|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CASE: Battery as only spinning reserve** | | | | | |
| Load Range | OpID | Req. SR cap | Operational strategy from ship owner | Assumed/proposed operational strategy | results |
| 100-1000 kW | Transit |  | Two generators | Single generator |  |
| DP | 700 kW | ? | Single generator |  |
| Standby |  | ? | Single generator |  |
| Port |  | ? | Shore connection |  |
| 1000 – 2100 kW | Transit |  | ? | Single generator |  |
| DP | 700 kW | ? | Single generator |  |
| Standby |  | ? | Single generator |  |
| 2100 – 3000 kW | Transit |  | ? | Two generators |  |
| DP | 700 kW | ? | Two generators |  |
| Standby |  | ? | Two generators |  |
| 3000 – 4200 kW | Transit | 700 kW | ? | Two generators |  |
| DP |  | ? | Two generators |  |

If a single generator is running at higher power than battery capacity, the battery might not be sufficient as Spinning Reserve

Observations: Når to generatorer møter load istedenfor 1 + batteri som spinning reserve vil forbruket være det samme fordi fuel consumption er lineær med økende effekt.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Case: No battery** | | | | | |
| Load Range | OpID | Req. SR cap | Operational strategy from ship owner | Assumed/proposed operational strategy | results |
| 100-1000 kW | Transit |  | Two generators | Single generator |  |
| DP | 700 kW | ? | Two Generators |  |
| Standby |  | ? | Single generator |  |
| Port |  | ? | Shore connection |  |
| 1000 – 2100 kW | Transit |  | ? | Single generator |  |
| DP | 700 kW | ? | Two generators |  |
| Standby |  | ? | Single generator |  |
| 2100 – 3000 kW | Transit |  | ? | Two generators |  |
| DP | 700 kW | ? | Three generators |  |
| Standby |  | ? | Two generators |  |
| 3000 – 4200 kW | Transit | 700 kW | ? | Two generators |  |
| DP |  | ? | Three generators |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Case: Spinning reserve + peakshaving w/o external charging** | | | | | |
| Load Range | OpID | Req. SR cap | Operational strategy from ship owner | Assumed/proposed operational strategy | Assumed Hotel Load | results |
| 100-1000 kW | Transit |  | Two generators | Single generator | 550 |  |
| DP | 2100 kW | ? | Single generator | 500 |  |
| Standby |  | ? | Single generator | 380 |  |
| Port |  | ? | Shore connection | 250 |  |
| 1000 – 2100 kW | Transit |  | ? | Single generator | 550 |  |
| DP | 2100 kW | ? | Two generators | 500 |  |
| Standby |  | ? | Single generator | 380 |  |
| 2100 – 3000 kW | Transit |  | ? | Two generators | 550 |  |
| DP | 2100 kW | ? | Three generators | 500 |  |
| Standby |  | ? | Two generators | 380 |  |
| 3000 – 4200 kW | Transit | 2100 kW | ? | Two generators | 550 |  |
| DP |  | ? | Three generators | 500 |  |

Monday 03.05 Wei said that batteries are installed for spinning reserve. Because of this it would be fair to assume that the battery should have the capacity to deliver the same power as the diesel generator it replaces for spinning reserve i.e 2100kW.