ATTACHMENT A.10

DATA FORMAT FOR SO-SYSTEM ADVISORIES

Title	*SO System Advisories*
Data flow	From EMS to MMS
Description	*SO System Advisories* are messages issued by the *System Operator* (SO) depicting particular issues regarding existing or anticipated status of the power system.
Time coverage	Near real-time
Transfer frequency	At anytime
Transfer method	FTP
Data name	File *so_advisories_YYYY-MM-DD_HHMISS.txt*
Data format	ASCII file in CSV format

Data Format
Timestamp, Audience, Severity, Message **Timestamp, Audience, Severity, Message**
Descriptions for the data fields: Data column 1: Timestamp (YYYY-MM-DD HH:MI:SS) Data column 2: Audience (ALL, MO or MPxxxx; the latter being up to 12 characters) Data column 2: Severity (1 character): I – Information (i.e. Normal) W – Warning (i.e. Urgent) E – Error (i.e. Emergency) Data column 3: Message (up to 80 characters, enclosed in double-quotes)

ATTACHMENT A.11

DATA FORMAT FOR MO-MARKET ADVISORIES

Title	Market advisories
Data flow	From MMS to EMS
Description	Messages issued by the *Market Operator* (MO) depicting particular issues concerning the status of the market. In EMS, market advisories are used for information by *System Operator* (SO).
Time coverage	For the current trading day
Transfer frequency	On a needed basis
Transfer method	HTTP (web interface)
Data name	N/A
Data format	Text messages in HTML format

ATTACHMENT A.12

DATA FORMAT FOR SO-OPERATORS LOG

Title	Operator Logs
Data flow	From EMS to MMS
Description	The *System Operator* (SO) keeps the historical record of dispatch instructions that includes appropriate information for each dispatch resource.
Time coverage	For the current trading day
Transfer frequency	At the end of each trading day.
Transfer method	FTP
Data name	[To be specified by EMS SO]
Data format	ASCII file in plain text format

ATTACHMENT A.13

DATA REQUIREMENTS & VALIDATION CRITERIA FOR REAL TIME ENERGY BIDS / OFFERS

Bid Header:

- Delivery Date
- Bid/Offer Indicator [LOAD|GENERATOR]
- Resource ID
- Standing Bid Indicator [YES; NO]
- Standing Bid Day [HOL|ALL|MON|TUE|WED|THU|FRI|SAT|SUN]
- Standing Bid Expiry Date

Bid Submission:

- Interval
- Table A – PQ Pairs
- Table B – Ramp Rate Triplets
- Table C – Reason

Validation Criteria:

REQUEST_CATEGORY	Refers to MOS bid data category.
REQUEST_TYPE	Specifies type of MI Request type. For WESM, Use “upload”.
PARTICIPANT_ID	Must be a valid participant in the Master File.
USER_ID	Must be a valid user in the Master File associated to the Participant.
MODE	The valid value for MODE is “NORMAL”.
DELIVERY_DATE	Dispatch date
ACTION	Specifies the bid action to take. For WESM, use “submit” or “cancel”.
EXPIRY_DATE	Exists within optional “standing” element.
DAY_TYPE **VERSION_NO**	"MON" to "SUN" or "ALL" or "HOL". Exists within optional “standing” element. The version of template and will be validated against the current version of the MOS Software. Currently set it to "1.0".

BID_TYPE	Valid values are “GEN” and “LOAD”.
RESOURCE_ID	The name of resource. Must be a valid resource in the Master File associated with the participant.
HOUR	The beginning of the interval/hour and “end” will be the end of the interval/hour range specified. “end” has to be greater than the “start”.
PRICE	Prices will be non-decreasing for OFFERS. Prices will be non-increasing for BIDS. Minimum MCP ≤ Prices ≤ Maximum MCP Minimum 2 prices Maximum 11 prices Up to 24 sets, one for each interval of Market Data. Number of Prices = Number of Quantities.
QUANTITY	Quantities will be non-negative. Quantities are cumulative. Quantities must increase Up to 48 sets, one for each interval of market data.
RR_QUANTITY	First <RR QUANTITY> must be >0.0. Last <RR_QUANTITY> must be >= max MWh quantity in PQ pairs. Must increase .Must be non-negative.
RR_UP	Must be <= Max Ramp Rate for Resource.
RR_DOWN	Must be <= Max Ramp Rate for Resource There can be a maximum of 5 sets of ‘Ramp Rates’ and ‘Ramp Break’ points. These must be submitted as a set.
REASON	This will be an optional field

Note: The Market Participant may submit ramp-up and ramp-down curves for each resource. These values must be less than the maximum sustained ramp rate value already submitted as part of the registration. The participant, as part of registration, submits the min and max generation capacities. The price and quantity curve defines the operating high limit for the current submission.

ATTACHMENT A.14

DATA REQUIREMENTS & VALIDATION CRITERIA FOR OPERATING RESERVES

Bid Header:

- Delivery Date
- Bid/Offer Indicator [LOAD|GENERATOR]
- Reserve Class Indicator [REGULATING; CONTINGENCY; DISPATCHABALE; INTERRUPTIBLE LOADS]
- Resource ID
- Standing Bid Indicator [YES; NO]
- Standing Bid Day [HOL|ALL|MON|TUE|WED|THU|FRI|SAT|SUN]
- Standing Bid Expiry Date

Bid Submission:

- Operating Reserve Ramp Rate
- Interval
- Table A – PQ Pairs
- Table B – Reserve Loading Point
- Table C – Reason

Validation Criteria:

REQUEST_CATEGORY	For WESM, set to “bid”. Refers to MOS bid data
REQUEST_TYPE	Specifies type of MI Request type. For WESM, Use “upload”.
PARTICIPANT_ID	The name of participant. Must be a valid participant in the Master File.
USER_ID	The name of user. Must be a valid user in the Master File associated to the Participant.
MODE	The valid value for MODE is “NORMAL”.
DELIVERY_DATE	The dispatch date
EXPIRY_DATE	Exists within optional “standing” element.
DAY_TYPE	"MON" to "SUN" or "ALL" or "HOL". Exists within optional “standing” element
VERSION_NO	The version of template and will be validated against the current version of the MOS Software. Currently set to “1.0”.
BID_TYPE	Valid values are “GENERATOR” and “LOAD”.
OPRES_RAMP_RATE	The value of Operating Reserve Ramp Rate
RESERVE_CLASS	REG – regulating reserve CON – contingency reserve DIS – dispatchable reserve ILD – interruptible load
RESOURCE_ID	The name of resource. Must be a valid resource in the Master File associated with the participant
HOUR	"start" will be the beginning of the interval and end will be the end of the interval range specified. “end” has to be greater than the “start”.
PRICE	Not required if <CANCEL_FLAG> is set. Prices will be non-decreasing for OFFERS. Prices will be non-increasing for BIDS. Minimum Price ≤ Price ≤ Maximum Price Minimum one price Maximum 5 prices Up to 24 sets, one for each interval of Market Data.

	Number of Prices = Number of Quantities.
QUANTITY	Must be > 0 and <= Max Generator Capacity Minimum 1 quantity Maximum 5 quantities Quantities will be non-negative. Quantities are cumulative. Quantities must increase Up to 24 sets, one for each interval of market data.
RESV_LD_PNT	**REASON** This will be an optional field.

Note: The min/max generating capacities are submitted as part of the registration process. The bid/offer quantities are validated against this for consistency. When a reserve bid/offer is submitted, a validation is made to verify that a corresponding energy bid exists.

ATTACHMENT A.15

DATA REQUIREMENTS FOR DEMAND BIDS / OFFERS

Bid Header:

- Delivery Date
- Schedule Type [LOAD|GENERATOR]
- Resource ID
- Standing Bid Expiry Date
- Standing Bid Indicator [YES; NO]
- Standing Bid Day [HOL|ALL|MON|TUE|WED|THU|FRI|SAT|SUN]

Bid Details:

- Interval
- Table A –Price
- Table B – Quantity
- Table C – Reason

ATTACHMENT A.16

DATA REQUIREMENTS & VALIDATION CRITERIA FOR NON-SCHEDULED GENERATION OFFERS

A non-scheduled generator has standing schedules of loading levels for the market time horizon.

The *New and Renewable Energy* (NRE) units defined in *WESM Market Rules* are treated as non-scheduled generation. An NRE unit has projected schedules for the market time horizon.

Workflows	Treatment for Non-Scheduled Generation
Day-Ahead Projection (DAP), Week-Ahead Projection (WAP)	Dispatches the units to their submitted generation schedule.
Real-Time Dispatch (RTD), Real-Time Ex-Post (RTX)	Uses the schedules from system snapshot as their schedules.

Non Schedule Generation / Validation Criteria:

REQUEST_CATEGORY	For WESM, set to “bid”. Refers to MOS bid data category.
REQUEST_TYPE	Specifies type of MI Request type. For WESM, Use “upload”.
PARTICIPANT_ID	The name of participant. Must be a valid participant in the Master File.
USER_ID	The name of user. Must be a valid user in the Master File associated to the Participant.
MODE	The template is used only for testing or if it has real-time data. The valid value for MODE is “NORMAL”.
DELIVERY_DATE	The dispatch date.
ACTION	Specifies the bid action to take. For WESM, use “submit” or “cancel”.
EXPIRY_DATE	Exists within optional “standing” element.
DAY_TYPE	"MON" to "SUN" or "ALL" or "HOL". Exists within optional “standing” element.
VERSION_NO	The version of template and will be validated against the current version of the MOS Software. Currently set it to "1.0".
SCHEDULE_TYPE	Must be "NSGN" or “NDLD".
RESOURCE_ID	The Resource ID can be any Valid Resource ID
HOUR	"start" will be the beginning of the hour interval and “end” will be the end of the our/interval range specified. “end” has to be greater than the “start”.
QUANTITY	Will be the quantity allocated for the hour

ATTACHMENT A.17

DATA REQUIREMENTS & VALIDATION CRITERIA FOR FINANCIAL TRANSMISSION RIGHTS (FTR's)

Bid Header:

- Delivery Date
- Sending Node
- Receiving Node
- Standing Bid Expiry Date
- Standing Bid Indicator [YES; NO]
- Standing Bid Day [HOL|ALL|MON|TUE|WED|THU|FRI|SAT|SUN]

Bid Details:

- Interval
- Table A - Quantity
- Table B — Loss Differential

FTR / Validation Criteria…

CATEGORY	MI category type, always “bid”.
TYPE	MI category sub-type, always “upload”.
PARTICIPANT	The name of the seller participant. The participant must be one of the two traders. Must be a valid participant in the Master File.
USER	The name of user. Must be a valid user in the Master File associated to the Participant.
MODE	Submission mode, always “NORMAL”.
DELIVERY_DATE	The dispatch date.
ACTION	Action associate with upload data. Set to “SUBMIT” for insertion and “CANCEL” for deletion.
VERSION	The version of template and will be validated against the current version of the MOS Software. Currently set to “1.0”.
SENDING_NODE	The name of Sending node for the transmission right
RECEIVING_NODE	The name of Receiving node for the transmission right.
HOUR	"start" will be the beginning of the interval and “end” will be the end of the interval range specified. “end” has to be greater than the “start”
QUANTITY	Associated quantity in MWh.
LOSS_DIFFERENTIAL	Loss differential. Optional standing data:
EXPIRY_DATE TYPE	standing data expiration date "MON" to "SUN" or "ALL" or "HOL". Exists within optional “standing” element.

ATTACHMENT A.18

DATA REQUIREMENTS & VALIDATION CRITERIA FOR BILATERAL CONTRACT DATA

Bid Header:

- Delivery Date
- Participant Seller (Generator)
- Resource ID
- Participant Buyer (Load)
- Standing Bid Expiry Date
- Standing Bid Indicator [YES; NO]
- Standing Bid Day [HOL|ALL|MON|TUE|WED|THU|FRI|SAT|SUN]

Bid Details:

- Interval
- Table B — Quantity

Bilateral Contract / Validation Criteria…

REQUEST_CATEGORY	For WESM, set to “bid”. Refers to MOS bid data category.
REQUEST_TYPE	Specifies type of MI Request type. For WESM, Use “upload”.
PARTICIPANT_ID	The name of participant. Must be a valid participant in the Master File.
USER_ID	The name of user. Must be a valid user in the Master File associated to the Participant.
MODE	Indicates if the template is used only for testing or if it has real-time data. The valid value for MODE is “NORMAL”.
DELIVERY_DATE	The dispatch date.
ACTION	Specifies the bid action to take. For WESM, use “submit” or “cancel”.
VERSION_NO	The version of template and will be validated against the current version of the MOS Software. Currently set it to "1.0".
SELLER	The Short Name of the selling participant. This must be the same as the participant Submitting the Bilateral Contract. (i.e. the <PARTICIPANT_ID>).
BUYER	The Short Name of the buying participant. This must be a valid participant ID in the Master File.
RESOURCE_ID	A resource name. Must be a valid resource in the Master File belonging to Seller.
HOUR	"start" will be the beginning of the hour/ interval and “end” will be the end of the hour/interval range specified. “end” has to be greater than the “start”.
QUANTITY	The quantity allocated for the hour.

ATTACHMENT A.19

DATA REQUIREMENTS FOR WEATHER FORECAST

The WESM Weather Information Server provides the actual weather data for the previous day and the forecast weather data for up to eight days in advance (including today) on a flat file that is accessed by SDLF.

Weather parameters describing the weather condition that may affect the system load may be chosen from any of the following:

- Temperatures (daily minimum and maximum)
- Humidity (daily average)
- Wind speed, wind direction (daily average)
- Sky condition (rainfall, cloud coverage, snowfall on a daily basis)

ATTACHMENT A.20

EXISTING EMS-SCADA FORMAT FOR SYSTEM SNAPSHOT

PT NO	S/S ID	PT NAME	PT VALUE	SCAN INHIBIT FLAG	ENTRY FLAG	UPDATE FLAG
		BREAKERS				
13300	101	BKR 80CD4	1	0	0	0
13301	101	BKR 80CD124	1	0	0	0
13302	101	BKR 80CD8	1	0	0	0
13303	101	BKR 81CD4	1	0	0	0
13304	101	BKR 81CD124	1	0	0	0
13305	101	BKR 81CD8	1	0	0	0
13306	101	BKR 50CD4	1	0	0	0
13307	101	BKR 51CD4	0	0	0	0
		GENERATORS				
24626	371	Strita Unit 1 MW	181.57	0	0	0
24627	371	Strita Unit 1 MVAR	49.45	0	0	0
24642	371	Strita Unit 2 MW	183.03	0	0	0
24643	371	Strita Unit 2 MVAR	71.24	0	0	0
24644	371	Strita Unit 3 MW	183.03	0	0	0
24645	371	Strita Unit 3 MVAR	34.57	0	0	0
		LOADS				
22091	373	StRosa Xformer 2 MW	98.57	0	0	1
22092	373	StRosa Xformer 2 MVAR	42.38	0	0	1
22094	373	StRosa Xformer 1 MW	14.86	0	0	1
22095	373	StRosa Xformer 1 MVAR	5.14	0	0	1
22106	373	StRosa Xformer 3 MW	-14.94	0	0	1
22107	373	StRosa Xformer 3 MVAR	-14.94	0	0	1

ATTACHMENT A.21

EMS-MMS NAMING CONVERSION

LOOK-UP TABLE & CONVERSION	
MMS	**EMS**
EQUIPMENT ID	POINT NAME / POINT ID
STATION NAME	STATION ID
GENERATOR / LOAD (MW / MVAR)	POINT VALUE
QUALITY FLAG	REFER TO QUALITY FLAG LOGIC TABLE (Attachment A.22)
BREAKER CONNECTION STATUS	REFER TO BREAKER CONNECTION STATUS (Attachment A.22)

ATTACHMENT A.22

TRUTH TABLE / EMS - SYSTEM SNAPSHOT VALIDATION

QUALITY FLAG LOGIC TABLE		
EMS		**MMS**
ENTRY FLAG	**UPDATE FLAG**	**QUALITY FLAG**
0 = NORMAL	0 = UPDATING	0 = AUTO
1 = OUT OF SCAN	0 = UPDATING	1 = MANUAL
1 = OUT OF SCAN	1 = NON UPDATING	1 = MANUAL
0 = NORMAL	1 = NON UPDATING	2 = BAD

BREAKER CONNECTION STATUS	
MMS	**EMS**
CONNECTION STATUS	**POINT VALUE**
0 = CLOSE	1 = CLOSE
1 = OPEN	O = OPEN
LOAD / GENERATOR DEFAULT = 0	

ATTACHMENT C.1

DAY–AHEAD PLANT NOMINATION

National Power Corporation

SS/PED-05-01- 018
January 31, 2005

FOR : **MR. S. A. DIMALIWAT**
Manager, PNPD-LSO
National Transmission Corporation
Power Center, Diliman, Quezon City

ATTENTION : **MR. F. D. DAGSAAN Jr.**
Manager
Operations Planning-PNPD

SUBJECT : **Day Ahead Plant Nominations**

We are submitting the attached Day Ahead Plant Nominations of NPC and IPP Plants for February 1, 2005 for your reference.

U. C. MENDIOLA, Jr.
Officer-In-Charge
Power Economics Department
Sales and Services

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