

## **MONITORING AND EVALUATION FRAMEWORK**

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**Table 1: Reporting to Stakeholders**

<b>Stakeholder Type</b>	<b>Specific Entities</b>	<b>Method of Engagement</b>	<b>Frequency (per year)</b>
Shareholders and Investors		GMS Investor road shows Analyst update and conference calls Plant visit General Meeting of Bondholders	Annual Annual 10 times As necessary Annual
Government	Ministry of Energy (MOE) Ministry of Finance (MOF) State-Owned Enterprises (SOE) Ministry of Forestry	GMS Ministry forums Tripartite forums Written communication Annual reports Quarterly reports Other reports as required	Annual As necessary As necessary As necessary Annual Quarterly As necessary
Regulators and Legislators	FSA (formerly <i>Bapepam-LK</i> ) House of Representatives	Special forums Public hearings Commission sessions Tripartite forums Written communication Annual reports Quarterly reports House of Representatives Sessions Regional representative councils Other reports as required	As necessary As necessary As necessary As necessary Annual Quarterly As necessary As necessary As necessary
Employees	PLN Workers Union Indonesia Workers Union (SPSI)	Bipartite forums Employee-Management forums SPPLN Alignment of human resources organizations Regular training/hearing	Annually or as necessary
Work Partners and Similar Industrial Associations		Specific training for operational partners Ethics guidelines Contractual agreements Quality standards Occupational safety and management systems Environmental management system Supplier assessment and management Supplier selection eProcurement application	As necessary
Customers		Customer Satisfaction Survey Complaint services Meetings with customers Special service program	As necessary
Creditors		Plant visit Conference calls Club deals Corporate Action Planning presentation	As necessary
Media		Press release Media gathering Press conference Press briefing Press tour	As necessary
Public		Negotiation in planning Collective monitoring over program realization Philanthropic activities	As necessary

**Table 2: Information Technology and Management Applications**

IT application	What it collects data on and monitors	Responsible Division
AP2T <sup>a</sup>	Sale of electricity energy per month by region	Commercial Division
Call Center	Sales data	Commercial Division Distribution Division
SIPINTER	Land acquisition for construction, power plants, transmission lines, and substations	Permits and land acquisition Division SPKK Construction Division
ERP	Business processes	Financial Division Budgeting Division All divisions
Employee Performance Management System (KPI-based)	Company Performance Power Plant Construction Reduce Network Losses and SAIDI/SAIFI Social Affairs Performance Performance in the field of Environmental preservation	Talent Division Human Resources Division Organisation Structure Division
SIP2A	Financial information, budgeting, monitoring disbursements	All divisions
TALENTPOOL	Recruiting and personnel management	Human Resources Division
PMO	Program management	Construction Division Corporate Planning Division SPKK
P3B	Load dispatching	Load dispatching centers Transmission Division Distribution Division Generation Division
SCADA	Distribution systems	Transmission Division Distribution Division Generation Division
FOIS	Fault outages	Transmission Division Distribution Division Generation Division
EPROC	Procurement	Procurement Division Supply Chain Management Division All procurement departments in PLN units
APKT	Complaints	Distribution Division
NE Balance 217	Energy balance	Distribution Division Transmission Division Systems Planning Division

AP2T = Aplikasi Pelayanan Pelanggan Terpusat (centralized customer services application), APKT = Aplikasi Pengaduan dan Keluhan Terpadu (integrated complaints application), ERP = enterprise resources planning, EPROC = online PLN procurement system, FOIS = forced outages information system, P3B = **Penyaluran** dan **Pusat** Pengatur Beban (Load Dispatch Center), PLN = State Electricity Corporation, PMO = project management office, SCADA = supervisory control and data acquisition, SIP2A = Sistem Informasi Perencanaan dan Pengendalian Anggaran (Planning and Budgeting Control Information System, SIPINTER = Sistem Pengelolaan Informasi **Terpadu** (Integrated Management Information System).

<sup>a</sup>This application unites the business processes related to PLN customers. It was launched on 14 December 2012 in Banda Aceh, Nanggroe Aceh Darussalam.

Source: PLN

**Table 3: Regularly Monitored and Reported Data by PLN**

<b>OPERATIONS</b>	
<b>Electric Power Supply</b>	
	Power Balance (MW)
	Energy Balance
	Load Factor, Capacity Factor, and Demand Factor (%) *
<b>Operation Result</b>	
	Number of Customers by Type of Customers* +
	Connected Capacity by Type of Customers (MVA)*
	Energy Sold by Type of Customers (GWh)*
	Revenue by Type of Customers (million Rp)
	Average Energy Sold by Customers (kWh) *
	Average Selling Price of Electricity by Type of Customers (Rp/kWh) *
	Number of Customers by Type of Voltage *
	Connected Capacity by Type of Voltage (MVA)
	Energy Sold by Type of Voltage (GWh) * +
	Revenue by Type of Voltage (million Rp) *
	Number of Customers, Connected Capacity and Energy Consumption by Tariff Category
	Waiting List
	SAIDI and SAIFI
	SOD and SOF
	Number of Distribution Interruption per 100 kmc
	Electrification Ratio and Energy Consumption per Capita +
<b>Generation</b>	
	Number of Generating Units *
	Installed Capacity (MW) * +
	Rated Capacity (MW) *
	Energy Production by Type of Power Plant (GWh) * +
	Consumption of Fuel *
	Unit Price of Fuel *
	Energy Production by Type of Fuel (GWh)
	Captive Power
<b>Transmission and Distribution</b>	
	Length of Transmission Lines (kmc)*
	Length of Medium and Low Voltage Lines (kmc) *
	Number and Total Capacity of Substation Transformers
	Number and Total Capacity of Distribution Substation Transformers
<b>Financial</b>	
	Balance Sheet (million Rp) *
	Profit and Loss (million Rp) *
	Fixed Asset & Depreciation (million Rp) *
	Accounts Receivable (million Rp) *
	Average Collection Rate *
	Generation Cost *
	Average Generation Cost per kWh *
	Financial Ratios *
<b>Human Resources</b>	
	Number of Employees by Grade
	Number of Employees by Education
	Productivity of Employee
	Energy Sold by Type of Customers (GWh)
	Revenue (million Rp) *
	Installed Capacity (MW) *
	Energy Production (GWh) * +

GWh = gigawatt-hour, kmc = kilometer-circuit, kV = kilovolt, kWh = kilowatt-hour, MVA = megavolt-ampere, MW = megawatt, Rp = rupiah, PLN = State Electricity Corporation, SAIDI = system average interruption duration index, SAIFI = system average interruption frequency index, SOD = system outage duration, SOF = system outage frequency.

\* Indicates historical analysis

+ Indicates analysis for Five Year Development Plan

**Table 4: Monitoring and Evaluation Responsibilities and Expanded Data Sources with DLIs and Other Indicators**

<b>Performance Targets and Indicators with Baselines</b>	<b>Responsible Division</b>	<b>Data Sources</b>	<b>Monitoring Frequency</b>	<b>System</b>	<b>Reporting Documentation Monthly</b>
<b>Outcome: Adequacy and reliability of power supply achieved for Sumatra</b>					
Number of PLN customers in Sumatra increased by at least 2% each year (2014 baseline: 11,179,969 customers) <sup>a</sup>	Commercial Division Distribution Division Transmission Division, Power Plant Division	-Numbers of customers connected -Type of customer -Location -Wait time for new connections	Real time	AP2T	SILM
Energy sales increased by at least 3% each year (2014 baseline: 27,611 GWh)	-Commercial Division -Distribution Division	-Numbers of customers connected -Type of customer -Location -Accounts receivable	Real time	AP2T	SILM
Technical complaints from PLN customers to Sumatra call center reduced (2014 baseline: 61 complaints/1,000 customers/month)	PLN customer call centers	-Duration of fault -Frequency of fault -Type of customer -Phone calls -Employee report -Region/branch office	Real time		PLN call center reports
<b>Outputs</b>					
At least 500 circuit-kilometers (km) of transmission lines reconductored by 2019 (2015 baseline: 0 circuit-kilometer) <sup>a</sup>	Transmission Division	-Progress of transmission line reconductoring -Transformer installation	quarterly	P3B	SILM SCADA Report P3B-Sumatra
SAIDI reduced to less than or equal to 410 minutes per customer per year by 2019 (2014 baseline: 481 minutes per customer per year) <sup>a,b</sup>	Distribution Division	-Duration of fault -Type of customer -Phone calls -Employee report -Region/branch office	Real time	APKT SCADA	SILM SCADA Report
SAIFI reduced to less than or equal to 13.0 incidents per customer per year by 2019 (2013 baseline: 14.2 incidents per customer) <sup>a,b</sup>	Distribution Division	-Frequency of faults -Section of distribution line fault -Line faults -Proportion of transformers that are non-operable/out of service	Real time	SCADA P3B	SILM SCADA Report

Performance Targets and Indicators with Baselines	Responsible Division	Data Sources	Monitoring Frequency	System	Reporting Documentation Monthly
		-Location of transformers that are non-operable/out of service			
Distribution transformer capacity increased annually to achieve at least 2,000 MVA of additional capacity by 2019 (2014 baseline: 8,067.3 MVA total capacity) <sup>a</sup>	Distribution Division	-Progress of transformer installation	Quarterly	P3B	SILM
Percentage of PLN staff who are competency certified by PLN increased to at least 95% by 2019 (2014 baseline: 87.5%)	SPKK Human Resources Division	-KPI achievement on productivity of employees -Training/ Professional development programs	quarterly	SILM	SILM
Timely completion of implementation of distribution system contracts increased (2014 baseline <10%)		-Operating expenditures -Accounts receivable -Project progress -Contract implementation			

AP2T = Aplikasi Pelayanan Pelanggan Terpusat (centralized customer services application),<sup>1</sup> APKT = Aplikasi Pengaduan dan Keluhan Terpadu (integrated complaints application), DLI = disbursement-linked indicator, FPR = financing for prior results, KPI = key performance indicator, MVA = megavolt-ampere, P3B = Penyaluran dan Pusat Pengatur Beban (Load Dispatch Center), PLN = State Electricity Corporation, SAIDI = system average interruption duration index, SAIFI = system average interruption frequency index, SCADA = supervisory control and data acquisition, SILM = Information System for Management Reporting, SPKK = Corporate Performance Control Unit.

<sup>a</sup> Disbursement-linked indicator.

<sup>b</sup> The calculations for both SAIDI and SAIFI are currently computed manually. In 2018, PLN plans to upgrade to a fully automated system and the indicated target values may need to be revised due to changes in the methodology of the computational algorithms.

Sources: Asian Development Bank estimates, PLN management information systems, and Electricity Power Supply Business Plan (RUPTL), 2015–2024.

<sup>1</sup> This application unites the business processes related to PLN customers. It was launched on 14 December, 2012 in Banda Aceh, Nanggroe Aceh Darussalam.

**Table 5: Suggestions for Indicative DLI Protocols and Verification Measures****General Rules**

1. PLN will collect all reports and information necessary to verify *progress* of the DLI and prepare a draft **Summary Progress Report (SPR)**. This report will be generated by SPKK on a quarterly basis and provided to ADB within 30 days of draft completion. The SPR will be consistent with PLN monthly SPRs.
2. PLN will collect all reports and information necessary to verify *accomplishment* of the DLIs and prepare a draft **DLI Achievement Report**. This report will be generated by SPKK on an annual basis.
3. PLN Director of Corporate Planning or designee will assess the achievement of the DLIs and authorize the **DLI Achievement Report** to be shared with the Ministry of Finance (MOF) and ADB.
4. During Review Missions, the findings of the progress of the DLIs will be discussed with the PLN counterparts and comments provided.
5. PLN counterpart(s) resolves any disagreements about DLI achievement. In case the DLI is not fully achieved, Steps 1 to 3 above will be applied.
6. PLN submits the Withdrawal Application to ADB accompanied by the Review Mission's verification of DLI achievement and other supporting documents.
7. Withdrawal application can be submitted in the same year the DLI is achieved or the following year depending upon PLN's financial needs.
8. The DLI matrix will be reviewed during Mid-Term Review and restructured as necessary.