Here is the hierarchical tree format of the instantiated assurance case for the BlueROV2 system, an underwater remotely operated vehicle. This assurance case is derived from the provided assurance case pattern:

```

G1: Hazards for BlueROV2 system addressed in accordance with ALARP principle.

- S1: Argument by risk reduction/elimination of each hazard

- G2: No intolerable risks present in the system.

- C1: Definition of "intolerable"

- S2: Argue that risk posed by any remaining hazards is negligible (Undeveloped)

- S3: Argue that no other risks have been identified (Undeveloped)

- G3: Risk from deviation from the operating area has been reduced as low as reasonably practicable

- C2: Assigned severity class is Minor

- S4: Apply ReSonAte to estimate level of risk from hazard condition deviation from the operating area

- A1: Function obstacle detection required by BTD is available

- G4: Model describing possible propagation of hazard deviation from the operating area

- G6: Possible hazard propagation paths correctly captured in BTD (Undeveloped)

- G7: Barriers in the BTD correctly describe their respective control action including any required system functions (Undeveloped)

- G8: All non-negligible threats have been identified (Undeveloped)

- G5: Quantitative risk estimates are accurate and below acceptable threshold

- G9: State probability distribution used for risk estimation is an accurate representation of expected system states (Undeveloped)

- G10: Estimated probability of collision is below allowable threshold for severity class

- Sn1: Estimated risk level 10^-3 per hour

- G3: Risk from obstacle encounter has been reduced as low as reasonably practicable

- C2: Assigned severity class is Major

- S4: Apply ReSonAte to estimate level of risk from hazard condition obstacle encounter

- A1: Function command authority required by BTD is available

- G4: Model describing possible propagation of hazard obstacle encounter

- G6: Possible hazard propagation paths correctly captured in BTD (Undeveloped)

- G7: Barriers in the BTD correctly describe their respective control action including any required system functions (Undeveloped)

- G8: All non-negligible threats have been identified (Undeveloped)

- G5: Quantitative risk estimates are accurate and below acceptable threshold

- G9: State probability distribution used for risk estimation is an accurate representation of expected system states (Undeveloped)

- G10: Estimated probability of collision is below allowable threshold for severity class

- Sn1: Estimated risk level 10^-3 per hour

- G3: Risk from loss of pipeline has been reduced as low as reasonably practicable

- C2: Assigned severity class is Minor

- S4: Apply ReSonAte to estimate level of risk from hazard condition loss of pipeline

- A1: Function avoidance logic required by BTD is available

- G4: Model describing possible propagation of hazard loss of pipeline

- G6: Possible hazard propagation paths correctly captured in BTD (Undeveloped)

- G7: Barriers in the BTD correctly describe their respective control action including any required system functions (Undeveloped)

- G8: All non-negligible threats have been identified (Undeveloped)

- G5: Quantitative risk estimates are accurate and below acceptable threshold

- G9: State probability distribution used for risk estimation is an accurate representation of expected system states (Undeveloped)

- G10: Estimated probability of collision is below allowable threshold for severity class

- Sn1: Estimated risk level 10^-3 per hour

```

This assurance case ensures that all hazards are addressed according to the ALARP principle and that the risks are kept to an acceptable level for the BlueROV2 system.