

Comparing the inertia costs (£/GWs/annum) in the FRCR to prices bid in Stability Pathfinder Phase 1 Tender

FRCR Unit Inertia Costs

The table below has been taken from the FRCR 2024 (see 6.1.1 System residual risks vs. cost)

| Scenario | 140 GVA.s | 120 GVA.s | 110 GVA.s | 102 GVA.s |
|----------------------------------------------------------------------------------------------------|-----------|--------------|-------------|-------------|
| Cost for system-wide controls (NB: system-wide controls include inertia and all response costs) | £374m | £242m | £209m | £193m |
| Cost to meet minimum inertia (this element is included in system wide cost) | £194m | £62m | £29m | £13m |
| Cost for Dynamic Containment (this element is included in system wide cost) | £51.83m | £51.98m | £52.06m | £52.12m |
| Incremental saving | | £132m | £33m | £16m |

Calculations

Cost (to meet minimum inertia) increase from
120 GWs to 140 GWs (£m) = £194m-£62m = £132m

Unit cost of inertia
(£m/GWs/annum) = £132m / (140GWs-120GWs)
=£6.6m/GWs/annum

SPP1 Unit Inertia Costs

Project with lowest accepted bid price according to Stability Pathfinder Phase 1 (SPP1) Tender:

<https://www.nationalgrideso.com/document/162081/download>

| Company Name | Connection Point | Inertia (MVA.s) | Firm Cost (£/SP) | Power Consumption (MW) |
|------------------------|------------------|-----------------|------------------|------------------------|
| Deeside Power (UK) Ltd | CONQ | 1533 | 218.14 | 2 |

The SPP1 bids are in 2020 prices.

Calculations
<https://downloads.elexonportal.co.uk/file/download/34073?cachebust=3oittyf58w>

| | |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Average system imbalance price 2020-2023 £/MW | = £110/MWh |
| Annual MWh power consumption | = 2MW*8760 hours =17,520MWh |
| Cost of power consumption (£/annum) | = 17,520MWh *£110/MWh = £1,927,200/annum |
| £/annum firm cost (availability fee) / annum | = £218.14/SP*48 hours *365 days =£3,821,812/annum |
| £/annum firm cost (availability fee) / annum accounting for inflation (CPI April 2020- April 2024= 1.23) | =£3,821,812*1.23= £4,700,829/annum |
| Total Cost £/annum (cost of power consumption and firm cost) | = £1,927,200 + £4,700,829 = £6,628,029/annum |
| £/MWs/annum | = £6,628,029/ 1533MWs = £4,324/MWs/annum |
| £m/GWs/annum | = £4,324MWs/annum / 1000 =£4.32m/GWs/annum |

Conclusion

The unit cost of inertia accepted in Stability Path Phase 1 Tender (£4.32m/GWs/annum in March 2024 prices) is much lower than the unit cost of inertia assumed by ESO in the FRCR 2024 (£6.6m/GWs/annum).