

FOR MALDIVES RESORT ENGINEERING & OPERATIONS TEAMS

Thermography, electrical testing & island-grid studies — proven on four Maldives resorts.



- Maldives resorts since 2019

- ISO 9001:2015 Certified (SGS/UKAS)

- Chartered Electrical Engineers

- Level III & II Certified Thermographers

- ETAP-Trained Engineers



CHEVAL BLANC RANDHELI • 3 MW FLOATING SOLAR • DESIGN, ETAP & 11 kV COMMISSIONING BY VIBHAWA



A resort in the Maldives is a small utility with very demanding customers. When a breaker that should have been selective takes down the whole island at dinner service, it is rarely the equipment alone that failed — it is the verification that was skipped. Vibhawa Consultants exists to close that gap.

We are an independent testing, thermography and power system studies firm. We do not sell switchgear, generators or solar, so the only thing our findings protect is your installation, your people and your guests' experience. Since 2019 our engineers have audited, surveyed and modelled resort networks in the Maldives — and designed and commissioned the 11 kV system behind the region's largest open-sea floating solar plant.

Colombo is ninety minutes from Malé. Our advice to every resort engineer is simple: don't regret it — test it.

Nadeera Wijesinghe

B.Sc (Eng) Hons · M.Sc (Energy Systems) · C.Eng · MIE(SL) · PMP

Founder / CEO — Chartered Electrical Engineer · Level III Certified Infrared Thermographer

4

MALDIVES RESORTS SERVED —
AUDIT, THERMOGRAPHY, ETAP &
COMMISSIONING

300+

PROJECTS DELIVERED ACROSS 7
COUNTRIES

x5

CONSECUTIVE ANNUAL
ENGAGEMENTS — TAJ EXOTICA,
MALDIVES

3

CERTIFIED THERMOGRAPHERS
IN-HOUSE — LEVEL III & II

11kV

OPEN-SEA FLOATING SOLAR
SUBSTATION DESIGNED &
COMMISSIONED

90min

COLOMBO TO MALÉ — ENGINEERS
A SHORT FLIGHT AWAY,
WITHOUT EUROPEAN DAY RATES

The independence advantage

We test, study and certify — we do not represent brands, sell equipment or do installations. Our engineers have no incentive to pass marginal work or to find problems that are not there. That is why owners trust our reports for insurers, brand auditors and boards.

Four resorts. One engineering team. Since 2019.

An island resort runs its own utility: diesel powerhouse, 11 kV ring, transformers, hundreds of villa feeders — and now solar and batteries on the same bus. Every protection setting and every loose joint is yours to own. We have been the independent engineers behind that system on four Maldives resorts.

WHERE WE HAVE DELIVERED

Cheval Blanc Randheli — Noonu Atoll

Design of the onshore and offshore substations, full ETAP model, protection co-ordination, relay testing and 11 kV / LV commissioning for the region's largest open-sea floating solar plant — with SWIMSOL, Austria.

2022–2024

3 MW • 11 kV

Taj Exotica Resort & Spa — South Malé Atoll

Electrical safety audit, thermography and ETAP island-mode protection co-ordination of the entire resort: 40 main & sub-main panels, 128 guest-room DBs, 5+2 generator island grid.

2019–2023

5 consecutive years

Conrad Maldives Rangali Island — South Ari Atoll

Electrical safety audit, thermography survey and ETAP modelling for a Hilton flagship with two islands and a sub-sea restaurant.

2025

Patina Maldives, Fari Islands — North Malé Atoll

Thermography survey of the resort's electrical distribution — surveyed live, without disturbing a single guest.

2026

Testing was carried out with calibrated instruments, in compliance with IEC and BS standards — across electrical audits, thermography and ETAP studies.

— DIRECTOR OF ENGINEERING, TAJ EXOTICA RESORT & SPA, MALDIVES

WHAT RESORT AUDITS NOW CHECK — AND WHAT WE DELIVER

AUDIT ITEM	WHAT VIBHAWA DELIVERS
Powerhouse registration & energy-authority compliance URA • REG. 2015/R-143	Verified single-line diagram, ETAP model and test dossier that make the application and inspection straightforward.
Panel covers, circuit directories, danger signage, lockout MOT • OSH REQUISITES	EICR-style audit with a close-out register — every panel photographed, classified C1/C2/C3 and tracked to completion.
Fuel tank bonding, earthing & lightning protection MNDF FIRE REG. 2015/R-43	Earth-resistance and bonding tests; lightning protection inspection to IEC 62305 / NFC 17-102.
Emergency lighting & standby supply test records MOT REQUISITE	Functional test schedule and records in WRENS, our paperless reporting platform.
The faults no checklist sees — overheating joints, overloaded neutrals, failing breakers INSURER & BRAND EHS EXPECTATION	Infrared thermography of every live panel, transformer and alternator — by Level III & II certified thermographers.

Three tiers. One visit. No guest disruption.

Choose one tier or all three. Everything is surveyed live, scheduled around occupancy, and reported in a format your GM, brand auditor and insurer can act on.

TIER 01

Thermography survey

2-4 DAYS ON SITE · 100-
200 KEYS

Powerhouse — alternators, synchronising and MV/LV switchboards, ATS · 11 kV ring, transformers and RMUs · LV distribution and villa feeders · kitchens, laundry, cold rooms, desalination and STP plant · solar PV strings, combiner boxes, inverters and battery systems.

YOU GET Prioritised findings report, every anomaly classified by severity with the corrective action and timeframe — and a baseline for year-on-year trending.

TIER 02

Electrical safety audit

3-5 DAYS ON SITE · BS
7671 · URA EIS

Periodic inspection and testing of the whole installation: panel condition and labelling, earthing and bonding, RCD / earth-fault protection, lightning protection, emergency lighting, cable condition, powerhouse and fuel-area electrical safety — led by Chartered Electrical Engineers.

YOU GET Electrical Installation Condition Report with C1 / C2 / C3 classification and a close-out register mapped to Ministry of Tourism, MNDF and brand audit items.

TIER 03

ETAP island-mode study

1-2 DAYS DATA CAPTURE ·
MODELLED IN COLOMBO

A living ETAP model of your generators, solar, batteries and distribution: protection co-ordination so the nearest breaker trips and nothing else · arc flash to IEEE 1584 / NFPA 70E with labels for every panel · solar and BESS integration, reverse-power and load-rejection checks · load flow for the next expansion.

YOU GET Selective relay settings, arc-flash labels and PPE categories, and a verified model every future project starts from.

WHEN — AND HOW WE KEEP THE COST DOWN

WINDOW 01

October – November

Pre-season: feeders can be isolated before peak occupancy. Surveys and audits.

WINDOW 02

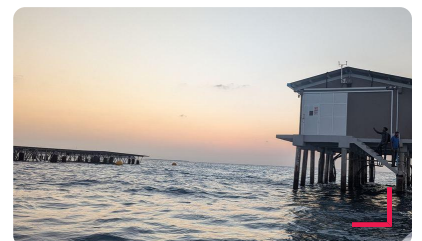
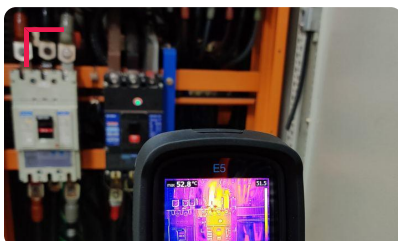
May – June

Low season: longest shutdown windows for injection testing and powerhouse work.

ATOLL CLUSTERS

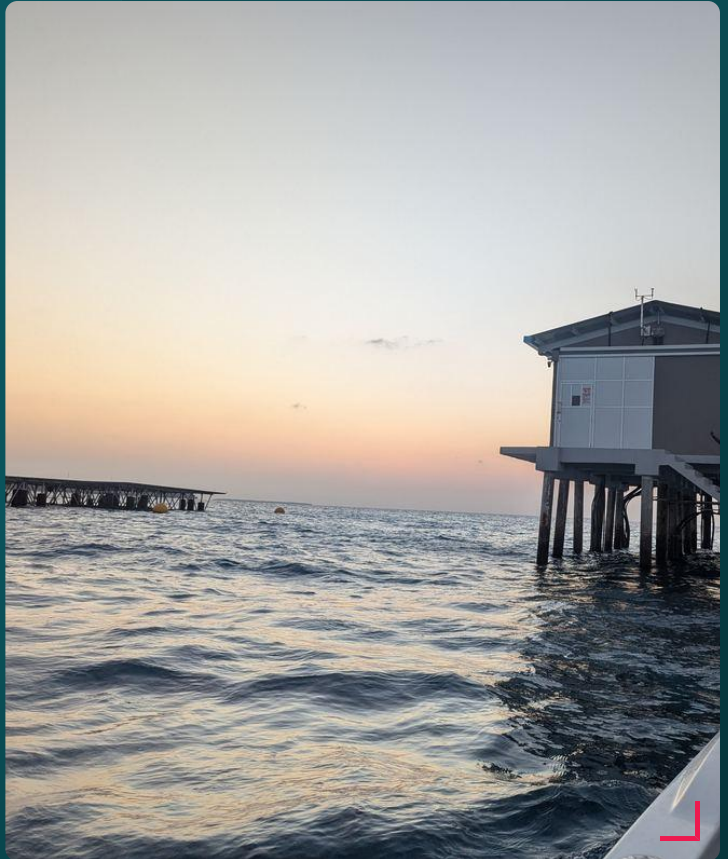
Share the transfer

Two or three resorts in one atoll share one seaplane, one freight consignment and one mobilisation — a lower price per resort.



Cheval Blanc Randheli — 3 MW floating solar, open sea.

THE REGION'S LARGEST OPEN-SEA FLOATING SOLAR PROJECT · WITH SWIMSOL, AUSTRIA · NOONU ATOLL · 2022-2024



THE CHALLENGE

Connect a 3 MW floating PV array in open sea to an ultra-luxury island resort's network — where a protection mis-grade doesn't just trip a breaker, it darkens a resort.

OUR SCOPE

Design of the onshore and offshore substations · full ETAP modelling · protection co-ordination study · relay testing · testing and commissioning of the 11 kV and LV systems.

THE OUTCOME

A floating solar plant energised safely into a live luxury-resort network, with selective protection and a verified test baseline — design through commissioning by a single engineering team.

Why it matters to you: if your resort is adding solar or batteries to a diesel island grid, this is exactly the protection and commissioning work that keeps the lights on when the cloud passes.

Find the fault before it finds you.

Non-intrusive thermal surveys of live electrical systems — powerhouse switchboards and alternators, 11 kV transformers and RMUs, villa feeder panels, kitchen, laundry, desalination and STP plant, solar PV and batteries — revealing loose joints, overloads and failing breakers while the resort keeps running. Planned, executed and reviewed by **the only in-house team of three certified thermographers in Sri Lanka** — one Level III and two Level II.

IR-01

A prioritised findings report

Every anomaly classified by severity with recommended action and timeframe — a maintenance work order, not a photo album.

IR-02

Certification to international standards

ISO 18436-7 and ASNT-aligned — satisfies insurers and corporate EHS requirements.

IR-03

Year-on-year trending

Repeat surveys compare against your baseline so deterioration is caught early — the reason Taj Exotica renewed five years running.



Behind every powerful image is a powerful story.

These two circuit breakers look identical on the daily checklist. The one on the right is developing a fault invisible to the eye — and because the circuit runs below 50% load, clamp-meter readings will never reveal it. Left unfound, it ends as a failure or a fire. Only thermography sees it in time.

REAL SURVEY FINDING — CLIENT ANONYMISED

— Drone thermography

NEW

Aerial thermal inspection of floating and rooftop solar PV, over-water feeder routes and outdoor switchyards — assets ground surveys cannot safely reach.

PROVEN ON — HOSPITALITY

Taj Exotica Maldives — 5 annual surveys

Conrad Maldives Rangali

Patina Maldives

Shangri-La Colombo

Anantara

Cinnamon Life

One Galle Face

Sheraton Kosgoda

The insurance angle — many insurers and brand EHS programmes now expect periodic thermographic inspection of hotel electrical systems.

Model the island before the island teaches you.

Nuisance tripping that blacks out the resort at dinner — or breakers that refuse to trip on a real fault? The answer is co-ordination: modelled, not guessed. ETAP-trained engineers model diesel-solar-battery island grids: load flow, short circuit, protection co-ordination, arc flash to IEEE 1584 / NFPA 70E, harmonics, and the integration checks that stop a passing cloud or a reverse-power event taking the powerhouse down.

STUDY TYPES

Island-mode operation

Protection co-ordination

Arc flash — IEEE 1584 · NFPA 70E

Solar / BESS integration

Load flow & expansion

Short circuit

Harmonics

E-01

Protection settings that are selective

The nearest device trips, not the whole island.

E-02

Arc flash labels and PPE categories

Making NFPA 70E-aligned safety programmes practical for your powerhouse team.

E-03

A living ETAP model of your network

Every future villa block, solar phase or battery starts from a verified base.

PROVEN ON

Taj Exotica Resort & Spa, Maldives

Modelling & protection co-ordination of the entire resort's distribution for island-mode operation — 40 main & sub-main panels, 128 guest-room DBs, 5+2 generator island grid.

2019–2023

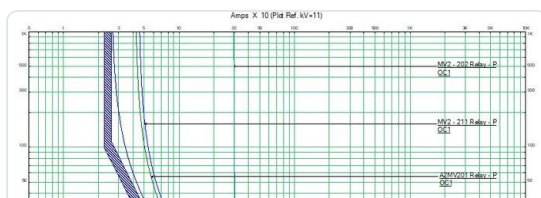
0 5 yrs

Cheval Blanc Randheli, Maldives

Full ETAP model, protection co-ordination and relay testing for 3 MW floating solar on an 11 kV resort network.

2022–2024

Also: **Conrad Maldives Rangali** — ETAP modelling, 2025 · **Snowy Hydro 2.0, Australia** — arc flash & protection studies, 100+ substations, delivered remotely.



Left: an arc-flash label from a 2026 study. Centre: relay co-ordination curves from the same model, client identifiers removed. **Remote-ready:** once your model exists, every refresh — a new solar phase, a generator swap — is delivered from Colombo without a site visit.

Energise with evidence. Audit with authority.

End-to-end testing and commissioning of **MV & LV switchboards, transformers, generators, 11 kV cables and protection systems** — insulation resistance, transformer BDV, MV cable testing, secondary and primary injection of relays, relay programming and energisation support. We also witness **factory acceptance tests** of generators, transformers and switchgear before they ship to the island — when a defect is cheapest to fix.

STANDARDS WORKED TO

BS 7671 – IET Wiring Regulations

URA Electrical Installation Standards (Maldives)

IEC – MV / HV

IEC 62305 / NFC 17-102 – lightning

Manufacturer specifications

T-01

A complete digital test dossier

Produced through WRENS — our paperless reporting platform — every value captured at the point of measurement against acceptance criteria, forming the baseline for the life of your asset.

T-02

Chartered Electrical Engineer sign-off

Recognised by utilities, authorities, brand auditors and insurers.

T-03

Protection settings verified by injection

Not assumed from drawings — proven selective before energisation.

Electrical safety audits — the resort EICR

Periodic inspection and testing to BS 7671 and the URA Electrical Installation Standards — every observation classified C1 / C2 / C3 and tracked in a close-out register mapped to Ministry of Tourism, MNDF and brand audit items.

TAJ EXOTICA MALDIVES — 5 CONSECUTIVE ANNUAL AUDITS · MAS KREEDA — 9 CONSECUTIVE · FONTERRA — 7 CONSECUTIVE



Audited process. Certified people.

Quality management

ISO 9001:2015 certified by SGS under UKAS accreditation — Certificate LK26/00000055, valid to 2029. Every survey, test and study follows documented, audited procedures. All findings and photographs are treated with strict confidentiality and shared only with the client — resort names appear in our references only with written permission.

Instruments — calibrated at accredited laboratories, certificates supplied with every report

Megger FREJA 300 relay test system

KIYU Power CYVA-402D CT/VT analyser & primary injection set

Wuhan HMJBC-702 transformer oil BDV tester

Calibrated thermal imagers & thermal drones

Power quality analysers — CA 8333 Qualistar+

Insulation, earth & loop test instruments

The engineers you will meet on the island — a ten-strong in-house team



Malki Madapatha

ASSISTANT MANAGER —
TESTING & QA

Sri Lanka's first female thermographer. Level II Certified Infrared Thermographer — ISO 18436-7 · ANSI/ASNT CP-105 & CP-189.



Dilhani Jayarathna

SENIOR PROJECT
ELECTRICAL ENGINEER

MSc Engineering · BSc Eng (Hons). Senior delivery across testing, commissioning and design — **your first point of contact for enquiries.**



Sandunika Sawandi

ELECTRICAL ENGINEER —
POWER SYSTEMS &
SIMULATIONS

BSc Eng (Hons). Dedicated ETAP simulations engineer — island-mode, protection co-ordination, arc flash and interconnection studies.



Irusha Eshanka

ASSISTANT ELECTRICAL
ENGINEER

Dip. Electrical Technology (NDIT) · Level I & II Certified Infrared Thermographer — ASNT SNT-TC-1A.

CONSULTANTS

Next step

Reserve a slot in the November or May window.

Reply with your resort name, key count and the tiers that interest you. If a neighbouring resort in your atoll is also interested, tell us — we will cluster the visits and pass the saving on.

01

Enquire

Resort, keys, tiers
of interest

02

Scope & quotation

Within five
working days

03

Joint planning

Scheduled with your engineering
team around occupancy

04

Survey / audit / study

Calibrated instruments,
your team alongside

05

Report & close-out

Prioritised findings
in WRENS



Nadeera Wijesinghe

Founder / CEO · Chartered
Electrical Engineer · Level III
Certified Infrared
Thermographer · M.Sc
Energy Systems · PMP



Malki Madapatha

Assistant Manager —
Testing & QA · Level II
Certified Infrared
Thermographer (ISO
18436-7) · Sri Lanka's first
female thermographer



Dilhani Jayarathna

Senior Project Electrical
Engineer · M.Sc · your first
point of contact for scope
and scheduling

COMPANY

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