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Signals & Incentives Comments:

- The principles of cost allocation lead to the incorporation of proper incentives into the market.
- Questions too general, e.g. #4
- Allocations should generally follow cost causation, but be visible to market participants so they can understand the costs of their market actions
- Overall PJM objective function should be energy market cost minimization that simultaneously considers both energy market LMP costs and uplift costs. Uplift allocation should be based on cost-causation principles whenever possible. It is the avoidance of the causal activities that is the encouragement for desired participant behavior.
- All transactions should have incentives to lower uplift as much as possible. The minimization of uplift dollars will never occur if participants have no desire to reduce the total number of dollars, or if they have minimum amount of charges to pay.
- Cost causation should be the guiding principle here.
- Obey cost causation to extent possible while respecting incentives/disincentives created and keeping the overall rate reasonable by maximizing the denominator to the extent possible.
- Allocation of uplift should follow a cost causation method. That should solve the inequity in the allocation of the uplift charges and should allow companies to make their own decisions of whether their actions are worth the corresponding uplift charges. The current socialization method does not accomplish this goal.
- Any transaction (load, gen, import/export, and virtuals) should all have proper incentives to minimize uplift. If a transaction contributes to higher uplift, then it should be allocated a larger share of charges. If a transaction helps lower uplift, it should either get a credit, or not be allocated any charges.
- The principals of cost causation lead to incorporation of the proper incentives in the market. For that reason any other allocation methodology (beneficiary pays of fixed fee) can and often do lead to perverus outcomes.
- The principals of cost causation lead to incorporation of the proper incentives in the
- The principals of cost causation should be the basis for any allocation methodology.
- I prefer credits for good behavior and charges for bad behavior. I don't think much uplift comes from bad behavior but rather from economic decisions made with "lumpy" resources. It is a

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cost that comes from dispatcher decisions. The incentives above are poor bandaids on open sores.

- The principals of cost causation lead to the incorporation of the proper incentives in the market. For that reason any other allocation methodology (beneficiary pays or fixed fee) can and often does lead to perverse outcomes. We move toward an hourly uplift rate.
- Products are available to both load and generation to express views on DA \$ vs RT \$. The goal is to get the RT Market correct. The rest will fall into place
- Uplift should be reduced by correcting rules and procedures such that those costs are captured in LMP. To the extent there is uplift, it should be allocated to Deviations for both Load and Generation in order to incentivize both to follow their respective schedule and dispatch.
- A cost allocation methodology should be based in cost-causation; this can be done on a granular level or on a more general level. A good starting point would be to focus on what market behavior PJM wants to incentivize in order to maintain reliability. Once those market behavior goals are outlined, they should be considered in the cost-allocation discussion. If uplift is based on cost-causation, it will ultimately assist in driving the uplift cost down, while maintaining reliability. While the stakeholders have had prolonged discussions, we do not believe goals have been adequately outlined.

Volatility Comments:

- A flat fee for virtuals could work if a pure cost causation methodology is not possible. but the true-up is concerning. A flat fee with a true up is an allocation and we might as well allocate at that point.
- certain transactions should have a fixed rate, e.g. INC/DEC (or % of LMP)
- True ups create problems for all participants
- A fixed rate does not follow proper cost causation principals.
- Above: Reducing volatility is not the goal; abiding by cost causation principles is. If low volatility is possible while designing an uplift scheme that abides by cost causation principles,, that would be preferred. I am not familiar with a two-pass system. Below: Studies should be performed to determine who causes uplift and in what proportion. Allocations should then be made based on that data. A fixed rate with true-up is just a delayed variable rate. The key here is how the true-up is calculated and allocated.

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- The fixed rate is part of the effort to disconnect financial transactions from their implications. As it has become absolutely clear that incs, decs and UTCs have a direct effect on dispatch and congestion, we can see no validity to the argument that they should be charged only a flat fee against uplift, or that such a fee should be adjusted to get the volume of transactions to a "desired" level.
- These options could be helpful, but balancing cost causation, proper incentives and denominator maximization must be achieved regardless of option chosen.
- A fixed rate with true up system is a smoke and mirrors approach to this issue. If I am still paying the same amount at the end of the year for uplift costs then we have not accomplished anything except adding to the uncertainty of this cost. Participants will be disgruntled at the time of the true up as a function of human nature. No one enjoys a floating bill at a later time. Furthermore, this type of set up would not give any signals to the institutions that are causing the uplift if we are calculating the true up after the fact. We need real time price signals in this market.
- The fixed rate is part of the effort to disconnect financial transactions from their implications. As it has become absolutely clear that incs, decs & UTCs have a direct effect on dispatch and congestion, we can see no validity to the argument that they should be charged only a flat fee against uplift, or that such a fee should be adjusted to get the volume of transactions to a "desired" level.
- Allocation should be based on cost causation. A study should be conducted to determine which transactions qualify for uplift, why those transactions qualify, and how the allocation of such charges should be distributed.
- Allocation should be based on cost causation. A full analysis should be performed to determine the affect of each transaction on uplift, and allocation of charges should be distributed appropriately.
- we support the idea of a fixed rate but without knowing the terms of the "true up" its difficult to blindly agree to this
- A flat fee for virtuals could work if a pure cost causation methodology is not possible but the true-up is concerning. A flat fee with a true up is an allocation and we might as well allocate at that point.
- Allocation should be based on cost causation. If a product does not cause uplift, it should be allocated a fixed fee only to the extent that it covers the cost of providing the product to the market.
- I support a fixed rate without a true-up but even with a true-up, it would be better than we have today

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- Fixing uplift is not an incentive to reduce exposure to uplift.
- A flat fee for virtuals could work if a pure cost causation methodology is not possible, but the true-up is concerning. What is the purpose of a flat fee if it becomes variable with a true up.
- What is definition of designated transaction? Volatility reduction is a goal but ideally by better modeling/dispatch. Too much soothing of socialization will not incent desired market reaction.
- Fixed rate with true up does nothing to reduce uplift. There should not be special treatment for a different class of transactions.
- Reducing uplift should be the primary goal. Reducing volatility is secondary, by far. Reducing volatility should not be pursued if the means to achieve that is to socialize uplift
- No Fixed rate
- A fixed fee would provide market participants with more market certainty and send a price signal that the market can accurately respond to via bidding behavior. However, the concept of a true-up minimizes that certainty. The true-up also complicates matters from a business perspective, as it is difficult to account for from a tax perspective as well as incentive compensation, depending on how the company is structured. I think a true-up would be more palatable if a reserve amount was built in and the true-up was only in extreme circumstances where the reserve amount did not cover the true-up.
- Exceptions to the fixed fee could work, if they are clearly defined and the market has adequate notice.

Uplift Simplification Comments:

- The goal should be cost causation and accuracy rather than simplicity.
- Creating a better understanding of cost components would be helpful especially posting prices and RTO actions next day.
- Use true cost-causor methodologies.
- Key goal is to ensure that all participants that cause uplift are fairly allocated the associated uplift cost.
- Why simplify a complicated process? Simplifying the process will result in charging participants for uplift that they did not cause.

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- Simplification should not be the goal. Concepts of uplift and allocation are not simple subjects. I suspect a simplified solution will have some parties paying too much and others paying too little.
- We agree that simplification is a goal of the EMUSTF, but would not prefer simplification to maintaining good market and cost causation principles. Some simplification may involve making billing line items and causes of uplift clearer to market participants, which hasn't been under discussion in the task force but would be worthy of consideration.
- Denominator maximization is the ultimate in simplicity, but there may be better allocation methods that improve the market design through better incentives.
- I think the goal of the EMUSTF should be to analyse why PJM has such high uplift costs, develop and introduce any improvements that could be made to decrease the overall cost and then to correctly allocate those costs to the companies that cause the uplift. Simplifying the allocation would be an excellent side benefit but not the goal. MISO has a fairly complex allocation method and yet it works and is widely accepted as a fair method. Their goal was not simplicity is was accuracy and fairness.
- We agree that simplification is a goal of the EMUSTF, but would not prefer simplification to maintaining good market and cost causation principles. Some simplification may involve making billing line items and causes of uplift clearer to market participants, which hasn't been under discussion in the task force but would be worthy of consideration.
- We should have a granular and transparent uplift allocation process to insure that those causing the bulk of uplift charges pay their fair share while those who cause fairly little to no uplift are allocated charges appropriately.
- Nowhere in the charter does it state this goal. Uplift is a very complex system, so to simplify the allocation process is both lazy and careless, and is contrary to the EMU Charter and FERC principles of proper cost causation. Why should participants who are not causing the bulk of uplift share the same costs as those that do?
- cost causation should be #1 goal , i.e. simplification subject to as much cost causation as possible...
- Accurate allocation should be the goal. Supporting simplicity should be viewed with skepticism as to what cost are they trying to get of participants to bear.
- Allocations should be distributed to the activity which causes the uplift.
- Allocate to deviations.
- Accurate allocation should be the goal. It's much more important to accurately charge uplift so that market behavior that lowers uplift is incentivized.

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- Without risk the desired behavior will not take place. Purely fixed price is not desirable. Apprehension with variable prices comes from the "black box" approach. Transparency is needed.
- Goal is to reduce uplift and add transparency to the process.
- Reducing uplift by correcting the rules and procedures is the key goal of the EMU— not simplifying uplift. Simplifying uplift by socializing it is worse than the status quo.
- Simplification should not be the goal. Appropriate market incentives and a root in cost causation should be the goal. If after determining what the proper goals are and how to incent such behavior, there are ways to simplify the allocation, then I think we should pursue those simplifications. However, a simple approach should not be the starting point

Uplift Transparency Comments:

- Uplift should be incorporated into LMP and should have a locational aspect to it -- uplift in PJM East should not be peanut-buttered across the entire RTO, for example.
- It is certainly difficult to forecast uplift costs ahead, but calculation for settlements is transparent
- Reasons for allocation of uplift should be backed by numbers and facts.
- What and why on a next day basis.
- PJM
- Use math, not democracy, to allocate costs.
- Greater transparency surrounding the daily quantity of MWs that are allocated to the different uplift buckets is recommended.
- There is no transparency. There needs much greater transparency in regards to what units receive uplift, and why.
- We have no recommendations.

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- Cost transparency is a cornerstone of any viable marketplace. The guiding concepts and calculation methodologies should be fully documented and well known to all market participants.
- There is an absolute need to simplify the uplift allocation methodology
- None at this time
- As uplift is currently presented in settlements, it can be very difficult to trace the causes of volatility in uplift billing. We should ensure the causes (such as reactive support, transmission constraints, reliability commitments) are more transparent. Perhaps that would be a Phase 3 of the EMU's work.
- It Is What It Is.
- The BORCA charge description is unclear and difficult to reconcile.
- In MISO I can see constraints that caused their version of uplift down to a nodal and hourly level. This does not exist in PJM.
- If we had full transparency, the stakeholders could then allocate costs and fees associated with uplift accurately. This could be accomplished by having all or much of the uplift cost incorporated into the real-time price.
- As uplift is currently presented in settlements, it can be very difficult to trace the causes of volatility in uplift billing. We should ensure the causes (such as reactive support, transmission constraints, reliability commitments) are more transparent. Perhaps that would be a Phase 3 of the EMU's work.
- The allocation process should be transparent (which it is currently not) for both those being charged and receiving monies and why.
- There are probably three people that understand the allocation process. Every single dollar being paid in uplift credits should be transparent, for both the resource receiving those monies, and the reasons why. The correct cause as to why a transaction is being charged uplift should be stated as well. Additionally, the reason why a resource was dispatched uneconomically should be included in logs (transmission constraint, reactive support, forced line/gen outage, operator action, no-load and startup cost, inflexible operating parameters, etc...
- still digesting
- The goal of phase one should be to incorporate as much or all uplift cost into the real-time price. If all uplift was in the RT prices we would have perfect transparency and the stakeholders could

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finally start arguing over who should pay for uplift. Incorporating uplift in RT price is perfect cost causation.

- Improve or revise the current confidentiality rules allowing greater visibility into generators receiving uplift. Going to FERC to make these changes should be an option.
- Uplift should be reflected in the RT prices.
- Post a report of the reasons units that received substantial uplift were run off cost and the total dollars spent.
- "• Increase timeliness/reduce lag of uplift disclosure (through MSRS, informational postings, or elsewhere) • Enhance transparency and granularity of information disclosed in order to better understand how and why certain decisions were made that affect uplift. One idea is to have the ability to drill down into the causes behind RT BOR Reliability Credits in MSRS, beyond the regional/ RTO allocation amounts, to have an understanding of which events drove the uplift."
- Prior to January blowout, we did not know that BOR was allocated to deviations as well as all MWs for reliability causes.
- I do not have recommendation in this regard
- Simplification is not a "key goal of the EMUSTF" because it is not in the charter. The goal of phase one should be to incorporate as much or all uplift cost into the real-time price. If all uplift was in the RT prices we would have perfect transparency. As it stands right now the market doesn't know where uplift is occurring.
- There is need to make sure that all entities, in particular the ones to whom uplift is being allocated are aware of the reasons, methods and formulas being used to allocate uplift to them.
- PJM should post the causes of uplift and the units involved for every uplift event. Such transparency will foster market based solutions that will in turn reduce uplift. Any issue of confidentiality can first be reviewed by the Market Monitor
- There is currently no transparency in the uplift allocation. We agree with the IMM's recommendation that PJM disclose where the uplift costs are coming from on a more granular level. This information can be presented in the aggregate and thus would not disclose offer price. The market cannot fix, what the market cannot see. It is also important to share this information for RTEP purposes. This is not sensitive market information, these are simply out of market payments

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Allocation Philosophy Comments:

- Look into charging energy and transmission deviations separately.
- Fee based of financial transactions, socialized for physical transactions Beneficiary pays sounds a lot like cost causation
- Fee for system wide 'valley' costs and cost causation for excess costs
- If you cause an energy market deviation, you should pay for the consequence of that deviation.
- Need to follow proper cost causation principals.
- Again -- Achieve the best balance among cost causation, proper incentives, and denominator maximization.
- To socialize broadly is not only a completely ridiculous suggestion, but goes against all things that open and competitive markets stand for. FERC's governing principle and the EMU Charter is proper cost causation and allocation, so to socialize charges broadly is favoring some participants over others, and is a complete failure in our markets.
- A solution that charges energy and transmission deviations differently and commensurate with cost causation is the most desirable and accurate allocation methodology.
- BOR should be allocated to those activities which cause the deviation.
- I don't think we will be about to agree on a definition of the "beneficiaries" or "causer". I do not believe that a change in price means uplift is caused and on can say "all" benefit from a reliable market
- A solution that charges energy and transmission deviations differently and commensurate with cost causation is the most desirable and accurate allocation methodology. Deviations that decrease uplift should be credited in order to incentivize behavior that lowers uplift.
- Virtuals and UpTo are known values when DA market clears. An allocation approach that burdens these products for uncertainty associated with generation or load levels is not acceptable.

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Category Decision Comments:

- Yes, for deviations. The deviation bucket should be split into a energy deviation and transmission deviation buckets. Energy deviations have a much larger impact on uplift than a transmission deviation.
- East- West split of costs remains appropriate, existing allocation buckets are fine, UTC should be charged for costs they create and MISO market to market costs need further clarification.
- Constraints
- PJM may want to consider looking at capacity vs. transmission commitments. Sometimes units are committed to meet the incremental RT need for overall capacity, while other units are committed to manage specific transmission constraints.
- Deviations: breakout energy and transmission.
- Eliminate 4 interval rule in determining deviations vs reliability buckets.
- Yes -- Incentives/Disincentives must be considered.
- The deviations vs. reliability buckets need to be reassessed.
- We believe these should be divided into two areas. One for energy deviation and one for transmission deviation. Energy deviations have much larger impact on uplift than a transmission deviation.
- Constraint-by-constraint basis.
- Emergency energy purchases should be allowed to set price and not be uplift
- Yes, for deviation. The deviation bucket should be split into a energy deviation and transmission deviation buckets. Energy deviations have a much larger impact on uplift than a transmission deviation.
- Deviations should be split into energy deviations and transmission deviations. Energy deviations have a larger impact on uplift than transmission deviations
- The scope of the discussions among EMUSTF stakeholders should be broadly define and not limited to existing categories..
- Yes, for deviations. The deviation bucket should be split into a energy deviation and transmission deviation buckets. Energy deviations have a much larger impact (either causing uplift to be increased or decreased) on uplift than a transmission deviation.

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Virtual Transactions Comments:

- Yes virtuals should be charge an uplift allocation if they cause uplift to be incurred. Likewise, virtuals should be credited if their deviation cause less uplift.
- virtual tyransactions should get some uplift allocation, but different from physical transactions
- Assumption is they actually contribute to cost.
- A study should be performed on the impacts of virtual transactions, and they should be allocated a portion that they cause.
- Virtual and physical transactions are different types of transactions. They should both be charged uplift costs, but in proportion to causational principles.
- There is no longer any question that incs, decs and UTCs all have impacts on dispatch and congestion, so there is no valid argument for treating them differently from physical transactions for purposes of uplift allocation.
- Balance cost causation, incentives, and denominator maximization.
- All transaction should be assessed with the charges that they cause. If virtuals cause uplift then they should be charged for the portion that they cause.
- Virtual and physical transactions should not be treated the same way because they are not the same products. Virtual transactions should receive an uplift cost allocation, but based on the impact they have on the uplift. To treat the products the same is biased and discriminatory, and each should pay a portion of the cost on the system that they cause.
- Yes, virtuals should be charge an uplift allocation if they cause uplift to be incurred. Likewise, virtuals should be credited if their deviation cause less uplift.
- virtual transaction do not have the same impact on the system as physical transactions therefore they cannot be treated the same. Each product should be allocated uplift based upon the relative impact each has to uplift.
- No out of merit actions are taken to benefit Virtual transactions but are taken to support physical flow.
- Timing is important here, any "problems" caused by virtual transactions are solved during the RAC and therefore create less uplift than a physical deviation that is not known until RT. Both UTCs and INCs/DECs should pay an operating reserve charge if they result in a deviation that increases operating reserves. If these transactions result in a deviation that decreases operating

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reserves, they should be credited. Such transactions only profit if they converge the market. If they diverge the market, they lose money. This loss coupled with a deviation charge will serve to disincent such transactions and thus less deviations will occur. This would essentially be double taxation and it works to benefit the market.

- Physical schedule have an inherent performance uncertainty that Virtual transactions do not have. Treating them the same is not just.
- See above. Further they are energy neutral in both the DA and RT markets
- Allocation needs to reflect lesser impact on the system relative to other products.
- Both UTCs and INCs/DECs should pay an operating reserve charge if they result in a deviation that increases operating reserves. If these transactions result in a deviation that decreases operating reserves, they should be credited. Such transactions only profit if they converge the market. If they diverge the market, they lose money. This loss coupled with a deviation charge will serve to disincent such transactions and thus less deviations will occur. This would essentially be double taxation and it works to benefit the market

Exclusions/ Exemptions from Cost Allocation Comments:

- Energy deviations should net if a stakeholder is Inc'ing or Dec'ing in the same hour for the volume. Same is true for load and gen, they should net leaving only a transmission deviation if applicable.
- Should not be netted if causing localized problem
- Only at a bus like generation.
- Should net virtuals market-wide and by participant, and exclude IBT's from any netting.
- Inc/dec's should net at an hourly granularity.
- There may be types of netting that would be appropriate for exclusion; however, as noted below, we believe we need to work through specific examples of the impacts of each netting type in order to determine which types are appropriately excluded. Generally, if there is an impact on dispatch and uplift, netting should not reduce the allocation of the costs of that impact.
- If an exclusion best creates the proper incentives, then the answer is definitely yes. An example would be exempting Incs or Decs associated with hedging physical load or generation. This would encourage physical load and generation to be represented day ahead because their hedges could be represented day ahead with out paying a charge.

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- Netting should be by location or load zone, but not RTO-wide.
- Energy deviations should net if a stakeholder is Inc'ing or Dec'ing in the same hour for the volume. Same is true for load and gen, they should net leaving only a transmission deviation if applicable.
- There may be types of netting that would be appropriate for exclusion; however, as noted below, we believe we need to work through specific examples of the impacts of each netting type in order to determine which types are appropriately excluded. Generally, if there is an impact on dispatch and uplift, netting should not reduce the allocation of the costs of that impact.
- IBT's should not be netted with anything. They are not modeled in the DA Market. Supply and demand deviations should net, market-wide, and across every participant.
- Energy deviations should net if a stakeholder is Inc'ing or Dec'ing in the same hour for the volume. Same is true for load and gen, they should net leaving only a transmission deviation if applicable.
- Energy deviations should net.
- Of course. If we are forced to use a proxy for "causation" then transactions that net at the same location can not have an effect and should be exempt from charge
- Energy deviations should net if a stakeholder is Inc'ing or Dec'ing in the same hour for the volume. Same is true for load and gen, they should net leaving only a transmission deviation if applicable.

Netting Comments:

- Energy deviations should net by participant hourly leaving only transmission deviations if the energy that nets out is not in the same location. Energy and transmission should be charged or credited based on cost causation.
- For injections netting against withdrawals and virtuals, should only be netted at a node.
- In no way should Marginal Loss Surplus be affected. Marginal Loss Surplus is funded by load overpaying losses, and therefore that surplus must be repaid to load.
- Virtuals should be netted market wide, and by participant.
- We believe there could be 2 types of netting. Netting for the purpose of determining the rate and netting to determine the MWs of deviation that should pay (especially if a 2-pass method of

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allocation is considered). For the purpose of determining the rate, we think a market-wide approach makes sense and then for the purpose of determining the MWs of deviations that pay a By participant approach makes sense.

- Some of these concepts were only introduced in detail in the development of the poll questions. We would need a better understanding, with examples, of how uplift charges would be allocated with and without netting to come to a conclusion. That understanding could change some of our positions on the individual netting questions
- All these answers are based on providing the proper incentives for market participants. This should be the overriding factor.
- Some of these concepts were only introduced in detail in the development of the poll questions. We would need a better understanding, with examples, of how uplift charges would be allocated with and without netting in order to come to a conclusion. That understanding could change some of our positions on the individual netting questions.
- Since an equal amount of injections and withdraws have no affect on power balance, they should net out and be charged the amount of uplift that they caused on the system (minimal, if any).
- Energy deviations should net by participant hourly leaving only transmission deviations if the energy that nets out is not in the same location. Energy and transmission should be charged or credited based on cost causation.
- Energy deviation should net by participant on an hourly basis. If this netting results in locational differences then this should leave a transmission deviation which should be charged or credited based upon cost causation.
- The questions above seem headed for a complicated system with exemptions and difficult determinations that make such a system ripe for gaming (like Marginal Loss allocation and IBT's)
- We believe that virtual transactions used to hedge risk for a Capacity Resource should be exempt from allocation of Operating Reserve charges. We believe this can be done by validating the quantity of the virtual transaction is less than or equal to, the ICAP of the resource and that the location and market participant of the virtual transaction is the same as the Capacity Resource
- If not at a location level, then UpTo should not attract any uplift. Perhaps a step down from participant location could be justified. Transparency is key.

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- All other ISOs have implemented a netting mechanism. PJM should review this issue and conduct an analysis on what the financial impacts would be. Netting should also be considered as PJM and the stakeholders work to identify incentives

What should we call "Balancing Operating Reserve"?

- Revenue Sufficiency Guarantee
- don't care
- Mystery Cost
- Uncompensated Cost
- BOR
- Uplift
- Uplift.
- I don't know that they name matters much.
- Uplift Fees
- Uplift
- No opinion
- Sorry, despite some thought have still not come up with a good name. We need something that indicates what it is, which is a real time adjustment.
- Balancing Operating Reserve
- Daily Market Cost Balancing Assessment
- no preference
- No comment.
- Balancing Operative Reserve
- Marginal Congestion Charge
- Uplift
- BOR
- Uplift charge.

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- Operating Reserves
- indifferent
- Out-of-Merit Charges; or Uplift charges
- Balancing Operating Reserve
- Uplift.
- Balancing operating reserves should be called uplift