Based on the given predicates and the domain information about the GPCA system, here's how the instantiated safety case for the GPCA system would look in a hierarchical tree format:

```plaintext

G1: Operational safety is verified in GPCA system

-

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

C1: All specs are given by spec.allInstances()

Undeveloped: True

-

G2: All operational hazards are mitigated

-

S3: Argument over operational hazards

C2: Operational hazards are given by operational hazard.allInstances()

-

G3.1: Overinfusion is mitigated

-

S4.1: Argument over the applied scenarios of Overinfusion

C3.1: All related scenarios are given by Overinfusion.scenario.allInstances()

-

G4.1.1: Overinfusion is mitigated under scenario 1

-

S5.1.1: Argument over all specs related to scenario 1

C4.1: All related specs are given by scenario1.spec.allInstances()

-

G5.1.1.1: spec1 is appropriate for scenario 1

-

S6.1.1.1: Argument the appropriateness of spec1 over properties

C5.1.1: Properties are given by spec1.property.allInstances()

-

G6.1.1.1.1: property1 is appropriate for spec1

-

S7.1.1.1.1: Argument over the source of the property1 definition

C6.1.1: Source is given by property1.source

-

G7.1.1.1.1.1: Source is appropriate and trustworthy

Sn1: Expertise opinion

-

G8.1.1.1.1.2: property1 definition is sufficient

Sn2: Previous knowledge

-

G3.2: Underinfusion is mitigated

-

S4.2: Argument over the applied scenarios of Underinfusion

C3.2: All related scenarios are given by Underinfusion.scenario.allInstances()

-

G4.2.1: Underinfusion is mitigated under scenario 2

-

S5.2.1: Argument over all specs related to scenario 2

C4.2: All related specs are given by scenario2.spec.allInstances()

-

G5.2.1.1: spec2 is appropriate for scenario 2

-

S6.2.1.1: Argument the appropriateness of spec2 over properties

C5.2.1: Properties are given by spec2.property.allInstances()

-

G6.2.1.1.1: property2 is appropriate for spec2

-

S7.2.1.1.1: Argument over the source of the property2 definition

C6.2.1: Source is given by property2.source

-

G7.2.1.1.1.1: Source is appropriate and trustworthy

Sn1: Expertise opinion

-

G8.2.1.1.1.2: property2 definition is sufficient

Sn2: Previous knowledge

-

S2: Argument over reliability in all suitable levels of GPCA system

Undeveloped: True

```

The placeholders have been replaced, and the provided domain-specific information has been inserted to create a complete safety case for the GPCA system. The tree nodes' structure represents the hierarchical relationships among goals, strategies, contexts, and solutions.