

SuperPhénix EXERGY BALANCE

<i>Q_th (kW)</i>		<i>η_energy</i>			
component	Resource	Product	Exergy efficiency	Irreversibilities	% total
feedwater pump	18,664.55	17,435.57	93.42%	1,228.99	0.35%
HP1 turbine	116,105.65	102,004.77	87.86%	14,100.88	3.96%
feedwater tank	85,661.13	81,923.44	95.64%	3,737.68	1.05%
extraction pump	348.39	315.85	90.66%	32.54	0.01%
HP2 turbine	123,344.54	120,012.30	97.30%	3,332.24	0.94%
LP1 turbine	109,193.35	102,190.81	93.59%	7,002.54	1.97%
HP4 turbine	85,995.41	76,765.11	89.27%	9,230.30	2.59%
HP1 mixer	73,380.37	72,049.00	98.19%	1,331.37	0.37%
HP3 turbine	82,005.53	76,895.54	93.77%	5,109.99	1.44%
LP3 turbine	77,685.57	71,597.61	92.16%	6,087.96	1.71%
condenser inlet	58,524.19	58,151.99	99.36%	372.20	0.10%
LP2 turbine	111,918.00	99,929.30	89.29%	11,988.70	3.37%
turbopump	24,979.10	21,268.74	85.15%	3,710.36	1.04%
SG inlet vane	727.97	0.00	0.00%	727.97	0.20%
primary pump	256.68	244.75	95.35%	11.93	0.00%
secondary pump	260.80	252.92	96.98%	7.88	0.00%
FWH_HP1	38,319.93	35,202.31	91.86%	3,117.62	0.88%
FWH_HP2	51,647.83	48,502.23	93.91%	3,145.60	0.88%
FWH2	26,269.71	21,113.20	80.37%	5,156.51	1.45%
LP1 mix	7,955.60	7,940.57	99.81%	15.04	0.00%
LP1 vap mix	24,853.98	23,481.44	94.48%	1,372.54	0.39%
economizer	329,149.09	294,524.03	0.00%	34,625.05	9.73% economizer-eco SG
evaporator	219,523.24	200,573.22	0.00%	18,950.03	5.32% evaporator-evap SG
IHX	916,524.82	902,077.82	0.00%	14,447.00	4.06% secondary IHX-primary IHX
LP1_2	942.22	750.42	0.00%	191.80	0.05% cond_LP2-LP1_2
LP1_main	7,743.89	5,516.16	0.00%	2,227.72	0.63% LP1-LP1_steam
reheater	58,383.29	42,394.47	0.00%	15,988.82	4.49% reheater-reheat
superheater	353,658.42	312,758.68	0.00%	40,899.74	11.49% superheater-superh SG
condenseur	56,778.81	0.00	0.00%	56,778.81	15.95% Tk = 15,00 °C
core	1,007,313.19	916,280.07	90.96%	91,033.12	25.57% Tk = 600,00 °C
global	1,007,313.19	651,350.25	64.66%	355,962.94	100.00%
T0 = 288,15 K	1,503,479.50	43.32%			