

### **Status of Implementation of Remedial Action Plan of CGPL and ADB**

ADB RAP Action Points	Status
<p><b>2. Thermal Discharge</b></p> <p>a) NIO has been engaged by CGPL and is carrying out field observations on the actual impacts of thermal discharge from the project in Modhva Creek and adjoining coastal areas; this will involve validating the thermal modeling previously carried out by HR Wallingford during the environmental due diligence (prior to project approval). NIO will complete this model conformity study.</p> <p>Findings of the draft NIO report to be reviewed by ADB (engaging external specialist marine consultant). ADB will submit to the CRP, as soon as available, for review and comment the draft study prepared by NIO</p>	<p>NIO's model conformity study<sup>1</sup> concluded that</p> <ul style="list-style-type: none"> <li>• In the worst case scenario, near ambient temperature was being attained at a distance of 600 meters from the channel mouth.</li> <li>• During the winter, this distance was reduced to 500 meters from the channel mouth.</li> <li>• These distances are much shorter than the predictions of 3 kilometers by HR Wallingford based on the modeling study conducted by NIO prior to the establishment of CGPL.</li> <li>• Comparison between the three sets of data (Dec-2008, Dec-2013 &amp; April 2015) shows that the current pattern had not altered off the channel mouth due to its construction.</li> <li>• Final discussions among experts of ADB, CRP and CGPL; have taken place in NIO Mumbai Early April 2017</li> </ul>
<p>b) Summary of the NIO report to be translated into local language and shared with interested stakeholders (including fisherfolk) to obtain and record their views.</p>	<p>Critical findings of the report have been translated in Gujarati and disseminated with the community on 31st March and 1st April 2016. The ADB specialist was also an active participant in this session<sup>2</sup></p>
<p>c) ADB will review results</p>	<p>This has already been covered under point a) as above</p>
<p>d) The results of the automatic monitoring device at the outflow channel to be made accessible to the public</p>	<p>Resistance Temperature Device (RTD) has been installed at diaphragm wall. The data is being displayed regularly at main gate.</p> <p>The LIP<sup>3</sup> has been finalized and implemented, which includes</p>

<sup>1</sup> Model conformity study by NIO (2016) available on CGPL website

<sup>2</sup> Dissemination workshop was organized on 31 Mar to 01 April 2016.

<sup>3</sup> Final Livelihood Improvement Plan 2017

<p>e) ADB to advise CGPL appropriately on ongoing qualitative studies (i) to identify the fisher folk who have practiced foot fishing on a regular basis in the creek and coastal area adjoining the outflow channel; and (ii) to assess any livelihood impacts on such identified foot fisher folk for the purpose of preparing a Livelihood Improvement Plan in consultation with the identified foot fisher folk (with disclosure of the plan in the local language). ADB shall provide the TOR for the qualitative studies and the results thereof to the CRP for its review and comment ADB to provide the draft Livelihood Improvement Plan<sup>6</sup> to the CRP for its review and comment prior to finalization and implementation.</p> <p>f) Implementation of Livelihood Improvement Plan for the identified foot fisher folk.</p> <p>g) Review of the Livelihood Improvement Plan to be carried out by an independent expert for ADB.</p>	<ul style="list-style-type: none"> <li>• Identify 24 Pagadiyas through systematic process</li> <li>• Development and livelihood support for the 24 Pagadiya</li> <li>• Institutionalized mechanism established for implementation</li> <li>• VDAC formed for implementation of LIP</li> <li>• Disbursement of agreed support from CGPL is concluded.</li> </ul>
<p><b>3. Sludge Treatment and disposal</b></p> <p>a) Since this issue was discovered (in December 2013), ADB has engaged with CGPL on environmentally sound ways in which to segregate the iron bearing sludge from the demineralization plant. The options for segregation of sludge and its disposal are currently under technical evaluation.</p> <p>On completion of the technical evaluation of options, ADB will consult with the CRP on the preferred option prior to finalization of preferred option.</p>	<p>After extended consultations among CGPL ,ADB, CRP experts and Gujarat Pollution Control Board in mid-April 2017, it was concluded that CGPL is fully compliant on this count. Therefore, this issue is recognized as "full compliance" by CRP.</p>

<p>b) Implement sludge treatment and disposal measures and discontinue discharging iron-bearing sludge into the sea water via outfall channel.</p>	
<p><b>4. Access restrictions</b>  a) Subsequent to the CRP findings, ADB investigations indicate that actions taken by CGPL (including identification of and consultations with affected persons and the measures taken to address the impacts of such access restrictions) adequately address the impacts of access restrictions to Tragadi bander.</p> <p>ADB will submit these findings to CRP for their review and comments.</p>	<p>CGPL stays committed to provide free access to Tragadi Bandar and would continue to maintain the road. CRP has already recorded full compliance on this issue.</p>
<p>b) The ADB's findings in relation to access restriction issue will be translated into local language and consultations with the relevant stakeholders held.</p>	<p>On the advice of ADB, the access restriction study report in local language is uploaded on CGPL micro-site.</p>
<p>c) Based on the CRP's review of ADB's findings, if any further action is required, such action will be determined by ADB. ADB, and not CGPL, will be responsible for ensuring the implementation of such action.</p>	<p>ADB review findings do not warrant any follow up.</p>
<p>d) The surface quality of the access road to Tragadi bander for undisrupted access during the monsoon to be maintained.</p>	<p>Appropriate maintenance is being carried out.</p>
<p><b>5. Ambient Air Quality</b>  a) Air quality monitoring (involving 10 monitoring stations at all villages within the Project's air shed) was established in April 2014 and will continue to be carried out for a two year period.</p>	<p>CGPL is doing Ambient air quality monitoring since inception of the plant and will continue in coming years.</p>
<p>b) Undertake a study in the villages surrounding the Project to ascertain the extent of health impacts associated with air pollution (PM10 and PM2.5).</p>	<p>The Baseline study has been completed and endorsed by CRP/ADB after review.</p>

c) With respect to particulates, a technical study to be undertaken (to be carried out by an independent consultant engaged in consultation with ADB) to ascertain the contribution of the Project to ambient PM10 levels within the Project's airshed.

**d)** Findings of the technical study to be made accessible to interested stakeholders and technical study to be finalized taking into account their views. A summary of the technical study will be translated into local language and shared with local communities and other stakeholders. ADB will provide the CRP with the terms of references for the study and draft study report for its review and comments.

e) Using the results of the ambient air quality monitoring and the technical study, ADB will undertake a correlation analysis of ambient air quality and stack emissions which will be used to determine, in consultation with CGPL, and relevant stakeholders, any further action in relation to ambient air quality monitoring and any control measures.

ADB will submit the correlation analysis to CRP for its review and comment.

Any further action in relation to ambient air quality monitoring and any control measures may include additional monitoring, plantation of trees and paving of internal roads within the villages if considered appropriate.

ADB expert study was conducted the highlights are as below

- PM10 concentration in the region was as high as 67.9 µgm per m3 even at the time of EIA (2006). The measured concentration in the 10 villages from 2013 had been consistently higher than 100 µ gm/m3 due to prevailing meteorological conditions and increasing activities in the region

	PM10				
	2013	2014	2015	2016	2017
Motakandagra	136	124	92	85	101
Motikhakkar	135	126	124	115	118
Nanabhadia	132	119	104	94	100
Siracha	138	129	106	90	95
Tragadi	138	124	94	92	103
Tunda	138	123	92	90	99
Vaandh	141	138	125	114	110

- The principal objective of the ADB expert study was assessment of CGPL's contribution in ambient PM10 concentration within 10 km radius and in specific to the villages in the vicinity.
- The study found that CGPL's contribution to the air shed was insignificant. The highest was of 8 to 17% in Vandh village, which is closest to the coal yard.
- The study conclusions were based on extensive data and internationally accepted analytical tools. It recommended reinforcement of measures to reduce fugitive emissions around coal yard and conveyer towards Vandh village.
- The ADB expert's report can be put on CGPL micro site after it is finalized between ADB and CRP.

	<ul style="list-style-type: none"><li>• Special mitigation measures for reducing fugitive emission around coal conveyer and yard towards Vandh village are<ol style="list-style-type: none"><li>1) three tier plantations;</li><li>2) 9 mt high wind barrier;</li><li>3) 1.3 Km pipe conveyer;</li><li>4) Regular water sprinkling;</li></ol></li></ul>
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