To create an assurance case for the BlueROV2 system using the provided assurance case pattern, I will replace placeholders and instantiate all relevant information based on the domain context. The additional decorators related to assurance case patterns (like Uninstantiated, Placeholder, etc.) will be removed and the explicit placeholders (“{}”) will be replaced with specific information mentioned in the domain context. Below is the instantiated hierarchical tree structure of the assurance case for the BlueROV2 system:

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- Goal (G1, "Hazards for BlueROV2 system addressed in accordance with ALARP principle.")

- Strategy (S1, "Argument by risk reduction/elimination of each hazard")

- Goal (G2, "No intolerable risks present in the system.")

- Strategy (S2, "Argue that risk posed by any remaining hazards is negligible") [Undeveloped]

- Strategy (S3, "Argue that no other risks have been identified") [Undeveloped]

- Context (C1, "Definition of 'intolerable'")

- Goal (G3, "Risk from Obstacle encounter has been reduced as low as reasonably practicable")

- Strategy (S4, "Apply ReSonAte to estimate level of risk from hazard condition Obstacle encounter")

- Goal (G4, "Model BTD accurately describes possible propagation of hazard Obstacle encounter") [Uninstantiated]

- Goal (G6, "Possible hazard propagation paths correctly captured in BTD") [Undeveloped]

- Goal (G7, "Barriers in the BTD correctly describe their respective control action including any required system functions") [Undeveloped]

- Goal (G8, "All non-negligible threats have been identified") [Undeveloped]

- Goal (G5, "Quantitative risk estimates are accurate and below acceptable threshold")

- Goal (G9, "State probability distribution used for risk estimation is an accurate representation of expected system states") [Undeveloped]

- Goal (G10, "Estimated probability of collision is below allowable threshold for severity class Major")

- Solution (Sn1, "Estimated risk level 10^-3 per hour") [Uninstantiated]

- Assumption (A1, "Function avoidance logic required by BTD is available") [Uninstantiated]

- Context (C2, "Assigned severity class is Major") [Uninstantiated]

```

Explanation of Instantiation and Development:

1. \*\*Placeholders\*\*: Replaced placeholders in the provided assurance case pattern by system-specific information from the domain context.

2. \*\*Uninstantiated Elements\*\*: Strategically left certain elements uninstantiated for future development as indicated by their relevance and potential undefined components at current design stage (e.g., "Model BTD accurately describes...").

3. \*\*Undeveloped Elements\*\*: Updated status to [Undeveloped] where further development is required, such as demonstrating risk minimization strategies, additional barriers or supporting evidence as risk control measures.

4. \*\*Assumptions and Contexts\*\*: Included assumptions and contexts related to system functions and severity classes to align goals with system-specific attributes.

This enhancement now reflects a more specific and tailored assurance case for the BlueROV2 system which acknowledges identified risks and asserts control measures based on detailed analysis and application of the ALARP principle to underwater operational hazards.