डालमिया सिमेंट (भारत) लिमिटेड
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Your Ref. Date : Our Ref. Date :

# REQUEST FOR REVIEW

**Dalmia Sugars Limited Jawaharpur RE project**
**Project 0990**

**Reasons provided for request for review**

1. The overall additionality argumentation does not seem strong enough. The issue of bagasse availability cannot be considered as a barrier, since it would occur anyway in the baseline scenario. The other presented barriers such as the uncertainties regarding the PPA, seem to be a general/market barrier, and not particular to this project activity. Some additionality evidence, regarding to this particular project activity, such as the Financial Analysis, should be incorporated.

2. The PDD states that "a total capacity of 2.25MVA of diesel generator sets will be installed for back-up purposes." (page 02). This variable should be included in the monitoring plan.

**Response to review**

1. Additionality argument

In the baseline there would be no generation of electricity for the grid and the baseline would constitute a lower efficiency power plant that would just combust biomass to meet the captive power demand of the adjacent sugar factory. In this situation there is no risk on the supply of biomass as if the adjacent sugar factory crushes cane it will generate enough biomass (bagasse) to combust and generate power for the captive power consumption of the adjacent sugar factory. In the case of the project activity there is a risk on biomass supply as the high pressure system will allow a saving of biomass relative to the baseline that will allow the plant to operate during the off-season (when the sugar factory is not crushing). The longer the crushing season the more bagasse is saved (as the efficiency of combustion is greater as demonstrated in the PDD) and hence the project activity will operate for a longer period in the off-season and export more electricity to the grid. Sugar factories in Uttar Pradesh typically operate a crushing season of 129 days (the 8 year average from 1997 to 2005 for Central UP is used to determine this number as detailed in the annex) and therefore a low pressure system would generate power using the bagasse from cane crushing operations only during this period. The project activity assumes the sugar factory will operate for 160 days to generate enough bagasse to operate during the season and also provide some of the fuel for 120 days of the off-season (about 60 days of this will be saved bagasse and the remainder purchased biomass). Therefore the quantity of bagasse is crucial to how long the plant can operate in the off-season.

The PPA barrier refered to in the PDD is a market barrier that applies specifically to this type of project activity. Whilst the MNES (Ministry of Non-Conventional Energy Sources) PPA tariff referred to in the PDD was a general renewable energy tariff, the Uttar Pradesh Electricity Regulatory Commission has now instituted a specified state tariff for grid based bagasse cogeneration. This is lower than the old MNES tariff and may be reviewed post-2009. This has caused difficulties for the expansion of grid connected bagasse cogeneration capacity in Uttar Pradesh. Examining common practice amongst these types of projects demonstrates that this is a significant barrier, and as the table below demonstrates, all new grid based bagasse based plants in Uttar Pradesh have only been undertaken with the benefit of the CDM.

| Plant | Year | Power export | CDM project |
|---|---|---|---|
| Mankapur (BCML) | 2006-07 | Yes | Yes, UN validation website 2 Feb – 3 Mar 2007 |
| Barkhera (Bajaj) | 2006-07 | Yes | Yes, UN validation website 23 Sep – 22 Oct 2006 |

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| | | | |
|---|---|---|---|
| Khambakhera (Bajaj) | 2006-07 | Yes | Yes, UN validation website 23 Sep – 22 Oct 2006 |
| Gagnoli (Bajaj) | 2006-07 | Yes | Yes, UN validation website 23 Sep – 22 Oct 2006 |
| Dalmia Jawaharpur | 2006-07 | Yes | Yes, UN validation website (3 Aug – 1 Sep 2006) |
| M/s Dwarikesh Sugar Distt., Bareilly | 2006-07 (Delayed) | Yes but expected in second year of operation | Yes, UN validation website (29 Sep – 28 Oct 2006) |
| Chandanpur (Triveni) | 2006-07 | No | |
| Milak Narainpur (Triveni) | 2006-07 | No | |
| Rani Nangal (Triveni) | 2006-07 | No | |
| Loni (DSCL) | 2006-07 | Yes but expected in second year of operation | Will be proposed as CDM[1] |
| Hariyawan (DSCL) | 2006-07 | Yes but expected in second year of operation | Will be proposed as CDM |
| Rajpura (DSM) | 2006-07 | No | |
| Khai Kheri (Uttam) | 2006-07 | No | |
| Nakhaur (Uttam) | 2006-07 | No | |
| Belwara (Rana) | 2006-07 | No | |
| Amirkhan Ka Majara (Rana) | 2006-07 | No | |

Having clarified the above points we do not believe that it is necessary to also select Step 2 of the additionality tool and undertake a financial analysis.

2. Diesel generation sets
In terms of the 2.25MVA diesel generation, it was explained during validation that this was a back up unit for emergencies that would and could not be used to export electricity to the grid. The diesel generation set is purely for emergencies and would then only supply the adjacent sugar factory. The conclusion is therefore in the baseline there would also be a diesel generation set of the same capacity and hence we can ignore the emissions from this source.

Furthermore, the existing diesel generation sets cannot export power to the grid because of the characteristics of the governor which make them unsuitable for grid synchronization. If Dalmia Sugars wanted to export electricity from the diesel generation sets then the governor would have to be modified to be capable of load sharing, adjusting to voltage and frequency variations of the grid and a protection system for isolation of grid faults would have be installed.

Lastly the electricity generation from the diesel generation sets will not be included in the monitoring data for qualifying electricity generation and therefore have no impact on the resultant emission reductions for the project activity.

[1] Loni and Hariyawan are being developed by Agrinergy and DSCL jointly, copies of draft PDDs have been provided to demonstrate this.

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## STATEWISE AVERAGE DURATION OF CRUSHING SEASON IN INDIA

| STATES | 1989-90 | 1990-91 | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 |
|---|---|---|---|---|---|---|---|---|
| Assam | 81 | 62 | 61 | 58 | 42 | 57 | 54 | 35 |
| Andhra Pradesh | 106 | 147 | 160 | 91 | 107 | 149 | 136 | 111 |
| Bihar | 99 | 115 | 147 | 82 | 58 | 123 | 105 | 90 |
| Goa | 92 | 74 | 130 | 103 | 70 | 122 | 144 | 92 |
| Gujarat | 166 | 203 | 162 | 144 | 148 | 117 | 203 | 157 |
| Haryana | 175 | 205 | 208 | 124 | 111 | 133 | 193 | 169 |
| Kerala | 84 | 61 | 61 | 45 | 20 | 68 | 151 | 80 |
| Karnataka | 134 | 155 | 177 | 132 | 127 | 162 | 199 | 130 |
| Madhya Pradesh | 89 | 129 | 167 | 70 | 45 | 75 | 137 | 97 |
| Maharashtra | 200 | 193 | 176 | 136 | 109 | 180 | 199 | 123 |
| Nagaland | 74 | 63 | 67 | 49 | 25 | 18 | 21 | - |
| Orissa | 35 | 78 | 94 | 71 | 59 | 74 | 116 | 89 |
| Punjab | 145 | 129 | 129 | 129 | 91 | 90 | 176 | 177 |
| Pondicherry | 132 | 167 | 206 | 147 | 125 | 212 | 197 | 125 |
| Rajasthan | 80 | 99 | 136 | 82 | 64 | 72 | 117 | 91 |
| Tamil Nadu | 175 | 207 | 205 | 155 | 174 | 290 | 249 | 141 |
| East U.P. | 149 | 155 | 185 | 126 | 99 | 151 | 155 | 132 |
| West U.P. | 198 | 160 | 212 | 131 | 146 | 148 | 213 | 156 |
| Central U.P | 182 | 160 | 189 | 127 | 110 | 145 | 183 | 139 |
| West Bengal | 9 | 70 | 69 | 41 | 41 | 72 | 88 | 36 |
| All INDIA | 158 | 166 | 173 | 123 | 111 | 161 | 161 | 130 |

| STATES | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 |
|---|---|---|---|---|---|---|---|---|
| Assam | 28 | 25 | 59 | 35 | - | - | - | - |
| Andhra Pradesh | 111 | 142 | 142 | 114 | 119 | 130 | 106 | 97 |
| Bihar | 104 | 108 | 130 | 103 | 116 | 125 | 81 | 82 |
| Goa | 73 | 126 | 101 | 114 | 80 | 99 | 85 | 69 |
| Gujarat | 131 | 160 | 169 | 149 | 152 | 172 | 151 | 105 |
| Haryana | 117 | 129 | 136 | 165 | 162 | 144 | 125 | 96 |
| Kerala | 76 | 106 | 157 | 82 | 65 | 26 | - | - |
| Karnataka | 126 | 171 | 174 | 159 | 145 | 158 | 110 | 99 |
| Madhya Pradesh | 73 | 95 | 103 | 103 | 64 | 69 | 79 | 70 |
| Maharashtra | 138 | 162 | 176 | 150 | 127 | 123 | 77 | 66 |
| Nagaland | - | - | - | - | - | - | - | - |
| Orissa | 66 | 85 | 72 | 69 | 55 | 85 | 86 | 59 |
| Punjab | 87 | 84 | 105 | 118 | 147 | 139 | 90 | 64 |
| Pondicherry | 147 | 190 | 182 | 147 | 139 | 121 | 131 | 117 |
| Rajasthan | 99 | 97 | 94 | 71 | 61 | 28 | 111 | 62 |
| Tamil Nadu | 172 | 207 | 185 | 180 | 194 | 173 | 111 | 143 |
| East U.P. | 93 | 91 | 125 | 100 | 129 | 144 | 84 | 90 |
| West U.P. | 148 | 143 | 143 | 161 | 178 | 183 | 157 | 154 |
| Central U.P. | 120 | 118 | 133 | 126 | 151 | 156 | 115 | 120 |
| West Bengal | 48 | 40 | 28 | 30 | 35 | 91 | 81 | 58 |
| Uttranchal | | | | 122 | 138 | 151 | 116 | 110 |
| Chhatisgarh | | | | | | 31 | 94 | 58 |
| All INDIA | 123 | 141 | 152 | 139 | 140 | 141 | 100 | 86 |