

# Parameters of an Alternative Performance Incentive Mechanism

## Electric Energy Efficiency Performance Incentive

$$\text{Sector PI} = \min\{ \text{Payout Cap}(j), [\text{Actual Net Benefits} * \text{Design Payout Rate}(g) * \text{Payout Rate Adjustment}(i)] \}$$

	Planned Eligible Benefits		Planned Eligible Costs	Planned Eligible Net Benefits (4)	Design Performance Achievement	Design Performance Payout	Design Payout Rate	Design Payout Rate Thresholds	Payout Rate Adjustments	Payout Cap	Service Quality Metric
	(a) 100% Electric Utility System Benefits— Chosen by PUC; values from EE Plan	(b) 50% Resource Benefits—Chosen by PUC; values from EE Plan	(c) As proposed + planned Regulatory costs—Chosen by PUC; values from EE Plan	(d) =(a)+(b)-(c)	(e) Net benefits at which design incentive pool is achieved— set by PUC	(f) Set by PUC	(g) =(f)/(e)	(h) Achievement levels at which the Payout Rate Adjustments in (i) will be applied—Set by PUC	(i) Factor to adjust Design Payout Rate for if final program achievement fall within the ranges in (h)— Set by PUC	(j) =1.25*(f) Cap on sector payout regardless of achievement in sector—Set by PUC	(k) Yes if (d) ≤ 0; No if (d) >0 See Service Quality Table—Set by PUC
Mkt. Res.	\$26,989,000	\$6,296,500	\$35,277,933	-\$1,992,433	\$2,000,000	\$500,000	25%	a. Achievement < 25% b. 25% ≤ Achievement < 50% c. 50% ≤ Achievement < 75% d. 75% ≤ Achievement • Spending > Planned Eligible Costs	a. 0.0 b. Achievement/100 + 0.1 c. Achievement/100 + 0.25 d. 1.0 • See Boundary Rules	\$625,000	Yes
IES	\$5,368,000	\$3,146,000	\$16,887,433	-\$8,363,433	\$2,000,000	\$500,000	25%			\$625,000	Yes
C&I	\$147,524,000	-\$3,985,000	\$54,119,633	\$89,419,367	\$89,419,367	\$5,500,000	6.150793%			\$6,875,000	No

## Electric Energy Efficiency Service Quality Adjustment

$$\text{Sector SQA} = \text{Maximum Service Adjustment}(e) * \text{Service Achievement Scaling Factor}(g)$$

	Planned Eligible Benefits		Planned Eligible Costs	Design Service Achievement	Maximum Service Adjustment	Service Adjustment Thresholds	Service Achievement Scaling Factors	Achievement Cost Adjustment
	(a) 100% Electric Utility System Benefits— Chosen by PUC; values from EE Plan	(b) 50% Resource Benefits—Chosen by PUC; values from EE Plan	(c) As proposed + planned Regulatory costs—Chosen by PUC; values from EE Plan	(d) =(a)+(b)	(e) Maximum downward adjustment to earned incentive—Set by PUC	(f) Adjusted Achievement levels at which the Service Adjustments in (e) will be applied; adjustment is calculated in (h)—Set by PUC	(g) Factor to scale program achievement that fall within the ranges in (f)— Set by PUC	(h) Actual-cost-based adjustment factor applied to achievement. Result is if the difference between achievement and cost variances are greater than 5%, the Actual Achievement will be adjusted for use in—Set by PUC
Mkt. Res.	\$26,989,000	\$6,296,500	\$35,277,933	\$33,282,500	\$1,251,250	a. Adjusted Achievement < 65% b. 65% ≤ Adjusted Achievement < 95% c. 95% ≤ Adjusted Achievement	a. 1 b. (95-Adjusted Achievement)/30 c. 0	$\text{Performance Variance} = \frac{\text{Actual Benefits}}{\text{Design Achievement}} - \frac{\text{Spending}}{\text{Planned Eligible Cost}}$ If the absolute value(Performance Variance) ≤ 0.05, • Then Adjusted Achievement = Actual Achievement • Else Adjusted Achievement = Actual Achievement * (1+ Performance Variance)
IES	\$5,368,000	\$3,146,000	\$16,887,433	\$8,514,000	\$715,000			
C&I	N/A	N/A	N/A	N/A	N/A			

## Gas Energy Efficiency Performance Incentive

$$\text{Sector PI} = \min\{ \text{Payout Cap}(j), [\text{Actual Net Benefits} * \text{Design Payout Rate}(g) * \text{Payout Rate Adjustment}(i)] \}$$

	Planned Eligible Benefits		Planned Eligible Costs	Planned Eligible Net Benefits (4)	Design Performance Achievement	Design Performance Payout	Design Payout Rate	Design Payout Rate Thresholds	Payout Rate Adjustments	Payout Cap	Service Quality Metric
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
	100% Electric Utility System Benefits— <b>Chosen by PUC</b> ; values from EE Plan	50% Resource Benefits— <b>Chosen by PUC</b> ; values from EE Plan	As proposed + planned Regulatory costs— <b>Chosen by PUC</b> ; values from EE Plan	=(a)+(b)-(c)	Net benefits at which design incentive pool is achieved— <b>set by PUC</b>	<b>Set by PUC</b>	=(f)/(e)	Achievement levels at which the Payout Rate Adjustments in (i) will be applied— <b>Set by PUC</b>	Factor to adjust Design Payout Rate for if final program achievement fall within the ranges in (h)— <b>Set by PUC</b>	=1.25*(f) Cap on sector payout regardless of achievement in sector— <b>Set by PUC</b>	Yes if (d) ≤ 0; No if (d) >0 See Service Quality Table— <b>Set by PUC</b>
Mkt. Res.	\$14,112,500 + ~\$271,099	~\$909,892/2	\$14,712,467	~\$126,078	\$126,078	\$100,000	79.316%	a. Achievement < 25% b. 25% ≤ Achievement < 50% c. 50% ≤ Achievement < 75% d. 75% ≤ Achievement • Spending > Planned Eligible Costs	a. 0.0 b. Achievement/100 + 0.1 c. Achievement/100 + 0.25 d. 1.0 • See Boundary Rules	\$125,000	No
IES	\$4,989,000 + ~82,306	~\$288,652/2	\$9,145,167	-\$3,907,856	\$2,000,000	\$500,000	25%			\$625,000	Yes
C&I	\$17,649,900 + \$621,554	\$409,565/2	\$9,136,967	\$9,339,270	\$9,339,270	\$1,600,000	17.13196%			\$1,800,000	No

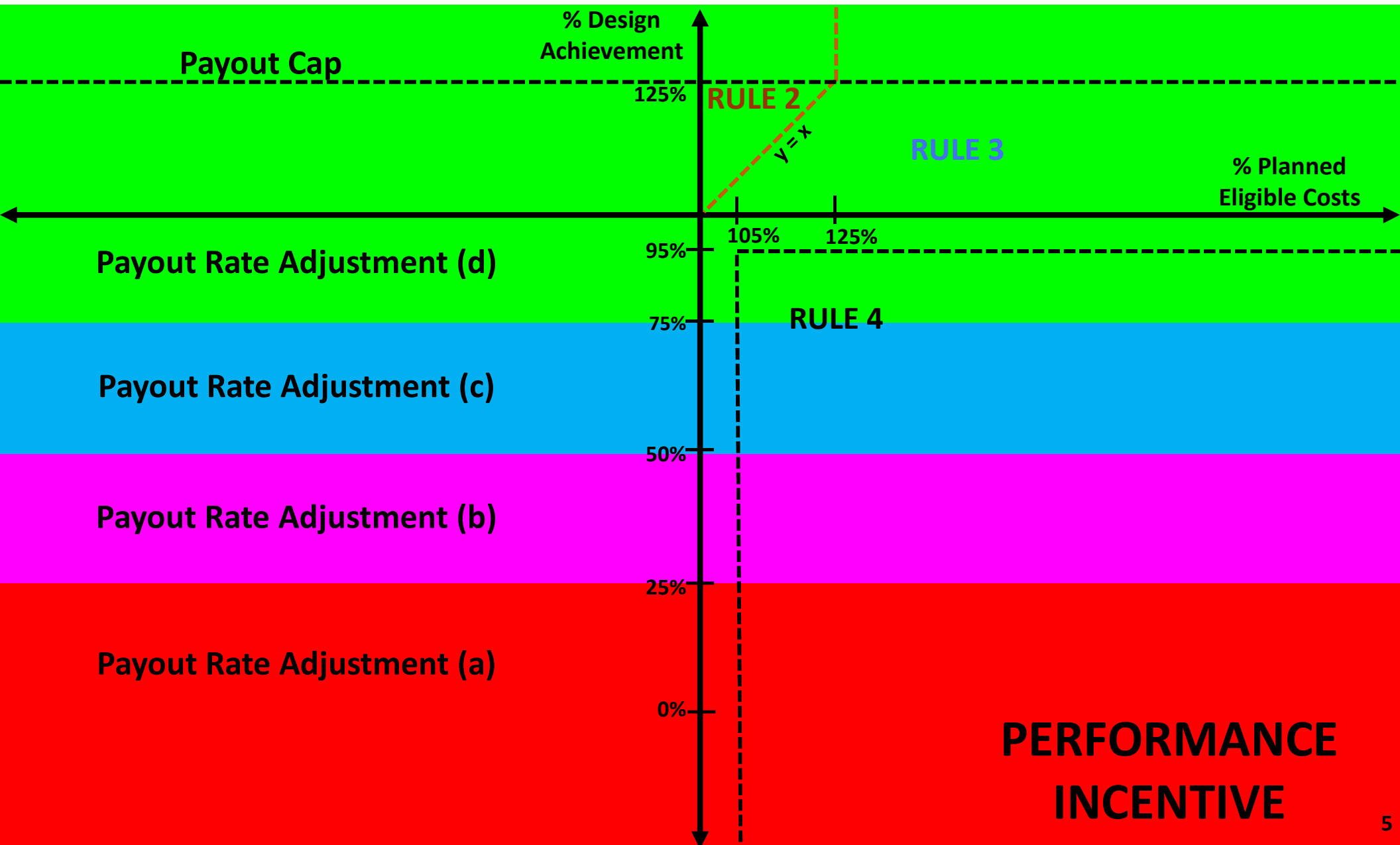
## Gas Energy Efficiency Service Quality Adjustment

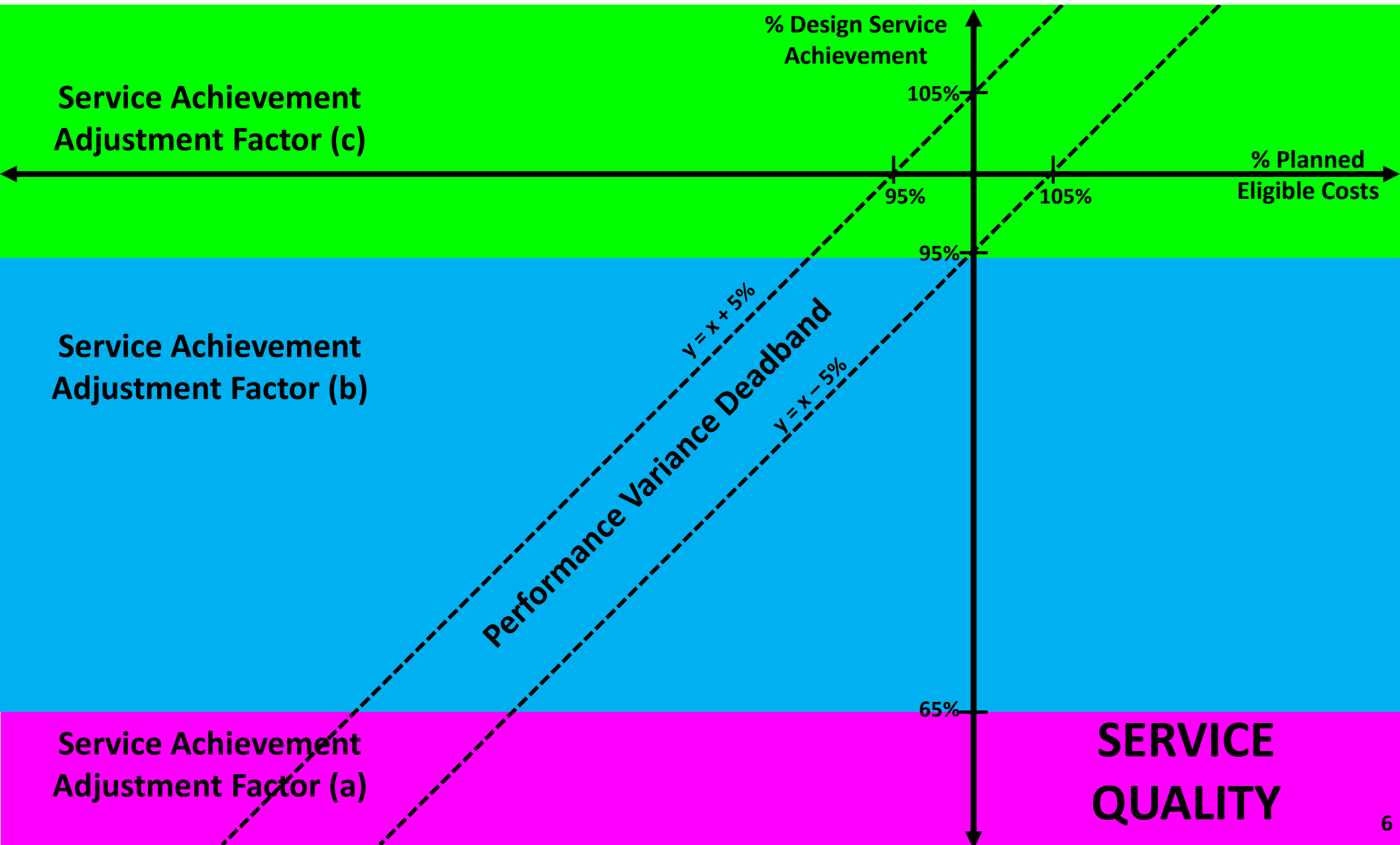
$$\text{Sector SQA} = \text{Maximum Service Adjustment}(e) * \text{Service Achievement Scaling Factor}(g)$$

	Planned Eligible Benefits		Planned Eligible Costs	Design Service Achievement	Maximum Service Adjustment	Service Adjustment Thresholds	Service Achievement Scaling Factors	Achievement Cost Adjustment
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
	100% Electric Utility System Benefits— <b>Chosen by PUC</b> ; values from EE Plan	50% Resource Benefits— <b>Chosen by PUC</b> ; values from EE Plan	As proposed+ planned Regulatory costs— <b>Chosen by PUC</b> ; values from EE Plan	=(a)+(b)	Maximum downward adjustment to earned incentive— <b>Set by PUC</b>	Adjusted Achievement levels at which the Service Adjustments in (e) will be applied; adjustment is calculated in (h)— <b>Set by PUC</b>	Factor to scale program achievement that fall within the ranges in (f)— <b>Set by PUC</b>	Actual-cost-based adjustment factor applied to achievement. Result is if the difference between achievement and cost variances are greater than 5%, the Actual Achievement will be adjusted for use in— <b>Set by PUC</b>
Mkt. Res.	N/A	N/A	N/A	N/A	N/A	a. Adjusted Achievement < 65% b. 65% ≤ Adjusted Achievement < 95% c. 95% ≤ Adjusted Achievement	a. 1 b. (95-Adjusted Achievement)/30 c. 0	$\text{Performance Variance} = \frac{\text{Actual Benefits}}{\text{Design Achievement}} - \frac{\text{Spending}}{\text{Planned Eligible Cost}}$
IES	\$4,989,000 + ~82,306	~\$288,652/2	\$9,145,167	\$5,215,632	Lesser of \$276,250 and earned incentive			If the absolute value(Performance Variance) ≤ 0.05, • Then Adjusted Achievement = Actual Achievement • Else Adjusted Achievement = Actual Achievement * (1+ Performance Variance)
C&I	N/A	N/A	N/A	N/A	N/A			

**Electric and Gas Energy Efficiency Performance Incentive  
Performance Space Boundary Rules (Same as proposed by Cmr. AWA)**

- RULE 1:** When sector-level spending is equal to or less than Planned Eligible Costs (column c) do no further adjustments.
- RULE 2:** When sector-level spending exceeds the Planned Eligible Costs (column c) and net benefits achieved exceed the sector Design Performance Achievement (column h) and the overachievement exceeds the overspending:
- The outcome is above the theoretical planned performance line  $y=x$  in “Quadrant I”
  - For every 1% that the spending exceeds the Planned Eligible Costs the sector Design Performance Payout (column f) applied to incremental net benefits above 100% of Design Performance Achievement will decrease by an amount equal to the Design Performance Payout divided by 25.
- RULE 3:** When sector-level spending exceeds Planned Eligible Costs and net benefits achieved in the sector are less than the sector Design Performance Achievement and the overspending exceeds the overachievement:
- The outcome is below the theoretical planned performance line  $y=x$  in “Quadrant I”
  - National Grid is not eligible for an incentive on incremental net benefits that exceed 100% of Design Performance Achievement.
- RULE 4:** When sector-level spending exceeds the Planned Eligible Costs by more than 5% and net benefits achieved in the sector are below 95% sector Design Performance Achievement
- The outcome is below the theoretical planned performance line  $y=x$  in “Quadrant IV”
  - For every 1% that the spending exceeds the Planned eligible Costs the sector Design Performance Payout, will decrease by an amount equal to the Design Performance Payout divided by 25.





## Electric and Gas Energy Efficiency Sector Performance Incentive Steps (for each Sector)

1. Calculate the Achievement by dividing Actual Net Benefits by the Design Performance Achievement (column e).
2. Compare the Achievement to the Design Payout Rate Thresholds (column h) to determine applicable Payout Rate Adjustment (column i).
3. Determine which Performance Space Boundary Rule applies by comparing actual spending to the Planned Eligible Costs (column c).
4. Calculate the Potential Performance Incentive according to the applicable Boundary Rule:

Potential Performance Payout = ...

**RULE 1: ... Actual Net Benefits\* Design Payout Rate \* Payout Rate Adjustment**

**RULE 2: ... Design Performance Payout + { (Actual Net Benefits - Design Performance Achievement) \*  
Design Payout Rate \* Payout Rate Adjustment \***

$$\left[ 1 - 4 * \text{round down to nearest } 0.01 \left( \frac{\text{Spending} - \text{Planned Eligible Cost}}{\text{Planned Eligible Cost}} \right) \right] \}$$

**RULE 3: ... Design Performance Payout**

**RULE 4: ... Actual Net Benefits\* Design Payout Rate \* Payout Rate Adjustment \***

$$\left[ 1 - 4 * \text{round down to nearest } 0.01 \left( \frac{\text{Spending} - \text{Planned Eligible Cost}}{\text{Planned Eligible Cost}} \right) \right]$$

5. Determine the Sector Performance Incentive as the lesser of the Potential Performance Payout and the Payout Cap (column j)

## Electric and Gas Energy Efficiency Service Quality Adjustment Steps (for Applicable Sectors)

1. Determine if the sector is subject to a Service Quality Adjustment (column h).
2. Determine if an incentive was earned in the sector—if so, Service Quality Adjustment is zero; if not, go to Step 3
3. Calculate the Achievement by dividing actual benefits by the Design Service Achievement (column d).

4. Calculate the Performance Variance:

$$\text{Performance Variance} = \frac{\text{Actual Benefits}}{\text{Design Achievement}} - \frac{\text{Spending}}{\text{Planned Eligible Cost}}$$

5. Determine the Adjusted Achievement:

If  $-0.05 \leq \text{Performance Variance} \leq 0.05$ , then Adjusted Achievement = Achievement

Else, Adjusted Achievement = Achievement \* (1 + Performance Variance)

6. Compare the Adjusted Achievement to the Service Adjustment Thresholds (column f) to determine applicable Service Achievement Scaling Factor (column g).
7. Calculate the Sector Service Quality Adjustment:

$$\text{Sector Service Quality Adjustment} = \text{Maximum Service Adjustment} * \text{Service Achievement Scaling Factor}$$



### **Electric and Gas Energy Efficiency Performance Incentive Steps (for each Utility)**

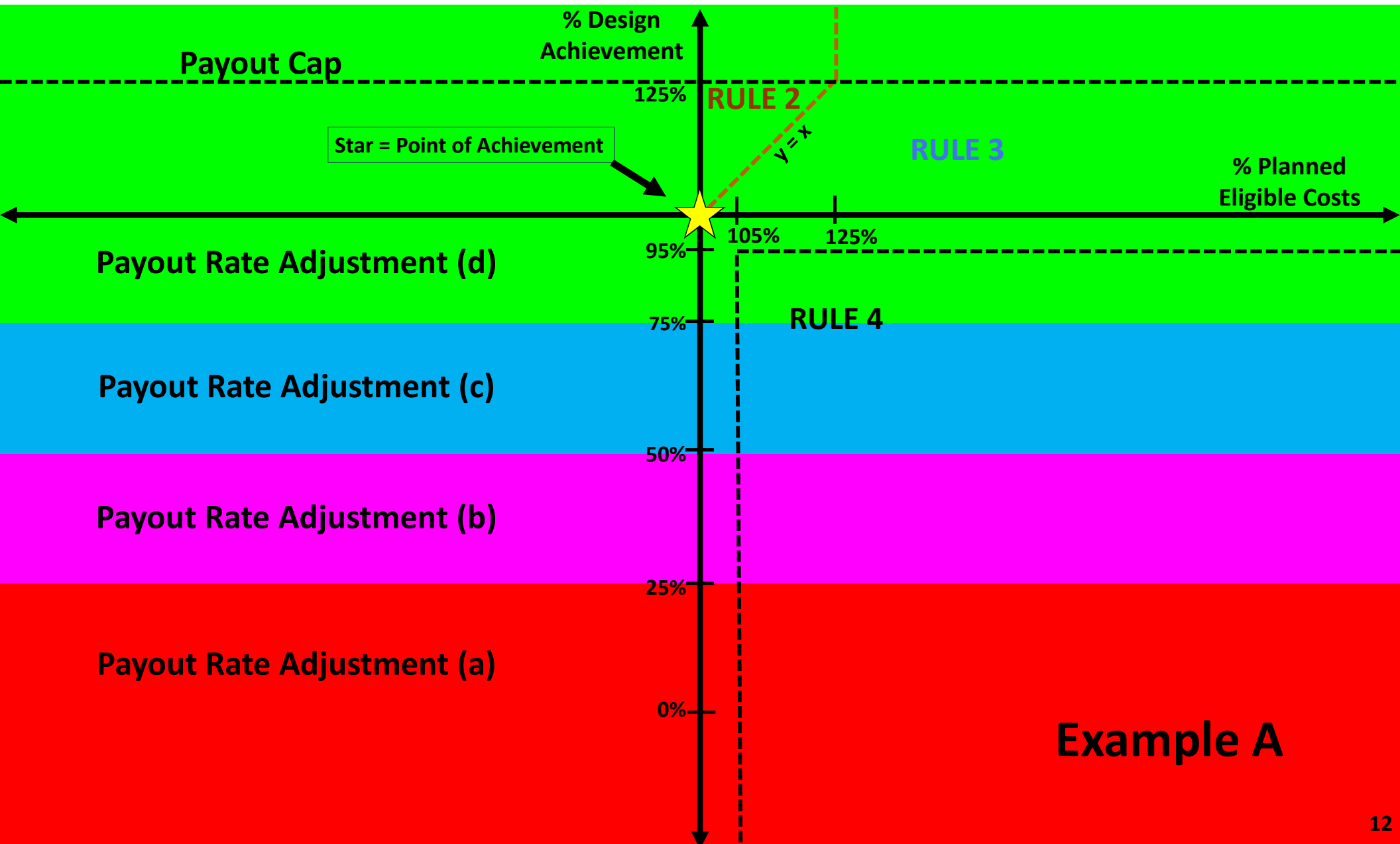
- 1. Calculate the Total Potential Performance Incentive as the sum of the Sector Performance Incentives for the utility service (positive outcomes only; negative outcomes are treated as zero).**
- 2. Calculate the Total Service Quality Adjustment as the sum of the Sector Service Quality Adjustments for the utility service.**
- 3. Calculate the Adjusted Total Performance Incentive by subtracting the Total Service Quality Adjustment from the Total Potential Performance Incentive.**
- 4. Determine the Final Performance Incentive for the utility service as the greater of zero and the Adjusted Total Performance Incentive.**

# Examples

**The Following Slides Are Intended to Provide Examples  
of How the PIM would Work**

# Example A:

**National Grid Achieves Net Benefits and Spending at Design Levels**



### Example A – Design Achievement and Spending

Sector Performance Incentive for Electric C&I with net benefits = \$89,419,367 and spending = \$54,119,633

Step 1. Achievement =  $\$89,419,367 / \$89,419,367 = 100\%$

Step 2. Threshold band “d” applies because  $75\% \leq \text{Achievement}$ , thus the Payout Rate Adjustment = 1

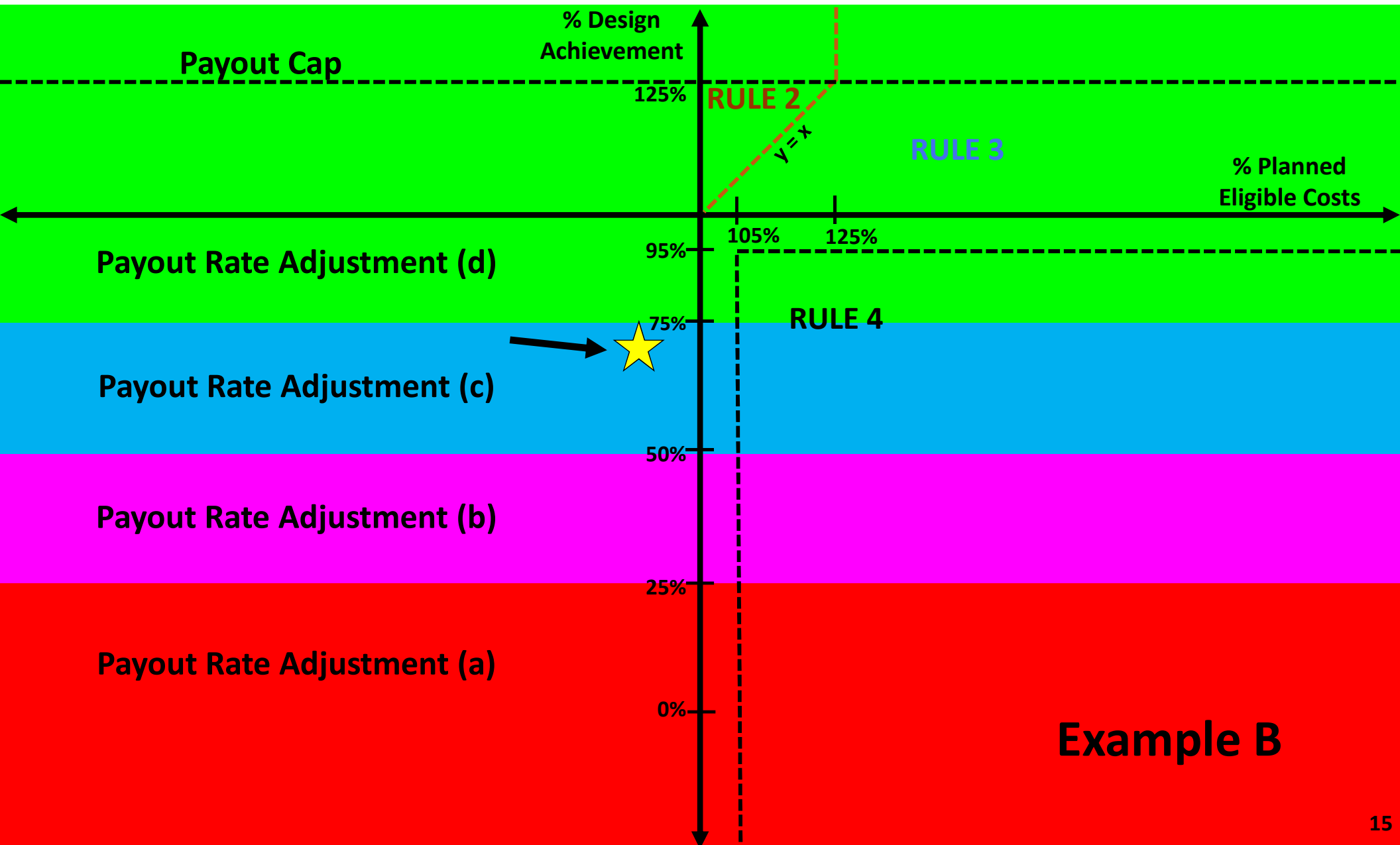
Step 3. Spending  $\leq$  Planned Eligible Cost, thus Payout Rate Adjustment Boundary Rule 1 applies (no further adjustment)

Step 4. Potential Performance Payout = **Actual Net Benefits** \* **Design Payout Rate** \* **Payout Rate Adjustment**  
= **\$89,419,367** \* **0.06150793** \* **1**  
= **\$5,500,000**

Step 5. \$5,500,000 is below the Payout Cap of \$6,875,000, thus the Performance Incentive for this sector is \$5,500,000

# Example B:

**Moderate Achievement**



### Example B – Moderate Achievement

Sector Performance Incentive for Electric C&I with net benefits = \$65,000,000 and spending = \$50,000,000

Step 1. Achievement =  $\$65,000,000 / \$89,419,367 = 72.6912\%$

Step 2. Threshold band “c” applies because  $50\% \leq \text{Achievement} < 75\%$ , thus the Payout Rate Adjustment =  $0.726912 + 0.25 = 0.976912$

Step 3. Spending  $\leq$  Planned Eligible Cost, thus Payout Rate Adjustment Boundary Rule 1 applies (no further adjustment)

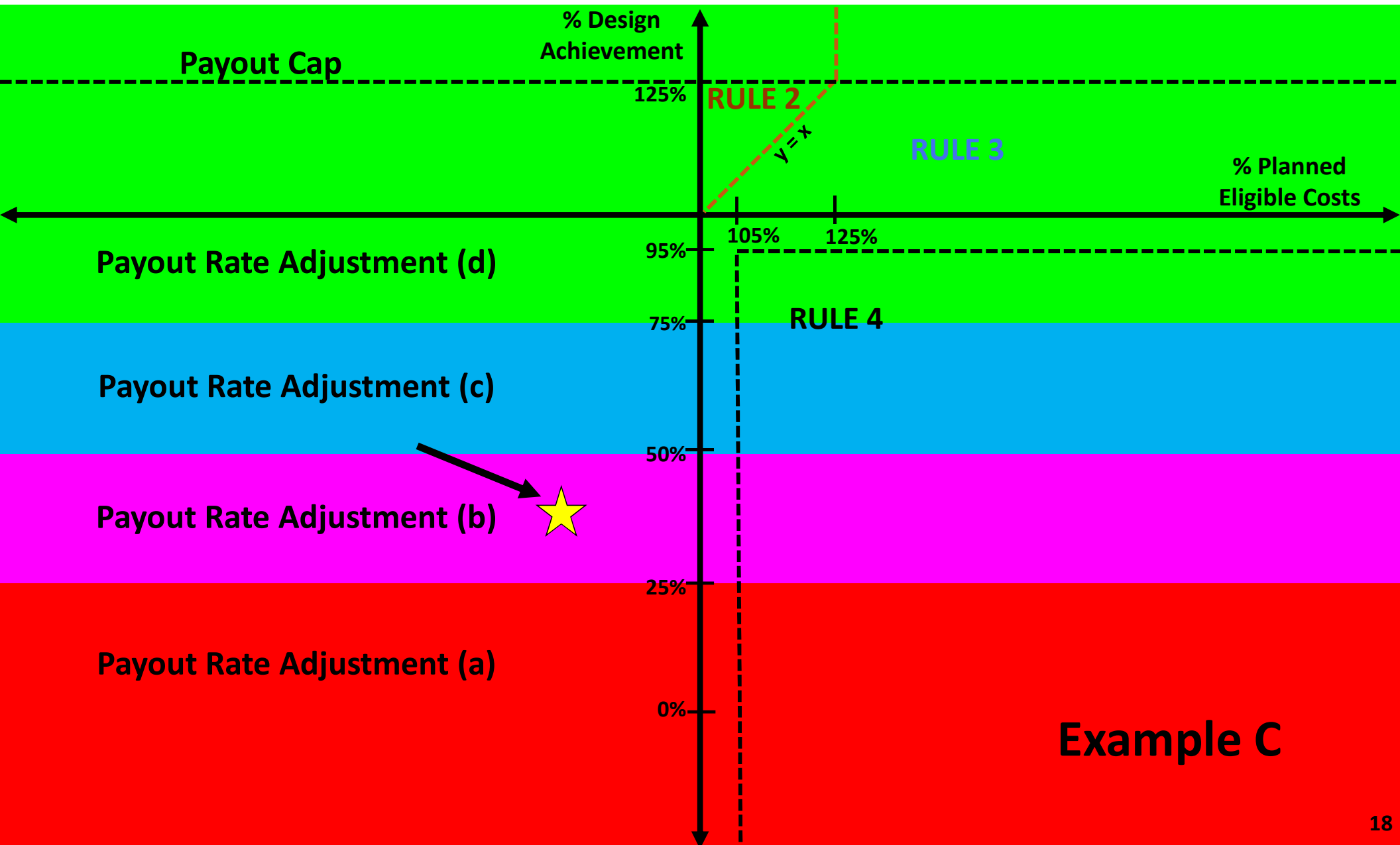
Step 4. Potential Performance Payout = **Actual Net Benefits** \* **Design Payout Rate** \* **Payout Rate Adjustment**  
=  $\$65,000,000 * 0.06150793 * 0.976912$   
=  $\$3,905,709$

Step 5. \$3,905,709 is below the Payout Cap of \$6,875,000, thus the Performance Incentive for this sector is \$3,905,709



# Example C:

**Low Achievement**



### Example C – Low Achievement

Sector Performance Incentive for Electric C&I with net benefits = \$35,000,000 and spending = \$40,000,000

Step 1. Achievement =  $\$35,000,000 / \$89,419,367 = 39.1414\%$

Step 2. Threshold band “b” applies because  $25\% \leq \text{Achievement} < 50\%$ , thus the Payout Rate Adjustment =  $0.391414 + 0.1 = 0.491414$

Step 3. Spending  $\leq$  Planned Eligible Cost, thus Payout Rate Adjustment Boundary Rule 1 applies (no further adjustment)

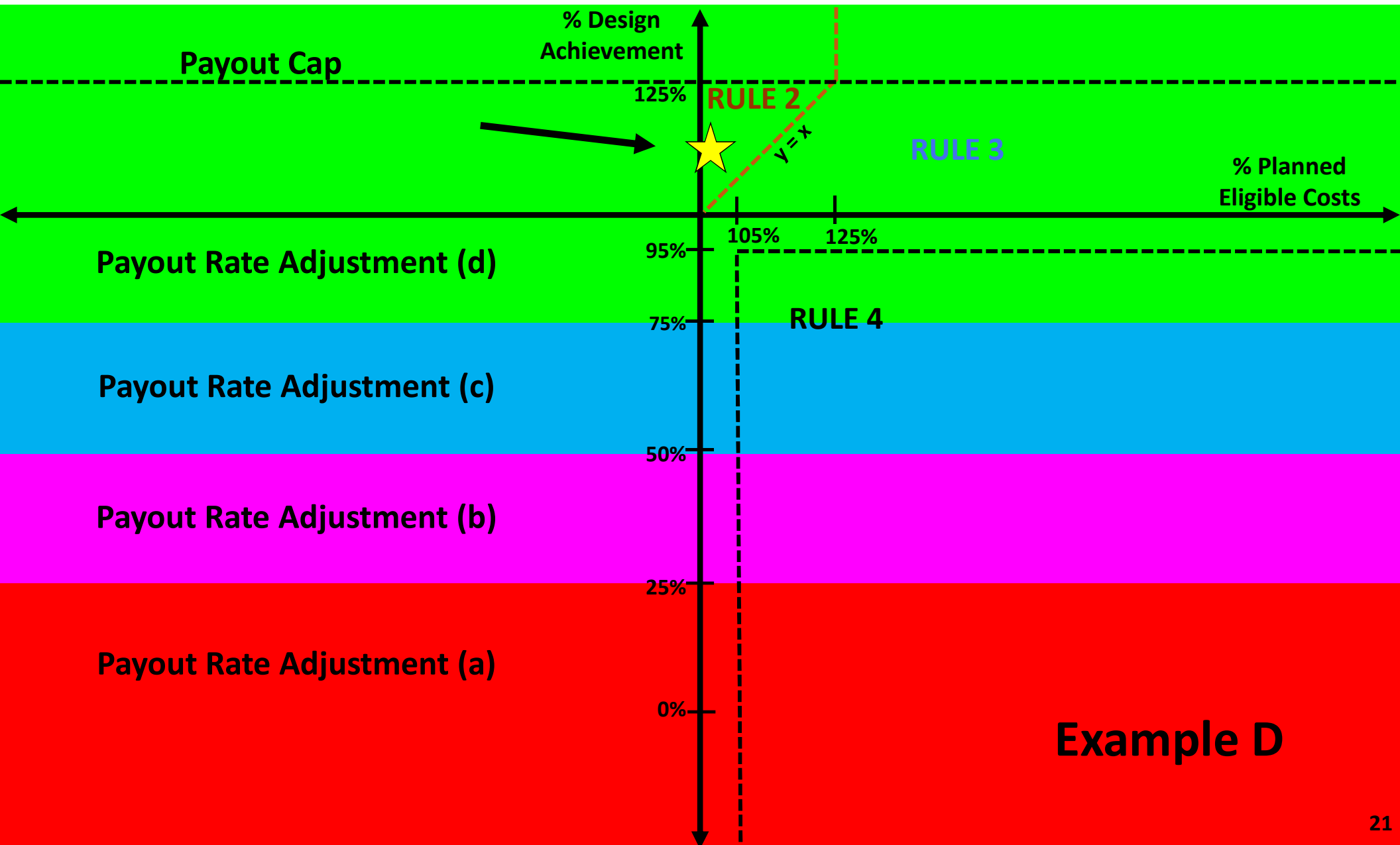
Step 4. Potential Performance Payout = **Actual Net Benefits** \* **Design Payout Rate** \* **Payout Rate Adjustment**  
=  $\$35,000,000 * 0.06150793 * 0.491414$   
= \$1,057,905

Step 5. \$1,057,905 is below the Payout Cap of \$6,875,000, thus the Performance Incentive for this sector is \$1,057,905

# Example D:

**Rule 2**

**(Overachievement Exceeds Overspending)**



**Example D – Example of Rule 2 (Overachievement Exceeds Overspending)**

**Sector Performance Incentive for Electric C&I with net benefits = \$100,000,000 and spending = \$55,000,000**

**Step 1. Achievement = \$100,000,000/\$89,419,367 = 111.8326%**

**Step 2. Threshold band “d” applies because 75% ≤ Achievement, thus the Payout Rate Adjustment = 1**

**Step 3. Spending > Planned Eligible Cost and  $\frac{\$55,000,000}{\$54,119,633} < \frac{\$100,000,000}{\$89,419,367}$ , thus Payout Rate Adjustment Boundary Rule 2 applies (overachievement exceeded overspending)**

**Step 4. Potential Performance Payout = Design Performance Payout +**  

$$\{ (\text{Actual Net Benefits} - \text{Design Performance Achievement}) * \text{Design Payout Rate} * \text{Payout Rate Adjustment} * [1 - 4 * \text{round down to nearest } 0.01(\frac{\text{Spending} - \text{Planned Eligible Cost}}{\text{Planned Eligible Cost}})] \}$$

$$= \$5,500,000 + \{ (\$100,000,000 - \$89,419,367) * 0.06150793 * 1 * [1 - 4 * \text{round}_{0.01}(\frac{\$55,000,000 - \$54,119,633}{\$54,119,633})] \}$$

$$= \$5,500,000 + \{ \$10,580,363 * 0.06150793 * [1 - 4 * 0.01] \}$$

$$= \$5,500,000 + \$624,761$$

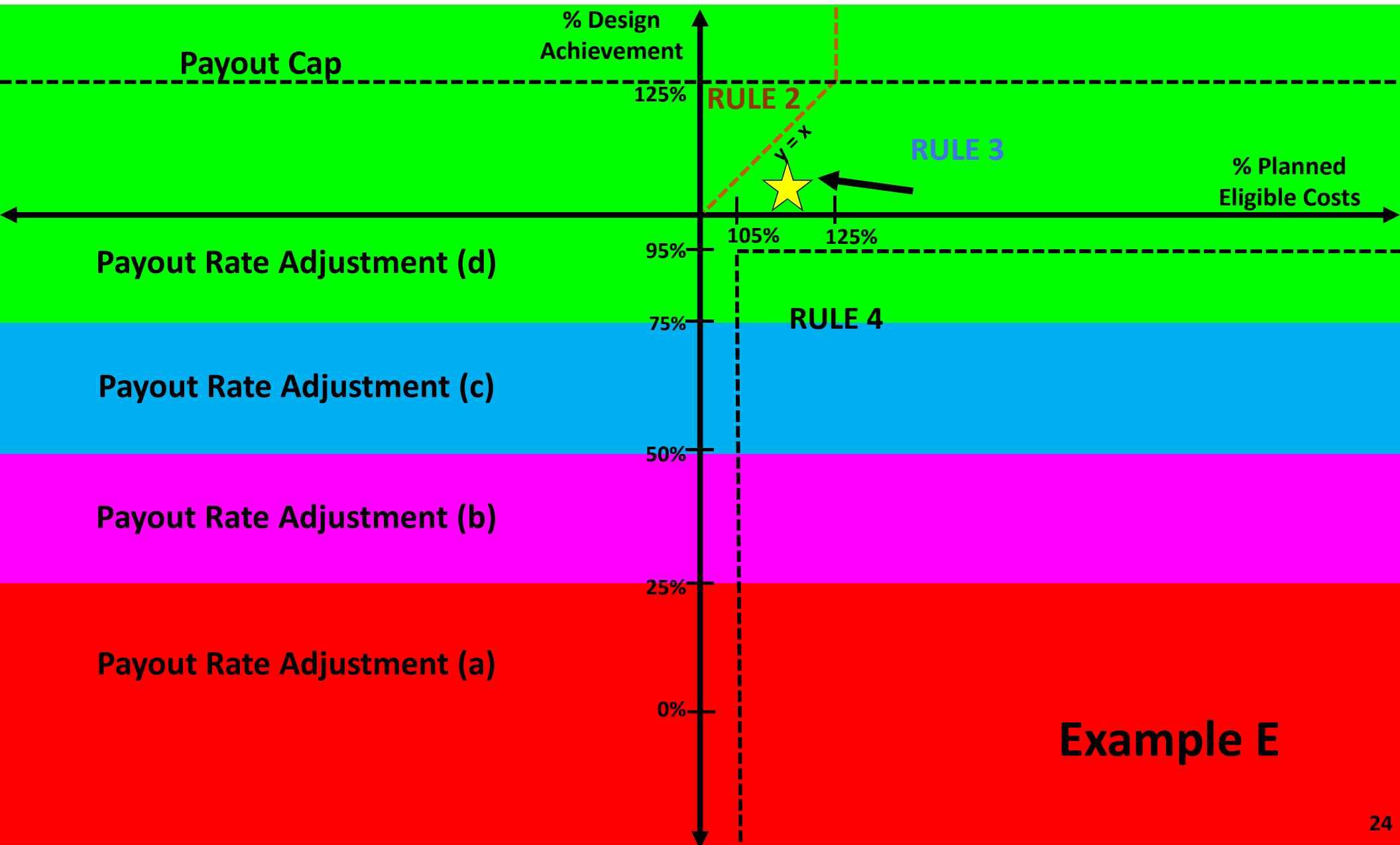
$$= \$6,124,761$$

**Step 5. \$6,124,761 is below the Payout Cap of \$6,875,000, thus the Performance Incentive for this sector is \$6,124,761**

# Example E

## **Rule 3**

**(Overspend Exceeds Overachievement)**





### Example E – Rule 3 (Overspend Exceeds Overachievement)

Sector Performance Incentive for Electric C&I with net benefits = \$95,000,000 and spending = \$60,000,000

Step 1. Achievement =  $\$95,000,000 / \$89,419,367 = 106.241\%$

Step 2. Threshold band “d” applies because  $75\% \leq \text{Achievement}$ , thus the Payout Rate Adjustment = 1

Step 3. Spending > Planned Eligible Cost and  $\frac{\$60,000,000}{\$54,119,633} > \frac{\$95,000,000}{\$89,419,367}$ , thus Payout Rate Adjustment Boundary Rule 3 applies (overspending exceeded overachievement)

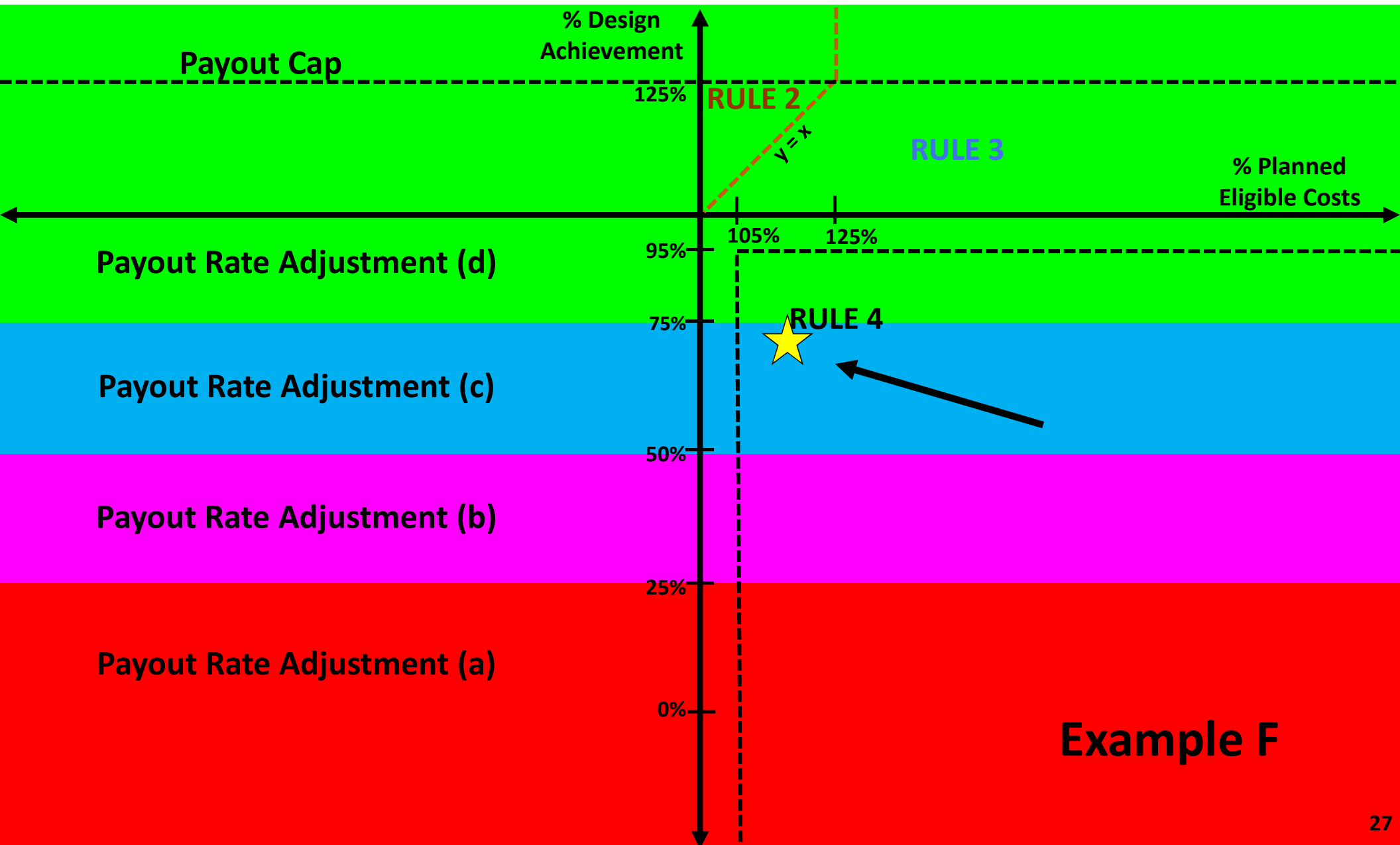
Step 4. Potential Performance Payout = Design Performance Payout  
= \$5,500,000

Step 5. \$5,500,000 is below the Payout Cap of \$6,875,000, thus the Performance Incentive for this sector is \$5,500,000

# Example F

## **Rule 4**

**(Overspending and Underachievement)**



### Example F – Rule 4 (Overspending and Underachievement)

Sector Performance Incentive for Electric C&I with net benefits = \$65,000,000 and spending = \$60,000,000

Step 1. Achievement =  $\$65,000,000 / \$89,419,367 = 72.6912\%$

Step 2. Threshold band “c” applies because  $50\% \leq \text{Achievement} < 75\%$ , thus the Payout Rate Adjustment =  $0.726912 + 0.25 = 0.976912$

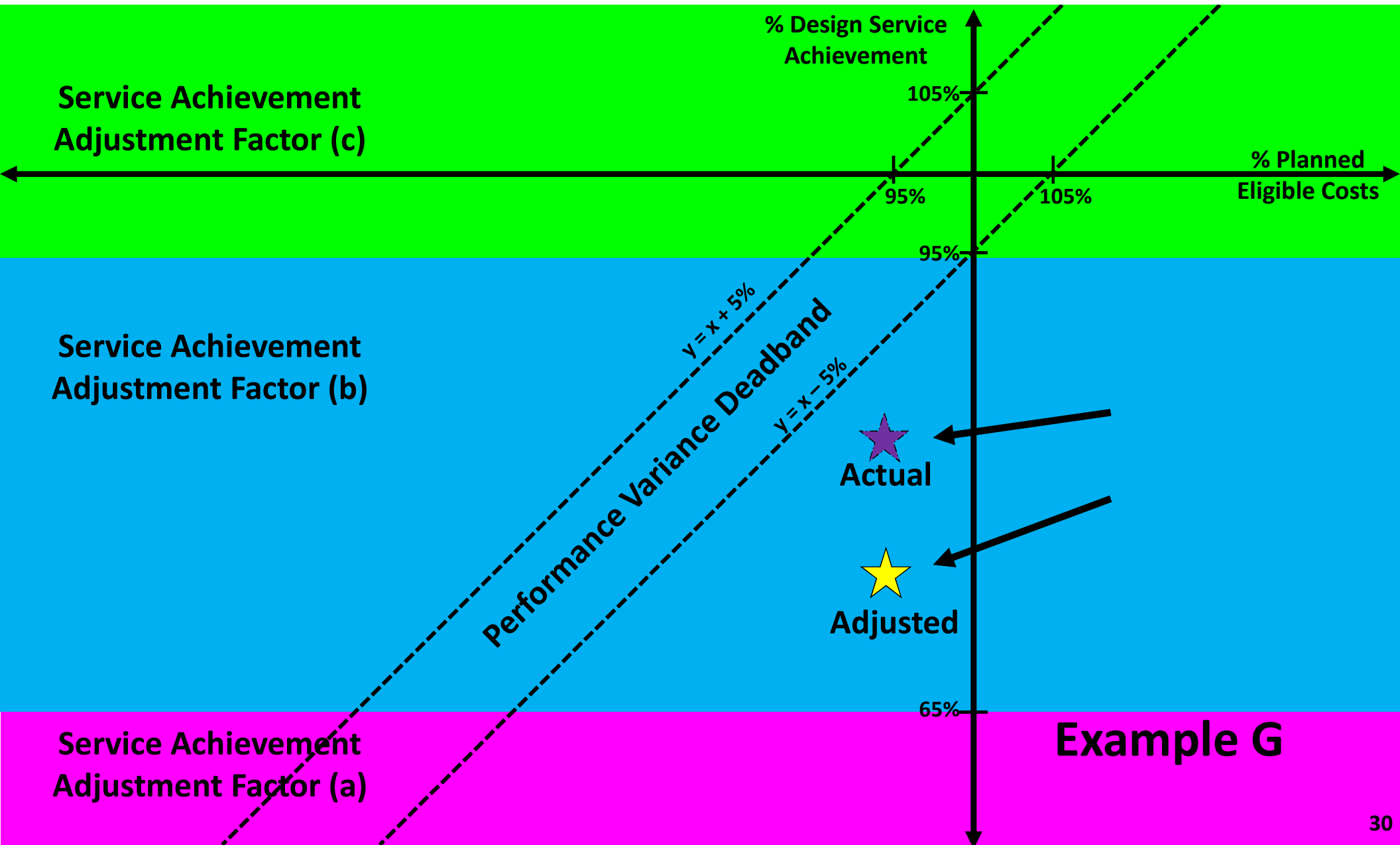
Step 3. Spending exceeds Planned Eligible Cost by more than 5% (10.8655%) and Achievement is more than 5% below the Design Performance Achievement, thus Payout Rate Adjustment Boundary Rule 4 applies (overspending and underachievement)

Step 4. Potential Performance Payout = **Actual Net Benefits** \* **Design Payout Rate** \*  
**Payout Rate Adjustment** \* [ 1 - 4 \*  
 round down to nearest 0.01 ( $\frac{\text{Spending} - \text{Planned Eligible Cost}}{\text{Planned Eligible Cost}}$ ) ]  
 =  $\$65,000,000 * 0.06150793 * 0.976912 * [ 1 - 4 * \text{round}_{d0.01}(\frac{\$60,000,000 - \$54,119,633}{\$54,119,633}) ]$   
 =  $\$65,000,000 * 0.060089 * [1 - 4 * 0.10]$   
 =  $\$2,343,471$

Step 5. \$2,343,471 is below the Payout Cap of \$6,875,000, thus the Performance Incentive for this sector is \$2,343,471

# Example G

**Example of Service Quality Adjustment with Relatively High Spending**



### Example G – Example of Service Quality Adjustment with Relatively High Spending

Sector Service Quality Adjustment for Electric IES with net benefits = \$0, benefits = \$7,000,000 and spending = \$16,000,000

Step 1. Service Quality Adjustment applies

Step 2. No incentive was earned, go to Step 3

Step 3. Achievement = \$7,000,000/\$8,514,000 = 82.22175%

Step 4. Performance Variance =  $\frac{\text{Actual Benefits}}{\text{Design Achievement}} - \frac{\text{Spending}}{\text{Planned Eligible Cost}}$   
 $= \frac{\$7,000,000}{\$8,514,000} - \frac{\$16,000,000}{\$16,887,433}$   
 $= -0.125274$

Step 5. Performance Variance is larger than 5%, thus

Adjusted Achievement = Achievement \* ( 1 + Performance Variance)

Adjusted Achievement = 82.22175% \* ( 1 + -0.125274) = 82.22175% \* (0.874726)

Adjusted Achievement = 71.92150%

Step 6. Threshold band “b” applies because 65% ≤ Adjusted Achievement < 95%, thus the Service Achievement Scaling Factor = (95 – 71.92150)/30 = 0.7692833

Step 7. Sector Service Quality Adjustment = Maximum Service Adjustment \* Service Achievement Scaling Factor

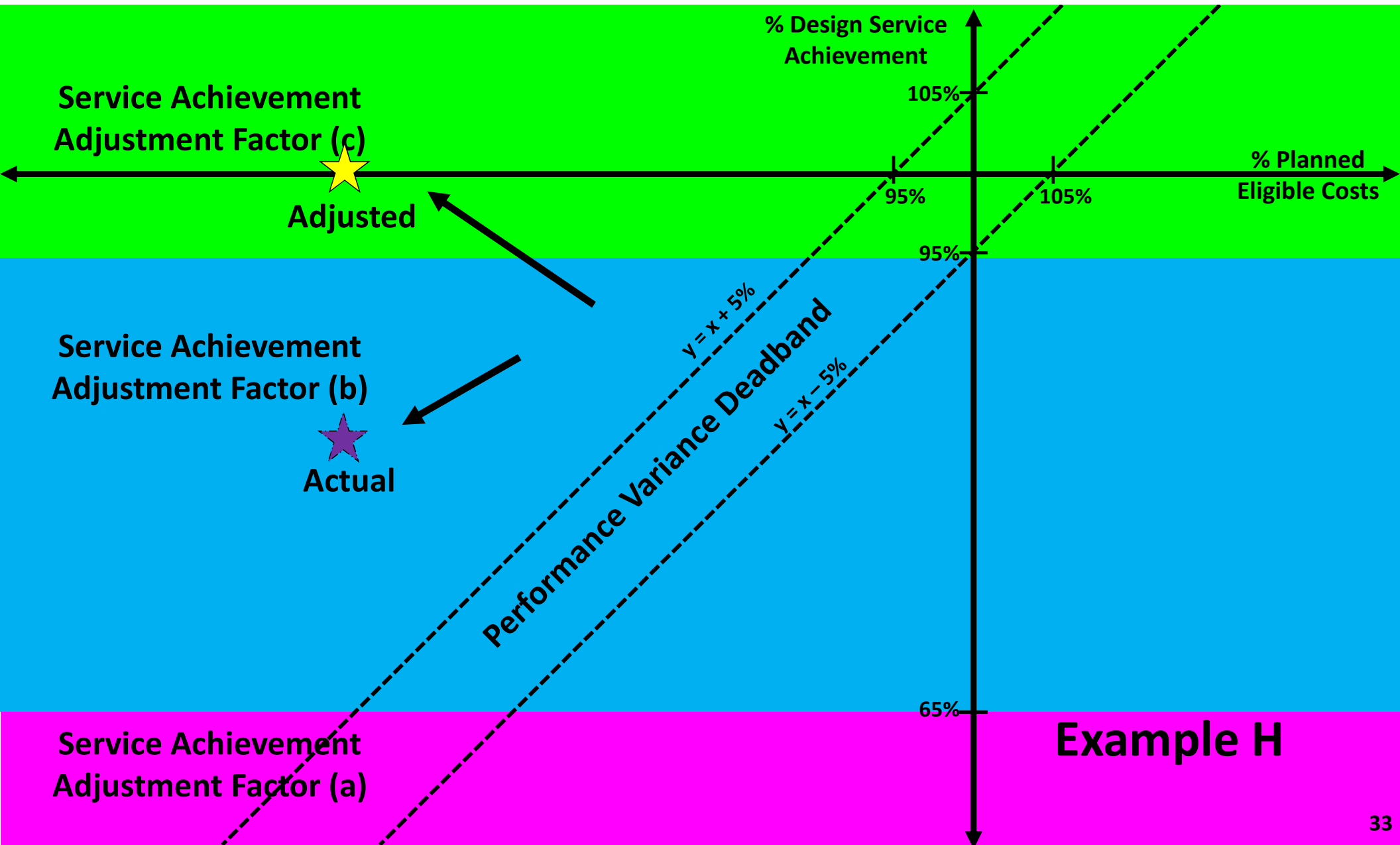
Sector Service Quality Adjustment = \$715,000 \* .7692833

Sector Service Quality Adjustment = \$550,038

# Example H

**Example of Service Quality Adjustment with Relatively Low Spending**





Service Achievement Adjustment Factor (c)

Adjusted

Service Achievement Adjustment Factor (b)

Actual

Service Achievement Adjustment Factor (a)

% Design Service Achievement

105%

95%

95%

65%

% Planned Eligible Costs

Example H

### Example H – Example of Service Quality Adjustment with Relatively Low Spending

Sector Service Quality Adjustment for Electric IES with net benefits = \$0, benefits = \$7,000,000 and spending = \$10,000,000

Step 1. Service Quality Adjustment applies

Step 2. No incentive was earned, go to Step 3

Step 3. Achievement =  $\$7,000,000 / \$8,514,000 = 82.22175\%$

Step 4. Performance Variance =  $\frac{\text{Actual Benefits}}{\text{Design Achievement}} - \frac{\text{Spending}}{\text{Planned Eligible Cost}}$   
 $= \frac{\$7,000,000}{\$8,514,000} - \frac{\$10,000,000}{\$16,887,433}$   
 $= 0.230019$

Step 5. Performance Variance is larger than 5%, thus

Adjusted Achievement = Achievement \* ( 1 + Performance Variance)

Adjusted Achievement =  $82.22175\% * (1.230019) = 101.129\%$

Step 6. Threshold band “c” applies because  $95\% \leq \text{Adjusted Achievement}$ , thus the Service Achievement Scaling Factor = 0

Step 7. Sector Service Quality Adjustment = Maximum Service Adjustment \* Service Achievement Scaling Factor

Sector Service Quality Adjustment =  $\$715,000 * 0$

Sector Service Quality Adjustment = \$0