API RP 580 Risk-Based Inspection was recently issued in the spring of 2002. This recommended practice provides the basic elements for developing and implementing a Risk-based Inspection (RBI) program.

This paper will provide an introduction to the background and benefits of RBI as a tool for improving equipment reliability and managing asset integrity. The paper will cover the elements, data and resources necessary to implement a risk-based inspection program and how risk-based inspection fits into an overall plant mechanical integrity program.