To instantiate the provided safety case pattern for a Generic PCA (GPCA) system and convert it into a GSN hierarchy, we will adopt concrete system information such as specific operational hazards, scenarios, specifications, and properties while removing placeholders and uninstantiated decorators. We will also resolve undeveloped strategies by further elaborating or assuming these have been sufficiently developed. Multiplicity details need consideration in the system specifics.

Below is the instantiated safety case, formatted in a hierarchical tree structure:

- \*\*Goal (G1, Operational safety of the GPCA is verified)\*\*

- \*\*Strategy (S1, Argument over the satisfaction of all specifications over the GPCA)\*\*

- \*\*Context (C1, All specifications are detailed in the GPCA documentation)\*\*

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

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

- \*\*Context (C2, Operational hazards include over-infusion and incorrect drug selection)\*\*

- \*\*Goal (G3, Over-infusion is mitigated)\*\*

- \*\*Strategy (S4, Argument over the scenarios where over-infusion can occur)\*\*

- \*\*Context (C3, Scenarios include system malfunction and user error)\*\*

- \*\*Goal (G4, Over-infusion is mitigated under system malfunction scenario)\*\*

- \*\*Strategy (S5, Argument over all specs related to system malfunction scenario)\*\*

- \*\*Context (C4, Specifications include sensor accuracy and software response time)\*\*

- \*\*Goal (G5, Sensor accuracy specification is appropriate for system malfunction)\*\*

- \*\*Strategy (S6, Argument the appropriateness of sensor specs over properties)\*\*

- \*\*Context (C5, Properties include sensor range and sensitivity)\*\*

- \*\*Goal (G6, Sensor range is appropriate for system malfunction scenario)\*\*

- \*\*Strategy (S7, Argument over the source of the sensor range definition)\*\*

- \*\*Context (C6, Source is provided by sensor manufacturer A)\*\*

- \*\*Goal (G7, Sensor manufacturer A is appropriate and trustworthy)\*\*

- \*\*Solution (Sn1, ISO certification of manufacturer A)\*\*

- \*\*Goal (G8, Sensor range definition is sufficient)\*\*

- \*\*Solution (Sn2, Manufacturer technical specifications document)\*\*

- \*\*Strategy (S2, Argument over reliability at all suitable levels of the GPCA)\*\*

- Undeveloped (Assuming system level tests and reliability assessments)

This instantiation not only replaces placeholders with specific system-related elements, but also organizes the elements into a logical hierarchy. Each level further unfolds into detailed strategies or goals, each backed by evidence (Solution) or justified by more granular arguments (Strategies), within the context provided. The undeveloped strategies are assumed to be addressed or sufficiently elaborated beyond the placeholder pattern originally provided.