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[54] UNMANNED UNDERSEA VEHICLE WITH KEEL-MOUNTED PAYLOAD DEPLOYMENT SYSTEM

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[57] ABSTRACT

An unmanned undersea vehicle system comprises a remote-controlled, unmanned undersea vehicle and a mother vehicle interconnected by a communication link. The unmanned undersea vehicle includes a weapon compartment and a control element. Within the weapon compartment are a weapon and buoyancy chamber positioned axisymmetrically therein. The buoyancy chamber is initially empty and has sufficient capacity so that it can be loaded with seawater whose mass approximates mass of the weapon. The weapon compartment further includes a controllable valve for enabling seawater surrounding the vehicle to fill the buoyancy chamber. The control element controls the deployment of the weapon by expelling the weapon from the weapon compartment and thereafter controls the firing of the weapon. The control element further controls the valves during weapon deployment to enable filling of the buoyancy chamber to maintain a predetermined distribution of mass as the weapon is deployed. The mother vehicle generates command information for controlling the control element and receives unmanned undersea vehicle status information from the unmanned undersea vehicle and processes it for use in generating the command information. The communication link interconnects the unmanned undersea vehicle and the mother vehicle to facilitate transfer of command information from the mother vehicle to the unmanned undersea vehicle and to further facilitate transfer of unmanned undersea vehicle status information from the unmanned undersea vehicle to the mother vehicle.

9 Claims, 9 Drawing Sheets

