Weekly Inspection

Year:System:		 						 	 	
Location:		 						 	 	
Y=Satisfactory	ow)		N/A	\ =Nc	ot Ap	plica	able			
Date										
Inspector										
Heat in pump room is 40°F or higher										
Operating louvers in pump room appear operational										
Pump suction, discharge, and bypass valves are open										
No leaks in piping or hoses										
Fire pump leaking one drop of water per second at seals										
Suction line pressure is normal										
Suction line pressure is normal										
Wet pit suction screens are unobstructed and in place										
Water flow test valves are in the closed position										
Suction reservoir is full										
Controller pilot light (power on) is illuminated										
Transfer switch normal; power light is illuminated										
Isolating switch for standby power is closed										
Reverse-phase alarm light is not illuminated										
Normal-phase rotation light is illuminated										
Oil level in vertical motor sight glass is normal										
Diesel fuel tank is at least two-thirds full										
Controller selector switch is in "auto" position										
Voltage readings for batteries (2) are normal										
Charging current readings are normal for batteries										
Pilot lights for batteries are on or battery failure pilot lights are off										
All alarm pilot lights are off										
Record engine running time from meter										
Oil level is normal in right-angle gear-drive pumps										
Power to jockey pump is provided										
Crankcase oil level is normal										
Cooling water level is normal										
Electrolyte level in batteries is normal										
Battery terminals are free of corrosion										
Water-jacket heater is operational										
For seam-driven pumps, seam pressure is normal										
Examine exhaust system for leaks										
Check lube oil heater for operation (diesel pumps)										
Drain condensate trap of cooling system										
Check for water in diesel fuel tank										

Ref No: FP/WI/17/SSCL/01



Monthly Inspections

Year:	System:							
Location:								
Y =Satisfactory	N =Unsatisfactory (expla	in belov	w)	N/A=	Not App	licable	<u>!</u>	
Date								
Inspector								
Remove battery corro	sion; clean and dry battery case							
Check battery charger	and charger rate							
Equalize charge in bat	tery system							
Exercise isolating swit	ch and circuit breaker							
Inspect, clean, and tes	st circuit breakers							

Ref No: FP/MI/17/SSCL/01

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SAUDI BINLADIN GROUP OPERATION & MAINTENANCE

FIRE PUMPS

Quarterly Inspections

Year:	System:					
Location:						
Y =Satisfactory	N =Unsatisfactory	(explain below)	1	N/A =Not App	olicable	
Date						
Inspector						
Check crankcase breathe	r on diesel pump for pr	oper operation				
Clean water strainer in co	ding system for diesel	fire pump				
Check exhaust system ins	ulation for integrity					
Check exhaust system cle	arance to combustible	s to prevent fire haza	ard			
Check battery terminals t	o ensure they are clear	n and tight				
Check electrical wiring fo						
Check operation of safety	devices and alarms (se	emi-annually)				
Comments:						
					 	

Ref No: FP/QI/17/SSCL/01

Annual Inspections

Year:	System:			
Location:				
Y =Satisfactory	N=Unsatisfactory (explain	ı below)	N/A =Not Applicable	
Date				
Inspector				
All pumps-Hydraulic Sy	rstem			
Suction pressu	re gauge:psi (ba	r)		
		(bar)		
	re from pressure switch in cor	ntroller:	psi (bar)	
Pump run time from o	controller:m	inutes		
Suction line control va	alves are sealed open			
Discharge line control	valves are sealed open			
Bypass line control va	lves are sealed open			
All control valves are	accessible			
Suction reservoir is fu	II			
Pump shaft seals drip	ping water (1 drop per second	(b)		
System is free of vibra	ation or unusual noise when r	unning		
Packing boxes, bearin	gs, and pump casing are free	of overheating		
Check pump shaft end	d play			
Check pump coupling	alignment			
Electric Fire Pumps On	ly			
Isolating switch is close	ed to standby power source			
Normal-phase rotation	pilot light is on			
Reverse-phase pilot lig	ht is off			
Oil level in vertical mot	tor sight glass is in normal ran	ge		
Check accuracy for pre	ssure gauges and sensors			
Trip circuit breaker				
Check voltmeter and a	mmeter for accuracy (5 perce	nt)		
Check for corrosion on	any printed circuit boards			
Check for cracked elect	trical insulation			
Check for leaks in plum	nbing parts			
Check for water in elec	trical parts			
Steam Fire Pumps Only	у			
Steam pressure gauge	reading normal:p	si (bar)		
Record time to reach re	unning speed:	minutes	seconds	
Diesel Fire Pumps Only	У			
Diesel tank is two-third	ds full			
Batteries are fully char	ged			
Battery charger is oper	rating properly			
Battery terminals are c	lean			
Battery state of charge	is checked			
Battery pilot lights are	on			
Battery-failure pilot lig	hts are off			
Engine-running-time m	neter is recording pump opera	ition properly		
Oil level in right-angle a	gear drive is normal			
Diesel engine oil level i	s full			
Check for water in the	fuel system			

Ref No: FP/AI/17/SSCL/01

Annual Inspections (Cont.)

Check piping for leaks	
Check tank vents and overflow piping for obstructions	
Check antifreeze protection level	
Check diesel exhaust system hangers and supports	
Tighten control and power wiring connections	
Diesel engine water level is full	
Water-jacket heater appears to be working properly	
Water-jacket piping is drip tight	
Diesel engine water hose is in good condition	
Coolant antifreeze protection id adequate	
Cooling line strainer is clean	
Solenoid valve is operating correctly	
Bearings and valves are lubricated	
System components	
Casing relief valve is free of damage	
Pressure relief valve is free of damage	
All valves, fittings, and pipes are leak tight	
Condensate drain trap is clean	
Fire pump controller power is on	
Transfer-switch normal pilot light is on	
Jockey pump is operational	
Jockey pump controlled power is on	
Jockey pump controller is set on "auto"	
Fire pump shaft coupling appears properly aligned	
Packing glands appear properly adjusted	
Test header control valve is closed	
Test header is in good condition	
Test header valves and caps are in good condition	
Test header valve handles are in good condition	
Test header valve swivel rotation is nonbinding	
Bypass control valves are open	
Control valves are sealed/not tampered	
Control valves are locked/tampered	
Control valves are properly tagged and identified	
Flow meter control valves are closed	
Relief valve and cone are operational	
Relief-valve pressure appears properly adjusted	
Comments:	

Ref No: FP/AI/17/SSCL/02



Quarterly and Semi-Annual Maintenance

Year:	System:			
Location:				
Y =Satisfactory	N =Unsatisfactory (explain below)	N/A =Not Applicable		
Quarterly				
Date				
Inspector				
Clean Strainer				
Clean filter				
Clean dirt leg				
Clean crankcase breathe	er			
Clean and tighten batter	ry terminals			
Clean water strainer of o				
Examine wire insulation	for breaks, cracks, or chafing			
Semi-Annually (diesel	pumps only)			
Date	<u> </u>		 ,	
Inspector				
Test antifreeze level				
Inspect flexible exhaus	st section of diesel exhaust piping			
Clean boxes, panels, a				
	arms for proper operation			
Comments:				

Ref No: FP/QSAM/17/SSCL/01

Annual Maintenance

Year:	System:	
Location:		
Y =Satisfactory	N =Unsatisfactory (explain below)	N/A =Not Applicable
Date		
Inspector		
Lubricate pump bearin	gs	
Lubricate coupling		
Lubricate right-angle go		
Grease motor bearings		
Replace flexible hoses		
Replace oil at 50 hours		
Replace oil filter at 50 l		
Calibrate pressure swit		
Check accuracy of pressu		
Clean pump room louvers		
	n material from diesel fuel tank	
Rod out the heat exchang		
Fire pump controller in se		
Jockey pump controller in		
Fire alarm panel "normal	"	
Comments:		

Ref No: FP/AM/17/SSCL/01

Weekly Operating Tests

Year:	System:			
Location:				
Y =Satisfactory	N=Unsatisfactory (explain below) N/A=Not	Applicabl	e	
Date				
Inspector				
Operate diesel fire pur	mp for 30 minutes weekly			
Check packing gland ti	ghtness (slight leak at no flow)			
Record suction pressu	re from gauge in psi (bar)			
Record discharge pres	sure from gauge in psi (bar)			
Adjust gland nuts if ne	ecessary			
Check for unusual nois	se or vibration			
Check packing boxes,	bearings, or pump casing for overheating			
Record pump starting	pressure			
Observe time for motor	or to accelerate to full speed (diesel and steam pumps)			
For reduced-voltage o	r reduced-current starting, record time controller is on first step			
Record time pump rur	ns after starting for pumps having automatic stop feature			
Record time for diesel	engine to crank			
Record time for diesel	engine to reach running speed			
-	ge, speed indicator, and water and oil temperatures while engine is			
running Chack heat exchanger	for cooling water flow			
	e for steam-operated pumps			
Check water tank float		+		+ + + -
Check solenoids for pr				
Check controller alarm	or (internal combustion engine only)			
	the inspector believes to be significant. Place a number in the block			
-	sponding note on the reverse of this form			
comments:				

Ref No: FP/WOT/17/SSCL/01



Monthly and Semi-Annual Tests (DIESEL ONLY)

Year:System:															
Location:															
Y=Satisfactory N=Unsatisfac	ctory (explain below)	N/A =Not Applicable													
Monthly															
Date															
Inspector															
Exercise isolating switch and circuit breake															
Test antifreeze to determine protection le															
Test batteries for specific gravity or state of															
Test circuit breakers and fuses for proper of															
Operate electric fire pump for 10 minutes															
Semi-Annually															
Date															
Inspector															
Operate manual starting means															
Operate safety devices and alarms															
Comments															

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Ref No: FP/MSAT/17/SSCL/01

Annual Performance Tests

Date:	Inspector:	System:
Location:		
Pump ma	nufacturer and model	
Туре	☐ Centrifugal ☐ Turbine	
Controller	manufacturer and model	
Rated Cap	pacity	gpm (L/min)
Water sup	pply source	
Rated pre	ssure	psi (bar) Rated speedrpm
Power	☐ Electric ☐ Diesel ☐ Steam	1
Automatics	tarts performed 10 times	Timer indicates total run time: min
	start functions properly	Timer reset and graph paper changed?
	top functions properly	Test data and flow charts completed. (Attach all
		water flow charts, electrical power charts,
Automatic s		performance curves, etc.)
	ts performed 10 times	Fire pump electrical power readings recorded at
	t functions properly	each flow condition
	o functions properly	Fire pump motor speed: rpm
Manual star		Fire pump discharge flow: gpm (L/min)
		Jockey pump is operational
		Jokey pump appears properly aligned
	t functions properly of functions properly	Jockey pump valves are open
-		Jockey pump "turn-on": psi (bar)
Remote star	rt: psi (bar) psi (bar)	Jockey pump "turn-off":psi (bar)
Comments_		
Ref No: FP/APT	/17/SSCL/01	



Annual Test Summary Page

Date:	Inspector:	System:		
Location:				
Y =Satisfactory	N =Unsatisfactory (explain below)	N/A =Not App	licable	
1-Satisfactory	14-0113ati31actory (explain below)	Test 1	Test 2	Test 3
Approximate percent o	f rated pump discharge (gpm)/(L/min)	0	100%	150%
Nozzle size in inches (m		No flow	100/0	25075
Pitot pressure in psi (ba		None		
Flow in gpm (L/min)	-	None		
Pump suction in psi (ba	r)			
Pump discharge in psi (
	rge pressure minus suction pressure)			
Pump speed (rpm)				
Operate electric circuit				
Test emergency power				
Check for excessive bac	k pressure in exhaust system			
Comments				

Ref No: FP/ATSP/17/SSCL/01



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FIRE PUMPS

Flow and Pressure Record

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Ref No: FP/FPR/17/SSCL/01