



MARKET OPERATIONS

SETTLEMENT PROCEDURE

By

B.C.OGBU

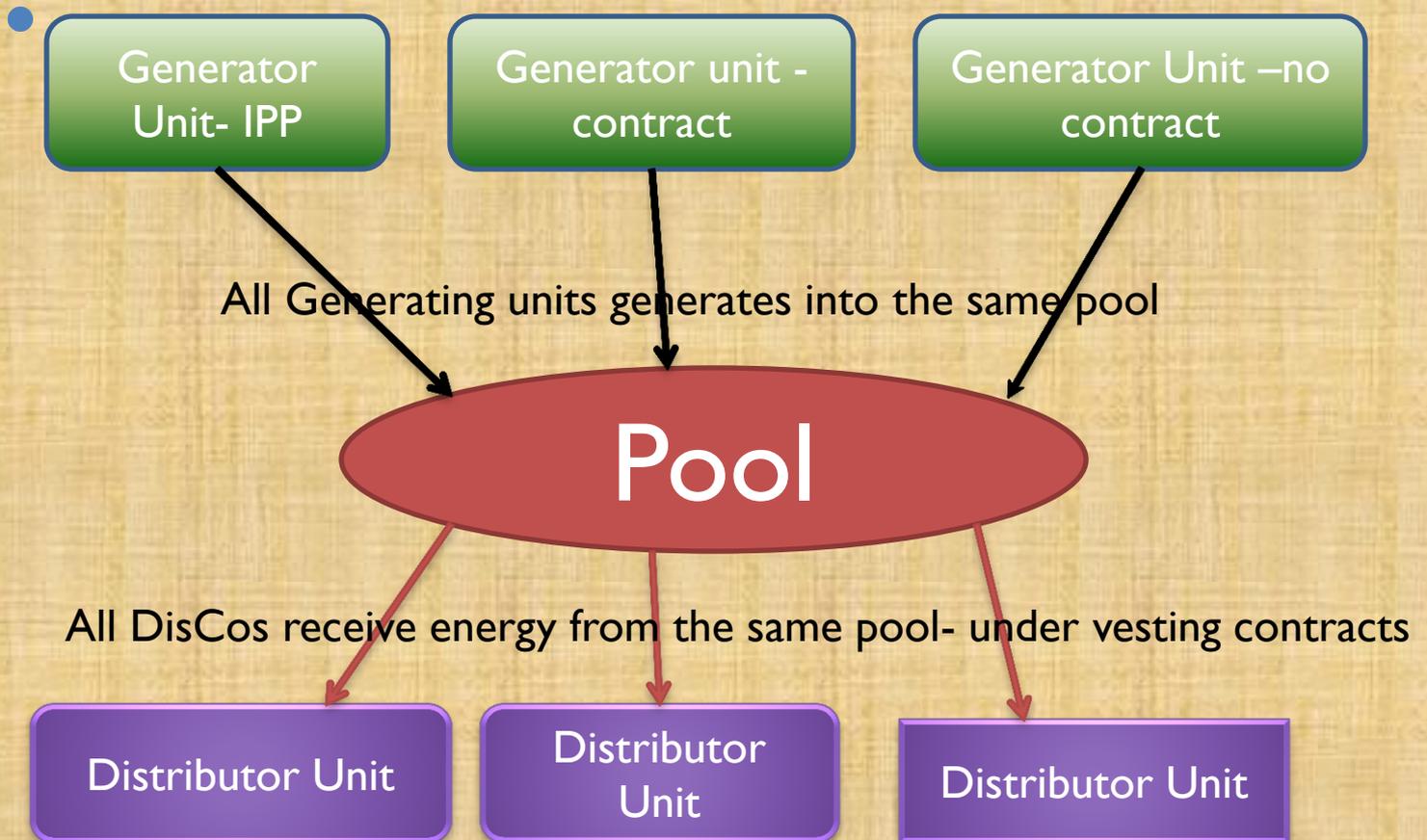
Contents

- INTRODUCTION
- THE POOL SYSTEM
- MARKET SETTLEMENT SYSTEM
- MARKET SETTLEMENT
- UNINSTRUCTED GENERATION
- SETTLEMENT DATA FLOWS
- SETTLEMENT STATEMENTS
- SETTLEMENT DATA
- PARTICIPANTS OBLIGATION
- SETTLEMENT STATEMENTS
- REVIEW BY PARTICIPANTS
- FINAL SETTLEMENT STATEMENT
- PROPOSED STRUCTURE OF SETTLEMENT STATEMENTS
- INVOICING
- SETTLEMENT MARKET CALENDAR
- REDUCE DISPUTE IN TEM
- DISCUSSION

INTRODUCTION

- ✓ Market settlement will be according to contracts.
- ✓ Participants without contracts will have their settlement in line with Pre TEM conditions
- ✓ All participants will receive Settlement Statements from MO.
- ✓ MO will recognize only contracts registered as required by the MR.
- ✓ All contracts must be registered by MO before TEM
- ✓ Settlement shall continue to be on monthly basis

The Pool System



Market Settlement System

- Market settlement system includes:
 - ✓ Calculation of Energy and, when applicable, generation capacity sold and bought in the Contract Market;
 - ✓ Where applicable or agreed between the Participants and the Market Operator, contract prices and payment due in contracts;
 - ✓ Settlement of the compensation mechanism for uninstructed generation;
 - ✓ Regulatory charge
 - ✓ Transmission charges .
 - ✓ System Operation charge
 - ✓ Market Administration Charge (MO & NBET)



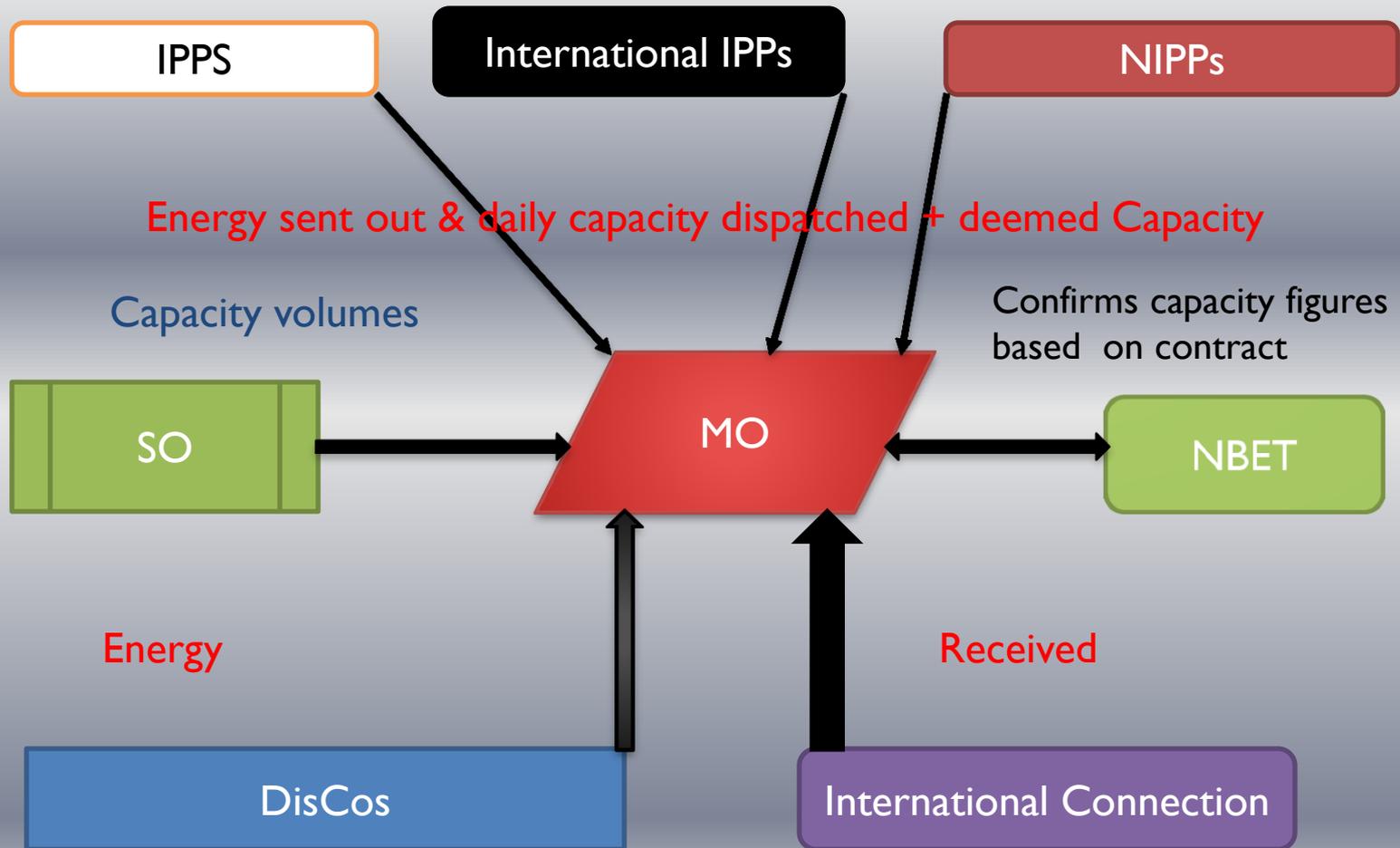
Market Settlement

- At the end of each month MO calculates:
 - the Energy / generation capacity bought during the month in each Contract where the Participant is a Purchaser
 - the Energy / generation capacity sold during the month in each Contract where the Participant is the Seller, including the corresponding Energy Contract Nominations
 - Energy bought / sold in international trading
 - the Energy / generation capacity sold during the month by each generator not having a contract where the participant is the Seller, including the corresponding Energy Nominations
 - The contracted generation capacity in each Contract, using the information in the Contract Register
- SO will inform MO on availability
- Generators shall pay compensation for uninstructed generation

Uninstructed Generation

- Penalties for uninstructed generation:
 - if the energy generated was higher than instructed, the surplus energy, valued at its average contract price; or
 - if the energy generated was less than instructed, the energy not generated, valued at two times the average contract price
- Uninstructed generation is checked each trading interval
- At the end of the day the generator is informed about his uninstructed generation
- Every week a report is sent to MO
- During the first 6 months the results of uninstructed generation is informed to the generators in the monthly settlement but not charged
- Charges starts from the seventh month.

Settlement Data Flows



Market Settlement Statement

- I. Preliminary settlement statement
 - Contents:
 - Contracted Quantities, which shall be the total Energy or generation capacity bought or sold in contracts by the Participants.
 - The transmission usage charge due from the Participant
 - Penalties to generators for uninstructed energy
 - System Operator and Market Administration Charge;
 - Imbalance charges/credits.
 - Despatch to participants with sufficient supporting data to enable each Participant to verify the settlement calculations

Settlement Data

- Metered data is obtained from GenCos and DisCos in respect of energy sent out and energy delivered.(MR: 27.6.4)
- MO validates the metered data submitted by the participants with SO figures
- The capacity figures are obtained from the System Operator.
- Capacity reading is taken every hour for each GenCo.
- The total is used for preparing monthly settlement

Participants Obligation

DisCos (energy delivered)

GenCos (energy sent out)

submit (MR27.6.4.& Second Interim Rules s.18)

Metered data

Validate and correct (MR 27.6.5)

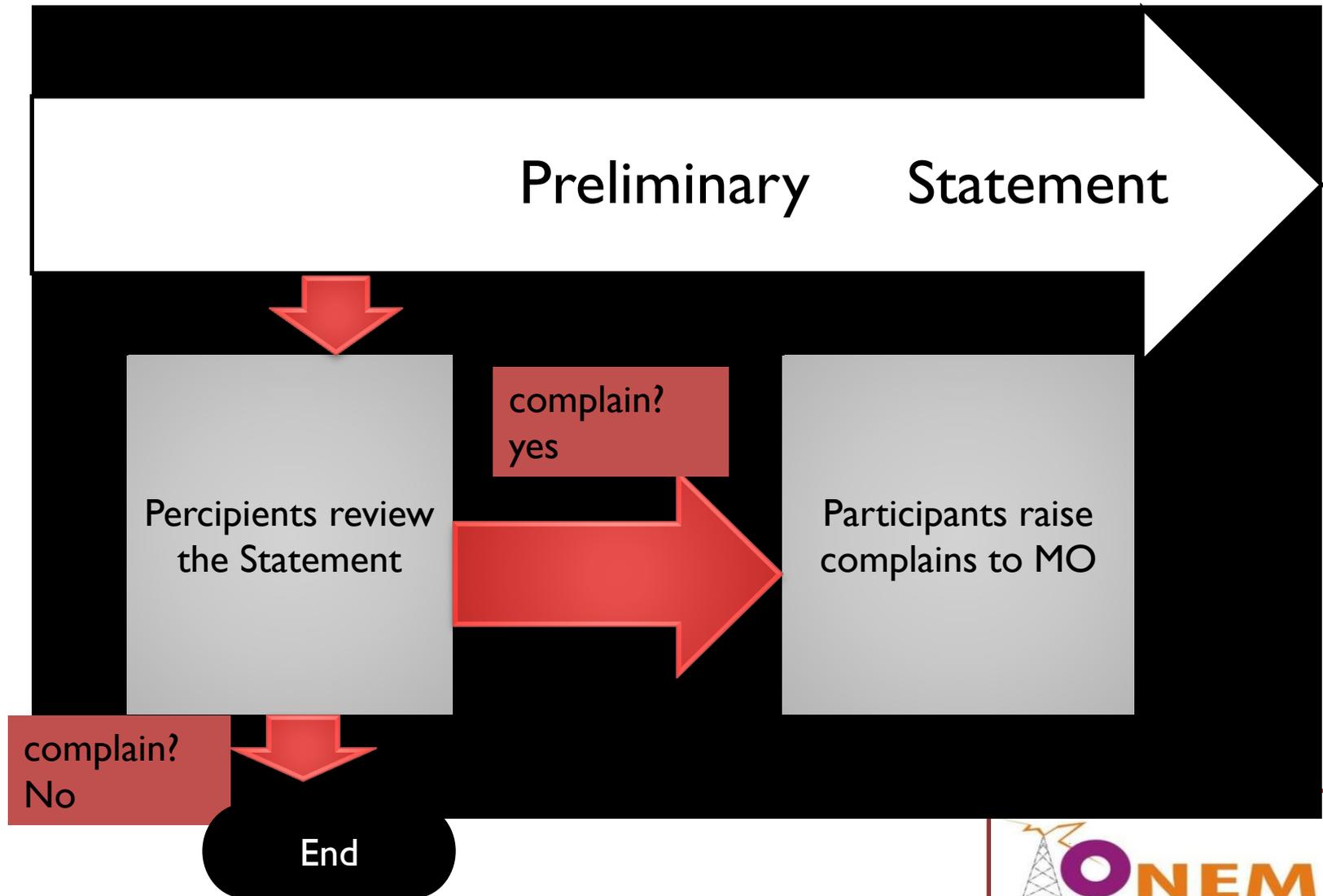
MO

(Calculate
(Settlement
Statements))

SO (capacity
figures)
Energy figures

Settlements Statements

Settlement Statement



Review by participants

- Raise Complain if participant does not agree with preliminary statement
- MO reviews complain from participant
- If necessary MO corrects preliminary statement and informs participants affected
- MO issues final settlement statement
- If Participant complains on final settlement statement,
- MO try an amicable solution;
- Adjustments (if required) are made in following statements
- if the complain is not resolved it goes to dispute resolution procedure

2. Final Settlement Statement

- Same as preliminary
- Updated by resolved complains
- Used for exchange of invoices
- GenCos energy is discounted by 8.05% Transmission Loss Factor unless otherwise stated.

Proposed structure of Settlement Statements

Participants Name: AFAM POWER PLC
 Participants Number:03300100131
 Participants Rep Name: MD
 Participant Rep Address: AFAM POWER STATION COMPLEX

S/N	Purchaser Name	Capacity Shared (MW)	Unit Price	Capacity Charge N	Energy Shared (Kwh)	Unit Price	Energy Charge (N)	Total Charge (N)
-----	----------------	----------------------	------------	-------------------	---------------------	------------	-------------------	------------------

Contract - Capacity and Energy Charges

Nigeria Bulk Electricity Trader (DisCos)

1	ABUJA EDC	2351.54	4,303.00	10,118,673.73	2,172,313.76	5.555	12,067,202.94	22,185,876.68
2	BENIN EDC	2257.77	4,303.00	9,715,173.64	2,085,688.89	5.555	11,586,001.79	21,301,175.43
3	EKO EDC	2165.54	4,303.00	9,318,328.36	2,000,492.70	5.555	11,112,736.95	20,431,065.31
4	ENUGU EDC	2313.49	4,303.00	9,954,935.08	2,137,161.75	5.555	11,871,933.52	21,826,868.60
5	IBADAN EDC	2623.72	4,303.00	11,289,860.24	2,423,748.35	5.555	13,463,922.09	24,753,782.33
6	IKEJA EDC	3058.50	4,303.00	13,160,725.75	2,825,392.58	5.555	15,695,055.77	28,855,781.52
7	JOS EDC	1068.12	4,303.00	4,596,126.59	986,713.21	5.555	5,481,191.88	10,077,318.47
8	KADUNA EDC	1739.04	4,303.00	7,483,107.07	1,606,500.70	5.555	8,924,111.41	16,407,218.48
9	KANO EDC	1108.97	4,303.00	4,771,876.67	1,024,443.88	5.555	5,690,785.74	10,462,662.40
10	PORTHARCOURT EDC	1165.88	4303.00	5,016,793.48	1,077,023.51	5.56	5,982,865.61	10,999,659.08
11	YOLA EDC	348.98	4,303.00	1,501,665.26	322,382.97	5.56	1,790,837.41	3,292,502.67
Sub Total (NBET)		20,201.55	47,333.00	86,927,265.88	18,661,862.30	61.11	103,666,645.10	190,593,910.98

Participants Name: Abuja Electricity Distribution Company

Participants Number: 00100600300

Participants Rep Name: MD

Participant Rep Address: LOMA-MANSA ST, OFF IBB WAY, WUSE ZONE 4 ABUJA FCT

S/N	Seller Name	Capacity Shared (MW)	Unit Price	Capacity Charge N	Energy Shared (Kwh)	Unit Price	Energy Charge (N)	Total Charge (N)
-----	-------------	----------------------	------------	-------------------	---------------------	------------	-------------------	------------------

Vesting Contract - Capacity and Energy Charges

GENERATOR ON GRID

Nigeria Bulk Electricity Trader (Generators)

1	AFAM POWER PLC	2351.54	4,303.00	10,118,673.73	2,172,313.76	5.555	12,067,202.94	22,185,876.68
2	DELTA POWER STATION	24964.06	4,303.00	107,420,343.89	22,205,084.37	5.555	123,349,243.70	230,769,587.58
3	EGBIN POWER PLC	38734.26	4,303.00	166,673,533.07	35,639,811.80	5.555	197,979,154.56	364,652,687.63
4	GEREGU POWER PLC	8902.28	4,303.00	38,306,503.36	8,101,604.90	5.555	45,004,415.22	83,310,918.58
5	EURAFIC SAPELE POWER PLC	4351.49	4,303.00	18,724,479.19	3,996,085.85	5.555	22,198,256.91	40,922,736.10
6	JEBBA HYDRO STATION	29702.72	5,092.00	151,246,255.31	26,123,531.04	1.258	32,863,402.05	184,109,657.35
7	KAINJI HYDRO POWER STATION	8926.97	5,092.00	45,456,126.46	7,494,447.18	1.258	9,428,014.55	54,884,141.01
8	NORTH SOUTH POWER CO. LTD (SHIRORO)	22972.82	5,092.00	116,977,590.02	20,450,518.86	1.258	25,726,752.72	142,704,342.74
10	AES NIGERIA BARGES LTD	22716.22	4,443.55	100,940,680.34	-	3.336	-	100,940,680.34
11	AGIP POWER	36946.77	5,836.28	215,631,666.44	14,762,297.26	1.294	19,102,412.65	234,734,079.09
12	SHELL PETROLEUM POWER	33002.78	3,128.16	103,237,980.23	32,382,254.78	1.420	45,982,801.78	149,220,782.01
13	OMOTOSHO ELECTRIC ENERGY	12488.48	4,614.00	57,621,856.29	9,463,630.86	4.708	44,554,774.08	102,176,630.37
14	SEPCO PACIFIC ENERGY LTD (OLORUNSOGO)	12488.48	4,614.00	57,621,856.29	10,981,233.23	4.708	51,699,646.07	109,321,502.36
	NBET TOTAL	258,548.88		1,189,977,544.61	193,772,813.89		629,956,077.24	1,819,933,621.84

Generators without Contract

15	IBOM POWER LTD	766.35	4,303.00	3,297,597.51	702,368.03	5.555	3,901,654.41	7,199,251.93
16	GEREGU GENERATION CO LTD	16363.26	4,303.00	70,411,094.94	14,983,529.54	5.555	83,233,506.61	153,644,601.55
17	OLORUNSOGO NIPP	8258.72	4,303.00	35,537,271.41	7,073,217.15	5.555	39,291,721.25	74,828,992.65
18	OMOTOSHO NIPP	11310.88	4,303.00	48,670,700.12	8,999,344.38	5.555	49,991,358.02	98,662,058.14
19	SAPELE NIPP	9605.16	4,303.00	41,331,007.84	8,298,655.24	5.555	46,099,029.85	87,430,037.69
20	ALAOJI NIPP	101.90	4,303.00	438,459.49	103,194.59	5.555	573,245.92	1,011,705.42
21	IHOVBOR POWER STATION -NIP	18621.11	4,303.00	80,126,619.86	16,922,937.19	5.555	94,006,916.07	174,133,535.93
		65027.36		279812751.18	57083246.11		317097432.13	596910183.31
		323,576.24	-	1,469,790,295.79	250,856,060.00	-	947,053,509.37	2,416,843,805.15

Invoicing

- GenCos with contracts issues invoices to NBET
- GenCos without contract issue invoices to MO
- NBET issue invoice to DisCos for capacity and energy supplied by GenCos with contract
- MO issue invoices to DisCOs for:
 1. energy and capacity supplied by GenCos without contract
 2. services.

MO issue invoice to GenCos for uninstructed generations.

Settlement Market Calendar

- Calendar of the process cycle of settlement from:
- Reading of meters,
- data submission,
- vetting, validation & corrections
- issuing of preliminary settlement statements
- Resolving complains
- Issuing Final Settlement Statement
- Issuing of invoices/credit advice

Settlement Calendar

1st of each month

- Meter readings

2nd to 4th

- Participants Submit Metered Data

3rd to 5th

- MO validate meter data

6th to 8th

- MO Update Database and produce preliminary settlement statement

Settlement Calendar

9th to 10th

- Issue Preliminary Settlement Statement

10th to
14th

- Receive Complaints and effect corrections

15th to
17th

- Produce Final Settlement Statement

18th to 20th

- Dispatch Final Settlement Statement

1 20th

- Issue Invoices and Credit Note

Reduce Dispute in TEM



Capacity volume

- ✓ Submit actual capacity generated
- ✓ Show deemed capacity and why
- ✓ Show supporting evidence for SO instruction to ramp down

Settlement dispute procedure will require enough evidence to substantiate claims

Energy Sent Out

- ✓ Submit actual energy sent out from the meter reading
- ✓ Read meter and sign off with SO & TSP representative

Energy Received

- ✓ Submit actual energy received from the meter reading
- ✓ Read meter and sign off with SO & TSP representatives

Refusal to sign off with counterpart is criminal



- discussions

?

• **Thanks**
you