



**Fifth Annual Monitoring Report to the Board of Directors**  
**on the**  
**Implementation of Remedial Actions**  
**for the**  
**Visayas Base-Load Power Development Project**  
**in the Republic of the Philippines**  
**(ADB Loan 2612-PHI)**

**8 November 2017**

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- the staff of the Private Sector Operations Department, ADB;
- Freedom from Debt Coalition-Cebu and the requesting parties, who have asked that their identities be kept confidential;
- the project sponsor, KEPCO-SPC Power Corporation; and
- the Government of the Republic of the Philippines, particularly the Environmental Management Bureau of the Department of Environment and Natural Resources.

## ABBREVIATIONS

ADB	– Asian Development Bank
CRP	– Compliance Review Panel
DENR	– Department of Environment and Natural Resources
EMB	– Environmental Management Bureau
KSPC	– KEPCO-SPC Power Corporation
MMT	– multipartite monitoring team
MW	– megawatt
PSOD	– Private Sector Operations Department, ADB
TA	– technical assistance

### Note

In this report, “\$” refers to US dollars.

<b>Chair</b>	Dingding Tang, Compliance Review Panel
<b>Member</b>	Arntraud Hartmann, Compliance Review Panel
<b>Member</b>	Ajay Deshpande, Compliance Review Panel

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## I. INTRODUCTION

1. In May 2011, the Compliance Review Panel (CRP) received a request for compliance review of the Visayas Base-Load Power Development Project in the Philippines (Loan 2612-PHI or the Project) from people affected by the Project. Per Asian Development Bank (ADB) Accountability Mechanism Policy (2003) which was effective at the time the complaint was submitted, the CRP conducted the compliance review and submitted its report to the ADB Board of Directors (Board) in March 2012.<sup>1</sup> The report detailed instances of noncompliance by ADB with its operational policies and procedures on environment and public communications. The Board approved the recommendations in the CRP report, and ADB Management later submitted a remedial action plan to the ADB President, the progress of implementation of which was monitored by the CRP for 5 years. (See Appendix 2 for Management's Action Plan for Implementing the Recommendations of the Compliance Review Panel.) Prior to this, the CRP submitted four annual monitoring reports to the Board on 12 July 2013; 1 August 2014; 14 August 2015; and 17 August 2016. This is the fifth and final annual monitoring report of the CRP to the Board on this Project.

2. This fifth monitoring report covers the following:

- (i) a short description of the project;
- (ii) the results of the CRP's compliance review and the CRP's recommendations;
- (iii) the Management's action plan to comply with the CRP's Board-approved recommendations;
- (iv) the findings of the CRP during its fifth year of monitoring;
- (v) the CRP's conclusions regarding current state of Management's compliance with the Board-approved recommendations;
- (vi) the CRP's feedback regarding the implementation of Management's remedial actions; and
- (vii) lessons learned in the monitoring of the Project after compliance review.

3. This monitoring report is based on a review by the CRP of Management's quarterly reports on the implementation of the action plan and other relevant documents submitted to the CRP by the Private Sector Operations Department (PSOD); meetings with concerned ADB staff and with relevant personnel of the Department of the Environment and Natural Resources (DENR) at its Head Office; and a site visit to Cebu on 20-21 September 2017. During the site visit, the CRP met with representatives of the project sponsor, KEPCO-SPC Power Corporation (KSPC); affected persons, including the original complainants and their representative.<sup>2</sup> A list of the persons met by the CRP during the monitoring mission is in Appendix 1 of this report.

4. This report assesses the progress made by ADB Management in implementing its remedial action plan for complying with the CRP's Board-approved recommendations. This monitoring report contains the CRP's findings and conclusions on whether the implementation of its recommendations has resulted in compliance with ADB's operational policies and procedures, based on its review of progress achieved in the fifth year of the implementation of the

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<sup>1</sup> ADB. 2012. *Final Report: Compliance Review Panel Request 2011/1 on the Visayas Base-Load Power Development Project in the Republic of the Philippines (ADB Loan 2612-PHI)*. Manila. Available at [http://www.compliance.adb.org/dir0035p.nsf/attachments/PHI%20FINAL%20REPORT%20FINAL%20APPROVED%20BY%20BOD.pdf/\\$FILE/PHI%20FINAL%20REPORT%20FINAL%20APPROVED%20BY%20BOD.pdf](http://www.compliance.adb.org/dir0035p.nsf/attachments/PHI%20FINAL%20REPORT%20FINAL%20APPROVED%20BY%20BOD.pdf/$FILE/PHI%20FINAL%20REPORT%20FINAL%20APPROVED%20BY%20BOD.pdf)

<sup>2</sup> The site visit to Naga, Cebu was done by CRP members, Dingding Tang, Artraud Hartmann, and Ajay Deshpande with support from Munawar Alam, Advisor and Josefina Miranda, Compliance Review Officer both from the Office of the Compliance Review Panel.

Management's action plan. For those recommendations that have not yet been complied with, the CRP provides feedback that ADB Management should consider in continuing to implement the actions required by the CRP's Board-approved recommendations to bring the project into full compliance.

5. In accordance with the provisions of the Operations Manual (OM) section L1 on Accountability Mechanism,<sup>3</sup> the CRP submitted the draft of this monitoring report to the Board Compliance Review Committee (BCRC) for review and consultation. The comments from the BCRC have been considered by the CRP in finalizing this report.

## II. DESCRIPTION OF THE PROJECT

6. The Project involved the construction and operation of a 200-megawatt (MW) coal-fired power plant in Naga City, Cebu Province, Philippines, consisting of two nominal 100 MW units in the ash disposal area of the existing 203.8 MW Naga Power Plant, using circulating fluidized bed combustion boilers that were expected to generate relatively low levels of nitrogen oxides and sulfur dioxide. The Project was aimed at addressing the power shortage in the Visayas region and providing base-load power to the local electricity grid. It was designed to (i) support economic growth in the Visayas region by increasing the availability of reliable and competitively priced power to meet the growing demand of consumers without adding to the financial burden of the government; (ii) reduce electricity costs by increasing competition and efficiency through private sector investment; and (iii) be a model for future private sector investments in greenfield, environment-friendly, coal-fired power generation under the new regulatory regime for meeting the country's future energy needs.

Figure 1: KSPC power plant (left) and barge unloading coal for the plant (right)



Source: CRP

7. This Project marked the first collaboration between ADB and the Export-Import Bank of Korea. On 11 December 2009, ADB approved a direct loan of up to \$120 million to KSPC.<sup>4</sup> Although the Board approved \$120 million, ADB only committed \$100 million under the ADB Facility Agreement. The ADB loan was signed and took effect on 4 March 2010. With construction

<sup>3</sup> ADB. 2008. *Operations Manual*. L1/OP, para.70. Manila.

<sup>4</sup> KSPC is owned by the Philippine corporations Korea Electric Power Corporation Philippine Holdings (60%) and Salcon Power (SPC, 40%).

substantially completed, the power plant was commissioned on 31 May 2011 and commercial operations immediately started. The full loan amount of \$100 million has been fully disbursed on 27 December 2013. ADB supervised the implementation and operation of the Project until KSPC finally paid its loan in full on 11 April 2017.

### III. COMPLIANCE REVIEW AND RECOMMENDATIONS

8. On 25 May 2011, Aaron Pedrosa Jr., then Secretary General of the Freedom from Debt Coalition-Cebu and Vicente Obando, acting as representatives of the requesters, submitted a request for compliance review to the CRP. According to the request, the Project had or was likely to have adverse effects on the health of the people living near it because of (i) its emission of carbon dioxide (CO<sub>2</sub>), sulfur dioxide, and nitrogen dioxide which could cause respiratory illnesses; (ii) the spillage of coal during transport exposing the community to hazardous, toxic metallic elements; and (iii) the seepage of harmful elements from the Balili coal ash dump site which could contaminate marine life and render it unfit for human consumption.<sup>5</sup> The request added that the technology used in the plant did not prevent the CO<sub>2</sub> emissions responsible for global warming and produced four times more coal combustion waste per megawatt of electricity than conventional coal-burning plants.

9. Based on the CRP's recommendation in its eligibility report, the Board authorized a compliance review of the project on 11 July 2011. The CRP conducted its review and found that the Project did not comply with certain provisions of Environment Policy (2002) and OM Section F1: Environmental Considerations in ADB Operations (2006); OM Section L3: Public Communications (2008) and OM Section C3: Incorporation of Social Dimensions into ADB Operations (2007); and Energy Policy (2009), para. 15 (v).

10. With respect to the Environment Policy, the CRP found the Project to be noncompliant with the provisions requiring the updating of the environmental impact assessment; a due diligence review of ash management; an environmental audit of the pre-existing Naga power plant; ambient air dispersion modeling; and the preparation of an environmental management plan for the historical ash disposal sites. Regarding the Public Communications Policy, the CRP found noncompliance in addressing community concerns about the health implications of the Project, in providing adequate and timely information about environmental impact including the dissemination of the environmental impact assessment, and subsequent changes in the assessment; and in ensuring an adequate and functioning grievance redress mechanism, and an inclusive consultation process. Regarding the Energy Policy, the CRP found that ADB had decided to finance the coal-fired power plant without first ensuring compliance with social and environmental safeguards. Given these conclusions, the CRP came up with four recommendations to bring the Project into compliance.

11. On 2 April 2012, the Board discussed the CRP's final report and approved its four recommendations. On 5 June 2012, Management submitted to the ADB President an action plan for the Project to implement the Board-approved CRP recommendations and bring the Project into compliance. As the compliance review and monitoring procedures for this Project followed the Accountability Mechanism (2003), the CRP did not have an opportunity to comment on the action plan before it was submitted to the ADB President and circulated to the Board. Since then,

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<sup>5</sup> The CRP did not investigate the complaints regarding the Balili site since the inclusion of the site in the ash disposal plan, still being reviewed at the time of the CRP investigation, was uncertain. A decision not to build an ash disposal facility on this site was later made, thus the exclusion in the fact-finding.

ADB Management has been submitting quarterly reports on the implementation of this action plan to the CRP as part of the monitoring process.

#### IV. RESULTS OF THE MONITORING OF THE ACTION PLAN

12. The following paragraphs present the findings and conclusions of this fifth annual monitoring report of the CRP. Each Board-approved recommendation is mentioned first, together with the related actions proposed in Management's action plan. The CRP's related monitoring findings, conclusions, and feedback follow.

##### A. CRP Recommendation 1

**CRP Recommendation 1:** Undertake a comprehensive air dispersion modeling study that includes the key pollution sources in the project's area of influence and validate its predictions with actual air emissions and ambient air quality monitoring data. Develop an action plan based on recommendations from the modeling study and emphasize the potential for continuous monitoring and recording of air emissions and ambient air quality.

**Management Remedial Action Plan:** A Technical Assistance (TA), with the Asian Development Bank as the Executing Agency (EA) and the office of the Department of Environment and Natural Resources (DENR) in Cebu as the Implementing Agency (IA), will be undertaken. As ADB obtains findings from the air dispersion modeling study during TA implementation, the findings will be discussed with KSPC, the local DENR office, and the Naga City government and an appropriate action plan will be developed and implemented. (For full text, see Appendix 2.)

13. **CRP findings regarding compliance with recommendation 1.** To carry out this recommendation and Management's action plan, ADB prepared and approved a capacity development technical assistance (TA) for air quality management for the Project with the Department of Environment and Natural Resources as the executing agency and the Environmental Management Bureau (EMB) Region 7 as implementing agency.<sup>6</sup>

14. After considerable delay in the siting and procurement, two units of air quality monitoring equipment funded under the TA were finally installed, tested, and started to operate from 5 September 2016 at the compound of the City Hall of Naga City and inside the Track and Field Oval of the Naga City Sports Complex. The equipment supplier, Electrobyte Environmental Concerns Corp., has also trained several staff of the Environmental Management Bureau-Region 7 of DENR to operate each unit and provided them knowledge on basic trouble shooting and understanding of the air quality monitoring system (AQMS) software which includes data gathering, data validation, report generation, and configurations among others. The equipment is supposed to gather data on air quality 24/7 uninterruptedly for 6 months for AECOM to complete the validation of its air quality modelling study.

<sup>6</sup> ADB. 2013. *Technical Assistance to the Republic of the Philippines for Air Quality Management for the Visayas Base-Load Power Development Project*. Manila (CDTA 8338-PHI, \$1 million; approved in March 2013).

Figure 2: Air quality monitoring equipment installed at the compound of the City Hall of Naga City (left) and inside Track and Field Oval of the Naga City Sports Complex (right)



Source: CRP

15. Unfortunately, both units failed to gather the required data due to technical problems<sup>7</sup> and power supply interruption for the monitoring equipment at the Naga City Hall compound from 19 January to 19 February 2017. In its 19<sup>th</sup> quarterly progress report, PSOD stated that such “may be related to operation and maintenance issues with the executing agency” which certainly need to be resolved immediately for AECOM to complete and validate the air dispersion modelling study under the TA. Funding the operations and maintenance of the equipment during the study under the TA is an issue that has been confirmed at the DENR Central Office.

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<sup>7</sup> AECOM, the consulting firm engaged by the TA to do the air quality study reported problems on the tapered element oscillating microbalance (TEOM) which is essential to the working of the equipment. Depending on the assessment of the equipment supplier, the units may need repair or parts replacement which will take some time.

Figure 3: The two units of the air quality monitoring equipment currently installed at the two monitoring sites but not operational



Source: CRP

16. ADB Management reported to CRP and this was confirmed with EMB Region 7 staff that Electrobyte staff already visited the site to assess the damage to the units. Repair of both units is expected by September 2017. After the repairs, the units can be made operational again by October 2017. Data gathering is expected to be completed by April 2018 with draft report prepared by June 2018. Due to this, the completion of all the activities under TA 8338 are expected to be completed only by about October 2018.

17. Real time data from the units will be sent to EMB Region 7 and at the DENR Central Office as an input to real time nationwide air quality monitoring. Completing the study is critical as it will provide the data for the air-shed management scenario options that could be considered by DENR and the Air-shed Management body which has jurisdiction over the KSPC power plant and its vicinity. ADB Management confirmed it will share the draft report from AECOM with the CRP for its review and comments by June 2018 and ensure that the results of the study are also shared to relevant stakeholders.

18. **CRP conclusions regarding compliance with recommendation 1.** The CRP still notes the significant delay in complying with this recommendation. The CRP is concerned that the problem regarding the operation and maintenance of the monitoring equipment will not only delay the completion of the study but also shorten the useful life or render the equipment inoperable after the TA. As the physical measurement of ambient air quality in the area and validation of the air dispersion model have not been completed yet, the CRP deems this recommendation as only partially complied with.

19. **CRP feedback to Management on actions to bring the project into full compliance with recommendation 1:** For ADB to bring the Project into compliance, ADB Management needs to ensure that:

- (i) two units of ambient air quality monitoring equipment are repaired and made fully operational with necessary operation and maintenance support to ensure continuous monitoring of ambient air quality;
- (ii) data on ambient air quality are transmitted to DENR, KSPC, the PSOD project team leader and the public (via the ADB or DENR or KSPC website) on a regular basis;
- (iii) ambient air quality data collected up to April 2018 will be used, together with other data from KSPC monitoring sites and other available data to validate, and where needed, to adjust the air dispersion model by May 2018;
- (iv) based on a validated and adjusted model, air-shed management scenario options will be generated taking into consideration ambient air quality standards applicable, as well as, public health considerations;
- (v) air quality model validation needs to consider major identified air pollution sources, particularly traffic as it is reported that traffic contributes to @ 65% of total emissions;
- (vi) summary of the validated air dispersion modeling study, in English and the local language, is shared to the key project stakeholders (i.e., KSPC, affected persons, complainants through their representative, DENR) and the public through ADB website and expeditiously placed before the responsible air-shed management body; and
- (vii) if the selected air-shed management scenario requires KSPC to adjust its air emissions regime to comply with ambient air quality standards, then ADB Management, to its best effort and within possible avenues, should ensure that these regime changes are effectively made.

## B. CRP Recommendation 2

**CRP Recommendation 2:** Undertake a comprehensive study on ash utilization at cement plants and the ready-to-mix concrete plant and implement plant-specific recommendations and EMPs. In addition, prepare and implement EMPs for the existing ash ponds and historical ash disposal sites.

**Management Remedial Action Plan:** KSPC produces about 135 tons/day of ash. KSPC has been temporarily disposing of its ash at the Naga Power Plant's ash pond and KSPC's existing onsite emergency ash pond (Ash Pond B). As the long-term solution, since 2011, KSPC, with ADB's guidance, has been developing a new ash management plan, consisting of (i) recycling of ash by a cement plant and a ready-mixed concrete batching plant, (ii) landfilling of un-recycled ash at secured ash ponds to be constructed within KSPC's plant site, and (iii) as a backup measure, landfilling at a secured landfill facility located in a municipal waste management facility. (For full text see Appendix 2.)

20. **CRP findings on compliance with recommendation 2.** In its fourth monitoring report, this recommendation has been considered by the CRP as complied with. No further issue has

been raised by any of the affected persons nor the complainants and their representatives relating to this.

21. **CRP conclusions regarding compliance with recommendation 2.** This recommendation has been complied with.

22. **CRP feedback to Management on actions to bring the project into full compliance with recommendation 2.** No further action required of the Management on this.

### C. CRP Recommendation 3

**CRP Recommendation 3:** Expand or complement the existing MMT to ensure representation of all communities directly affected and all appropriate NGOs and to facilitate transparent and inclusive communication and grievance redress.

**Management Remedial Action Plan:** Representatives of the project team will attend the quarterly multi-partite monitoring team (MMT) meetings.

In a meeting with the local DENR office and Chairman of the MMT on 28 May 2012, ADB reiterated its request to include appropriate NGOs as members of the MMT or at least invite them to the quarterly meetings. The MMT Chairman will discuss ADB's request with other MMT members in the next MMT quarterly meeting to be scheduled in June 2012.

In case the MMT declines ADB's proposal to include the NGOs or at least invite them to the quarterly meetings, ADB will ask KSPC to hold complementary meetings with the NGOs on a quarterly basis to update them on project developments and share minutes of the MMT quarterly meetings. (For full text, see Appendix 2.)

23. **CRP findings regarding compliance with recommendation 3.** Since the last monitoring mission of the CRP, three (3) multipartite monitoring team (MMT) meetings (on 2 September 2016, 21 December 2016; and 21 April 2017); two (2) semi-annual stakeholder's forum; and quarterly public consultations at Barangays Colon, Tangke, and North Poblacion were held. The representatives of the complainants confirmed they were invited to the MMT meetings; notified in advance; and participated in some of these meetings when their schedule permitted. The minutes of the MMT meetings were posted in the ADB project website (<https://www.adb.org/projects/43906-014/main#project-documents>) both in English and the local language, except for the last MMT meeting which still has no translation.

24. **CRP conclusions regarding compliance with recommendation 3.** In its fourth monitoring report, this recommendation has been considered by the CRP as complied with.

25. **CRP feedback to Management on actions to bring the project into full compliance with recommendation 3.** No further action required of the Management on this.

#### D. CRP Recommendation 4

**CRP Recommendation 4:** Implement a community outreach program focusing on preventing negative health impacts from air, water, and noise pollution and potentially negative impacts from exposure to unprotected coal ash deposits.

**Management Remedial Action Plan:** During the public consultation on KSPC's ash disposal plan last 27 April 2012, KSPC agreed to enhance its information outreach and awareness programs/activities to inform the affected or potentially affected people on the project including its ash management plan and on precautionary measures to avoid any potentially negative impacts from air, water and noise pollution and exposure to coal ash deposits.

ADB held an initial consultation with public health officials in Naga City on 26 April 2012. For a period of 1 year, ADB will hold quarterly meetings with the Naga City rural health units to continue and improve monitoring of the leading causes of morbidity in the project area, collect information and use the data in providing inputs to KSPC's medical missions. (For full text, see Appendix 2.)

26. **CRP findings regarding compliance with recommendation 4.** Information gathered from various sources and review of minutes of the different meetings show continuous effort to address concerns relating to this recommendation. It has been confirmed that medical services are now provided to the upper part of Barangay Colon, in addition to the other medical clinics in the other barangays adjacent to the KSPC plant.

27. Quarterly public/barangay consultations have been effective venues for raising to KSPC concerns on coal dust dispersion; noise during night time; and other environment- or health-related issues.<sup>8</sup> Immediate feedback mechanism particularly during coal unloading have been maintained by KSPC through their good community relations developed through various medical missions and community outreach activities, including the provision of mobile load to key persons in barangays that are at the perimeter of the KSPC power plant.

28. However, other tasks on air pollution issues associated with this recommendation and remedial action can only be assessed after the validation of the air dispersion modeling study and air-shed management scenarios are developed under recommendation 1.

29. **CRP conclusions regarding compliance with recommendation 4.** With the above, the CRP finds that ADB has partially complied with this recommendation.

30. **CRP feedback to Management on actions to bring the project into full compliance with recommendation 4.** For ADB to bring the Project into compliance with this recommendation, the air dispersion modeling study must be completed, including the other tasks under recommendation 1. In line with actions to be done in recommendation 1, ADB Management should ensure that consultations on the result of the validation study and air quality improvement action plan are cascaded for information and consultation with people at the vicinity of the KSPC power plant through the various consultation venues currently available.

<sup>8</sup> Slide 2 of attachment on barangay consultations in the minutes of the Multipartite Monitoring Meeting of 21 April 2017 (<https://www.adb.org/sites/default/files/project-documents/43906/43906-014-dpta-en.pdf>) which shows matters raised in the consultation at Barangay Colon on 29 March 2017 and corresponding actions that will be taken by KSPC to address those.

## V. CONCLUSIONS

31. In summary, ADB has partially complied with recommendations 1 and 4, and fully complied with recommendations 2 and 3. For recommendations 1 and 4, full compliance may only be after the validation of the air dispersion modeling study which will be the basis for the development of air-shed scenarios and, subsequently developing an action plan to achieve the desired air-shed scenario in the area using this air quality data.

32. Notwithstanding the delay in the data gathering for the validation of the air dispersion modeling study and the uncertainty in the operation and maintenance of the air quality monitoring equipment, there is a need to strengthen the avenues for information dissemination and public consultations leading to overall collaboration between the various project stakeholders on environmental and health aspects relating to the Project.

33. While this is the fifth annual monitoring of the CRP for this Project, there remain major tasks that need to be supported by ADB Management and completed, notably, operationalizing the CAAQMS, completion of the validation of the air dispersion modeling study and development of an air quality improvement action plan. As the result of this study, various air shed and air emission scenarios are required to be studied to ensure acceptable ambient air quality status in the project area. The CRP is, therefore, of the view that the Project would benefit from CRP's continued involvement in monitoring of the remaining actions relating to recommendations 1 and 4. The CRP suggests that it continues to monitor the progress of the remaining activities until recommendation 1 and 4 are brought into full compliance. CRP monitoring will be done based on quarterly progress reports submitted by PSOD and staff interviews. ADB Management needs to continue its practice of submitting quarterly progress reports to CRP and the BCRC until the completion of the air modelling studies and an action plan on air-shed management based on the study has been developed. The CRP does not presently consider it necessary to conduct another site visit and will not issue another formal monitoring report but will report to the BCRC on its assessment of progress made towards full compliance of recommendations 1 and 4.

34. Below is a summary of the actions identified by the CRP from the result of its fifth year of monitoring, to bring the Project into compliance with the Board-approved recommendations:

<b>CRP Recommendations</b>	<b>Feedback to Management on Actions to Bring the Project into Full Compliance</b>
<p><i>1. Undertake a comprehensive air dispersion modeling study that includes the key pollution sources in the project area of influence and validate the predictions with actual air emissions and ambient air quality monitoring data. Develop an action plan based on recommendations from the modeling study and emphasize the potential for continuous monitoring</i></p>	<p><b>Status of compliance: Partially complied with.</b></p> <p>For full compliance, the following actions must be taken by ADB Management:</p> <ul style="list-style-type: none"> <li>(i) the two units of ambient air quality monitoring equipment are repaired and made fully operational with necessary operation and maintenance support to complete the validation of the air dispersion modelling study by April 2018 besides continuously monitoring the air quality on long term basis;</li> <li>(ii) data on ambient air quality are transmitted to DENR, KSPC, the PSOD project team leader and the public (via the ADB or DENR or KSPC website) on a regular basis;</li> </ul>

<b>CRP Recommendations</b>	<b>Feedback to Management on Actions to Bring the Project into Full Compliance</b>
<i>and recording of air emissions and ambient air quality.</i>	<ul style="list-style-type: none"> <li>(iii) data collected up to April 2018 will be used, together with other data from KSPC monitoring sites and other available data to validate, and where needed, to adjust the air dispersion model by May 2018;</li> <li>(iv) based on a validated and adjusted model, air-shed management scenario options will be generated taking into consideration ambient air quality standards applicable, as well as, public health considerations;</li> <li>(v) air quality model validation needs to consider major identified air pollution sources, particularly traffic as it is reported that traffic contributes to @ 65% of total emissions;</li> <li>(vi) summary of the validated air dispersion modeling study, in English and the local language, is shared to the key project stakeholders (i.e., KSPC, affected persons, complainants through their representative, DENR) and the public through ADB website and expeditiously placed before the responsible air-shed management body; and</li> <li>(vii) if the selected air-shed management scenario requires KSPC to adjust its air emissions regime to comply with ambient air quality standards, then ADB Management, to its best effort and within possible avenues, should ensure that these regime changes are made.</li> </ul>
<i>2. Undertake a comprehensive study on ash utilization at cement plants and the ready-mixed concrete plant and implement plant-specific recommendations and EMPs. In addition, prepare and implement EMPs for the existing ash ponds and historical ash disposal sites.</i>	<b>Status of compliance: Complied with.</b>
<i>3. Expand or complement the existing MMT to ensure representation of all communities directly affected and all appropriate NGOs and to facilitate transparent and</i>	<b>Status of compliance: Complied with.</b>

CRP Recommendations	Feedback to Management on Actions to Bring the Project into Full Compliance
<i>inclusive communication and grievance redress.</i>	
<p>4. <i>Implement a community outreach program focusing on preventing negative health impact from air, water, and noise pollution and potentially negative impact from exposure to unprotected coal ash deposits.</i></p>	<p><b>Status of compliance: Partially complied with.</b></p> <p>For full compliance, the following action must be taken by ADB Management:</p> <ul style="list-style-type: none"> <li>(i) the air dispersion modeling study must complete the tasks under recommendation 1; and</li> <li>(ii) additional outreach on this study and the following actions need to be held with all stakeholders including affected communities.</li> </ul>
<p>DENR = Department of Environment and Natural Resources            EMB = Environmental Management Bureau            KSPC = KEPCO SPC Power Corporation            MMT = multipartite monitoring team            TA = technical assistance</p>	

**VI. LESSONS LEARNED**

35. As the CRP proposes that this be the last formal monitoring report for the Project, the CRP wishes to document some lessons learned on the design of the Project and remedial actions. Documenting these lessons in this report will hopefully lead ADB to better design and implement future projects and thus contribute to ADB’s development effectiveness. The CRP highlights the following lessons.

36. **Need for baseline data.** Establishing sound pre-project baseline data prior to project approval is crucial for projects for which environmental, health, and social impacts are expected. Without such baseline data, impacts can never be appropriately assessed, which typically leads to much dispute and uncertainty about the significance of impacts and causal relationships. Adequate baseline data are essential for the assessments of project-related impacts and for attribution of impacts to the project. In this Project, a baseline data on air quality had not been established. ADB funded projects should assure that appropriate baseline data be established prior to project implementation. If the borrower does not have adequate data, the project should provide funding for data collection and consultancy services for the completion of a sound baseline data.

37. **Ensuring provision for operations and maintenance (O&M) of equipment during data gathering and after transfer of equipment.** If a project provides for expensive equipment which is expected to remain operational beyond the project time horizon, adequate provision of operations and maintenance needs to be made and the equipment needs to be designed in such a way, that it is not crucially depending on sophisticated maintenance. Without such provision, the equipment funded by ADB will likely fall into disarray once ADB discontinues its engagement. Importantly, timely and appropriate commitment need to be sought from the implementing authorities which will be charged to operate and maintain the equipment, once ADB discontinues its support. Detailed information will need to be provided to the authorities on technical and cost

requirements so that adequate provisions in the budget can be made and appropriate staff be assigned to the task.

38. **Continuous monitoring of project's environmental performance through a multi-stakeholder body.** This Project greatly benefited and will likely continue to benefit from the MMT. As part of the remedial action plan, the MMT developed into an inclusive body, which seems to be valued by stakeholders as a forum to which they can address their concerns. The MMT could be taken as a good practice example for a functioning multi-stakeholder mechanism. Comparable mechanisms could be introduced under ADB funded projects, the design of which could be laid out under the Environmental Management Plan (in an EIA or IEE). Depending on the severity of the environmental impacts, such multi-stakeholder mechanisms could meet semi-annually or quarterly. This will not only be a good venue for receiving feedback and building constructive relationship among project stakeholders but also facilitate the task of project sponsors to interact with the multitude of stakeholders, by providing a single point of interaction where environmental, health and social concerns can be addressed.

39. **Addressing environmental and social impacts through collaborative actions.** ADB policies require projects to mitigate environmental, social, and health concerns which are caused by the project. But environmental and health issues are often not only attributable to one project only and thus cannot and should not only be mitigated by the project sponsor alone. In case of environmental and health impacts to which the project only is a small contributor, ADB is encouraged to build into the project design cooperative approaches with public sector institutions, civil society institutions and other services providers, to address prevailing environmental, social and health issues, to which the project is only a small contributor. This is particularly important for health measures which are typically within the domain of public sector institutions. As such, a project sponsor or implementing agency, could seek the support of government agencies (e.g., environment and/or health department, local officials or city/municipal/barangay governments), NGOs, and CSOs to address environmental and health concerns on a regular basis rather than escalating the issue at later stage.

40. **Continued formal and informal collaboration with affected persons.** This Project highlights the importance of effective consultation and participation during project design and implementation to identify and address project impact and appropriate mitigation measures. At the earliest stage possible, it is important to involve the affected persons and the communities at the design stage to better understand the potential impacts to them and avoid those or tailor appropriate mitigation measures. Their involvement is equally important during project implementation and monitoring. For example, in this Project, the project sponsor sought immediate feedback on air pollution from affected persons by providing mobile loads to key personnel in barangays adjacent to the power plant. The quarterly public/barangay consultations and outreach activities also built rapport as well as indirectly increased the affected persons' understanding of the need to take care of their surroundings/physical environment. The medical clinics/services by KSPC to its adjacent barangays, was initially done as part of the remedial actions and an offshoot of the complaint, but now became a regular community outreach activity under KSPC's corporate social responsibility (CSR) program.

/S/ Dingding Tang, Chair, Compliance Review Panel

/S/ Arntraud Hartmann, Member, Compliance Review Panel

/S/ Ajay Deshpande, Member, Compliance Review Panel

## **LIST OF PERSONS MET DURING THE COMPLIANCE REVIEW MONITORING**

### **Asian Development Bank (ADB)**

Private Sector Operations Department (PSOD)

1. Craig Roberts  
Director, Portfolio Management Division
2. Broderick Garcia  
Senior Investment Officer, Portfolio Management Division
3. Molla Joy Abanilla  
Associate Project Analyst, Portfolio Management Division

### **KEPCO-SPC Power Corporation (KSPC)**

1. Ill Hwa Jeong  
Electrical Manager
2. Neil Lawrence Miral  
Environmental Assistant Manager
3. Malou Sayson  
Community Relations Officer

### **Department of Environment and Natural Resources (Central Office)**

Jean Rosete  
Chief, Air Quality Management Section  
Environmental Quality Division  
Environmental Management Bureau

### **Representatives from Freedom from Debt Coalition-Cebu**

1. Teodorico Navea
2. Auxilium "Inday" Toling Olayer

### **Other Project Affected Persons**

1. Claudit Sasse  
Barangay Colon, Naga City, Cebu
2. Joel Paca  
Barangay North Poblacion, Naga City, Cebu
3. Kenedy Salas  
Barangay North Poblacion, Naga City, Cebu
4. Esmeralda Falco  
Barangay North Poblacion, Naga City, Cebu
5. Earl Ian Cabigon  
Barangay Tangke, Naga City, Cebu

**MANAGEMENT’S ACTION PLAN FOR IMPLEMENTING THE RECOMMENDATIONS OF THE COMPLIANCE REVIEW PANEL**

<b>CRP Recommendations</b>	<b>Action Plan</b>
<p><i>Undertake a comprehensive air dispersion modeling study that includes the key pollution sources in the project area of influence and validate the predictions with actual air emissions and ambient air quality monitoring data. Develop an action plan based on recommendations from the modeling study and emphasize the potential for continuous monitoring and recording of air emissions and ambient air quality.</i></p>	<p>A Technical Assistance (TA), with the Asian Development Bank as the Executing Agency (EA) and the office of the Department of Environment and Natural Resources (DENR) in Cebu as the Implementing Agency (IA), will be undertaken. The TA will cover air quality monitoring, meteorological data collection and air dispersion modeling study, which will include the key pollution sources in the project’s area of influence and validate the predictions with actual air emissions and ambient air quality monitoring data to be generated from continuous monitoring and recording systems. The target date for TA approval is August 2012 and is expected to be completed by June 2014. In a meeting on 28 May 2012, the local DENR office has agreed to the concept of the TA.</p> <p>As ADB obtains findings from the air dispersion modeling study during TA implementation, the findings will be discussed with KSPC, the local DENR office, and the Naga City government and an appropriate action plan will be developed and implemented.</p>
<p><i>Undertake a comprehensive study on ash utilization at cement plants and the ready-to-mix concrete plant and implement plant-specific recommendations and EMPs. In addition, prepare and implement EMPs for the existing ash ponds and historic ash disposal sites.</i></p>	<p>KSPC produces about 135 tons/day of ash. KSPC has been temporarily disposing of its ash at the Naga Power Plant’s ash pond and KSPC’s existing onsite emergency ash pond (Ash Pond B). As the long term solution, since 2011, KSPC, with ADB’s guidance, has been developing a new ash management plan, consisting of (i) recycling of ash by a cement plant and a ready-mixed concrete batching plant, (ii) landfilling of unrecycled ash at secured ash ponds to be constructed within KSPC’s plant site, and (iii) as a backup measure, landfilling at a secured landfill facility located in a municipal waste management facility.</p> <p>KSPC is preparing the environmental impact assessment report and an environment management plan (EMP) for this new ash management arrangement. As part of this process, KSPC held a public consultation on 27 April 2012 and sought comments from the affected communities, government agencies, and civil society organizations, including Freedom from Debt Coalition, the requestor for the Compliance Review of this Project. While questions were raised particularly on the environmental impact, KSPC explained how its EMP will prevent and mitigate the impacts and no objections were raised to the proposal.</p> <p>ADB requested KSPC to submit the new ash management plan by end June 2012, together with environmental impact assessment report and other documentation. Upon ADB’s approval, KSPC will gradually transition to the new ash management arrangement from July to December 2012. During this transition period, KSPC will expand Ash Pond B and continue to dispose of its ash in this ash pond.</p>

CRP Recommendations	Action Plan
	<p>KSPC will be required to implement the EMP for its ash disposal activities, in addition to its existing EMP for the power plant. KSPC will continue to submit environment monitoring reports to ADB semi-annually and these reports will include information on ash disposal.</p> <p>With respect to the historical ash disposal sites, KSPC will install a concrete cover on the river bank to permanently prevent soil erosion, to be completed from July to November 2012.</p> <p>ADB will monitor KSPC's implementation of this plan.</p>
<p><i>Expand or complement the existing MMT to ensure representation of all communities directly affected and all appropriate NGOs and to facilitate transparent and inclusive communication and grievance redress.</i></p>	<p>Representatives of the project team will attend the quarterly multi-partite monitoring team (MMT) meetings.</p> <p>In a meeting with the local DENR office and Chairman of the MMT on 28 May 2012, ADB reiterated its request to include appropriate NGOs as members of the MMT or at least invite them to the quarterly meetings. The MMT Chairman will discuss ADB's request with other MMT members in the next MMT quarterly meeting to be scheduled in June 2012.</p> <p>In case the MMT declines ADB's proposal to include the NGOs or at least invite them to the quarterly meetings, ADB will ask KSPC to hold complementary meetings with the NGOs on a quarterly basis to update them on project developments and share minutes of the MMT quarterly meetings.</p> <p>ADB will also propose that MMT disclose to the public the minutes of its quarterly meetings to ensure transparency, effective and inclusive communication. If MMT disagrees, we shall ask KSPC to ensure that information on project developments and environmental and social impact mitigation measures are disseminated to the affected communities in an appropriate form and in the local language.</p>
<p><i>Implement a community outreach program focusing on preventing negative health impacts from air, water and noise pollution and potentially negative impacts from exposure to unprotected coal ash deposits.</i></p>	<p>During the public consultation on KSPC's ash disposal plan last 27 April 2012, KSPC agreed to enhance its information outreach and awareness programs/activities to inform the affected or potentially affected people on the project including its ash management plan and on precautionary measures to avoid any potentially negative impacts from air, water and noise pollution and exposure to coal ash deposits.</p> <p>ADB held an initial consultation with public health officials in Naga City on 26 April 2012. For a period of 1 year, ADB will hold quarterly meetings with the Naga City rural health units to continue and improve monitoring of the leading causes of morbidity in the project area, collect information and use the data in providing inputs to KSPC's medical missions.</p>

<b>CRP Recommendations</b>	<b>Action Plan</b>
	<p>ADB will ask the Freedom from Debt Coalition representatives to provide the names of local residents who they identified as suffering from health problems due to KSPC plant's operation. ADB will ask KSPC medical missions to help these patients.</p> <p>KSPC will install a concrete cover to permanently eliminate the risk of exposure due to deposits of 'unprotected' coal ash at sites of historical ash disposal at Naalad and Pangdan. ADB will further ask KSPC to conduct semi-annual medical mission to monitor skin/health related impacts due to such exposure in these neighborhoods and provide appropriate medical care.</p>