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CORRECTION

Correction to: Improving FEMA P-58 non-structural component fragility functions and loss predictions

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Unfortunately, Eqs. 2, 4 and 5 of the associated paper are published incorrectly. We apologize for these errors.

Equation 2

Instead of:
The likelihood that an arbitrary component is damaged at a level of demand that caused damage (edp_i) is the normal distribution probability density function (PDF) evaluated at the fragility function defined by Eq. 1, i.e.,

$$\text{Likelihood} = \phi\left(\frac{\ln\left(edp_i/\theta\right)}{\beta}\right) \tag{2}$$

where $\phi(.)$ is the normal distribution PDF.

Equation 2 should be:
The likelihood that an arbitrary component is damaged at a level of demand that caused damage (edp_i) is the fragility function defined by Eq. 1, i.e.,

$$\text{Likelihood} = \Phi\left(\frac{\ln\left(edp_i/\theta\right)}{\beta}\right) \tag{2}$$

The original article can be found online at https://doi.org/10.1007/s10518-018-00535-7.

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Equation 4

Instead of:

$$\text{Likelihood} = \left[\prod_{i=1}^{m} \phi\left(\frac{\ln\left(edp_i/\theta\right)}{\beta}\right)\right]\left[1-\Phi\left(\frac{\ln\left(edp_{max}/\theta\right)}{\beta}\right)\right]^{n-m} \tag{4}$$

Equation 4 should be:

$$\text{Likelihood} = \left[\prod_{i=1}^{m} \Phi\left(\frac{\ln\left(edp_i/\theta\right)}{\beta}\right)\right]\left[1-\Phi\left(\frac{\ln\left(edp_{max}/\theta\right)}{\beta}\right)\right]^{n-m} \tag{4}$$

Equation 5

Instead of:

$$\{\hat{\theta},\hat{\beta}\} = \underset{\theta,\beta}{\text{argmax}} \sum_{i=1}^{m}\left[\ln\phi\left(\frac{\ln(edp_i/\theta)}{\beta}\right)\right] + [n-m]\ln\left[1-\Phi\left(\frac{\ln(edp_{max}/\theta)}{\beta}\right)\right] \tag{5}$$

Equation 5 should be:

$$\{\hat{\theta},\hat{\beta}\} = \underset{\theta,\beta}{\text{argmax}} \sum_{i=1}^{m}\left[\ln\Phi\left(\frac{\ln(edp_i/\theta)}{\beta}\right)\right] + [n-m]\ln\left[1-\Phi\left(\frac{\ln(edp_{max}/\theta)}{\beta}\right)\right] \tag{5}$$