FTR and Congestion Discussion

FTR/ARR Senior Task Force

August 4, 2014

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Monitoring Analytics

Congestion Discussion

- **Congestion is congestion related load charges net of congestion related generation charges.**
- $\sum_{i=1}^{n} L_i * CLMP_i - \sum_{j=1}^{m} G_j * CLMP_j = Congestion$

Congestion Discussion

- **Day Ahead Congestion is congestion related load charges net of congestion related generation charges in the day ahead market.**
- $\sum_{i=1}^{n} \boldsymbol{DAL}_i * \boldsymbol{DACLMP}_i - \sum_{j=1}^{m} \boldsymbol{DAG}_j * \boldsymbol{DACLMP}_j = \boldsymbol{DA}\ Congestion$

Congestion Discussion

- **Balancing congestion is the sum of congestion related deviation charges (changes in MW positions times real time CLMP).**

$$\sum_{i=1}^{n}(RTL_i - DAL_i) * RTCLMP_i - \sum_{j=1}^{m}(RTG_j - DAG_j) * RTCLMP_j$$

Congestion Discussion

- **Total congestion is total congestion related charges minus total congestion related credits.**

- **Total Congestion = Total Day Ahead Congestion + Total Balancing Congestion.**
- **Note: Balancing Congestion only affects total congestion if day ahead transmission model is different than the real time transmission model.**

DA Ahead Congestion

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
D	$100	50	100	$5,000	$10,000	$5,000
Total		150	150	$10,000	$12,500	$2,500

- **Gen at A (100 MW) and D (50 MW), Load at A (50 MW) and D (100 MW).**
- **50 MW of transfer capability modeled between A and D.**
- **DA CLMP at Bus A is $50 and DA CLMP at Bus D is $100.**
- **$50 x 50 MW of transfer = Over collection= $2,500**
- **Total Day Ahead Congestion is Total Load Charges – Generation Credits = $2,500**

DA Congestion

- **What if transfer capability was reduced between A and D, but load stayed the same?**

DA Ahead Congestion

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	90	50	$4,500	$2,500	($2,000)
D	$100	60	100	$6,000	$10,000	$4,000
Total		150	150	$10,500	$12,500	$2,000

- **Gen at A (90 MW) and D (60 MW), Load at A (50 MW) and D (100 MW).**
- **40 MW of transfer capability modeled between A and D.**
- **DA CLMP at Bus A is $50 and DA CLMP at Bus D is $100.**
- **$50 x 40 MW = Overcollection = $2,000**
- **Total Day Ahead Congestion is Total Load Charges – Generation Credits = $2,000**

DA Congestion

- **What if transfer capability was reduced between A and D, load stayed the same but CLMP changed (because the generation levels changed)?**

DA Ahead Congestion

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$25	90	50	$2,250	$1,250	($1,000)
D	$125	60	100	$7,500	$12,500	$5,000
Total		150	150	$9,750	$13,750	$4,000

- **Gen at A (90 MW) and D (60 MW), Load at A (50 MW) and D (100 MW).**
- **40 MW of transfer capability modeled between A and D.**
- **DA CLMP at Bus A is $25 and DA CLMP at Bus D is $125.**
- **$100 x 40 MW = Overcollection = $4,000**
- **Total Day Ahead Congestion is Total Load Charges – Generation Credits = $4,000**

Real Time versus Balancing Congestion

- **Original state (50 MW transfer capability), with DA = RT positions and CLMP**

No Deviations

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
D	$100	50	100	$5,000	$10,000	$5,000
Total		150	150	$10,000	$12,500	$2,500
Bus	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
D	$100	50	100	$5,000	$10,000	$5,000
Total		150	150	$10,000	$12,500	$2,500
Bus	RT CLMP	Gen DEV	Load Dev	Gen Credit	Load Charges	Bal. Congestion
A	$50	0	0	$0	$0	$0
D	$100	0	0	$0	$0	$0
Total Deviation		0	0	$0	$0	$0
Total DA + Balancing						$2,500

Real Time versus Balancing Congestion

- **DA has 50 MW transfer, RT 40 MW Transfer, CLMP the same (flat gen offers)**

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
D	$100	50	100	$5,000	$10,000	$5,000
Total		150	150	$10,000	$12,500	$2,500
Bus	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	90	50	$4,500	$2,500	($2,000)
D	$100	60	100	$6,000	$10,000	$4,000
Total		150	150	$10,500	$12,500	$2,000
Bus	RT CLMP	Gen DEV	Load Dev	Gen Credit	Load Charges	Bal. Congestion
A	$50	-10	0	($500)	$0	$500
D	$100	10	0	$1,000	$0	($1,000)
Total Deviation		0	0	$500	$0	($500)
Total DA + Balancing						$2,000

Generation Deviations

Less Gen Credit

More Gen Credit

Total generation credits go up by $500

No change in load charges

Over collection falls by $500, to $2000

-$500 balancing congestion

Real Time versus Balancing Congestion

- **DA has 50 MW transfer, RT 40 MW Transfer, CLMP change (gen curves)**

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
D	$100	50	100	$5,000	$10,000	$5,000
Total		150	150	$10,000	$12,500	$2,500
Bus	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$25	90	50	$2,250	$1,250	($1,000)
D	$125	60	100	$7,500	$12,500	$5,000
Total		150	150	$9,750	$13,750	$4,000
Bus	RT CLMP	Gen DEV	Load Dev	Gen Credit	Load Charges	Bal. Congestion
A	$25	-10	0	($250)	$0	$250
D	$125	10	0	$1,250	$0	($1,250)
Total Deviation		0	0	$1,000	$0	($1,000)
Total DA + Balancing						$1,500

Generation Deviations

Less Gen Credit

More Gen Credit

Total generation credits go up by $1,000

No change in load charges

Over collection falls by $1,000, to $1,500

-$1000 balancing congestion

Real Time versus Balancing Congestion

- **DA has 50 MW transfer, RT 40 MW Transfer, CLMP change (gen curves), load changes**

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
D	$100	50	100	$5,000	$10,000	$5,000
Total		150	150	$10,000	$12,500	$2,500
Bus	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$25	90	50	$2,250	$1,250	($1,000)
D	$125	70	110	$8,750	$13,750	$5,000
Total		160	160	$11,000	$15,000	$4,000
Bus	RT CLMP	Gen DEV	Load Dev	Gen Credit	Load Charges	Bal. Congestion
A	$25	-10	0	($250)	$0	$250
D	$125	20	10	$2,500	$1,250	($1,250)
Total Deviation		10	10	$2,250	$1,250	($1,000)
Total DA + Balancing						$1,500

Generation Deviations

Less Gen Credit

More Gen Credit

Total generation credits go up by $2,250

Change in load charges

Over collection falls by $1,000, to $1,500

-$1000 balancing congestion

Real Time versus Balancing Congestion

- **Everything changes, but transfer capability is the same DA and RT (50 MW, same model!)**

Bus	DA CLMP	DA MW GEN 1	DA MW GEN 2	DA MW Load	Gen 1 Credit	Gen 2 Credit	Load Charges	Total Congestion
A	$50	100	0	50	$5,000	$0	$2,500	($2,500)
D	$100	50	0	100	$5,000	$0	$10,000	$5,000
Total		150	0	150	$10,000	$0	$12,500	$2,500
Bus	RT CLMP	RT MW GEN 1	RT MW GEN 2	RT MW Load	Gen 1 Credit	Gen 2 Credit	Load Charges	Total Congestion
A	$55	50	55	55	$2,750	$3,025	$3,025	($2,750)
D	$125	50	10	110	$6,250	$1,250	$13,750	$6,250
Total		100	65	165	$9,000	$4,275	$16,775	$3,500
Bus	RT CLMP	GEN 1 DEV	GEN 2 DEV	Load Dev	Gen 1 Credit	Gen 2 Credit	Load Charges	Bal. Congestion
A	$55	-50	55	5	($2,750)	$3,025	$275	$0
D	$125	0	10	10	$0	$1,250	$1,250	$0
Total Deviation		-50	65	15	($2,750)	$4,275	$1,525	$0
Total DA + Balancing								$2,500

No modeling differences, no balancing.

ARR/FTR Product

- **Allocation of congestion rents collected:**
  - **Provides credit (congestion offset) for transmission access to less expensive generation.**
  - **Evolved from physical rights to transmission.**
  - **Should not provide more revenue than congestion collected.**
    - **Would be over payment to FTR holder**
  - **Target allocation a distribution metric for under and over allocation, not a guarantee of payout.**

Real Time versus Balancing Congestion

- **DA has 50 MW transfer, RT 40 MW Transfer, CLMP the same (flat gen offers)**

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
D	$100	50	100	$5,000	$10,000	$5,000
Total		150	150	$10,000	$12,500	$2,500
Bus	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	90	50	$4,500	$2,500	($2,000)
D	$100	60	100	$6,000	$10,000	$4,000
Total		150	150	$10,500	$12,500	$2,000
Bus	RT CLMP	Gen DEV	Load Dev	Gen Credit	Load Charges	Bal. Congestion
A	$50	-10	0	($500)	$0	$500
D	$100	10	0	$1,000	$0	($1,000)
Total Deviation		0	0	$500	$0	($500)
Total DA + Balancing						$2,000

Total generation credits go up by $500

-$500 balancing congestion

Over collection falls by $500, to $2000

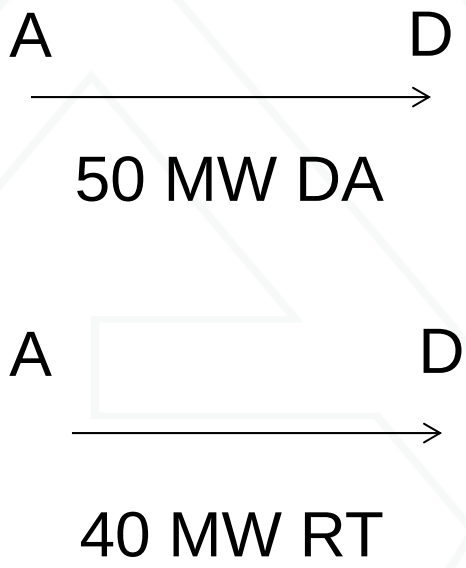
Real Time versus Balancing Congestion

- **DA has 50 MW transfer, RT 40 MW Transfer, CLMP the same (flat gen offers)**

		FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
DA	A to D	50	50	$50	$2,500	$2,500
	Total				$2,500	$2,500

		FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
RT	A to D	50	40	$50	$2,500	$2,000
	Total				$2,500	$2,000

		FTR MW	Deviation	CLMP Difference	Target Allocations	Balancing Congestion
Balancing	A to D	50	(10)	$50	$2,500	($500)
	Total				$2,500	($500)
DA + Balancing	A to D					$2,000



FTR		Target Allocation	Day Ahead Congestion	Balancing Congestion	Total Congestion	Funding
A to D	$	2,500.00	$ 2,500.00	$ (500.00)	$ 2,000.00	$ (500.00)

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ARR/FTR Product

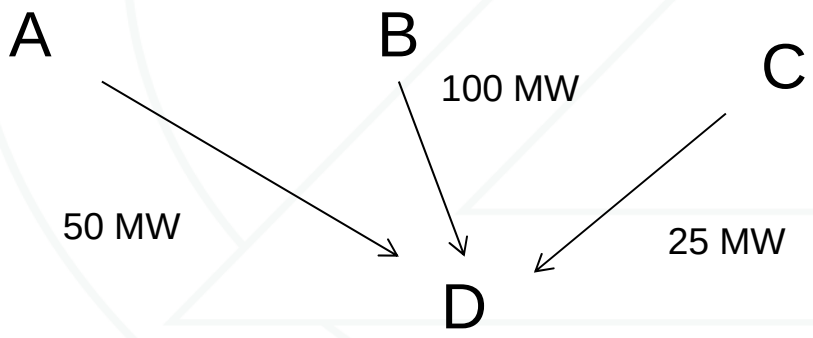
- **FTRs target allocation is $2,500 but actual congestion is $2,000.**
- **Indicates load was charged $2,000 in congestion based on day ahead and real time (balancing) system conditions.**
- **$2,000 is allocated to FTR holders.**
- **If load has to pay total of $2,500 to FTR holders, load is forced to pay $500 ($2,500 - $2,000) more in congestion that was actually incurred.**
- **Double charge for congestion incurred**

ARR/FTR Product

- **FTR pay out of $2,000 offsets congestion completely.**
- **If FTR pay out is $2,500, but actual congestion is $2,000, FTR holders would be subsidized.**
- **Depending on allocation of the FTRs and the uplift charges, winners and losers, wealth transfers.**

Congestion/FTR Example: FTR MW = DA Model MW

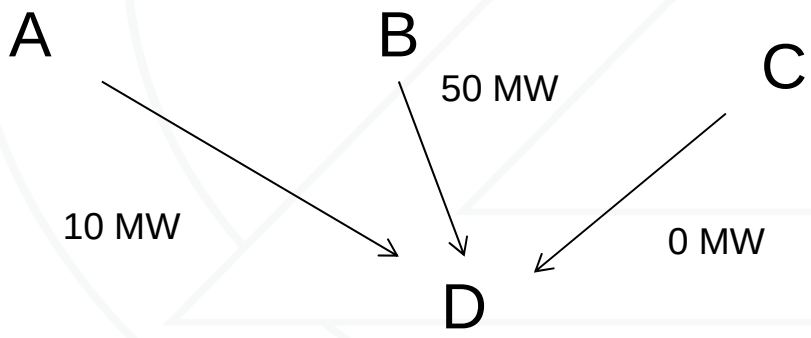
Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
B	$55	100	0	$5,500	$0	($5,500)
C	$75	100	75	$7,500	$5,625	($1,875)
D	$100	50	225	$5,000	$22,500	$17,500
Total		350	350	$23,000	$30,625	$7,625



	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	50	50	$50	$2,500	$2,500
B to D	100	100	$45	$4,500	$4,500
C to D	25	25	$25	$625	$625
Total				$7,625	$7,625

Congestion/FTR Example: FTR MW > DA Model MW

	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	60	50	$3,000	$2,500	($500)
B	$55	50	0	$2,750	$0	($2,750)
C	$75	75	75	$5,625	$5,625	$0
D	$100	165	225	$16,500	$22,500	$6,000
		350	350	$27,875	$30,625	$2,750



	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	50	10	$50	$2,500	$500
B to D	100	50	$45	$4,500	$2,250
C to D	25	-	$25	$625	$0
Total				$7,625	$2,750

Congestion/FTR Example: DA vs RT Model Issue

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
B	$55	100	0	$5,500	$0	($5,500)
C	$75	100	75	$7,500	$5,625	($1,875)
D	$100	50	225	$5,000	$22,500	$17,500
Total		350	350	$23,000	$30,625	$7,625
	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	60	50	$3,000	$2,500	($500)
B	$55	50	0	$2,750	$0	($2,750)
C	$75	75	75	$5,625	$5,625	$0
D	$100	165	225	$16,500	$22,500	$6,000
Total		350	350	$27,875	$30,625	$2,750
	RT CLMP	Gen DEV	Load Dev	Gen Credit	Load Charges	Bal. Congestion
A	$50	-40	0	($2,000)	$0	$2,000
B	$55	-50	0	($2,750)	$0	$2,750
C	$75	-25	0	($1,875)	$0	$1,875
D	$100	115	0	$11,500	$0	($11,500)
Deviation		0		$4,875	$0	($4,875)
Total DA + Balancing						$2,750

Congestion/FTR Example

	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	50	50	$50	$2,500	$2,500
B to D	100	100	$45	$4,500	$4,500
C to D	25	25	$25	$625	$625
Total				$7,625	$7,625

	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	50	10	$50	$2,500	$500
B to D	100	50	$45	$4,500	$2,250
C to D	25	-	$25	$625	$0
Total				$7,625	$2,750

	FTR MW	Deviation	CLMP Difference	Target Allocations	Balancing Congestion
A to D	50	(40)	$50	$2,500	($2,000)
B to D	100	(50)	$45	$4,500	($2,250)
C to D	25	(25)	$25	$625	($625)
Total				$7,625	($4,875)

Target Allocation	Day Ahead Congestion	Balancing Congestion	Total Congestion	Funding
$ 7,625.00	$ 7,625.00	(4,875)	$2,750	($4,875)

ARR/FTR Product

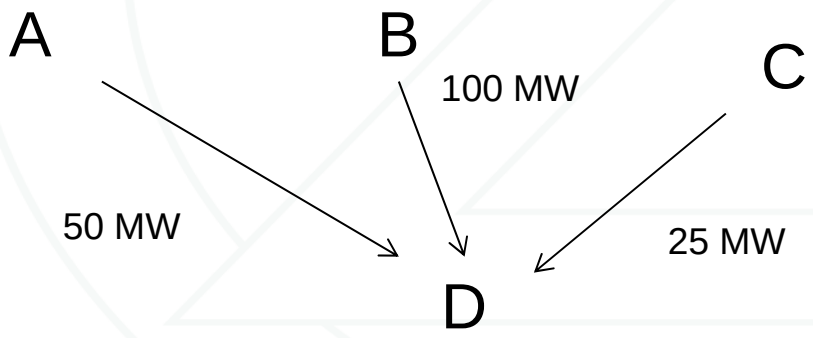
- **FTRs target allocation is $7,625 but actual congestion is $2,750.**
- **Indicates load was charged $2,750 in congestion based on day ahead and real time (balancing) system conditions.**
- **$2,750 is allocated to FTR holders.**
- **If load has to pay total of $7,625 to FTR holders, load is forced to pay $4,875 ($7,625 - $2,750) more in congestion that was actually incurred.**
- **Double charge for congestion incurred**

ARR/FTR Product

- **FTR pay out of $2,750 offsets congestion completely.**
- **If FTR pay out is $7,625, but actual congestion is $2,750, FTR holders would be subsidized.**
- **Depending on allocation of the FTRs and the uplift charges, winners and losers, wealth transfers.**

Congestion/FTR Example # 2

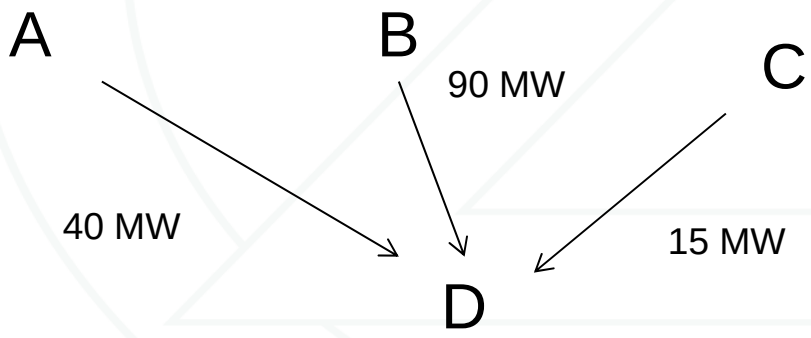
Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
B	$55	100	0	$5,500	$0	($5,500)
C	$75	100	75	$7,500	$5,625	($1,875)
D	$100	50	225	$5,000	$22,500	$17,500
Total		350	350	$23,000	$30,625	$7,625



	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	50	50	$50	$2,500	$2,500
B to D	100	100	$45	$4,500	$4,500
C to D	25	25	$25	$625	$625
Total				$7,625	$7,625

Congestion/FTR Example

	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$25	90	50	$2,250	$1,250	($1,000)
B	$35	90	0	$3,150	$0	($3,150)
C	$65	90	75	$5,850	$4,875	($975)
D	$125	80	225	$10,000	$28,125	$18,125
Total		350	350	$21,250	$34,250	$13,000



	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	50	40	$100	$2,500	$4,000
B to D	100	90	$90	$4,500	$8,100
C to D	25	15	$60	$625	$900
Total				$7,625	$13,000

Congestion/FTR Example

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$50	100	50	$5,000	$2,500	($2,500)
B	$55	100	0	$5,500	$0	($5,500)
C	$75	100	75	$7,500	$5,625	($1,875)
D	$100	50	225	$5,000	$22,500	$17,500
Total		350	350	$23,000	$30,625	$7,625
	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$25	90	50	$2,250	$1,250	($1,000)
B	$35	90	0	$3,150	$0	($3,150)
C	$65	90	75	$5,850	$4,875	($975)
D	$125	80	225	$10,000	$28,125	$18,125
Total		350	350	$21,250	$34,250	$13,000
	RT CLMP	Gen DEV	Load Dev	Gen Credit	Load Charges	Bal. Congestion
A	$25	-10	0	($250)	$0	$250
B	$35	-10	0	($350)	$0	$350
C	$65	-10	0	($650)	$0	$650
D	$125	30	0	$3,750	$0	($3,750)
Deviation		0		$2,500	$0	($2,500)
Total DA + Balancing						$5,125

Congestion/FTR Example

	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	50	50	$50	$2,500	$2,500
B to D	100	100	$45	$4,500	$4,500
C to D	25	25	$25	$625	$625
Total				$7,625	$7,625

	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	50	40	$100	$2,500	$4,000
B to D	100	90	$90	$4,500	$8,100
C to D	25	15	$60	$625	$900
Total				$7,625	$13,000

	FTR MW	Deviation	CLMP Difference	Target Allocations	Balancing Congestion
A to D	50	(10)	$100	$2,500	($1,000)
B to D	100	(10)	$90	$4,500	($900)
C to D	25	(10)	$60	$625	($600)
Total				$7,625	($2,500)

Target Allocation	Day Ahead Congestion	Balancing Congestion	Total Congestion	Funding
$ 7,625.00	$ 7,625.00	$ (2,500.00)	$ 5,125.00	$ (2,500.00)

ARR/FTR Product

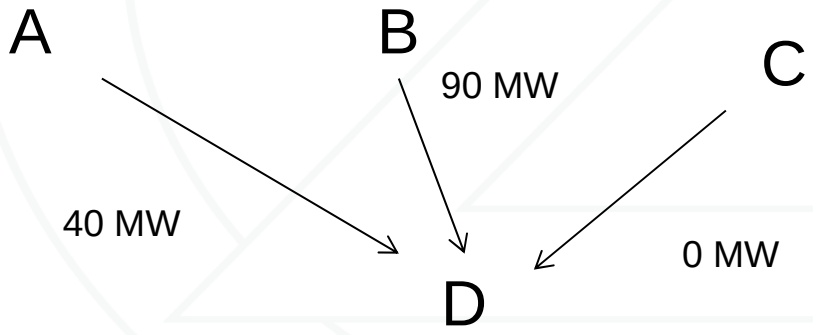
- **FTRs target allocation is $7,625 but actual congestion is $5,125.**
- **Indicates load was charged $5,125 in congestion based on day ahead and real time (balancing) system conditions.**
- **$5,125 is allocated to FTR holders.**
- **If load has to pay at total of $7,625 to FTR holders, load is forced to pay $2,500 ($7,625 - $2,750) more in congestion that was actually incurred.**
- **Double charge for congestion incurred**

ARR/FTR Product

- **FTR pay out of $5,125 offsets congestion completely.**
- **If FTR pay out is $7,625, but actual congestion is $5,125, FTR holders would be subsidized.**
- **Depending on allocation of the FTRs and the uplift charges, winners and losers, wealth transfers.**

Congestion/FTR Example # 3

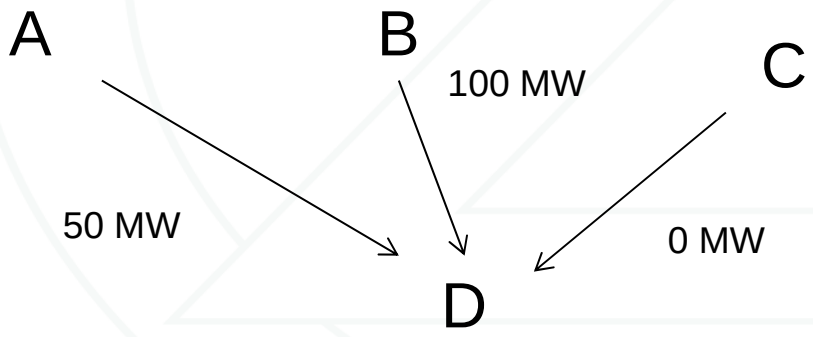
Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$25	90	50	$2,250	$1,250	($1,000)
B	$35	90	0	$3,150	$0	($3,150)
C	$75	75	75	$5,625	$5,625	$0
D	$100	70	200	$7,000	$20,000	$13,000
Total		325	325	$18,025	$26,875	$8,850



	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	40	40	$75	$3,000	$3,000
B to D	80	90	$65	$5,200	$5,850
C to D	-	-	$25	$0	$0
Total				$8,200	$8,850

Congestion/FTR Example

	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$30	100	50	$3,000	$1,500	($1,500)
B	$40	100	0	$4,000	$0	($4,000)
C	$75	100	100	$7,500	$7,500	$0
D	$90	50	200	$4,500	$18,000	$13,500
Total		350	350	$19,000	$27,000	$8,000



	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	40	50	$60	$3,000	$3,000
B to D	80	100	$50	$5,200	$5,000
C to D	-	-	$15	$0	$0
Total				$8,200	$8,000

Congestion/FTR Example

Bus	DA CLMP	DA MW GEN	DA MW Load	Gen Credit	Load Charges	Total Congestion
A	$25	90	50	$2,250	$1,250	($1,000)
B	$35	90	0	$3,150	$0	($3,150)
C	$75	75	75	$5,625	$5,625	$0
D	$100	70	200	$7,000	$20,000	$13,000
Total		325	325	$18,025	$26,875	$8,850
	RT CLMP	RT MW GEN	RT MW Load	Gen Credit	Load Charges	Total Congestion
A	$30	100	50	$3,000	$1,500	($1,500)
B	$40	100	0	$4,000	$0	($4,000)
C	$75	100	100	$7,500	$7,500	$0
D	$90	50	200	$4,500	$18,000	$13,500
Total		350	350	$19,000	$27,000	$8,000
	RT CLMP	Gen DEV	Load Dev	Gen Credit	Load Charges	Bal. Congestion
A	$30	10	0	$300	$0	($300)
B	$40	10	0	$400	$0	($400)
C	$75	25	25	$1,875	$1,875	$0
D	$90	-20	0	($1,800)	$0	$1,800
Deviation		25	25	$775	$1,875	$1,100
Total DA + Balancing						$9,950

Congestion/FTR Example

	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	40	40	$75	$3,000	$3,000
B to D	80	90	$65	$5,200	$5,850
C to D	-	-	$25	$0	$0
Total				$8,200	$8,850

	FTR MW	Flow	CLMP Difference	Target Allocations	Congestion
A to D	40	50	$60	$3,000	$3,000
B to D	80	100	$50	$5,200	$5,000
C to D	-	-	$15	$0	$0
Total				$8,200	$8,000

	FTR MW	Deviation	CLMP Difference	Target Allocations	Balancing Congestion
A to D	40	10	$60	$3,000	$600
B to D	80	10	$50	$5,200	$500
C to D	-	-	$15	$0	$0
Total				$8,200	$1,100

Target Allocation	Day Ahead Congestion	Balancing Congestion	Total Congestion	Funding
$ 8,200.00	$ 8,850.00	$ 1,100.00	$ 9,950.00	$ 1,750.00

ARR/FTR Product

- **FTRs target allocation is $8,200 but actual congestion is $9,950.**
- **Indicates load was charged $9,950 in congestion based on day ahead and real time (balancing) system conditions.**
- **$8,850 is allocated to FTR holders (initially).**
- **FTRs paid $1,750 less than congestion incurred.**
- **FTR paid surplus at end of year, load does not get surplus.**

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