

Detection

Evaluation

Decision

WIND

Execution

Logging

Review/restart

## 1. DETECTION – “Is wind becoming relevant?”

### Input sources

- Forecast products (regional + site-specific)
- Nowcasting tools (radar extrapolation, short-term gust forecasts)
- On-site measurements:
  - Anemometers (mean wind + gusts)
  - Structural sensors (if available)
- Field reports:
  - Moving structures, flapping membranes, dust, debris
  - Staff perception and crowd feedback

### Trigger logic

- Forecasted gusts  $\geq$  *Trigger Level 1* within defined lead time
- Measured gusts  $\geq$  *Trigger Level 1* on site
- Rapid trend increase (e.g. +10–15 km/h within 10–15 min)

### Output

→ Escalation to Evaluation

## 2. EVALUATION – “What does this mean for THIS event?”

### Contextual assessment

#### Event phase:

Build-up / Live operation / Egress / Dismantling

#### Site exposure:

Open fields, hilltops, urban canyon effects

#### Temporary structures:

Stages, roofs, PA towers, video walls  
Tents, marquees, inflatables, decorations

#### Crowd situation:

Density, mobility, shelter options

### Risk differentiation

- Sustained wind vs. gusts
- Directionality (crosswind vs. headwind)
- Combined effects:
  - Wind + rain (slippery surfaces)
  - Wind + dust / loose materials

### Output

→ Categorised risk profile per area and structure

## 3. DECISION – “What level of intervention is required?”

### Decision levels (example logic – site-specific values required)

- Level A – Awareness / Preparation
  - Gusts approaching thresholds
  - Actions: tighten monitoring, pre-brief teams
- Level B – Restriction
  - Gusts exceed safe limits for certain structures
  - Actions: close or restrict defined areas
- Level C – Pause
  - Structural safety margins reached
  - Actions: pause performances, stop build-up or dismantling
- Level D – Stop / Evacuation
  - Structural integrity or crowd safety no longer ensured
  - Actions: stop event, initiate sheltering or evacuation

### Decision authority

- Named responsible role (not “we monitor the weather”)
- Clear backup / substitution rule

### Output

→ Formal decision with timestamp

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#### 4. COMMUNICATION – “Who needs to know what – now?”

Internal communication

Control room → operations, security, stage management

Clear, action-oriented language:

What / Where / From when / Until further notice

External communication

Artists / production teams

Public messaging:

Screens, PA, app, social media

Calm, instructive, consistent wording

Principles

One message – one decision

No interpretation required at receiver level

Output

→ Confirmed receipt by key stakeholders

#### 5. EXECUTION – “Make the decision real”

Typical operational actions

Secure or lower structures

Shut down stages or technical systems

Establish restricted or exclusion zones

Redirect crowd flows

Suspend build-up or dismantling activities

Activate sheltering concepts if required

Monitoring during execution

Continuous wind observation

Feedback from field teams

Structural behaviour checks

Output

→ Decision implemented and stabilised

#### 6. LOGGING – “Can we reconstruct this later?”

Minimum documentation

Time of detection and trigger exceedance

Data sources used (forecast + measurements)

Evaluation summary

Decision taken and by whom

Communication measures

Executed actions

Purpose

Legal defensibility

Organisational learning

Transparency for authorities and insurers

Output

→ Complete operational log entry



7. REVIEW – “What happens next?”

- Short-term review
  - Are conditions improving or deteriorating?
  - Is escalation or de-escalation required?
  - Adjust measures dynamically
  - All-clear logic
  - Defined gust thresholds must remain below limits for a defined time
  - Technical re-inspection if relevant
- Post-event review
  - Threshold adequacy
  - Timing and clarity of decisions
  - Communication effectiveness
  - Update wind action matrix if required
- Output
  - Improved preparedness for future events