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Oil and Gas Operations in the Gulf of Mexico Claim 139 Lives in Helicopter Crashes over 26-year Period
Mechanical failure most common cause

A new study by researchers at the Johns Hopkins Center for Injury Research and Policy finds that helicopters that service the drilling platforms and vessels in the Gulf of Mexico crash on average more than six times per year resulting in an average of 5 deaths per year. From 1983 to 2009, 178 crashes resulted in 139 deaths, including 41 pilots and 3 co-pilots. Mechanical failure was the most common cause, leading to 68 crashes (38 percent of the total), followed by bad weather (16 percent of the total). While the challenges such as bad weather and long travel distances associated with helicopter flights in the Gulf related to oil and gas operations are recognized, this study is noteworthy for examining the circumstances of the crashes. The article is published in the September issue of *Aviation, Space and Environmental Medicine*.

Researchers from the Johns Hopkins Center for Injury Research and Policy, part of the Johns Hopkins Bloomberg School of Public Health, examined fatal and nonfatal crash records of the National Transportation Safety Board (NTSB) from 1983 to 2009. Analyses determined that the most common result of mechanical failure in both fatal and nonfatal crashes was loss of engine power, which occurred in almost one-third of fatal crashes. The majority of forced landings following mechanical failure occurred in water, with 20 percent resulting in the sinking of the helicopter despite the fact that most helicopters are being equipped with pilot-activated flotation devices.

Bad weather was the second most common precipitating factor for fatal and nonfatal crashes and was responsible for the largest number of deaths. In fact, bad weather was the only

factor that significantly increased the risk of pilot death when a crash occurred. Pilot error was a major contributor to 83 crashes (47 percent), with poor decision-making the most prevalent error. For example, the NTSB conclusion for many of the bad-weather crashes was that the pilot should not proceed in given the forecast or observed bad weather.

“This study raises concern about the safety of helicopter flights related to oil and gas operations in the Gulf of Mexico, particularly during bad weather,” said Susan P. Baker, MPH, professor with the Johns Hopkins Center for Injury Research and Policy and the paper’s lead author. “Our findings suggest that efforts to reduce crashes and deaths must address mechanical failure, non-activation of flotation devices, and pilot error.” Baker is a licensed private pilot and received the Aerospace Medical Association’s Harry G. Moseley Award in 2010 for her work applying the public health model to aviation safety.

The researchers also examined crash trends over the study time period and found an increase in the most recent time period, 8.2 annually during 2000 to 2009 versus 5.6 during 1983 to 1999. Following 2007, however, the researchers measured a decrease in crashes.

“While the apparent deterioration in safety over time is alarming, I am encouraged by the most recent data,” said Baker. “Only time will tell whether this is a temporary statistical blip or the beginning of a positive trend.”

Additional authors of “Helicopter Crashes Related to Oil and Gas Operations in the Gulf of Mexico” are Dennis F. Shanahan (associate faculty at the Johns Hopkins Center for Injury Research and Policy), Wren Haaland (consultant to the Johns Hopkins Center for Injury Research and Policy), Joanne Brady (Columbia University) and Guohua Li (Columbia University).

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