

Additional information required from sugar factories for Ethanol/ZLD projects

1. Plant code and short name of sugar factory.
2. Copy of IEM issued by Ministry of Commerce and Industry;
3. Installed crushing capacity;
4. Crushing capacity under expansion, if any;
5. Date of commencement of sugar manufacturing;
6. Proposed days of operation of sugar plant;
7. Proposed days of operation of ethanol plant;
8. Existing distillery production capacity, if any;
9. Does the company has any other sugar factory;
10. Date of application of the project;
11. Date of appraisal of the project;
12. Whether project commissioned prior to date of application to bank for appraisal of project.
13. Whether second hand plant & machinery involved;
14. Is there any refinancing;
15. Status of implementation of project, clearly indicating expected date of commissioning of project;
16. Credit record with financial institutions/banks (indicating whether it is satisfactory/good or otherwise);
17. A certificate from the appraising bank to the effect that all dues, whether outstanding or otherwise to Govt. or any other lending institution have been taken into account while working out financial viability;
18. Undertaking regarding no outstanding SDF/ LSPEF dues against the sugar factory and company / society as a whole;
19. Average DSCR of the factory (sugar + power + distillery) along with calculation sheet;
20. Average DSCR of the company/society as a whole along with calculation sheet;
21. Average DSCR for the previous five years of the company/society as a whole based on audited balance sheet along with calculation sheet;
22. IRR of the project along with calculation sheet;
23. FACR of the factory (sugar + power + ethanol) based on latest balance sheet, along with calculation sheet;
24. FACR of company / society as a whole based on latest balance sheet, along with calculation sheet separately; **(FACR may be furnished applying the formula as follows):**

(Net value of fixed assets + work in progress)
All secured loans, including the proposed one
25. Item wise detailed breakup of proposed expenditure to be incurred on building and civil works, plant and machinery and misc. fixed assets separately for the ethanol project;

	b. Ethanol								
13.	Average quality of molasses in terms of TRS content								
14.	Yield of Alcohol/Ethanol in litres /ton of molasses								
15.	Requirement of molasses for 160days of Distillery operation@alcohol yield of 235 litre/ton of molasses								

Not applicable in case of new units.

32. Broad Process details:

a.	Fermentation	Batch /Continuous
b.	Distillation	Atmospheric / Multi Pressure Re-distillation
c.	Spent wash Treatment	Bio-digestion -Evaporation – Bio-composting / Evaporation - Bio-composting / Evaporation – Incineration / Bio-digestion - Evaporation – Incineration / any other (please specify)
d.	Spent wash generation / litre of alcohol or ethanol	

33. Exhaust Steam and Power Requirements:

- a. For Distillery operation
- b. For general lighting & auxiliaries

34. Source of meeting exhaust steam & power requirements of the distillery already has or proposed installation of Boiler & TG-set, please specify their ratings & working pressure etc.

35. Broad details of machinery & equipments at various unit operations in following manner:

S.N.	Unit Operation	Existing *	Proposed additional / Modification or New	Final Configuration *	Cost (Rs. in Lakhs)	Remarks
1.	Molasses Storage					
2.	Fermentation					
3.	Distillation					
4.	Dehydration					
5.	Effluent /Spent Wash Treatment					
6.	Steam Generation					
7.	Power Generation					
8.	Alcohol Storage					

* Applicable in case of expansion of capacity of the existing plants

36. Assumptions taken in the project appraisal for profitability during 4 years, (in chronological order indicating the years)

S.	Particulars	1 st	2 nd	3 rd	4 th year
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No.		year	year	year	onwards
1.	No. of crushing day				
2.	Cane crushing (LMT)				
3.	Production of Ethanol (KLPD)				
4.	Price of molasses (Rs./tonnes)				
5.	No. of days of operation of ethanol plant				
6.	Average selling price of ethanol (Rs./Ltr.)				

37. Assumptions taken in the project appraisal for availability of raw material (in chronological order indicating the years)

S. No.	Items	1 st year	2 nd year	3 rd year	4 th year onwards
1.	Cane area (in hect.)				
2.	Total cane production (LMT)				
3.	Expected cane crushing as per financial appraisal (LMT)				
4.	Production of molasses (MT)				

38. Assumptions taken in the project appraisal for Profit/(Loss) for next three years (in chronological order indicating the years)

(Rs. in lakh)			
Net profit / loss After tax (company / society as a whole)	1 st year	2 nd year	3 rd year

39. An undertaking on a stamp paper of value Rs. 100/- regarding the Group Unit Status of the company.

40. Process of ZLD compliance i.e. method of achieving ZLD

41. Sugar factory is also requested to furnish the information as per **Annexure –I**.

42. The information may kindly be furnished within 15 days of the issue of this letter.

1. Projects associated with Ethanol Production (Greenfield/Expansion & Zero Liquid Discharge etc.):

S. No.	Particulars	Parameters/Details	
		Existing (last alcohol year)	Proposed
1.	Distillery Capacity: a. Licensed b. Operational		
2.	a. Fresh Water Consumption (Liters/Liter of ethanol) for distillery. b. Source of drawing fresh water.		
3.	System for measuring fresh water usage		
4.	Raw/Bio-methanated Spent wash generation (Liters/Liter of ethanol)		
5.	Solid % in Raw/Bio-methanated Spent wash		
6.	Details of MEE (enclose schematic diagram indicating configuration, heating surfaces and operational parameters)/RO system		
7.	Solid % in Concentrated spent wash		
8.	Quantity of MEE condensate/ RO permeate generated		
9.	System for ascertaining concentrated spent wash quantity, flow meter/mass flow meter		
10.	Mass balance for Bagasse: Spent wash in case of incineration boiler or Press Mud : Spent Wash in case of Bio-composting indicating availability of bagasse/press mud		
11.	Flow diagram of the Hot & Cold water management system		

12.	Flow diagram of the Effluent Treatment System (enclose details)		
13.	System of cold and hot water recycling conservation, Utilization of spent leese, boiler blow down and RO/DM plant reject etc. (enclose schematic diagram of system with details of cooling towers and UGR etc.		
14.	Hot and cold water mass balances (enclose details)		
15.	Brief of condensate cooling & polishing system		
16.	Air pollution control devices and particulate matter emission		
17.	Details of rain water harvesting system		
18.	Utilization of sludge and boiler ash		
19.	In case of bio-composting provide area of yard, leachate collection system and about covering of yard		
20.	Details of cameras at various locations		

2. Projects associated with Drip Irrigation:

S. No.	Particulars	Existing Parameters For three years before implementation of the project	Proposed Parameters for three years after implementation of project
1.	Crushing capacity (TCD): a. Licensed b. Actual		
2.	Duration of the season (days)		
3.	Capacity Utilization %		

4.	Total sugarcane requirement for 160 days of operation, MT		
5.	Total sugarcane available, MT		
6.	Actual Sugarcane crushed /projected crushing, MT		
7.	Varietal distribution -Major sugarcane varieties: <ul style="list-style-type: none"> a. early, b. mid-late/late c. Un-approved/rejected (indicate area under each variety in Ha and % of total area available)		
8.	Total cultivable area (Ha)		
9.	Area under sugarcane cultivation (Ha)		
10.	Area under micro-irrigation (drip irrigation) and source of finance for undertaking the project		
11.	Major sugarcane varieties (with area) under drip irrigation.		
12.	Information on: <ul style="list-style-type: none"> a. Sugarcane yield b. Quality of sugarcane as reflected by pol %cane c. Quantity of irrigation water d. Quantity of fertilizers 		
13.	Source(s) of irrigation		
14.	Percentage of ratoon and plant crop		
15.	Cost of drip irrigation project/Ha		
16.	Brief outline /specifications of the drip irrigation project		