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To
The Hon'ble Members of CERC

Subject: **Comments on draft IEGC-2022**

I had a long involvement in the writing of IEGC in 2019-20 as a member of the CERC appointed drafting committee. I seek your kind indulgence to give the following additional comments for kind consideration:

1. In the context of RE integration, RAMPING UP and DOWN tests at different rates as part of the Reliability Test is essential. Please include it in the IEGC.
Please organise the Ramping Tests of various TPS now one by one. Let each RPC make a ramping test schedule.
Please incorporate this in IEGC.

2. Please set the targets and timelines for commissioning of automated national spinning reserves, write them in IEGC and make RPC responsible for overseeing implementation.

3. Emergency Islanding capability of NCR should be tested by simulation by NRLDC. Delhi Transco is not up to the task I am given to understand . Let it be mock tested by NRLDC every year.
Please incorporate in IEGC.

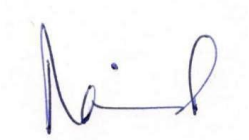
4. RE INTEGRATION:
Large scale RE integration remains the biggest challenge.
We haven't picked up on pumped storage - on or off stream.
Lithium based BESS is not affordable for our grid application. They are expensive high energy batteries suitable for compact space. We need massive storage like 50 GW of cheaper materials like zinc and iron. There's limited lithium in the world. No other BESS technology is maturing right now.

Load is an objective function of transmission planning.
In transmission planning, in best RE case scenario we simulate
thermal at 55% PLF.
Some reserve shut down is taken.
Hydro and nuclear are must run
RE is curtailed if it exceeds the national demand considering the above scenario.
(IEGC may like to give RE planning instructions to the CTU.)

We can’t run RE by jeopardising grid security. That is the practical implication of resource adequacy.

5. WHAT TO FO TILL WE HAVE STORAGE?
We have an old inefficient and hardly flexible large fleet of hundreds of 100MW and 200MW coal based units which are due for replacement (30-45 years old). Please replace them with supercritical units. We will not only save thousands of tonnes of CO2 and coal but at the same time adequate ramping capability and reliability ESSENTIAL for RE integration shall be achieved. Supercritical units can operate without oil support up to 45% PLF, ramping is fast and there is no fear of tripping in once through boilers. We require fast ramping to absorb RE fluctuations in the time to come.
Please include this in IEGC as part of planning for resource adequacy in the present context when ESS is not available.

Yours Sincerely



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