

Proceedings of the 2<sup>nd</sup> Annual World Conference  
of the Society for Industrial And Systems Engineering  
Las Vegas, NV, USA  
November 5-7, 2013

## Do People Heed Warnings at Gas Stations?

F Khan<sup>1</sup>, D Krauss<sup>2</sup>, S Alper<sup>1</sup>, J Droll<sup>3</sup>, S Arndt<sup>1</sup>, S Lakhiani<sup>1</sup>, and D Cades<sup>1</sup>

<sup>1</sup>Exponent Failure Analysis Associates, Chicago, IL

<sup>2</sup>Exponent Failure Analysis Associates, Los Angeles, CA

<sup>3</sup>MEA Forensic, Los Angeles, CA

Corresponding author's Email: [dkrauss@exponent.com](mailto:dkrauss@exponent.com)

**Abstract:** While the intention and purpose of well-designed warning signs should be unambiguous, the degree to which they are effective in changing behavior outside a laboratory setting is less clear. To assess the effectiveness of warning signs in changing behavior at gas stations, we observed customer behavior while refueling in the presence of warnings prohibiting cell-phone use, re-entering the vehicle, leaving the vehicle unattended, smoking and leaving the vehicle running. The rate of customer violation for each behavior is provided and compared against the number of ANSI Z535 compliant features that the warning for that behavior had. Results indicate that the number of ANSI compliant components are not consistently associated with increased levels of compliance. The authors discuss the results as another example demonstrating the ineffectiveness of warnings to influence behavior.

*Keywords:* Warning effectiveness, ANSI Z535, Warning compliance