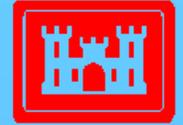


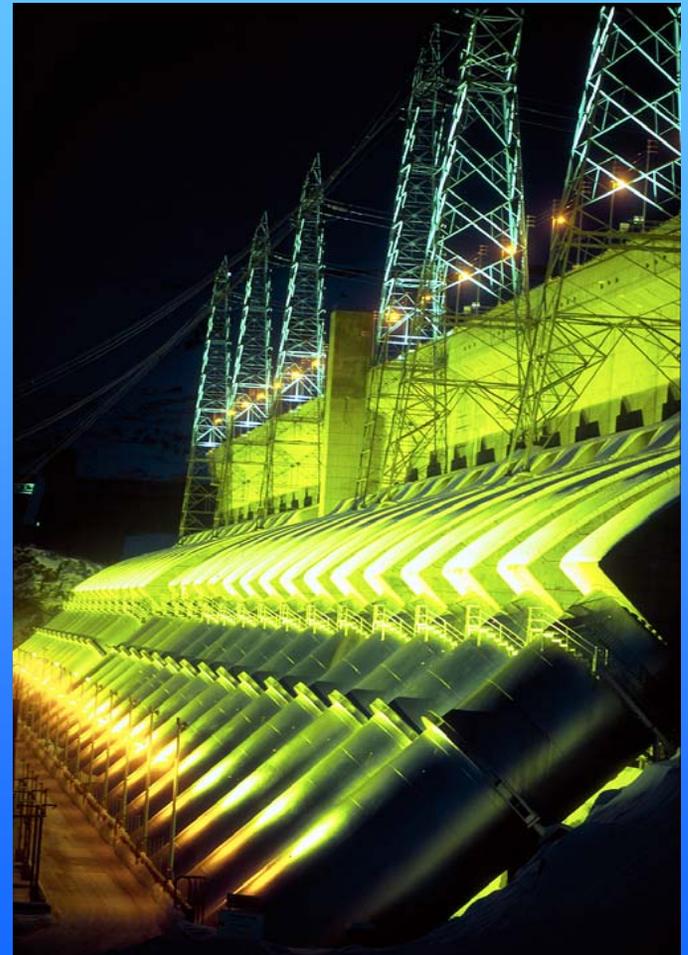


Hydropower Analysis Center



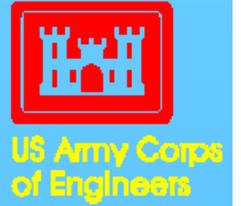
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O&M Cost Benchmarking Initiative





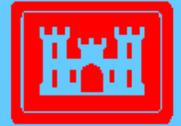
Benchmarking



- Gather Data in a Consistent Manner
- Compare to Peers



EUCG

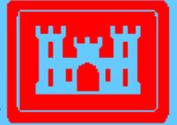


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- 450 hydro plants
- 1800 Units
- 115,000MW Capacity



2006 EUCG/HPC Quantities

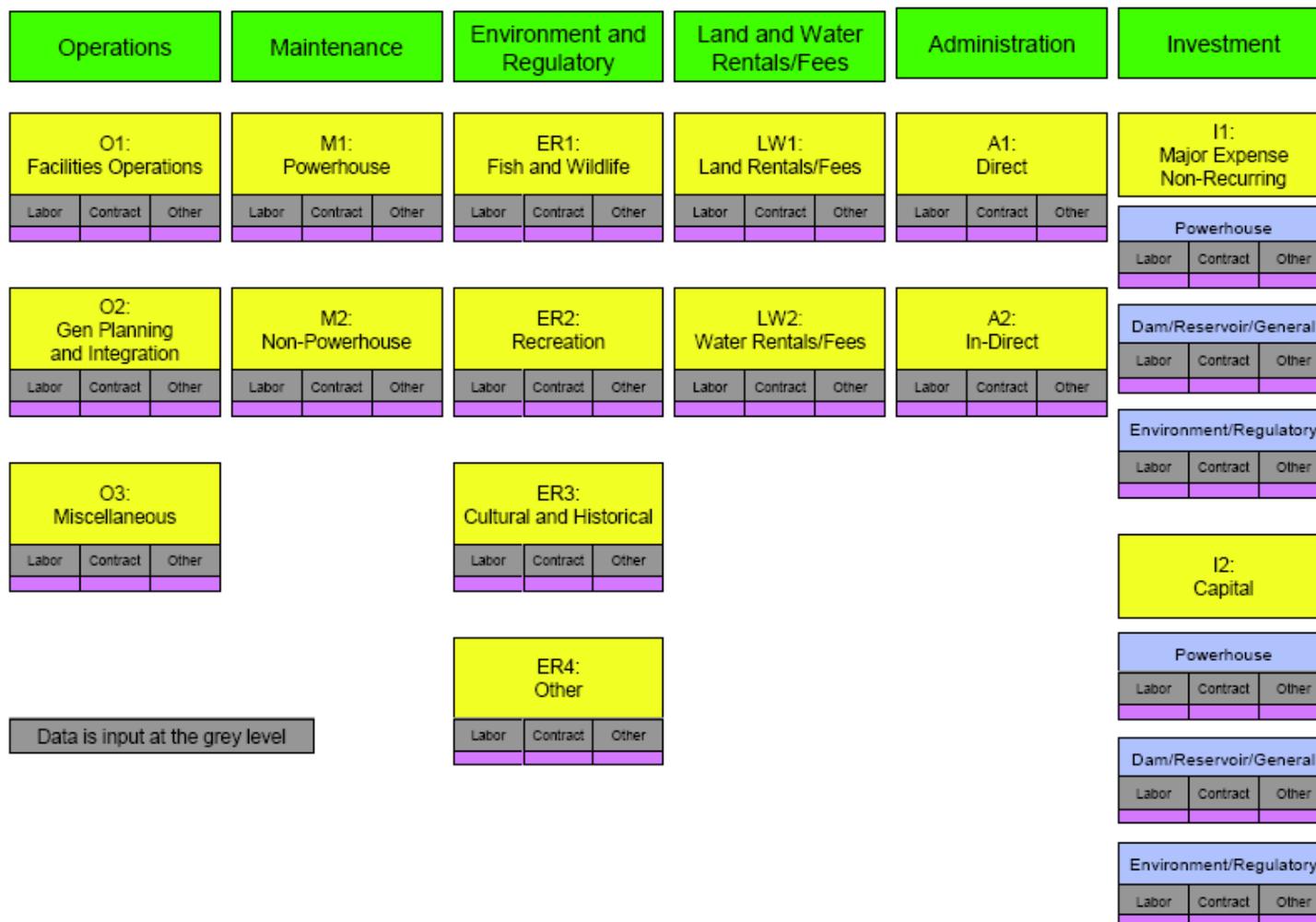


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Utility/PMA	Number of Units	Number of Plants	Gross Capacity mw	Net Generation mwh	Total Costs \$ x 1000
USACE/BPA	156	21	14,621.0	55,742,258	\$389,948.43
USACE/Contract	8	2	105.5	285,837	\$4,951.39
USACE/SEPA	85	22	4,031.1	5,694,046	\$148,244.60
USACE/SWPA	71	24	2,428.0	1,552,260	\$99,225.14
USACE/WAPA	36	6	2,543.0	6,156,867	\$47,265.79
A	22	6	1,796.9	6,713,024	\$41,196.65
C	160	30	6,892.8	33,629,479	\$811,879.55
D	113	30	5,401.5	9,960,779	\$114,929.08
E	105	13	5,083.5	31,521,436	\$145,728.12
F	110	69	3,896.2	13,836,180	\$193,084.84
J	23	6	884.0	3,470,777	\$13,709.00
N	44	14	1,710.0	3,089,358	\$33,134.75
	933	243	49,393.4	171,652,300	\$2,043,297.34



The New HPC Database Cost Structure

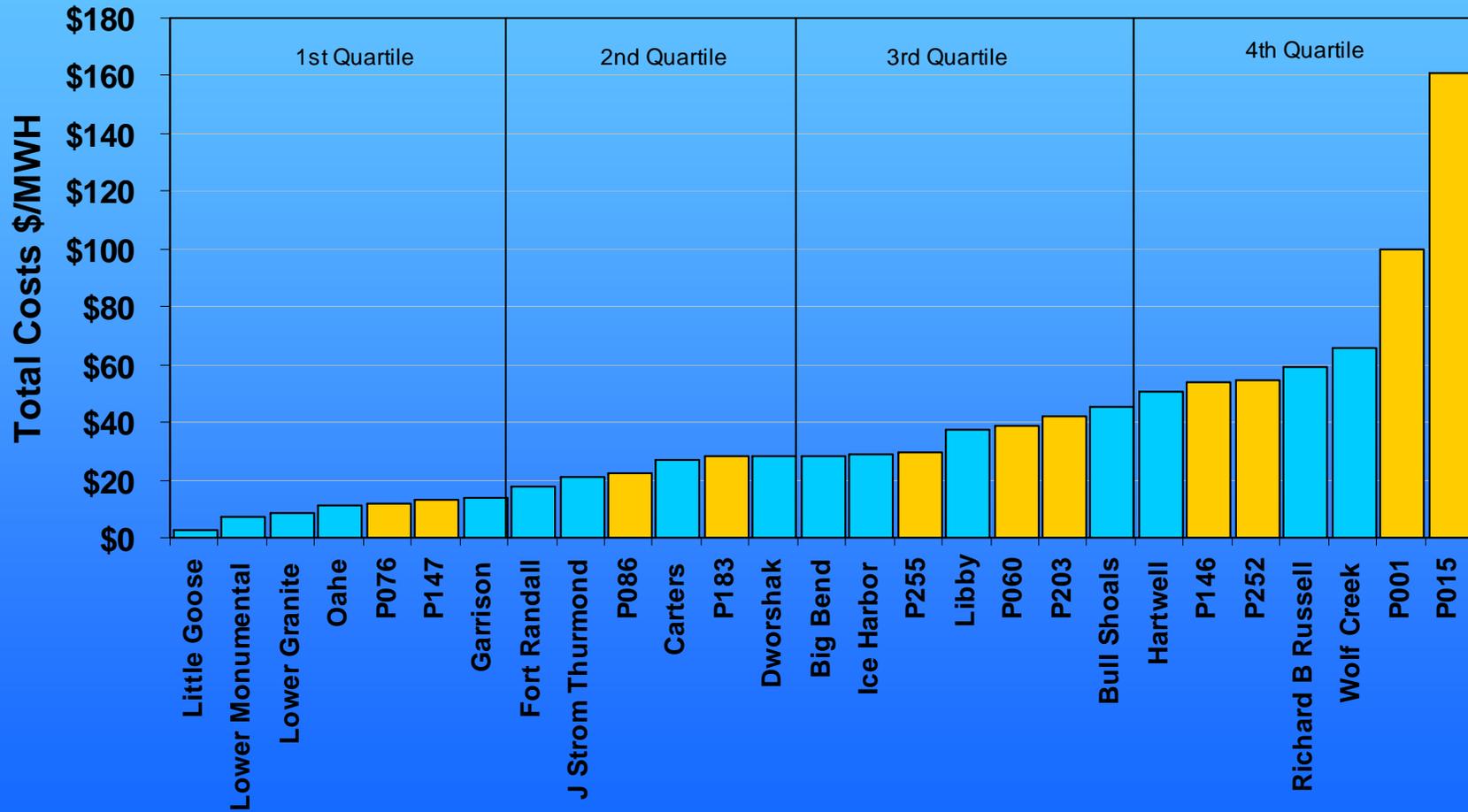




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Total Hydropower Plant Costs

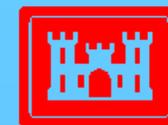
Plant Size 250MW-1000MW





HYDRO-PLANT Cost Benchmarks

Plant Sizes 250 MW – 1,000 MW



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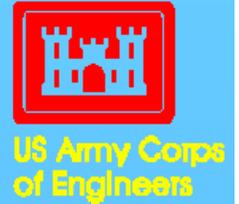
1st Quartile	\$0.64	\$3.51	\$0.24	\$0.00	\$0.57	\$5.87	\$15.87
Median	\$0.88	\$5.34	\$0.93	\$0.00	\$1.22	\$17.18	\$28.52
3rd Quartile	\$2.03	\$7.66	\$5.25	\$0.49	\$2.53	\$25.01	\$48.12
4th Quartile							
Average	\$1.62	\$5.67	\$3.43	\$3.17	\$2.36	\$21.09	\$37.34
# of Plants	27	27	27	27	27	27	27

Plant Name	EUCG Plant ID	EUCG Utility ID	Year	OPS Total	MAINT Total	ENVIR Total	FEES Total	ADMIN Total	INVSTMT Total	GRAND TOTAL
Little Goose	P135	L	2006	\$0.26	\$0.37	\$0.19	\$0.00	\$0.10	\$1.93	\$2.86
Lower Monumental	P144	L	2006	\$0.27	\$0.81	\$0.72	\$0.00	\$0.26	\$5.10	\$7.15
Lower Granite	P141	L	2006	\$0.30	\$1.62	\$1.47	\$0.00	\$0.42	\$4.45	\$8.26
Oahe	P295	S	2006	\$0.88	\$3.88	\$1.10	\$0.00	\$0.85	\$4.58	\$11.30
P076	P076	D	2006	\$0.73	\$5.34	\$0.38	\$0.00	\$0.01	\$5.52	\$11.97
P147	P147	J	2006	\$0.43	\$7.13	\$0.26	\$0.86	\$0.31	\$4.41	\$13.41
Garrison	P274	S	2006	\$1.10	\$5.58	\$1.63	\$0.00	\$1.25	\$4.26	\$13.82
Fort Randall	P281	S	2006	\$1.12	\$5.51	\$0.93	\$0.00	\$1.22	\$9.15	\$17.92
J Strom Thurmond	P269	P	2006	\$2.35	\$5.34	\$3.48	\$0.00	\$0.76	\$8.87	\$20.81
P086	P086	E	2006	\$0.63	\$5.79	\$0.11	\$9.67	\$0.04	\$6.22	\$22.47
Carters	P301	P	2006	\$2.25	\$5.17	\$7.79	\$0.00	\$0.72	\$10.72	\$26.64
P183	P183	D	2006	\$0.41	\$8.13	\$0.22	\$0.00	\$0.26	\$19.04	\$28.06
Dworshak	P067	L	2006	\$0.76	\$2.87	\$7.14	\$0.07	\$0.98	\$16.27	\$28.09
Big Bend	P297	S	2006	\$1.45	\$7.36	\$2.57	\$0.00	\$1.91	\$15.24	\$28.52
Ice Harbor	P110	L	2006	\$0.65	\$3.14	\$6.95	\$0.06	\$0.99	\$17.18	\$28.97
P255	P255	D	2006	\$0.68	\$8.88	\$0.38	\$0.00	\$1.81	\$18.05	\$29.81
Libby	P132	L	2006	\$0.83	\$4.18	\$6.55	\$0.12	\$1.01	\$25.01	\$37.71
P060	P060	C	2006	\$0.49	\$1.35	\$0.18	\$13.94	\$3.91	\$19.12	\$38.99
P203	P203	A	2006	\$6.50	\$4.58	\$0.90	\$3.51	\$1.35	\$25.01	\$41.85
Bull Shoals	P278	R	2006	\$4.46	\$13.49	\$7.23	\$0.00	\$2.67	\$17.49	\$45.34
Hartwell	P305	P	2006	\$2.61	\$7.95	\$9.03	\$0.00	\$2.79	\$28.54	\$50.91
P146	P146	C	2006	\$3.25	\$11.68	\$0.13	\$13.61	\$6.25	\$18.72	\$53.64
P252	P252	D	2006	\$0.79	\$10.00	\$0.44	\$0.00	\$9.77	\$33.35	\$54.34
Richard B Russell	P264	P	2007	\$5.78	\$8.99	\$3.95	\$0.00	\$2.39	\$37.79	\$58.89
Wolf Creek	P284	P	2006	\$1.81	\$6.71	\$28.78	\$0.00	\$1.72	\$26.97	\$65.99
P001	P001	C	2006	\$1.42	\$2.09	\$0.13	\$21.49	\$13.30	\$61.18	\$99.61
P015	P015	C	2006	\$1.51	\$5.05	\$0.00	\$22.28	\$6.80	\$125.28	\$160.92

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Benchmarking – Why?



- High-lights business practice areas for additional analysis
- Program Development Support
- Community
 - Safety
 - FTE
- Trend Analysis



Questions?



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