

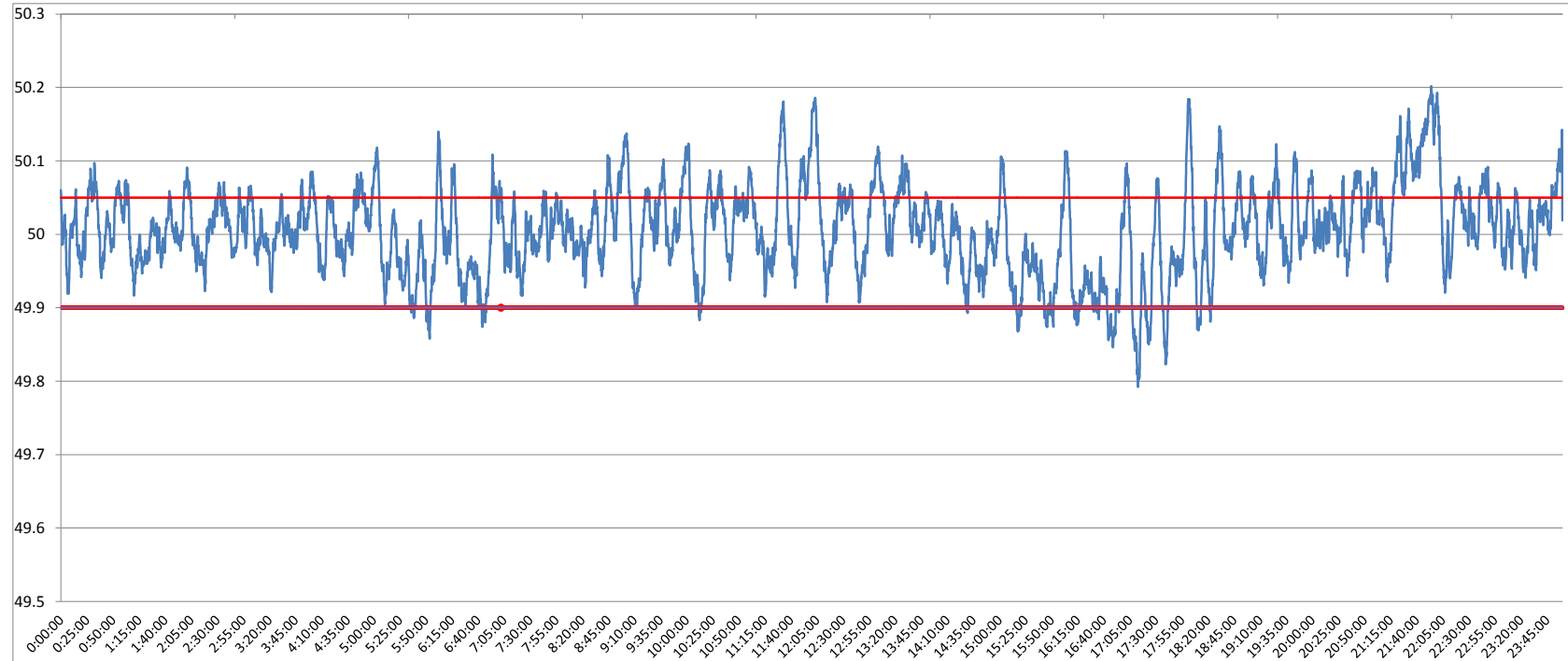


**POWER SYSTEM OPERATION CORPORATION LIMITED**  
NATIONAL LOAD DESPATCH CENTRE NEW DELHI

NTPC-VINDHYACHAL:Frequency

National Grid Frequency Profile for

15-Nov-16



| <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     | 0.00  | 4.54   | 27.36  | 0.02      | 4.51      | 42.62     | 47.21     | 5.63      | 72.84       | 99.99     | 38.96       | 17.05      | 52.84 | 33.68  | 22.63  | 0.01  |

|                          |              |                                    |              |                             |              |
|--------------------------|--------------|------------------------------------|--------------|-----------------------------|--------------|
| <b>Average Frequency</b> | <b>50.01</b> | <b>Frequency Variation Index :</b> | <b>0.037</b> | <b>Standard Deviation :</b> | <b>0.061</b> |
|--------------------------|--------------|------------------------------------|--------------|-----------------------------|--------------|

| Instantaneous Frequency |                | 15 minute average Frequency |                 | No. of excursion above 50.03 Hz |     |
|-------------------------|----------------|-----------------------------|-----------------|---------------------------------|-----|
| Max                     | 50.2 21:54:00  | Max                         | 50.161 22:00:00 | No. of excursion below 49.97 Hz | 142 |
| Min                     | 49.79 17:12:50 | Min                         | 49.915 16:45:00 | No. of excursion above 50.00 Hz | 172 |
|                         |                |                             |                 | No. of excursion below 50.00 Hz | 170 |

|                                                            |                |                                                                 |                |
|------------------------------------------------------------|----------------|-----------------------------------------------------------------|----------------|
| <b>Average time freq remains below 49.97 per excursion</b> | <b>0:03:03</b> | <b>Average time frequency remains above 50.03 per excursion</b> | <b>0:03:25</b> |
|------------------------------------------------------------|----------------|-----------------------------------------------------------------|----------------|