

STRUCTURAL RESPONSE AND HUMAN RESPONSE TO BLASTING VIBRATION EFFECTS - IS THERE A CONNECTION?

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ABSTRACT

Many complaints generated from blasting operations result from the marked human response to ground transmitted vibrations and air blast effects and so many authorities have considered the regulation of blasting in terms of human response rather than, as previously, in terms of preventing damage to structures.

This paper will examine the problems of human response and correlating it to some measurable quantity such as the ground motion in terms of particle velocity. Examples will be given which tend to show that a better correlation of human response to ground vibration levels exists with respect to people within structures to the 'structural response' or the actual energy induced into a structure. Other factors affecting human response, including psychological effects, are detailed, all of which tends to show that any human response criteria will be a tenuous one at best.