Detailed Design Document

RBC – Temperature Bias Safety Net (v1.1)

Paste these over the matching sections in
RBC_Temperature_Bias_Safety_Net_v1.0_Detailed_Design.docx.

Title block

Title: RBC – Temperature Bias Safety Net v1.1 (CR016)
Issue Date: 2025-11-07
Design Reference: CR016 – Cold-Day Planning via Adjusted Minimum Temperature;
DR004a Alignment to Daily Demand Model; DAI + RBC HLD v1.1 §5.2.1
Governance Mode: Protected Architecture Mode v5.9 • Two-Phase Code-Change Gate v2.2
Linked Change/Defect: CR016

1. Functional Overview (replace)

Executes at **23:55** (and HA-start after 23:55) when the Producer missed. It recomputes the
Estimate then calls the RBC Update Bias (Temperature) blueprint.
Provider behaviour note: For providers whose daily array starts at tomorrow (e.g., Met
Office / met.no near midnight), the Safety Net also reads **daily[0].templow** instead of
filtering by *today* to avoid late-night null selections. No inverter writes.

2. Entity Map (minimal edits)

- **Forecast source:** weather.met_office_monmouth (daily & hourly).

- Other entities unchanged from v1.0.

4. Logic Flow (replace bullet about Estimate)

- **Estimate selection:** take **daily[0].templow** (fallback temperature_low variants). If
  the daily array is missing, compute **hourly minimum** across the next 24h;
  otherwise mark as unavailable and log.

6. Acceptance Test Matrix (replace AT-1 & AT-3)

- **AT-1 (Recovery):** Producer missed, Safety Net runs → Estimate from
  daily[0].templow, blueprint updates Bias & Stamp.

- **AT-3 (No forecast):** If daily/hourly both unavailable → log "forecast unavailable,"
  no write.
  Other ATs unchanged.

8. Change History (append entry)

- **v1.1 — 2025-11-07:** PARAM-ONLY. Replace date-equality selection with **daily[0].templow**; correct forecast response parsing to **['forecast']**.

- v1.0 as previously recorded.