

## SCHEDULE 5

### Calculation of Payments

#### 1. Definitions

1.1. The following terms shall have the following meanings in this Schedule 5 (*Calculation of Payments*):

1.1.1. "**Actual Loss of Energy Output due to Reduced Availability**" or "**LCP<sub>a</sub>**" means the actual loss of Energy Output determined in accordance with clause A.3 (*Actual Loss of Energy Output due to Reduced Availability (LCP<sub>a</sub>)*) of APPENDIX A (*Agreed Values for Payment Calculations*) to this Schedule 5 (*Calculation of Payments*);

1.1.2. "**Annual Capacity Plan**" means the Annual Capacity Plan agreed between the Seller and the Buyer in terms of clause 2 (*Annual Capacity Plan*) of Schedule 3 (*Outages and Deratings*);

1.1.3. "**Base Capital Payment**" means the component (in Rand), as calculated in accordance with clause 4.3.1 (*Base Capital Payment*) of this Schedule 5 (*Calculation of Payments*);

1.1.4. "**Capital Cost Recovery Charge Rate**" or "**CCR**" means the amount in Rand/MWh specified in Table A.1 (*Values of various Charge Rates detailed in this Schedule 5 at the Base Date*) in APPENDIX A (*Agreed Values for Payment Calculations*) of this Schedule 5 (*Calculation of Payments*) and applied pursuant to the Base Capital Payment calculation for a Billing Period. The CCR may only recover the capital related cost including corporate taxes (excluding carbon tax), debt service and equity returns of a Dispatchable Facility;

1.1.5. "**Charge Rates**" means the charge rate values as defined and detailed in Table A.1 (*Values of various Charge Rates detailed in this Schedule 5 at Base Date*) of Appendix A (*Agreed Values for Payment Calculations*) of Schedule 5 (*Calculation of Payments*) which values shall be subject to adjustment in accordance with Appendix B (*Indexation*) of Schedule 5 (*Calculation of Payments*);

- 1.1.6. **"Commercial Energy Charge Rate of the Dispatchable Facility"** or **"CER"** means the charge rate (in Rand/MWh) to recover any variable costs incurred in respect of a Dispatchable Facility specified in Table A.1 (Values of various Charge Rates detailed in this Schedule 5 at the Base Date) of APPENDIX A (Agreed Values for Payment Calculations) to this Schedule 5 (*Calculation of Payments*);
- 1.1.7. **"Commercial Energy Charge Rate of the Self-Dispatchable Facility"** or **"NCER"** means the charge rate (in Rand/MWh) to recover any variable costs incurred in respect of a Self-Dispatchable Facility specified in Table A.1 (Values of various Charge Rates detailed in this Schedule 5 at the Base Date) of APPENDIX A (Agreed Values for Payment Calculations) to this Schedule 5 (*Calculation of Payments*);
- 1.1.8. **"Commercial Energy Payment of the Dispatchable Facility (CEP)"** means the component of the Commercial Energy Payments (EP) which is calculated in accordance with clause 4.4.1 (*Commercial Energy Payment of the Dispatchable Facility (CEP)*) of this Schedule 5 (*Calculation of Payments*) ;
- 1.1.9. **"Commercial Energy Payment of the Self-Dispatchable Facility (NCEP)"** means the component of the Commercial Energy Payments which is calculated in accordance with clause 4.4.2 (*Commercial Energy Payment of the Self-Dispatchable Facility (NCEP)*) of this Schedule 5 (*Calculation of Payments*)
- 1.1.10. **"Deduction to Base Capital Payment for Reduced Availability"** or **"DRA"** shall be in Rand and calculated as detailed in clause 4.3.2 (*Deduction to Base Capital Payment for Reduced Availability*) of this Schedule 5 (*Calculation of Payments*);
- 1.1.11. **"Facility Capacity"** means the actual installed Capacity (in MW) of a Facility, irrespective of whether the Facility is Dispatchable or Self-Dispatchable;
- 1.1.12. **"Fuel Cost Recovery Rate of the Dispatchable Facility"** or **"FCR"** means the amount in Rand/MWh specified in Table A.1 (*Values of various Charge Rates detailed in this Schedule 5 at the Base Date*) in APPENDIX A (Agreed Values for Payment Calculations) of this Schedule 5 (*Calculation of Payments*). The FCR may only recover the fuel related cost of a Dispatchable Facility;

- 1.1.13. **"Load Factor"** means, in a Contract Year, the ratio of the Energy Output to the maximum potential Energy Output that was available for Dispatch in that Contract Year;
- 1.1.14. **"Net Available Capacity"** or **"ACP"** means the Capacity of the Facility during the relevant Availability Period which shall be equal to the lowest of the following amounts:
- 1.1.14.1. the Net Dependable Capacity of the Facility;
- 1.1.14.2. the Declared Capacity of the Facility relating to the relevant Availability Period;
- 1.1.14.3. or the actual Capacity of the Facility if, during the relevant Availability Period, the Seller fails to achieve Dispatch Compliance and the actual Capacity of the Facility is less than that required in the Dispatch Instruction, as measured at the Delivery Point (this sub- clause 1.1.14.3) will not apply if the Facility is operating under Automatic Generation Control, in which case the Net Available Capacity will be determined based on sub-clauses 1.1.14.1 and 1.1.14.2 above only);
- 1.1.15. **"Net Dependable Capacity Payment"** or **"CP"** has the meaning given to it in this Agreement and is as calculated in clause 4.3 (*Net Dependable Capacity Payment*) of this Schedule 5 (*Calculation of Payments*);
- 1.1.16. **"Off-peak period"** means the TOU periods of relatively low system demand;
- 1.1.17. **"Payment Deduction Factor"** or **"DF"** means the factor for calculating payment deductions for reduced Availability, as calculated according to clause A.5 (*Payment Deduction Factor (DF)*) of APPENDIX A (*Agreed Values for Payment Calculations*) to this Schedule 5 (*Calculation of Payments*);
- 1.1.18. **"Peak period"** means the TOU periods of relatively high system demand;
- 1.1.19. **"Projected Available Energy Output"** or **"AGP<sub>p</sub>"** means, the projected Energy Output determined in accordance with the provisions of clause A.2 (*Projected Available Energy Output (AGP)*) of APPENDIX A (*Agreed Values for Payment Calculations*) to this Schedule 5 (*Calculation of Payments*);

- 1.1.20. **"Projected Loss of Energy Output due to Reduced Availability"** or **"LCP<sub>p</sub>"** means the projected loss of Energy Output determined in accordance with the provisions of clause A.2 (Projected Available Energy Output (AGP<sub>p</sub>)) of APPENDIX A (Agreed Values for Payment Calculations) to this Schedule 5 (Calculation of Payments);
- 1.1.21. **"Reduced Availability"** means, at any time and from time to time, the impact on the capability of a Facility, to make available Energy Output at the Delivery Point (whether or not it is actually generating Energy Output at the relevant time) as a result of Scheduled Outages, Unscheduled Outages, Planned Deratings and or Unplanned Deratings;
- 1.1.22. **"Scheduled Outage Hours"** means the hours specified in the Annual Capacity Plan as the hours during which a Facility will be Unavailable, in the relevant Billing Period;
- 1.1.23. **"Standard period"** means the TOU periods of relatively mid system demand;
- 1.1.24. **"Time-of-Use (TOU Period)"** means the time block based on the volume of electricity during high, mid and low demand periods which may differ per day of the week, during a public holiday or season. The TOU periods are peak, standard and off-peak periods, and differ between high and low demand seasons;
- 1.1.25. **"Unavailable"** or **"Unavailability"** means the state in which a Facility is not capable of operation because of the failure of a component, external restriction, testing, work being performed, or some other adverse condition.

## 2. Abbreviations

- 2.1. In this Schedule, the following abbreviations shall have the following meanings:

ACP	Net Available Capacity
AGP <sub>p</sub>	Projected Available Energy Output
b	Base Date
CCR	Capital Cost Recovery Charge Rate
CEP	Commercial Energy Payment of a Dispatchable Facility
CER	Commercial Energy Rate of a Dispatchable Facility

CP	Net Dependable Capacity Payment
d	Total days in a billing period
DF	Payment Deduction Factor
DRA	Deduction to Base Capital Payment for Reduced Availability
$E_{oi}$	Energy Output metered at the Delivery Point in hour i
$E_{di}$	Energy Output of the project as requested by all Dispatch Instructions in hour i.
$E_{ri}$	Energy Output (metered) of Self-Dispatchable facility in hour i.
EP	Commercial Energy Payment
FCP	Base Capital Payment
FCR	Fuel Cost Recovery Rate
FP	Fuel Cost Recovery Payment
h	Hours
I	CPI or Consumer Price Index
i	One hour
$LCP_a$	Actual Loss of Energy Output due to Reduced Availability
$LCP_p$	Projected Loss of Energy Output due to Reduced Availability
m	The current Billing Period in a Contract Year
n	The applicable Contract Year
NCEP	Commercial Energy Payment of a Self-Dispatchable Facility
NCER	Commercial Energy Charge Rate of a Self-Dispatchable Facility
NDC	Net Dependable Capacity
SOH	Scheduled Outages Hours

### 3. **Payment Structure**

3.1. The Payments shall consist of the following:

#### 3.2. **Net Dependable Capacity Payment (CP)**

3.2.1. The Net Dependable Capacity Payment shall constitute payment for Net Dependable Capacity and shall be calculated as provided in clause 4 (*Payment Formulas*) of this Schedule 5 (*Calculation of Payments*).

#### 3.3. **Commercial Energy Payment (EP)**

3.3.1. The Commercial Energy Payment shall constitute payment for Commercial Energy and shall be calculated as provided in clause 4 (*Payment Formulas*) of this Schedule 5 (*Calculation of Payments*).

3.4. **Fuel Cost Recovery Payment (FP)**

3.4.1. The Fuel Cost Recovery Payment shall constitute payment for Fuel Cost Recovery and shall be calculated as provided in clause 4 (*Payment Formulas*) of this Schedule 5 (*Calculation of Payments*).

4. **Payment Formulas**

4.1. In applying the payment formulas for each Billing Period, the factors and charge rates to be used shall be those that are in effect for such Billing Period, as specified in or determined in accordance with APPENDIX A (*Agreed Values for Payment Calculations*) and adjusted in accordance with APPENDIX B (*Indexation*).

4.2. **Total Payments in respect of the Project during Operating Period**

$$TP_m = CP_m + EP_m + FP_m$$

Where:

$TP_m$  = Total Payments for Energy (in Rand) for the Billing Period  $m$

$CP_m$  = Net Dependable Capacity Payment for the Billing Period  $m$

$EP_m$  = Commercial Energy Payment for the Billing Period  $m$

$FP_m$  = Fuel Cost Recovery Payment for the Billing Period  $m$

$m$  = the current Billing Period in a Contract Year

4.3. **Net Dependable Capacity Payment**

$$CP_m = FCP_m - DRA_m$$

Where:

$CP_m$  = Net Dependable Capacity Payment (in Rand) for the Billing Period  $m$

$FCP_m$  = Base Capital Payment for the Billing Period  $m$

$DRA_m$  = Deduction to Base Capital Payment for Reduced Availability  
 $m$  = the current Billing Period in a Contract Year

#### 4.3.1. Base Capital Payment

$$FCP_m = CCR_n \times NDC \times h_m$$

Where:

$FCP_m$  = Base Capital Payment (in Rand) for the Billing Period  $m$   
 $CCR_n$  = Capital Cost Recovery Charge Rate (in R/MWh) for Contract Year  $n$   
 $NDC$  = Net Dependable Capacity (in MW)  
 $h_m$  = Total hours in the Billing Period  $m$   
 $m$  = The current Billing Period in a Contract Year.

#### 4.3.2. Deduction to Base Capital Payment for Reduced Availability

$$DRA_m = CCR_n \times DF_m \times LCP_{am}$$

Where:

$DRA_m$  = Deduction to Base Capital Payment (in Rand) for Reduced Availability for the Billing Period  $m$   
 $CCR_n$  = Capital Cost Recovery Charge Rate (in R/MWh) for Contract Year  $n$   
 $DF_m$  = Payment Deduction Factor in billing period  $m$  calculated according to clause A.5 (**Payment deduction factor (DF)** of APPENDIX A (Agreed Values for Payment Calculations) to this Schedule 5 (Calculation of Payments)  
 $LCP_{am}$  = Actual Loss of Energy Output (in MWh) due to Reduced Availability in Billing Period  $m$  calculated according to clause A.3 (**Actual Loss of Energy Output due to Reduced Availability (LCPa)**) of APPENDIX A (Agreed Values for Payment Calculations) to this Schedule 5 (Calculation of Payments)  
 $m$  = the current Billing Period in a Contract Year.

#### 4.4. Commercial Energy Payment

$$EP_m = CEP_m + NCEP_m$$

Where:

$EP_m$  = Commercial Energy Payment (in Rand) for the Billing Period  $m$

$CEP_m$  = Commercial Energy Payment (in Rand) of the fuel based Dispatchable Facility, in billing period  $m$

$NCEP_m$  = Commercial Energy Charge Payment (in Rand) of the Non-Dispatchable Facility, in billing period  $m$

##### 4.4.1. Commercial Energy Payment of the Dispatchable Facility (CEP)

$$CEP_m = CER_{pm} \times \sum_{i_p=1}^{h_{pm}} (ES_{i_p} - ER_{i_p}) + CER_{sm} \times \sum_{i_s=1}^{h_{sm}} (ES_{i_s} - ER_{i_s})$$

Where:

$CEP_m$  = Commercial Energy Payment (in Rand) of the fuel based Dispatchable Facility for the Billing Period  $m$

$CER_{pm}$  = Commercial Energy Charge Rate (R/MWh) of the fuel based Dispatchable Facility during peak hours, for the Billing Period  $m$

$CER_{sm}$  = Commercial Energy Charge Rate (R/MWh) of the fuel based Dispatchable Facility during standard hours, for the Billing Period  $m$

$ES_i$  = For each hour  $i$  in the Billing Period, the lower of the Energy Output (in MWh) of the Project metered at the Delivery Point(s) ( $E_{ai}$ ) and the Energy Output (in MWh) of the Project as requested by all Dispatch Instructions ( $E_{di}$ ) received for the hour

$ER_i$  = For each hour  $i$  in the Billing Period, the metered Energy Output (in MWh) of the Self-Dispatchable Facility(ies).

$i_p$  = Each peak hour  $i$  in Billing Period  $m$

$i_s$  = Each standard hour  $i$  in Billing Period  $m$

$h_{pm}$  = Total peak hours in the Billing Period  $m$

$h_{sm}$  = Total standard hours in the Billing Period  $m$



#### 4.4.2. Commercial Energy Payment of the Self-Dispatchable Facility (NCEP)

$$NCEP_m = NCER_{pm} \times \sum_{i_p=1}^{h_{pm}} ER_{i_p} + NCER_{sm} \times \sum_{i_s=1}^{h_{sm}} ER_{i_s} + NCER_{om} \times \sum_{i_o=1}^{h_{om}} ER_{i_o}$$

Where:

$NCEP_m$  = Commercial Energy Payment (in Rand) of the Self-Dispatchable Facility for the Billing Period  $m$

$NCER_{pm}$  = Commercial Energy Charge Rate (R/MWh) of the Non-Dispatchable Facility during peak hours, for the Billing Period  $m$

$NCER_{sm}$  = Commercial Energy Charge Rate (R/MWh) of the No-Dispatchable Facility during standard hours, for the Billing Period  $m$

$NCER_{om}$  = Commercial Energy Charge Rate (R/MWh) of the No-Dispatchable Facility during off-peak hours, for the Billing Period  $m$

$ER_i$  = For each hour  $i$  in the Billing Period, the metered Energy Output (in MWh) of the Self-Dispatchable Facility(ies).

$i_p$  = Each peak hour  $i$  in Billing Period  $m$

$i_s$  = Each standard hour  $i$  in Billing Period  $m$

$i_o$  = Each off-peak hour  $i$  in Billing Period  $m$

$h_{pm}$  = Total peak hours in the Billing Period  $m$

$h_{sm}$  = Total standard hours in the Billing Period  $m$

$h_{om}$  = Total off-peak hours in the Billing Period  $m$

#### 4.4.3. Billable Energy Output, $E_{si}$

$$E_{si} = \text{Min}(E_{ai}, E_{di})$$

where

$E_{si}$  = For each hour  $i$  in the Billing Period, the lower of the Energy Output (in MWh) of the Project metered at the Delivery Point(s) ( $E_{ai}$ ) and the Energy Output (in MWh) of the Project as requested by all Dispatch Instructions ( $E_{di}$ ) received for the hour.

$E_{ai}$  = The Energy Output (in MWh) of the Project metered at the Delivery Point(s)

$E_{di}$  = The Energy Output (in MWh) as requested by all Dispatch Instructions received for the hour  $i$ , calculated in accordance with the methodology set out in clause 4.4.3.1.

#### 4.4.3.1. **Calculation of the Energy Output as requested by Dispatch Instructions**

4.4.3.1.1. Dispatch Instructions should be set out in the form of a tuple  $I(t, MW, R)$ , with  $t$  in minutes being the time at which the Project should reach the power output specified in MW, and  $R$  in MW/min being the ramping rate applicable to the type of instruction, i.e. start-up ramp (hot, cold, warm) or normal ramp-up or ramp-down rate. The tuple of each hour in the Billing Period with start time  $S$  and end time  $E$  shall have  $n + 1$  elements, where element 0 ( $I_0$ ) is the last Dispatch Instructions prior to the start of the hour ( $S$ ) and element  $n+1$  ( $I_{n+1}$ ) is the first Dispatch Instructions after the end of the hour ( $E$ ).

4.4.3.1.2. For each Dispatch Instructions,  $k$ , received in the hour, the ramping start time ( $r_k$ ) for the Dispatch Instructions shall be calculated as follows:

##### 4.4.3.1.2.1. **Ramping Start time, $r_k$**

$$r_k = t_k - \frac{MW_k - MW_{k-1}}{R_k}$$

where

$r_k$  = Ramping start time, in minutes with seconds as fractions for Dispatch Instruction  $k$

$t_k$  = The time stamp in minutes at which the Project should reach the specified power output  $MW_k$ , as per Dispatch Instruction  $k$

$MW_k$  = The power output in MW as per the Dispatch Instructions  $k$

$MW_{k-1}$  = The power output in MW as per the previous Dispatch Instructions ( $k - 1$ )

$R_k$  = Ramping rate in MW/min for Dispatch Instruction  $k$ .

##### 4.4.3.1.3. **Energy Output as requested by Dispatch Instructions, $E_{di}$**

$$E_{di} = \frac{1}{60} \times \sum_{k=1}^K MW_{k-1} \times (\min(t_k, E) - \max(t_{k-1}, S)) + Ramp(I_k)$$

Where:

- $E_{di}$  = The Energy Output (in MWh) as requested by all Dispatch Instructions received for the hour  $i$
- $MW_{k-1}$  = The power output in MW as per the previous Dispatch Instructions ( $k-1$ )
- $t_k$  = The time stamp in minutes at which the Project should reach the specified power output  $MW_k$ , as per Dispatch Instruction  $k$
- $t_{k-1}$  = The time stamp in minutes of the previous Dispatch Instructions
- $E$  = The time stamp in minutes for the end of the hour in minutes (60)
- $S$  = The time stamp in minutes for the start of the hour in minutes (0)
- $Ramp(I_k)$  = The Ramp function as defined in clause 4.4.3.1.4
- $K$  = Total number of dispatch instructions in hour  $i$ .

#### 4.4.3.1.4. The Ramp function, **$Ramp(I_k)$**

$$Ramp(I_k) = \begin{cases} \frac{1}{2} \times (t_k - r_k) \times (MW_k - MW_{k-1}), & S \leq r_i \text{ and } t_i < E \\ \frac{1}{2} \times ((t_k - r_k) \times (MW_k - MW_{k-1}) - (S - r_k)^2 \times R_k \times \text{sgn}(MW_k - MW_{k-1})), & r_i < S \text{ and } t_i < E \\ \frac{1}{2} \times (E - r_k)^2 \times R_k \times \text{sgn}(MW_k - MW_{k-1}), & S \leq r_i < E \text{ and } t_i > E \end{cases}$$

Where:

- $Ramp(I_k)$  = The Ramp function (in MWminutes)
- $t_k$  = The time stamp in minutes at which the Project should reach the specified power output  $MW_k$ , as per Dispatch Instruction  $k$
- $r_k$  = Ramping start time in minutes with seconds as fractions for Dispatch Instruction  $k$
- $R_k$  = Ramping rate in MW/min for Dispatch Instruction  $k$
- $MW_k$  = The power output in MW as per the Dispatch Instructions  $k$
- $MW_{k-1}$  = The power output in MW as per the previous Dispatch Instructions ( $k-1$ )
- $E$  = The time stamp in minutes for the end of the hour in minutes (60)

- $S$  = the time stamp in minutes for the start of the hour in minutes (0)
- $sgn()$  = The sign function, where  $sgn(x) = 1$  for  $x > 0$ ,  $sgn(x) = 0$  for  $x = 0$ , or  $sgn(x) = -1$  for  $x < 0$

#### 4.4.3.1.5. Energy Output in respect of transient operation of a Facility or operation under Automatic Generation Control

- 4.4.3.1.5.1. If a Facility is operating in a transient state as contemplated in clause 7.6.2 of the STPPA, or if the Facility is operating under Automatic Generation Control, then in respect of the formula in clause 4.4.1 (Commercial Energy Payment of the Dispatchable Facility)

$E_{Si}$  = For each hour  $i$  in the Billing Period, the Energy Output (in MWh) of a Facility metered at the Delivery Point ( $E_{ai}$ ).

#### 4.5. Fuel Cost Recovery Payment

$$FP_m = FCR_m \times \sum_{i=1}^{h_m} (E_{Si} - E_{Ri})$$

Where:

- $FP_m$  = Fuel Cost Recovery Payment (in Rand) of the fuel based Dispatchable Facility for the Billing Period  $m$
- $FCR_m$  = Fuel Cost Recovery Rate (in R/MWh) of the fuel based Dispatchable Facility, in billing period  $m$
- $E_{Si}$  = For each hour  $i$  in the Billing Period, the lower of the Energy Output (in MWh) of the Project metered at the Delivery Point(s) ( $E_{ai}$ ) and the Energy Output (in MWh) of the Project as requested by all Dispatch Instructions ( $E_{di}$ ) received for the hour
- $E_{Ri}$  = For each hour  $i$  in the Billing Period, the metered Energy Output (in MWh) of the Self-Dispatchable Facility(ies).
- $i$  = Each hour  $i$  in Billing Period  $m$
- $h_m$  = Total hours in the Billing Period  $m$

## APPENDIX A

### Agreed Values for Payment Calculations

#### A.1 Charge rates at the Base Date

- A.1.1 The table below sets out the Charge Rates required for the calculations in this Schedule 5 (*Calculation of Payments*), and their corresponding values at the Base Date. These values shall be subject to adjustment in accordance with APPENDIX B (*Indexation*) of this Schedule 5 (*Calculation of Payments*).

**Table A.1: Values of various Charge Rates detailed in this Schedule 5 at the Base Date**

Charge Rates	Agreed Value High Demand Season	Agreed value Low Demand Season	Unit of Measure
$CCR_b$			Rand/MWh
$CER_{pb}$			Rand/MWh
$CER_{sb}$			Rand/MWh
$FCR_b$			Rand/MWh
$NCER_{pb}$			Rand/MWh
$NCER_{sb}$			Rand/MWh
$NCER_{ob}$			Rand/MWh

#### A.2 Projected Available Energy Output ( $AGP_p$ )

- A.2.1 The Projected Available Energy Output ( $AGP_p$ ) (in MWh/a) is the maximum potential Energy Output of the Facility during a Contract Year at Reference Site Conditions, less the Projected Loss of Energy Output due to Reduced Availability. The Projected Available Energy Output shall be derived from (i) the maximum potential Energy Output that could have been produced if the Facility had been Operated at the NDC during the total number of hours

in the relevant Contract Year, (ii) less the reduction in NDC for the total number of anticipated hours of Scheduled Outages and Planned Deratings in such Contract Year and the total hours allowed by the Seller for Unscheduled Outages and Unplanned Deratings.

A.2.2 The Projected Available Energy Output ( $AGP_p$ ) (in MWh/a) for the Provisional Period and each Contract Year  $n$  is defined in Table A.1.1.

A.2.3 The Projected Available Energy Output ( $AGP_{pn}$ ) during each Contract Year  $n$  is calculated as follows:

$$AGP_{pn} = h_n \times NDC - LCP_{pn}$$

Where:

$AGP_{pn}$  = Projected Available Energy Output (in MWh) in Contract Year  $n$

$h_n$  = total hours in Contract Year  $n$

$NDC$  = Net Dependable Capacity (in MW)

$LCP_{pn}$  = Projected Loss of Energy Output due to Reduced Availability in the Contract Year  $n$

A.2.4 The Projected Loss of Energy Output due to Reduced Availability ( $LCP_p$ ) in Billing Period  $m$  to be used in the Net Dependable Capacity Payment calculation of clause 4.3 (**Net Dependable Capacity Payment**) of this Schedule 5 (*Calculation of Payments*) shall be calculated by allocating the Scheduled Outages and Planned Deratings, together with the Unscheduled Outages and Unplanned Deratings, for which the Seller has made allowance in the Annual Capacity Plan, for the Contract Year in accordance with the timing and duration for such Outages and Deratings as agreed between the Buyer and the Seller in accordance with the procedures detailed in Schedule 3 (Outages and Deratings).

A.2.5 The Projected Loss of Energy Output due to Reduced Availability ( $LCP_p$ ) during each Contract Year  $n$  is calculated as follows:

$$LCP_{pn} = LPP_{pn} + LPU_{pn}$$

Where:

$LCP_{pn}$  = Projected Loss of Energy Output due to Reduced Availability in the Contract Year  $n$

$LPP_{pn}$  = Projected Loss of Capacity due to Scheduled Outages or Planned Derating in the Contract Year  $n$

$LPU_{pn}$  = Projected Loss of Capacity due to Unscheduled Outages or Unplanned Derating in the Contract Year  $n$

**Table A.2.1 Projected Available Energy Output ( $AGP_{pn}$ ) and Projected Loss of Energy Output due to Reduced Availability ( $LCP_{pn}$ ) (annual basis)**

Contract Year	n	CY1	CY2	CY3
Hours in contract year	h			
Projected Available Energy Output	$AGP$ [MWh/a]			
Projected Loss of Energy Output due to Reduced Availability	$LCP_{pn}$ [MWh/a]			
Projected Loss of Energy Output due to Scheduled Outages and Planned Deratings	$LPP_{pn}$ [MWh/a]			
Projected Loss of Energy Output due to Unscheduled Outages or Unplanned Deratings	$LPU_{pn}$ [MWh/a]			

**[Note to Bidders: in its Bid Response, the Bidder is required to complete this table. With respect to the hours to be inserted in respect of each Contract Year, the Bidder is to take into account any leap years, the fact that the first and last Contract Years are likely to be shortened and that the number of hours in a year that is not a leap year or the shortened first or last Contract Year, is to be 8760 hours.]**

A.2.6 To allow for variations in the Scheduled Outages and Planned Deratings which may reasonably be expected through the Operating Period, the Projected Available Energy Output and Projected Loss of Energy Output due to Reduced Availability values detailed in Table A.2.1 for any particular Contract Year may be exchanged with the equivalent values for any

subsequent Contract Year defined in Table A.2.1. However, this is subject to the Seller complying with and satisfying the requirements, timings and procedures detailed in Schedule 3 (*Outages and Deratings*) and the Seller obtaining all necessary approvals from the Buyer pursuant to this Agreement and Schedule 3 (*Outages and Deratings*). Whilst this process allows for the exchange of values between different Contract Years in Table A.2.1, it does not allow any modification of these values in any other way.

A.2.7 The Projected Loss of Energy Output due to Reduced Availability ( $LCP_{pm}$ ) in a given Billing Period  $m$ , where the Scheduled Outage Hours shall include the hours that the Declared Capacity is lower than NDC due to Scheduled Outages and Planned Deratings, shall be calculated as follows:

$$LCP_{pm} = \sum_{SO=1}^J SOH_{SO} \times NDC + \sum_{SD=1}^K SDH_{SD} \times (NDC - DC_{SD}) + \frac{LPU_{pn}}{12}$$

Where:

$LCP_{pm}$  = Projected Loss of Energy Output due to Reduced Availability in Billing Period  $m$ .

$SOH_{SO}$  = Scheduled Outage Hours for each Scheduled Outage as detailed in the Annual Capacity Plan

$NDC$  = Net Dependable Capacity (in MW)

$SDH_{SD}$  = Planned Derating Hours for each Planned Derating period as detailed in the Annual Capacity Plan

$DC_{SD}$  = The Declared Capacity of the Facility during the corresponding Planned Derating period as detailed in the Annual Capacity Plan

$LPU_{pn}$  = Projected Loss of Capacity due to Unscheduled Outages or Unplanned Derating in the Contract Year  $n$

$SO$  = Each Scheduled Outage period in Billing Period  $m$

$J$  = Total number of periods of Scheduled Outages in Billing Period  $m$

$SD$  = Each Planned Derating Period in Billing Period  $m$

$K$  = Total number of periods of Derating in Billing Period  $m$ .



A.2.8  $LCP_{pm}$  shall be converted into  $LCP_{pm}$  so that the sum of the  $LCP_{pm}$  for each and every Billing Period in the relevant Contract Year will equal  $LCP_{pm}$  for such Contract Year and will provide the required  $AGP_{pm}$ .

### A.3 Actual Loss of Energy Output due to Reduced Availability (LCPa)

A.3.1 The Actual Loss of Energy Output due to Reduced Availability  $LCP_a$  in the Billing Period  $m$  shall be determined as follows:

$$LCP_{am} = \sum_{j=1}^J ALP_j$$

Where:

- $LCP_{am}$  = Actual Loss of Energy Output due to Reduced Availability in Billing Period  $m$
- $ALP_j$  = Actual Loss of Energy Output due to Reduced Availability (in MWh), in accordance with clause A.3.2 of this APPENDIX A
- $j$  = Each Availability Period of Unavailability or Derating
- $J$  = Number of periods of Unavailability and or Derating in Billing Period  $m$ .

A.3.2 The Actual Loss of Energy Output due to Reduced Availability ( $ALP_j$ ) in each period of Unavailability or Derating  $j$ , shall be determined as follows:

$$ALP_j = \sum_{i=1}^{h_j} (NDC - ACP_{ij}) \times WF_j \times 1hour$$

Where:

- $ALP_j$  = Actual Loss of Energy Output due to Reduced Availability in each period of Unavailability or Derating in Availability Period  $j$
- $NDC$  = Net Dependable Capacity (in MW)
- $ACP_{ij}$  = Net Available Capacity (in MW) of the Project available for each hour  $i$  in the Availability Period  $j$
- $WF_i$  = Weighting Factor for each Availability Period of Unavailability or Derating period  $j$  in accordance with clause A.4 of this APPENDIX

A (Agreed Values for Payment Calculation) to this Schedule 5  
(Calculation of Payments)

$i$  = each hour (  $i$  ) in Availability Period  $j$

$h_j$  = Total hours in Availability Period  $j$

$$ACP_{ij} = \min(NDC, DC_j, AC_{ij})$$

Where:

$ACP_{ij}$  Net Available Capacity (in MW) of the Project available for each hour  $i$  in the Availability Period  $j$

$NDC$  Net Dependable Capacity (in MW)

$DC_j$  Declared Capacity of the Project in the Availability Period  $j$

$AC_{ij}$  Actual Capacity of the Project in hour  $i$  in the Availability Period  $j$ , if the Seller fails to achieve Dispatch Compliance and the actual Capacity of the Project is less than that required in the Dispatch Instruction measured at the Delivery Point(s)

A.3.3 For the determination of the Actual Loss of Energy Output due to Reduced Availability ( $LCP_a$ ), the Seller shall notify the Buyer (in accordance with the Information Exchange Code) details of all the Outages and Deratings.

A.3.4 Where the actual Capacity is to be used as the Net Available Capacity, in the event where the Seller fails to achieve Dispatch Compliance and the actual Capacity of the Facility is less than that required in the Dispatch Instruction measured at the Delivery Point(s), in the above formula, this shall be determined from the measured Energy Output (in MWh) for the hour in question and shall represent the average MW generated by the Facility in that period.

#### **A.4 Weighting Factor (WF)**

A.4.1 The applicable Weighting Factor ("**WF**") for each hour within any period of Short-notice Unavailability or Derating shall be determined from Table A.4.1 below. "**Short-notice Unavailability or Derating**" shall be deemed to occur where the Seller provides a notice of Unavailability or Derating with less

than six (6) hours' notice before the commencement of such period of Unavailability or Derating.

**Table A.4.1: Weighting Factor for Short Notice Unavailability or Derating**

Hours' notice to commencement of period of Unavailability or Derating (hours)	WFj
less than 6 hours to greater than or equal to 4 hours	1.25
less than 4 hours to greater than or equal to 2 hours	1.75
less than 2 hours	2

A.4.2 The applicable Weighting Factor ("**WF**") for each Availability Period of Unavailability or Derating which is not a period of Short-notice Unavailability or Derating, shall be one (1).

## **A.5 Payment deduction factor (DF)**

**Table A.5.1: Payment Deduction Factor (DF)**

$LCP_{am}$ (MWh)	DF
Up to $LCP_{pm}$	1.0
> $LCP_{pm}$ through 1.1 $LCP_{pm}$	1.05
1.1 $LCP_{pm}$ through 1.25 $LCP_{pm}$	1.10
1.25 $LCP_{pm}$ through 1.5 $LCP_{pm}$	1.15
> 1.5 $LCP_{pm}$	1.3

Where:

$LCP_{am}$  = Actual Loss of Energy Output due to Reduced Availability, during such Billing Period calculated according to clause A.3 (**Actual Loss of Energy Output due to Reduced Availability (LCPa)**) of this APPENDIX A (*Agreed Values for Payment Calculation*) to this Schedule 5 (*Calculation of Payments*).

$LCP_{pm}$  = Projected Loss of Energy Output due to Reduced Availability, during such Billing Period.

## APPENDIX B

### Indexation

- B.1 The charge rates at Base Date and or any other amounts as listed in Table A.1 of APPENDIX A (*Agreed Values for Payment Calculations*) shall be adjusted on 1 July in each Contract Year, starting twelve (12) months after the Base Date, using the following formula:

$$CCR_n = CCR_b \times \frac{I_n}{I_b}$$

$$CER_{pn} = CER_{pb} \times \frac{I_n}{I_b}$$

$$CER_{sn} = CER_{sb} \times \frac{I_n}{I_b}$$

$$NCER_{pn} = NCER_{pb} \times \frac{I_n}{I_b}$$

$$NCER_{sn} = NCER_{sb} \times \frac{I_n}{I_b}$$

$$NCER_{on} = NCER_{ob} \times \frac{I_n}{I_b}$$

Where:

All charge rates listed above are as previously defined in this Schedule 5 (*Calculation of Payments*) with subscript 'n' denoting the applicable Contract Year, subscript 's', 'p' and 'o' denoting the relevant time-of-use period, and subscript 'b' denoting the Base Date:

$I_n$  = CPI index in Contract Year n for the immediately preceding year commencing 1 January and ending 31 December

$I_b$  = CPI index at Base Date.

### B.2 Fuel indexation

B.2.1 The Fuel Charge Rate (FCR) at Base Date as listed in Table A.1 of APPENDIX A (*Agreed Values for Payment Calculations*) shall be adjusted for each Billing Period, using the following formula for the fuel type used by the Facility:

### B.2.2 Liquid Petroleum Gas

$$FCR_m = FCR_b \times \frac{MRGP_m}{MRGP_b}$$

Where:

$FCR_m$  = Fuel Charge Rate in Billing Period  $m$

$FCR_b$  = Fuel Charge Rate at Base Date, for clarity  $FCR_b$  must not exceed  $MRGP_b$

$MRGP_m$  = Maximum refinery gate price (expressed in R/ton) for LPG as being the value of the maximum refinery gate price for coastal zone published by the CEF to take effect on the first Wednesday of the Month (or, in the case of the first Billing Period, if the first Wednesday of the Month in which the Commercial Operation Date occurs precedes the Commercial Operation Date, then the value of the maximum refinery gate price for coastal zone most recently published by the CEF)

$MRGP_b$  = Maximum refinery gate price (expressed in R/ton) for LPG as being the value of the maximum refinery gate price for coastal zone published by the CEF that took effect on the 5 July 2023, being R11,303.90 (eleven thousand three hundred and three rands and ninety cents) per ton

### B.2.3 Diesel

$$FCR_m = FCR_b \times \frac{AWLPD_m}{AWLPD_b}$$

Where:

$FCR_m$  = Fuel Charge Rate in Billing Period  $m$

$FCR_b$  = Fuel Charge Rate at Base Date, for clarity  $FCR_b$  must not exceed  $AWLPD_b$

$AWLPD_m$  = Adjusted wholesale list price (expressed in cents/litre) for diesel 0.05% sulphur being the value of the wholesale list price for diesel 0.05% sulphur (for zone 1A) published by the CEF to take effect on the first Wednesday of the Month (or, in the case of the first Billing Period, if the first Wednesday of the Month in which the

Commercial Operation Date occurs precedes the Commercial Operation Date, then the value of the wholesale list price for diesel 0.05% sulphur (for zone 1A) most recently published by the DMRE) less the amounts (expressed in cents/Litre) in respect of fuel levy and road accident fund levy

$AWLPD_b$  = Adjusted wholesale list price (expressed in cents/litre) for diesel 0.05% sulphur being the value of the wholesale list price for diesel 0.05% sulphur (for zone 1A) published by the CEF to take effect on 5 July 2023, less the amounts (expressed in cents/Litre) in respect of fuel levy and road accident fund levy, being 1,278,09c/Litre

#### B.2.4 Heavy Fuel Oil

$$FCR_m = FCR_b \times \frac{MARP_{m-1}}{MARP_b}$$

Where

$FCR_m$  = Fuel Charge Rate in Billing Period m

$FCR_b$  = Fuel Charge Rate at Base Date

$MARP_{m-1}$  = Monthly average reference price (expressed in US\$/bbl) for heavy fuel oil [of specification] published by the [source] during the previous Billing Period.

$MARP_b$  = Monthly average reference price (expressed in US\$/bbl) for heavy fuel oil [of specification] published by the [source] for July 2023, being [value] [currency unit]/kilolitre.

#### B.2.5 Regasified Liquid Natural Gas

$$FCR_m = FCR_b \times \frac{LNG_{m-1}}{LNG_b}$$

Where

$FCR_m$  = Fuel Charge Rate in Billing Period m

$FCR_b$  = Fuel Charge Rate at Base Date

$LNG_{m-1}$  = LNG reference price (expressed in US\$/MMBtu) published by the [source] during the previous Billing Period.

$LNG_b$  = LNG reference price (expressed in US\$/MMBtu) published by the [source] for July 2023 being [value] US\$/MMBtu