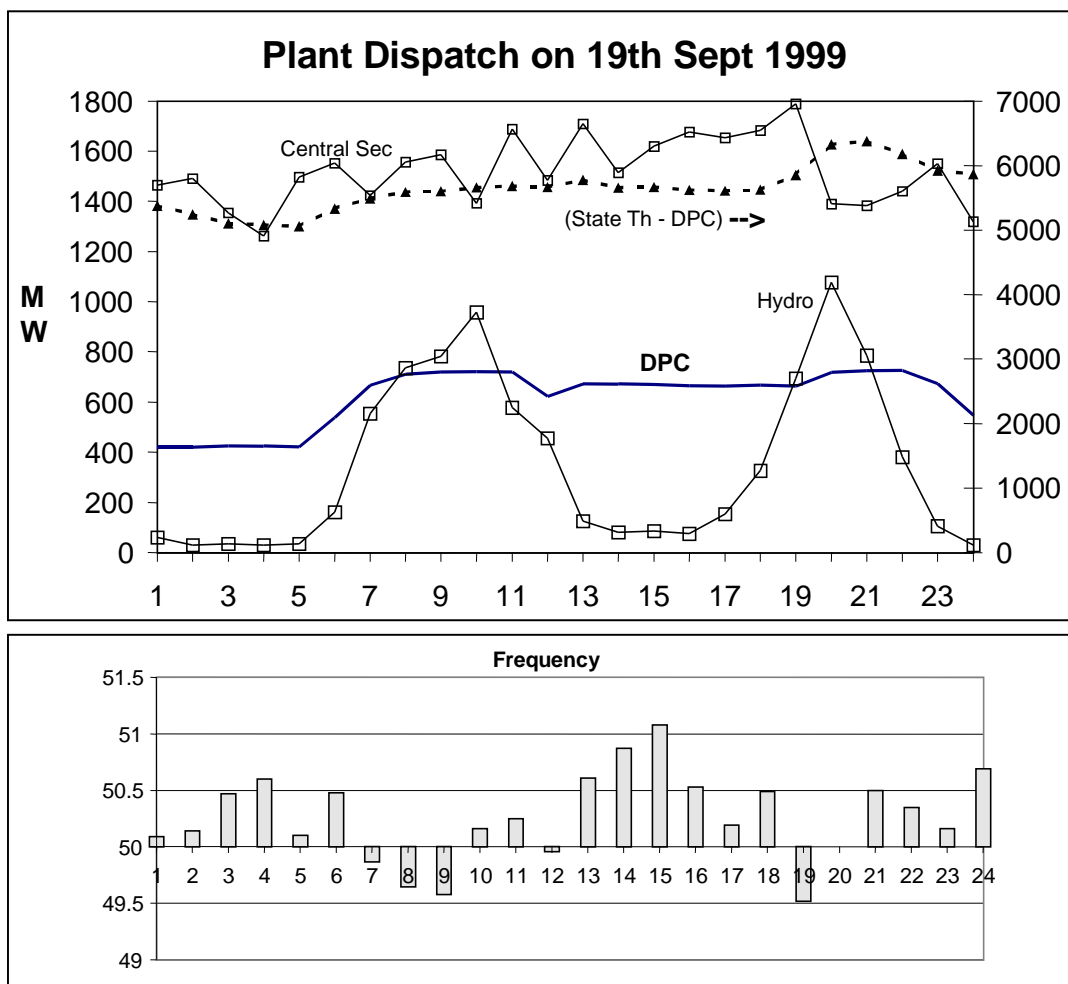


Note - I**The Plant Dispatch: The Case of DPC**

The hourly plant generation data which was made available to us very recently now enables us to prove that DPC has not been dispatched by MSEB according to the merit order. It is not necessary to explain here implications of such an act for MSEB's costs. In this brief note, we provide some points on this unmerited dispatching and its implications.

1. Looking at figures of DPC's daily generation, it can be seen that, in the last nine months, for 76 days DPC generated more than 14.3 MU per day. This means that DPC was allowed by MSEB to run its plants at more than 80% PLF for about 28 % of days during this period. Such a high PLF allowed to high-cost supplier like DPC is indicative of irrational dispatching by MSEB to say the least. It needs to be noted that this has been the case despite the fact that, during this period, the DPC plant had serious problems and was not fully available on several occasions.
2. Further as the hourly data demonstrate, there were several days during this period of nine months, when the DPC dispatch was irrational. As shown in the figure below, for example, on 19th September, the system frequency was higher than 50 Hz. for 19 hours out of the 24 hours of the day, indicating excess of supply availability. However, the DPC was run at a PLF of 86% during the day, with minimum level of generation not going below 400 MW, when it was legally and technically possible to keep it down to the level of 250 MW during all these 19 hours.
3. Between 1st April 1999 and 13th February 2000, the system frequency was higher than 50Hz for 2,554 hrs (i.e. 34.2% time). For all these hours, DPC generated on an average of 418 MW. If we consider that the DPC plant can be run at the minimum load of 250 MW (without any amendment to the present contract), then it implies an excess purchase of 428 MU from DPC, implying an unreasonable expenditure of Rs. 85.6 Crores (assuming that the fuel cost of DPC is Rs 2.0 /unit). The Commission should specifically disallow this cost.
4. In this entire period, DPC's PLF has been 58%. As the hourly data indicate, Nearly a third of this generation has been at time when the system frequency was higher than 50 Hz and the system did not need additional power. It is necessary to note that such irrational and unmerited dispatch results not only in increased (unwarranted) payments to DPC, but also helps pull down the figure of the unit costs of DPC's power.



Hence, one of the ways to demonstrate irrationality and non-merit of DPC's dispatch could be to calculate the 'effective' unit cost of DPC's power to MSEB. This could be arrived at by dividing DPC's total bill by its 'warranted' generation (i.e., DPC's generation only when the system needed its power). MSEB's data indicate that total payments to DPC in this financial year will be Rs. 1,482 crores, corresponding to a power purchase of 3,592 MU. Thus, by disallowing the cost of unwarranted power purchase, we can arrive at the effective cost paid by MSEB by dividing total payments to DPC only by 'warranted' portion of power purchased from DPC. Based on this, the 'effective' unit cost of DPC's power (that was required by the system) works out to be Rs 5.95 Rs/unit¹.

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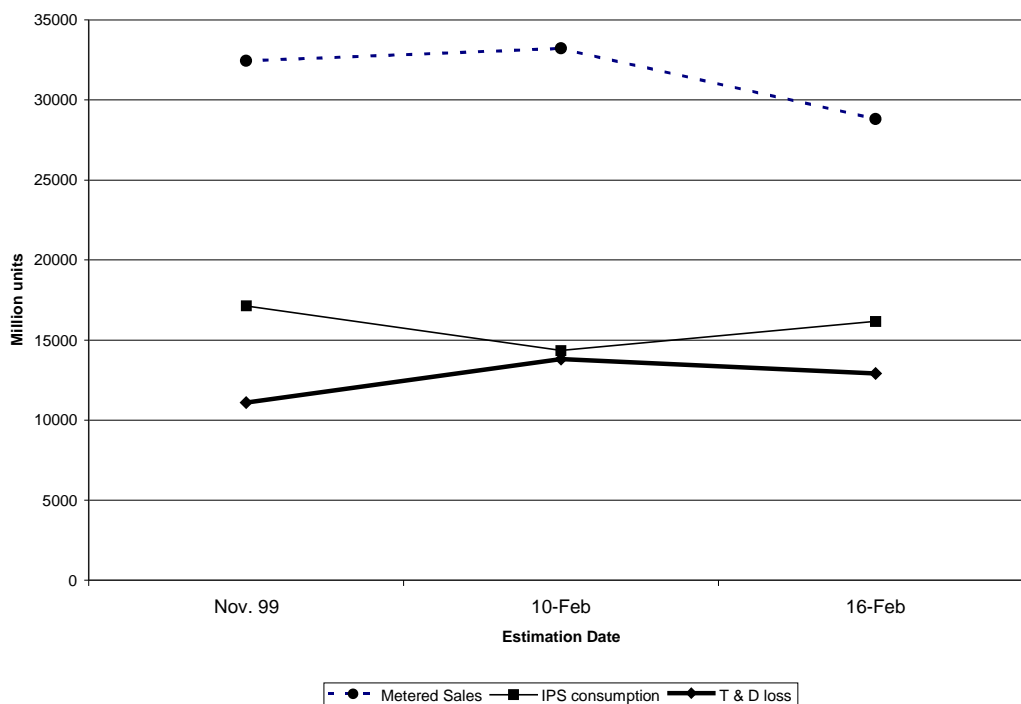
¹ Here, it is worth noting that MSEB has assumed a variable (fuel) cost of just Rs. 1.77 / unit in its estimate. This is much lower than the present fuel cost for DPC.

Note - II

Agricultural Consumption and T & D Losses

We have been pointing out that the agricultural consumption claimed by MSEB is highly unrealistic as well as that MSEB's norm of 2320 hours of operation for average pump usage at the state level is also highly inflated, unreasonable, and based on very weak foundations (please refer our submission dt. 20th January 2000). We have also been pointing out that agricultural consumption is inflated in order to hide the excessive T & D (commercial as well as technical) losses. These arguments are now further substantiated by the frequent changes in the estimates of agricultural consumption made by MSEB in the last few days. The following graph eloquently depicts the variations in these estimates

Figure 1: Changing Estimate of Agricultural Consumption and T & D Loss



Here, in order to establish veracity of our arguments about the inflated agricultural consumption, we draw attention of the Commission to the following three sets of evidence, all of which are sourced either from MSEB or from the Government of Maharashtra.

1. As mentioned in our supplementary submission dt. 7th February 2000, we have in our possession MSEB's report with consumption data for the entire year of 1994-1995 for 27 predominantly agricultural feeders. This is the only metered data of agricultural feeders that we are aware of, which is recorded for a full year and for which the connected load is known. Despite repeated requests and prodding, MSEB has failed to submit any other monitoring data satisfying these three criterion, viz., full year availability, pre-dominantly / exclusive agricultural load, and known connected load. Analysis of these data indicates the average consumption norm of 1020 hrs./ yr., which is 36% less than MSEB's claims. Additional details and analysis of this report is given in footnote 1 on page 12 of our supplementary submission dt. 7th February 2000.
2. During the public hearing in Pune on 21st January 2000, the Technical Member of MSEB admitted that, as per the survey conducted by MSEB, the average consumption of agricultural pumps in areas adjoining Mula Pravara Electric Co-operative Society, it was found that the average consumption was 80 to 100 units / HP / month. (i.e., 1280 to 1600 hrs./ yr.). In the areas serviced by the Mula Pravara Society, the consumption was claimed to be up to 100 to 120 units / hp /month (i.e. 1600 to 1930 hrs. /yr.).
3. The evidence dated February 15, 2000, submitted by MSEB in support of its proposal, contains a note on tariff of Mula Pravara Co-operative Society. An annexure attached to this note announces Government of Maharashtra's (GoM) decisions on tariff for Mula Pravara Co-operative Society. This annexure clearly mentions that the GoM has estimated the average consumption of agricultural pumps in Maharashtra to be 1200 units / HP /year, which means average pump operation of 1600 hrs./yr.

These three sets of evidence and the frequent changes in MSEB's estimates of agricultural consumption (as depicted in the accompanying figure) together, provide adequate grounds to surmise that the average consumption norm assumed by MSEB is an overestimate of at least 32 %. Based on the more realistic norm of 1600 hours of average pump operation per year, the realistic estimate of agricultural consumption in Maharashtra works out to be in the range of $11,000 \pm 1,300$ MU.

Thus, based on this realistic estimate of agricultural consumption, a more realistic estimate of T & D (commercial + technical) losses in the state for the year 1999-2000 would work out to be between 28 % to 33%.

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