Here is the instantiated safety case derived from the given safety case pattern for a GPCA system in a hierarchical tree format:

```

- G1: Operational safety is verified in GPCA system

- C1: All specs are given by GPCA system specs

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

- Undeveloped

- G2: All operational hazards are mitigated

- C2: Operational hazards are given by GPCA system operational hazards

- S3: Argument over operational hazards

- G3: Operational hazard leaking is mitigated

- C3: All related scenarios are given by operational hazard scenarios

- S4: Argument over the applied scenarios of operational hazard

- G4: Operational hazard leaking is mitigated under pump failure scenario

- C4: All related specs are given by pump failure scenario specs

- S5: Argument over all specs related to pump failure scenario

- G5: Pump reliability spec is appropriate for pump failure scenario

- C5: Properties are given by pump reliability spec properties

- S6: Argument the appropriateness of pump reliability spec over properties

- G6: Reliability property is appropriate for pump reliability spec

- C6: Source is given by reliability property source

- S7: Argument over the source of the reliability property definition

- G7: Source of reliability property is appropriate and trustworthy

- Sn1: Source document from reliable manufacturer

- G8: Reliability property definition is sufficient

- Sn2: Sufficient reliability property definition provided by technical specification

- G3: Operational hazard overdosing is mitigated

- C3: All related scenarios are given by operational hazard scenarios

- S4: Argument over the applied scenarios of operational hazard

- G4: Operational hazard overdosing is mitigated under software failure scenario

- C4: All related specs are given by software failure scenario specs

- S5: Argument over all specs related to software failure scenario

- G5: Software reliability spec is appropriate for software failure scenario

- C5: Properties are given by software reliability spec properties

- S6: Argument the appropriateness of software reliability spec over properties

- G6: Performance property is appropriate for software reliability spec

- C6: Source is given by performance property source

- S7: Argument over the source of the performance property definition

- G7: Source of performance property is appropriate and trustworthy

- Sn1: Source document from software developer

- G8: Performance property definition is sufficient

- Sn2: Sufficient performance property definition provided by software documentation

```

In the instantiated safety case for the GPCA system:

1. All placeholders `{}` have been replaced with the concrete and system-specific information.

2. The hierarchical structure employs dashes (-) to represent different levels.

3. Combined with some undeveloped sections as indicated by the provided pattern, the structure illustrates how the operational hazards are mitigated, supported by arguments, contexts, and evidence in the form of solutions.