

Gas System
Operator

Capacity Methodologies Review 2019

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General Updates

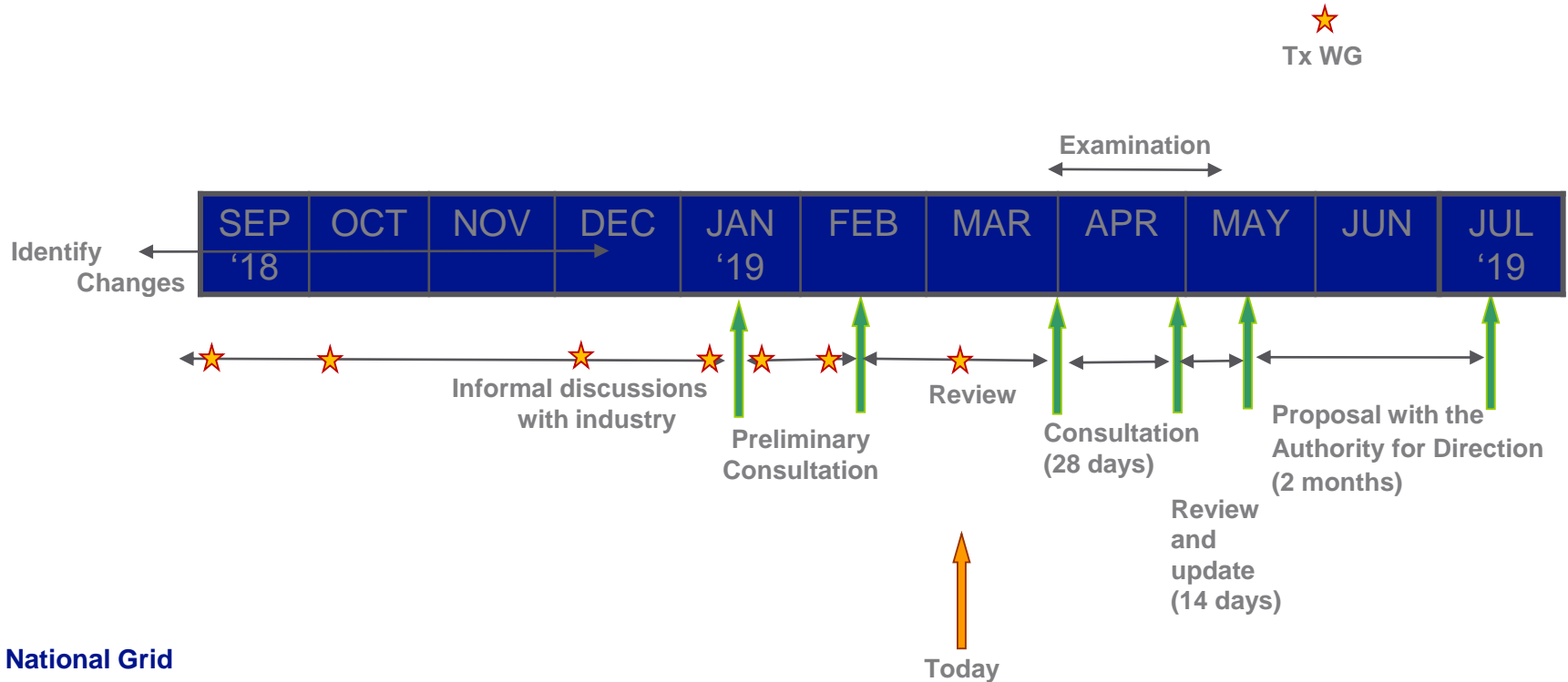
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Methodology Review

- **Preliminary Consultation closed out 15th Feb.**
- **4 responses received, and available to view on NG website (under the Entry Capacity Release heading)**
- <https://www.nationalgridgas.com/capacity/capacity-methodology-statements>
- **NG Conclusions Report not yet produced; but will be available before the formal consultation starts.**
- **Formal consultation pushed back slightly due to general workload, plus process for contracting Examiner is taking longer than anticipated. Earliest date will be 29th March.**

Timetable 2018/2019

Consultation on the capacity methodology statements will follow the proposed timetable outlined below (specific dates TBC)



Project Cost Estimate

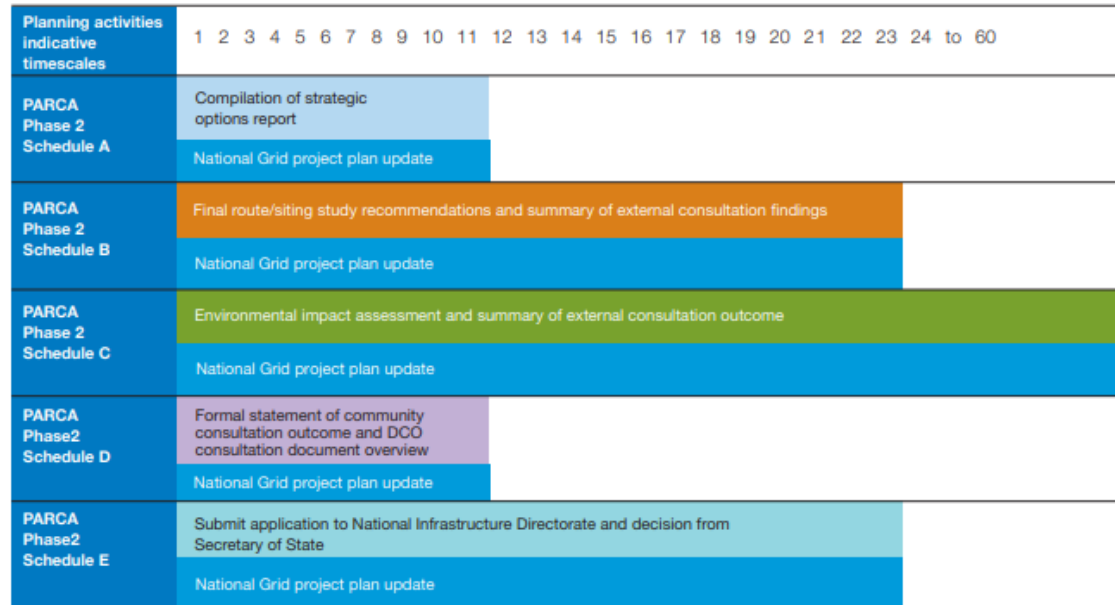
- under current methodology then project cost (Project Value) is not confirmed until end of phase 2, but estimates are published each year.

- we are evaluating how we can bring greater certainty on project cost to applicants earlier in the process.

Challenges:

- more certainty on cost is achieved the further into phase 2 we go.

- concern that locking in a project cost early may be viewed as prejudging the outcome of the planning decision



Project Cost – Transition Rule

- **We recognise that changing the methodology for calculating Project Cost creates uncertainty and disruption to in-flight PARCAs.**
- **Therefore we are considering what a transition rule would look like. Possible options include:**
 - **1. maintain LRMC model running until completion of in-flight PARCAs.**
 - **2. use prevailing LRMC project cost at the time when the project cost methodology changes.**

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User commitment rule

| Current requirements | Capacity Commitment | Financial Commitment |
|-----------------------|--|-----------------------|
| existing capacity | 16 qrtrs x Application amount | - |
| substitution | 17-25* qrtrs x full Incremental Amount | min. 50% project cost |
| obligated incremental | 17-25* qrtrs x full Incremental Amount | min. 50% project cost |

* tested for 10 ASEPs, held true 100% of the time

obligated incremental \geq substitution \geq existing capacity

| NG proposed requirements | Capacity Commitment | | Financial Commitment |
|--------------------------|---------------------------------|-------------------------|-----------------------|
| existing capacity | 16 qrtrs x Application amount | - | - |
| substitution | 16 qrtrs x Application amount + | 4 qrtr/year inc. signal | - |
| obligated incremental | 16 qrtrs x Application amount + | 4 qrtr/year inc. signal | min. 50% project cost |

What if...

| Current requirements | Capacity Commitment | Financial Commitment |
|-----------------------|--------------------------------------|-----------------------|
| existing capacity | 16 qtrs x Application amount | - |
| substitution | 17-25 qtrs x full Incremental Amount | min. 50% project cost |
| obligated incremental | 17-25 qtrs x full Incremental Amount | min. 50% project cost |



obligated incremental \geq substitution \geq existing capacity



| NG proposed requirements | Capacity Commitment | | Financial Commitment |
|--------------------------|---|------------------------|-----------------------|
| existing capacity | 16 qtrs x Application amount | - | - |
| substitution | 16 qtrs x Application amount + | 4 qtr/year inc. signal | - |
| obligated incremental | 16 qtrs x Application amount + | 4 qtr/year inc. signal | min. 50% project cost |

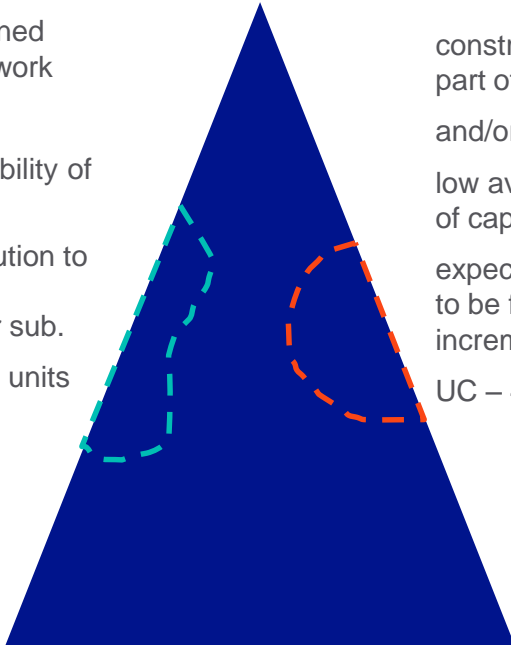
User commitment comparison - capacity

- assumption: 16 quarter rule for the PARCA application quantity is not extended to funded incremental.
- applicant has a project for 100 units (GWh/d) capacity.
- relevant site is sold out in winter quarters, or is new site.
- below table shows the required user commitment for capacity.

| Solution | User commitment |
|-------------------------|------------------------------|
| 100% Substitution | $100 \times 16 = 1600$ units |
| 100% Funded Incremental | $100 \times 4 = 400$ units |

User Commitment – capacity comparison

unconstrained
part of network
and/or
high availability of
capacity
expect solution to
be existing
capacity or sub.
UC – 1600 units



constrained
part of network
and/or
low availability of
capacity
expect solution
to be funded
incremental
UC – 400 units

There is a lower capacity ‘user commitment’ barrier at the constrained part of the network compared to the unconstrained part of the network.

This could create a perverse incentive for applicants to connect to constrained parts of the network.

Example Scenarios

| Network condition | Solution | 50% Project cost | UC (GWh/d) | Reserve Price (p/kWh/d) | £ NPV commitment | uplift for 50% PC | total £ NPV |
|-------------------|-----------------------------|------------------|---------------|-------------------------|------------------|-------------------|-------------|
| unconstrained | existing cap / substitution | 0 | 100x16 = 1600 | 0.0532** | £77,459,200 | 0 | £77,459,200 |
| constrained | obligated incremental | £22,000,000* | 100x4=400 | 0.0532** | £19,364,800 | £2,635,200 | £22,000,000 |

| Network condition | Solution | 50% Project cost | UC (GWh/d) | Reserve Price (p/kWh/d) | £ NPV commitment | uplift for 50% PC | total £ NPV |
|-------------------|-----------------------------|------------------|---------------|-------------------------|------------------|-------------------|-------------|
| unconstrained | existing cap / substitution | 0 | 100x16 = 1600 | 0.0332 | £48,339,200 | 0 | £48,339,200 |
| constrained | obligated incremental | £22,000,000* | 100x4=400 | 0.0332 | £12,084,800 | £9,915,200 | £22,000,000 |

| Network condition | Solution | 50% Project cost | UC (GWh/d) | Reserve Price (p/kWh/d) | £ NPV commitment | uplift for 50% PC | total £ NPV |
|-------------------|-----------------------------|------------------|---------------|-------------------------|------------------|-------------------|-------------|
| unconstrained | existing cap / substitution | 0 | 100x16 = 1600 | 0.0132 | £19,219,200 | 0 | £19,219,200 |
| constrained | obligated incremental | £22,000,000* | 100x4=400 | 0.0132 | £4,804,800 | £17,195,200 | £22,000,000 |

Considerations

- Where the capacity commitment for funded incremental is less than substitution, then it is entirely possible that the overall £ commitment will also be less.
- If we build 100 units then is it unreasonable for the party to commit to that 100 units over min. 16 quarters?
- What happens with partial substitution solutions?
- NG has an obligation to keep substitution under review throughout PARCA phase 2. This could result in a sudden cost jump for the applicant if at the start it is possible for £funded incremental < £substitution.
- Higher reserve prices for capacity will only exacerbate the issue.

Conclusions

- **User Commitment rules should adhere to the below comparative principle**

funded incremental \geq substitution \geq existing capacity

- **Propose that User Commitment rule built up as follows:**

| | general 16 qrtr PARCA rule | incremental signal needed | financial test to be passed |
|-------------------|-------------------------------|------------------------------|--------------------------------|
| existing capacity | ✓ | x | x |
| substitution | ✓ | ✓ | x |
| obligated inc. | ✓ | ✓ | ✓ |

- **This means that if the 16 quarter PARCA rule in UNC were to be changed then this would flow through to the NPV test.**

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