Instantiate the provided GPCA system safety case pattern to create a safety case, while ensuring that all placeholders are replaced with specific elements where required. For simplicity, placeholders are populated with hypothetical values.

### Safety Case for the GPCA System

\*\*@Assurance\_case\*\*

- G1: Operational safety is verified in the GPCA system.

- \*\*C1\*\*: All specs are given by the GPCA system specs.

- \*\*S1\*\*: Argument over the satisfaction of all specs over the GPCA system.

- \*\*(Undeveloped)\*\*

- G2: All operational hazards are mitigated.

- \*\*S3\*\*: Argument over operational hazards.

- \*\*C2\*\*: Operational hazards are given by predefined hazard list.

- G3: Power failure is mitigated.

- \*\*S4\*\*: Argument over the applied scenarios of power failure.

- \*\*C3\*\*: All related scenarios are given for power failure.

- G4: Power failure is mitigated under low battery scenario.

- \*\*S5\*\*: Argument over all specs related to low battery scenario.

- \*\*C4\*\*: All related specs are given by low battery scenario specs.

- G5: Battery monitor spec is appropriate for low battery scenario.

- \*\*S6\*\*: Argument the appropriateness of battery spec over properties.

- \*\*C5\*\*: Properties are given by battery monitor properties.

- G6: Voltage threshold property is appropriate for battery monitor spec.

- \*\*S7\*\*: Argument over the source of the property definition.

- \*\*C6\*\*: Source is given by manufacturer documents.

- G7: Manufacturer documents are appropriate and trustworthy.

- \*\*Sn1\*\*: Manufacturer certification

- G8: Voltage threshold definition is sufficient.

- \*\*Sn2\*\*: Technical specification document

- \*\*S2\*\*: Argument over reliability in all suitable levels of the GPCA system.

- \*\*(Undeveloped)\*\*

\*\*@End\_Assurance\_case\*\*

In this instantiation:

- Specific elements such as "GPCA system," "low battery scenario," and "battery monitor spec" have replaced the placeholders to relate it clearly to a practical context.

- Each goal, strategy, and context is mapped out according to the original structure, maintaining hierarchical relationships and developments where defaults were noted as undeveloped.

- Solutions like Manufacturer certification and Technical specification documents are provided to support the related goals at the lowest levels of the tree.GetOrdinal.