

CAPP HYDRAULIC FRACTURING  
INDUSTRY SHARED PRACTICES

# ANOMALOUS INDUCED SEISMICITY DUE TO HYDRAULIC FRACTURING

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## BACKGROUND

Hydraulic fracturing is a safe and proven technique that is regulated and has been used extensively throughout Canada's oil and natural gas industry for more than 60 years. Low levels of small magnitude seismicity is an expected result of hydraulic fracturing.

In both Alberta and British Columbia, strict regulations are in place for operators to monitor and report on induced seismic activity.

In 2011, CAPP released the industry's *Guiding Principles for Hydraulic Fracturing* and seven *Operating Practices*. Developed in collaboration with CAPP member companies, the *Guiding Principles and Operating Practices* strengthen industry's commitment to continuous improvement to reduce potential environmental risks associated with hydraulic fracturing.

## WHAT IS INDUCED SEISMICITY?

Induced seismicity refers to seismicity caused by human activity. It is associated with several industrial processes including geothermal energy extraction, mining, and dam building and is a normal feature of hydraulic fracturing used in oil and natural gas development. Anomalous induced seismicity refers to seismic events caused by human activity that is unusual or inconsistent with what is expected.

## WHAT ARE INDUSTRY SHARED PRACTICES ON ANOMALOUS INDUCED SEISMICITY?

CAPP member companies encourage and support greater transparency and information sharing to strengthen the commitment to responsible hydraulic fracturing practices. Members have shared experiences and knowledge on induced seismicity risk appraisal, risk mitigation and approaches to research. This collection of information is documented in CAPP's *Industry Shared Practices: Anomalous Induced Seismicity due to Hydraulic Fracturing*. The shared practices are based on the current level of knowledge and recognize research is ongoing and understanding continues to grow. Any recommended shared practices are superseded by any regulatory requirements.

## HOW DO INDUSTRY SHARED PRACTICES DIFFER FROM CAPP'S OPERATING PRACTICES?

The *Industry Shared Practices* supplement the existing *Operating Practices* but provide more detailed recommendations for operators to use to address the risk of induced seismicity. Operators should adapt the *Industry Shared Practices* to their specific situation. An individual operator is responsible to conduct their operations safely, according to regulations, and consider the circumstances of their specific operations.

CANADA'S OIL  
AND NATURAL  
GAS INDUSTRY  
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ABIDES BY ALL  
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FRACTURING  
OPERATIONS.

## INDUSTRY SHARED PRACTICES

The *Industry Shared Practices* ensures that CAPP members have access to the same information so that any potential risks related to induced seismicity caused by hydraulic fracturing is managed using the best available information, technology and science.