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Kevin E. Burns* (keburns@mc.edu), P.O. Box 4025, Clinton, MS 39058, and **James D. Morgeson, Jason A. Dechant** and **Yazmin Seda-Sanabria**. *Exposure: A Decision Metric for Selecting Effective Sets of Security Upgrades at Dams.*

The U.S. Army Corps of Engineers (USACE) conducts Security Risk Assessments (SRAs) at dam projects. The Common Risk Model for Dams (CRM-D) provides a mathematically rigorous way to conduct SRAs. The CRM-D quantifies risk as the product of the probability of a successful attack, given it is attempted, and consequences. Referred to as conditional risk, this decision metric is the expected loss given a specified attack is attempted. A specified attack (consisting of an attacker type and an attack vector) carried out on a particular target comprises a scenario. The CRM-D considers three attacker types and thirty-two attack vectors. A dam with only a modest number of assets could thus have several hundred scenarios and, consequently, several hundred conditional risk estimates. Exposure is a decision metric which allows an analyst to aggregate conditional risk estimates across scenarios. An analyst can use exposure to compare risks by attack type, by target or for any set of scenarios. These comparisons can be used to determine a proposed set of security upgrades. A standard set of graphics and calculations based on exposure are introduced that summarize the current level of risk at a dam as well as the reduced level of risk should the set of security upgrades be implemented. (Received September 19, 2016)