

GPU Hall Design Readiness Checklist

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K&K Data Service Inc. - v1, October 2026 - distilled from the published GB300-class reference design record

Electrical

- ☐ Rack power basis stated per rack with the dual-input sharing rule (e.g. 136 kW, A/B 50/50) - and the thermal discipline's own basis stated separately if heavier.
- ☐ Per-path duty computed for normal AND single-path-outage cases, not only normal (e.g. 952 / 1,428 kW); worst paths identified by name.
- ☐ The maintenance-plus-fault stacked case enumerated as events; a redundancy label (2N, N+1) is not accepted as a coverage proof.
- ☐ Surviving-path screening counts primary PLUS standby loads that stay energized (P+S), never one unit's running draw.
- ☐ UPS partial-load efficiency priced as continuous kW against the utility margin, not read as a datasheet footnote.
- ☐ Battery-recharge admission rule written: recharge AC input added after efficiency division, within confirmed net source capacity.
- ☐ Numbers inherited from a superseded package explicitly killed in writing (an old per-unit kW limit cannot be multiplied by the new unit count).

Liquid cooling

- ☐ CDU capacity stated on the actual working fluid, with the calibration fluid of the nameplate identified; water-basis ratings carry the glycol derate (approx. 0.80-0.85 on PG25).
- ☐ Pump and pipe sizing computed on coolant properties (flow x1.045 is the smallest PG25 effect; pressure drop x1.26, pump power x1.32), not on water plus a margin.
- ☐ Transfer/buffer volume derived from the stated transfer event (e.g. 90 s at 330 m³/h -> 8.25 m³ deliverable cold volume), with stratification margin stated.
- ☐ Coolant temperature ladder written with the wet-assist trigger and hard limit; wet operation classed as an intended mode or an exception mode, explicitly.
- ☐ N+1 verified in the hydraulic network (isolation and flow paths), not only on the equipment list.
- ☐ Leak response designed as isolation sectioning with bounded consequences; auto-actions assessed for false-trigger cost.

Water and site

- ☐ Normal-duty heat rejection declared evaporative or dry; the design water draw stated at peak and per day.
- ☐ Wet-operation triggers, hourly make-up rate, and expected annual spray hours stated; make-up stated inclusive or exclusive of blowdown.
- ☐ One-time first fill quantity and delivery source stated separately from consumption.

Structural

- ☐ Rack mass basis (approx. 1.4 t liquid-cooled) carried through floor, rail and support-point load paths; equal-sharing assumptions labeled as assumptions, not worst reactions.

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Network

- ☐ Ports registered as unique endpoint instances bound to owners, not type codes.
- ☐ Channel lengths labeled calculated (DESIGN) vs installed/measured; insertion loss counted by mated pairs, not by panel count.
- ☐ Availability target bound to a measurement rule (union of impaired intervals, stated resolution), not derived from MTBF.

Model and BIM

- ☐ Clash runs carry a capability proof (the test has found planted clashes) before a zero result is read as clearance.
- ☐ Connectivity validated on the native graph: connector cross-references and strict two-endpoint membership per circuit.
- ☐ Naming convention and identity checks run: one equipment ID survives model, BOM and commissioning; outputs carry evidence, route and procurement labels.
- ☐ An independent read-only readback re-derives claimed facts; permissive and strict criteria both run and both published.

Evidence discipline

- ☐ Every number carries a maturity label (FACT / DESIGN / STUDY / HOLD) and HOLD items gate their dependent conclusions.
- ☐ Machine runs governed by run contracts (scope, stop conditions, acceptance criteria) with readbacks and closure receipts.
- ☐ Each closure states one allowed claim and an explicit forbidden-claims list.
- ☐ Machines screen; a named human accepts, with the evidence attached.