

# Market Code Consultation WS 7

Settlement Calculations



**NECOM**  
NATIONAL  
ENERGY CRISIS  
COMMITTEE

# Daily calculations

## Day-ahead ('n-1')

10h00 Day-ahead offers  
12h00 SAPP offers  
13h00 SAPP confirmation of trades  
14h00 Day-ahead schedules and prices  
18h00 Intra-day market re-schedule

## Trading Day ('n')

0h00 Intra-day market re-schedule  
6h00 Intra-day market re-schedule  
12h00 Intra-day market re-schedule  
18h00 Intra-day market re-schedule  
Continuous: SO instructions; SAPP intra-day, balancing

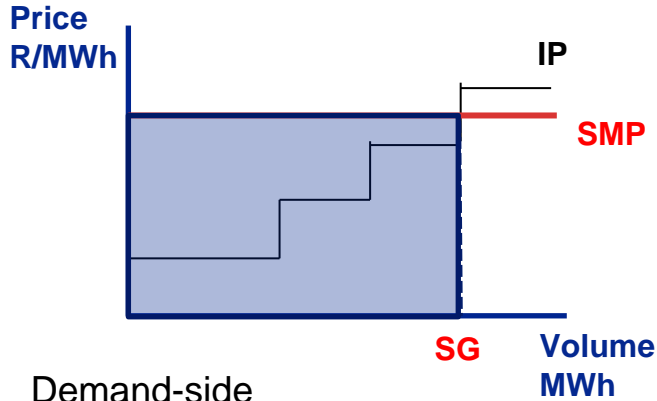
## Settlements ('n+1')

Metering interrogation  
Instructed Energy calculation  
17h00 Indicative Settlements report

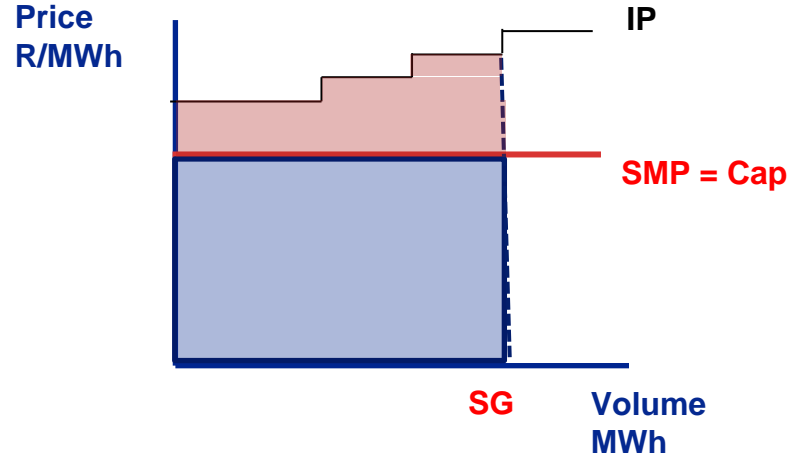


# Day-ahead settlement calculations

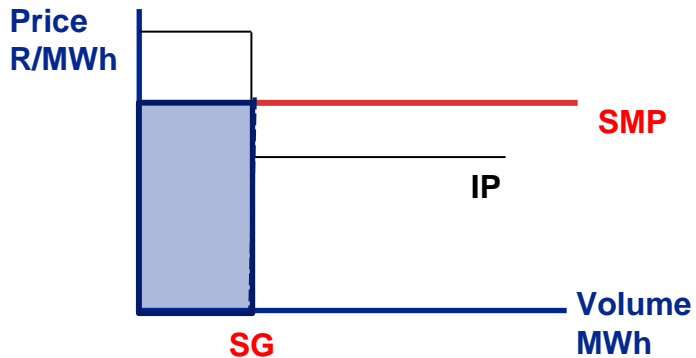
## Supply-side



## Supply-side above the price cap

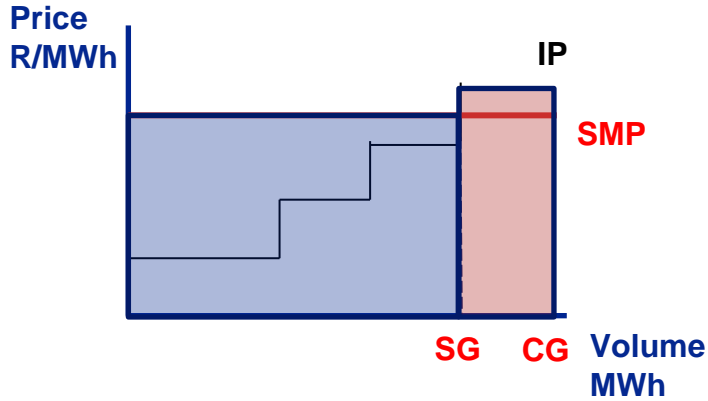


## Demand-side

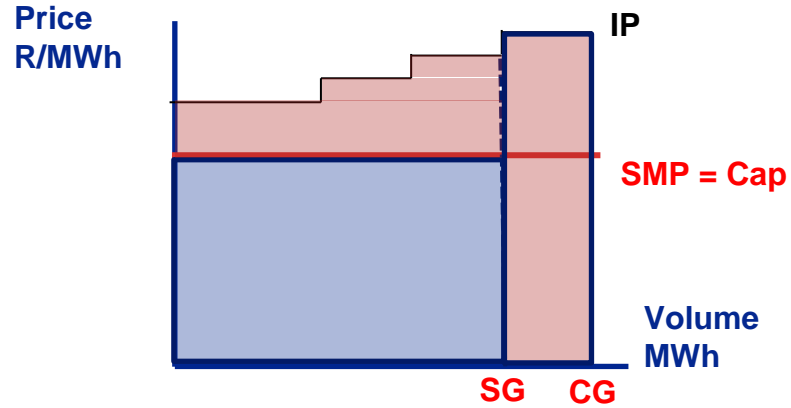


# Day-ahead settlement calculations

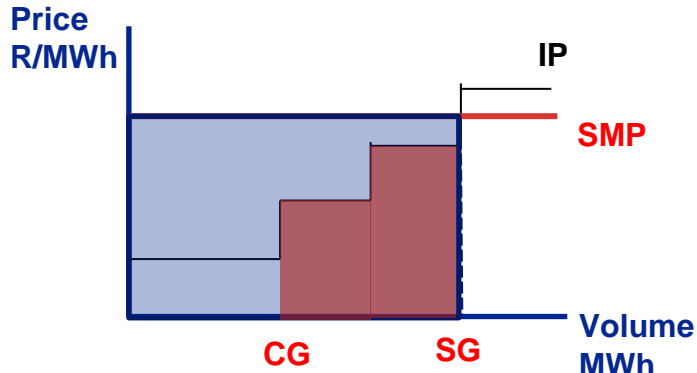
Constrained Up (Supply-side)



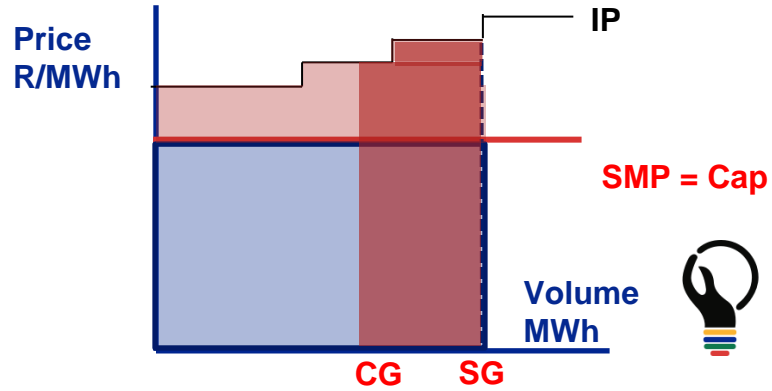
Constrained Up (Supply-side above the price cap)



Constrained Down (Supply-side)

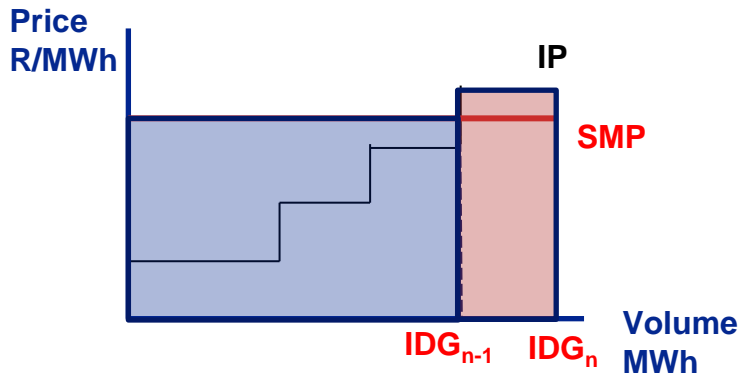


Constrained Up (Supply-side above the price cap)

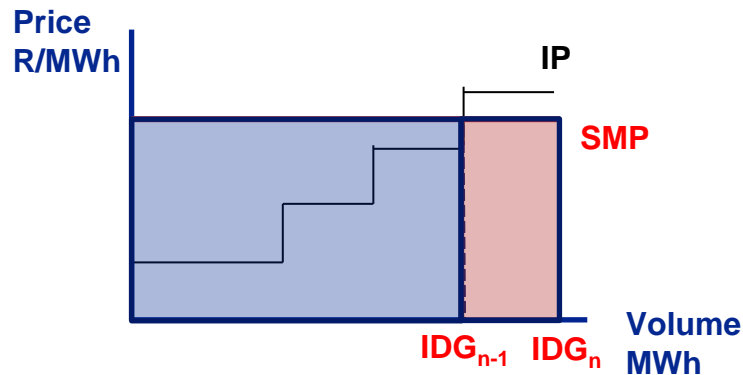


# Intra-day settlement calculations

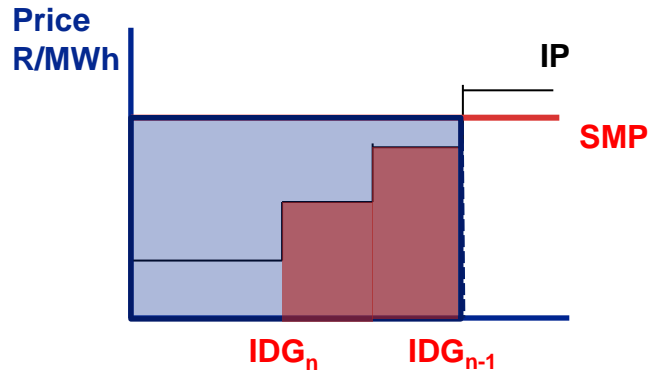
Increased Schedule on instruction (Supply-side)



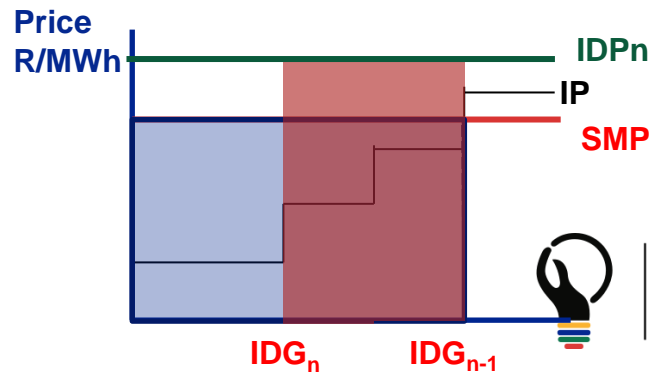
Increased Schedule against instruction (Supply-side)



Decreased Schedule on instruction (Supply-side)

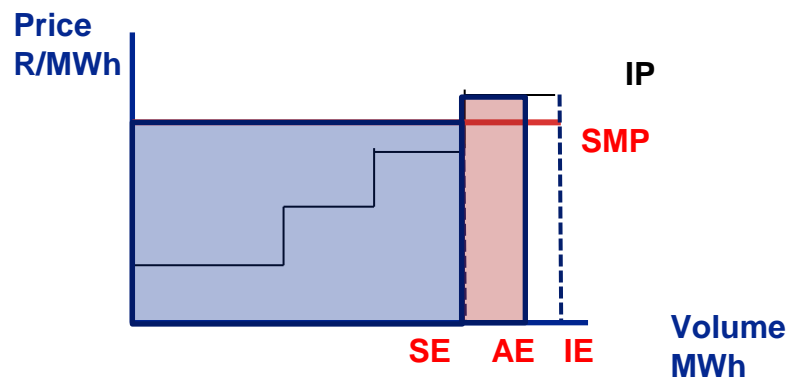


Decreased Schedule against instruction (Supply-side)

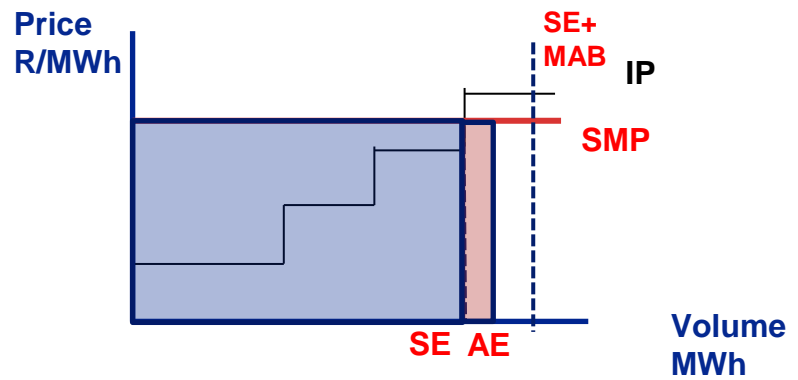


# Balancing settlement calculations

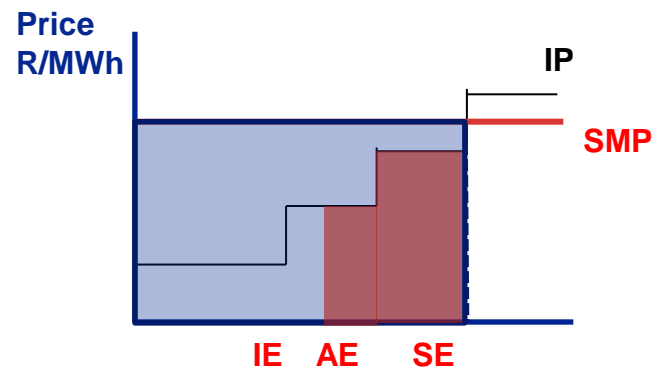
Additional Sales on instruction (Supply-side)



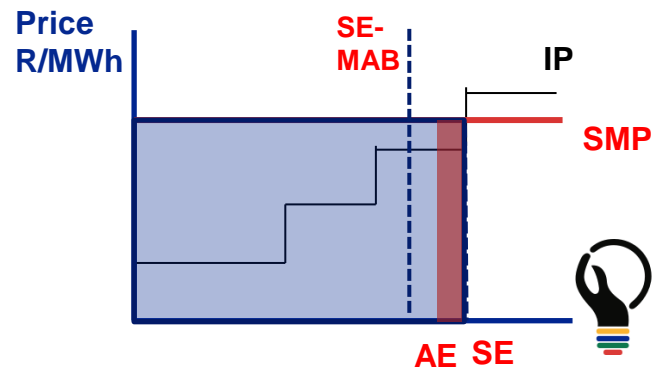
Additional Sales within MAB (Supply-side)



Additional Purchases on instruction (Supply-side)

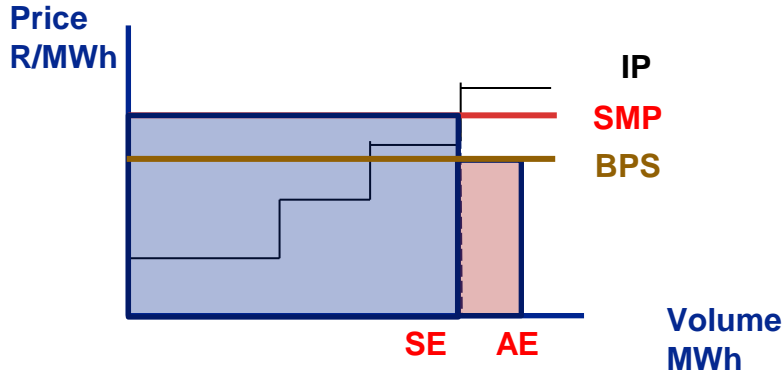


Additional Purchases within MAB (Supply-side)

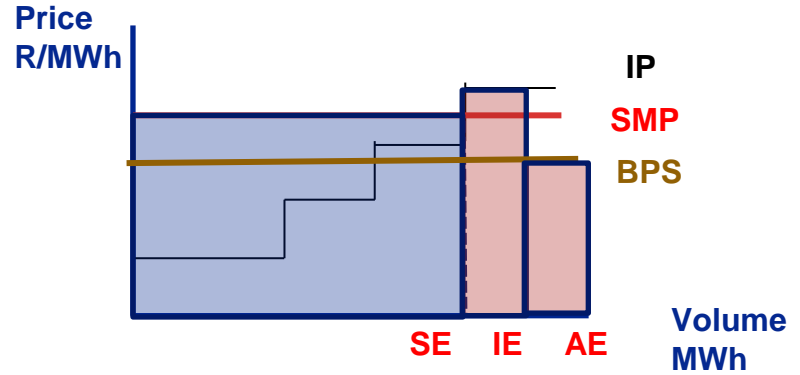


# Balancing settlement calculations

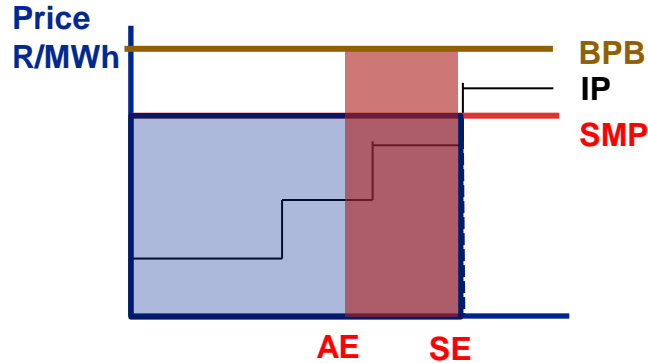
Additional Sales against instruction (SS)



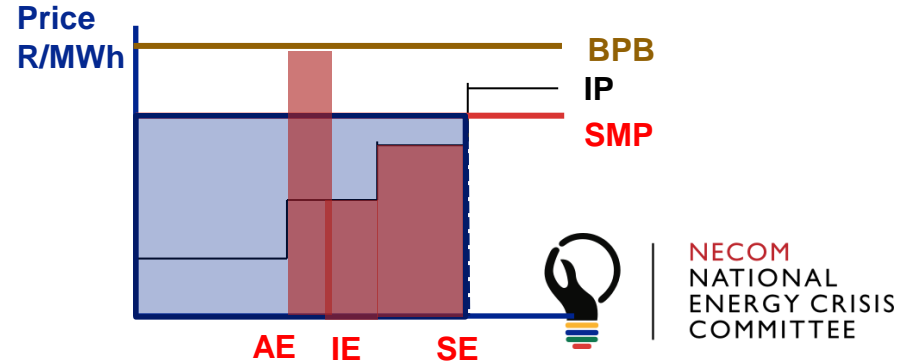
Additional Sales on and against instruction (SS)



Additional Purchases against instruction (SS)



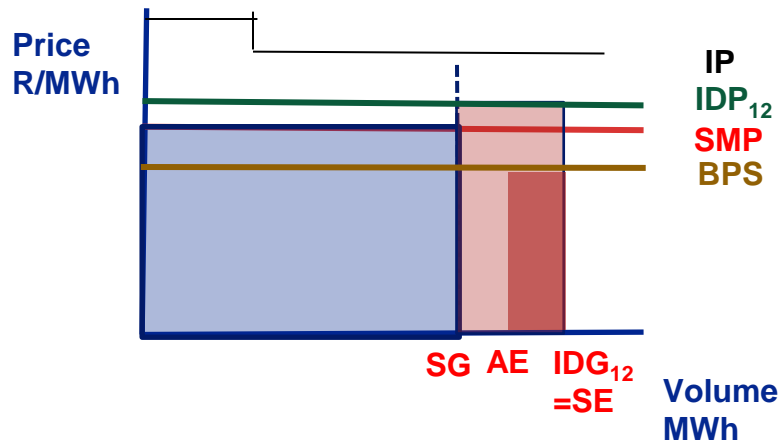
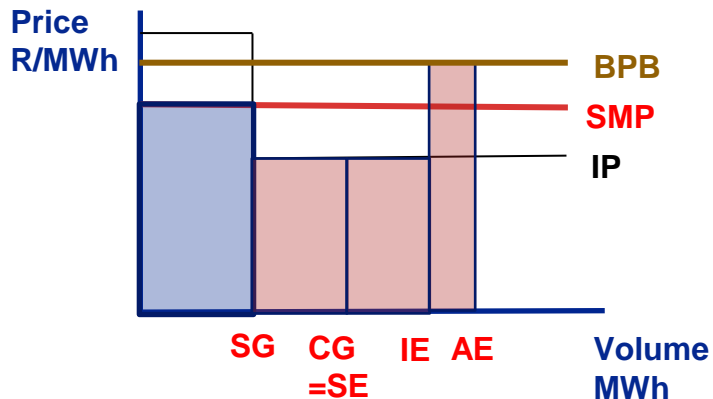
Additional Purchases on and against instruction (SS)



# Combination calculations (demand side)

- Constrained down (i.e. increase energy purchase)
- Additional purchases on and against instruction

- Intra-day additional purchase against instruction
- Additional sales against instruction





# Balancing outcomes (1)

Instructed Energy (IE) relative to Scheduled Energy (SE)	Actual Energy (AE) relative to Scheduled Energy (SE)	Actual Energy (AE) relative to Instructed Energy (IE)	Outcome	Formula (+ve Payment from MO to BRP; -ve Payment from BRP to MO)
IE > SE	AE > SE	AE > IE	IE on instruction  (AE – IE) against instruction	$(\text{Min}(\text{IE}, \text{AE}) - \text{SE}) * \max(\text{IncPr}, \text{SMP}) +$  If $(\text{AE} > \text{IE} * (1 + \text{MAB}))$ then $(\text{AE} - \text{IE}) * \text{BPS}$  Else $(\text{AE} - \text{IE}) * \text{SMP}$
IE > SE	AE > SE	AE = IE	IE = AE on instruction	$(\text{Min}(\text{IE}, \text{AE}) - \text{SE}) * \max(\text{IncPr}, \text{SMP})$
IE > SE	AE > SE	AE < IE	Min(IE, AE) on instruction  Remaining IE ignored	$(\text{Min}(\text{IE}, \text{AE}) - \text{SE}) * \max(\text{IncPr}, \text{SMP})$
IE > SE	AE = SE	AE > IE		Cannot happen
IE > SE	AE = SE	AE = IE		Cannot happen
IE > SE	AE = SE	AE < IE	IE not met – no reward/penalty	$(\text{Min}(\text{IE}, \text{AE})) - \text{SE} * \max(\text{IncPr}, \text{SMP})$
IE > SE	AE < SE	AE > IE		Cannot happen
IE > SE	AE < SE	AE = IE		Cannot happen
IE > SE	AE < SE	AE < IE	Instruction ignored  (SE - AE) against instruction	If $(\text{AE} < \text{SE} * (1 - \text{MAB}))$ then $(\text{AE} - \text{SE}) * \text{BPB}$  Else $(\text{AE} - \text{SE}) * \text{SMP}$



# Balancing outcomes (2)

Instructed Energy (IE) relative to Scheduled Energy (SE)	Actual Energy (AE) relative to Scheduled Energy (SE)	Actual Energy (AE) relative to Instructed Energy (IE)	Outcome	Formula (+ve Payment from MO to BRP; -ve Payment from BRP to MO)
<b>IE = SE</b>	AE > SE	AE > IE	(AE – SE) against instruction	If (AE>SE*(1+MAB) then (AE-SE) * BPS Else (AE-SE) * SMP
<b>IE = SE</b>	AE > SE	AE=IE		Cannot happen
<b>IE = SE</b>	AE > SE	AE<IE		Cannot happen
<b>IE = SE</b>	AE=SE	AE > IE		Cannot happen
<b>IE = SE</b>	AE=SE	AE=IE	No change from scheduled position	0
<b>IE = SE</b>	AE=SE	AE<IE		Cannot happen
<b>IE = SE</b>	AE < SE	AE > IE		Cannot happen
<b>IE = SE</b>	AE < SE	AE=IE		Cannot happen
<b>IE = SE</b>	AE < SE	AE<IE	(SE-AE) against instruction	If (AE<SE*(1-MAB)) then (AE-SE) * BPB Else (AE-SE) * SMP



# Balancing outcomes (3)

Instructed Energy (IE) relative to Scheduled Energy (SE)	Actual Energy (AE) relative to Scheduled Energy (SE)	Actual Energy (AE) relative to Instructed Energy (IE)	Outcome	Formula (+ve Payment from MO to BRP; -ve Payment from BRP to MO)
IE < SE	AE > SE	AE > IE	(AE – SE) against instruction	If (AE>SE*(1+MAB)) then (AE-SE) * BPS Else (AE-SE) * SMP
IE < SE	AE > SE	AE=IE		Cannot happen
IE < SE	AE > SE	AE<IE		Cannot happen
IE < SE	AE = SE	AE > IE	No change from scheduled position	0
IE < SE	AE = SE	AE=IE		Cannot happen
IE < SE	AE = SE	AE < IE		Cannot happen
IE < SE	AE < SE	AE > IE	Max(IE, AE) on instruction	-(SE-max(IE, AE)) * min(IncrPr, SMP)
IE < SE	AE < SE	AE=IE	IE on instruction	-(SE-max(IE, AE)) * min(IncrPr, SMP)
IE < SE	AE < SE	AE<IE	IE on instruction  (IE-AE) against instruction	-(SE-max(IE, AE)) * min(IncrPr, SMP)  If (AE<IE*(1-MAB)) then (AE-IE) * BPB Else (AE-IE) * SMP

