

All Solution's Under One Roof

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DATE: 05/10/2023

To,

The Managing Director

Karmayogi Ankushrao Tope

Samarth Sahkari Sakhar Karkhana Limited,

Unit 2 (Sagar), Tirthpuri

Tal - Ghansawangi Dist - Jalana.

Kind Attn. – Hon'ble Rajesh Tope Sir,

Phase 2 --

Modernization cum expansion of the plant from 2500 TCD to 4500 TCD & for achieving crushing rate 5500 TCD.

Mill

1. **Existing cane unloader bridge** - towards tippler side to be straightened, it's span to be increased from 22 MTR to 28 MTR & cane unloader bridge to be converted to cantilever type arrangement. Unloader Bridge strength should be capable to accommodate 12.5 tons capacity -- 2 nos cane unloaders.
2. **New cane unloader trolley** -- New cane unloader trolley of 12.5 M.T. to be installed on one number strengthened & extended bridge towards tippler side in front of existing 12.5 m.t. cane unloader trolley.

old 7.5 m.t. cane unloader trolley on this Bridge to be shifted on second unloader Bridge towards mill house side in front of existing 7.5 m.t. cane unloader trolley. Existing 5 m. t. Cane unloader trolley to be retained as spare one on same Bridge & and used during major breakdown of any one of 7.5 m.t. trolley.

a) First unloader bridge -- 12.5 m.t. + 12.5 m.t. trolleys

b) Second unloader bridge -- 7.5 m.t. + 7.5 m.t. trolleys

3. **New feeder table** - 7 mtr × 6 MTR size --- 1 no

New feeder table of 6mtr × 7 mtr 1 number to be installed in the front of existing feeder table towards Tipler side.

4. **New Brahmastra unit** - between two feeder tables --- considering the less width and depth of existing cane carrier of 1525 m.m. × 1120 m.m. & avoiding huge expenditure around 4 crores for replacement of cane carrier & all preparatory devices with civil foundation ---

We should install our special study, heavy duty, innovative & modern concept miracle unit Brahmastra in between 2 feeder tables for increasing cane bulk density, preparatory index and cane crushing by reducing load on all preparatory devices and milling Tandem.

5. **Overall plant stabilizer unit** -- to be installed in between leveller and Fibrizer to increase bulk density of prepared cane, uniform preparatory index, uniform, smooth consistent and constant crushing rate, increasing thermal efficiency of boiler, increasing bagasse saving & stabilize overall sugar complex from mill, boiler, turbine, sugar manufacturing process and distillery.
6. **Fibrizer modification** -- To increase the swing dia of existing Fibrizer from 1830 m.m. to minimum 2130 m.m. for increasing the peripheral speed of hammer tips for better preparatory index of new crushing rate 5500 T C D., It's anvil plate pockets and hard facing to be modified to new design & setting.
7. **Cane carrier** -- existing cane carrier drive & non drive shaft dia , to be checked and enlarged if necessary.
8. **New rotary juice screen** - of size 2 mtr × 4 MTR having screen aperture opening of 0.5 m.m. & Existing rotary juice screen of size 1800 m.m. × 3600 m.m. to be reused as second screening by changing its screen aperture opening by 0.35 m.m. instead of 0.5 m.m. to reduce load on clarifier & reduce icumsa & improve sugar quality.
9. **Existing rake elevator and rake carrier** - drive to be replaced by planetary g. box for getting 20% more rake carrier speed.
10. **Existing leveller** - knives to be increased from 36 to 50 nos by changing hub on existing hub for getting more preparation.
11. **All Mills** - require some rectification, modification & changes during off season overhauling and maintenance work for improving juice drainage & crushing rate.
12. **Existing all mill TRPF rollers** - are not perforated. Hence bottom roller of TRPF to be made perforated

or

ulka make 3 roller TRF system to be installed for increasing juice drainage, mill results and reduce load on mills.

13. Last mill 30" × 60" to be discarded & ulka make 36"×78" bare Dewatering moisture reduction mill or (36"×78" mill from unit no 1 to be shifted to unit no 2) to be installed with 500 KW motor & planetary g. box.
14. **Existing mill master gears** - to be replaced by suitable ratio planetary g. box.

Advantages Of Modernization Cum Expansion of The Plant From 2500 TCD To 4500 TCD & Actual Crushing Up To 230 TCH (5500)

3500 m.t. to 5500 m.t. crushing. Net rise in crushing by 2000 m.t.

- 1 We are saving near about **4 crore rupees** expenditure for cane carrier and preparatory device replacement along with civil foundation by installing new concept and innovative design Brahmastra and stabilizer unit only.
- 2 We will get uniform preparatory index.
- 3 We will get Uniform, consistent, constant, smooth and easy going crushing & operation of the overall plant.
- 4 Preparatory index improvement by 4 to 5%.
- 5 Primary extraction improvement by 4%.
- 6 The load on preparatory devices and mill will be reduced & hence it will make possible to increase crushing rate by 2000 m. ton in existing cane carrier, preparatory devices & milling tandem.
- 7 Improvement in juice drainage and mill performance to make possible for increase in crushing rate.
- 8 Bagasse moisture reduction up to 47.5% by installing 36" X 72" Ulka 2 roller dewatering & moisture reduction mill.
- 9 No extra man power will be required for increased crushing rate. Existing manpower can handle the new crushing rate & 5000 TCD expanded plant.
- 10 Your fix expenditure & manpower, interest & maintenance cost will come down due to increased crushing rate & per season 3 Lakh m.t. more crushing will be achieved as compared to previous crushing seasons.
- 11 You will get per year minimum 65,000 metric ton more bagasse saving due to....
 - a) "Brahmastra" and "Stabilizer" – New concept, miracle, innovative & moderate design unit.
 - b) Uniform smooth consistent and constant crushing.

- c) Increased crushing rate by 2000 MT.
- d) Reduced bagasse moisture up to 47.5 %
- e) Increased boiler thermal efficiency by 4 to 5 % minimum due to stabilizer and efficiency improvement during boiler capacity upgradation work.
- f) Reduced stoppages due to our consultancy and rectification modification, alteration, suggestion by using our very vast & long experience resulting in smooth, uniform, consistent and constant crushing.
- g) Reduced steam % cane by minimum 8 % & bringing it down from 42 % up to 33 to 34 %.
- h) You can sale per season 5 crore rupees bagasse & even you can run your distillery in offseason for more than 125 days.
- i) Due to increased crushing by 3 lakhs m.t. per season you will get 18000 m.t. more B heavy molasses & 54,00,000 litre more ethanol production.
- j) We will reduce your minimum 50-hour stoppages due to proper synchronizing rectification, modification and alteration work by our experienced Consultancy services.
- k) 1-hour stoppages result in loose more than 2.5 Lakh rupees.

Financial Profit Sheet of modernization cum expansion & our new units “Brahmastra” & “Overall Plant Stabilizer” + Our Consultancy & Modernization cum Expansion to increase 2000 MT Crushing / day.

How much will be the profit of modernization cum expansion of the plant to increase crushing rate by 2000 MT along with our new invented unit and consultancy & some addition + modifications if you increase 2000 MT crushing per day at your factory?

- 1 Minimum 2000 MT more Crushing will result in reducing the fix expenditures like annual maintenance, salary, interest etc. Rs 200/- per MT Cane Crushing, which is 2000 MT X RS 200 = Rs 4, 00, 000/- profit per day.
- 2 Near about 90% of above excess crushing bagasse is saved per day 550 MT X RS 2000/- costing around Rs 11,00,000/- per day. (2000 MT X 27 % X 90 % X Rs. 2000/- per MT of Bagasse = Rs 9, 90, 000/- per day)
- 3 Due to reduced bagasse moisture by 2.5 % (47.5%) & increased boiler thermal efficiency by 4 to 5 %, you will get 150 to 200 MT further more bagasse saving per day,we consider 175 M.T .more bagasse per day . costing around minimum 3,50,000/- Rs per day.
- 4 We will get extra “B” Heavy molasses 2000 MT X 6 % = 120 MT per day.

If this extra 120 MT "B" Heavy molasses used for ethanol production then 120 MT X 300 Ltr = 36,000 Ltr Ethanol will increase per day. Profit Rs 13/ - more per ltr after conversion will come Rs 13 X 36000 ltr = Rs 4,68,000/ - per day.

- 5 Reduced fluctuations and increased boiler efficiency will increase minimum 3500-unit power export X RS 6 per unit more. Total revenue by additional export will be Rs 21, 000/ - per day. In other words due to uniform cane crushing and increased boiler thermal efficiency of boiler and reduced unknown losses like inversion caramelization & uniform mixing of chemicals juice at mill , boiler , evaporator , dorr, pan and distillery you can get that much benefits like Cogen export.
- 5 We can reduce your total stoppage by minimum 50 hours, by our study, rectification, changes, modification, alteration, suggestion & fine tuning of overall plant, then you can save 50 Hr X Rs 2,00,000/ - = Rs 1 crore Rupees per season

Total Rs 22,29,000 /- - (Rs 22.29 Lakh) per day minimum. (As per Sr, No, 1 to Sr No. 4 only)

And for calculation and minimum profit ratio, if we take only 80 % Amount of this, then grand and sure per day profit will be Rs 17,83,000/ - Per day.

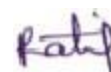
If we consider 150 season days then total return per crushing will be Rs 26,74,80,000 / - (Rs 26.748 Crore)

Except this above total profit of Rs 26.748 crore, Total RS 26.748 crore + RS 1.0 crore due to reduced season stoppages (Sr. No. 5) = **RS 27.748** crores minimum due to modernization cum expansion of the plant + our new "BRAHMASTRA" unit + overall plant stabilizer + our consultancy total profit per Season.

Thus, we have submitted you primary inspection & visit report as per your data provided & instruction given by you during your meeting.

Now we request you to consider our organization to be the right choice for providing consultancy services & do detail final engineering, workout, heat mass balance, steam balance, power balance, solid balance, pole balance & project report for increasing the profitability of your sugar complex.

Assuring you our best confident, perfect & fastest services with result orientation.



R B Patil

Technical Director

R B Patil & Associates