



8.0 Distribution Data Registration Code

By :

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Distribution Code Awareness Programme Funded by
Akaun Amanah Industri Bekalan Elektrik (AAIBE)



Introduction

Scope

Objective

Procedure And Responsibilities

Data To Be Registered



**Distribution Code Awareness Programme Funded by
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8.1 Introduction



- Code requires Distributor and Users to EXCHANGE and UPDATE data
- Summarised in Schedules 5 and 6 (5A through 6D)



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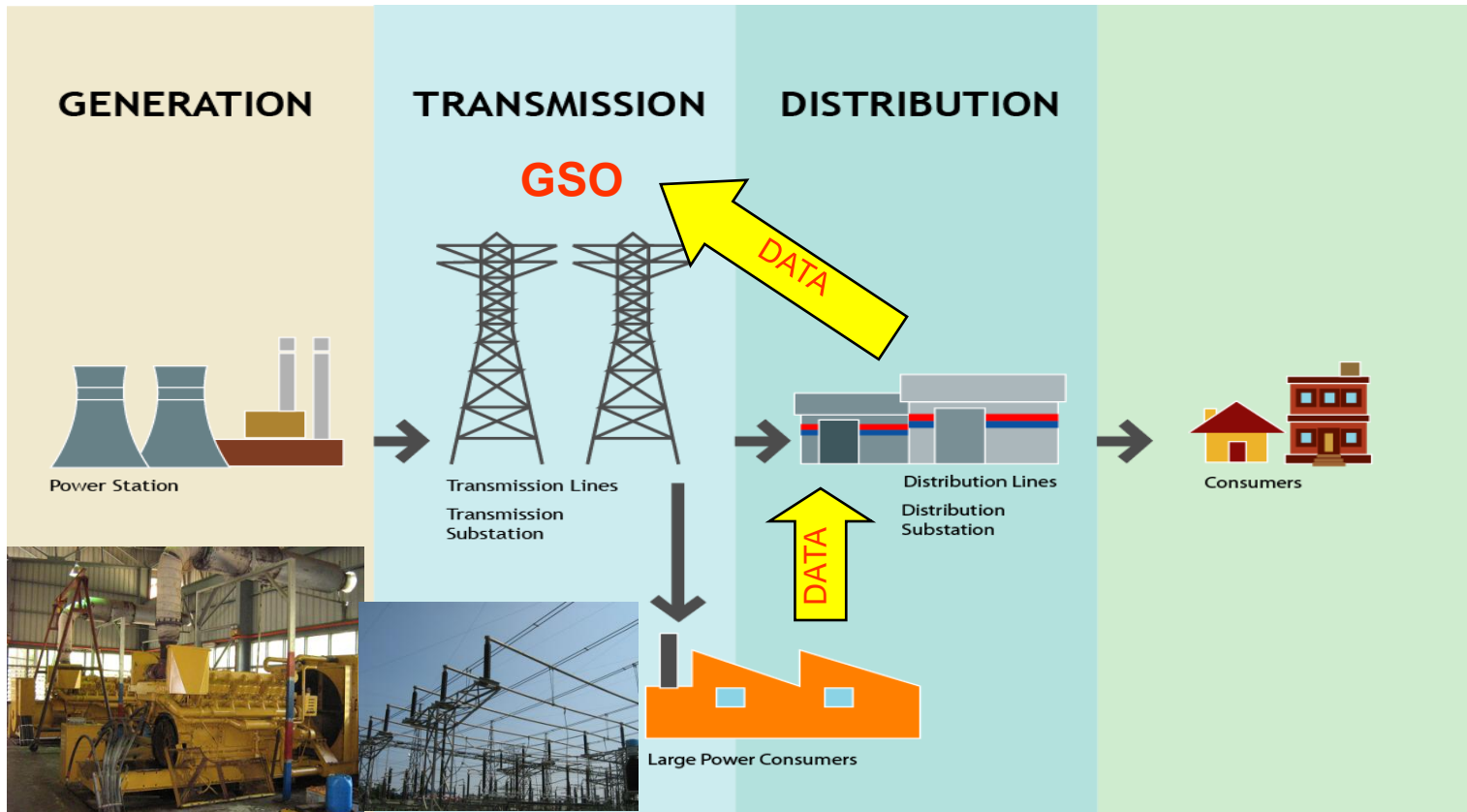


- DDRC is quoted in 5.10 (Demand Forecast) under (Distribution Planning Code)
 - Short term demand forecast (1 – 2 yrs)
 - Medium term (2 – 5 yrs)
 - Long term (6 – 10 yrs)



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Data Relationship



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8.2 Scope Of DDRC



DDRC Applies to:

- Distributor
- Consumer (Except LV)
- Embedded Distributor
- Distributed Generator
- Applicant for use or connection to the Distribution



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8.3 Objective Of DDRC



To COLLATE and LIST data in a readily identifiable form to be provided:

- By User(s) to the Distributor(s)
- By Distributor(s) to User(s)

As required by relevant section of the Code



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Procedure And Responsibilities -

8.4.1 Responsibilities For Submitting And Updating



- Each USER required to submit data as defined by the DDRC

Unless or otherwise agreed or specified by the distributor



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- In writing
- In the specified format
- Name of person submitting



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- User/Distributor discussion
- Followed by Written Submission
- User to inform distributor for any change in registered data



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- Responsibility of the USER (owner) of the data



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- May be estimated by Distributor (basing on previous submission of same or equivalent plant)
- Distributor to advise in writing of any estimated data that it intend to be used



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Data To Be Registered -

8.5.1.1 System Planning Demand Forecast



- Form 5A – Distributor system planning demand forecast to Grid System Operator



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Form 5A



Schedule 5 – Form 5A: Distributors Load Forecast to the Grid System Operator

(Submitted for each bulk transmission substation or transmission main intake substation)

a. Distributor Name: _____

b. Bulk Transmission substation Name : _____

c. Date : _____

No.	Year	Mw ⁺	MVAr ⁺	MWh [#]	Remarks [*]
Short-term					
1					
2					
Medium-term					
3					
4					
5					
Long-term					
6					
7					
9					
10					

+ MW and MVAr are the expected maximum for the year

* MWh is the total annual energy demand

**Distributor
To
GSO**



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Data To Be Registered -

8.5.1.2 System Planning Demand Forecast



- Form 5B – User (5MW or more) demand forecast to be submitted to Distributor



**Distribution Code Awareness Programme Funded by
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Form 5B - A



**Schedule 5 – Form 5B: Consumer Load Forecast to the Distributor
(Submitted by User under provision 5.10.2.1)**

a. Consumer Name: _____

b. Address of Plant: _____

(A) Forecast of typical weekly Demand profile in MW and MVAR.

Time	MW	MVAR		Time	MW	MVAR
Monday						
00:00				12:30		
00:30				13:00		
01:00				13:30		
01:30				14:00		
02:00				14:30		
02:30				15:00		
03:30				15:30		
04:00				16:00		
04:30				16:30		
05:00				17:00		
05:30						

**Consumer
To
Distributor**



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Form 5B - B



(B) Monthly energy consumption in MWh and the corresponding monthly peak demand in MW and MVAR

Year (Distributor's next financial): _____

No.	Month	Mw ⁺	MVAr ⁺	MWh [*]	Remarks
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

**Consumer
To
Distributor**

+ MW and MVAr are the expected maximum for the month

* MWh is the total monthly energy consumption



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Form 5B - C



(C) Demand forecast in MW, MVAR and energy MWh.

No.	Year	MW ⁺	MVAr ⁺	MWh [*]	Remarks
Short-term					
1					
2					
Medium-term					
3					
4					
5					

+ MW and MVAr are the expected maximum for the year

* MWh is the total annual energy consumed

**Consumer
To
Distributor**



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Data To Be Registered -

8.5.1.3 System Planning Demand Forecast



- Form 5C – Embedded Distributor demand forecast to be submitted to Distributor



**Distribution Code Awareness Programme Funded by
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Form 5C - A



Schedule 5 – Form 5C: Embedded Distributor Load Forecast to the Distributor

(Submitted by User under provision 5.10.3.1)

a. Submitting Distributor Name: _____

b. Receiving Distributor Name: _____

(A) Typical weekly import/export⁺ demand profile

⁺ Delete where not applicable

Time	MW	MVAR		Time	MW	MVAR
Monday						
00:00				12:30		
00:30				13:00		
01:00				13:30		
01:30				14:00		
02:00				14:30		
02:30				15:00		
03:30				15:30		
04:00				16:00		
04:30						
05:00						

**Embedded
Distributor
To
Distributor**



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Form 5C - B



(B) Monthly energy import/export⁺ in MWh and MW/MVAR

⁺ Delete where not applicable

Year (Receiving Distributor's next financial): _____

No.	Month	MW ⁺	MVAr ⁺	MWh [#]	Remarks
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

**Embedded
Distributor
To
Distributor**

⁺ MW and MVAr are the expected maximum for the month

[#] MWh is the total monthly energy consumption/supplied



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Form 5C - C



(C) Annual import/export⁺ demand forecast in MW and MVAR
⁺ Delete where not applicable

No.	Year	MW ⁺	MVAr ⁺	MWh [*]	Remarks
Short-term					
1					
2					
Medium-term					
3					
4					
5					

+ MW and MVAr are the expected maximum for the year

* MWh is the total energy imported/exported

**Embedded
Distributor
To
Distributor**



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Data To Be Registered -

8.5.1.4 System Planning Demand Forecast



- Form 5D – Distributed Generator (5MW or more) demand forecast to be submitted to Distributor



**Distribution Code Awareness Programme Funded by
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Form 5D -A



Schedule 5 – Form 5D: Distributed Generator with output of 5MW or more
– Load Forecast to the Distributor
(Submitted for each Generating Unit 5MW and above under provision
5.10.4.1)

a. Generator Name: _____

b. Generator Unit Name: _____

c. Date: _____

(A) Forecast of typical weekly output of the unit

Time	MW	MVAR		Time	MW	MVAR
Monday						
00:00				12:30		
00:30				13:00		
01:00				13:30		
01:30				14:00		
02:00				14:30		
02:30				15:00		
03:30				15:30		
04:00				16:00		
04:30				16:30		
05:00				17:00		

**Distributed
Gen
To
Distributor**



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Form 5D - B



(B) Forecast of the generating maximum MW, MVAR and annual MWh output

No.	Year	MW ⁺	MVAr ⁺	MWh [#]	Remarks
Short-term					
1					
2					
Medium-term					
3					
4					
5					

+ MW and MVAr are the expected maximum for the year

* MWh is the total annual energy output

**Distributed
Gen
To
Distributor**



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Data To Be Registered -

8.5.1.5 System Planning Demand Forecast



- Form 5E – Load profile to be recorded by the Distributor
- As required by 5.11 Distribution Planning Code



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Form 5E - A



Schedule 5 – Form 5E: Load profiles at the point of interfaces

(i) Interface Point Name: _____

(ii) Wednesday, Date: _____

(A) For Each Incoming Feeders

Time	MW	MVAR	Voltage (kV)	Time	MW	MVAR	Voltage (kV)
00:00				12:30			
00:30				13:00			
01:00				13:30			
01:30				14:00			
02:00				14:30			
02:30				15:00			
03:30				15:30			
04:00				16:00			
04:30				16:30			

**Distributor
To
GSO**



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Form 5E - A



Time	MWh	MVARh		Time	MWh	MVARh
00:00				12:30		
00:30				13:00		
01:00				13:30		
01:30				14:00		
02:00				14:30		
02:30				15:00		
03:30				15:30		
04:00				16:00		
				16:30		

**Distributor
To
GSO**



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Form 5E - B



(B) For Each Incoming Feeders

Feeder nominal voltage (line-to-line): _____ kV

Time	MW	MVAR	Current (A)	Time	MW	MVAR	Current (A)
00:00				12:30			
00:30				13:00			
01:00				13:30			
01:30				14:00			
02:00				14:30			
02:30				15:00			
03:30				15:30			

**Distributor
To
GSO**



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Data To Be Registered -

8.5.1.6 System Planning Demand Forecast



- Form 5F – Power quality profile data to be recorded by the Distributor
- As required by 5.11 Distribution Planning Code



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Form 5F - A



(A) Voltage Harmonic Distortion (%)

i. Location of measurement: _____

ii. Voltage: _____ kV

iii. Date of measurement: _____ Time: _____

iv. Table of harmonic voltage spectrum.

Harmonic no. (h)	Voltage (p.u.) (V)		Harmonic no. (h)	Voltage (p.u.) (V)
1			12	
2			13	
3			14	
4			15	
5			16	
6			17	
7			18	
8			19	
9			20	
10			21	
11				

**Distributor
To
GSO**

Total harmonic distortion, THD % _____
=



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Form 5F - B



(B) Annual incidents/expected voltage sags

i. Location of measurement: _____

ii. Nominal Voltage: _____ kV

iii. Year: _____

Sag (%)	No. of Sags with Duration Range in milliseconds					
	< 100	>100 <200	>200<300	>300<400	>400<500	>500
≥ 90%						
≥ 80% < 90%						
≥ 70% < 80%						
≥ 60% < 70%						
≥ 50% < 60%						
≥ 40% < 50%						
≥ 30% < 40%						
< 30%						

**Distributor
To
GSO**



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Form 5F - C



(C) Annual incidents/expected voltage swells

i. Location of measurement: _____

ii. Nominal Voltage: _____ kV

iii. Year: _____

Swell (%)	No. of Swells with Duration Range in milliseconds					
	< 100	>100 <200	>200<300	>300<400	>400<500	>500
≥200%						
≥190% <200%						
≥180% <190%						
≥170% <180%						
≥160% <170%						
≥150% <160%						
≥140% <150%						
≥130% <140%						

**Distributor
To
GSO**



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Form 5F - D



(D) Annual Incidents of Flicker

i. Location of measurement: _____

ii. Nominal Voltage: _____ kV

iii. Year: _____

Voltage Fluctuations from nominal (%)	Number recorded per hour	Number recorded per minute	Number recorded per second
$\geq 4\% < 5\%$			
$\geq 3\% < 4\%$			
$\geq 2\% < 3\%$			
$\geq 1\%$			

 Suruhanjaya Tenaga

**Distributor
To
GSO**



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Data To Be Registered -

8.5.2.1 Operational Demand Forecast Data



- Form 6B – Information on the change of operational demand forecast to the distributor

(applicable to user having demand 5MW or more)

- As required by 6.4.2 (Operational demand and generation forecast)



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Form 6B - A



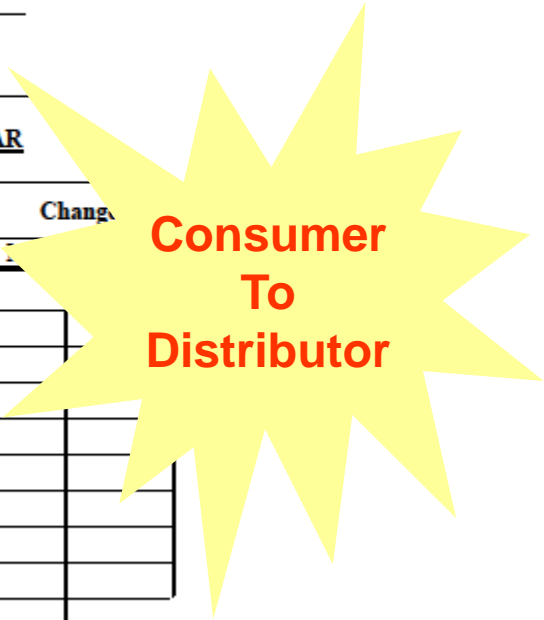
Schedule 6 – Form 6B: Consumer Load Forecast Changes to the Distributor
(Submitted by Consumer under provision 6.4.2.2)

a. Consumer Name: _____

b. Address of Plant: _____ Date: _____

(A) Changes in Forecast of typical weekly demand in MW and MVAR

Time	Previously Submitted		Changes		Time	Previously Submitted		Changes
	MW	MVAR	MW	MVAR		MW	MVAR	
Monday								
00:00					12:30			
00:30					13:00			
01:00					13:30			
01:30					14:00			
02:00					14:30			
02:30					15:00			
03:30					15:30			
04:00					16:00			
04:30					16:30			
5:00					17:00			
					17:30			



Distribution Code Awareness Programme Funded by
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Form 6B - B

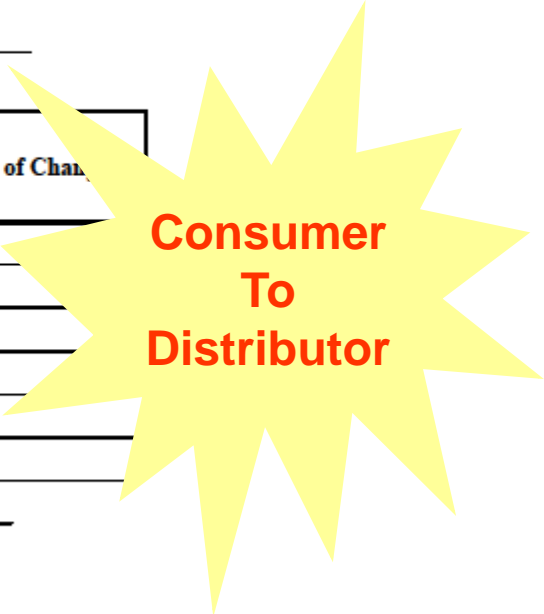


(B) Changes in Monthly energy consumption in MWh and the corresponding monthly peak demand in MW and MVAR

i. Current Year (Distributor's next financial): _____

ii. Current Month: _____

Month	Previously Submitted			Changes			Remarks/Dates of Change
	MW	MVAR	MWh	MW	MVAR	MWh	



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Data To Be Registered -

8.5.2.2 Operational Demand Forecast Data



- Form 6C – Information on the change of operational demand forecast to the distributor

(applicable to embedded distributor)



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Form 6C - A

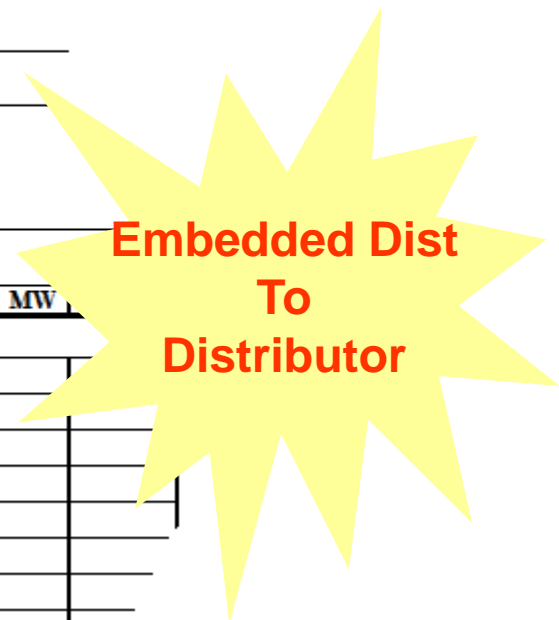


Schedule 6 – Form 6C: Changes Embedded Distributor Load Forecast to the Distributor

- a. Submitting Distributor Name: _____
- b. Receiving Distributor Name: _____
- c. Name of the Interface Point: _____

(A) Changes in Typical weekly import/export+ demand profile
 + Delete where not applicable

Time	Previously Submitted		Changes		Time	Previously Submitted		MW
	MW	MVAR	MW	MVAR		MW	MVAR	
Monday								
00:00					12:30			
00:30					13:00			
01:00					13:30			
01:30					14:00			
02:00					14:30			
02:30					15:00			
					15:30			



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Form 6C - B



(B) Changes in Monthly energy import/export+ in MWh and MW/MVAR

+ Delete where not applicable

Current Year (Distributor's next financial): _____

Current Month: _____

Name of the Point of Interface: _____

Month	Previously Submitted			Changes			Remarks/Dates of Changes
	MW	MVAr	MWh	MW	MVAr	MWh	

**Embedded Dist
To
Distributor**



Distribution Code Awareness Programme Funded by
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Data To Be Registered -

8.5.2.3 Operational Demand Forecast Data



- Form 6D – Information on the change of operational demand forecast to the distributor

(applicable to distributed generator 5MW or more)



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Form 6D - A



Schedule 6 – Form 6D: Distributed Generator Load Forecast Changes
(Submitted for each Generating Unit 3MW and above)

a. Generator Name: _____ Generator Unit Name: _____

Date: _____

(A) Changes in Forecast of typical weekly output of the unit

Time	Previously Submitted		Changes		Time	Previously Submitted		Changes
	MW	MVAR	MW	MVAR		MW	MVAR	
Monday								
00:00					12:3			
00:30					13:0			
01:00					13:3			
01:30					14:0			
02:00					14:3			
02:30					15:0			
03:30					15:3			
					16:0			
					16:3			
					17:0			

**Distributed Gen
To
Distributor**



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Form 6D - B



(B) **Changes in scheduled monthly generation output**
(Submitted for each Generating Unit 3MW and above)

Current Year : _____ Current Month : _____

Forecast of generation maximum output values submitted previously
submitted in Form 5C for the following months of the current year.

MW: _____

MVAR: _____

MWh: _____

Changes for more than 3MW as compared to previously submitted in
Form 5C for the following months of the current year

**Distributed Gen
To
Distributor**

Month	MW	MVAR	MWh	Remarks/Dates of changes



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THANK YOU



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