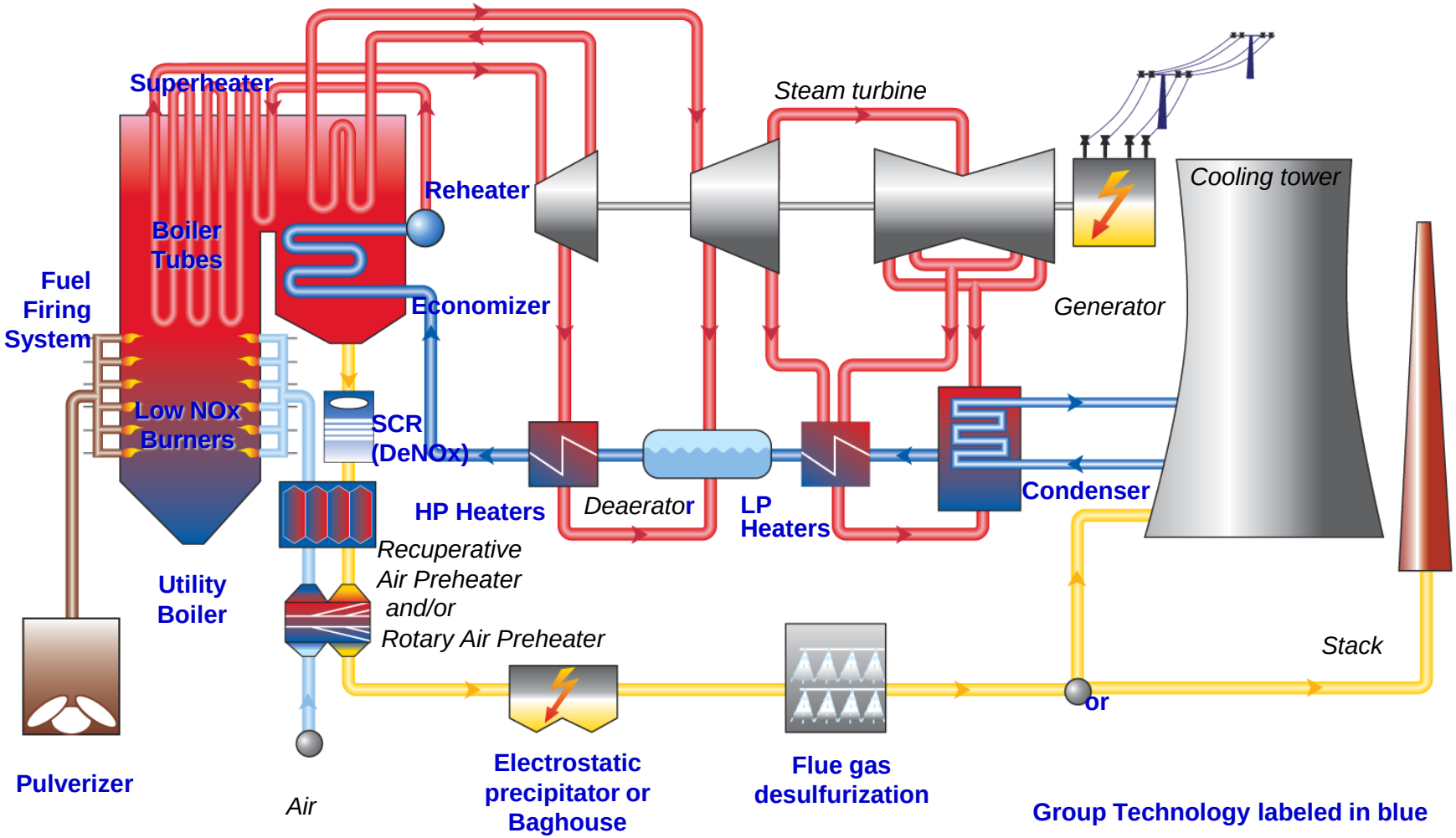
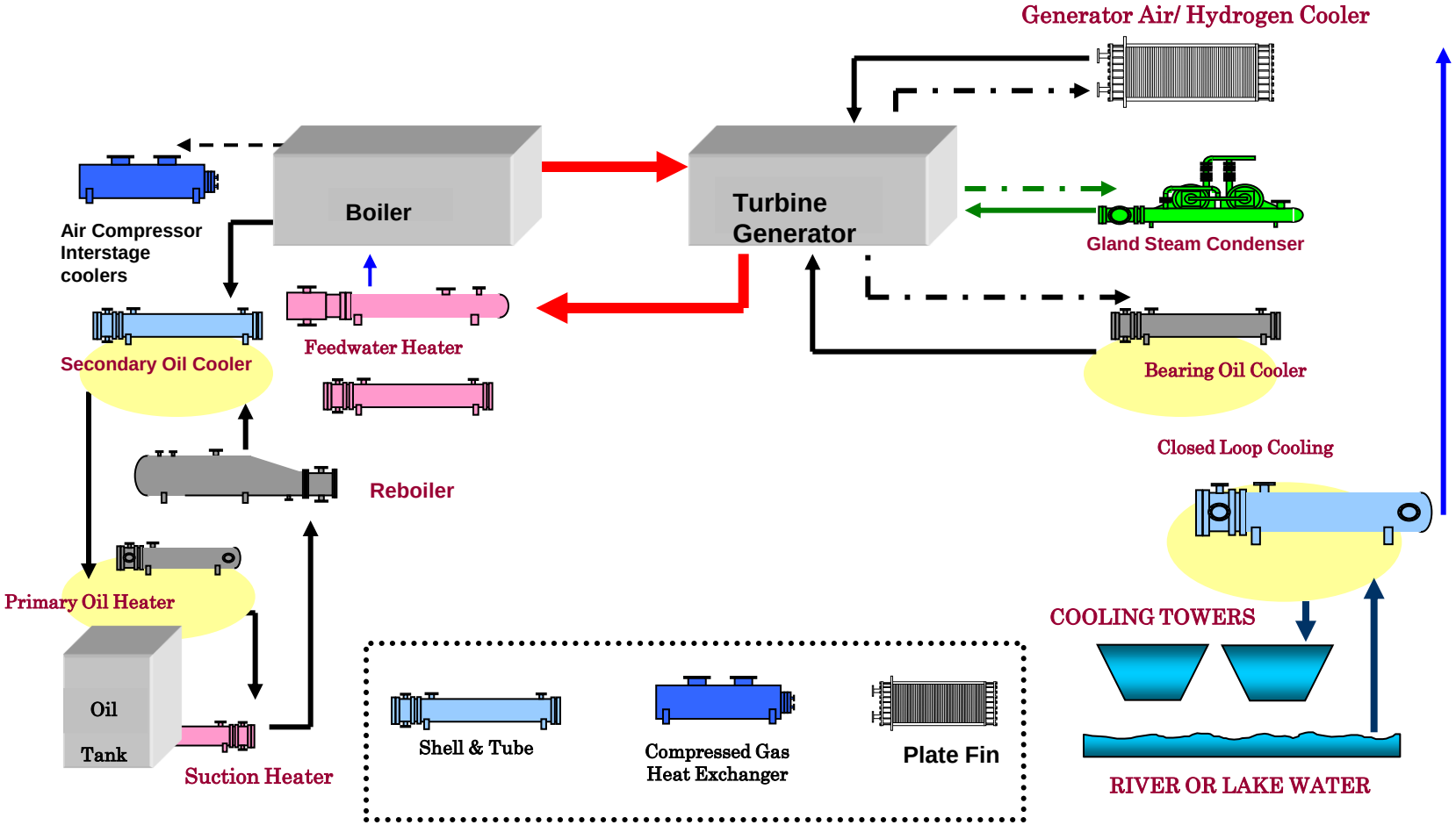
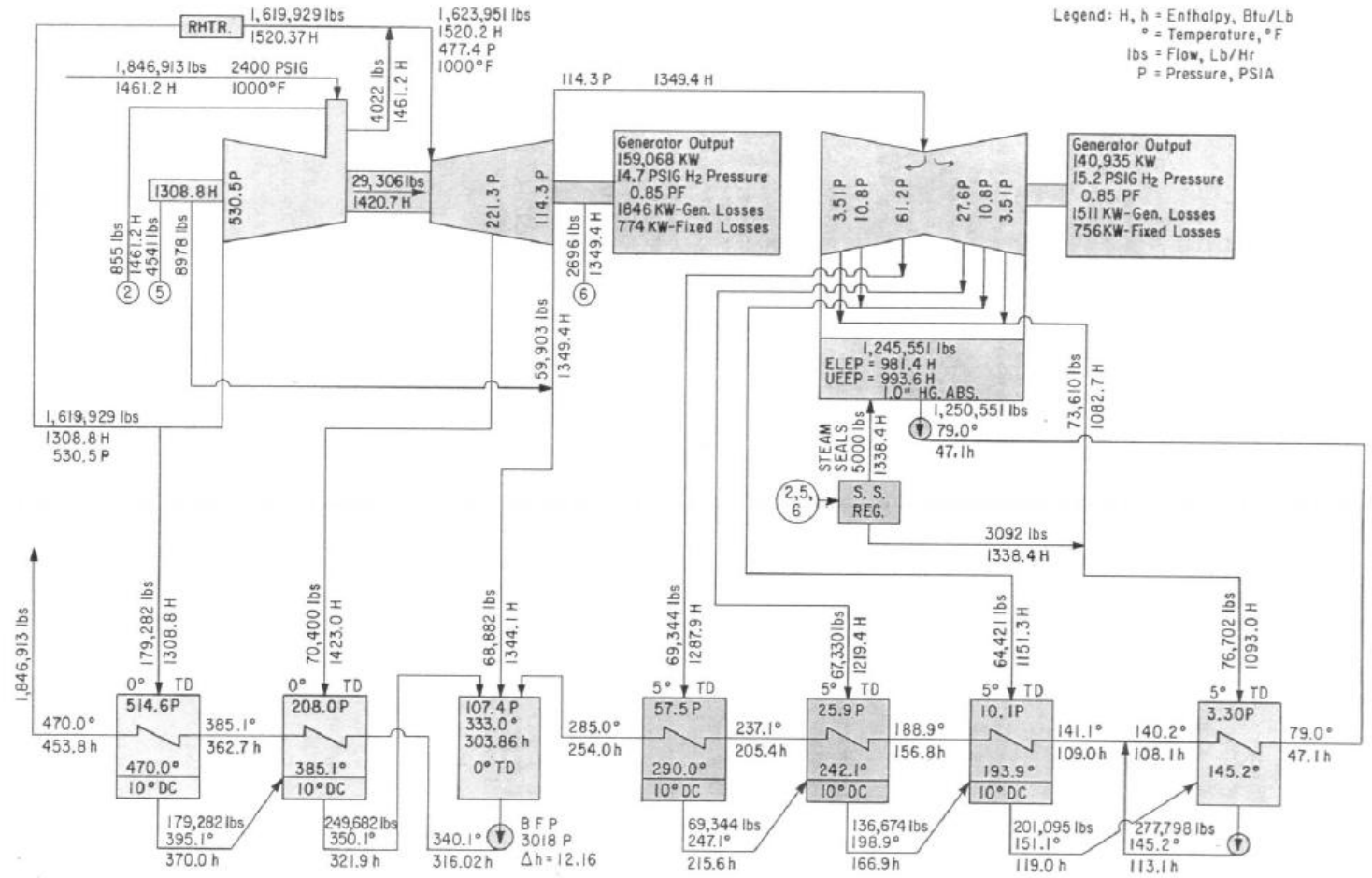


TEi Heat Exchangers in the Power Industry





Feedwater Heater Performance Data

350 MW Power Plant

Overall Heat Rate: 11,250 BTU/kW-hr
Coal caloric value: 14,430 BTU/lb
Fuel usage: 273,000 lb/hr
Carbon Dioxide emission: 8,100,000 lb/hr

	Heat Duty BTU/HR	Feedwater Temperature In, F	Feedwater Temperature Out, F	TTD, F
LP-1	95,606,000	91.70	141.40	3.9
LP-2	151,730,000	141.40	219.90	4.1
LP-3	81,100,000	219.90	261.50	4.0
LP-4	75,813,000	261.50	300.00	4.1
HP-6	194,339,000	341.90	415.60	-3.1
HP-7	198,461,000	415.50	487.40	-0.1
HP-8	190,185,000	487.40	552.20	-1.1

Coal Saving & CO2 Reduction

Coal colorific value: 11430 BTU/lb
Carbon content: 67%
Nitrogen content: 1.1%

	Boiler Eff. %	Heat Duty BTU/HR	Coal Reduced lb/hr	Carbon Saving lb/hr	CO2 Reduction, lb/hr
LP-1	89%	95,606,000	9,400	6,261	275,468
LP-2	89%	151,730,000	14,918	9,846	433,238
LP-3	89%	81,100,000	5,263	5,263	231,567
LP-4	89%	75,813,000	7,454	4,919	216,471
HP-6	89%	194,339,000	19,108	12,611	554,901
HP-7	89%	198,461,000	19,513	12,879	566,670
HP-8	89%	190,185,000	18,699	12,342	543,040
TOTAL		987,234,000	94,355	64,121	2,821,355

Effect of Diminished Performance

Feedwater Heater HP-8

Feedwater Temperature Out, F	Boiler Over-firing M BTU/hr	Additional Coal Burned, lb/hr	Additional CO2 Emitted lb/hr
552.2	0	0	0
551.7	1550	151.76	4407
551.2	3101	303.63	8817
550.7	4750	465.08	13507
550.2	6201	607.92	17632
549.7	7751	758.92	22039
549.2	9301	910.68	26446