

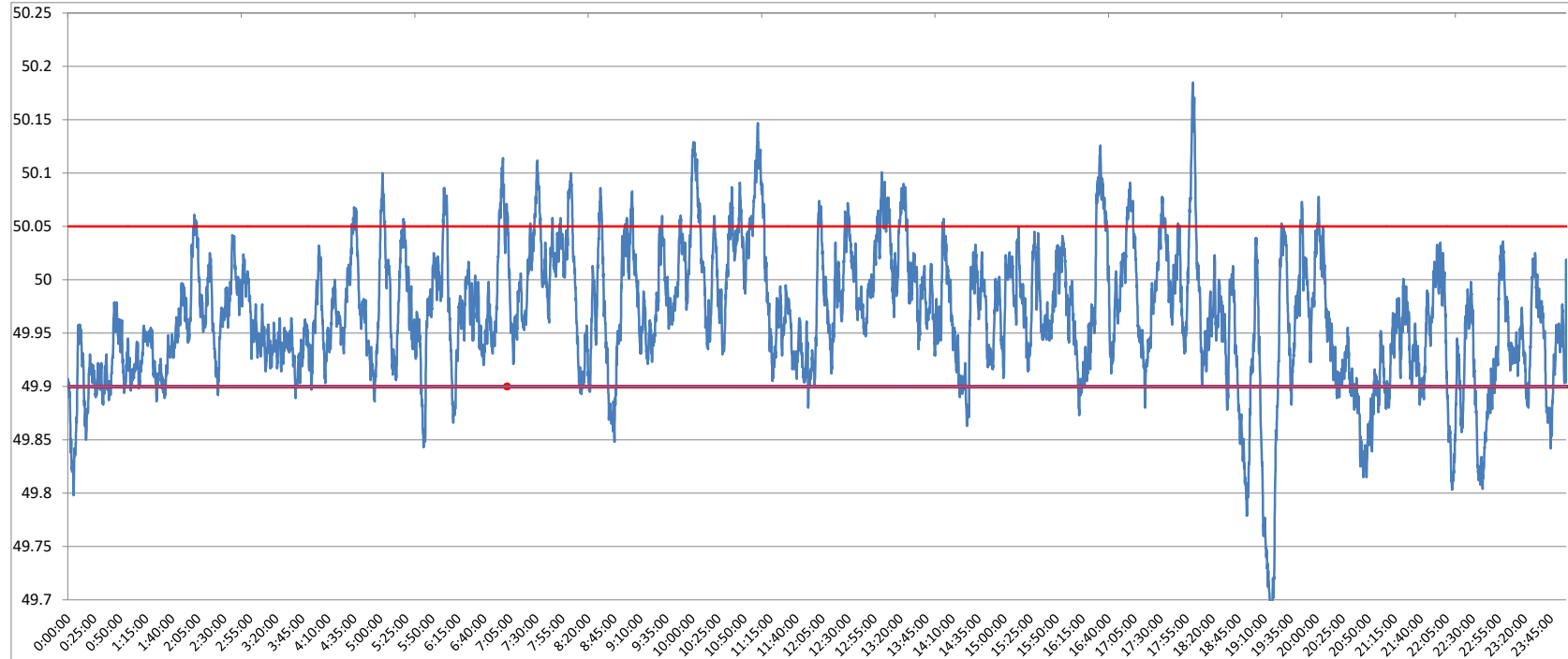


**POWER SYSTEM OPERATION CORPORATION LIMITED**  
NATIONAL LOAD DESPATCH CENTRE NEW DELHI

400KV KALWA:Frequency

National Grid Frequency Profile for

18-Apr-17



| <49.2 | <49.7 | <49.90 | <49.97 | 49.7-49.8 | 49.8-49.9 | 49.9-50.0 | 50.0-50.1 | 50.1-50.2 | 49.90-50.05 | 49.7-50.2 | 49.97-50.03 | 50.05-50.1 | >50   | >50.03 | >50.05 | >50.2 |
|-------|-------|--------|--------|-----------|-----------|-----------|-----------|-----------|-------------|-----------|-------------|------------|-------|--------|--------|-------|
| 0     | 0.17  | 10.90  | 53.56  | 0.79      | 9.94      | 60.16     | 27.73     | 1.20      | 80.45       | 99.83     | 31.38       | 7.75       | 27.92 | 15.06  | 8.65   | 0.00  |

|                          |              |                                    |              |                             |              |
|--------------------------|--------------|------------------------------------|--------------|-----------------------------|--------------|
| <b>Average Frequency</b> | <b>49.97</b> | <b>Frequency Variation Index :</b> | <b>0.050</b> | <b>Standard Deviation :</b> | <b>0.062</b> |
|--------------------------|--------------|------------------------------------|--------------|-----------------------------|--------------|

| Instantaneous Frequency |       |          |
|-------------------------|-------|----------|
| Max                     | 50.19 | 18:01:10 |
| Min                     | 49.66 | 19:15:40 |

| 15 minute average Frequency |        |          |
|-----------------------------|--------|----------|
| Max                         | 50.056 | 11:15:00 |
| Min                         | 49.854 | 19:15:00 |

|                                 |     |
|---------------------------------|-----|
| No. of excursion above 50.03 Hz | 75  |
| No. of excursion below 49.97 Hz | 125 |
| No. of excursion above 50.00 Hz | 96  |
| No. of excursion below 50.00 Hz | 87  |

|  |                |   |                |
|--|----------------|---|----------------|
| <b>Average time freq remains below 49.97 per excursion</b> | <b>0:06:10</b> | <b>Average time frequency remains above 50.03 per excursion</b> | <b>0:02:53</b> |
|--|----------------|---|----------------|