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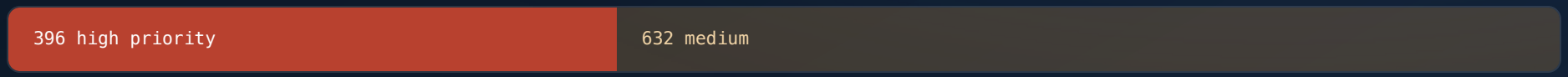
HANDOVER AUDIT FINDINGS

Over a quarter of the diesel generator (DG) set checklist failed at handover

Since 2017, Nemmadi has audited more than fifty new residential developments at handover from builder to residents' association. In 37, the audit covered the DG set: independent engineers recorded 1,028 failures there, and 157 of 528 answers to its checklist questions were failures.

THE 1,028 FAILURES, BY THE SEVERITY THE ENGINEER ASSIGNED



We mark anything high priority only when there is a direct threat to life, a contravention of local statutes and/or IS Codes. Checks marked "not applicable" are excluded from both sides of the ratio.

HANDOVERS AUDITED
50+
since 2017 — this analysis covers 37 with DG checks

QUESTIONS FAILED
30%
157 of 528 checklist-question answers on the DG set

FAILURES RECORDED
1,028
157 failed questions, plus 871 defects written up on general checks

RATED HIGH PRIORITY
396
as rated by the engineer on site — see the caveat on page 4

THE EIGHT PATTERNS — THE SAME COLOURS ON EVERY PAGE

Fuel & oil 89	Earthing 215	Safety around the set 45	The set itself 89
Wiring & cables 161	Labels & records 100	Supports & rust 107	Cleaning & lighting 81

WHAT WAS FOUND

Eight patterns inside 1,028 failures

Grouped from the inspecting engineers' own written observations. The count in each card is findings, then how many the engineer rated high priority, then how many of the 37 projects the pattern appeared in.

Diesel and oil leaks and spills

89 · 47 high · 27 proj

73 findings, in 25 projects, record oil, diesel or fuel leaking or spilt – at the engine and on the fuel lines, as well as around the set. 5 more, in 5 projects, record diesel or oil cans stored inside the DG room or the set's enclosure.

Earthing missing or badly made

215 · 147 high · 34 proj

108 findings, in 31 projects, record earthing not done, not connected or not done properly – at cable glands, panels and the set itself – among them 20 of the 35 earth-strip lap joints (in 13 projects) not done properly, many citing IS 3043. The highest share rated high of any pattern, 68%.

Safety around the set

45 · 18 high · 26 proj

Not enough room to open the set's enclosure doors in 7 of the 15 projects where it was asked. 9 findings, in 8 projects, record no rubber safety mat in front of the electrical panels.

The set itself

89 · 37 high · 30 proj

Faults on the set itself – not working or not kept up. The set was left in manual rather than automatic mode in 4 of the 22 projects where it was asked.

Wiring, cables and terminations

161 · 45 high · 32 proj

Cables not dressed, and cable glands, trays and conduits not provided. 15 findings, in 8 projects, record cable entries left unsealed (bore packing or grommets missing); 19, in 6 projects, exposed wires or battery terminals.

Labels, records and approvals

100 · 13 high · 32 proj

No operator's checklist kept in 8 of the 16 projects where it was asked; statutory approvals not produced or not on display in 6 of 12. Circuit numbers, cable tags and day-tank capacity labels are missing.

Supports, rust and corrosion

107 · 14 high · 29 proj

13% rated high. Supports for exhaust stacks and cable trays missing or rusted, and rusted support clamps.

Cleaning, lighting, standing water

81 · 13 high · 28 proj

36 findings, in 13 projects, record lights in the DG room or inside the set's enclosure not working or not fixed. The notes also record dust, debris and standing water around the set.

THE REMAINDER

These eight patterns account for 887 of the 1,028 failures. The other 141 are individually recorded items, each specific to its site. Of all 1,028 failures, 396 were rated high priority and 632 medium or low.

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14 things a resident would assume are already in place

Each row is a specific defect the engineers wrote down, counted with a fixed rule over their own words. The label shows how many of the 37 projects it was found in at least once, then how many findings in all; rows are ranked by that share, which the bar shows. 5 rows are checklist questions, so their share is of the projects where the question was asked (“asked”).

1	Earthing done, connected and properly made	**31**/37 proj · 108
2	No oil, diesel or fuel leaking or spilt	**25**/37 proj · 73
3	Cable glands at the set earthed, and cables properly terminated	**7**/12 asked · 11
4	A checklist kept by the set’s operator	**8**/16 asked · 10
5	Statutory approvals produced and on display	**6**/12 asked · 6
6	Room around the set to open its enclosure doors	**7**/15 asked · 12
7	Lights in the DG room and the set’s enclosure working	**13**/37 proj · 36
8	Earth-strip lap joints properly made	**13**/37 proj · 35
9	Cable entries sealed (bore packing and grommets)	**8**/37 proj · 15
10	A rubber safety mat in front of the panels	**8**/37 proj · 9
11	The set running in automatic mode, not manual	**4**/22 asked · 5
12	Wires and battery terminals covered, not exposed	**6**/37 proj · 19
13	No diesel or oil cans stored beside the set	**5**/37 proj · 5
14	Earthing hardware free of rust	**4**/37 proj · 10

A finding is one recorded failure; the same condition can appear under more than one question. Question counts leave out 2 failures whose note records a different defect or says the opposite. A “proj” row counts projects where the defect was written down, not where it was looked for. A row needs more than one project and no project above half its findings.

The method, and its limits

A handover audit is commissioned by the residents' association of a new apartment complex at the moment the builder hands the common property over to them. Nemmadi's engineers inspect the building against a fixed checklist and record a verdict – passed, failed, or not applicable – for every point, with a written observation and a severity rating on each failure.

Nemmadi has conducted more than fifty of these handover audits since 2017. This report analyses the 37 whose audit records include the diesel generator (DG) set: the dedicated DG audit (installation, electrical, mechanical, maintenance and statutory approval), the electrical and plumbing checks run inside the DG room or yard, and checklist questions about the DG asked elsewhere. It is not every such audit: some are filed in ways our records do not yet identify.

Some things are deliberately excluded. The fire-fighting checks at the DG and the fire pump's diesel engine are in the fire-fighting report. The general checklist run inside the DG room (walls, floors, doors, ceilings, dampness) is civil finishes, so only the room's services checks are kept. A borewell, HVAC lines or a fire panel sharing the DG yard are other systems; a yard shared with the transformers, rooms that only sit next to the DG, and DG checks filed under a lift or electrical-shaft room are not counted.

Every figure here is a count of records, not an estimate. Patterns and defects are counted with fixed rules over the engineers' written observations. Each failure sits in one pattern only; the defect rows on page 3 can overlap, because one note may record two defects. No project identity appears anywhere.

NO ONE IS NAMED

No building, builder or residents' association is identified. These audits were commissioned by the residents' associations themselves.

THESE DEFECTS WERE FOUND SO THEY WOULD BE FIXED

A handover audit gives the association a list to hand back to the builder before it accepts the building. None of the 1,028 failures carry a re-inspection result, so nothing here is the current condition of any building.

NOT A RANDOM SAMPLE — AND NOT EVENLY WEIGHTED

Every project here commissioned an independent audit, which may make it better managed than average, not worse. No single project holds more than 8% of all failures or 9% of the high-priority ones; every one of the 37 recorded at least one failure, 37 at least one rated high.

WHY THE RATE QUOTED IS THE CHECKLIST'S

On the checklist questions, 157 of 528 answers were failures, or 30% – a conservative rate, since some questions only record a reading (battery voltage, start time) and rarely fail. General items are usually written up when a defect is found – 871 of 1,171 are failures – so their rate is not a pass rate, and no blended rate across all 1,699 items is quoted.

SEVERITY IS THE ENGINEER'S CALL ON SITE

The same written observation is not always rated the same way: 4 observations, worded identically, were rated high in some places and medium in others (10 findings) – in 2 of them within a single project. The note "Oil spillage to be cleaned." was rated high once and medium twice.