.92 | 13.99 | 28.61 | 46.55 | 46.55 | 0.00 | 0.00 | 0.00 | 13.99 | 13.99 |
| Bus95 | Bus93 | 132.93 | 152.02 | 229.85 | 55.48 | 26.95 | 4096.80 | 3840.09 | 1427.41 | 0.00 | 0.00 | 55.48 | 55.48 |
| Bus96 | Bus93 | 7.63 | 8.13 | 11.43 | 37.07 | 68.32 | 555.75 | 555.75 | 0.00 | 0.00 | 0.00 | 37.07 | 37.07 |
| | Bus103 | 3.82 | 3.93 | 5.05 | 23.85 | 45.14 | 177.34 | 177.34 | 0.00 | 0.00 | 0.00 | 23.85 | 23.85 |
| | Bus99 | 2.16 | 2.46 | 3.74 | 54.28 | 94.50 | 232.61 | 232.61 | 0.00 | 0.00 | 0.00 | 54.28 | 54.28 |
| | Bus98 | 1.80 | 1.84 | 2.31 | 20.72 | 41.61 | 76.59 | 76.59 | 0.00 | 0.00 | 0.00 | 20.72 | 20.72 |
| Bus98 | Bus96 | 148.71 | 190.45 | 305.79 | 80.01 | 35.31 | 6723.95 | 6318.92 | 2298.42 | 0.00 | 0.00 | 80.01 | 80.01 |
| Bus99 | Bus102 | 2.16 | 2.46 | 3.74 | 54.28 | 94.50 | 232.61 | 232.61 | 0.00 | 0.00 | 0.00 | 54.28 | 54.28 |
| | Bus96 | 2.16 | 2.46 | 3.74 | 54.28 | 94.50 | 232.61 | 232.61 | 0.00 | 0.00 | 0.00 | 54.28 | 54.28 |
| Bus101 | Bus102 | 178.47 | 258.69 | 425.83 | 104.93 | 40.90 | 10580.75 | 9944.09 | 3614.88 | 0.00 | 0.00 | 104.93 | 104.93 |
| Bus102 | Bus99 | 2.16 | 2.46 | 3.74 | 54.28 | 94.50 | 232.61 | 232.61 | 0.00 | 0.00 | 0.00 | 54.28 | 54.28 |
| | Bus101 | 2.16 | 2.24 | 2.97 | 27.45 | 53.73 | 120.53 | 120.53 | 0.00 | 0.00 | 0.00 | 27.45 | 27.45 |
| Bus103 | Bus96 | 3.82 | 3.93 | 5.05 | 23.85 | 45.14 | 177.34 | 177.34 | 0.00 | 0.00 | 0.00 | 23.85 | 23.85 |
| | Bus106 | 2.16 | 2.20 | 2.77 | 21.04 | 39.92 | 88.02 | 88.02 | 0.00 | 0.00 | 0.00 | 21.04 | 21.04 |
| | Bus105 | 1.66 | 1.68 | 1.97 | 13.56 | 27.83 | 46.74 | 46.74 | 0.00 | 0.00 | 0.00 | 13.56 | 13.56 |
| Bus105 | Bus103 | 137.32 | 155.91 | 234.39 | 53.78 | 26.38 | 4112.25 | 3855.87 | 1429.29 | 0.00 | 0.00 | 53.78 | 53.78 |
| Bus106 | Bus103 | 2.16 | 2.20 | 2.77 | 21.04 | 39.92 | 88.02 | 88.02 | 0.00 | 0.00 | 0.00 | 21.04 | 21.04 |
| | Bus108 | 2.16 | 2.17 | 2.46 | 10.28 | 21.48 | 46.60 | 46.60 | 0.00 | 0.00 | 0.00 | 10.28 | 10.28 |
| Bus108 | Bus106 | 178.00 | 192.61 | 274.61 | 41.34 | 21.29 | 4100.20 | 3844.38 | 1425.62 | 0.00 | 0.00 | 41.34 | 41.34 |
| Bus113 | Bus90 | 5.07 | 5.51 | 9.76 | 42.46 | 474.07 | 2613.61 | 2613.61 | 0.00 | 0.00 | 0.00 | 42.46 | 42.46 |
| | Bus114 | 5.07 | 5.51 | 9.76 | 42.46 | 474.07 | 2613.61 | 2613.61 | 0.00 | 0.00 | 0.00 | 42.46 | 42.46 |
| Bus114 | Bus113 | 5.07 | 5.51 | 9.76 | 42.46 | 474.07 | 2613.61 | 2613.61 | 0.00 | 0.00 | 0.00 | 42.46 | 42.46 |
| | Bus120 | 1.01 | 1.11 | 1.63 | 45.98 | 82.26 | 91.31 | 91.31 | 0.00 | 0.00 | 0.00 | 45.98 | 45.98 |
| | Bus121 | 3.05 | 3.99 | 8.24 | 84.26 | 656.95 | 2620.30 | 2620.30 | 0.00 | 0.00 | 0.00 | 84.26 | 84.26 |
| | Bus116 | 1.19 | 1.21 | 1.50 | 19.43 | 39.00 | 47.15 | 47.15 | 0.00 | 0.00 | 0.00 | 19.43 | 19.43 |
| Bus116 | Bus114 | 97.91 | 122.83 | 195.62 | 75.75 | 33.75 | 4145.42 | 3889.57 | 1433.79 | 0.00 | 0.00 | 75.75 | 75.75 |
| Bus119 | Bus120 | 83.20 | 111.54 | 181.13 | 89.29 | 37.29 | 4159.70 | 3904.19 | 1435.42 | 0.00 | 0.00 | 89.29 | 89.29 |
| Bus120 | Bus114 | 1.01 | 1.11 | 1.63 | 45.98 | 82.26 | 91.31 | 91.31 | 0.00 | 0.00 | 0.00 | 45.98 | 45.98 |
| | Bus119 | 1.01 | 1.03 | 1.33 | 23.06 | 45.73 | 47.32 | 47.32 | 0.00 | 0.00 | 0.00 | 23.06 | 23.06 |

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| Bus | | Current Distortion | | | | | | | | | | | |
|-------------|-----------|--------------------|------------|-------------|----------|--------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| From Bus ID | To Bus ID | Fund. Amp | RMS Amp | ASUM Amp | THD % | TIF | IT Amp | ITB Amp | ITR Amp | TIHD % | TSHD % | THDG % | THDS % |
| Bus121 | Bus124 | 3.03 | 3.11 | 4.01 | 24.11 | 45.62 | 142.07 | 142.07 | 0.00 | 0.00 | 0.00 | 24.11 | 24.11 |
| | Bus126 | 1.58 | 3.45 | 7.37 | 194.38 | 763.78 | 2636.38 | 2636.38 | 0.00 | 0.00 | 0.00 | 194.38 | 194.38 |
| | Bus114 | 3.05 | 3.99 | 8.24 | 84.26 | 656.95 | 2620.30 | 2620.30 | 0.00 | 0.00 | 0.00 | 84.26 | 84.26 |
| Bus124 | Bus121 | 3.03 | 3.11 | 4.01 | 24.11 | 45.62 | 142.07 | 142.07 | 0.00 | 0.00 | 0.00 | 24.11 | 24.11 |
| | Bus125 | 3.03 | 3.05 | 3.52 | 11.84 | 24.54 | 74.83 | 74.83 | 0.00 | 0.00 | 0.00 | 11.84 | 11.84 |
| Bus125 | Bus124 | 249.77 | 276.23 | 404.82 | 47.23 | 23.83 | 6582.13 | 6173.10 | 2284.15 | 0.00 | 0.00 | 47.23 | 47.23 |
| Bus126 | Bus127 | 2.91 | 4.49 | 9.13 | 117.60 | 589.78 | 2650.53 | 2650.53 | 0.00 | 0.00 | 0.00 | 117.60 | 117.60 |
| | Bus121 | 1.58 | 3.45 | 7.37 | 194.38 | 763.78 | 2636.38 | 2636.38 | 0.00 | 0.00 | 0.00 | 194.38 | 194.38 |
| | Bus142 | 2.06 | 2.11 | 2.67 | 22.05 | 41.84 | 88.33 | 88.33 | 0.00 | 0.00 | 0.00 | 22.05 | 22.05 |
| Bus127 | Bus126 | 2.91 | 4.49 | 9.13 | 117.60 | 589.78 | 2650.53 | 2650.53 | 0.00 | 0.00 | 0.00 | 117.60 | 117.60 |
| | Bus132 | 4.06 | 5.56 | 10.76 | 93.73 | 479.82 | 2666.87 | 2666.87 | 0.00 | 0.00 | 0.00 | 93.73 | 93.73 |
| | Bus129 | 1.37 | 1.39 | 1.69 | 16.77 | 34.04 | 47.31 | 47.31 | 0.00 | 0.00 | 0.00 | 16.77 | 16.77 |
| Bus129 | Bus127 | 113.09 | 135.25 | 210.84 | 65.60 | 30.75 | 4158.65 | 3903.43 | 1434.44 | 0.00 | 0.00 | 65.60 | 65.60 |
| Bus132 | Bus135 | 5.12 | 6.62 | 12.33 | 82.01 | 406.03 | 2685.96 | 2685.96 | 0.00 | 0.00 | 0.00 | 82.01 | 82.01 |
| | Bus127 | 4.06 | 5.56 | 10.76 | 93.73 | 479.82 | 2666.87 | 2666.87 | 0.00 | 0.00 | 0.00 | 93.73 | 93.73 |
| | Bus134 | 0 | 0 | 0 | 0 | 0 | 0.00 | 2666.87 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bus133 | Bus133 | 1.12 | 1.15 | 1.44 | 20.65 | 41.34 | 47.36 | 47.36 | 0.00 | 0.00 | 0.00 | 20.65 | 20.65 |
| | Bus132 | 92.54 | 118.64 | 190.43 | 80.22 | 35.08 | 4161.98 | 3906.89 | 1434.67 | 0.00 | 0.00 | 80.22 | 80.22 |
| | Bus134 | 0 | 0 | 0 | 0 | 0 | 0.00 | 3906.89 | 1434.67 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bus134 | Bus132 | 0 | 0 | 0 | 0 | 0 | 0.00 | 3906.89 | 1434.67 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Bus132 | 5.12 | 6.62 | 12.33 | 82.01 | 406.03 | 2685.96 | 2685.96 | 0.00 | 0.00 | 0.00 | 82.01 | 82.01 |
| Bus135 | Bus138 | 5.12 | 6.62 | 12.33 | 82.01 | 406.03 | 2685.96 | 2685.96 | 0.00 | 0.00 | 0.00 | 82.01 | 82.01 |
| | Bus132 | 5.12 | 6.62 | 12.33 | 82.01 | 406.03 | 2685.96 | 2685.96 | 0.00 | 0.00 | 0.00 | 82.01 | 82.01 |
| | Bus138 | 5.12 | 6.62 | 12.33 | 82.01 | 406.03 | 2685.96 | 2685.96 | 0.00 | 0.00 | 0.00 | 82.01 | 82.01 |
| Bus138 | Bus135 | 5.12 | 6.62 | 12.33 | 82.01 | 406.03 | 2685.96 | 2685.96 | 0.00 | 0.00 | 0.00 | 82.01 | 82.01 |
| | Bus139 | 2.12 | 2.13 | 2.42 | 10.43 | 21.86 | 46.57 | 46.57 | 0.00 | 0.00 | 0.00 | 10.43 | 10.43 |
| | Bus213 | 7.23 | 8.35 | 14.56 | 57.60 | 366.91 | 3062.36 | 3062.36 | 0.00 | 0.00 | 0.00 | 57.60 | 57.60 |
| Bus139 | Bus138 | 174.76 | 189.52 | 271.08 | 41.95 | 21.61 | 4096.00 | 3841.84 | 1420.38 | 0.00 | 0.00 | 41.95 | 41.95 |
| Bus142 | Bus126 | 2.06 | 2.11 | 2.67 | 22.05 | 41.84 | 88.33 | 88.33 | 0.00 | 0.00 | 0.00 | 22.05 | 22.05 |
| | Bus143 | 2.06 | 2.07 | 2.37 | 10.79 | 22.54 | 46.73 | 46.73 | 0.00 | 0.00 | 0.00 | 10.79 | 10.79 |
| Bus143 | Bus142 | 170.08 | 185.32 | 266.77 | 43.28 | 22.18 | 4110.23 | 3855.09 | 1425.59 | 0.00 | 0.00 | 43.28 | 43.28 |
| Bus145 | Bus146 | 21.45 | 22.79 | 31.80 | 35.96 | 66.39 | 1513.19 | 1513.19 | 0.00 | 0.00 | 0.00 | 35.96 | 35.96 |
| | Bus9 | 21.45 | 22.79 | 31.80 | 35.96 | 66.39 | 1513.19 | 1513.19 | 0.00 | 0.00 | 0.00 | 35.96 | 35.96 |
| Bus146 | Bus152 | 3.73 | 4.31 | 6.63 | 57.80 | 98.82 | 426.19 | 426.19 | 0.00 | 0.00 | 0.00 | 57.80 | 57.80 |
| | Bus145 | 21.45 | 22.79 | 31.80 | 35.96 | 66.39 | 1513.19 | 1513.19 | 0.00 | 0.00 | 0.00 | 35.96 | 35.96 |
| | Bus172 | 15.06 | 15.75 | 21.28 | 30.79 | 57.58 | 907.10 | 907.10 | 0.00 | 0.00 | 0.00 | 30.79 | 30.79 |
| | Bus151 | 0.72 | 0.86 | 1.35 | 64.84 | 107.58 | 92.25 | 92.25 | 0.00 | 0.00 | 0.00 | 64.84 | 64.84 |
| | Bus148 | 1.95 | 1.96 | 2.26 | 11.44 | 23.57 | 46.24 | 46.24 | 0.00 | 0.00 | 0.00 | 11.44 | 11.44 |
| Bus148 | Bus146 | 160.78 | 176.82 | 257.33 | 45.78 | 23.03 | 4072.26 | 3814.69 | 1425.29 | 0.00 | 0.00 | 45.78 | 45.78 |
| Bus150 | Bus151 | 59.36 | 95.26 | 157.66 | 125.52 | 43.96 | 4187.60 | 3932.84 | 1438.31 | 0.00 | 0.00 | 125.52 | 125.52 |
| Bus151 | Bus146 | 0.72 | 0.86 | 1.35 | 64.84 | 107.58 | 92.25 | 92.25 | 0.00 | 0.00 | 0.00 | 64.84 | 64.84 |
| | Bus150 | 0.72 | 0.76 | 1.04 | 32.80 | 62.96 | 47.67 | 47.67 | 0.00 | 0.00 | 0.00 | 32.80 | 32.80 |
| Bus152 | Bus146 | 3.73 | 4.31 | 6.63 | 57.80 | 98.82 | 426.19 | 426.19 | 0.00 | 0.00 | 0.00 | 57.80 | 57.80 |
| | Bus155 | 3.50 | 3.88 | 5.76 | 48.30 | 85.69 | 332.66 | 332.66 | 0.00 | 0.00 | 0.00 | 48.30 | 48.30 |
| | Bus154 | 0.24 | 0.34 | 0.56 | 101.37 | 142.71 | 48.42 | 48.42 | 0.00 | 0.00 | 0.00 | 101.37 | 101.37 |
| Bus154 | Bus152 | 19.66 | 77.32 | 118.57 | 380.45 | 54.92 | 4246.74 | 3994.56 | 1441.62 | 0.00 | 0.00 | 380.45 | 380.45 |

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| Bus | | Current Distortion | | | | | | | | | | | |
|-------------|-----------|--------------------|------------|-------------|----------|-------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| From Bus ID | To Bus ID | Fund. Amp | RMS Amp | ASUM Amp | THD % | TIF | IT Amp | ITB Amp | ITR Amp | TIHD % | TSHD % | THDG % | THDS % |
| Bus155 | Bus158 | 2.78 | 3.03 | 4.42 | 44.00 | 79.25 | 240.45 | 240.45 | 0.00 | 0.00 | 0.00 | 44.00 | 44.00 |
| | Bus152 | 3.50 | 3.88 | 5.76 | 48.30 | 85.69 | 332.66 | 332.66 | 0.00 | 0.00 | 0.00 | 48.30 | 48.30 |
| | Bus157 | 0.72 | 0.76 | 1.04 | 32.80 | 62.96 | 47.67 | 47.67 | 0.00 | 0.00 | 0.00 | 32.80 | 32.80 |
| Bus157 | Bus155 | 59.36 | 95.26 | 157.66 | 125.52 | 43.96 | 4187.76 | 3933.01 | 1438.31 | 0.00 | 0.00 | 125.52 | 125.52 |
| Bus158 | Bus155 | 2.78 | 3.03 | 4.42 | 44.00 | 79.25 | 240.45 | 240.45 | 0.00 | 0.00 | 0.00 | 44.00 | 44.00 |
| | Bus159 | 2.78 | 3.03 | 4.42 | 44.00 | 79.25 | 240.45 | 240.45 | 0.00 | 0.00 | 0.00 | 44.00 | 44.00 |
| Bus159 | Bus160 | 2.78 | 3.03 | 4.42 | 44.00 | 79.25 | 240.45 | 240.45 | 0.00 | 0.00 | 0.00 | 44.00 | 44.00 |
| | Bus158 | 2.78 | 3.03 | 4.42 | 44.00 | 79.25 | 240.45 | 240.45 | 0.00 | 0.00 | 0.00 | 44.00 | 44.00 |
| Bus160 | Bus163 | 1.70 | 1.86 | 2.72 | 44.62 | 80.19 | 149.30 | 149.30 | 0.00 | 0.00 | 0.00 | 44.62 | 44.62 |
| | Bus159 | 2.78 | 3.03 | 4.42 | 44.00 | 79.25 | 240.45 | 240.45 | 0.00 | 0.00 | 0.00 | 44.00 | 44.00 |
| | Bus162 | 1.08 | 1.10 | 1.39 | 21.54 | 42.84 | 47.19 | 47.19 | 0.00 | 0.00 | 0.00 | 21.54 | 21.54 |
| Bus162 | Bus160 | 88.84 | 115.79 | 186.65 | 83.59 | 35.84 | 4149.58 | 3893.55 | 1435.03 | 0.00 | 0.00 | 83.59 | 83.59 |
| Bus163 | Bus160 | 1.70 | 1.86 | 2.72 | 44.62 | 80.19 | 149.30 | 149.30 | 0.00 | 0.00 | 0.00 | 44.62 | 44.62 |
| | Bus166 | 0.62 | 0.69 | 1.02 | 47.38 | 84.27 | 58.18 | 58.18 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| | Bus165 | 1.08 | 1.10 | 1.39 | 21.53 | 42.83 | 47.17 | 47.17 | 0.00 | 0.00 | 0.00 | 21.53 | 21.53 |
| Bus165 | Bus163 | 88.81 | 115.76 | 186.59 | 83.59 | 35.83 | 4147.46 | 3891.40 | 1434.73 | 0.00 | 0.00 | 83.59 | 83.59 |
| Bus166 | Bus167 | 0.62 | 0.69 | 1.02 | 47.38 | 84.27 | 58.18 | 58.18 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| | Bus163 | 0.62 | 0.69 | 1.02 | 47.38 | 84.27 | 58.18 | 58.18 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| Bus167 | Bus166 | 0.62 | 0.69 | 1.02 | 47.38 | 84.27 | 58.18 | 58.18 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| | Bus168 | 0.62 | 0.69 | 1.02 | 47.38 | 84.27 | 58.18 | 58.18 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| Bus168 | Bus167 | 0.62 | 0.69 | 1.02 | 47.38 | 84.27 | 58.18 | 58.18 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| | Bus171 | 0.62 | 0.69 | 1.02 | 47.38 | 84.27 | 58.18 | 58.18 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| Bus170 | Bus171 | 51.48 | 70.03 | 113.91 | 92.23 | 37.55 | 2629.44 | 2464.09 | 917.72 | 0.00 | 0.00 | 92.23 | 92.23 |
| Bus171 | Bus168 | 0.62 | 0.69 | 1.02 | 47.38 | 84.27 | 58.18 | 58.18 | 0.00 | 0.00 | 0.00 | 47.38 | 47.38 |
| | Bus170 | 0.62 | 0.64 | 0.82 | 23.67 | 46.58 | 29.87 | 29.87 | 0.00 | 0.00 | 0.00 | 23.67 | 23.67 |
| Bus172 | Bus146 | 15.06 | 15.75 | 21.28 | 30.79 | 57.58 | 907.10 | 907.10 | 0.00 | 0.00 | 0.00 | 30.79 | 30.79 |
| | Bus173 | 15.06 | 15.75 | 21.28 | 30.79 | 57.58 | 907.10 | 907.10 | 0.00 | 0.00 | 0.00 | 30.79 | 30.79 |
| Bus173 | Bus176 | 14.07 | 14.73 | 19.90 | 30.87 | 57.74 | 850.23 | 850.23 | 0.00 | 0.00 | 0.00 | 30.87 | 30.87 |
| | Bus172 | 15.06 | 15.75 | 21.28 | 30.79 | 57.58 | 907.10 | 907.10 | 0.00 | 0.00 | 0.00 | 30.79 | 30.79 |
| | Bus175 | 1.00 | 1.01 | 1.19 | 14.31 | 28.92 | 29.12 | 29.12 | 0.00 | 0.00 | 0.00 | 14.31 | 14.31 |
| Bus175 | Bus173 | 82.23 | 94.77 | 143.91 | 57.28 | 27.12 | 2569.75 | 2402.37 | 912.27 | 0.00 | 0.00 | 57.28 | 57.28 |
| Bus176 | Bus173 | 14.07 | 14.73 | 19.90 | 30.87 | 57.74 | 850.23 | 850.23 | 0.00 | 0.00 | 0.00 | 30.87 | 30.87 |
| | Bus179 | 1.53 | 1.55 | 1.91 | 18.77 | 35.58 | 55.24 | 55.24 | 0.00 | 0.00 | 0.00 | 18.77 | 18.77 |
| | Bus180 | 12.54 | 13.18 | 18.00 | 32.35 | 60.30 | 795.09 | 795.09 | 0.00 | 0.00 | 0.00 | 32.35 | 32.35 |
| Bus178 | Bus179 | 125.88 | 134.31 | 186.95 | 37.19 | 18.85 | 2531.33 | 2362.76 | 908.31 | 0.00 | 0.00 | 37.19 | 37.19 |
| Bus179 | Bus176 | 1.53 | 1.55 | 1.91 | 18.77 | 35.58 | 55.24 | 55.24 | 0.00 | 0.00 | 0.00 | 18.77 | 18.77 |
| | Bus178 | 1.53 | 1.53 | 1.72 | 9.03 | 18.69 | 28.64 | 28.64 | 0.00 | 0.00 | 0.00 | 9.03 | 9.03 |
| Bus180 | Bus176 | 12.54 | 13.18 | 18.00 | 32.35 | 60.30 | 795.09 | 795.09 | 0.00 | 0.00 | 0.00 | 32.35 | 32.35 |
| | Bus194 | 7.46 | 7.71 | 10.05 | 25.82 | 48.78 | 375.97 | 375.97 | 0.00 | 0.00 | 0.00 | 25.82 | 25.82 |
| | Bus181 | 2.95 | 3.27 | 4.82 | 47.10 | 83.92 | 274.07 | 274.07 | 0.00 | 0.00 | 0.00 | 47.10 | 47.10 |
| | Bus208 | 2.14 | 2.17 | 2.64 | 17.34 | 35.18 | 76.27 | 76.27 | 0.00 | 0.00 | 0.00 | 17.34 | 17.34 |

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| Bus | | Current Distortion | | | | | | | | | | | |
|-------------|-----------|--------------------|------------|-------------|----------|--------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| From Bus ID | To Bus ID | Fund. Amp | RMS Amp | ASUM Amp | THD % | TIF | IT Amp | ITB Amp | ITR Amp | TIHD % | TSHD % | THDG % | THDS % |
| Bus181 | Bus184 | 1.33 | 1.63 | 2.58 | 70.18 | 113.69 | 184.78 | 184.78 | 0.00 | 0.00 | 0.00 | 70.18 | 70.18 |
| | Bus180 | 2.95 | 3.27 | 4.82 | 47.10 | 83.92 | 274.07 | 274.07 | 0.00 | 0.00 | 0.00 | 47.10 | 47.10 |
| | Bus183 | 1.62 | 1.64 | 1.94 | 13.94 | 28.48 | 46.73 | 46.73 | 0.00 | 0.00 | 0.00 | 13.94 | 13.94 |
| Bus183 | Bus181 | 134.05 | 153.10 | 231.23 | 55.17 | 26.86 | 4112.07 | 3855.01 | 1431.09 | 0.00 | 0.00 | 55.17 | 55.17 |
| Bus184 | Bus181 | 1.33 | 1.63 | 2.58 | 70.18 | 113.69 | 184.78 | 184.78 | 0.00 | 0.00 | 0.00 | 70.18 | 70.18 |
| | Bus185 | 1.33 | 1.63 | 2.58 | 70.18 | 113.69 | 184.78 | 184.78 | 0.00 | 0.00 | 0.00 | 70.18 | 70.18 |
| Bus185 | Bus189 | 0.61 | 0.77 | 1.24 | 76.49 | 120.33 | 92.58 | 92.58 | 0.00 | 0.00 | 0.00 | 76.49 | 76.49 |
| | Bus184 | 1.33 | 1.63 | 2.58 | 70.18 | 113.69 | 184.78 | 184.78 | 0.00 | 0.00 | 0.00 | 70.18 | 70.18 |
| | Bus188 | 0.72 | 0.76 | 1.04 | 32.76 | 62.92 | 47.66 | 47.66 | 0.00 | 0.00 | 0.00 | 32.76 | 32.76 |
| Bus188 | Bus185 | 59.38 | 95.27 | 157.67 | 125.46 | 43.94 | 4186.67 | 3931.86 | 1438.31 | 0.00 | 0.00 | 125.46 | 125.46 |
| Bus189 | Bus193 | 0 | 0 | 0 | 0 | 0 | 0.00 | 3931.86 | 1438.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Bus185 | 0.61 | 0.77 | 1.24 | 76.49 | 120.33 | 92.58 | 92.58 | 0.00 | 0.00 | 0.00 | 76.49 | 76.49 |
| | Bus192 | 0.61 | 0.77 | 1.24 | 76.49 | 120.33 | 92.58 | 92.58 | 0.00 | 0.00 | 0.00 | 76.49 | 76.49 |
| Bus191 | Bus192 | 50.41 | 90.03 | 148.88 | 147.96 | 46.67 | 4201.96 | 3947.68 | 1439.53 | 0.00 | 0.00 | 147.96 | 147.96 |
| Bus192 | Bus189 | 0.61 | 0.77 | 1.24 | 76.49 | 120.33 | 92.58 | 92.58 | 0.00 | 0.00 | 0.00 | 76.49 | 76.49 |
| | Bus191 | 0.61 | 0.66 | 0.93 | 38.82 | 73.00 | 47.85 | 47.85 | 0.00 | 0.00 | 0.00 | 38.82 | 38.82 |
| Bus193 | Bus189 | 0 | 0 | 0 | 0 | 0 | 0.00 | 47.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bus194 | Bus180 | 7.46 | 7.71 | 10.05 | 25.82 | 48.78 | 375.97 | 375.97 | 0.00 | 0.00 | 0.00 | 25.82 | 25.82 |
| | Bus195 | 7.46 | 7.71 | 10.05 | 25.82 | 48.78 | 375.97 | 375.97 | 0.00 | 0.00 | 0.00 | 25.82 | 25.82 |
| Bus195 | Bus196 | 7.46 | 7.71 | 10.05 | 25.82 | 48.78 | 375.97 | 375.97 | 0.00 | 0.00 | 0.00 | 25.82 | 25.82 |
| | Bus194 | 7.46 | 7.71 | 10.05 | 25.82 | 48.78 | 375.97 | 375.97 | 0.00 | 0.00 | 0.00 | 25.82 | 25.82 |
| Bus196 | Bus195 | 7.46 | 7.71 | 10.05 | 25.82 | 48.78 | 375.97 | 375.97 | 0.00 | 0.00 | 0.00 | 25.82 | 25.82 |
| | Bus197 | 7.46 | 7.71 | 10.05 | 25.82 | 48.78 | 375.97 | 375.97 | 0.00 | 0.00 | 0.00 | 25.82 | 25.82 |
| Bus197 | Bus198 | 3.74 | 3.81 | 4.72 | 19.46 | 37.06 | 141.25 | 141.25 | 0.00 | 0.00 | 0.00 | 19.46 | 19.46 |
| | Bus209 | 3.73 | 3.92 | 5.34 | 32.17 | 60.00 | 235.03 | 235.03 | 0.00 | 0.00 | 0.00 | 32.17 | 32.17 |
| | Bus196 | 7.46 | 7.71 | 10.05 | 25.82 | 48.78 | 375.97 | 375.97 | 0.00 | 0.00 | 0.00 | 25.82 | 25.82 |
| Bus198 | Bus197 | 3.74 | 3.81 | 4.72 | 19.46 | 37.06 | 141.25 | 141.25 | 0.00 | 0.00 | 0.00 | 19.46 | 19.46 |
| | Bus200 | 3.74 | 3.76 | 4.24 | 9.55 | 20.17 | 75.81 | 75.81 | 0.00 | 0.00 | 0.00 | 9.55 | 9.55 |
| Bus200 | Bus198 | 308.61 | 330.32 | 463.51 | 38.17 | 20.15 | 6657.29 | 6254.39 | 2280.81 | 0.00 | 0.00 | 38.17 | 38.17 |
| Bus201 | Bus204 | 0 | 0 | 0 | 0 | 0 | 0.00 | 6254.39 | 2280.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Bus209 | 0.62 | 0.78 | 1.25 | 74.95 | 118.78 | 92.48 | 92.48 | 0.00 | 0.00 | 0.00 | 74.95 | 74.95 |
| | Bus203 | 0.62 | 0.67 | 0.94 | 38.00 | 71.66 | 47.76 | 47.76 | 0.00 | 0.00 | 0.00 | 38.00 | 38.00 |
| Bus203 | Bus201 | 51.40 | 90.54 | 149.77 | 145.02 | 46.33 | 4194.73 | 3940.30 | 1438.68 | 0.00 | 0.00 | 145.02 | 145.02 |
| Bus204 | Bus201 | 0 | 0 | 0 | 0 | 0 | 0.00 | 3940.30 | 1438.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Bus205 | 0 | 0 | 0 | 0 | 0 | 0.00 | 3940.30 | 1438.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Bus206 | 0 | 0 | 0 | 0 | 0 | 0.00 | 3940.30 | 1438.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bus205 | Bus204 | 0 | 0 | 0 | 0 | 0 | 0.00 | 3940.30 | 1438.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bus206 | Bus204 | 0 | 0 | 0 | 0 | 0 | 0.00 | 3940.30 | 1438.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bus208 | Bus180 | 176.25 | 212.56 | 332.90 | 67.41 | 31.51 | 6698.11 | 6292.25 | 2296.14 | 0.00 | 0.00 | 67.41 | 67.41 |
| Bus209 | Bus201 | 0.62 | 0.78 | 1.25 | 74.95 | 118.78 | 92.48 | 92.48 | 0.00 | 0.00 | 0.00 | 74.95 | 74.95 |
| | Bus197 | 3.73 | 3.92 | 5.34 | 32.17 | 60.00 | 235.03 | 235.03 | 0.00 | 0.00 | 0.00 | 32.17 | 32.17 |
| | Bus211 | 3.11 | 3.13 | 3.61 | 11.68 | 24.34 | 76.10 | 76.10 | 0.00 | 0.00 | 0.00 | 11.68 | 11.68 |
| Bus211 | Bus209 | 256.22 | 282.22 | 411.99 | 46.17 | 23.68 | 6682.39 | 6278.08 | 2289.13 | 0.00 | 0.00 | 46.17 | 46.17 |

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Contract:

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Engineer:

Study Case: HA

Revision: Base

Filename: BALANCE LAOD avareg

Config.: Normal

| Bus | | Current Distortion | | | | | | | | | | | |
|-------------|-----------|--------------------|------------|-------------|----------|--------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| From Bus ID | To Bus ID | Fund. Amp | RMS Amp | ASUM Amp | THD % | TIF | IT Amp | ITB Amp | ITR Amp | TIHD % | TSHD % | THDG % | THDS % |
| Bus212 | Bus213 | 611.60 | 642.01 | 936.35 | 31.92 | 172.18 | 110541.20 | 110541.20 | 0.00 | 0.00 | 0.00 | 31.92 | 31.92 |
| Bus213 | Bus212 | 7.23 | 7.61 | 11.17 | 32.72 | 176.07 | 1339.89 | 1339.89 | 0.00 | 0.00 | 0.00 | 32.72 | 32.72 |
| | Bus138 | 7.23 | 8.35 | 14.56 | 57.60 | 366.91 | 3062.36 | 3062.36 | 0.00 | 0.00 | 0.00 | 57.60 | 57.60 |

| | | | |
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Bus Tabulation

Harmonic Voltages (% of Fundamental Voltage)

Bus ID: **Bus1**
Fund. kV: **33.000**

| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.80 | 7.00 | 350.00 | 1.28 | 11.00 | 550.00 | 0.12 | 13.00 | 650.00 | 0.06 | 17.00 | 850.00 | 0.08 |
| 19.00 | 950.00 | 0.06 | 23.00 | 1150.00 | 0.07 | 25.00 | 1250.00 | 0.05 | | | | | | | | | |

Bus ID: **Bus138**
Fund. kV: **32.922**

| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.91 | 7.00 | 350.00 | 1.39 | 11.00 | 550.00 | 0.19 | 13.00 | 650.00 | 0.09 | 17.00 | 850.00 | 0.13 |
| 19.00 | 950.00 | 0.09 | 23.00 | 1150.00 | 0.10 | 25.00 | 1250.00 | 0.07 | | | | | | | | | |

Bus ID: **Bus139**
Fund. kV: **0.393**

| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|
| 3.00 | 150.00 | 2.48 | 5.00 | 250.00 | 2.92 | 7.00 | 350.00 | 2.00 | 11.00 | 550.00 | 0.16 | 13.00 | 650.00 | 0.07 | 17.00 | 850.00 | 0.09 |
| 19.00 | 950.00 | 0.06 | 23.00 | 1150.00 | 0.06 | 25.00 | 1250.00 | 0.04 | | | | | | | | | |

Bus ID: **Bus2**
Fund. kV: **32.996**

| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.81 | 7.00 | 350.00 | 1.29 | 11.00 | 550.00 | 0.12 | 13.00 | 650.00 | 0.06 | 17.00 | 850.00 | 0.08 |
| 19.00 | 950.00 | 0.06 | 23.00 | 1150.00 | 0.07 | 25.00 | 1250.00 | 0.05 | | | | | | | | | |

Bus ID: **Bus21**
Fund. kV: **32.992**

| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.82 | 7.00 | 350.00 | 1.30 | 11.00 | 550.00 | 0.12 | 13.00 | 650.00 | 0.06 | 17.00 | 850.00 | 0.08 |
| 19.00 | 950.00 | 0.06 | 23.00 | 1150.00 | 0.07 | 25.00 | 1250.00 | 0.05 | | | | | | | | | |

Bus ID: **Bus212**
Fund. kV: **0.399**

| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 3.10 | 7.00 | 350.00 | 0.96 | 11.00 | 550.00 | 2.53 | 13.00 | 650.00 | 1.31 | 17.00 | 850.00 | 2.43 |
| 19.00 | 950.00 | 1.80 | 23.00 | 1150.00 | 2.57 | 25.00 | 1250.00 | 1.78 | | | | | | | | | |

Bus ID: **Bus213**
Fund. kV: **32.922**

| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.91 | 7.00 | 350.00 | 1.39 | 11.00 | 550.00 | 0.19 | 13.00 | 650.00 | 0.09 | 17.00 | 850.00 | 0.13 |
| 19.00 | 950.00 | 0.09 | 23.00 | 1150.00 | 0.10 | 25.00 | 1250.00 | 0.07 | | | | | | | | | |

Bus ID: **Bus22**
Fund. kV: **0.395**

| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|-------|-------------|-----------|
| 3.00 | 150.00 | 2.47 | 5.00 | 250.00 | 2.83 | 7.00 | 350.00 | 1.90 | 11.00 | 550.00 | 0.10 | 13.00 | 650.00 | 0.05 | 17.00 | 850.00 | 0.06 |

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| | | | | | | | | | | | | | | | | | |
|-----------------|----------|--------|-------|----------|--------|-------|----------|--------|-------|----------|--------|-------|----------|--------|-------|----------|--------|
| Bus ID: Bus1 | | | | | | | | | | | | | | | | | |
| Nom. kV: 33.000 | | | | | | | | | | | | | | | | | |
| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.80 | 7.00 | 350.00 | 1.28 | 11.00 | 550.00 | 0.12 | 13.00 | 650.00 | 0.06 | 17.00 | 850.00 | 0.08 |
| 19.00 | 950.00 | 0.06 | 23.00 | 1150.00 | 0.07 | 25.00 | 1250.00 | 0.05 | | | | | | | | | |
| Bus ID: Bus138 | | | | | | | | | | | | | | | | | |
| Nom. kV: 33.000 | | | | | | | | | | | | | | | | | |
| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.90 | 7.00 | 350.00 | 1.38 | 11.00 | 550.00 | 0.19 | 13.00 | 650.00 | 0.09 | 17.00 | 850.00 | 0.13 |
| 19.00 | 950.00 | 0.09 | 23.00 | 1150.00 | 0.10 | 25.00 | 1250.00 | 0.07 | | | | | | | | | |
| Bus ID: Bus139 | | | | | | | | | | | | | | | | | |
| Nom. kV: 0.400 | | | | | | | | | | | | | | | | | |
| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
| 3.00 | 150.00 | 2.43 | 5.00 | 250.00 | 2.87 | 7.00 | 350.00 | 1.97 | 11.00 | 550.00 | 0.16 | 13.00 | 650.00 | 0.07 | 17.00 | 850.00 | 0.09 |
| 19.00 | 950.00 | 0.06 | 23.00 | 1150.00 | 0.06 | 25.00 | 1250.00 | 0.04 | | | | | | | | | |
| Bus ID: Bus2 | | | | | | | | | | | | | | | | | |
| Nom. kV: 33.000 | | | | | | | | | | | | | | | | | |
| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.81 | 7.00 | 350.00 | 1.29 | 11.00 | 550.00 | 0.12 | 13.00 | 650.00 | 0.06 | 17.00 | 850.00 | 0.08 |
| 19.00 | 950.00 | 0.06 | 23.00 | 1150.00 | 0.07 | 25.00 | 1250.00 | 0.05 | | | | | | | | | |
| Bus ID: Bus21 | | | | | | | | | | | | | | | | | |
| Nom. kV: 33.000 | | | | | | | | | | | | | | | | | |
| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.81 | 7.00 | 350.00 | 1.30 | 11.00 | 550.00 | 0.12 | 13.00 | 650.00 | 0.06 | 17.00 | 850.00 | 0.08 |
| 19.00 | 950.00 | 0.06 | 23.00 | 1150.00 | 0.07 | 25.00 | 1250.00 | 0.05 | | | | | | | | | |
| Bus ID: Bus212 | | | | | | | | | | | | | | | | | |
| Nom. kV: 0.400 | | | | | | | | | | | | | | | | | |
| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 3.09 | 7.00 | 350.00 | 0.96 | 11.00 | 550.00 | 2.52 | 13.00 | 650.00 | 1.30 | 17.00 | 850.00 | 2.43 |
| 19.00 | 950.00 | 1.79 | 23.00 | 1150.00 | 2.56 | 25.00 | 1250.00 | 1.78 | | | | | | | | | |
| Bus ID: Bus213 | | | | | | | | | | | | | | | | | |
| Nom. kV: 33.000 | | | | | | | | | | | | | | | | | |
| Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % | Order | Freq. Hz | Mag. % |
| 3.00 | 150.00 | 0.00 | 5.00 | 250.00 | 1.90 | 7.00 | 350.00 | 1.38 | 11.00 | 550.00 | 0.19 | 13.00 | 650.00 | 0.09 | 17.00 | 850.00 | 0.13 |
| 19.00 | 950.00 | 0.09 | 23.00 | 1150.00 | 0.10 | 25.00 | 1250.00 | 0.07 | | | | | | | | | |

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