Given the domain information on the Generic Patient-Controlled Analgesia (GPCA) system and the specified safety case pattern, let's instantiate the pattern to create a concrete safety case for the GPCA system. Here’s the instantiated safety case 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 GPCA system.spec.allInstances()

- G2: All operational hazards are mitigated

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

- S3: Argument over operational hazards

- C2: Operational hazards are given by GPCA system.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

- G4.1.1: Overinfusion is mitigated under scenario 1

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

- C4.1.1: All related specs are given by scenario 1.spec.allinstances()

- G5.1.1.1: SR1.1 is appropriate for scenario 1

- S6.1.1.1: Argument the appropriateness of SR1.1 over properties

- C5.1.1.1: Properties are given by SR1.1.property.allinstances()

- G6.1.1.1.1: "Flow rate sensor is equipped" is appropriate for SR1.1

- S7.1.1.1.1: Argument over the source of the "Flow rate sensor is equipped" definition

- C6.1.1.1.1: Source is given by "Flow rate sensor is equipped".source

- G7.1.1.1.1.1: "FDA standard" is appropriate and trustworthy

- Sn1.1.1.1.1.1: FDA standard

- G8.1.1.1.1.2: "Flow rate sensor is equipped" definition is sufficient

- Sn2.1.1.1.1.2: "Flow rate sensor is equipped"

- G4.1.2: Overinfusion is mitigated under scenario 2

- ... (similar structure as scenario 1)

- G3.2: Underinfusion is mitigated

- S4.2: Argument over the applied scenarios of Underinfusion

- C3.2: All related scenarios are given by Underinfusion

- G4.2.1: Underinfusion is mitigated under scenario 1

- S5.2.1: Argument over all specs related to scenario 1

- C4.2.1: All related specs are given by scenario 1.spec.allinstances()

- G5.2.1.1: SR1.4 is appropriate for scenario 1

- S6.2.1.1: Argument the appropriateness of SR1.4 over properties

- C5.2.1.1: Properties are given by SR1.4.property.allinstances()

- G6.2.1.1.1: "Flow rate is less than 90% of the programmed rate setting" is appropriate for SR1.4

- S7.2.1.1.1: Argument over the source of the "Flow rate is less than 90% of the programmed rate setting" definition

- C6.2.1.1.1: Source is given by "Flow rate is less than 90% of the programmed rate setting".source

- G7.2.1.1.1.1: "Expertise opinion" is appropriate and trustworthy

- Sn1.2.1.1.1.1: Expertise opinion

- G8.2.1.1.1.2: "Flow rate is less than 90% of the programmed rate setting" definition is sufficient

- Sn2.2.1.1.1.2: "Flow rate is less than 90% of the programmed rate setting"

- G3.3: Dose limit exceeded due to excessive bolus requests is mitigated

- G3.4: Bolus volume/concentration too high is mitigated

- (Additional G4.x, G5.x, G6.x, G7.x, G8.x would be similarly instantiated for remaining hazards and specs)

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In this safety case, the placeholders have been replaced with specifics about the GPCA system, such as "Overinfusion" and "Underinfusion" hazards, and specific safety requirements and their properties. The hierarchical structure retains the logical flow of arguments, contexts, and solutions (evidence) to support the claims made about the operational safety of the GPCA system.