



ASIAN PRODUCTIVITY ORGANIZATION

## PROJECT IMPLEMENTATION PLAN

25 May 2017

- 1. Project Code** 16-IN-79-SPP-DMP-C-NPL
- 2. Title** Development of Demonstration Companies—Energy Efficiency Program, Nepal
- 3. Reference** Project Notification 16-IN-79-SPP-DMP-C dated 1 August 2016
- 4. Timing and Duration** June 2017 to Mar 2018  
Details of the implementation schedule will be worked out separately.
- 5. Implementing Organization** National Productivity and Economic Development Centre (NPEDC), Nepal

### 6. Objectives

Under the APO Development of Demonstration Companies project, the designated National Productivity Organization (NPO) is expected to:

- a. Showcase how a company can successfully design and implement Energy Efficiency and Conservation (EE&C) improvement initiatives with the commitment and active participation of all stakeholders;
- b. Demonstrate visibly and tangibly how EE&C improvement initiatives lead to outstanding results for the company; and
- c. Disseminate the results of the model company to inspire other enterprises, workers, and all stakeholders to promote EE&C more vigorously in their workplaces.

### 7. Background

Under a special cash grant from the Ministry of Economy, Trade and Industry of Japan, the APO has been undertaking need assessment in Bangladesh, Mongolia, Nepal, Pakistan, and Sri Lanka. Among them, Nepal selected the following companies for undertaking EE&C projects.

## **Hetauda Cement Industry Limited**

Hetauda Cement Industry Limited (HCIL) was established in 1976 and started production in 1986 to cater to the growing demand for cement in the country. HCIL is a Government of Nepal undertaking and a reputed manufacturer of cement. The manufacturing unit is located at Lamsure, Hetauda-9, in Makwanpur district, about 3.5 km southeast of the Hetauda main market and about 140 km south of Kathmandu.

The key plant features are:

- a. Raw mill (ball mill) capacity of 80 TPH (revamped capacity);
- b. Coal mill (VCM) capacity of 12 TPH;
- c. Uses the dry process with a four-stage preheater system;
- d. Kiln capacity (single burner) of 750 TPD clinker per day;
- e. Cement plant and packaging plant (ball mill) capacity of 45 TPH;
- f. Captive power generation plant of 2.5 MW, which is used as an emergency drive for inching the kiln when there is grid power failure; and
- g. Produces ordinary Portland Cement under the brand name Shakti, which is in high demand throughout the country.

The designed specific power consumption of the plant is 138.21 kWh/MT of cement and specific heat consumption is 1,024 kCal/kg of clinker. As a huge consumer of energy, the company is very concerned about EE&C and management practices.

HCIL is committed to conducting energy planning, defining roles and responsibilities, and providing adequate resources to achieve the set objectives and targets for effective implementation of an improved energy management system.

## **Udayapur Cement Industries Ltd**

Udayapur Cement Industries Ltd (UCIL) is a fully government-owned industry in Nepal, established on 14 June 1987. UCIL is located in Udayapur district in the eastern region, which is nearly 200 km from the Jogbani border with India, and its production capacity is 2.7 million tons (MT) of cement per year. The annual requirements for raw materials are: limestone, 330,000 tons; iron ore, 4,000 tons; clay, 57,000–82,500 tons; gypsum, 10,500 tons; and silica sand, up to 21,000 tons. Fuel requirements of the plant are 50,000 MT/year of coal and 12,000 KL/year of furnace oil, with the use of 8,000 KW of electricity and 1,500 m<sup>3</sup> of water per day.

## **8. Collaborating Partners**

This project is to be implemented in close collaboration with the following parties:

- a. The APO Secretariat (hereafter referred to as the APO);
- b. The NPEDC (hereafter referred to as the NPO); and
- c. HCIL and UCIL (hereafter referred to as the demonstration companies).

## **9. Methodology**

The APO will assign an expert(s) and he/she will visit the demonstration companies at least once from June 2017 to Mar 2018, with other visits afterward in 2017 for observations, analyses, and recommendations. The actual timing will be determined after consultations among the APO, NPO, demonstration companies, and expert(s). In the intervals between expert visits, he/she can communicate with those concerned at demonstration companies via e-mail, Skype, telephone, etc. for necessary advice. The program and itinerary for the first visit are as follows, although they may change depending on need.

- Day 1    Transfer to the Udayapur Cement Industries Ltd
- Day 2    Local workshop/seminar for dissemination purposes, Visit to Udayapur Cement Industries Ltd
- Day 3    Visit to Udayapur Cement Industries Ltd, Transfer to Hetauda Cement Industry Limited
- Day 4    Local workshop/seminar for dissemination purposes, Visit to Hetauda Cement Industry Limited
- Day 5    Visit to Hetauda Cement Industries Ltd, Transfer to Kathmandu
- Day 6    Summary and review of company visits and preparation of the subsequent visit schedule

## **10. Roles and Responsibilities**

### **APO**

- a. Assign an expert(s) for the implementation of the project;
- b. Coordinate communication among the expert(s), NPO, and demonstration companies to ensure smooth implementation of the project; and
- c. Advise the NPO and demonstration companies on planning and organizing follow-up activities such as developing promotional materials and/or organizing dissemination workshops or seminars for local participants so that they can learn directly from the demonstration companies' experiences.

### **NPO**

- a. Appoint a coordinator from the NPO who will serve as the focal point for communication and coordinate the overall schedule for implementation of the project;
- b. Provide, in addition to a coordinator, the necessary number of technical experts from the NPO to work as counterparts to the expert(s) assigned by the APO, if necessary;

- c. Arrange all logistical requirements relating to the project (e.g., local transportation, discussion rooms, etc.) for the APO and NPO team of experts;
- d. Monitor closely the process of implementation, particularly the key performance areas;
- e. Coordinate and supervise the demonstration companies in the production of a multimedia record such as video/DVD demonstrating the experiences of the demonstration companies;
- f. Assist and supervise the demonstration companies in preparing an interim report and comprehensive final report for submission to the APO;
- g. Organize a dissemination workshop prior to and upon completion of the project to enable local people be aware of and learn about the start of the demonstration project as well as the activities of the APO;
- h. Compile the overall activities of the project in a practical, easy-to-follow manual/guidelines so that similar exercises can be replicated by other enterprises in the country; and
- i. Prepare a final report, stressing analyses of the impact of the demonstration project and its contribution to the consulting capacity of the NPO as well as suggestions/recommendations for replication utilizing local talent, local networks, and local resources.

### **Demonstration Companies**

- a. Accept and facilitate consultancy services conducted by the expert(s) assigned by the APO and NPO team of experts;
- b. Designate a responsible official (preferably top-management level) and the necessary team members to work closely with the APO and NPO team of experts;
- c. Video recording from the start of activities to produce a video/DVD upon completion of the project in association and consultation with the NPO;
- d. Announce, publicize, and prominently display the APO's presence and involvement in the demonstration companies throughout the duration of the project;
- e. Share the experiences of the companies with local parties interested in learning about the Development of Demonstration Companies project;
- f. Present the experiences in a dissemination workshop to be organized upon completion of the project; and
- g. Prepare a comprehensive final report for submission to the APO explaining the initiatives taken during the project and their technical details along with overall analyses of the benefits and impact on EE&C and the competitiveness of the demonstration companies upon completion of the project.

## **11. Expense Sharing**

### **APO**

- a. All assignment costs of the APO expert(s), i.e., honorarium, airfare, daily subsistence allowance, and overseas travel insurance;
- b. Expenses for logistical arrangements related to the implementation of the project, including the local travel costs of the APO international expert(s) and NPO experts when required due to the distance and/or location of the demonstration companies from the NPO office;
- c. Daily subsistence allowance for NPO expert when required due to the distance and/or location of the demonstration companies from the NPO office;
- d. The local implementation expenses\* up to USD10,000 including: production of a practical manual and a video/DVD for replication of the experience (to be prepared by the NPO) and holding a dissemination workshop(s)/seminar(s) for the local public (to be arranged by the NPO).

\*The disbursement of expenses will be made at the appropriate times corresponding to the specific activities undertaken and following submission of the necessary supporting documents under the applicable APO rules and regulations for disbursement of project expenses.

### **NPO**

- a. Expenses relating to the assignment of a NPO expert involved in this project.

### **Demonstration Companies**

- a. Costs associated with the purchase and installation of equipment and/or fixtures relating to the implementation of the project, if any; and
- b. All other expenses for the implementation of the project not covered by the APO and/or NPO.

## **12. Accounting Procedures**

- a. In regard to the expenses for the multimedia record and training manual production, 50% of the APO share can be advanced after the Project Implementation Plan is issued. The remaining 50% will be paid in exchange for the training manual, multimedia record, and final project report according to the proof of expense payment.
- b. If a local seminar/workshop is to be held, 50% of the APO share can be advanced before the seminar/workshop implementation and the remaining 50% will be paid after implementation according to the proof of expense payment.
- c. For the settlement of expenses, the NPO is requested to provide all necessary proof of payment to the APO after completion of the program. The proof of payment, such as bills,

payment records, and receipts, should be issued by third parties and must be submitted to the APO altogether at one time. The proof of payment should be written in clear English or with an English translation if not originally in English. The final payment will be made based on the actual expenditure after the NPO submits the proof of payment, training manual, multimedia record, and the final project report. In general, internal evidence is not accepted as proof of payment and the expenses claimed by it will not be reimbursed.

## **11. Final Project Outputs**

The Development of Demonstration Companies project will be completed with the submission of the following:

- a. Final reports prepared by the NPO and demonstration companies;
- b. Practical manual for replication (in video/DVD and/or printed hard copy) prepared by the NPO and demonstration companies; and
- c. A video/DVD of the demonstration companies experience to be prepared by the demonstration companies.

The APO will issue certificates of completion and present them to the demonstration companies upon completion of the project.



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