



Project DEMO-01 Industrial Fabrication Works.

SafeAspect AI - Incident Report (HSE-EN-20261014-113245111)

INCIDENT INVESTIGATION REPORT

Report Number: HSE-EN-20261014-113245111
Investigation Status: Interim — technical cause not yet established
Scenario Classification: Fictional demonstration
Applicable Framework: OSHA-style incident investigation and ISO 45001 continual-improvement principles

SECTION A — INCIDENT SUMMARY

Date of Incident	Time of Incident	Shift	Report Date	Accident Type	Injury Classification	Body Part Affected	Work Stopped	Project	Region	Line Manager	Notifiable
2026-10-28	16:45	1st shift	2026-10-29	Loss of crane stability and overturn during initial hoisting	Property damage / no injury	N/A	Yes	Project DEMO-01 Industrial Fabrication Works	Fictional Industrial Zone DEMO-Z	SUP-01 — Foreperson	No, subject to jurisdictional verification

SECTION B — INCIDENT LOCATION

Facility / Site	City / District	Work Area	Workplace Type
Project DEMO-01 Industrial Fabrication Works	Fictional Industrial Zone DEMO-Z; no real address	Outdoor rebar fabrication yard beside Fabrication Shop 2, between stock Point A and staging Point B	Outdoor industrial lifting and reinforcement-steel storage area on compacted gravel

SECTION C — PEOPLE, EQUIPMENT, AND TASK

People Involved

Role	Reference	Employer	Involvement / Outcome
Crane operator	OP-01	Not recorded	Operated crane; reported leaving the cabin during initial instability; no injury identified

Rigger / signaler	WIT-01	Contractor DEMO-B	Attached rigging, observed instability, gave stop and withdrawal warnings; no injury
Foreperson	SUP-01	Not recorded	Instructed the crew to move two bundles together
HSE adviser	HSE-01	Project DEMO-01	Notified after the incident
Injured person	N/A	N/A	No person was injured

Equipment and Load

Item	Recorded Information	Verification Status
Crane	Nominal 25-tonne truck-mounted telescopic crane, Asset CR-025-DEMO	Asset identity reported; configuration not independently verified
Support system	Outriggers with timber support mats on gravel	Visible in scene evidence; extension and mat design not recorded
Load	Two rebar bundles, each approximately 12 metres long	Bundle dimensions approximate
Estimated steel mass	6.40 tonnes combined	Not weighed or independently verified
Estimated hook block and rigging mass	0.45 tonnes	Estimate only
Provisional operating radius	12 metres	Not surveyed or verified
Rigging	Slings and shackles	Certification, capacity, arrangement, and pre-use inspection not available
Load chart basis	Not recorded	Applicable chart capacity cannot be confirmed

Injury and Emergency Outcome

- Injury outcome: Property damage with no personal injury.
- Lost workdays: 0.
- First aid or medical treatment: None required.
- Precautionary assessment: OP-01 was escorted to the site clinic at approximately 16:50 and assessed at approximately 17:00. No injury was identified.
- Emergency response: Personnel withdrew, the area was cordoned, all persons were accounted for, and lifting operations were suspended.
- Equipment status: Crane placed out of service pending isolation, specialist inspection, evidence preservation, and an engineered recovery plan.

SECTION D — INCIDENT DESCRIPTION AND EVIDENCE-BASED SEQUENCE

Incident Description

At approximately 16:40 on 2026-10-28, Foreperson SUP-01 instructed the lifting crew to transfer two approximately 12-metre rebar bundles together from the outdoor stock area at Point A to the staging area outside the blue sliding door of Fabrication Shop 2 at Point B. Earlier lifts reportedly involved one bundle at a time.

No documented reassessment, revised lift plan, verified load calculation, or authorization for the change from one bundle to two bundles was available. The witness statement confirms that WIT-01 did not weigh the bundles, inspect the crane load chart, or view the crane's in-cab display. Consequently, neither the actual gross load nor the crane's available capacity at the operating configuration can be confirmed.

The crane was stationary on gravel, with outriggers and timber support mats deployed. Available evidence does not establish:

- Actual outrigger extension;
- Boom length and angle;
- Slewing position;
- Counterweight configuration;
- Actual operating radius;
- Ground-bearing pressure;
- Ground-bearing capacity;
- Mat dimensions and adequacy;
- Applicable load-chart capacity; or
- Functional condition of the rated-capacity and stability warning systems.

After the rigging was attached, WIT-01 moved outside the intended load path to a position approximately 12 metres from the crane. The witness could see the load and most of the crane but could not see all four outrigger supports.

As OP-01 took up slack and the bundles began to clear their supports, WIT-01 observed the front of the carrier rise and the crane lean toward the load. WIT-01 gave a stop signal, shouted for personnel to move back, and withdrew farther away. The crane continued overturning toward the load, and the rebar bundles returned to or remained close to their ground supports.

The scene photographs are consistent with a loss of stability toward the load side. They show the crane leaning heavily, its boom resting across or immediately above stored rebar, and timber support mats on an uneven gravel surface. These images establish the post-event condition but do not, by themselves, prove whether ground settlement, excess load moment, configuration error, or mechanical malfunction initiated the overturn.

OP-01 later reported leaving the operating cabin during the initial instability. WIT-01 did not observe the full exit sequence and only saw the operator standing clear after crane movement had stopped. No person was struck, trapped, or injured.

No visible fire, smoke, or significant fluid release is apparent in the supplied photographs. The crane sustained visible damage involving the carrier/body, cabin area, and boom assembly. Recovery remained on hold pending specialist assessment.

Event Timeline

Time	Event
16:40	SUP-01 instructed the crew to move two rebar bundles together
16:40–16:45	Rigging attached; no documented revised lift assessment was identified
16:45	Initial hoisting began; front of carrier reportedly rose and crane leaned toward load
16:45	WIT-01 gave a stop signal, warned personnel, and withdrew
16:45	Crane overturned toward the load; bundles came down onto or near their supports

16:47	Site management and HSE adviser notified
16:50	Operator escorted to site clinic
17:00	Clinic assessment completed; no injury identified
After event	Area isolated, lifting stopped, crane removed from service, recovery deferred

SECTION E — SCENE EVIDENCE AND ATTACHMENT REVIEW

Evidence Register

Item	Attachment	Short Caption	Key Findings
1	Photo 1 — sa://m/0	Wide view of overturned crane and rebar yard	Crane leaning toward load side; boom extended over stock; outriggers and timber mats visible; gravel surface; temporary cordon installed
2	Document image 1 — sa://m/1	WIT-01 witness statement	Confirms two-bundle instruction, earlier single-bundle lifts, unverified weight and chart capacity, stop warning, no injury, and uncertainty about cause
3	Photo 2 — sa://m/2	Close view of boom and rebar bundles	Boom resting across or immediately above bundled rebar; gravel and timber dunnage visible; post-event contact and stored-material hazards evident

1. Photo 1 — Wide Scene View

Wide scene showing the crane leaning toward the rebar stock area



Objective visual findings:

- A yellow truck-mounted telescopic crane is shown leaning substantially toward the rebar stock area.
- The boom extends toward and over multiple bundles of reinforcement steel.
- Outriggers are visible, including supports bearing on timber mats placed over gravel.
- The ground is visibly uneven and contains loose aggregate. A timber mat near the crane appears displaced or depressed relative to the surrounding surface, although the image cannot establish when that condition developed.
- The carrier's wheels on one side appear elevated or unloaded, consistent with a major loss of stability.
- Red-and-white barrier tape and traffic cones form a temporary exclusion zone in the foreground and around parts of the scene.
- No personnel are visible; therefore, PPE compliance, positioning, and exposure at the time of the event cannot be assessed from this image.
- No obvious smoke, fire, or major fluid pool is visible.
- The image is marked "AI-GENERATED | FICTIONAL DEMO" and must be treated as demonstration evidence rather than an authentic incident photograph.

Causal relevance: The image supports the confirmed outcome of overturn toward the load side and identifies ground support, outrigger loading, crane configuration, and load moment as necessary lines of inquiry. It does not establish the initiating mechanism.

Action linkage: Preserve and survey the support positions; inspect the ground and mats; reconstruct crane geometry; verify load-chart capacity; and prohibit recovery until an engineered plan is approved.

2. Document Image 1 — Witness Statement

WIT-01 fictional witness statement dated 29 October 2026

WITNESS STATEMENT

FICTIONAL DEMONSTRATION - NOT REAL TESTIMONY

Reference: SA-DEMO-WS-001

Witness: WIT-01 (fictional rigger / signaler)

Company: Contractor DEMO-B

Incident: 28 October 2026, approximately 16:45

Location: Rebar yard, Shop 2, Project DEMO-01

Statement date: 29 October 2026

At about 16:40, SUP-01 asked us to move two rebar bundles together from the stock area to the staging space outside the blue door of Shop 2. Earlier lifts I assisted with involved one bundle at a time.

I helped attach the rigging. I did not weigh the bundles, check the crane load chart or see the display inside the cabin.

I moved outside the intended load path, about twelve metres from the crane. I could see the bundles and most of the crane, but not all four outrigger supports.

As the bundles began to clear their supports, I saw the front of the carrier rise and the crane lean toward the load. I gave a stop signal, shouted for people to move back and moved farther away.

The crane continued to tip and the bundles came down. I heard metal strike the ground. I did not see the operator leave the cabin. After the crane stopped moving, I saw him standing clear and appearing shaken. I saw nobody struck.

Later, from outside the cordon, I noticed disturbed gravel near a timber support mat. I cannot say whether this happened before or during the overturn.

I did not hear an alarm, but the yard was noisy. I cannot confirm whether one sounded. I cannot determine why the crane overturned.

Signature: Not signed - fictional demonstration.

Visible document findings:

- The document is titled "WITNESS STATEMENT" and clearly marked "FICTIONAL DEMONSTRATION — NOT REAL TESTIMONY."
- Reference shown: SA-DEMO-WS-001.
- Witness shown: WIT-01, identified as a fictional rigger/signaler employed by Contractor DEMO-B.
- Incident details shown: 28 October 2026, approximately 16:45, at the rebar yard, Shop 2, Project DEMO-01.
- Statement date shown: 29 October 2026.
- The witness records that SUP-01 requested two bundles to be moved together and that earlier lifts involved one bundle at a time.
- The witness states that the bundles were not weighed and that the witness did not check the crane load chart or view the in-cab display.
- The witness records standing approximately 12 metres away, outside the intended load path, with visibility of most—but not all—of the crane and supports.
- The witness describes the carrier front rising, the crane leaning toward the load, issuance of a stop signal, a verbal warning, and withdrawal.
- The witness did not see the operator leave the cabin but saw the operator standing clear after movement stopped.

- The witness observed disturbed gravel near a timber support mat but could not determine whether it occurred before or during the overturn.
- The witness did not hear an alarm but states that the yard was noisy and could not confirm whether an alarm sounded.
- The statement is visibly marked “Signature: Not signed — fictional demonstration.”

Reliability and limitations: The statement provides a direct account of the task change and onset of instability. Its evidential weight is limited by the absence of a signature, the witness’s incomplete view of all outriggers, lack of access to the load display and load chart, noisy conditions, and inability to determine the physical cause.

Causal relevance: The statement supports a breakdown in lift-change control and load verification. It does not support a definitive conclusion of overload, ground failure, alarm failure, or operator error.

Action linkage: Obtain signed statements in real investigations, preserve electronic crane data, verify the load independently, and require documented reauthorization whenever lift scope changes.

3. Photo 2 — Boom and Load Area

Close view of the crane boom among bundled reinforcement steel



Objective visual findings:

- The telescopic boom is positioned across or immediately above multiple rebar bundles.
- The bundles remain banded and supported on timber dunnage within steel storage frames.
- The boom’s proximity to the bundles indicates potential impact loading and secondary structural damage.

- Loose gravel and irregular ground are visible around the stock supports.
- Rebar ends and steel storage frames present puncture, cut, strike, and access hazards during inspection or recovery.
- Temporary barrier tape is visible in the foreground, but the photograph does not establish whether a complete rigid exclusion zone was maintained.
- No personnel are visible, so PPE and worker positioning cannot be evaluated.
- No visible fire or substantial liquid release is apparent.
- The image is marked “AI-GENERATED | FICTIONAL DEMO.”

Causal relevance: The photograph confirms the final relationship between the boom and stored load but does not establish whether the bundles fully cleared their supports or their exact suspended mass at the onset of instability.

Action linkage: Treat the boom, rigging, and rebar as potentially stored-energy hazards; prohibit entry beneath or beside the equipment; and use an engineered stabilization and recovery sequence.

SECTION F — CAUSAL FACTOR AND ROOT-CAUSE ANALYSIS

Confirmed Immediate Event

The crane lost stability during initial hoisting and overturned toward the load. The physical loss of stability occurred as the two bundles began to unload from or clear their supports.

Immediate and Contributing Factors

Factor	Finding	Evidence Basis	Confidence
Increased lift scope	Task changed from one bundle to two bundles	WIT-01 statement	High
Unverified gross load	Bundles were not weighed; rigging and block mass were estimated	Statement and baseline records	High
Unverified crane capacity	Applicable load chart and in-cab capacity display were not documented	WIT-01 statement; missing records	High
Unknown operating geometry	Radius, boom length/angle, slew position, and outrigger extension were not recorded	Missing lift data	High
Unverified ground support	Gravel condition, bearing capacity, mat design, and bearing pressure were not documented	Photos and missing records	High
Limited signaler visibility	WIT-01 could not see all four outrigger supports	Witness statement	High
Noisy work environment	Witness could not confirm whether an alarm sounded	Witness statement	Medium
Stored-material interaction	Boom came to rest among rebar bundles and frames	Photos 1 and 2	High
Possible ground movement	Disturbed gravel and a depressed/displaced mat were reported or visible	Witness statement and Photo 1	Medium; sequence unknown

Possible overload or excessive load moment	Estimated gross load and radius may have challenged capacity	Estimates only	Undetermined
Possible equipment malfunction	No inspection or electronic data was available	Investigation gap	Undetermined

Probable Systemic Root Cause

The probable systemic root cause was inadequate management of change within the lifting operation. A change from lifting individual bundles to lifting two bundles together was directed without available evidence of a documented reassessment, verified load calculation, confirmed crane configuration, revised lift plan, ground-support check, or formal authorization by a competent lifting supervisor.

This control failure allowed a materially different lift to proceed without demonstrating that the crane had adequate capacity and stability for the actual load, radius, configuration, and ground conditions.

Technical Root Cause Status

The initiating technical cause remains undetermined. Current evidence cannot distinguish conclusively among:

- Ground or support-mat settlement;
- Excessive load moment caused by actual mass or radius;
- Incorrect outrigger or crane configuration;
- Mechanical, hydraulic, structural, or control-system malfunction; or
- A combination of these conditions.

The post-event mat and gravel condition cannot be assumed to be causal because it may have resulted from overturn loading. Similarly, the absence of a heard alarm does not demonstrate alarm failure because the witness was in a noisy yard and outside the cabin.

Control-System Gaps

- No documented authorization for the two-bundle lift.
- No verified total suspended load.
- No recorded lift radius or crane configuration.
- No retained load-chart calculation.
- No documented ground-bearing assessment.
- No recorded outrigger reaction or mat-sizing calculation.
- No evidence of a pre-lift briefing specific to the changed task.
- No available crane data log or rated-capacity limiter download.
- Incomplete evidence regarding rigging certification and inspection.
- Witness statement unsigned, reducing formal evidential reliability.
- Signaler position did not provide visibility of all crane support points.
- Temporary tape-and-cone barriers may be insufficient for recovery hazards.

SECTION G — CORRECTIVE AND PREVENTIVE ACTIONS

No.	Required Action	Responsible Role	Priority / Target	Verification of Closure
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1	Maintain isolation and prohibit operation, entry, or recovery until the crane and load are stabilized under an engineered recovery plan	Project Manager / Lifting Manager	Immediate	Approved recovery plan and permit
2	Establish a rigid exclusion zone accounting for boom collapse, carrier movement, rigging failure, and rolling rebar	HSE Manager / Area Supervisor	Immediate	Barricade inspection and access log
3	Preserve the crane, rigging, support mats, ground impressions, and load arrangement as evidence before recovery	Investigation Lead	Immediate	Evidence register and photographs
4	Survey boom geometry, slew position, radius, outrigger extensions, carrier level, and final equipment position	Competent Crane Engineer	Before recovery	Signed survey record
5	Test or calculate ground-bearing capacity and inspect for voids, utilities, saturation, or disturbed fill	Geotechnical Engineer	Before recovery	Ground assessment report
6	Calculate outrigger reactions and verify mat dimensions and bearing pressures for the reconstructed configuration	Appointed Person / Crane Engineer	Before causal closure	Signed engineering calculation
7	Independently determine the mass of both bundles, hook block, slings, shackles, and accessories	Lifting Supervisor	Before causal closure	Weighing records or certified calculations
8	Obtain the crane's correct load chart and reconstruct available capacity at the actual configuration and radius	Crane Engineer	Before causal closure	Capacity comparison report
9	Download and preserve rated-capacity limiter, event, fault, and alarm data where available	Crane Manufacturer / Examiner	Before power cycling or repair	Electronic-data report

10	Conduct a detailed mechanical, hydraulic, structural, and control-system examination after stabilization	Independent Competent Examiner	Before return to service	Examination and repair certificates
11	Quarantine and inspect all rigging used in the lift; verify identification, certification, condition, and arrangement	Rigging Inspector	Immediate	Rigging inspection register
12	Require formal management-of-change approval whenever load quantity, mass, radius, route, rigging, crane position, or ground condition changes	Lifting Manager	Within 7 days	Revised lifting procedure and audit
13	Prohibit multi-bundle lifting unless specifically included in an approved lift plan with verified load data	Project Manager	Immediate	Site instruction and field observation
14	Introduce a lift-verification checklist covering gross load, radius, chart capacity, outrigger setup, matting, ground capacity, weather, and exclusion zone	Appointed Person	Within 14 days	Approved checklist and completed samples
15	Position signalers so the load and critical crane support conditions are visible, or appoint additional spotters where visibility is restricted	Lifting Supervisor	Before lifting resumes	Lift briefing and observation
16	Verify that audible and visual warning devices are functional and suitable for ambient yard noise	Maintenance Manager	Before return to service	Functional test record
17	Obtain signed, dated statements from OP-01, SUP-01, and other crew members using a controlled interview process	Investigation Lead	Within 48 hours	Signed interview records

18	Train supervisors and lifting teams on stop-work authority and mandatory reassessment following task changes	Training Manager	Within 30 days	Attendance and competency records
19	Audit lifting plans, crane setup records, and ground assessments across the project	HSE Manager	Within 30 days	Audit report and closeout tracker
20	Review jurisdictional reporting requirements before confirming the event as non-notifiable	Legal / HSE Manager	Immediate	Documented legal determination

Minimum Conditions Before Lifting Resumes

Lifting operations involving mobile or truck-mounted cranes shall not resume until:

- The affected crane remains isolated or has been formally released by a competent examiner;
- Ground-bearing controls are verified;
- Lift plans and management-of-change requirements are reissued;
- Relevant personnel are briefed and assessed as competent;
- Load weights and crane configurations can be positively verified;
- Exclusion zones and communication arrangements are adequate; and
- Corrective actions designated as prerequisites are formally closed.

SECTION H — WITNESSES AND INVESTIGATION RECORDS

Witness Record

Field	Detail
Witness	WIT-01
Role	Fictional rigger / signaler
Company	Contractor DEMO-B
Contact	wit01@example.com
Telephone	N/A
Activity	Rigging and signaling for transfer of two rebar bundles
Statement reference	SA-DEMO-WS-001
Statement date	2026-10-29
Signature status	Not signed; fictional demonstration
Evidential limitation	Did not see all outriggers, crane display, or operator's complete exit sequence

Outstanding Evidence Required

- Operator interview and written statement;
 - Foreperson interview and task instruction record;
 - Approved lift plan and risk assessment;
 - Toolbox talk or pre-lift briefing record;
 - Crane inspection, maintenance, and certification files;
 - Operator, rigger, signaler, and lifting-supervisor competency records;
 - Crane load-chart and configuration records;
 - Rated-capacity limiter and fault-history data;
 - Rigging register and certificates;
 - Ground assessment and underground-service information;
 - Weather and wind records;
 - Load weight documentation;
 - Survey measurements and additional scene photographs; and
 - Clinic assessment record, subject to privacy controls.
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SECTION I — INVESTIGATION CONCLUSION

The incident was a high-potential crane overturn with credible potential for fatal crushing, struck-by, and entrapment injuries. No injury occurred because personnel were outside the immediate load path, the signaler recognized the instability, issued a stop and withdrawal warning, and the surrounding area was subsequently isolated.

The evidence confirms that the lift changed from one bundle to two bundles without an available documented reassessment. Critical variables—including actual load, radius, crane configuration, load-chart capacity, outrigger extension, ground capacity, and mat adequacy—were not verified in the records reviewed.

The most supportable systemic conclusion is a failure to control and authorize the changed lifting scope. The exact physical trigger remains unresolved and must not be attributed solely to overload, ground failure, operator action, or equipment malfunction until engineering examination, data recovery, load verification, and ground assessment are complete.

SECTION J — APPROVAL AND REVIEW

Role	Name / Reference	Signature	Date
Prepared by	Not recorded	Pending	—
Investigation lead	Not recorded	Pending	—
HSE review	HSE-01	Pending	—
Lifting technical review	Competent person to be appointed	Pending	—
Project management approval	Not recorded	Pending	—

LEGAL AND TECHNICAL DISCLAIMER

This report describes a fictional demonstration scenario and is not evidence of a real event. Regulatory notification requirements vary by jurisdiction and must be confirmed by a qualified HSE or legal representative. Interim findings must not replace an examination by a competent crane engineer, appointed lifting person, geotechnical specialist, or regulatory authority.

AI-GENERATED MATERIAL WARNING

The supplied scene images are visibly labeled as AI-generated fictional demonstrations. They may be used to illustrate investigation methodology but must not be represented as authentic photographs, used to identify real persons or organizations, or relied upon as proof of a specific mechanical or geotechnical failure.