



Liability and Risk Management for Induced Seismicity in Canada

Allan Edward Ingelson

Executive Director, Canadian Institute of Resources Law & Associate Professor, Faculty of Law, University of Calgary

Anne E. Kleffner

Professor, Risk Management and Insurance, Haskayne School of Business, University of Calgary

Summary

Wastewater injection and hydraulic fracturing activities may trigger seismic events that have the potential for causing property damage and personal injury. In light of the potential liability, some provincial, state and federal regulators in North America are currently monitoring seismic events and developing protocols, guidelines and regulations to mitigate the potential damage from induced seismicity. In this paper we analyze the regulatory responses. We provide an overview of the issues to be considered in the management of liability, propose a set of criteria to evaluate different approaches and conclude by recommending a liability model. The comparative law methodology described by John Reitz¹ will be used to identify an optimal approach to managing the liability associated with induced seismicity. The paper is organized as follows. We begin with identifying the risks associated with induced seismicity and provide an assessment of those risks. As some state and provincial governments have taken the lead in creating protocols to mitigate liability, after describing the liability exposures associated with induced seismicity we then describe state and provincial regulatory models including those in Oklahoma and Alberta. These jurisdictions have created the most comprehensive Traffic Light Protocols in North America to date. We then discuss different liability models and the challenges related to evaluating the potential risks from induced seismicity and concerns about the lack of sufficient information to forecast losses and to address concerns about catastrophic risks. The liability models will provide examples of different risk-sharing arrangements for “difficult to insure” risks. Caps on liability, no-fault compensation and government insurance are discussed as potential mechanisms that may be used to share the risks. We conclude with a proposed model for managing liability associated with induced seismicity and the specific elements of such a model for jurisdictions in Canada.

References

John C. Reitz, “How to Do Comparative Law” (1998) 46 Am J Comp L 617.

¹ John C. Reitz, *How to Do Comparative Law*, 46 Am. J. Comp. L. 617 (1998).