From: City Engineer
City of Auburn
Auburn, WA 98001

As an interim response to your questionnaire regarding the November workshop, I have the following concerns as a City Engineer which probably are shared by most of the City Engineers along the various pipelines that course the state:

* The design, construction, operation and management of a pipeline involves a host of safety concerns which require the objective professional services of a certified pipeline engineer who is registered with the Washington State Board of Professional Engineers. Such a registered engineer should be on contract with the Board to assist you in rule making. Only such a pipeline expert can list for the Board's consideration the numerous factors to consider in regulating each part of a pipeline's life cycle. I would strongly advise you to have such an expert on board so that the Public Trust for safety, that the board desires to protect, can be adequately defined. I can point out for you some of my concerns about your proposed agenda, but I am not personally qualified to serve as a pipeline engineer.
* A major concern among the Cities is that very little is being done to "Prevent" future incidents like we experienced in Bellingham. The State seems to be re-active to incidents but appears to do nothing to prevent such incidents. I would hope that a "Public Workshop" agenda would have "Prevention Rules" as a key topic. While I realize that the industry will strongly resist the costs of replacing defective pipelines before they fail, we need to bear in mind that Public Trust demands that the WUTC require stringent and objective pipeline safety tests on a routine basis. We need to realize that much of the current pipeline stock in approaching the end of it's expected life for structures in a seismic area and that much of the present stock has endure 20-30 years of fatigue stress due to normal environmental stresses created by seismic events. Fatigue failure is not limited to the airline industry. When an aircraft is approaching it's life expectancy, regulations are applied to take it out of service until it can be re-certified. The main reason for this is that fatigue stress can cause cumulative weakness in the materials which are being continually stressed on a repetitive basis. The tremendous energy that is absorbed by underground pipelines during a single seismic event can cause stresses well beyond the elastic limit of the pipeline materials. When this occurs a pipeline can develop weakened points in the metal makeup of the structure which were not considered in the factors of safety during design. Such weakened structures can appear to the normal eye to be perfectly serviceable, but when the cyclic pumping pressures are applied pushing the material near to it's elastic stress limit, sudden rupture can be expected at some point. Most likely the Bellingham incident is symptomatic of a much wider insidious problem that only an objective expert in the field of petroleum pipelines can adequately help you scope and identify the safety improvements required to meet your Public Trust mandate.
* I would like to attend the workshop. At the workshop I would expect to see such an expert hired by the Board to represent the public. I would hope that the expert has no professional conflict with the industry being regulated. I would expect to see a better agenda that goes to the root of identifying the problem.
* Finally, I have always found that a regulatory process following something that is a long-term threat to Public Safety such as a pipeline, should have some mechanism for a Local Public Officials to follow and influence. I might suggest that one of your rules would be that the Board will establish and utilize a subcommittee of Public Works Officials and the services of a Professional Pipeline Engineer to review the adequacy of Board rules and to establish New rules for annual testing, performance criteria, and operating constraints for pipelines in service to assure that all pipelines are either properly certified or taken out of service until they

can be certified by an independent expert.

Sincerely,
Dennis Dowdy
City Engineer, CE, PE