TECHNICAL CASE STUDY:

SOLAR POWER GENERATION /INVERTER

BY

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SOLAR PLANT INVERTER: MANGLORE /JULY 21

In the year 2021, it is a well-known fact that we have been recovering from the second wave of COVID, and because of global supply chain issues, most businesses were impacted. There was a rise in power demand and energy bills across the country. In the middle of this situation, one of the global solar plant operating companies contacted us to discuss the issues they are facing with their inverters due to a large number of FAN failures.

While discussing issues were observed

1) Because of Fan failure in the inverters, around 20KVA production capacity was unutilized

2) It was causing Major dent in production and piling up penalties to the operator.

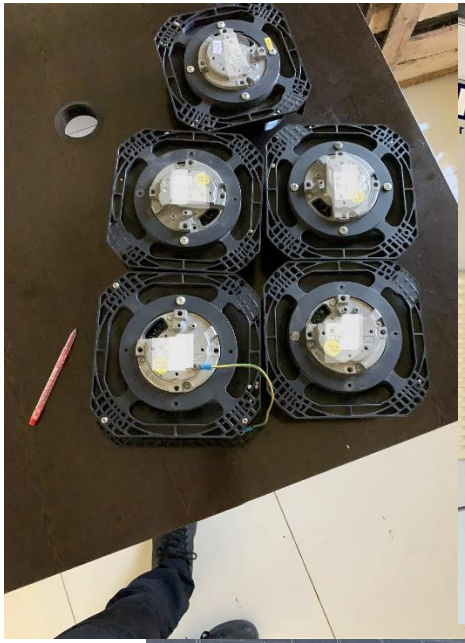
3) Due to supply chain issue Fan manufacturer has denied the supply

4) We can't do any modification in inverter controlling

5) These fan was specialized in terms of auto controlling/ alarm for inverter

FAN KEEP ON FAILING TOTAL 40 NOS : CHALLENGES

- Failed fan dimensions should be matched to fit inside inverter
- Controlling methodology was unknown.
- We can't do any alteration in Inverter
- There was no option to do experimentation as every day the penalties were imposed to operator
- Fan capacity need to be matched with dimensional limitation



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WE HAVE DONE OUR BEST

- Our R&D team worked out Day and night to understand the inside PCB and inverter operations
- Within 15 days we have made a dummy PCB which can replicate the functionality
- We have tested the PCB to failed fan to check the frequency match
- The same PCB was applied to our fan, so we can create higher power and the same communication logic within the given dimensional limitations.
- Finally, to fit the fan within the same case we have customized the screw and bolting for motor and made channel plates

LOOKING AHEAD

All the fans were replaced within 4 weeks, and the plant started running at full capacity within a month.

Along with this other fan from different sites has been replaced.

Our team has once again shown their technical prowess and dedication to solving client concerns, even in a trying time when there were issues with the worldwide supply chain..

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THANKS FOR YOU TIME !

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