

The Practice of Forensic Structural Engineering in IABSE Member Countries: preliminary review of survey 2022

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Abstract

The IABSE Task Group 5.1 on Forensic Structural Engineering aims to examine and to mitigate structural failures by sharing knowledge of technical, human, and organizational causes of failures, in addition to methods and techniques in forensic investigation processes. The expertise of Forensic Engineering is yet to be worldwide recognised as a specific domain of civil engineering practice and this article amends previously published technical reports in 2012, 2014 and 2015 by former IABSE Working Group 8 following a new survey carried out in 2020-2022.

This new survey has been developed with the lessons learnt from the previous survey in 2013-2014.

This article is a preliminary report on some topics of the survey and will allow to familiarize with the state-of-art in forensic structural engineering practice across 22 countries.

Keywords: forensic structural engineering; survey; structural failure; structural collapse.

1 Introduction and background

Failures of structures occur in all parts of the world as the result of design deficiencies, construction defects, abuse or misuse, lack of maintenance, aging and deterioration, and environmental effects such as wind, flood, snow and earthquakes, among others. The technical and legal approach of treating structural failures, however, are different in various countries. The response of 'forensic

engineers', where the designation exists, to disasters is an organised activity in some countries but a haphazard activity in most others.

The IABSE Task Group 5.1 (TG 5.1 in the following) on Forensic Structural Engineering started its activity in 2011 (as former IABSE Working Group 8). By sharing knowledge of technical, human and organizational causes of failures and of