

LA Desalination Project 2018, Single Shaft Energy Balance, 720 MGD

Fresh Water Engine Stats

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| Haiwee Res elevation | 3774 ft | |
| Sylmar surface elevation | 1200 ft | |
| Fresh Water Engine Total Fall | 2574 ft WC | |
| Fresh Water Engine OSE | 87.1 % | |
| Fresh Water Engine flow | 240000 gpm | 345.6 MGD |
| Fresh Water Engine Theoretical power | 156000 HP | 116.3 MW |

Fresh Water Pump Stats

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|------------------------------------|------------|-----------|
| Membrane Bank elevation | 0 ft | |
| Sylmar surface elevation | 1200 ft | |
| Fresh Water Pump Total Lift | 1200 ft WC | |
| Fresh Water Pump OSE | 94 % | |
| Fresh Water Pump flow | 500000 gpm | 720.0 MGD |
| Fresh Water Pump Theoretical power | 151515 HP | 113.0 MW |

Seawater Pump Stats

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|-------------------------------------|-------------|------------|
| Sea Water Underground Res elevation | -50 ft | |
| Membrane Bank elevation | 0 ft | |
| Membrane Bank DP | 1850 ft WC | 800.9 psi |
| Seawater Pump Total Lift | 1900 ft WC | |
| Seawater Pump OSE | 94 % | |
| Seawater Pump flow | 1000000 gpm | 1440.0 MGD |
| Seawater Pump Theoretical power | 479798 HP | 357.8 MW |

Brine Engine Stats

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|--------------------------------|------------|-----------|
| Brine Engine supply pressure | 1480 ft WC | 640.7 psi |
| Membrane Bank elevation | 0 ft | |
| Brine Conduit elevation | 200 ft WC | |
| Brine Engine Total Fall | 1280 ft WC | |
| Brine Engine OSE | 94 % | |
| Brine Engine flow | 500000 gpm | 720.0 MGD |
| Brine Engine Theoretical power | 161616 HP | 120.5 MW |

Membrane Bank Stats

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|--------------------------------------|-------------|------------|
| Membrane sea water input flow | 1000000 gpm | 1440.0 MGD |
| Membrane brine water discharge ratio | 50 % | |
| Membrane fresh water discharge ratio | 50 % | |
| Membrane brine water output flow | 500000 gpm | 720.0 MGD |
| Membrane fresh water output flow | 500000 gpm | 720.0 MGD |
| | | |
| Membrane/Conduit fresh water ratio | 2.1 to 1 | |

Motor-Gen Stats

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|-------------------------------------|--------------------|-----------|
| Fresh Water Engine Available power | 135876 HP | 101.3 MW |
| Fresh Water Pump Required power | 161186 HP | 120.2 MW |
| Brine Engine Available power | 151919 HP | 113.3 MW |
| Seawater Pump Required power | 510423 HP | 380.6 MW |
| Motor-Gen Required power | 383815 HP | 286.2 MW |
| | | |
| LA Desal w/ THP, Energy per Volume | 3.11 MW*Hr/Acre*ft | |
| LA Desal w/o THP, Energy per Volume | 4.21 MW*Hr/Acre*ft | |
| Electric Water Capacity | 369272 gpm | 531.8 MGD |
| THP Capacity | 130728 gpm | 188.2 MGD |

