

Adverse Weather Precautionary Plan

Extreme heat and humidity | Rain and flash flooding | Lightning | Strong wind | Dust and sandstorms | Fog | Marine conditions

Project	[Project Name]
Location	[Site / Area], Abu Dhabi, United Arab Emirates
Client / Entity	[Client Name]
Contractor	[Company Name]
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Companion document: Adverse Weather Risk Assessment, Doc. No. [CO]-HSE-RA-AWR-001. The two documents must be read and implemented together.

Document Control

Approval

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Approved by	[Name]	Project Manager / Director		

Revision History

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Distribution List

Recipient	Position / Department	Copy type
[Name]	Project Manager	Controlled (electronic)
[Name]	Construction Manager / Site Managers	Controlled (electronic)
[Name]	HSE Team and Supervisors	Controlled (electronic and hard copy)
[Name]	Subcontractor representatives	Controlled (electronic)
[Name]	Client / Entity representative	For information / approval

How to use this document: Items in [square brackets] are project-specific placeholders to be completed before issue. Thresholds and contact details must be validated against the Client/Entity requirements, the latest ADOSH-SF documents, current MOHRE circulars and the latest National Center of Meteorology (NCM) advisories. Where two requirements differ, **the more stringent applies**.

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1. Purpose and Objectives

This Plan establishes the precautionary, preventive, responsive and recovery measures that [Company Name] will implement to protect people, the environment, assets and project continuity from adverse weather conditions in Abu Dhabi. It forms part of the project OH&S Management System (ISO 45001:2018 Clauses 6.1, 8.1 and 8.2) and applies the risk-based approach of ISO 31000:2018.

Objectives

- Achieve **zero heat-related illness, zero weather-related fatalities and zero lost-time injuries** attributable to adverse weather.
- Comply with UAE Federal (MOHRE), Abu Dhabi (ADOSH-SF, EAD, DMT, Civil Defence) and Client requirements, and conform to ISO 45001, ISO 31000 and ISO 14001.
- Provide a clear, measurable **alert-level system** with defined triggers, stop-work authority and resumption criteria.
- Prevent environmental harm during weather events (uncontrolled run-off, spills, dust and waste dispersion).
- Ensure workers at the workplace, in transport and in labour accommodation are protected, informed and able to respond.
- Maintain emergency preparedness and business continuity and learn from every event to improve continually.

2. Scope and Applicability

This Plan applies to all employees, subcontractors, suppliers, visitors and third parties at [Project Name], including:

- All work areas, laydown yards, batching/fabrication yards, excavations, structures, roads and temporary works, in all project phases.
- Site offices, stores, workshops, clinics and welfare facilities.
- Labour accommodation, catering facilities and worker transport (buses and light vehicles).
- Marine, jetty, coastal and offshore-support activities, where applicable to the project.
- The following weather hazards: **extreme heat and humidity; heavy rain and flash flooding; lightning; strong wind and shamal; dust and sand storms; fog and low visibility; adverse sea state; low temperature and high UV exposure.**

Subcontractors shall adopt this Plan or submit an equivalent plan that is no less stringent and is approved by the Contractor HSE Manager before mobilisation.

3. Management Commitment and Stop-Work Authority

Top management (ISO 45001 Clause 5.1, 5.2) commits to providing the resources, competent people and time needed to implement this Plan, and confirms that **production and schedule never take priority over safety in adverse weather.**

Stop-Work Authority: Every person on site has the authority and the duty to stop any activity that becomes unsafe because of weather conditions, without fear of reprisal. Work resumes only after the Supervisor and HSE Representative confirm that conditions and controls are acceptable (Appendix D).

4. Definitions and Abbreviations

Term	Meaning
ADOSH / ADOSH-SF	Abu Dhabi Occupational Safety and Health Center / System Framework (also known as OSHAD-SF in earlier editions), administered through Abu Dhabi Public Health Centre (ADPHC).

Term	Meaning
ADPHC	Abu Dhabi Public Health Centre.
Civil Defence	Civil Defence / Fire and Rescue authority (UAE Ministry of Interior, Abu Dhabi Police), emergency number 997.
DMT	Department of Municipalities and Transport, Abu Dhabi, together with the relevant city municipality and Abu Dhabi Mobility.
EAD	Environment Agency, Abu Dhabi.
MOHRE	UAE Ministry of Human Resources and Emiratisation.
NCM	National Center of Meteorology (official UAE weather forecasts and colour-coded alerts: Yellow, Orange, Red).
NCEMA	National Emergency Crisis and Disaster Management Authority.
WGBT	Wet Bulb Globe Temperature (°C), the index used for heat stress assessment (ISO 7243:2017; ACGIH TLV).
Acclimatisation	Gradual physiological adaptation to working in heat, normally over 5 to 14 days.
ERT	Emergency Response Team.
PTW	Permit to Work.
RCD / GFCI	Residual current device / ground-fault circuit interrupter.
Competent Person	A person with the training, experience and authority to identify weather-related hazards and take prompt corrective action.
Alert Level	Project-defined response level (0 to 3) declared by management based on weather triggers (Section 7).

5. Legal and Other Requirements

In line with ISO 45001 Clause 6.1.3 and ISO 14001 Clause 6.1.3, the following requirements have been determined and are addressed by this Plan. The HSE Manager shall confirm the current edition of each reference before issue and at every review.

Authority / Standard	Requirement / reference	How this Plan addresses it
UAE Federal		
MOHRE	Federal Decree-Law No. 33 of 2021 (Labour Relations) and its Executive Regulations: employer duty to provide a safe workplace and protect workers from occupational hazards.	Sections 3, 6, 9, 12; training and welfare provisions.
MOHRE	Ministerial Resolution No. 44 of 2022 on Occupational Health and Safety and Labour Accommodation, including the Midday Break (15 June to 15 September, 12:30 to 15:00) and heat-protection duties (shade, water, cooling, awareness). Confirm the current-year MOHRE circular.	Section 9.1; Appendices A and C.
NCM	Official forecasts, advisories and colour-coded weather alerts.	Section 7 (monitoring and alert triggers).
NCEMA	National emergency and crisis management framework; national emergency alert messages and government directives (e.g., remote work, suspension of outdoor activity).	Sections 7, 10, 14.
Civil Defence (MOI)	UAE Fire and Life Safety Code of Practice; Civil Defence instructions for emergency response, evacuation, fire protection of camps, temporary structures and storage.	Sections 12, 14; fire safety under heat conditions.
Abu Dhabi Emirate		

Authority / Standard	Requirement / reference	How this Plan addresses it
ADOSH (ADPHC)	ADOSH-SF mechanisms and technical guidelines, including: Risk Management; Emergency Management; Heat Stress / Hot Weather Working; Incident Notification, Investigation and Reporting; Occupational Health; Work at Height; Lifting Operations; Excavation; Electrical Safety; PPE; Workplace Welfare and Labour Accommodation; Contractor Management.	Sections 6 to 20; Risk Assessment AWR-001.
EAD	Federal Law No. 24 of 1999 (Environment Protection and Development); Abu Dhabi Law No. 16 of 2005 (EAD) and EAD permitting requirements for discharges, dewatering, spill prevention, air quality / dust, marine and coastal works, and protection of sensitive habitats.	Section 11.
Tadweer / Waste	Abu Dhabi Law No. 21 of 2005 (Waste Management) and Tadweer requirements for waste storage, handling and disposal.	Section 11.
DMT / Municipality	Building and construction permit conditions, hoarding and temporary structure requirements, protection of public stormwater and drainage networks, road-works permits (Abu Dhabi Mobility), labour accommodation and public realm requirements.	Sections 9, 11, 12, 13.
ADSSC / Utility providers	Sewer / drainage discharge consents, protection of utility networks, and coordination during outages.	Sections 11, 14.
ADAFSA	Food safety requirements for catering and food storage in labour accommodation, particularly under high temperature.	Section 12.
International standards and guidance		
ISO 45001:2018	Clauses 4.1, 5.1 to 5.4, 6.1.1 to 6.1.4, 6.2, 7.2 to 7.5, 8.1.1 to 8.1.4, 8.2, 9.1 to 9.3, 10.2, 10.3.	Mapped in Appendix G.
ISO 31000:2018	Principles (Clause 4), Framework (Clause 5) and Process (Clause 6): scope/context/criteria, risk assessment, treatment, monitoring, recording and reporting.	Risk Assessment AWR-001; Appendix G.
ISO 14001:2015	Environmental aspects (6.1.2), operational control (8.1) and emergency preparedness (8.2).	Section 11.
ISO 22301:2019	Business continuity management (applied where the Client requires).	Section 14.7.
ISO 7243:2017; ACGIH TLV; NIOSH (2016)	WBGT-based heat stress assessment, work/rest regimes, acclimatisation and hydration guidance.	Section 9.1; Appendix C.
Manufacturer / design codes	Crane, MEWP, scaffold and temporary works wind limits (manufacturer instructions and design wind loads); recognised lifting codes (e.g., BS 7121).	Section 9.4.

6. Roles, Responsibilities and Authorities

Consistent with ISO 45001 Clause 5.3, responsibilities are assigned as follows.

Role	Responsibilities
Project Manager / Top Management	<ul style="list-style-type: none"> Provide resources (shaded rest areas, cooling, water, pumps, PPE, transport, monitoring equipment). Declare Alert Levels 2 and 3 (or delegate to HSE Manager) and authorise suspension of work. Approve schedule changes (shift patterns, rescheduling) through the management of change process. Chair post-event reviews and ensure actions are closed.

Role	Responsibilities
HSE Manager	<ul style="list-style-type: none"> Own this Plan and the Risk Assessment; ensure legal compliance and Client alignment. Verify forecasts daily and recommend Alert Levels. Ensure training, drills, inspections, audits and KPI reporting. Notify Client / ADOSH entity and authorities per incident-reporting requirements.
HSE Engineer / Officers	<ul style="list-style-type: none"> Collect daily forecasts, take WBGT / wind / visibility readings and maintain logs (Appendix B). Brief supervisors, issue alerts, inspect controls and stop unsafe work. Conduct pre-season and post-event inspections (Appendices A and E). Investigate incidents and near misses.
Construction / Site Managers	<ul style="list-style-type: none"> Plan work around weather; ensure work/rest regimes, midday break and resource availability. Implement Alert Level actions and secure works, plant and materials. Ensure subcontractors comply.
Supervisors / Foremen	<ul style="list-style-type: none"> Conduct weather-aware toolbox talks and pre-task checks; monitor workers for heat illness symptoms. Enforce rest breaks, buddy system, hydration and PPE. Stop work and report conditions beyond triggers.
Environmental Officer	<ul style="list-style-type: none"> Manage stormwater, dewatering, silt, spill, dust and waste controls; liaise with EAD / DMT / ADSSC on permits. Inspect environmental controls before and after events.
Medical / First Aid Team	<ul style="list-style-type: none"> Provide heat-illness first aid and cooling facilities; monitor at-risk workers. Maintain AEDs, first-aid kits, and ambulance liaison (998).
Emergency Response Team (ERT)	<ul style="list-style-type: none"> Execute emergency response, evacuation, head-count and rescue (Section 14).
Camp Boss / Accommodation Manager	<ul style="list-style-type: none"> Ensure cooling, water, power, food safety and shelter capacity in the camp; manage camp emergency plan.
Logistics / Transport Coordinator	<ul style="list-style-type: none"> Maintain air-conditioned transport, journey management and driver fatigue control; suspend travel at trigger levels.
Subcontractors	<ul style="list-style-type: none"> Implement this Plan for their workforce; provide competent supervisors; share monitoring data and incidents.
All workers	<ul style="list-style-type: none"> Drink water regularly, take breaks, report symptoms and hazards, look after co-workers, follow alerts, and use stop-work authority.

7. Weather Monitoring, Forecasting and Alert System

7.1 Information sources

- NCM** (website, app and official social channels): forecasts, colour-coded alerts (Yellow, Orange, Red), marine forecast, visibility and fog warnings.
- NCEMA / Abu Dhabi government** emergency alert messages and instructions; Abu Dhabi Police and Civil Defence advisories.
- EAD** air-quality index (dust / particulate matter) and any dust-event advisories.
- On-site instruments:** WBGT heat-stress monitor, anemometer (including crane-mounted), lightning detector, visibility markers and rain gauge, as available (Section 17).
- Client / Entity weather bulletins and the vessel master or marine coordinator for marine works.

7.2 Monitoring routine

Frequency	Activity	Responsible
Daily, before shift (by 05:00 in summer)	Review NCM forecast and alerts for the day and the next 72 hours; record in the Daily Weather Briefing log (Appendix B); determine the proposed Alert Level.	HSE Engineer
Hourly during outdoor work (heat season)	Measure WBGT at each main work area (or nearest representative location, in sun and shade) and apply the work/rest table (Appendix C).	HSE Officer / Supervisor
Continuous during lifting, working at height, marine and high-risk operations	Monitor wind (anemometer) and lightning; observe visibility and sea state.	Lifting Supervisor / Marine Coordinator
Weekly	Review the 7-day outlook; confirm readiness of pumps, drainage, supplies and resources.	HSE Manager / Construction Manager
On receipt of any NCM / NCEMA alert	Immediate assessment, declaration of Alert Level and cascade of communication.	HSE Manager / Project Manager

7.3 Alert levels and triggers

The Alert Level is set by the **highest level reached by any single trigger**. Triggers are project minimums; the more stringent of the Client, ADOSH, manufacturer, design or marine-master limit prevails. Levels may be raised by any Competent Person on observed conditions, even if forecasts or readings are below the trigger.

Parameter	Level 1 - WATCH (Caution)	Level 2 - WARNING (Restrict)	Level 3 - SEVERE (Stop / Shelter)
NCM alert	Yellow alert for the area	Orange alert	Red alert or NCEMA / government directive to suspend outdoor work
Heat (WBGT at work area)	>28.0 to 30.0 °C: 75/25 then 50/50 work/rest regimes (Appendix C)	>30.0 to 31.0 °C: 25% work / 75% rest (Appendix C)	>31.0 °C: stop non-emergency outdoor work; heavy work stopped earlier per Appendix C
Midday Break	Applies 15 Jun to 15 Sep, 12:30 to 15:00: no outdoor work (MOHRE)	Same	Same
Wind (sustained / gust)	25 to <32 km/h: secure loose items; re-assess lifts and exposed work	32 to <50 km/h (about 9 to <14 m/s): stop crane lifts and MEWP use (or lower manufacturer limit), façade, cladding, roofing and scaffold work	≥50 km/h: stop all outdoor work; shelter; secure site
Visibility (fog / dust)	500 to 1,000 m: reduce speeds; lights on	100 to <500 m: essential movements only; stop lifting without clear sight, earthworks and marine ops	<100 m: stop outdoor work; park and shelter
Rain	Light or intermittent rain; wet surfaces	Moderate or heavy rain; ponding, reduced visibility, slippery surfaces	Torrential rain, flash-flood risk or Orange / Red rain alert: evacuate excavations, low areas and shelter
Lightning	Thunderstorm forecast for the area	Lightning within about 16 km or thunder audible: stop work at height, in open ground, cranes and metal structures	Lightning within about 8 km or overhead: all outdoor work stops; shelter
Dust / air quality (EAD AQI)	"Moderate" to "Unhealthy for sensitive groups": respirators for exposed workers	"Unhealthy": stop dusty activities; restrict outdoor tasks	"Very unhealthy / hazardous" or dust storm: stop outdoor work and shelter
Sea state (marine works)	Waves ≥1.0 m or wind ≥20 knots: vessel master review	Waves ≥1.5 m: restrict transfers and lifting	Waves ≥2.0 m or NCM marine warning: cease marine operations; seek shelter

Note: The above are Level triggers for management response. They do not replace manufacturer limits (cranes, MEWPs, scaffolds), design limits of temporary works, or the legal Midday Break. Thresholds must be validated by the HSE Manager and the occupational physician / Competent Person and agreed with the Client.

7.4 Declaration, communication and cascade

- **Declaration:** HSE Manager recommends; Project Manager (or delegate) declares the Alert Level. Level 3 may be declared by the senior person on site if immediate danger exists.
- **Cascade:** HSE Engineer to Site Managers, Supervisors, Subcontractors, Camp Boss and Transport Coordinator via radio, phone, public-address and messaging groups. Receipt must be acknowledged and logged within 15 minutes.
- **Worker communication:** alerts, toolbox talks and signage in **Arabic, English and the main languages of the workforce** (e.g., Hindi, Urdu, Bengali, Nepali, Malayalam, Tamil, Tagalog, Pashto), supported by colour-coded pictograms and flags/beacons at gates and rest areas.
- **External:** notify the Client; coordinate with Civil Defence, Police, EAD and DMT when emergency support or regulatory reporting is required.
- **Records:** declaration time, trigger, actions, areas affected and resumption time are recorded in the Alert Log (Appendix B).

7.5 Resumption of work

Work resumes only when (a) the trigger has remained below the relevant level for a defined period (e.g., 30 minutes after the last lightning or thunder; stable wind or visibility), (b) a Competent Person has inspected the work area, plant, temporary works and electrical systems, and (c) the Supervisor and HSE Representative sign the Stop / Resume Authorisation (Appendix D).

8. General Precautionary Measures (All Weather Hazards)

8.1 Planning and operational control (ISO 45001 8.1.1 to 8.1.4)

- **Hierarchy of controls (8.1.2):** eliminate or substitute weather-sensitive tasks (e.g., schedule heavy or exposed work in favourable seasons/hours, prefabricate off-site, use mechanical aids) before relying on administrative controls and PPE.
- **Programme planning:** the construction programme shall identify weather-critical activities (concrete pours, lifting, roofing, façade, marine works, asphalt, excavations) and include seasonal float and contingency.
- **Management of change (8.1.3):** changes in working hours, shifts, methods or temporary works for weather reasons are risk-assessed and approved before implementation.
- **Procurement and contractors (8.1.4):** subcontractor selection and contracts require compliance with this Plan, provision of cooling/rest facilities for their staff and competent supervision.
- **Permit to Work:** PTW issuers and receivers must verify the weather and current Alert Level; PTWs for lifting, work at height, excavation, hot work, confined space and electrical work are **suspended automatically at Level 2 or 3** for the affected tasks and revalidated before resumption.
- **Temporary works and design:** temporary structures, scaffolds, hoardings, formwork, site cabins and tents are designed, inspected and secured for the design wind speed and drainage conditions.

8.2 Fitness for work and vulnerable workers

- Pre-placement and periodic medical fitness checks consider heat tolerance; identify workers with cardiovascular, kidney, respiratory, diabetic or other relevant conditions, those on certain medications, those with prior heat illness, new joiners and returning workers.
- At-risk workers receive restricted exposure, closer supervision and, where advised by the physician, alternative duties.
- Workers must declare illness, dehydration or fatigue; supervisors verify fitness during pre-shift checks.

8.3 Site readiness and housekeeping

- Maintain drainage channels, culverts, sumps and discharge points free of debris and silt; keep access roads graded for run-off.
- Store materials, chemicals, gas cylinders and waste in designated, stable, covered/bunded areas, away from low ground and drains.
- Keep walkways clear, mark slippery or flooded areas, provide non-slip surfaces and adequate lighting for low-visibility conditions.
- Maintain emergency lighting, standby generators and fuel, pumps, spill kits, first-aid supplies and stockpiles of emergency materials (Section 17).

8.4 PPE and welfare

- Weather-appropriate PPE: light breathable high-visibility clothing, cooling vests/neck wraps, UV-protective safety glasses, hard-hat shade/neck flaps, dust masks (FFP2 / N95 or better), rain gear, non-slip safety footwear, personal flotation devices for marine tasks.
- PPE is selected considering heat burden, compatibility with other PPE and the task risk assessment.
- Provide potable water, shaded and cooled rest areas, clean toilets, hand-washing, and food storage appropriate to the temperature.

9. Hazard-Specific Precautionary Measures

Each hazard is controlled through **Before (preparedness)**, **During (response)** and **After (recovery)** measures. Measures are cross-referenced to the Risk Assessment (AWR-001).

9.1 Extreme Heat and Humidity (Risk Assessment R-01 to R-07)

Peak exposure is June to September, but heat stress can occur from April to October, particularly in coastal Abu Dhabi where high humidity reduces sweat evaporation.

Mandatory legal control: Midday Break. From **15 June to 15 September, no outdoor work between 12:30 and 15:00.** Workers must be provided with shaded / cooled rest areas during this period. Exceptions are limited to activities recognised by MOHRE where stopping would cause technical damage or safety risk (e.g., certain concrete, asphalt or critical utility work); these require documented approval, a task risk assessment and enhanced cooling, rest and supervision. Confirm the current-year MOHRE circular.

Heat stress control programme

Element	Minimum requirements
Scheduling and work organisation	<ul style="list-style-type: none"> • Plan heavy and exposed work for early morning (e.g., start 05:30 to 06:00) and late afternoon; consider night work for critical tasks, subject to lighting, fatigue controls and DMT / EAD noise-and-night-work permissions. • Rotate workers, shorten exposure, use mechanical aids; avoid lone work in heat; apply the buddy system. • Reassess programmes when WBGT forecasts exceed Level 1.
Acclimatisation	<ul style="list-style-type: none"> • New and returning workers (absent more than 1 week) follow a graded programme. New workers: 20% of normal workload/exposure on Day 1, increasing by no more than 20% each day. Experienced workers: 50% on Day 1, 60% Day 2, 80% Day 3, 100% Day 4 (NIOSH). • Acclimatisation status is recorded and visible to the supervisor (e.g., coloured hard-hat sticker).
Hydration	<ul style="list-style-type: none"> • Cool (approx. 10 to 15 °C), potable drinking water stations within easy reach (about 50 m or 3 minutes) of every work area; replenished and sanitised. • Workers drink about 250 ml every 15 to 20 minutes while working in heat (not exceeding about 1.4 L per hour); electrolyte solution for work beyond 2 hours. • Urine colour charts in toilets and rest areas; limit caffeine and energy drinks.

Element	Minimum requirements
Shaded and cooled rest areas	<ul style="list-style-type: none"> Air-conditioned or well-ventilated shaded rest areas with seating, misting fans and water; sized for the number of workers on rest rotation; located close to work areas. Metal cabins are used only if air-conditioned and temperature-controlled.
Work/rest regime	<ul style="list-style-type: none"> Apply the WBGT-based work/rest regime (Appendix C); adjust one level stricter for heavy work, un-acclimatised or at-risk workers, and for impermeable PPE / coveralls.
Clothing and PPE	<ul style="list-style-type: none"> Light-coloured, loose, breathable clothing with high-visibility properties; hard-hat shade; UV-rated safety eyewear; sunscreen SPF 30+ provided; cooling vests/neck wraps for hot tasks; reduce PPE burden where task risk assessment allows.
Monitoring and supervision	<ul style="list-style-type: none"> WBGT monitoring by a trained person at the work area; supervisors observe workers continuously and conduct "heat checks" (symptoms, alertness, hydration) at start of shift, after each break and at mid-shift. Any worker showing symptoms stops work immediately and is taken to the rest area and medical team.
Medical readiness	<ul style="list-style-type: none"> Qualified medical staff (paramedic/nurse) on site in the heat season; clinic or first-aid room air-conditioned; cooling provisions (ice packs, cold towels, immersion tub or shower facility); AED available; transport and ambulance plan (998).
Equipment and fire	<ul style="list-style-type: none"> Shade for plant and fuel storage; check cooling systems, tyres, hydraulics, batteries and air conditioning; control hot surfaces (burn hazards); store gas cylinders and flammables in shaded, ventilated, bunded areas; heightened fire watch for hot work.
Training and awareness	<ul style="list-style-type: none"> All workers receive heat-stress awareness (causes, symptoms, prevention, first aid) in their language at induction and refreshed before each summer and in toolbox talks; supervisors are trained in WBGT use and heat-illness response.

Heat-illness recognition and first aid

Condition	Signs and symptoms	Immediate action
Heat rash / sunburn	Itchy red skin rash; red, painful skin.	Move to shade, cool the skin, keep clean and dry; first-aid treatment; report.
Heat cramps	Painful muscle spasms, heavy sweating.	Stop work; rest in a cool place; give cool water or electrolyte solution; gentle stretching; do not return to heavy work the same day if recurring.
Heat exhaustion	Heavy sweating, weakness, headache, dizziness, nausea/vomiting, pale cold clammy skin, fast weak pulse.	Stop work; move to cool area; loosen/remove clothing; cool with wet cloths and fans; give sips of cool water; do not leave alone; if no improvement within 15 to 20 minutes or symptoms worsen, call 998.
HEAT STROKE (medical emergency)	Confusion, slurred speech, irrational behaviour, collapse or seizure; hot, dry or sweaty skin; body temperature above about 40 °C.	Call 998 immediately. Cool first, transport second: immerse in cold water or apply ice packs / wet sheets and fanning to neck, armpits and groin; remove excess clothing; monitor breathing and be ready for CPR / AED; nothing by mouth if unconscious; continue cooling until paramedics take over.

9.2 Heavy Rain and Flash Flooding (Risk Assessment R-08 to R-14)

Abu Dhabi is arid, with poor natural drainage and low-lying areas that flood quickly during intense rain; exceptional events such as the April 2024 rainfall demonstrate that severe flooding is credible.

BEFORE	<ul style="list-style-type: none"> Review NCM forecasts; at Level 1, start readiness actions. Inspect, clear and desilt drains, culverts and sumps; confirm discharge routes and approvals (EAD / DMT / ADSSC); do not block public drains. Identify low-lying areas, underpasses, wadi / sabkha crossings and flood-prone access roads; designate safe high-ground muster and shelter points. Test and position dewatering pumps (with standby, fuel, hoses and generators); stock sandbags and barriers. Inspect excavation support (shoring, benching), barricades and edge protection; remove workers and equipment from the base of excavations; cover or secure stockpiles.
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	<ul style="list-style-type: none"> Elevate / protect electrical distribution boards, cables and generators; test RCDs; ensure IP-rated equipment; isolate non-essential power. Secure loose materials, waste skips, chemical stores, fuel tanks and drums; check bunds and cover them. Charge torches / radios; refuel vehicles; confirm shelter and food / water stocks in the camp.
DURING	<ul style="list-style-type: none"> Level 2: stop excavation, trenching, lifting, work at height, hot work, spray painting, concrete pours and road works in affected areas; stop use of electrical hand tools outdoors; keep clear of flooded or low-lying areas. Level 3: evacuate excavations, basements, low areas and roads; account for everyone (head-count); workers shelter in safe, elevated buildings or the camp; suspend non-essential travel. Never walk or drive through flowing or flooded water ("Turn around, don't drown"). Do not enter flooded manholes, drains or basements. Isolate power to flooded areas; treat downed or submerged cables as live. Follow instructions from NCEMA, Civil Defence, Police and Client; call 999 / 997 / 998 for emergencies.
AFTER	<ul style="list-style-type: none"> Do not restart until a Competent Person inspects excavations (bank instability, slumping), scaffolds, formwork, temporary works, lifting equipment, electrical systems and roads (Appendix E). Control dewatering to approved discharge points only, with silt control; inspect spill kits, bunds and fuel stores for contamination. Remove standing water to prevent mosquito breeding and slip hazards; clear debris; check for hazardous materials, wildlife and structural damage. Report damage and incidents; conduct a lessons-learned review.

9.3 Lightning and Thunderstorms (Risk Assessment R-15)

BEFORE	<ul style="list-style-type: none"> Monitor forecasts and lightning detector; designate lightning shelters (substantial enclosed buildings or fully enclosed metal-roofed vehicles; not tents, open sheds, isolated structures or under trees). Confirm earthing / lightning protection of temporary structures, cranes and tall plant; brief crane operators and work-at-height teams on shutdown procedure.
DURING	<ul style="list-style-type: none"> Apply the lightning trigger (Section 7.3): at about 16 km or thunder audible, stop exposed high-risk work; at about 8 km or overhead, all outdoor work stops and workers shelter. Simple rule: if you can hear thunder, you are close enough to be struck. Cranes: stop lifting, land loads, lower or stow booms per manufacturer instruction. Come down from scaffolds, ladders, MEWPs and elevated structures; stay away from open ground, water, metal fences, pipelines, tall isolated objects and electrical equipment. Stop refuelling, flammable transfers and hot work.
AFTER	<ul style="list-style-type: none"> Wait at least 30 minutes after the last lightning flash or thunder before resuming; inspect electrical systems and equipment. Lightning-strike casualties: call 998, begin CPR / AED if required (people struck are safe to touch).

9.4 Strong Wind and Shamal (Risk Assessment R-16 to R-18, R-29)

BEFORE	<ul style="list-style-type: none"> Verify temporary works, scaffolds, hoardings, formwork, signage, site offices and tents are designed and anchored for design wind loads; remove or tie back sheeting and netting where required. Secure or remove loose materials, tools, waste and packaging; lay down tall loads; lash pipes, sheets and boards; close and lock skips; weigh down or store light items. Cranes and MEWPs: confirm wind limits from manufacturer; fit and calibrate anemometers; prepare out-of-service procedure (tower cranes weathervaning, booms lowered/stowed, outriggers set). Re-check lifting plans for wind-sensitive loads (large surface area).
DURING	<ul style="list-style-type: none"> Level 2 (about 32 km/h or manufacturer limit, whichever is lower): stop crane lifts, MEWP use and work involving large sheets/panels, roofing, façade/cladding, scaffold erection or dismantling, and work at height on exposed edges. Level 3 (about 50 km/h): all outdoor work stops; people move away from edges, tall structures, scaffolds and temporary structures to safe shelter; secure site. Keep clear of falling objects; control vehicle movements; restrict access under cranes.

AFTER	<ul style="list-style-type: none"> Competent Person inspects scaffolds, formwork, hoardings, cranes, temporary structures, power lines and cables before resumption; recover debris and wind-blown waste (EAD / Tadweer compliance).
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9.5 Dust and Sand Storms (Risk Assessment R-19 to R-21, R-26)

BEFORE	<ul style="list-style-type: none"> Implement dust suppression (water bowsters/sprays, binders or stabilisers, wind fences, stockpile covers, wheel washing, haul-road wetting) using treated or approved non-potable water where available. Stock respirators (FFP2/N95 or better), sealed goggles, scarves/neck gaiters; clean or replace HVAC and equipment air filters; close windows and openings in vehicles, offices and camps. Identify workers with asthma or respiratory conditions.
DURING	<ul style="list-style-type: none"> Level 1: wear respiratory and eye protection in exposed tasks; reduce speeds; headlights on. Level 2: stop earthworks, loose bulk handling, blasting / abrasive blasting, crane lifts without visibility and marine operations; limit movements to essential only. Level 3: stop outdoor work; shelter in enclosed buildings; drivers park safely off the carriageway and wait; keep a head-count. Do not wipe eyes with dirty hands; use eyewash stations for eye irritation.
AFTER	<ul style="list-style-type: none"> Clean equipment, cabins, filters and electrical enclosures; inspect plant for dust ingress; wash and decontaminate; monitor respiratory symptoms and refer to the clinic if needed. Log dust-related complaints and report to EAD / Client as required; re-establish dust control.

9.6 Fog and Low Visibility (Risk Assessment R-22)

Fog occurs most frequently in the cooler months, especially early morning. Hazards include collisions on site roads, highways and during worker transport.

BEFORE	<ul style="list-style-type: none"> Check NCM fog alerts the evening before and at 04:30 to 05:00; plan delayed start or modified transport where visibility is expected to be poor. Ensure vehicles have working lights, fog lights, wipers, demisters and reflectors; check high-visibility clothing; provide lighting and reflective markers at junctions and crossings.
DURING	<ul style="list-style-type: none"> Follow Abu Dhabi Police advisories: reduce speed to match visibility, use low-beam and fog lights, increase following distance, do not overtake, and do not use hazard lights while moving; avoid non-essential travel; park off the carriageway if visibility is too low. On site: segregate pedestrians and vehicles, use banksmen, reduce plant movements, suspend lifting if load or signaller cannot be seen, stop marine operations. Delay worker transport until visibility improves where practicable.
AFTER	<ul style="list-style-type: none"> Resume normal operations when visibility returns above Level 1 trigger; review near-misses and collisions.

9.7 Marine and Coastal Conditions (Risk Assessment R-23, where applicable)

- The vessel master / marine coordinator holds final authority over marine operations; marine weather is monitored per NCM marine forecasts before every shift and transfer.
- Marine works follow a marine-operations and lifting plan with defined wind, wave and visibility limits; personal flotation devices are mandatory; standby rescue vessel, man-overboard and abandon-vessel drills are in place.
- At Level 2, restrict personnel transfers, lifting and diving; at Level 3, cease operations, secure vessels/barges and equipment, and seek shelter. Secure floating plant, moorings and shore facilities against storm surge and high tide.
- Environmental safeguards (fuel, spills and discharges) are maintained throughout and approvals from EAD / the relevant marine authority are held.

9.8 Low Temperature and High UV (Risk Assessment R-24, R-02)

- Low temperature / wind chill** (winter nights, marine work, cold stores): provide thermal clothing, warm drinks and warm rest areas; rotate exposure.

- **UV:** UV index is very high for most of the year; provide shade, sunscreen, UV-rated eyewear, long-sleeved breathable clothing; consider eye and skin protection part of routine PPE.

10. Alert Level Response Matrix

Level	Management and communication actions	Site and operational actions	Resumption criteria
LEVEL 0 Normal	<ul style="list-style-type: none"> • Routine daily forecast review and briefing. • Maintain drills, inspections and readiness. 	<ul style="list-style-type: none"> • Normal operations with standard controls, midday break (summer) and hydration. 	Not applicable.
LEVEL 1 WATCH	<ul style="list-style-type: none"> • HSE Manager informs Site Managers and Subcontractors. • Additional toolbox talks. • Verify resources, transport, water and pumps. 	<ul style="list-style-type: none"> • Enhanced controls: work/rest regime, secure loose items, wear respiratory / eye PPE, reduce speeds. • Supervisors increase monitoring and re-assess PTWs. 	Trigger below Level 1 or forecast clear for 2 hours.
LEVEL 2 WARNING	<ul style="list-style-type: none"> • Project Manager declares; alert issued to all. • Client and authorities notified as required. • ERT on standby; camp readiness checked. 	<ul style="list-style-type: none"> • Stop weather-sensitive activities per Section 9. • PTWs for affected tasks suspended. • Evacuate vulnerable areas; essential works only with specific approval. 	Conditions below trigger; Competent Person inspection; Appendix D signed.
LEVEL 3 SEVERE	<ul style="list-style-type: none"> • Project Manager / senior person declares; ERT activated; Crisis Management Team convened. • Continuous liaison with NCEMA / Civil Defence / Client. • Camp shelter-in-place activated. 	<ul style="list-style-type: none"> • All outdoor work stops; evacuate to shelters; head-count; secure site and utilities; remote work for office staff as directed. 	Authority "all clear" (where issued), forecast stable, full site inspection, Project Manager authorisation.

11. Environmental Protection During Adverse Weather

The Environmental Officer implements these controls in line with ISO 14001 Clauses 6.1.2 and 8.2 and EAD / DMT / Tadweer / ADSSC requirements.

Aspect	Risk during adverse weather	Controls
Stormwater and run-off	Silt-laden or contaminated run-off into public drains, sea, wadis or habitats.	Perimeter bunds, silt fences, sediment traps and settlement tanks; keep stockpiles covered and away from drains; protect inlets; approved discharge routes only (EAD / DMT / ADSSC consent); do not discharge to the sea or storm network without approval.
Dewatering	Discharge of turbid, saline or contaminated groundwater/flood water.	Approved dewatering plan and permit; treatment (silt removal, oil separation); sampling and records; avoid contact with contaminated land.
Spills and hazardous materials	Overflow of bunds, wash-off of fuel, oil, chemicals and concrete wash.	Covered or roofed bunded storage; bund water drained via oil interceptor only after inspection; spill kits; spill response drill; secure drums and tanks; emergency notification to EAD for reportable spills.
Dust and air emissions	Windblown dust from stockpiles, earthworks and haul roads; exhaust emissions in stagnant air.	Suppression, covers, windbreaks, speed limits, enclosed bulk handling; stop dusty activities at Level 2; monitoring (where required) and complaint log.
Waste	Wind and water dispersal of light waste, packaging and debris to the desert, sea or public areas.	Closed skips, daily housekeeping, secure packaging, pre-storm clean-up, waste segregation and licensed Tadweer-approved transport/disposal; retrieve any wind-blown waste.

Aspect	Risk during adverse weather	Controls
Marine / coastal and habitats	Impact on sensitive habitats (e.g., mangroves, intertidal areas, protected areas) and marine life from storm run-off and spills.	Respect EAD restrictions and buffer zones; floating booms where required; marine spill response plan; incident reporting.
Water and energy use	High consumption for cooling and dust control.	Use treated sewage effluent / approved non-potable water for dust control; efficient cooling; avoid wastage.
Noise (night works)	Noise disturbance if work is moved to night to avoid heat.	Obtain the required night-work permission; apply noise limits and mitigations; inform neighbours.

12. Labour Accommodation and Welfare

- **Cooling and ventilation:** all rooms, dining and common areas maintained at comfortable, controlled temperatures; AC serviced before summer with standby units; defect response within 24 hours (or immediately in extreme heat).
- **Power and utilities:** standby generator with fuel, power-cut plan, backup lighting and water storage; flood protection of electrical equipment and tanks.
- **Emergency stock (72 hours):** drinking water, food, first-aid, medications, torches, batteries and communication facilities.
- **Food safety (ADAFSA / municipality):** temperature-controlled storage, hygienic handling and monitoring of fridges, with safe disposal of spoiled food.
- **Shelter-in-place:** identify safe areas for 100% of residents; avoid unsafe blocks, basements and low-lying locations; post evacuation routes; Civil Defence-compliant fire safety measures.
- **Health and well-being:** access to a clinic and medical advice; welfare checks after events; monitoring of mental well-being, fatigue and rest hours; multilingual information and hotline.
- **Compliance:** meet MOHRE and municipality labour accommodation standards; inspections before summer and winter seasons (Appendix A).

13. Transport, Driving and Site Traffic

- Use air-conditioned, well-maintained vehicles with certified, rested drivers; maintain tyres and cooling systems; never leave workers in closed parked vehicles.
- Apply a journey management plan: suspend non-essential journeys at Level 2 and all non-emergency journeys at Level 3; avoid flood-prone routes.
- Follow Abu Dhabi Police and DMT / Abu Dhabi Mobility advisories (speed limits in fog / rain, closure of roads, restrictions on certain vehicles).
- Adverse-weather driving rules: reduce speed, increase following distance, headlights on, no overtaking when visibility is poor, avoid water crossing, and stop in a safe place if conditions deteriorate.
- Site traffic management plan updated for slippery, dusty or poor-visibility conditions, with segregated walkways and banksmen.

14. Emergency Preparedness and Response

In line with ISO 45001 Clause 8.2, ISO 14001 Clause 8.2 and ADOSH-SF Emergency Management requirements, the project maintains an Emergency Response Plan covering the weather-related scenarios below.

14.1 Credible emergency scenarios

- Heat stroke or multiple heat-illness casualties.
- Flash flooding, excavation or basement flooding, trapped or swept-away persons, vehicle trapped in water.
- Lightning strike casualty; electrical shock in wet conditions.
- Structural, scaffold, formwork, crane or temporary-structure failure in wind.
- Dust storm or fog-related multi-vehicle collision; worker transport accident.

- Marine emergency (man overboard, vessel distress) during adverse sea state.
- Power or AC failure in the camp or site; fuel / chemical spill; fire exacerbated by heat or wind.

14.2 Emergency organisation

Team / Role	Function in weather emergencies
Emergency Controller (Project Manager or delegate)	Overall command; declares emergency level; liaison with Client and authorities; authorises evacuation and resumption.
Site Incident Controller (Construction Manager)	Directs on-site response, resources, isolation and rescue support.
HSE Manager / Engineer	Advises on hazards; coordinates head-count, notifications and documentation; first contact for Civil Defence on arrival.
First-aid / Medical Team	Casualty treatment, cooling, CPR / AED, ambulance coordination (998), hospital transfer.
Rescue / Fire Team	Trained and equipped for rescue from excavations, confined spaces, water and height, as applicable; coordinates with Civil Defence (997).
Camp Boss / Security	Camp shelter-in-place, access control, evacuation routes and assembly management.
Communications Officer	Issues alerts; maintains the call tree, logs and information to staff in multiple languages.

14.3 Emergency contacts

Service	Number	Notes
Police	999	Report road accidents, security, evacuations and missing persons.
Ambulance	998	Heat stroke, trauma and medical emergencies.
Civil Defence / Fire and Rescue	997	Fire, rescue, flooding, collapse.
Unified emergency number (mobile)	112	Where applicable.
Abu Dhabi Government Contact Centre	800 555	Government services; verify current number.
Project Emergency Control Room	[Number]	24-hour.
HSE Manager / Duty HSE	[Number]	
Nearest hospital / clinic	[Name / Number]	Provide route map.
Client Emergency Contact	[Number]	
EAD / ADOSH entity / DMT / ADSSC contacts	[Numbers]	For environmental incidents and regulatory notification.

14.4 Response summary

Scenario	Key response steps
Heat stroke	1) Stop work and call 998. 2) Cool first, transport second. 3) Remove from sun, remove excess clothing, immerse or pack with ice/wet sheets. 4) Monitor consciousness and breathing; CPR/AED if required. 5) Escort to hospital; notify HSE Manager; investigate.
Flooding	1) Raise alert; stop work; evacuate low areas and excavations. 2) Head-count at high-ground muster point. 3) Isolate power. 4) Do not enter water; call 997 for rescue. 5) Brief arriving responders on missing persons and utilities.
Lightning / electrical shock	1) Take shelter. 2) After the strike danger passes, give first aid and call 998. 3) CPR/AED; do not delay. 4) Isolate power for electrical shock before approach.
Structural failure / falling objects	1) Evacuate and cordon off. 2) Call 997 / 998. 3) Rescue only by trained personnel. 4) Preserve scene and notify authorities.
Dust / fog traffic collision	1) Stop vehicles safely, switch on hazard lights when stationary, move people to a safe area. 2) Call 999 / 998. 3) Warn approaching traffic. 4) Notify HSE.

Scenario	Key response steps
Power / AC failure in camp	1) Start backup power; 2) Move vulnerable workers to cooled areas; 3) Supply water and monitor for heat illness; 4) Notify utility provider; 5) Escalate to Project Manager.
Spill / pollution event	1) Make safe; stop source. 2) Contain with spill kits/bunds; protect drains. 3) Notify Environmental Officer and EAD where reportable. 4) Clean-up and waste disposal.

14.5 Assembly, shelter and evacuation

- Assembly and shelter points are located on high ground or in robust buildings, away from flood channels, underpasses, wadis and tall or unstable structures; routes are marked and communicated.
- Head-counts use attendance records, supervisor lists and biometric / gate logs; missing persons are reported to the Incident Controller immediately.
- Visitors and subcontractors are included in the head-count and briefed at induction.

14.6 Drills and exercises

Drill / exercise	Frequency	Objectives
Heat-illness response drill	Before summer and at least once during summer	Recognition, cooling, 998 call and handover within target time.
Flood / severe-weather evacuation drill	Before the winter/rainy season (annually)	Alert cascade, evacuation, head-count, shelter-in-place.
Spill response drill	6-monthly	Containment, drain protection, notification.
Table-top (crisis management) exercise	Annually	Decision-making, Client / authority coordination, business continuity.
Marine rescue / man-overboard drill (if applicable)	Quarterly	Rescue and recovery readiness.

Drill performance is evaluated, shortcomings are recorded and corrective actions are tracked to closure.

14.7 Business continuity and recovery

- Identify critical activities, resources and suppliers affected by weather; maintain contingency options (alternate routes, standby plant and power, spare pumps, off-site storage).
- After Level 3 events, the Project Manager convenes a recovery meeting to assess damage, safety conditions, programme impact and support for affected workers.
- Where required by the Client, align recovery and continuity arrangements with ISO 22301.

15. Competence, Training and Awareness

Per ISO 45001 Clauses 7.2 and 7.3, competence is established before work starts and refreshed regularly.

Audience	Training / awareness content	Frequency	Record
All workers and visitors	Weather hazards, alert levels and signals, heat illness and first aid, hydration, stop-work authority, emergency routes and assembly points (in worker languages).	Induction; refresher before each season; toolbox talks weekly in season	Induction and TBT register
Supervisors and foremen	WBGT use, work/rest regime, recognition of heat illness, weather-based task planning, PTW weather checks, leadership of stop-work.	Before heat season and annually	Training certificate
HSE staff	Risk assessment (ISO 31000), ADOSH-SF requirements, WBGT measurement, flood and storm response, investigation.	Annually	Competency record
First aiders / medics	Heat-stroke cooling, CPR, AED, trauma, flood and lightning casualty care.	As per certificate validity; refresher annually	Certificates

Audience	Training / awareness content	Frequency	Record
ERT members	Rescue, evacuation, head-count, incident command, spill response.	Annually; drills as in 14.6	Drill records
Crane operators, riggers, signallers, MEWP operators	Wind limits, out-of-service procedure, lifting in adverse weather, lightning shutdown.	Before each season; toolbox talks	Certificate / briefing
Drivers	Driving in fog, dust and rain; vehicle checks; journey management; fatigue.	Induction and annual	Driver training record
Camp staff	Heat illness recognition, emergency shelter, food safety, utilities failure response.	Annually	Training record

16. Communication, Consultation and Participation

- **Workers' participation (ISO 45001 5.4):** workers and their representatives are consulted on heat-stress arrangements, rest areas, trigger levels and drills, and can raise concerns without reprisal (hotline, suggestion boxes, safety committees).
- **Stakeholder communication (ISO 31000 6.2):** the Client, subcontractors, authorities, neighbours and, where relevant, the public are informed of significant weather events, work restrictions and incidents.
- **Visual management:** colour-coded alert boards and flags at site entrances, rest areas and camps; heat-stress posters and hydration charts; multilingual signage and audio announcements.
- **Safety alerts / lessons learned** are shared across projects.

17. Resources and Equipment

Resource	Minimum provision
Drinking water and electrolytes	Cool potable water stations at each work area (within about 50 m), electrolyte supply, ice, cups/bottles; hygiene controls.
Rest and cooling	Air-conditioned/shaded rest areas, misting fans, cooling vests/neck wraps, cold towels, immersion tubs or ice packs.
Monitoring instruments	Calibrated WBGT meters, anemometers (crane-mounted and site), lightning detector or alert service, rain gauge, visibility markers.
Medical	Qualified medic, first-aid room, AEDs, oxygen, stretchers, ambulance access, heat-illness kits.
Flood control	Submersible and portable pumps with standby and generators, hoses, sandbags, barriers, pre-positioned materials, drain-clearing tools.
Emergency power and lighting	Standby generators with fuel, floodlighting, torches, portable power.
Environmental controls	Spill kits, bund covers, oil interceptors, silt fences, dust suppression (browsers, sprays), covers for stockpiles.
PPE and clothing	Breathable high-visibility clothing, UV eyewear, respirators, rain gear, non-slip footwear, flotation devices (marine).
Transport	Air-conditioned buses, rescue / 4x4 vehicle, fog lights and reflective equipment.
Communication	Radios, public-address system, messaging groups, sirens/horns for alerts.

18. Performance Monitoring, Inspection and Audit

Monitoring, measurement, analysis and evaluation per ISO 45001 Clause 9.1 and ISO 31000 Clause 6.6.

KPI / Indicator	Target	Method / frequency
Heat-related illness cases (heat exhaustion/stroke)	0	Medical records; monthly

KPI / Indicator	Target	Method / frequency
Weather-related lost-time injuries and fatalities	0	Incident log; monthly
Midday Break compliance (15 Jun to 15 Sep)	100%	Daily inspection / audit
WBGT readings recorded as required and work/rest compliance	100%	Log review; weekly
Alert cascade acknowledged within 15 minutes	100%	Alert log; per event
Pre-season readiness checklists completed and closed	100% before season	Appendix A; before 1 May and 1 Oct
Drills completed per schedule with actions closed	100%	Drill register; quarterly
Water, shade and rest-area availability at inspected work areas	100%	Inspections; weekly
Worker training completion (heat stress and weather)	100%	Training matrix; monthly
Environmental weather-related incidents (uncontrolled discharge, spill, dust)	0	Environmental log; monthly

- **Inspections:** daily by supervisors; weekly by HSE; pre-season and post-event inspections (Appendices A and E).
- **Compliance evaluation (ISO 45001 9.1.2):** at least annually, and after significant events, against the legal register in Section 5.
- **Internal audit (ISO 45001 9.2):** this Plan and its implementation are included in the annual audit programme; findings are tracked through the corrective-action system.

19. Incident Reporting, Investigation and Corrective Action

- All weather-related incidents, heat-illness cases and near misses are reported immediately to the Supervisor and HSE Department.
- Reporting, notification and investigation follow ADOSH-SF Incident Reporting and Investigation requirements, including notification to the Client / ADOSH entity (and relevant authorities such as MOHRE, EAD, Civil Defence) within the prescribed timelines.
- Investigations identify root causes (including organisational factors such as scheduling and resourcing), corrective and preventive actions (ISO 45001 10.2) and are completed with workers' participation.
- Every heat-illness case triggers a review of work/rest practices, monitoring data and rest-area provisions for the affected crew.

20. Management Review and Continual Improvement

The Plan and the Risk Assessment are reviewed at least **annually**, before each heat season (by 1 May) and before the rainy / fog season (by 1 October), and whenever any of the following occurs:

- A Level 3 event, serious incident or significant near miss.
- Changes to legislation, ADOSH-SF, MOHRE circulars, Client requirements or NCM / NCEMA alerting.
- Significant changes in scope, work methods, location, workforce or accommodation.
- Audit findings, KPIs falling short or worker feedback.

Results are presented at management review (ISO 45001 Clause 9.3) and improvement actions are recorded (Clause 10.3).

21. Documented Information and Records

Records are retained per project procedure and legal requirements (ISO 45001 Clause 7.5): Daily weather briefings, WBGT logs, alert and stop/resume forms; training and drill records; inspection checklists; medical and

heat-illness records; incident investigations; environmental logs and permits; risk assessments and reviews; audit and management review minutes.

22. Related Documents

- Adverse Weather Risk Assessment, [CO]-HSE-RA-AWR-001.
- Project OH&S Management Plan; Emergency Response Plan; Permit to Work Procedure; Lifting Plan procedures; Excavation, Work at Height and Electrical procedures.
- Environmental Management Plan; Waste Management Plan; Dewatering and Stormwater Plan.
- Labour Accommodation Management Plan; Journey Management Plan; Traffic Management Plan.

Appendix A: Pre-Season Readiness Checklist

Complete before 1 May (summer / heat) and before 1 October (rain, wind, fog). Responsible persons sign and date each item.

No.	Item	Responsible	Status / Date
Summer (heat) readiness			
1	Heat-stress awareness training delivered; supervisors trained in WBGT and heat-illness response.	HSE Manager	☐
2	WBGT meters calibrated and available; monitoring routine assigned.	HSE Engineer	☐
3	Shaded / air-conditioned rest areas installed, serviced and sized for crews; misting fans operational.	Site Managers	☐
4	Potable water stations, ice and electrolytes available at all work areas; supply chain secured.	Logistics	☐
5	Work schedule and midday break plan communicated; shifts adjusted; exemptions (if any) approved.	Construction Manager	☐
6	Medical team, cooling facilities and AEDs ready; ambulance route confirmed.	Medical lead	☐
7	Camp AC, water, power and food storage serviced; standby units available.	Camp Boss	☐
8	Vehicles (AC, tyres, cooling), plant and fuel storage prepared for heat.	Transport / Plant	☐
9	Acclimatisation programme in place for new/returning workers.	Supervisors	☐
Winter / rain / wind / dust / fog readiness			
10	Drains, culverts, sumps and discharge points cleared; permits verified.	Environmental Officer	☐
11	Pumps tested; standby pumps, hoses, fuel and generators in place; sandbags stocked.	Site Managers	☐
12	Low-lying areas, flood routes, shelters and assembly points identified and communicated.	HSE Engineer	☐
13	Temporary works, scaffolds, hoardings, tents and site offices inspected and anchored for wind.	Construction Manager	☐
14	Cranes / MEWPs: anemometers calibrated; out-of-service procedures briefed; lifting plans include wind limits.	Lifting Supervisor	☐
15	Electrical systems: RCDs tested, DBs protected, cables raised; lightning shelter set.	Electrical Engineer	☐
16	Stockpile covers, dust suppression, respirators and eye protection stocked; filters serviced.	Environmental Officer	☐
17	Fog and low-visibility traffic controls, lighting, reflectors and driver briefing ready.	Logistics	☐
18	Emergency stock (72 hours) in camp; evacuation drill completed.	Camp Boss	☐
19	Emergency contacts updated and displayed; alert cascade tested.	HSE Manager	☐
20	Marine: vessel / barge readiness, mooring, rescue boat and limits confirmed (if applicable).	Marine Coordinator	☐

Appendix B: Daily Weather Briefing, WBGT and Alert Log

Date		Shift	
Prepared by		Declared Alert Level (0 to 3)	
NCM alert / forecast summary			
Forecast: temp / humidity		Wind / gusts	
Visibility / dust / fog		Rain / lightning risk	

WBGT monitoring log

Time	Location / crew	WBGT (°C)	Workload (L/M/H)	Work/rest regime applied	Actions / comments / initials

Alert log

Time	Level	Trigger	Areas / activities affected	Communicated to / acknowledged by

Appendix C: WBGT Work/Rest and Hydration Guide

Based on ACGIH / NIOSH / ISO 7243 principles for acclimatised workers at **moderate workload** and adapted as project action levels. For **heavy workload**, un-acclimatised or at-risk workers, or workers wearing impermeable clothing/PPE, apply the next stricter row (or a lower WBGT threshold as determined by the Competent Person / occupational physician). Work/rest is per hour.

WBGT (°C)	Work / rest per hour	Alert Level	Water intake	Additional controls
≤28.0	Continuous work with normal breaks	Level 0	About 250 ml every 20 min	Standard controls and monitoring
>28.0 to 29.0	75% work / 25% rest (about 15 min)	Level 1	About 250 ml every 15 to 20 min	Enhanced supervision; shaded rest; buddy checks
>29.0 to 30.0	50% work / 50% rest (about 30 min)	Level 1	About 250 ml every 15 min	Rotate crews; avoid heavy tasks; cooling PPE
>30.0 to 31.0	25% work / 75% rest (about 45 min)	Level 2	About 250 ml every 15 min	Essential tasks only; cooled rest area; medic on watch
>31.0	Stop non-emergency outdoor work	Level 3	Rehydrate in cool area	Emergency work only with Project Manager approval

Water intake should not exceed about 1.4 L per hour. Midday Break (15 June to 15 September, 12:30 to 15:00) applies regardless of WBGT.

Appendix D: Stop-Work / Resume-Work Authorisation

Date / time	
Location / activity	
Weather condition / trigger	
Alert Level declared	
Reason for stop (hazard observed)	
Stopped by (name / signature)	
Actions taken to make safe	
Resume inspection findings (work area, plant, temporary works, electrical, access)	
Resumption trigger confirmed (e.g., 30 min after lightning; WBGT below limit; wind below limit)	
Supervisor (name / signature / time)	
HSE Representative (name / signature / time)	
Project Manager approval (Level 3 only)	

Appendix E: Post-Weather-Event Inspection Checklist

No.	Inspection item	OK / Not OK	Action / by
1	Excavations: sides, shoring, benching, access/egress, water accumulation, nearby ground and services.	☐	
2	Scaffolds, formwork, falsework, edge protection, hoardings and temporary works: stability, ties, damage (Competent Person tag update).	☐	
3	Cranes and lifting equipment: structural, controls, wire ropes, outriggers, anemometers, lightning damage.	☐	
4	Electrical: DBs, cables, earthing, RCD tests, generators, lighting; dry and safe to energise.	☐	
5	Access roads, ramps, walkways, drainage and slopes; debris removal.	☐	
6	Material storage, chemicals, gas cylinders, fuel tanks, bunds, spill kits.	☐	
7	Site offices, cabins, tents and welfare facilities: structure, roof, AC, power, hygiene.	☐	
8	Environmental: silt control, discharge points, spills, waste dispersion, dust controls.	☐	
9	Labour camp: structure, power, water, AC, food storage, sanitation; resident welfare.	☐	
10	Vehicles and plant: damage, cooling, filters, tyres, lights; water ingress.	☐	
11	Workforce: injuries, illness, missing persons, psychological well-being; incident reporting done.	☐	
12	Records: damage report, photographs, incident notification, lessons learned scheduled.	☐	

Appendix F: Toolbox Talk Topics (Weather Programme)

- Heat illness: causes, symptoms, first aid; buddy system; urine colour chart.
- Hydration and rest: how much, how often, and why thirst is not a reliable guide.
- Acclimatisation and returning from leave.
- Midday Break rules and what to do during the break.
- Understanding alert levels, flags and the stop-work right.
- Flash flood safety: stay out of flowing water, evacuating excavations, shelter.
- Lightning: the 30-minute rule and where to shelter.
- Working safely in wind: loose materials, lifting, edges and scaffolds.
- Dust and fog: respirators, eye protection, driving rules.
- Camp safety: AC, water, food, emergency shelter.

Appendix G: Compliance Mapping Matrix

ISO 45001:2018 clause	ISO 31000:2018 clause	Where addressed (Plan)	Other references
4.1 / 4.2 Context; needs of workers and stakeholders	6.3 Scope, context, criteria	Sections 2, 5, 7; RA Section 4	Client / ADOSH / MOHRE requirements
5.1 to 5.3 Leadership, policy, roles	5.2 Leadership and commitment	Sections 3 and 6	ADOSH-SF roles and responsibilities
5.4 Consultation and participation	6.2 Communication and consultation	Sections 7.4 and 16	ADOSH-SF consultation
6.1.1 / 6.1.2 Hazard identification; risk assessment	6.4 Risk identification, analysis, evaluation	Risk Assessment AWR-001	ADOSH-SF Risk Management
6.1.3 Legal and other requirements	6.3 (criteria)	Section 5	MOHRE, ADOSH, EAD, DMT, Civil Defence
6.1.4 Planning action; 6.2 Objectives	6.5 Risk treatment	Sections 1, 8, 9	ISO 14001 6.1.4
7.2 / 7.3 Competence, awareness	5.4 Resources	Section 15	ADOSH-SF competency requirements
7.4 Communication	6.2	Sections 7.4 and 16	
7.5 Documented information	6.7 Recording and reporting	Sections 21; Appendices	
8.1.1 / 8.1.2 Operational planning; hierarchy of controls	6.5	Sections 8 and 9	PTW; ADOSH-SF technical guidelines
8.1.3 / 8.1.4 Change; procurement	5.5 Integration	Section 8.1	
8.2 Emergency preparedness	6.5, 6.6	Section 14	ADOSH-SF Emergency Management; Civil Defence; ISO 22301
9.1 Monitoring and evaluation	6.6 Monitoring and review	Sections 7 and 18	ISO 14001 9.1
9.2 / 9.3 Audit; management review	5.6 Evaluation; 6.6	Sections 18 and 20	
10.2 Incident and corrective action	6.6	Section 19	ADOSH-SF Incident Reporting
10.3 Continual improvement	5.7 Improvement	Section 20	