TECHNICAL WORKING GROUP

OPERATIONAL SUBGROUP

ENERGY SECURITY BOARD

4 AUGUST 2022

AGENDA

Time	Topic
2:00	Welcome, objectives and agenda
2:05	Design choices for the CRM vs CMM • Fundamentals (10 mins) • CRM co-optimisation (25 mins incl Q&A) • Access dispatch (25 mins incl Q&A) • Access bidding incentives (25 mins incl Q&A)
3:30	Group discussion
3.45	Thanks and close

FUNDAMENTALS

ACCESS FORMULATIONS

Status Quo: PAY$ = G x RRP

CEC CRM: PAY$ = G x RRP + CR x CRP

But: "G" = A, from separate dispatch
G = A + CR is the physical dispatch

So CRM is really: PAY$ = A x RRP + (G – A) x LMP

FTR based: PAY$ = G x LMP + A x (RRP – LMP)

Physical — Production Cost, Physical Limitations, Efficient Incentives

Financial — Bidding to be *allocated* access, But not actually *paying* for it

G = physical output

CR = congestion relief

CRP = CR price

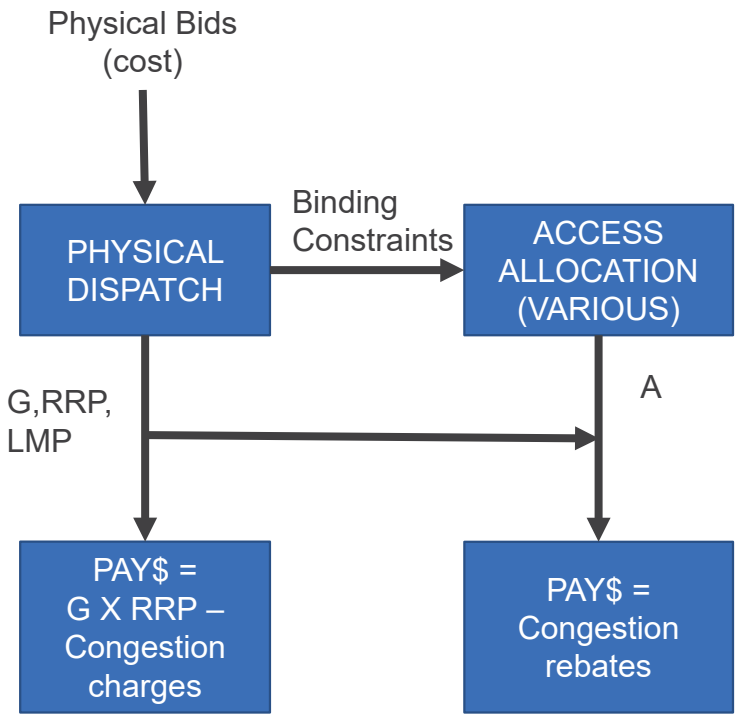
A = access or "energy"

LMP = CRP

DISPATCH AND SETTLEMENT ARCHITECTURES

CMM

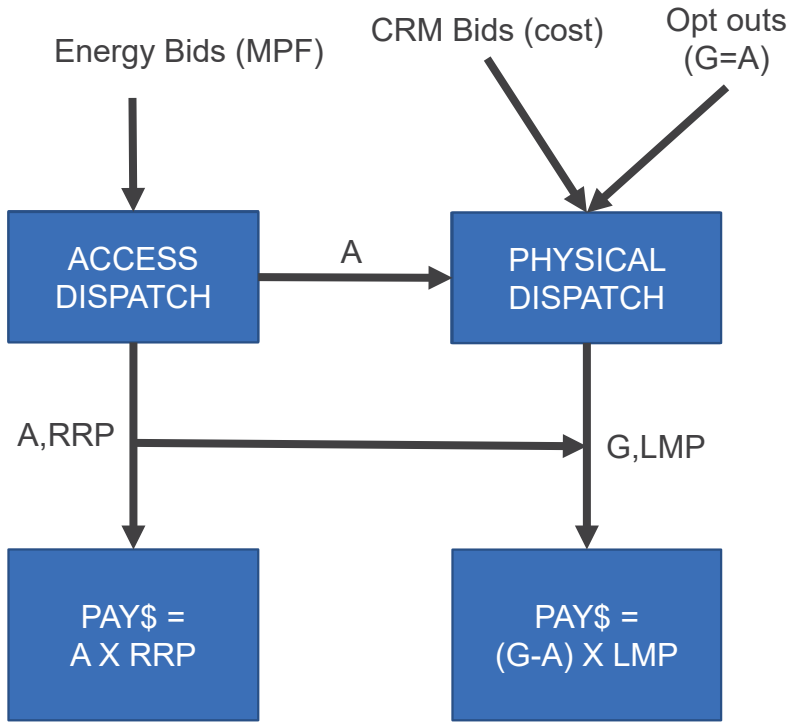
CMM$ = A x RRP + (G-A) x LMP



Access determined *after* dispatch

CRM

CRM$ = A x RRP + (G-A) x LMP



Access determined *before* dispatch

CO-OPTIMISATION

"Energy and CRM are co-optimised as a 'single pass' model"

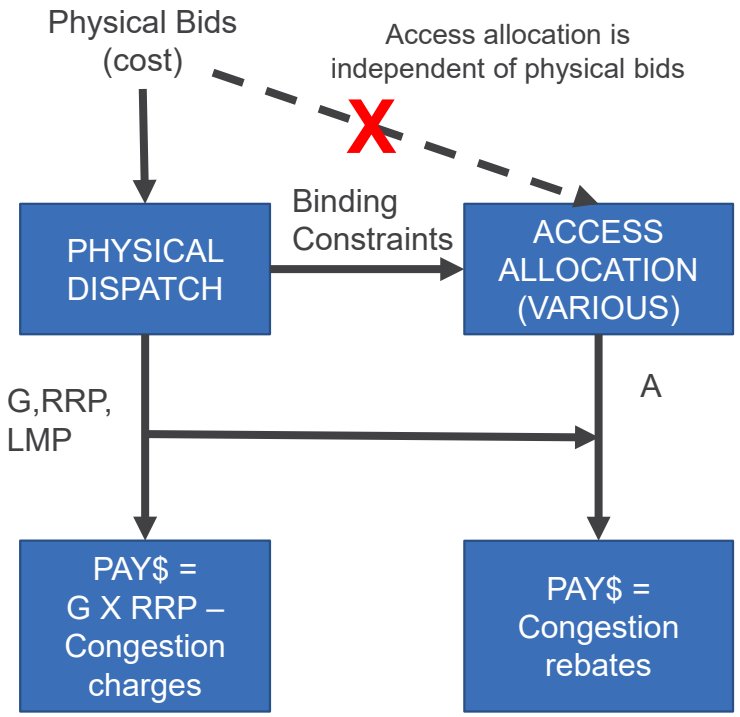
CEC Submission on CRM Design

CO-OPTIMISATION: FACE-VALUE INTERPRETATION

DISPATCH AND SETTLEMENT ARCHITECTURES

CMM

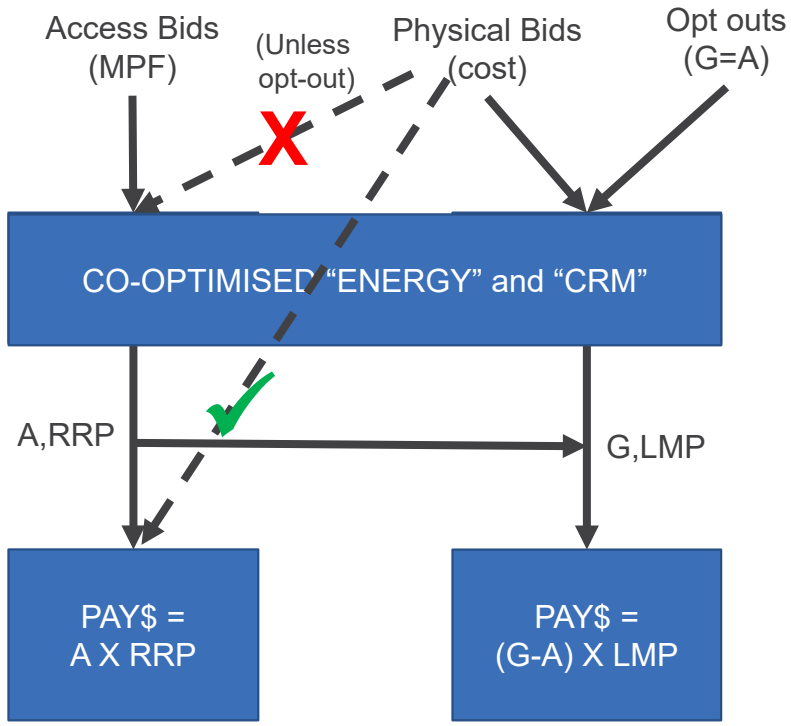
CMM$ = A x RRP + (G-A) x LMP



Access determined *after* dispatch

CRM

CRM$ = A x RRP + (G-A) x LMP

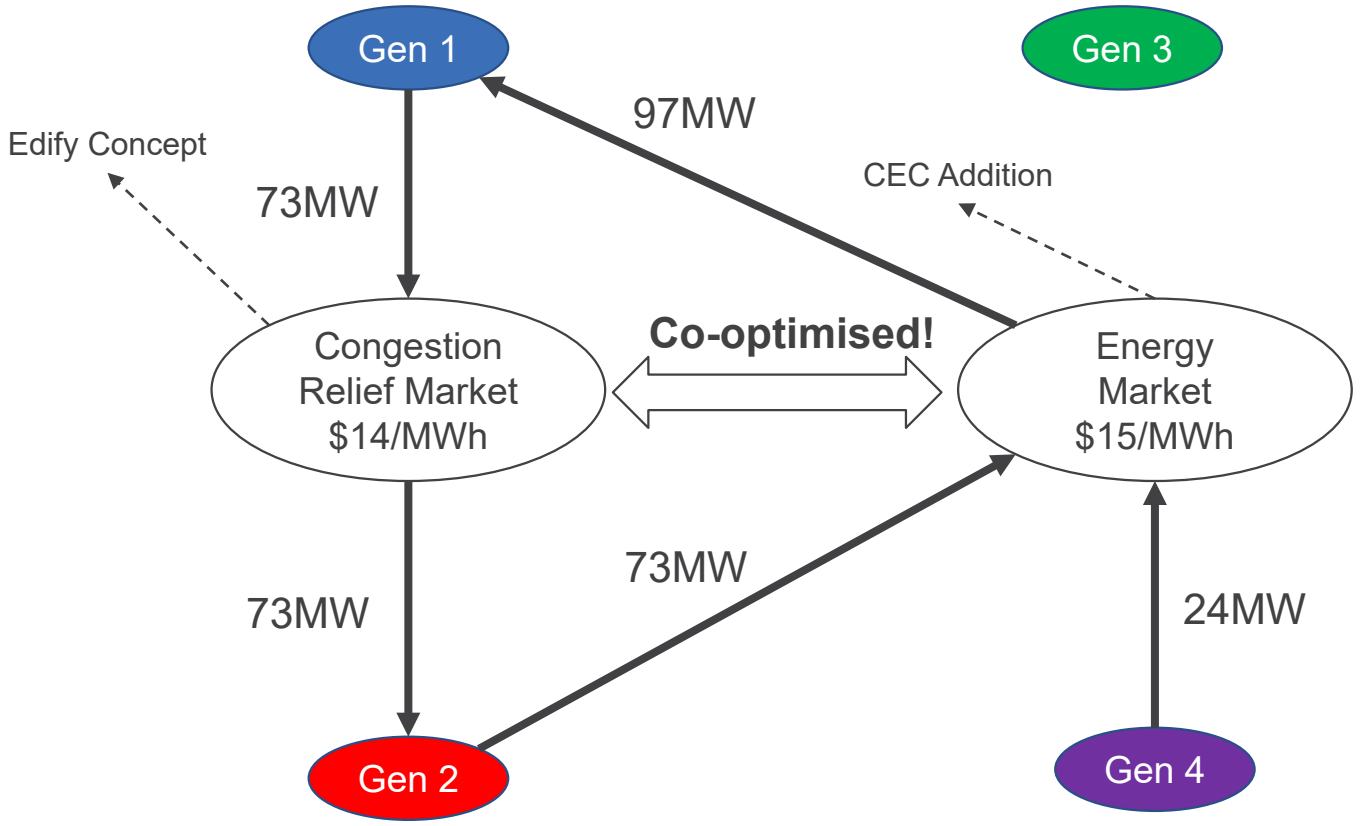


Access determined *before* dispatch

CO-OPTIMISATION: ALTERNATIVE INTERPRETATION

CONGESTION RELIEF MARKET TRADING

Generator	Access Dispatch (WTA)	Physical Dispatch (efficient)	Access Constraint Flow	Physical Constraint Flow
Gen 1	97	0	73	0
Gen 2	0	73	0	73
Gen 3	100	100	30	30
Gen 4	303	327	0	0
Total	**500**	**500**	**103**	**103**

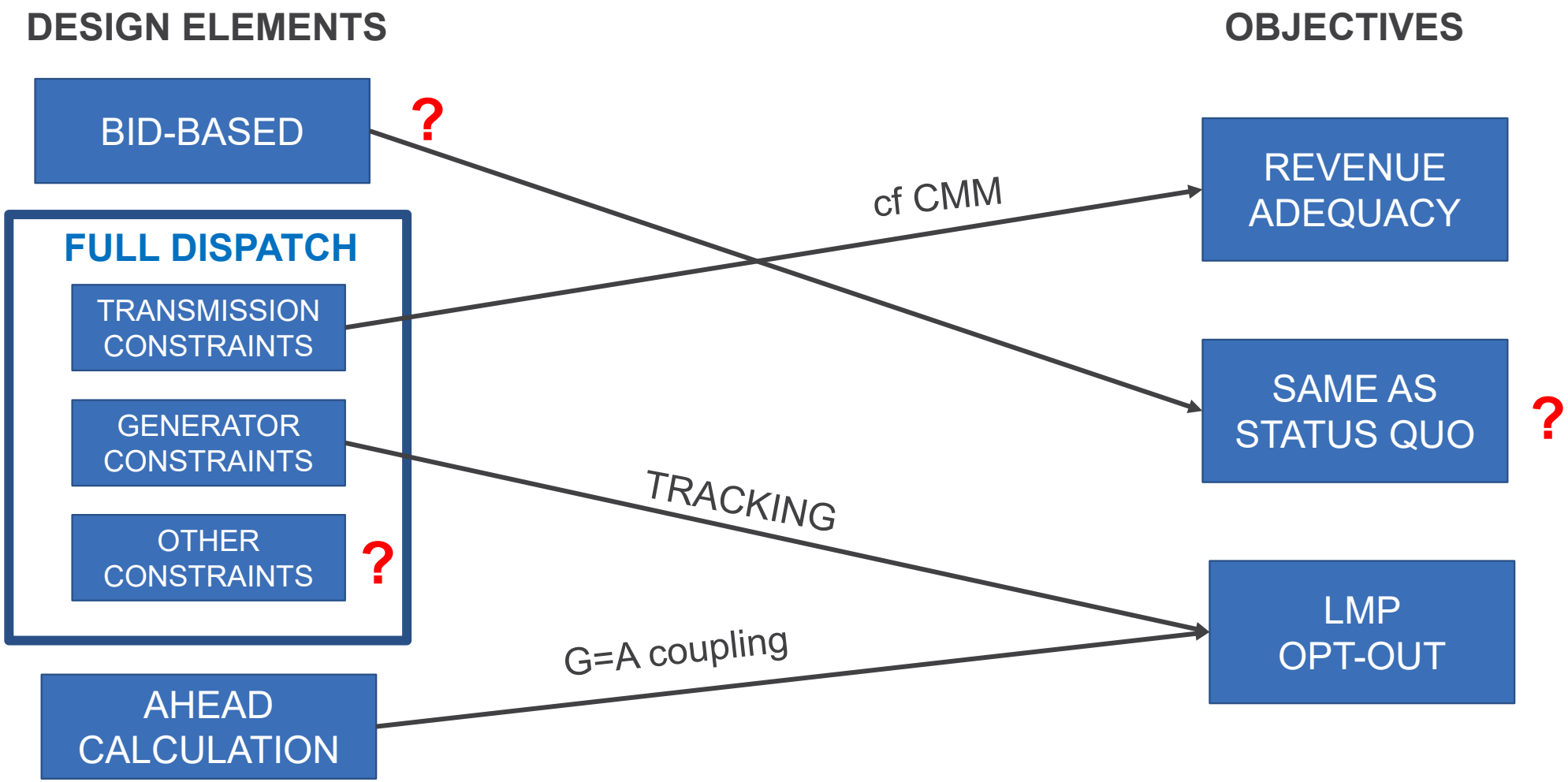


Do you agree with this interpretation? "Co-optimisation of energy and CRM" should occur within physical dispatch but *not* between access dispatch and physical dispatch

ACCESS DISPATCH

Key objectives and core design elements

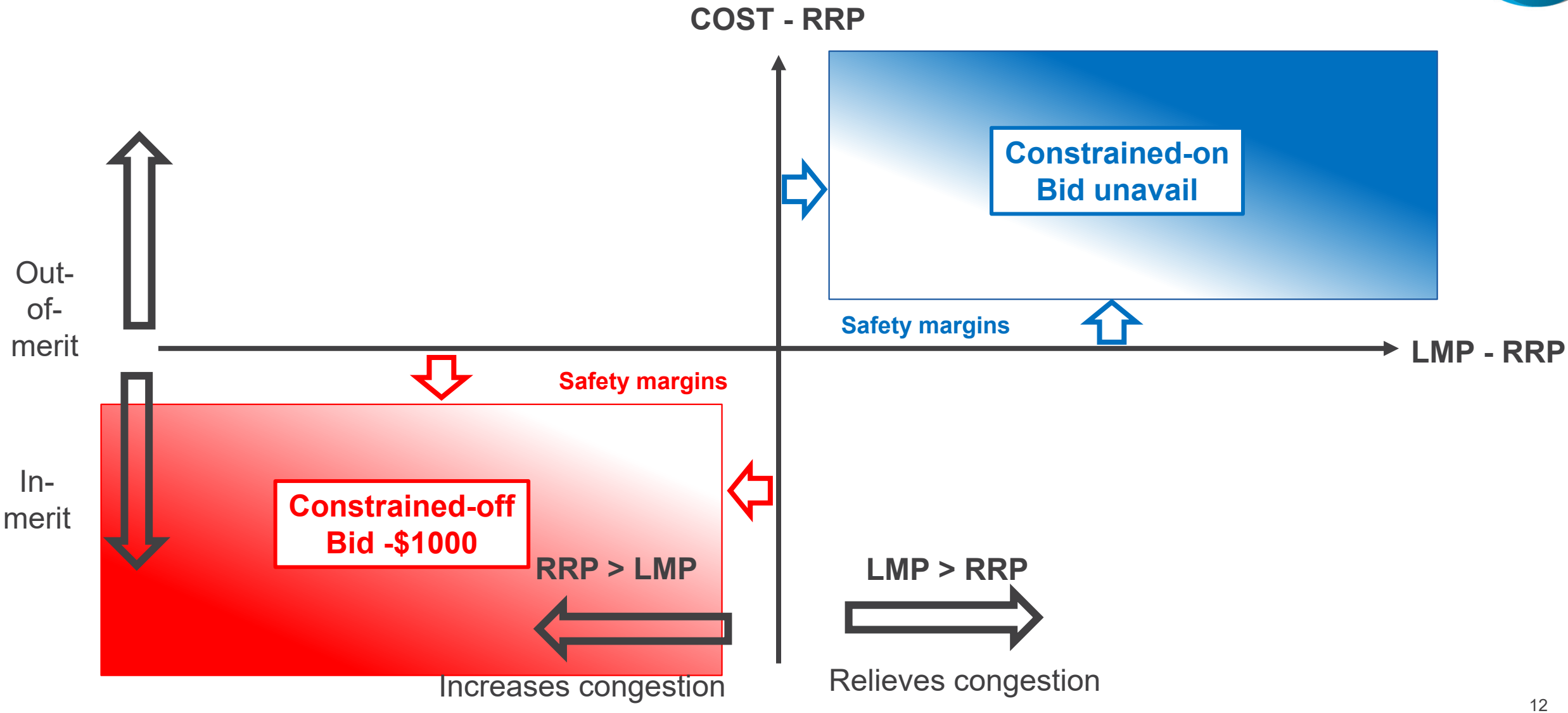
ACCESS DISPATCH DESIGN AND OBJECTIVES



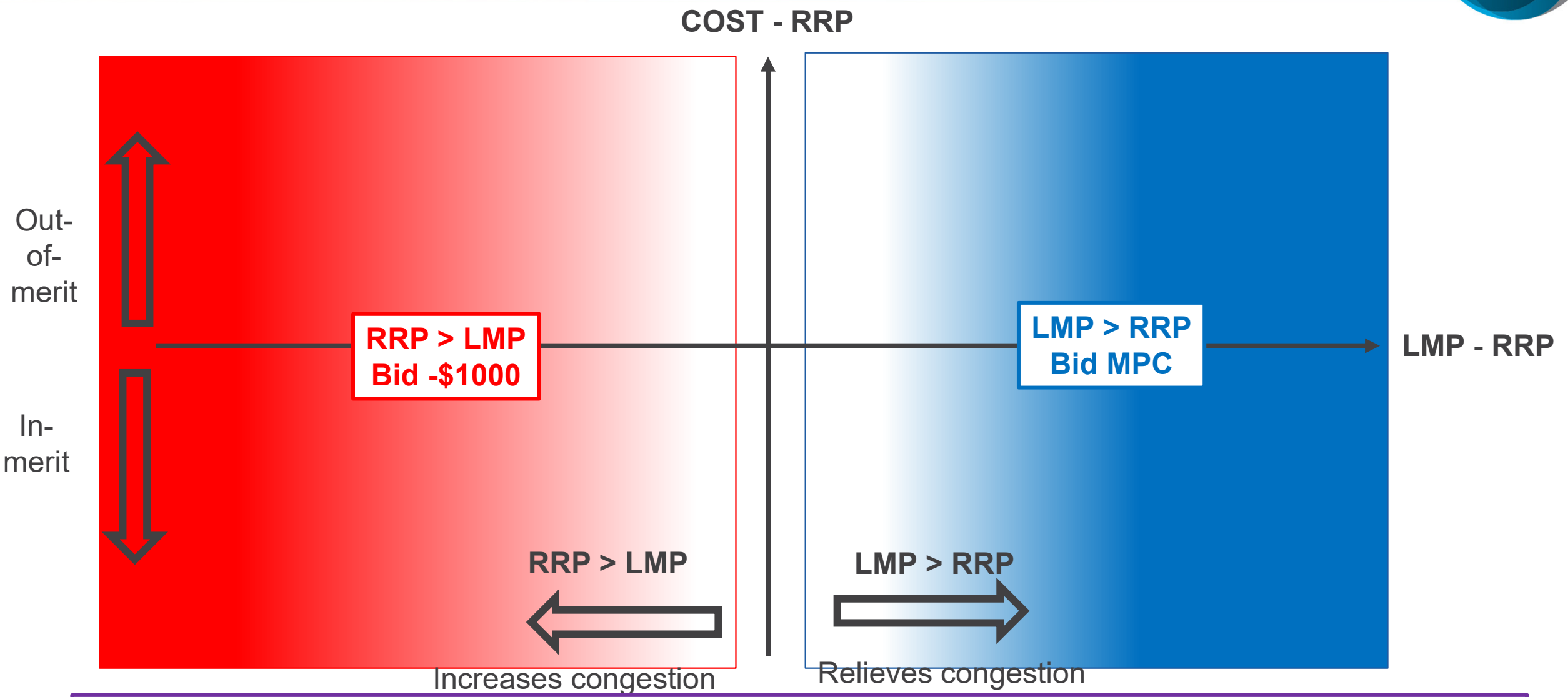
What are the core objectives of access dispatch?
Can access bidding and dispatch be simplified whilst still achieving these core objectives

BIDDING INCENTIVES:

BIDDING INCENTIVES: STATUS QUO

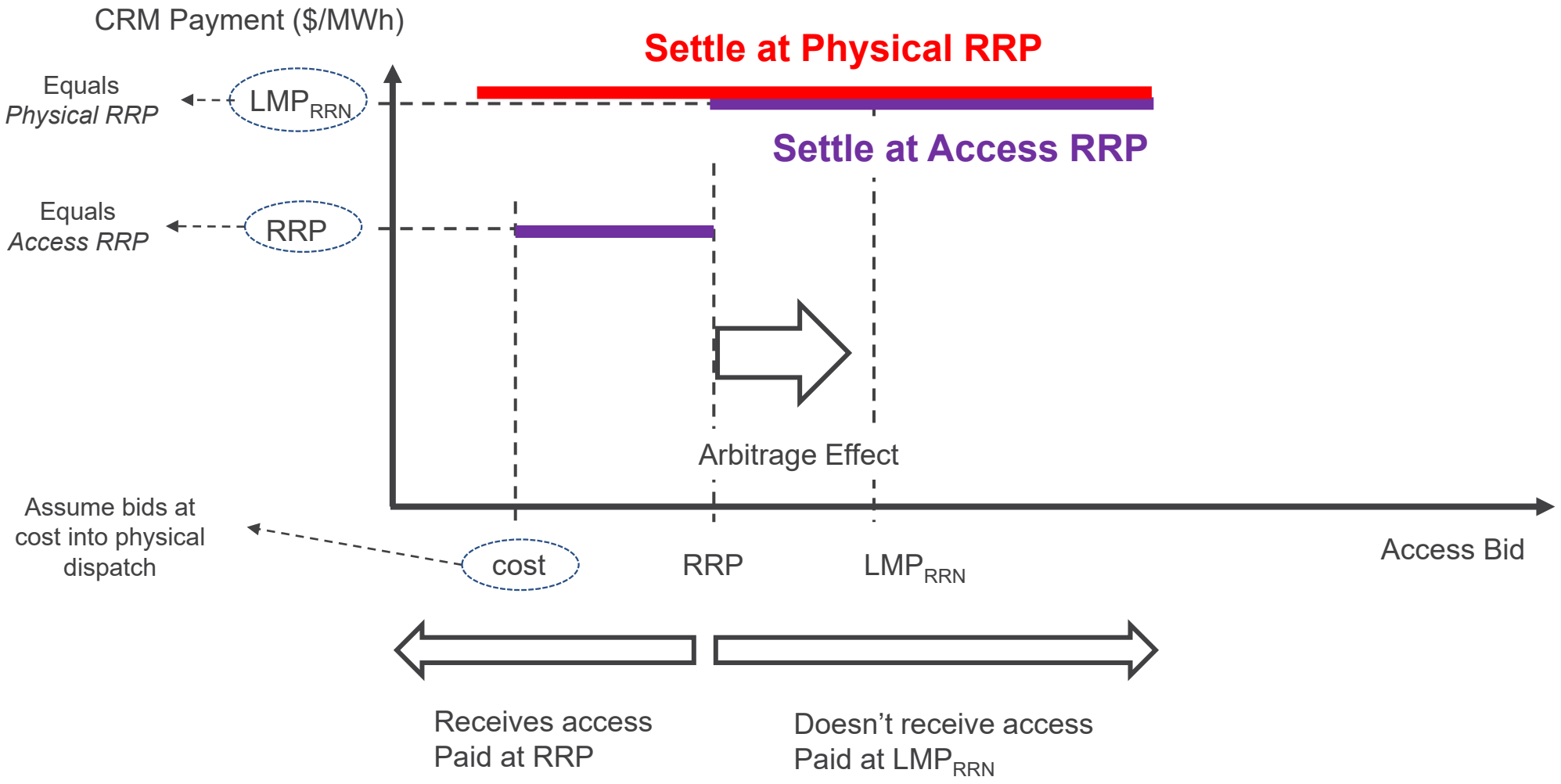


BIDDING INCENTIVES: CRM

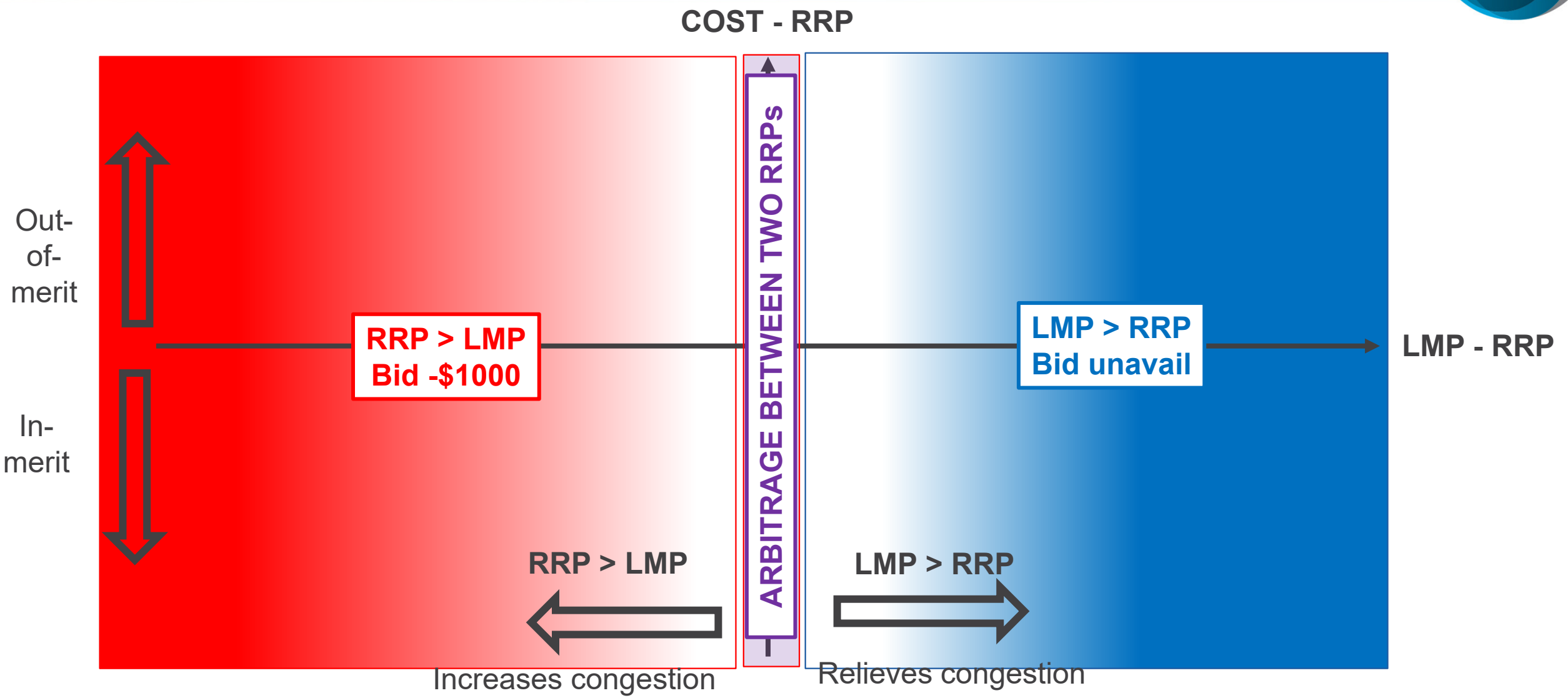


Is this bidding, and associated access dilution, a concern?
If so, how could this be prevented or mitigated?

BIDDING INCENTIVES: UNCONSTRAINED GENERATORS



BIDDING INCENTIVES: CRM



Is this arbitrage between two RRPs plausible? What are the implications?

GROUP DISCUSSION

Contact details Energy Security Board
Level 15, 60 Castlereagh St
Sydney NSW 2000
Email info@esb.org.au
Website http://www.energyministers.gov.au/market-bodies/energy-security-board