

FOCUS GROUP DISCUSSIONS

Jamshoro Power Generation Company Limited (JPGCL) - Report

Energy Policy Program (EPP) successfully conducted a second round of focus group discussion with 17 participants at Jamshoro Power Generation Company Limited (JPGCL) on April 23, 2015. To check the sustainability of the training EPP conducted a post six month discussions, which was primarily focused on highlighting the challenges, improvements and recommendations from the participants based on their post training work experience at JPGCL.

The O&M training was designed to increase the Generation Companies (GENCOs) efficiency, ability and reinforce improved O&M practices which EPP introduced since the inception of government-to government (G2G) activities. All the training participants were given an equal opportunity to state their individual training experience, learnings, and challenges they have faced during the completion of their respective assignments. In JPGCL, EPP successfully met 17 of the 20 trainees to track the implementation and major accomplishments during the assignment completion phase.

Focus Group Discussions at Jamshoro Power Generation Company Limited

This report summarizes the outcomes of the focus group discussions conducted on April 23, 2015 at Jamshoro Power Generation Company Limited (JPGCL). The focus group discussion was subjected to timely interventions for continuous improvement while focusing primarily at the 'learning' and 'behavioral change' levels. EPP's M&E team followed up on the final version of the assignments, participants had received at the end of the training course to successfully track the implementation of the skills learned. At the start of the sessions, EPP's team asked the participant to explain their respective assignments, including practical examples of the potential changes occurred as a result of the training course seconding their assignment topic, and to share findings, lessons learned, and accomplished achievements while implementing the lesson learned.

EPP's M&E team conducted an hour long session with participants in the presence of the CO JPGCL Iftikhar Aziz and Mr. Ayub Ansari, Chief Engineer. Below are the findings from the feedbacks given by the participants, for a better comprehension of the discussion, CCA team divided them into three different categories.

- 1) Skills learned and Implemented
- 2) Challenges faced
- 3) Suggestions

Skills learned and implemented:

Participants mentioned the effective use of their newly acquired skills; including improvements in the efficiency of the heat rate, timely repairing of the steam leakages which were causing huge losses, and reducing the overall fuel consumption.

"We've got the awareness regarding the heat rate tests and their respective efficiency impact, through this training we have made many prominent improvements at the power plant which were previously overlooked i.e. steam leakages, timely generation of trouble reports and communication regarding faults between departments"

“Gas leakages during the shutdowns were extremely high before, which is now minimized by replacing the broken springs to improve performance. Gas turbine fault recovery has been made efficient with the help of reading material and procedures explained during the training”

One of the participants mentioned about the boiler feed pump’s temperature issues. He and his team reduced the temperature by installing cooling fans around the boiler which is helping the boiler in running condition. While talking about the DCS systems, a participant mentioned that the conversion from the DCS system has been completed at Unit 2 and currently is in the process at Unit 3 and 4 which will result in an increased ratio of identifying and minimizing the faults followed by proper monitoring and planning and increase efficiency and reliability of the power plant.

“Cooling tower efficiency was poor due to severe leakages and outdated machinery which is now being improved due to the replacements, repairs and maintenance of the cooling towers. Previously at Unit 1 there were 12 fans out of which only 6 were working causing a lot of troubles. Currently, 11 out of those 12 are working and improved the overall working process at the plant”

“There was a huge vacuum/choking problem during combustion which is now being improved with the replacement of packing material, followed by the replacement the cooling mounted angles were changes causing the temperature to raise helped in generation of 1-2 more megawatts”

“I have been given an assignment to convert the manual daily plant performance into spread sheet for heat rate efficiency, which is successfully being done now first manually then into excel sheet later converted into bar charts for better representation and depiction of readings”

“We prepared Performance KPI, in which we are testing HV/LV motors and carry following tests after shutdowns of plants as preventive maintenance. Insulation resistance, dielection absorption ratio, polarization index test, high potential test, DC resistance test, and tan delta a capacitance test. These motor not quality test which taken out for overhauling/repairs. In this way we save time/cost of repair/damage. Also increase reliability, to know future contingencies”

Challenges:

Participants highlighted the challenges they faced during the implementation their skills and completion of assignments; such as, lengthy and outdated procurement procedures, delays in the Plant shutdowns from National Power Control Centre (NPCC) for overhauling, cleaning and maintenance of the power plant. Furthermore, they have mentioned:

“If there are any leakages at the plant resulting in damages and it requires an immediate replacement of valves, cooling fans, turbines etc. it cannot be directly procured by the department but have to go through the lengthy procurement which cause delays and more system damages. Furthermore, shutdown delays from National Power Control Centre (NPCC) are also causing severe problems that need immediate attentions, JPGCL was expecting shutdown in March which is now delayed till November 2015. If NPCC granted the shutdowns more periodically then issues like delays in overhauling, leakages etc. will be overcome”

“Frequent choking is caused due the quality of the fuel used and the increase in choking is due to bad elements e.g. Sulphur. Moreover, extra use of the auxiliaries reduces the plant

efficiency and to increase efficiency when there is no more bracket of air combustion; the load cannot be increased but if necessary, we use more fuel causing excess fuel consumption”

Suggestions:

In order to further improve the future training initiatives and to determine the effectiveness in order to reach the stated objectives, participants were asked to give their suggestions. Participants have given their general suggestions and feedback for moving forward positively.

More time should be given for the assignments as they have to complete their daily routine tasks as well. If possible, the assignments should be given base on case studies during the course of the training which will help the participants to work on their respective assignments during the training days and discuss any queries with the trainer. He stated:

“Now since we have completed the major portion of our assignment but due to some procedural delays i.e. delays on shut downs, outdated procurement processes caused system and performance delays”

“Unavailability of the latest and taught equipment and testing sets causing problems in practical implementation of the skills learned. No proper shutdowns or overhauling permitted by NPCC due to shortage of electricity is causing major delays in deliverables.”

Furthermore, the participant added:

“O&M training has improved our knowledge based on which we have submitted latest designs of tariff but not yet implemented by the higher authorities. E.g. tariff should include the following charges; active power, reactive power, factitious power/ distortion power etc. followed by a penalty to poor power quality users”

“Major delays at JPGCL caused due to delays in shutdown from NPCC. JPGCL was expecting shutdown in March which is now delayed till November 2015. If NPCC granted the shutdowns more periodically then issues like delays in overhauling, leakages etc. will be overcome”

“I would suggest USAID to conduct a comparative study between the publically run power plants and independent power plants (IPPs) to measure the deficiency and identify potential ways to improve the overall performance of the publically owned power plant”

“I would suggest conducting the similar training course for the senior/top level managers working at the power plant in order to enhance their working knowledge. To improve their ability to know the underlying challenges faced by the junior level staff during the implementation of the learned-skills”