Based on the domain information of the GPCA system, I will now instantiate the given safety case pattern. The instantiated safety case will correspond to the specific operational hazards "Overinfusion" and "Underinfusion" and their related scenarios, specs, properties, and sources in a hierarchical tree format:

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- Goal (G1, Operational safety is verified in GPCA system)

- Strategy (S1, Argument over the satisfaction of all specs over GPCA system)

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

- Goal (G2, All operational hazards are mitigated)

- Context (C2, Operational hazards are given by operational\_hazard.allInstances())

- Strategy (S3, Argument over operational hazards)

- Goal (G3, Overinfusion is mitigated)

- Strategy (S4, Argument over the applied scenarios of Overinfusion)

- Context (C3, All related scenarios are given by Overinfusion)

- Goal (G4, Overinfusion is mitigated under scenario 1)

- Strategy (S5, Argument over all specs related to scenario 1)

- Context (C4, All related specs are given by scenario\_1.spec.allInstances())

- Goal (G5, spec SR1.1 is appropriate for scenario 1)

- Strategy (S6, Argument the appropriateness of SR1.1 over properties)

- Context (C5, Properties are given by SR1.1.property.allInstances())

- Goal (G6, Flow rate sensor is appropriate for SR1.1)

- Strategy (S7, Argument over the source of the Flow rate sensor definition)

- Context (C6, Source is given by Flow\_rate\_sensor.source)

- Goal (G7, Source is appropriate and trustworthy)

- Solution (Sn1, FDA standard)

- Goal (G8, Flow rate sensor definition is sufficient)

- Solution (Sn2, property definition)

- Goal (G5, spec SR1.2 is appropriate for scenario 1)

- Strategy (S6, Argument the appropriateness of SR1.2 over properties)

- Context (C5, Properties are given by SR1.2.property.allInstances())

- Goal (G6, Period to trigger the underinfusion alarm is appropriate for SR1.2)

- Strategy (S7, Argument over the source of the trigger period definition)

- Context (C6, Source is given by trigger\_period.source)

- Goal (G7, Source is appropriate and trustworthy)

- Solution (Sn1, FDA standard)

- Goal (G8, Period definition is sufficient)

- Solution (Sn2, property definition)

- Goal (G3, Underinfusion is mitigated)

- Strategy (S4, Argument over the applied scenarios of Underinfusion)

- Context (C3, All related scenarios are given by Underinfusion)

- Goal (G4, Underinfusion is mitigated under scenario 2)

- Strategy (S5, Argument over all specs related to scenario 2)

- Context (C4, All related specs are given by scenario\_2.spec.allInstances())

- Goal (G5, spec SR1.4 is appropriate for scenario 2)

- Strategy (S6, Argument the appropriateness of SR1.4 over properties)

- Context (C5, Properties are given by SR1.4.property.allInstances())

- Goal (G6, Flow rate less than 90% is appropriate for SR1.4)

- Strategy (S7, Argument over the source of the flow rate definition)

- Context (C6, Source is given by flow\_rate.source)

- Goal (G7, Source is appropriate and trustworthy)

- Solution (Sn1, Expertise opinion)

- Goal (G8, Flow rate definition is sufficient)

- Solution (Sn2, property definition)

- Goal (G5, spec SR1.5 is appropriate for scenario 2)

- Strategy (S6, Argument the appropriateness of SR1.5 over properties)

- Context (C5, Properties are given by SR1.5.property.allInstances())

- Goal (G6, Bolus volume/concentration is appropriate for SR1.5)

- Strategy (S7, Argument over the source of the bolus volume/concentration definition)

- Context (C6, Source is given by bolus\_volume.source)

- Goal (G7, Source is appropriate and trustworthy)

- Solution (Sn1, Previous knowledge)

- Goal (G8, Bolus volume/concentration definition is sufficient)

- Solution (Sn2, property definition)

- Strategy (S2, Argument over reliability in all suitable levels of GPCA system)

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In this structure:

- "Goal (G1, Operational safety is verified in GPCA system)" is the top-level goal.

- The goals G3 and G4 correspond to the mitigation of operational hazards "Overinfusion" and "Underinfusion".

- Goals G5, G6, G7, and G8 detail the appropriateness and trustworthiness of specific specs, properties, and their sources.

- Strategies (S1 to S7) represent the logical argumentation paths taken to support the goals.

- Contexts (C1 to C6) and Solutions (Sn1, Sn2) provide the necessary circumstantial and evidential information for the arguments.