SITE survey. APP

SITE SURVEY REPORT

Pump Maintenance

Prepared for	Derwent Hotels Ltd
Date	27 Sep 2026
Site	Derwent Street Hotel, Derby
Prepared by	C. Nwosu

FORM

Pump Maintenance

1. Record details and scope

Project	Derwent Street Hotel, Derby: heating pump service (completed example)
Site or premises address	Derwent Street Hotel, 30 Derwent Street, Derby
Client or organisation	Derwent Hotels Ltd
Record date	27 Sep 2026
Person completing the record	C. Nwosu

For competent maintainers. This is not a pressure test certificate, hazardous-area approval or permission to open an unisolated system.

2. Equipment and work

Pump asset ID and location	P-LTHW-2, heating circuit pump (standby), basement plant room
Manufacturer, model and serial number	End-suction close-coupled pump, 4 kW. Serial number on the asset label, recorded in the plant register.
Maintenance procedure and revision	Pump maintenance procedure PM-PMP-03 rev 4
Technician and competence reference	C. Nwosu, mechanical maintenance technician, Trent Mechanical Ltd, card TM-0457
Planned work and exclusions	Six-monthly service: mountings, coupling, seal, bearings, strainer, run test and readings. Excludes motor rewind and pump overhaul.
Safe isolation or permit reference	Isolated at MCC starter, locked off tag TM-L-07. Suction and discharge valves closed for strainer clean. Permit PTW-DSH-0927.

3. Duty and conditions

Fluid, hazards and safety data reference	Low temperature hot water with inhibitor, about 70 °C. Hot surfaces and scalding risk. Inhibitor data sheet SDS-INH-02.
Duty point and operating range reference	Design duty on pump schedule PS-01, sheet 2
Run hours and duty or standby role	About 1,950 hours on this pump. Standby to P-LTHW-1, changed over weekly by the BMS.
Reported vibration, noise, leakage or loss of performance	Engineer noticed rust staining on the casing in August. No noise or loss of heat reported.

4. Mechanical checks

Mountings and coupling condition checked	Acceptable
Seals and visible leakage assessed	Action needed
Action, limitation or reason not applicable	Slight weep at the mechanical seal, about one drop a minute when running. Casing has surface rust and dried deposits below the seal.
Bearings and lubrication checked to procedure	Acceptable
Suction and discharge connections and strainers checked	Action needed
Action, limitation or reason not applicable	Suction strainer about half blocked with scale and debris. Cleaned and refitted with a new gasket. Discharge valve stiff, exercised and now free.
Guards restored and rotation or function verified safely	Acceptable
Checks acceptable	3
Needing action	2
Not checked	0

Duty readings
Take them with the pump running on its normal duty. The pressure range, full load current and vibration alarm level come from the commissioning record, the motor plate and your procedure or the maker's data; the form sets none.

Suction gauge reading (bar)	1.2
Discharge gauge reading (bar)	2.8
Differential pressure (bar)	1.6
Lowest differential pressure expected (bar)	1.4
Highest differential pressure expected (bar)	1.8
Differential pressure against the expected range	Within the range
Full load current on the motor plate (A)	8.1
Highest phase current measured (A)	7.0
Highest phase current as a share of full load (%)	86
Vibration velocity on the bearing housing (mm/s)	2.3

Alarm level in your procedure or the maker's data (mm/s)	4.5
Vibration against the alarm level	Below the alarm level
Duty readings needing attention	0

Other measured values 1: Bearing housing temperature, drive end, after 30 minutes

Measurement point and parameter	Bearing housing temperature, drive end, after 30 minutes
Actual value and unit	48 °C
Acceptance range and source	Manufacturer guidance in PM-PMP-03 appendix B
Instrument ID and calibration reference	IR thermometer IR-06
Assessment	Within criterion

Other measured values 2: Seal leakage rate

Measurement point and parameter	Seal leakage rate
Actual value and unit	About 1 drop per minute
Acceptance range and source	No visible leakage, PM-PMP-03
Assessment	Outside criterion
Response to exception	Seal replacement booked, job TM-26-1880. Drip tray placed under the pump and duty kept on P-LTHW-1 until repaired.

5. Work and handback

Work performed and parts used	Strainer cleaned, new strainer gasket fitted. Discharge valve exercised. Casing wire brushed below the seal so leakage can be seen.
Post-work tests and evidence	Run on duty for 30 minutes. Rotation correct, no unusual noise or vibration felt. Readings above.

Defects found 1: Mechanical seal

Where on the pump or set	Mechanical seal
Defect	Weep at the mechanical seal, about one drop a minute when running. Rust staining and dried deposits on the casing below.
Priority	Soon: before the next visit
Put right on this visit?	No
What happens next, and who	Seal replacement, job TM-26-1880, C. Nwosu by 10 October. Pump kept on standby only.

Photos of the defect



Defects found 2: Suction strainer

Where on the pump or set	Suction strainer
Defect	Strainer about half blocked with scale and debris.
Priority	Routine: at the next planned visit
Put right on this visit?	Yes

Defects found 3: Discharge isolating valve

Where on the pump or set	Discharge isolating valve
Defect	Valve stiff to operate.
Priority	Routine: at the next planned visit
Put right on this visit?	Yes
Defects found	3
Urgent	0
Soon	1
Routine	2
Still open	1
Equipment handback	Restricted use
Restrictions, isolation and person informed	P-LTHW-2 left as standby only, BMS changeover suspended until the seal is replaced. Duty engineer A. Goodwin told at 13:20.

Condition and work evidence photos





6. Actions and review

Are further actions required?	Yes

Further action 1: Replace mechanical seal on P-LTHW-2. Job TM-26-1880.

Action and evidence reference	Replace mechanical seal on P-LTHW-2. Job TM-26-1880.
Person responsible	C. Nwosu, Trent Mechanical Ltd
Target date	10 Oct 2026
Action status	Open

Further action 2: Suspend weekly BMS duty changeover to P-LTHW-2 until the seal is replaced.

Action and evidence reference	Suspend weekly BMS duty changeover to P-LTHW-2 until the seal is replaced.
Person responsible	A. Goodwin, hotel duty engineer
Target date	27 Sep 2026
Action status	Completed
Completion evidence	Changeover disabled on the BMS at 13:30, screenshot on job TM-26-1880.
Outstanding limitations and information to pass on	Seal weep remains until job TM-26-1880. Pump internals not opened.
Record status	Further work needed
Reviewed by	A. Goodwin, hotel duty engineer
Review date	29 Sep 2026

Author signature



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