W 8462-UA

Supplemental Letter No. 2

UKRAINE

February 10, 2015

International Bank for
Reconstruction and Development
1818 H Street, N.W.
Washington, D.C. 20433
United States of America

Re: Loan No. 8462-UA
(Second Power Transmission Project)
Performance Monitoring Indicators

Dear Sirs and Mesdames:

Referring to the provisions of Section II.A of Schedule 2 to the Loan Agreement between Ukraine (Borrower) and the International Bank for Reconstruction and Development (Bank) for the above-captioned Project, the Borrower hereby confirms to the Bank that the indicators set out in the attachment to this letter shall serve as a basis for the Borrower to monitor and evaluate the progress of the Project and the achievement of the objectives thereof.

Very truly yours,

UKRAINE

By: _____
Authorized Representative

Attachment

Attachment to
Supplemental Letter No. 2

Second Power Transmission Project

Performance Monitoring Indicators

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Comments
				YR1	YR2	YR3	YR4	YR5				
1) Number of outages at rehabilitated SSs is reduced 1. Novokyyivska		Number	35	35	35	35	18	8	Semi-annual progress report, Midterm review, and Completion	Semi- annual progress reports of UE	UE PIU	Indicator for Component 1 Annual Values
2. October			23	23	23	23	12	5				
3. Kremenchug			37	37	37	37	19	9				
4. Zhytomyrska			28	28	28	28	14	7				
5. Cherkaska			12	12	12	12	6	3				
6. Sumy			27	27	27	27	14	7				
2) Decrease in power usage for own needs of Substations which were reconstructed: 1. Central Region SS Novokyyivska, October, Kremenchug, Zhytomyrska 2. North Region SS Cherkaska, Sumy		MWh	3863 3299	3863 3299	3863 3299	3863 3299	3735 3230	3546 3091	Semi-annual progress report, Midterm review, and Completion	Semi- annual progress reports of UE	UE PIU	Indicator for Component 1 Annual Values
3) Share of electricity traded on bilateral basis and day ahead market in WEM of Ukraine		%	0	0	0	10	30	50	Semi-annual progress report, Midterm review, and Completion	Semi- annual progress reports of UE	UE PIU	Indicator for Component 2.3 Annual Values

Intermediate Results Indicators

1) Implementation progress of SS Rehabilitation 1. Novokyyivska 2. October		milestones	0	Bidding Document Ready	Contract Signed	Detailed design by the contractor ready and	Works on High Voltage Unit 110 – 150 kV	Works continue on High Voltage Units 330 kV/ Contracts	Annual	Semi- annual progress reports of UE	UE PIU	Intermediate Result indicator for

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Comments
				YR1	YR2	YR3	YR4	YR5				
3. Kremenchug 4. Zhytomyrska 5. Cherkaska 6. Sumy						expertise review approved	start	Completed				Component 1
2) Reduced operating and maintenance costs at the rehabilitated SSs 1. Novokyyivska 2. October 3. Kremenchug 4. Zhytomyrska 5. Cherkaska 6. Sumy		%	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	25 25 25 25 25 25	50 50 50 50 50 50	Annual	Semi- annual progress reports of UE	UE PIU	Intermediate Result indicator for Component 1
3) Electricity losses per year in the project area	x	MWH	0.5	0.5	0.5	0.4	0.3	0.2	Annual	Semi- annual progress reports of UE	UE PIU	Indicator for Component 1 Area - Central and North Region
4) Energy Not Served reduced by 50% 1. Central Region 2. North Region		%	35 7	0 0	0 0	0 0	25 25	50 50	Annual	Semi- annual progress reports of UE	UE PIU	Intermediate Result indicator for Component 1 Baseline is Annual MWh
5) Voltage at bus bars 35kV at the rehabilitated SSs are within operating limits +-5% 1. Novovolynskaya 2. Lutsk Pivdenna 3. Kove 4. Shepetivka 5. Kamenets-Podilska		V	40,000 40,000 40,000 41,000 42,000	40,000 40,000 40,000 41,000 42,000	40,000 40,000 40,000 41,000 42,000	39,000 39,000 39,000 40,000 40,000	39,000 39,000 39,000 40,000 40,000	35,000 35,000 36,000 36,000 36,000	Annual	Semi- annual progress reports of UE	UE PIU	Indicator for Component 2.1 Annual Values
6) Implementation progress of Smart Grid		milestones	Feasibility Study completed	Bidding Document Ready	Contract Signed	Detailed Design ready	Equipment Supply Starts	System fully Supplied and Tested/ Contract Completed	Annual	Semi- annual progress reports of UE	UE PIU	Intermediate Result indicator for Component 2.2

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Comments
				YR1	YR2	YR3	YR4	YR5				
7) Implementation of Balancing Market		milestones	Feasibility Study completed	Contract Signed for hard and software	Hard and software installed	Hard and software Fine-tuned for the launch	Balancing Market is launched	Modifications to BM. Balancing Market Operational / Balancing Market Operational	Annual	Semi- annual progress reports of UE	UE PIU	Intermediate Result indicator for Component 2.3
8) Implementation progress of MIS		milestones	Feasibility Study Completed	Bidding document completed	Contract Signed	Detailed Design Completed	Hardware and Software Supplied	Testing and staff training completed System operational	Annual	Semi- annual progress reports of UE	UE PIU	Intermediate Result indicator for Component 2.4
9) Tons of GHG emissions reduced or avoided based on Electricity Savings		Tons/year	0	22,500	45,800	125,200	150,900	220,700	Annual	Semi- annual progress reports of UE	UE PIU	CTF Indicator

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)
Number of outages at rehabilitated SSs is reduced	This indicator measures the improvement in the transmission system reliability by the reduction in the number of equipment outages in the rehabilitated SSs.
Decrease in power usage for own needs of Substations which were reconstructed	This indicator measures reduction in power used for own needs of the Substation. Substation internal power consumption is monitored and recorded by UE
Share of electricity traded on bilateral basis in WEM of Ukraine	This indicator measures the share of the electricity traded on bilateral basis in the Wholesale Electricity Market of Ukraine.

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)
Implementation progress of SS rehabilitation	This indicator monitors progress in SS rehabilitation.
Reduced operating and maintenance costs in the rehabilitated SSs	This indicator reports on reduction in operation and maintenance costs of the rehabilitated SSs.
Energy Not Served reduced by 50%	The reduction in Energy Not Served is measured against the 2013 baseline level which is calculated on the past 5 years of ENS in each of the Power Regions (Central and North Regions).

Electricity losses per year in the project area	This indicator measures the electricity losses in two project areas (Central and North Regions of Ukrainian Power Grid) and is calculated based on the amount of power transited in the Region divided by amount of total loses and represent indirect losses (power used for the own needs of the substations).
Voltage at busbars 35kV at the rehabilitated SSs are within operating limits +-5%	This indicator measures the off peak voltage level at bus bars 35kV within the limits after installation of shunt reactors and is a calculated based off peak load flow modeling.
Implementation progress of Smart Grid technologies	This indicator measures progress in implementation of the Smart Grid program financed by the Project
Implementation progress of Balancing Energy Market System	This indicator monitors progress in implementation of the Balancing Energy Market System.
Implementation progress of MIS	This indicator monitors progress in implementation of installation of the new MIS at UE.
Tons of GHG emissions reduced or avoided	This indicator measures the GHG emissions avoided annually due to increase generation og existing RE and by new RE generation plants due to smart grid investment