To instantiate this safety case pattern for the Generic Patient Controlled Analgesia (GPCA) system and create a hierarchical tree structure, we will replace the placeholders `{system}`, `{operational hazard}`, `{scenario}`, `{spec}`, `{property}`, `{Source}`, and any multicardinality with their respective instances or definitions. Since the actual values and details of operational hazards, system specifications, scenarios, etc. are not specified, I will create hypothetical instances for demonstration.

\*\*Safety Case for GPCA System:\*\*

- \*\*Goal (G1, Operational safety is verified in GPCA system)\*\*

- \*\*Strategy (S1, Argument over the satisfaction of all specs over GPCA system)\*\* (Undeveloped)

- \*\*Goal (G2, All operational hazards are mitigated)\*\*

- \*\*Strategy (S3, Argument over operational hazards)\*\*

- \*\*Goal (G3, Battery failure is mitigated)\*\*

- \*\*Strategy (S4, Argument over the applied scenarios of Battery failure)\*\*

- \*\*Goal (G4, Battery failure is mitigated under power outage scenario)\*\*

- \*\*Strategy (S5, Argument over all specs related to power outage scenario)\*\*

- \*\*Goal (G5, Battery backup time is appropriate for power outage scenario)\*\*

- \*\*Strategy (S6, Argument the appropriateness of battery backup time over properties)\*\*

- \*\*Goal (G6, Longevity property is appropriate for battery backup time)\*\*

- \*\*Strategy (S7, Argument over the source of the longevity property definition)\*\*

- \*\*Goal (G7, Manufacturer data is appropriate and trustworthy)\*\*

- \*\*Solution (Sn1, Verified manufacturer data source)\*\*

- \*\*Goal (G8, Longevity property definition is sufficient)\*\*

- \*\*Solution (Sn2, Battery test reports)\*\*

- \*\*Strategy (S2, Argument over reliability in all suitable levels of GPCA system)\*\* (Undeveloped)

- \*\*Context (C1, All specs are given by GPCA system specifications)\*\*

\*\*Detailing Context and Supporting Information:\*\*

- \*\*Context (C2, Operational hazards are given by GPCA hazard list)\*\*

- \*\*Context (C3, All related scenarios are given by Battery scenario list)\*\*

- \*\*Context (C4, All related specs are given by power outage scenario specs)\*\*

- \*\*Context (C5, Properties are given by battery spec properties)\*\*

- \*\*Context (C6, Source is given by battery documentation)\*\*

This hierarchical depiction follows the structure provided in "SupportedBy" and "IncontextOf" relationships established in the predicates and illustrates a basic assurance case applying these relationships, contexts, strategies, and solutions.