

**Siam Water Solutions Co.,Ltd.**

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# COOLING WATER SYSTEM SURVEY

COMPANY NAME		DATE:	
ADDRESS:			
Tel No.:		Fax:	
Contact Person: 1)		Designation:	
2)		Designation:	
<b>OPERATING DATA</b>			
MANUFACTURER & SERIAL NO.			
INDUCED, FORCED, OR NATURAL DRAFT			
MATERIALS OF CONSTRUCTION, GENERAL			
CIRCULATION RATE: DESIGN, (m <sup>3</sup> /h)			
ACTUAL, (m <sup>3</sup> /h)			
NUMBER OF CIRCULATING PUMPS			
AVERAGE NUMBER OF PUMPS ON LINE			
m <sup>3</sup> /h OF EACH PUMP			
SYSTEM VOLUME <input type="checkbox"/> ESTIMATED <input type="checkbox"/> ACUTAL, (m <sup>3</sup> )			
TEMPERATURE DIFFERENTIAL ( $\Delta T$ ): DESIGN, ( $^{\circ}$ C)			
( $\Delta T$ ): ACTUAL, ( $^{\circ}$ C)			
HOT RETURN TEMPERATURE, ( $^{\circ}$ C)			
COLD OUTLET TEMPERATURE, ( $^{\circ}$ C)			
HOURS OF OPERATION; PER DAY, DAYS PER YEAR			
FIRE PUMP (S) ON LINE (YES/NO)			
IF YES, m <sup>3</sup> /h OF FIRE PUMP (S)			
SIDE STREAM FILTER (S) (YES/NO)			
IF YES, TYPE OF MEDIA			
MANUAL OR AUTOMATIC OPERATION			
BACKWASH FREQUENCY			
EVAPORATION RATE; IN (m <sup>3</sup> /h) OR % RECIRCULATION			
WINDAGE OR DRIFT LOSS, (m <sup>3</sup> /h)			
BLEEDOFF RATE, (m <sup>3</sup> /h)			
MAKEUP RATE, (m <sup>3</sup> /h)			
FREQUENCY OF PUMP SEAL REPLACEMENT			

OTHER:			
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### ENVIRONMENTAL REGULATIONS

REGULATORY AUTHORITY (LOCAL, STATE,CENTRAL,OTHER):	
P.C.B. PERMIT <input type="checkbox"/> DATED	EFFLUENT TREATMENT : <input type="checkbox"/> TYPE
DISCHARGE LIMITS:	
BOD <sub>5</sub> ..... ppm*	ZINC ..... ppm as .....
COD ..... ppm	CHROMATE ..... ppm as .....
COLOR ..... as .....	CHROMIUM ..... ppm as .....
	PHOSPHATE ..... ppm as .....
OTHER .....	OTHER ..... OTHER .....

\*or mg/L

### EQUIPMENT INSPECTIONS

CORROSION:				
LOCATION(S) :				
CORROSION TESTING, LOCATION OF COUPONS:			FREQUENCY OF TESTING	
CORROSION RATES (MPY), PRESENT:			HISTORICAL:	
LOCALIZED CORROSION, SEVERE YES <input type="checkbox"/> NO <input type="checkbox"/>				
DEPOSITION	SCALE	FOULING	MICROBIOLOGICAL	PROCESS CONTAMINATION
LOCATION				
TYPE				
FREQUENCY AND SEVERITY				
COMMENTS:				
RESULTS OF COOLING TOWER INSPECTION (include basin, fill, distribution deck, plenum etc)				
FREQUENCY OF CRITICAL HEAT EXCHANGER CLEANING (indicated partial or general cleaning):				
TYPE OF CLEANING				
BUNDLE REPLACEMENT:				
PROCESS LEAKS:				
<input type="checkbox"/> NONE <input type="checkbox"/> HYDROCARBONS <input type="checkbox"/> GLYCOL <input type="checkbox"/> H <sub>2</sub> S <input type="checkbox"/> AMMONIA <input type="checkbox"/> MERCAPTANS <input type="checkbox"/> NITRATE <input type="checkbox"/> OTHER .....				

### MICROBIOLOGICAL DATA

LOCATION: <input type="checkbox"/> TOWER <input type="checkbox"/> BASIN <input type="checkbox"/> TUBE SHEET <input type="checkbox"/> OTHER .....
QUANTITY ? ..... TYPE? ..... COLOUR? .....
TREATMENT USED IN PAST : .....
BIOCIDE TREATMENT USED NOW : .....
CHLORINATION : <input type="checkbox"/> CONTINUOUS <input type="checkbox"/> SHOCK <input type="checkbox"/> RESIDUAL <input type="checkbox"/> PPM APPLIED TO:
POUNDS CHLORINE PER DAY? ..... ROTTEN EGG ODOR NOTICED? ..... PRESENCE OF IRON BACTERIA? .....
CHLORINATOR CAPACITY .....
REMARKS

**CRITICAL AND/OR MAJOR HEAT EXCHANGERS**

SYSTEM IDENTIFICATION			
COOLING WATER ON SHELL OR TUBESIDE			
MATERIAL OF CONSTRUCTION: TUBES			
TUBE SHEET			
SHELL			
NUMBER OF PASSES			
WATER FLOW, m <sup>3</sup> /h: DESIGN, (°C)			
ACTUAL, (°C)			
INLET WATER TEMPERATURE : DESIGN, (°C)			
ACTUAL, (°C)			
DESIGN HEAT LOAD (KJ/h),(Kcal/hr)			
OUTLET WATER TEMPERATURE: DESIGN, (°C)			
ACTUAL, (°C)			
PRESSURE DROP (Δ P): DESIGN, (°C)			
ACTUAL, (°C)			
VELOCITY (m/s) OF COOLING WATER : DESIGN			
ACTUAL			
IDENTIFY ANY VALVES THROTTLED			
PROCESS FLOW, m <sup>3</sup> /h : DESIGN			
ACTUAL			
INLET PROCESS TEMPERATURE: DESIGN, (°C)			
ACTUAL, (°C)			
OUTLET PROCESS TEMPERATURE: DESIGN, (°C)			
ACTUAL, (°C)			
IF SURFACE CONDENSER, VACUUM : DESIGN, IN.HG.			
ACTUAL,IN.HG.			
CONNECTIONS FOR BACKWASH (YES/NO)			
BACKWASH FREQUENCY			
CONNECTIONS FOR AIR BUMPING (YES/NO)			
AIR BUMPING FREQUENCY			
CONNECTIONS FOR BLOWDOWN PORTS (YES/NO)			
BLOWDOWN FREQUENCY			
OTHER: _____			

**MAKEUP WATER DATA**

SOURCE (WELL, SURFACE, OTHER):	IF CONDENSATE IN MAKEUP, PERCENT:
EXTERNAL TREATMENT :	
TEMPERATURE :	IDENTIFY SAMPLES SUBMITTED OR ATTACH WATER ANALYSIS:

