Based on the provided predicates and the domain information about the GPCA system, here's the instantiated safety case represented in a hierarchical tree format using dashes (-) to denote different levels:

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- G1: Operational safety is verified in GPCA system

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

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

- G2: All operational hazards are mitigated

- S3: Argument over operational hazards

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

- G3: Overinfusion is mitigated

- S4: Argument over the applied scenarios of Overinfusion

- C3: All related scenarios are given by Overinfusion

- G4: Overinfusion is mitigated under the scenario: Flow rate does not match the programmed rate

- S5: Argument over all specs related to the scenario: Flow rate does not match the programmed rate

- C4: All related specs are given by scenario.spec.allInstances()

- G5: The spec SR6.1.3 is appropriate for the scenario: Flow rate does not match the programmed rate

- S6: Argument the appropriateness of SR6.1.3 over properties

- C5: Properties are given by spec.property.allInstances()

- G6: Period (to trigger the underinfusion alarm) is 15 minutes is appropriate for SR6.1.3

- S7: Argument over the source of the property definition

- C6: Source is given by property.source

- G7: FDA standard is appropriate and trustworthy

- Sn1: FDA standard

- G8: Period (to trigger the underinfusion alarm) is 15 minutes definition is sufficient

- Sn2: Period (to trigger the underinfusion alarm) is 15 minutes

- G3: Underinfusion is mitigated

- S4: Argument over the applied scenarios of Underinfusion

- C3: All related scenarios are given by Underinfusion

- G4: Underinfusion is mitigated under the scenario: Flow rate is less than 90% of the programmed rate setting

- S5: Argument over all specs related to the scenario: Flow rate is less than 90% of the programmed rate setting

- C4: All related specs are given by scenario.spec.allInstances()

- G5: The spec SR1.5 is appropriate for the scenario: Flow rate is less than 90% of the programmed rate setting

- S6: Argument the appropriateness of SR1.5 over properties

- C5: Properties are given by spec.property.allInstances()

- G6: Flow rate is less than 90% of the programmed rate setting is appropriate for SR1.5

- S7: Argument over the source of the property definition

- C6: Source is given by property.source

- G7: Expert opinion is appropriate and trustworthy

- Sn1: Expert opinion

- G8: Flow rate is less than 90% of the programmed rate setting definition is sufficient

- Sn2: Flow rate is less than 90% of the programmed rate setting

- G3: Dose limit exceeded due to excessive bolus requests is mitigated

- S4: Argument over the applied scenarios of Dose limit exceeded due to excessive bolus requests

- C3: All related scenarios are given by Dose limit exceeded due to excessive bolus requests

- G4: Dose limit exceeded due to excessive bolus requests is mitigated under the scenario: Bolus volume/concentration too high

- S5: Argument over all specs related to the scenario: Bolus volume/concentration too high

- C4: All related specs are given by scenario.spec.allInstances()

- G5: The spec SR1.1 is appropriate for the scenario: Bolus volume/concentration too high

- S6: Argument the appropriateness of SR1.1 over properties

- C5: Properties are given by spec.property.allInstances()

- G6: Flow rate sensor is equipped is appropriate for SR1.1

- S7: Argument over the source of the property definition

- C6: Source is given by property.source

- G7: Previous knowledge is appropriate and trustworthy

- Sn1: Previous knowledge

- G8: Flow rate sensor is equipped definition is sufficient

- Sn2: Flow rate sensor is equipped

```

In this hierarchy:

- G1 is the top-level goal, verifying the operational safety of the GPCA system.

- It includes all necessary contexts, strategies, goals, and solutions adhering to the specified structure and addressing operational hazards like Overinfusion and Underinfusion.

- Each level of mitigation involves specific goals, strategies, contexts, and solutions that match the provided information for the GPCA system.