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Re: Comments on PDD for Reconstruction of Units 1, 2, 3 and 4 at Zuyevska Thermal  
Power Plant (Project 0198)

#### I. General comment

Improving a coal-fired power plant is an inappropriate project for the international climate change mitigation system. A primary objective of mitigation must be a rapid transition to a low-carbon economy so that fossil fuels can be left in the ground to the greatest extent possible. At best, the Zuyevska project does nothing to accomplish this objective. In fact, it is likely that by extending the life of the power plant, this project will actually impede that objective and postpone the necessary shift to a low-carbon economy. By deepening and prolonging Ukraine's dependency on fossil fuels, this project will probably lead to consumption of more coal in the long run than would be burned without the project. The project may also divert resources and attention from better, more sustainable projects, such as improving Ukraine's energy transmission grid, developing alternative and sustainable energy sources, or investing in end-user energy efficiency.

#### II. Additionality

The additionality of the proposed project is questionable. First of all, as indicated on page 5 of the PDD, improvements and post-construction start-up of two of the four power plant units included in the project will be completed by December 2009. That at least half of the crucial construction phase of the project was undertaken and will be finished before any JI approval or funding are finalized or received make the additionality of the project appear very suspect. What evidence shows that the plant's management did not decide to proceed with the facility upgrades before deciding to make the upgrades a JI project?

At the very least, the investment analysis included in the PDD is not adequately transparent. Annex 1 to the JI Guidance on Criteria for Baseline Setting and Monitoring Version 2.0 (“JI Baseline Guidance”, as well as the CDM “Tool for the demonstration and assessment of additionality” Version 05.2 (“CDM Additionality Tool”), stress that the investment analysis should be traceable and transparent. Point 8 of the investment analysis guidance annex to the CDM Additionality Tool directs that spreadsheet versions of the analysis should be supplied. Point 16 directs that the sensitivity analysis “be reproducible in the associated spreadsheets.” No spreadsheets are provided with the PDD, and the investment analysis is not traceable, transparent, or reproducible.

The basis for the investment analysis is unclear. For example, the meaning of and calculations in the paragraph at the bottom of PDD p. 20 that starts “The capital cost of reconstruction of unit #2 ...” are obtuse. How does 123 MUAH less 18 MUAH equal 95.622 UAH?

The investment analysis appears to exclude cost savings and returns that would result from the investment. These include lower labor, maintenance, and repair costs resulting from the increased reliability of and controls on the refurbished power plant units, and the net present value of the prolonged life of the units beyond the 14 year cash flow calculation period. This is contrary to the direction of point 4 of the investment analysis guidance annex to the CDM Additionality Tool that “[t]he fair value of any project activity assets at the end of the assessment period should be included as a cash inflow in the final year.”

The sensitivity analysis of the investment analysis is not convincing or clear, especially with respect to coal price fluctuations. If coal prices increase enough, the investment analysis would not support a finding of additionality. The highest coal price scenario is for a ten percent increase. It is unclear whether this is an average annual rate over an undefined time period or a total increase over that unspecified period. Given the instability of Ukraine’s currency and volatility in the energy markets, it seems reasonable to consider that the rise of coal prices could be greater than that considered.

With a proper sensitivity analysis, the investment analysis may well fail to show additionality. The CDM Additionality Tool (at p. 7) includes instructions for the sensitivity analysis:

Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions. The investment analysis provides a valid argument in favour of additionality only if it consistently supports (for a realistic range of assumptions) the conclusion that the project activity is unlikely to be the most financially/economically attractive ... or is unlikely to be financially/economically attractive ....

The conclusion of the sensitivity analysis section of the PDD turns these instructions on their head. Instead of evaluating the robustness of the investment analysis conclusion on

the additionality of the project, the PDD purports to evaluate the robustness of the economic attractiveness of the baseline, concluding (p. 22) “[s]o although some scenarios could result in IRR exceeding the discount rate the project does not show robustness.”

The barrier analysis in the PDD is also unconvincing. The investment barrier is identified as the difficulty in securing local or international financing for plant improvements. However, in March 2007, Ukraine enacted a resolution on partial compensation of interest rates for credits used for new construction and energy efficiency upgrade of fossil fuel power plants, presumably designed to facilitate investment in improvements like those at Zuyevska by allowing for higher rates of returns at public rather than borrower cost. For the PDD’s investment barrier analysis to be correct, this resolution would probably have to be a failure. Is that the case? If so, why?

The asserted technological barrier is that the improved units might not work as well as planned and that improvement work might fall behind schedule. These are risks inherent in any sizeable industrial project of any type. There is no indication that the technology to be used presents unusually high risks in these regards.

Another barrier identified is the risk that regulation will keep consumer power tariffs low. However, the Zuyevska plant already exists and is already in the business of selling power. The project contemplates increasing the efficiency of energy production rather than increasing energy production capacity so consumer power tariffs are not an issue.

The common practice analysis is totally unavailing as well. As it points out, there have been at least three similar modernization projects undertaken in recent years at Ukrainian coal-fired power plants.

### III. Monitoring

The monitoring plan is inadequate because it fails to consider emissions increases due to the production of equipment and construction activities necessary for the project. The installation of new equipment and associated construction at four units of a power plant are not going to be zero-emission activities. Pursuant to point 16 of the JI Monitoring Guidance, “[a]ll gases and sources/sinks included [within the project boundary] should be explicitly stated. Exclusions of any sources/sinks related to the baseline or the project shall be justified.” The PDD does not mention construction-related sources. Given that approximately half of the construction phase of the project has been completed, the emissions related to that work should already have been monitored. Has it been?

### IV. Leakage

Leakage is the measureable net change of anthropogenic emissions by sources and/or removal by sinks of greenhouse gases that occurs outside the project boundary that is directly attributable to the JI project. Point 18 of the JI Monitoring Guidance provides that “[p]roject participants must undertake an assessment of the potential leakage of the proposed JI project and explain which sources of leakage are to be calculated, and which

can be neglected. All sources of leakage that are included shall be quantified and a procedure for an ex ante estimate shall be provided.” Contrary to this guidance, the PDD admits to no leakage whatsoever.

One source of leakage that should be addressed in the PDD is the emissions from other power plants that will generate electricity when the Zuyevska units are down for construction, which is estimated to require three to seven months. Leakage results if these replacement power sources emit more or less greenhouse gases than the pre-project Zuyevska units would. Even if judged to be insignificant, the guidance requires this leakage to be identified and an explanation provided for its exclusion. Given that half of the construction phase of the project has already been completed – two of the four units have already been out of service for construction – actual information on this form of leakage should be available and its evaluation should be included in the PDD.

Another source is leakage that takes place outside the temporal boundaries of the project, after the end of the crediting period. Presumably, the project is extending the operating life of the Zuyevska plant. Thus, the project may result in more emissions after the end of the crediting period as the plant will be burning coal for a longer time than it would be without the project. This must also be addressed in the PDD.

#### V. Clarity

The PDD lacks clarity. In addition to the confusing parts and missing information identified above, the abbreviations used in Figure 1 of Section A.2. are undefined, and the term “CHP” in Table 1 of Section A.2. is undefined.