

**Potential Peak Power and Energy Demands of Ocean-Going Vessels in California Ports
January - June 2004**

Port Name	Vessel Type	Number of Vessel Visits in Max. Day	Total Avg. Aux. Power (kW)	Max. Potential Aux. Power (mW)	Load Factor	Avg. Aux. Power by Vessel Type (mW-hr)	Hotelling Time (hrs)	Max. Energy Usage (mW/day)
Los Angeles	Bulk	2	1,169	2.34	0.22	0.51	24	12.34
(max. day)	Reefer	1	1,300	1.30	0.34	0.44	24	10.61
6/19/04	Tanker	3	1,985	5.96	0.67	3.99	24	95.76
	Container	7	5,746	40.22	0.17	6.84	24	164.11
Total		13		49.82		11.78		282.81
Long Beach								
(max. day)	Bulk	4	2,100	8.40	0.29	2.44	24	58.46
4/27/04	Container	12	6,035	72.42	0.50	36.21	24	869.04
	Passenger	1	10,560	10.56	0.66	6.97	24	167.27
Total		17		91.38		45.62		1094.77
Oakland								
(max. day)	Container	9	6,035	54.32	0.50	27.16	24	651.78
1/28/04	Bulk	1	2,100	2.10	0.29	0.61	24	14.62
Total		10		56.42		27.77		666.40
San Francisco								
(max. day)	Container	1	6,035	6.04	0.50	3.02	24	72.42
5/17/04	Passenger	2	10,560	21.12	0.66	13.94	24	334.54
	Tanker	1	1,950	1.95	0.67	1.31	24	31.36
Total		4		29.11		18.26		438.32
San Diego								
(max. day)	Passenger	2	10,560	21.12	0.66	13.94	24	334.54
3/2/04	Bulk	3	2,100	6.30	0.29	1.83	24	43.85
Total		5		27.42		15.77		378.39
Hueneme								
(max. day)	Bulk	3	2,100	6.30	0.29	1.83	24	43.85
6/14/04	Container	2	6,035	12.07	0.50	6.04	24	144.84
Total		5		18.37		7.86		188.69
			sub-total	272.51		127.06		3049.38

All vessels are over 300 gross registered tons

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Richmond								
(max. day)	Bulk	1	2,100	2.10	0.29	0.61	24	14.62
6/23/04	Tanker	3	1,950	5.85	0.67	3.92	24	94.07
Total		4		7.95		4.53		108.68
Carquinez								
(max. day)	Tanker	4	1,950	7.80	0.67	5.23	24	125.42
5/28/04	Bulk	1	2,100	2.10	0.29	0.61	24	14.62
Total		5		9.90		5.84		140.04
Stockton								
(multiple max. days)	Bulk	1	2,100	2.10	0.29	0.61	24	14.62
	Tanker	1	1,950	1.95	0.67	1.31	24	31.36
Total		2		4.05		1.92	total	45.97
El Segundo								
(multiple max. days)	Tanker	2	1,950	3.90	0.67	2.61	24	62.71
Total		2		3.90		2.61	total	62.71
Conoco-Phillips	only two tankers first 6 months of year							
side note:	no max day							disregard
Humbolt	Container	1	6,035	6.04	0.50	3.02	24	72.42
Total		1		6.04		3.02	total	72.42
side notes:	no max day							
	17 vessels first 6-months of year							
Redwood	Bulk	1	2,100	2.10	0.29	0.61	24	14.62
Total		1		2.10		0.61	total	14.62
side note:	no max day							
Sacramento	Bulk	1	2,100	2.10	0.29	0.61	24	14.62
Total		1		2.10		0.61	total	14.62
			sub-total	36.04		19.13		459.06
				mW		mW-hr	mW/day	mW/year
Grand Totals for California Ports				308.54		146.18	3,508	1280580.16

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Data Sources: 2004 vessel visit data provided by the following agencies
California State Lands Commission
Marine Exchange of Los Angeles and Long Beach
South Coast Air Quality Management District

Assumptions: Tanker vessel type includes chemical, oil, or product tankers
Bulk vessel type includes auto carrier
Container includes general carrier
Hotelling times represent 1 day, i.e., 24 hrs.
POLB auxilliary power and load assumptions were used for all ports other than POLA.
Annual estimates were extrapolated from first six-months of 2004 vessel visit data.