

111Equation Chapter 1 Section 1 Table captions

Table 1 Normal distributions data for energy demands

Table 2 Details for the Solutions A, B and C

Table 3 Comparison between SMP, DMP and SSMP

Table 1 Normal distributions data for energy demands

Uncertain parameters	Mean values (GJ/h)		Standard deviations (GJ/h)	
	Summer	Winter	Summer	Winter
MP steams	627	729	94	109
LP steams	85	289	13	43
LLP steams	130	130	19	19
Cold water	253	50	38	7

Table 2 Details for the Solutions A, B and C

Concept	Point A	Point C	Point B
<i>TAC</i> [10^5 \$/year]	1673.21	816.08	440.79
<i>GHGE</i> [10^4 ton CO ₂ eq/year]	94.54	193.00	582.15
<i>CAP</i> [10^5 \$/year]	82.38	368.837	346.43
Coal cost [10^5 \$/year]	30.92	100.69	374.22
Natural gas cost [10^5 \$/year]	366.88	367.01	367.01
Cooling water [10^5 \$/year]	11.10	8.78	31.91
Power purchase cost [10^5 \$/year]	1181.94	-29.23	-678.77
Solar collector cost [10^5 \$/year]	39.00	39	0
Heat storage tank [10^5 \$/year]	141.02	133.82	0
Wind turbine cost [10^5 \$/year]	128.26	128.26	128.26

Table 3 Comparison between SMP, DMP and SSMP

Concept	SMP	DMP	SSMP
Solver	ANTIGONE	ANTIGONE	Infeasible
/Solution time (s)	/402.243	/1.101	
Single variables	21443	1300	21443
Discrete variables	202	58	160
TAC [10^5 \$/year]	906.630	816.08	---
GHGE [10^4 ton CO ₂ eq/year]	193	193	---
Capital cost [10^5 \$/year]	386.070	368.837	---
Fuel cost [10^5 \$/year]	467.162	467.701	---
Cooling water cost [10^5 \$/year]	8.872	8.775	---
Power purchase cost [10^5 \$/year]	44.527	-29.231	---