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Aurora Flight Sciences Receives US Patent for Flight Suit Self-Actuating Survival Seal

Cambridge, MA, February 7, 2008 – Aurora Flight Sciences has been granted US Patent 7,313,829: Sealing device for bodysuit and sealing method using hydrogels. The technology protected by this patent was originally developed for the US Navy to be incorporated into their Helicopter Aircrew Integrated Life Support System (HAILSS).

Naval aviators wear survival suits as part of their flight gear because most of their flying is done over water. The aviators spend hours in the cockpits and helicopters during the performance of their missions. Current survival suits generally use tight latex seals, which while effective, are extremely uncomfortable, to the point that some aircrew have elected not to wear their survival gear. The HAILSS combines the functional aspects of a flight suit with the life support functions of a survival suit into a single ensemble that is now worn by flight crews operating over water. The ensemble is designed to be comfortable to wear during normal operations, ensuring airflow and preventing heat stress. Aurora Flight Sciences has designed a system that is activated on contact with water and functions through the swelling action of a super absorbent polymer to provide the sealing force around the neck, wrists, and ankles in both fresh water and salt water. Aurora's problem solving approach provides a material that is inherently reliable and does not require anything other than being submerged to work. The life saving benefit with hydrogel seals is that the user could even be unconscious and the system would still activate. The device and method can be used with any suitable type of body suit, including: survival suits, wet suits, dry suits, exposure suits, and immersion suits.

Though the invention started with a military application, this sealing device could be used in many applications such as sealing large, enclosed areas, such as the basement of a house, to prevent flooding. The invention can also be applied to the sealing of any shaft in the presence of liquids where either the shapes are somewhat irregular, or the clearances are not uniform.

About Aurora Flight Sciences

Aurora Flight Sciences designs and builds robotic aircraft and other advanced aerospace vehicles for scientific and military applications. Aurora is headquartered in Manassas, VA and operates production plants in Clarksburg, WV and Columbus, MS and a Research and Development Center in Cambridge, MA. To view recent press releases and more about Aurora please visit our web site at www.aurora.aero.