# Firm Flow Entitlement

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URMSTF External Capacity Enhancement

- Firm Flow Entitlement – FFE
- Firm Flow Limit – FFL
- Market Flow – MF
- Congestion Management Process – CMP
- Market to Market – M2M
- Transmission Load Relief – TLR
- Designated Network Resource – DNR
- Transmission Service Request – TSR
- Flowgate - FG

- Electricity flows through the path of least resistance

- RTOs utilize each others networks
  - Results in unscheduled loop flows

- These unscheduled flows are measured as MF
  - Transmission Constraints (Flowgates)
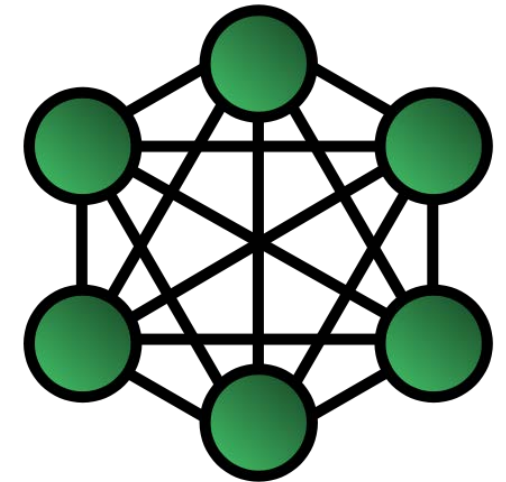
- CMP was initiated by MISO and PJM
  - Additional entities joined CMP over the years

- Intent is to coordinate and take actions to minimize MF

- In order to minimize MF, entities agreed to the following:
  - Certain levels of MF would be considered as firm flow
  - MF beyond firm flows are liabilities

- In M2M, PJM and MISO's entitled firm usage is classified as FFE

- In TLR*, Market Entities' entitled firm usage is classified as FFL

- FFE/FFL is used as financial limits in FTR, DA and RT

Process	MF	FFE / FFL	Firm MF	Non Firm MF
M2M / TLR	100	75	75	25

*TLR utilized for non-market entities

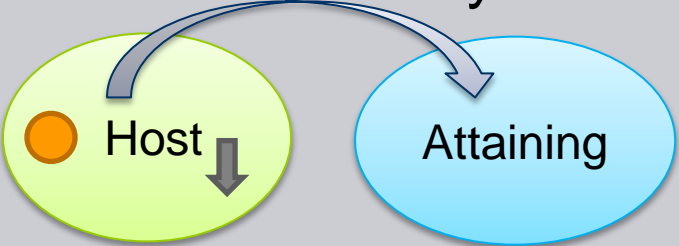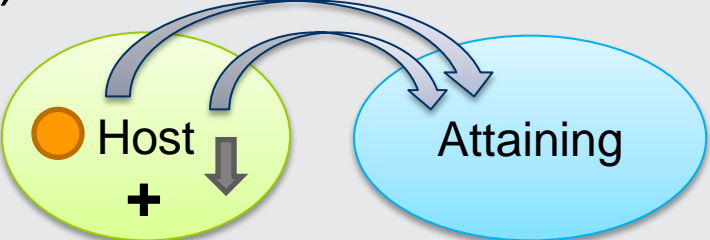# Calculated to grandfather historical flows assuming NO RTOs formed

Pre integration (Local BA)	Post Integration (Consolidated BA)
COMED MF = 50 AEP MF = 25 FFE = COMED MF + AEP MF = 75	PJM MF = 100 FFE = COMED MF + AEP MF = 75 PJM Non Firm MF = 25

- To grandfather historical flows a freeze date was established (4/1/2004)

Resource Type	Met Freeze Date?	Eligible to receive FFE/FFL?
DNRs	Yes	All
TSRs	Yes	All
Non DNRs	No	Some
Pseudo Ties	N/A	None

- Attaining BA calculates MFs for Pseudo Ties
- FFE/FFL Pseudo Tie Rules:

Pseudo Tie Scenario	Pseudo Tie FFE/FFL
1) Pseudo Tie Only Host Attaining	Host BA
2) Pseudo Tie + Load Host + Attaining	Attaining BA

Load Forecast

Resource Priority (DNRs, TSRs & Non DNRs)

Outages

FG Information (Owner, Rating)

NNL Calculator
(Native and Network Load Calculator)

Interchange Distribution Calculator Model

FG FFE/FFL

RT every 15 min

30

Owner

Reciprocal Entity
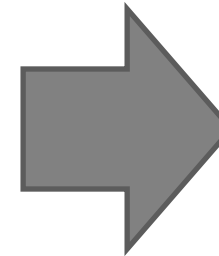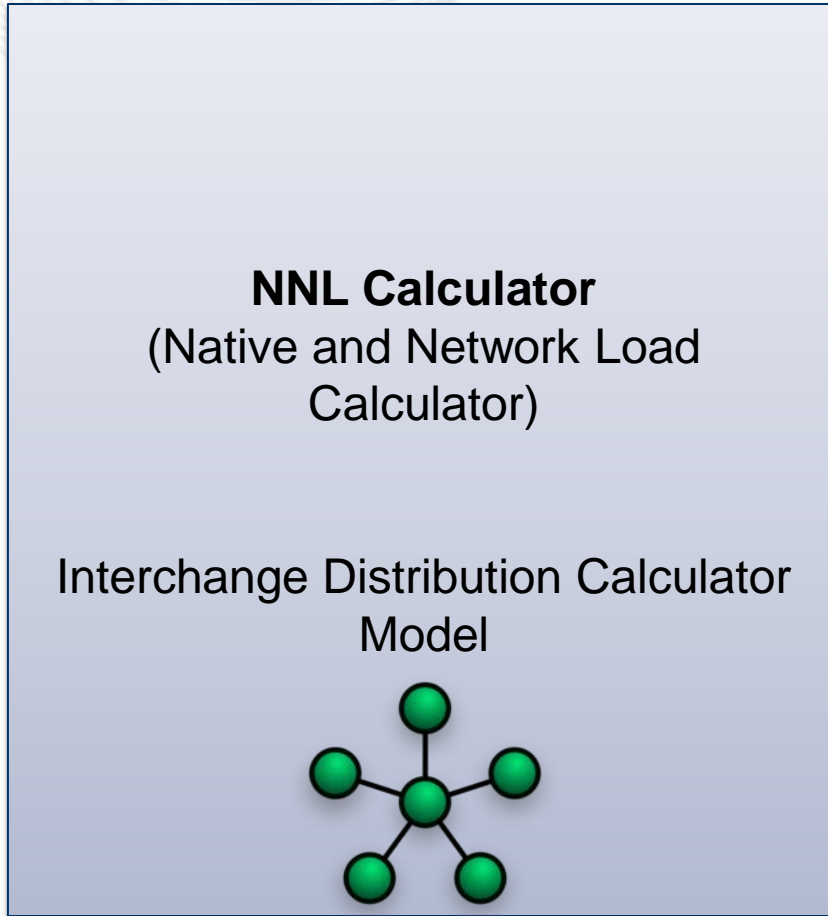
Non Reciprocal Entity (3rd party)
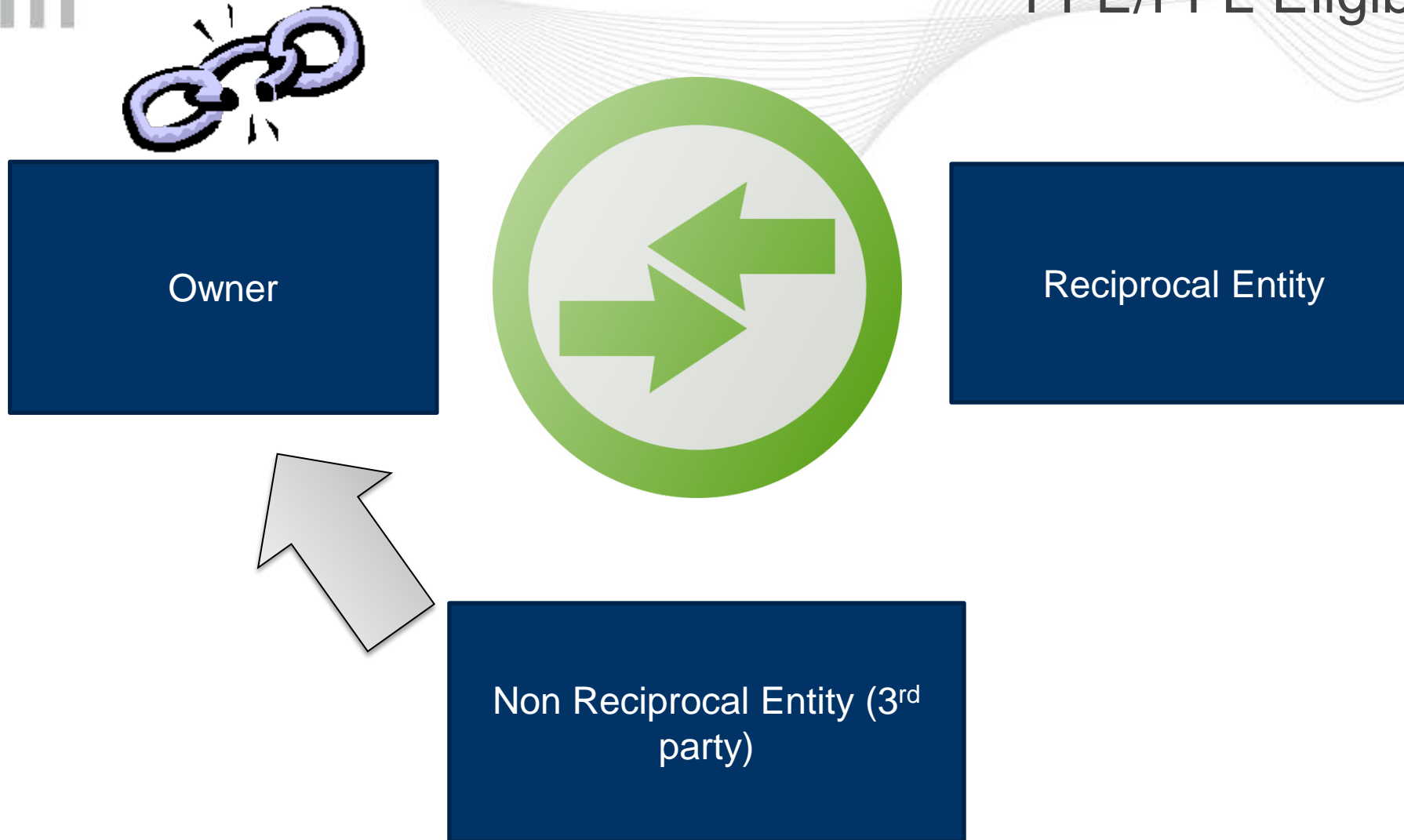
Capacity Item	Owner	Reciprocal Entity	3rd Party
>= 5% Impacts	Yes	Yes	Yes
< 5% Impacts	Eligible	Eligible	NA
Excess Capacity	Eligible	Eligible	NA

FG Capacity is 500 MW

Item	Owner	Reciprocal	3rd Party
>= 5%	100	100	100
< 5%	50	50	NA
Excess	50	50	NA
Final	200	200	100

FG Capacity is 360 MW

Item	Owner	Reciprocal	3rd Party
>= 5%	100	100	100
< 5%	50	50	NA
Excess	0	0	NA
Final	130	130	100

FG Capacity is 360 MW

Item	Owner	Reciprocal	3rd Party
>= 5%	200	0	100
< 5%	50	50	NA
Excess	0	0	NA
Final	250	10	100

FG Capacity is 360 MW

Item	Owner		Reciprocal		3rd Party	
	FFE	MF	FFE	MF	FFE	MF
>= 5%	200	100	0	100	100	100
< 5%	50	50	50	50	0	0
Final	250	150	10	150	100	100
Outcome	👍		👎 **140** $$$		👍	

FG Capacity is 360 MW

Item	Owner		Reciprocal		3rd Party	
	FFE	MF	FFE	MF	FFE	MF
>= 5%	100	100	100	100	100	100
< 5%	50	50	50	50	0	0
Final	130	150	130	150	100	100
Outcome	👍		**20** 👍 $		👍	

FG Capacity is 360 MW

Item	Owner		Reciprocal		3rd Party	
	FFE	MF	FFE	MF	FFE	MF
>= 5%	100	100	100	100	100	100
< 5%	50	50	50	50	0	0
Final	150	150	110	150	100	100
Outcome	👍		40 👍 $		👍	

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