

**ELECTRICITY INDUSTRY ACT 2004**  
**ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY - MARKET)**  
**REGULATIONS 2004**  
**Wholesale Electricity Market Rules**

**IMO AMENDING RULES RC\_2007\_11 MADE ON 17 AUGUST 2007**  
**These Amending Rules commence at 08.00am on 1 September 2007**

Appendix 5 is amended as follows (~~deleted wording~~, new wording):

## **Appendix 5: Individual Reserve Capacity Requirements**

This Appendix presents the method for annually setting and monthly adjusting Individual Reserve Capacity Requirements.

For the purpose of this Appendix:

- Steps 1 to 10 are repeated every month.
- all references to meters are interval meters.
- the Notional Wholesale Meter is to be treated as a registered interval meter measuring Temperature Dependent Load. This meter is denoted by Temperature Dependent Load meter  $v=v^*$ .
- the meter registration data to be used in the calculations is to be the most current complete set of meter registration data as at the time of commencing the calculations.
- the values of RR (the Reserve Capacity Requirement) and FL (forecast peak demand associated with that Reserve Capacity Requirement as specified in clause 4.6.2) may be modified from their standard values in accordance with clause 4.28.11A.
- In the case of the first Reserve Capacity Cycle, the IMO may use meter data relating to periods prior to Energy Market Commencement as if the energy market had commenced prior to the time periods covered by that meter data.

STEP 1: Define the 12 peak Trading Intervals during the Hot Season preceding the initial calculation of Individual Reserve Capacity Requirements for a Reserve Capacity Cycle (the “preceding Hot Season”) as corresponding to the 3 highest demand Trading Intervals on each of the 4 days with the highest daily demand, where demand refers to total demand, net of embedded generation, in the SWIS.

STEP 2: For each meter,  $u$ , measuring Non-Temperature Dependent Load determine  $NTDL(u)$  and  $d(u,i)$ , where:

NTDL(u) is the contribution to the system peak load of meter u during the preceding Hot Season where this contribution is double the median value of the metered consumption during the 12 peak Trading Intervals

STEP 3: For each meter, v, measuring Temperature Dependent Load determine TDL(v) and d(v,i), where:

TDL(v) is the contribution to the system peak load of meter v during the preceding Hot Season where this contribution is double the median value of the metered consumption during the 12 peak Trading Intervals

STEP 4: For each Intermittent Load meter w set its Individual Intermittent Load Reserve Capacity Requirement, IILRCR(w), to equal the amount defined in accordance with clause 4.28.7A.

STEP 5: When determining the Individual Reserve Capacity Requirements for Trading Month n identify meters that were not registered with the IMO during one or more of the 12 peak Trading Intervals in the preceding Hot Season but which were registered ~~by the start of~~ by the end of Trading Month n-3.

Identify the 4 Peak SWIS Trading Intervals of Trading Month n-3, being the 4 highest demand Trading Intervals, where demand refers to total demand, net of embedded generation, in the SWIS.

For a new meter u that measures Non-Temperature Dependent Load set ~~NMNTCR(u) equal to the Contractual Maximum Demand associated with that meter if such a value is stated in the corresponding consumer's Arrangement for Access applicable from Trading Month n-3, otherwise set NMNTCR(u) to be 1.1 times the MW figure formed by doubling the maximum Trading Interval demand for that meter during Trading Month n-3.~~

For a new meter v that measures Temperature Dependent Load set ~~NMTDCR(v) equal to the Contractual Maximum Demand associated with that meter if such a value is stated in the corresponding consumer's Arrangement for Access applicable from Trading Month n-3, otherwise set NMTDCR(v) to be 1.1 times the MW figure formed by doubling the maximum Trading Interval demand for that meter during the median value of the metered consumption for that meter during the 4 Peak SWIS Trading Intervals of Trading Month n-3.~~

For a new meter w that measures Intermittent Load set IILRCR(w) in accordance with Appendix 4A to the value applicable to Trading Month n.

STEP 6: Calculate the values of d(u,i) for Non-Temperature Sensitive Load, d(v,i) for Temperature Dependent Loads and d(w,i) for Intermittent Loads such that:

- d(u,i) has a value of zero if meter u measures Intermittent Load or was not registered to Market Customer i during Trading Month n-3, otherwise it has a value equal to the number of full Trading Days the meter was registered to Market Customer i in Trading Month n-3 divided by the number of days in Trading Month n-3.

- $d(v,i)$  has a value of zero if meter  $v$  measures Intermittent Load or was not registered to Market Customer  $i$  during Trading Month  $n-3$ , otherwise it has a value equal to the number of full Trading Days the meter was registered to Market Customer  $i$  in Trading Month  $n-3$  divided by the number of days in Trading Month  $n-3$ .
- $d(w,i)$  has a value of zero if meter  $w$  was not registered to Market Customer  $i$  during Trading Month  $n$ , otherwise it has a value of one if Market Customer  $i$  nominated capacity for the Intermittent Load measured by meter  $w$  in accordance with clause 4.28.8(c), with the exception that if the Intermittent Load was for Load at a meter registered to Market Customer  $i$  for only part of Trading Month  $n$ , then it has a value equal to the number of full Trading Days that meter was registered to Market Customer  $i$  in Trading Month  $n$  divided by the number of days in Trading Month  $n$ .

STEP 7: Identify the set  $NM$  of all those new meters  $v$  that measured consumption that was measured by meter  $v=v^*$  during the preceding Hot Season and set  $TDLn(v)$  for meter  $v=v^*$  to equal:

$$TDLn(v^*) = TDL(v^*) - \text{Sum}(v \in NW, NMTDCR(v) \times d(v,q))$$

Where

$q$  denotes a Market Customer to which the new meter is associated.

$d(v,q)$  is the number of days the new meter is registered to Market Participant  $q$  divide by number of days in the trading month  $n-3$ .

STEP 8: For each Market Customer,  $i$ , calculate:

$$NTDLRCR(i) = \text{Sum}(u, NTDL(u) \times d(u,i)) \times NTDL\_Ratio$$

$$TDLRCR(i) = (\text{Sum}(v, \underline{MTDL}(v) \times d(v,i)) - DSM(i)) \times TDL\_Ratio$$

$$ILRCR(i) = \text{Sum}(w, ILRCR(w) \times d(w,i))$$

$$NRR = RR - \text{Sum}(i, ILRCR(i))$$

where

$$NTDL\_Ratio = NRR/FL$$

$$TDL\_Ratio = (NRR - \text{Sum}(j, NTDLRCR(j)))/\text{Sum}(j, \text{Sum}(v, \underline{MTDL}(v) \times d(v,j)) - DSM(j))$$

$j$  indicates Market Customers

$ILRCR(i)$  is the Intermittent Load Reserve Capacity Requirement for Market Customer  $i$ .

$\underline{MTDL}(v) = TDL(v)$  for all  $v$  except  $v^*$  and  $\underline{MTDL}(v) = TDLn(V^*)$  for  $v=v^*$

RR is the Reserve Capacity Requirement (potentially modified in accordance with clause 4.28.11A).

FL is the peak demand associated with that Reserve Capacity Requirement as specified in clause 4.6.2 (potentially modified in accordance with clause 4.28.11A).

DSM(i) is the MW quantity of additional Demand Side Management demonstrated and agreed by the IMO to be available by the next Hot Season

STEP 9: For each Market Customer, i, calculate

$$X(i) = \text{Sum}(i, \text{ILRCR}(i) + \text{NTDLRCR}(i) + \text{TDLRCR}(i))) + \text{Sum}(u, \text{NMNTCR}(u) \times d(u,i)) + \text{Sum}(v, \text{NMTDCR}(v) \times d(v,i))$$

STEP 10: The Individual Reserve Capacity Requirement of Market Customer i for Trading Month n of a Capacity Year equals  $(X(i) \times \text{Total\_Ratio})$  where

$$\text{Total\_Ratio} = \text{RR}/Y$$

$$Y = \text{Sum}(i, X(i))$$

RR is the Reserve Capacity Requirement (as modified in accordance with clause 4.28.11A).