

**Revised Monitoring plan for UN0347**  
**Version 1**  
**25-04-2008**

**Project Title: Chambal Power Limited's (CPL) proposed 7.5 MW biomass based power project at Rangpur, Kota District, Rajasthan, India**

**D.3 Data to be monitored:**

*a) Parameters affecting emission reduction of project activity*

| ID number | Data type       | Data variable                                 | Data unit             | Measured(M)<br>calculated(C)<br>estimated(E)          | Recording frequency | Proportion of data to be monitored | How will the data be archived?<br>(electronic/<br>paper) | For how long is archived data to be kept? | Comment  |
|-----------|-----------------|---|-----------------------|---|---------------------|------------------------------------|--|---|--|
| D.3.a.1.  | Power           | Total electricity generated                   | kWh                   | M   | Shiftwise           | 100%                               | Electronic   | 3 years after issue of CER                | Measured in plant premises and monitored and recorded continuously through DCS. Manufacturers of equipments should be of repute. |
| D.3.a.2.  | Power           | Auxiliary consumption                         | kWh                   | M   | Shiftwise           | 100%                               | Electronic   | 3 years after issue of CER                | -  |
| D.3.a.3.  | Power           | Power export                                  | kWh                   | M   | Shiftwise           | 100%                               | Electronic   | 3 years after issue of CER                | As per PPA with RSEB   |
| D.3.a.4   | Emission Factor | Northern Grid CO <sub>2</sub> emission Factor | tCO <sub>2</sub> /MWh | C (calculated by Central Electricity Authority latest | Annual              | -                                  | Electronic   | 3 years after issue of CER                | The weighted average grid emission factor (including imports) for the Northern Grid given by CEA shall                           |

| ID number | Data type | Data variable | Data unit | Measured(M)<br>calculated(C)<br>estimated(E) | Recording frequency | Proportion of data to be monitored | How will the data be archived?<br>(electronic/paper) | For how long is archived data to be kept? | Comment  |
|-----------|-----------|---------------|-----------|--|---------------------|------------------------------------|--|---|--|
|           |           |               |           | published report)                            |                     |                                    |  |   | be used each year for emission reduction calculations. In case this data is not available for a particular year from CEA, then this factor will be computed using published data as per ACM0002. |

***b) Parameters affecting leakage emissions from project activity***

| ID number | Data type | Data variable           | Data unit | Measured (m),<br>calculated (c)<br>or estimated (e) | Recording frequency | Proportion of data to be monitored | How will the data be archived?<br>(electronic/paper) | For how long is archived data to be kept? | Comment                |
|-----------|-----------|-------------------------|-----------|---|---------------------|------------------------------------|--|---|------------------------|
| D.3.b.1   | Fuel      | Biomass Quantity        | MT        | Measured  | Daily               | 100%                               | Paper  | 3 years after issue of CER                |                        |
| D.3.b.2   | Fuel      | Biomass calorific value | Kcal/Kg   | Measured  | Fortnightly         | -                                  | Paper  | 3 years after issue of CER                | Through sample testing |
| D.3.b.3   | Fuel      | Coal quantity           | MT        | Measured  | Daily               | 100%                               | Paper  | 3 years after issue of CER                |                        |
| D.3.b.4   | Fuel      | Coal calorific          | Kcal/Kg   | Measured  | Once                | Grab sample                        | Paper  | 3 years after issue                       | Through sample testing |

| ID number | Data type | Data variable           | Data unit | Measured (m), calculated (c) or estimated (e) | Recording frequency | Proportion of data to be monitored | How will the data be archived? (electronic/paper) | For how long is archived data to be kept? | Comment                |
|-----------|-----------|-------------------------|-----------|---|---------------------|------------------------------------|---|---|------------------------|
|           |           | value                   |           |   |                     |                                    |   | of CER                                    |                        |
| D.3.b.5   | Distance  | Distance of procurement | Km        | Calculated                                    | Daily               | 100%                               | Paper   | 3 years after issue of CER                |                        |
| D.3.b.6   | Mileage   | Mileage of vehicle      | Km/litre  | Estimated                                     | Monthly             | -                                  | Paper   | 3 years after issue of CER                |                        |
| D.3.b.7   | Density   | Density of fuel         | Kg/liter  | Measured                                      | Once                | -                                  | Paper   | 3 years after issue of CER                | Through sample testing |
| D.3.b.8   | Volume    | Capacity of vehicle     | MT        | Measured                                      | Once                | -                                  | Paper   | 3 years after issue of CER                |                        |

**D.4. Qualitative explanation of how quality control (QC) and quality assurance (QA) procedures are undertaken:**

| Data    | Uncertainty level of Data (High/Medium/Low) | Explain QA/QC procedures planned for these data, or why such procedures are not necessary.                      |
|---------|---|---|
| D.3.a.1 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.a.2 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.a.3 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.a.4 | Low   | No. Since the data variable is calculated by Central  |

| Data    | Uncertainty level of Data (High/Medium/Low) | Explain QA/QC procedures planned for these data, or why such procedures are not necessary.                      |
|---------|---|---|
|         |   | Electricity Authority (CEA) which is a government body therefore the uncertainty level is very low.             |
| D.3.b.1 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.b.2 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.b.3 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.b.4 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.b.5 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.b.6 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.b.7 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |
| D.3.b.8 | Low   | Yes, ISO 9001 or similar type of system will be used and the same procedures are available at the project site. |