

WENK LECTURE – UNIVERSITY OF WASHINGTON

By Dale Jensen

Introduction

Thank you Greg for the introduction and thank you for the opportunity to be here today as this year's Edward Wenk, Jr. Endowed Lectureship in Technology and Public Policy speaker. It was such a pleasure to meet and talk with you Dr. Wenk before my lecture began today. Your work with past spills, especially your focus on accident prevention and public policy has helped to shape our work today in oil spill prevention.

This is an incredible opportunity for me to speak about oil spill issues in Washington. With recent events in the Gulf and continual concerns for the health of Puget Sound, it is more important now than ever to talk about these issues.

As Dr. Miller mentioned, I have been directing the statewide operations for the state's oil spill program for almost 10 years now and the one thing that I have come to understand about oil spills is that *it is a very emotional issue*.

There are environmental and economic impacts, as well as public health and safety issues to address when an oil spill occurs, but above them all, and what really drives changes in public policy, are the emotional impacts that oil spills have on people's values, culture, and their general sense of what's right and wrong about the world.

There is no escaping the emotions that it evokes in people...sadness, outrage, frustration, and helplessness. Their way of life, as they know it, may be changed forever. Imagine a place here on the shores of Puget Sound or our outer coast that you love and enjoy...maybe you even grew up or spent your summer vacations there; now imagine seeing heavy, black crude oil sloshing on the waves, covering once pristine beaches, and suffocating birds and mammals... it has an impact.

When the Exxon Valdez spill happened in 1989, it changed the face of Alaska forever. It changed the social make-up of the area. Months into the spill and years into the aftermath there was an increase in wide spread cases of depression, alcoholism, domestic violence and suicide. It changed the national perspectives about oil spills and significant policy changes on how to prevent, prepare for, and respond to them were made at the federal and state level. It was a wakeup call for the country about the devastating effects of oil spills on the environment, economy, and society.

The responsibility and challenge for all public policy makers when large spills occur, is how to strike a balance on one hand, the emotional reaction... and on the other hand, ensuring that laws, standards and policies are practical and achievable and yet maximized to protect the public's interests.

In my lecture today, I would like to talk about:

- What the state of Washington's oil spill program is?

- Historical spills that have shaped many of the oil spill policies today.
- The Gulf spill and how it affected us here, and
- How the state has worked to strike a balance with competing values when setting public policy on oil spill issues.

Oil Spills Program Overview

The state's oil spill program consists primarily of several trustee agencies that lead efforts on several different aspects of spills in the state:

The Dept of Ecology has the lead on 4 activities:

- Vessel and Facility Spill Prevention
- Oil Spill Preparedness
- Oil Spill Response, and
- Is the Lead Trustee on Natural Resources Damage Assessment

The Dept of Fish and Wildlife is the:

- Lead Trustee for Fish and Wildlife, and their Habitats

The Dept of Natural Resources is the:

- Lead on Derelict Vessels and state owned aquatic lands

The Dept of Ecology Spills program consists of approximately 69 full time employees spread across 6 locations around the state.

Our Program is funded by the Oil spill administration tax (5 cent per barrel) that is applied to all oil products that come into the state by vessel, and from the hazardous substance tax.

The state oil spill program is one of 10 programs within the Department of Ecology. Ecology represents about 29.7%, and the Spills Program represents about 1.9 % of the natural resources agencies overall operating budget. The total natural resource agency's operating budget is about 2.3% of the total \$63.6bl state operating budget.

Our Program is very unique, because there is not another environmental agency in the nation that has statewide responsibility and all four of the following activities together. I believe this structure has led to our state having the lowest spill volume in the nation.

In our Prevention Program we:

- Board and inspect covered cargo and passenger vessels (we coordinate w/the USCG).
 - We focus on the high risk for international, federal, state laws...w/many different cultures.
- Inspect oil refineries, marine terminals and pipelines.
 - We focus on spill prevention planning, corrosion protection, etc.

- **Improve waterway management; including transboundary tanker traffic and tank vessel escort.**
 - **The Neah Bay tug and tug escort system is unique – Canadian system is less stringent than U.S. /WA.**
- Inspect oil transfer and pre-booming operations.
 - 15 billion gallons are transferred over water each year and 15k transfers/yr.
- **Promote voluntary “best achievable protection” for oil tankers and oil barges.**
 - **Alaska Tanker Company is a leader – regulations are not the only tool for results.**
- Investigate the causes of vessels and facility spills.
 - We capture lessons learned and share them.
- Take action to eliminate intentional waste oil dumping by ships.

In our Preparedness Program we:

- **Review and approve industry contingency plans.**
 - **We ensure plans support a rapid and aggressive spill response.**
- **Conduct oil spill drills.**
 - **About 600 drills are conducted each year, companies from around the world train here in WA.**
- Develop Geographic Response Plans (GRPs).
 - These preplanned spill response strategies target natural, cultural and economic resources at risk.
- Verify and test the effectiveness of response equipment.
 - We ensure equipment is well maintained and ready to aggressively respond.
- Participate in the Area Planning process.
 - This includes a three state, federal, local and tribal GOV response plan.

In our Response Program we:

- **Protect public health/safety, the environment and economy by:**
 - **Rapidly and aggressively responding to and cleaning up oil and hazardous material spills - 24 hours/day from 6 offices.**
 - There are 3000 reported spills each year – we respond in the field to approximately 30% of the incidents reported.
 - **Building response capability at the local level.**
 - There are 99 equipment caches staged for local first responders.
 - Cleaning up methamphetamine drug labs.
 - Expanding remote sensing and spill tracking capability.
 - King County and Washington State Patrol have this capability.
- **Follow-up to spills by issuing Penalties, Cost Recovery, and NRDA.**

In our Natural Resources Damages Assessments we:

- Restore oil damaged environments through our Natural Resource Damage Assessment (NRDA) program by:
 - Assessing the impact of spills on state natural resources in partnership with other state, tribal and federal trustee agencies.
 - Using the Coastal Protection Account to fund and leverage environmental projects.

History of Spills

Spills are not only emotional for communities, but they are also opportunities for new “lessons learned” where the goal is to make proper adjustments to the system so they won’t become reoccurring lessons.

The response community embraces the culture of lessons learned. Every incident continues to be a learning opportunity to shift our mindset to improve and transform how we do business. We use each incident as an opportunity to improve our procedures or practices, or reshape policy. It may be a small improvement or a huge improvement, the goal is to position our capabilities and position our system better for the future.

Here are 5 of the most significant spills that have shaped Washington’s oil spill laws, policies and issues to date. Spills do provide opportunities for improvement either through procedural changes or policy; and change almost always happens as a result of a spill. As I go through these, some of you may remember these spill incidents and may have even been impacted in some way by them.

On December 21, 1985 the tank vessel ARCO Anchorage grounded in the Strait of Juan de Fuca (Port Angeles).

- It spilled 239,000 gallons of crude oil.
- **This spill was unique because it resulted in establishing the Natural Resources Damage Assessments methodology at the state level that also influenced a national model and a 1989 state rule for conducting assessments of damages to the environment after a spill occurs.**

On December 23, 1988 the Nestucca oil barge collision between the barge and its towing vessel (tug).

- It spilled 231, 000 gallons of heavy oil off the coast of Grays Harbor and impacted Canada.
- **This spill was unique because it resulted in the establishment of the western states and British Columbia task force. This strong relationship is still very effective today.**
- It resulted in 1989 establishment of Financial Responsibility requirements for vessels.
- It resulted in 1990 establishment of Preparedness/Contingency planning program for the state.
- It resulted in 1991 establishment of Spill Management Program including the 5 cent barrel tax for the Oil Spill Prevention Account and the Oil Spill Prevention Response Account, and facility spill prevention program.

On March 24, 1989 the Exxon Valdez oil ran aground off Blight Reef in Prince William Sound, Alaska.

- It spilled over 11 million gallons of crude oil.

- **This spill was unique because it resulted in the enactment of Oil Pollution Act of 1990 (OPA 90) which required:**
 - **Faster and more aggressive cleanup operations after an oil spill.**
 - **Forced responsible parties to pay for cleanup.**
 - **Tougher penalties and more liability for spillers.**
- It improved industry spill prevention standards that required double hull design for oil tankers and barges. The single hull design is to be phased out on all oil tankers and oil barges in U.S waters by January 1, 2015.
- There were also higher regulatory standards at both the state and federal levels that required standards for non-tank or cargo, cruise, etc. vessel response plans.

On June 10, 1999 there was the Olympic Pipeline explosion in Bellingham.

- It killed 3 kids, there were criminal charges and at least one industry person went to jail.
- It spilled over 277,000 gallons of gasoline into Whatcom Creek
- It established the Citizens Committee on Pipeline Safety (CCOPS). This Governor-appointed committee meets regularly to discuss, identify, review and highlight pipeline safety issues on a local and national level.
- The Office of Pipeline Safety delegated federal authority to the State of Washington to inspect and investigate interstate oil pipeline incidents. The Spills Program received a full time position for oil pipeline contingency plan review and for the development of inland response strategies. (Geographic Response Plans that target natural, cultural and economic resources at risk from pipeline spills and pre-identify strategies to minimize damages).
- **This spill was unique because it leveraged stricter national and state regulatory standards for pipeline operations and maintenance and for the review and approval of pipeline oil spill contingency plans. Drills are used to test and improve the effectiveness of plans and those rules were updated in 2006.**
- There was also placement of oil spill response equipment caches at strategic points in local communities throughout Washington to enable rapid and thorough response to spills.

On October 13, 2004 the oil tanker Polar Texas spilled during a ballasting operation.

- It spilled 7,200 gallons of heavy crude oil
- The oil spill spread patches of oily sheen as far south as the Tacoma Narrows and as far north as Eagle Harbor. The sheen touched 15 miles of shore along Colvos Passage, the Narrows and Quartermaster Harbor and left a filmy coating along six miles of southern Vashon and Maury islands.
- Within weeks of the spill, the Oil Spill Early Action Task Force was established by Governor Locke and USCG's Admiral Garret who charged the group to evaluate actions to be taken during the early hours of a spill when meteorological conditions are adverse, and to develop recommendations that would enhance response to a spill during the first twelve hours of the incident.
- The Oil Spill Advisory Council (OSAC) was established in 2005.

- Ecology issued a penalty totaling \$540,000.

What was unique about this spill is that it actually happened the evening before, but went unnoticed until it was first reported in the middle of the night around 1:30 AM. It was not reported by the spiller... the tank ship Polar Texas. The Polar Texas was owned by Conoco Phillips, a regulated company; however the vessel left town before the spill was discovered.

It was very unfortunate that the spiller didn't immediately report the spill. The response was delayed which further threatened our environment and economy and the spill had to be managed as an orphan spill, at the public's expense, because there was not a responsible party or spiller identified. The public perception and expectation for spill management is very high in our state, and with this orphan spill, the state became the responsible party and was expected to take care of it...the public was very worked up, it was an election year, a perfect storm.

One of the biggest challenges we face today... is how to manage the public's expectation and perception about oil spills and how that is factored into setting public policies for our state.

This next spill is an example of how incredibly high the expectation is for the government to manage pollution control, especially during the biggest spill event in our nation's history.

Overview of the Deepwater Horizon Oil Spill

On April 20, 2010 an explosion occurred on the Deepwater Horizon oil rig in the Gulf of Mexico.

11 employees of that oil rig died, communities across 4 Gulf States were impacted and oil was leaking from a pipe 5000 feet under the ocean floor estimated at a rate of 4 million gallons a day, and estimated at well over 200 million gallons spilled.

At the height of this response:

- More than 6,800 active vessels were used in the response (skimmers, barges, vessels of opportunities).
- There were 117 aircrafts in the air.
- More than 4 million feet of boom were deployed (that 750 miles of boom – almost enough to boom the state of Washington).
- Nearly 2 million gallons of dispersants were used, both surface and subsurface.
- About 12 million of gallons were burned using in-situ burning
- Over 43,000 personnel responded.

Washington State sent:

- 53,200 ft. of contactor boom.
- 15,000 gallons of a dispersant chemical called COREXIT 9527.
- 1900 ft. of fire boom.
- 3 Shallow Water Barge Systems (includes: skimmer, storage, boom, and propulsion unit).

- 7 vessel skimmers (Marco skimmers also known as harbor 28s).
- 9 workboats.
- Personnel were mobilized on a rotating basis.

Like all the spills I've outlined earlier, this incident was and still is a **harsh but tremendous opportunity to "learn lessons"** and to apply them to ensure it never occurs again. This was a preventable incident.

As I said earlier, **public perception can make or break the perception of an effective spill response.** Even though there was a responsible party in this spill – a pretty visible company like BP, the public was very critical of how government was conducting the spill response. In oil spill response management....you want to keep the responsible party, like BP, in the decision making process, they have the critical knowledge and money. It is the spiller's responsibility in our state and nation to pay for all spill costs. But, at some point the Responsible party, British Petroleum disappeared behind the USCG's Admiral Thad Allen in the media scene.

Spills are emotional issues, but they also play into the political environment. And right now people are critical of the government.

At the national level, it will be interesting to see how the Obama Administration and Congress will use this disaster to make needed significant policy changes that will improve how we drill, transport and use oil resources in this country?

There are a number of investigations and review processes underway including the Presidents Commission on the Gulf Spill, the Initial Spill Preparedness Review, and other reviews and investigations that will help to inform their decisions. Once bill language is drafted, we will look to see what opportunities there are for us to help shape policy at the national level.

It will be interesting to see if the new changes will be seen as significant as those policy changes that resulted from the Exxon Valdez spill 21 years ago.

I was a bit taken aback and disappointed to hear at the Clean Gulf Conference that the Gulf States had no plans to initiate changes to their regulatory requirements as a result of this spill ...that would never happen here in this state.

Here in Washington, we are fortunate to have a forward leaning legislature and I expect there to be potential policy changes at our state level to improve upon our oil spill prevention, preparedness and response capabilities.

As you saw in those photos, spills are tough on everyone and everything that is impacted. This spill was a spill of national significance because it truly impacted all of us around the country and the world. Response equipment and personnel came from all over the country. Even volunteers from around the country went to help in the Gulf. This was a significant event in our nation for at least 3 months as images of oiled birds, oiled soaked marshes, miles and miles of boom, and millions of bags of waste were shown in the media.

Those images are what we can expect if a spill of that significance were to occur here in Washington State.

How does the state strike a balance between competing values?

Before we start on this conversation, I would like to show you a snap shot in time of how many vessels are transiting in and out of our waters.

The state of Washington and Puget Sound in particular has some of the most diverse environmental conditions in the country. A long history of life and subsistence intertwined with the water and an economy dependent on water transportation. Here are some facts about this region:

- Total area of land and water for Puget Sound is 2458 square miles.
- 2500 miles of shorelines.
- 10,000 rivers and streams that flow directly into Puget Sound.
- Over 200 species of fish live in these waters
- 12 counties surround its water bodies.
- 3.5 million people living around Puget Sound
- 10 million vehicles and over 21 million passengers are carried on ferries annually
- Over 750,000 people come through our waters by cruise ship each year
- 15 Tribal nations
- Over 10,000 vessel transits in and from our ports annually
- 15 billion gallons of oil are transferred each year over our waters

All of this vitality would come to a halt if a spill of national significance occurred here.

Studies estimate that it could cost the state about **\$10.8 billion dollars and 165,147 jobs** if such a worst case spill occurred here.

[As I talk about how Washington manages sometimes with success and sometimes without success to strike a balance to have good public policy, I want to share these photo images so you can look at the work my folks in our state's oil spill program conducts every day. I am going to let them run while I speak.]

The title of this lecture today is about ***“striking a balance between competing values in setting public policies”***. That is what we do in order to manage the spill risk and work to meet the expectation that the citizens of Washington have of us.

It is not an exaggeration to say that I am petitioned at times by environmental advocacy groups to shut down the refineries in our state in order to remove the risk of spills, or to develop standards that are so onerous and impossible to meet.

On the other hand, I am petitioned by those involved in commerce, that if even one more dollar is added to the cost of coming into our ports, we will lose business to Oregon and California. To our Ports north of us in Canada, or even to the East Coast with the manufacturing shift to south Asia and the Panama Canal construction near complete. How do I balance these extremes?

This isn't always easy and sometimes it puts us in conflict with our stakeholder partners. I was in business before I became a public servant...my personal values weigh in as well.

I have an example during the early days of the gulf spill to share. There was a federal request for equipment and personnel assets to be sent to the Gulf. We had to make decisions that were seen by some as being uncooperative.

We had to make a decision about what level of preparedness we were willing to drop down to in our state while aiding our sister Gulf state communities as much as possible. That meant that we couldn't send certain types of our response equipment because it would have left our state unable to respond to spills if they occurred here. It would have left our industry operators in a vulnerable position.

What was interesting was that our industry partners understood why we took the position we did, unfortunately they couldn't express it publicly, while our USCG and EPA federal government partners viewed this as uncooperative. There were conversations between the response contractors, responsible parties and the federal governments about moving equipment from our state to the gulf that did not include many of the industry representatives that both fund and rely on those assets here. The decisions that were being made at the national level without them had a direct impact on the level of preparedness that each company here in our state was required to have available to respond.

The federal response standards were then relaxed substantially by the USCG and EPA to help alleviate some of the concerns and relieve companies of their regulatory responsibilities during this spill of national significance and allow for the ease of moving all available response assets to the Gulf. The non BP companies didn't feel the sense of relief that the federal government thought they would, but rather companies felt they were potentially more vulnerable, and would not be capable of responding rapidly and aggressively to a spill if it occurred. Companies also felt they would potentially face larger spill costs for damages to the environment and 3rd party claims and economic impacts. It has been drilled into their mindsets that Washington's public does not accept anything but the highest standard of protection for its waters. So we pulled the local industry plan holders into the discussions to keep them informed.

We kept the companies, governmental agencies, and the public informed from day one of the Gulf spill by starting a website that tracked equipment, personnel requests, and deployments out of the state to the Gulf. We included local regulated companies in our conversations with response contractors to discuss what could be sent to the Gulf. We were the only state that set up this system and communication in such detail.

Our state's success is critically dependent on the partnerships and relationships that we form with each of our **international, federal, local and tribal partners, NGOs, industry and the public.**

We do this in a variety of ways by collaborating and engaging in dialogue through formal agreements such as:

- **The Pacific State/British Columbia Oil Spill Task Force** which was formed after the Nestucca oil spill in 1988. The task force includes Washington, Oregon, California, Hawaii, Alaska, and British Columbia and focuses on issues that are common concerns on the west coast regarding oil spill risks and the need for cooperation across shared borders.
- **The Regional Response Team and North West Area Committee** which is a requirement of the Oil Pollution Act of 1990 after the Exxon Valdez spill and includes Federal, State, Local, and Tribal agencies from Washington, Oregon, and Idaho, as well as subcommittee work that includes the public and industry representatives.
- **Washington State has a very unique memorandum of understanding and working protocols with the USCG District 13**, to maximize efficiencies and effectiveness through our collective state and federal efforts in monitoring and ensuring marine safety in our state.

We also engage our NGO's or non-governmental organizations, the public, industry, all levels of government and tribal partners through stakeholder meetings and partners like the Puget Sound Partnership. We work closely with the Puget Sound Partnership to highlight oil spills as a risk to the health and vitality of Puget Sound.

In the last 3 months we have had a lot of momentum to influence and drive many important issues to successful outcomes such as the:

- **USCG Authorization Act with Senator Cantwell's leadership.** This success provides:
 - A process for a comparability study between US/WA and Canadian marine safety provisions. These issues are all very important to the State's interest; the comparability analysis would both inform and influence outcomes for our ongoing transboundary work both from a response and prevention perspective.
 - An opportunity to encourage the Tug escort requirements in Canadian waters to be comparable to the US federal level, and more specifically to Washington State standards for double hull vessels that are no longer required to have escorts under USCG requirements.
- **Emergency response tug at Neah Bay** now funded and managed by industry starting July of this year (2010), after ten years of public funding. Our hope is that this will be a part of the transboundary discussions as well.
- **Puget Sound Partnership work sessions** to discuss oil spill issues and priorities for the state prior to the upcoming 2011 legislative session. The Cross Partnership Work group is made up of environmental, industry, ports and commerce, and governmental and tribal representatives.

There are still **many challenges ahead that we face** such as:

- **How will we manage spills that cross international borders** including issues like waste disposal, places of refuge for imperiled ships or fisheries closures?

- **How can we improve the public's confidence** in our efforts to prepare for spills while having them understand the terrible reality that once oil is spilled, the damage begins immediately and increases exponentially? Our best efforts to prepare cannot change that.
- **How do we make leaps and gains in the best available technology** to cleanup spills? This has lagged way too long.

With these successes and challenges, **we recognize the importance of building relationships and partnerships** that are critical at the most crucial time – when a spill happens. We want to make sure that the people that show up to a spill are there to work together, share in the mission of protecting the environment, and that procedures and processes are in place to ensure a rapid, aggressive and well coordinated response...to do our best...together.

Closing

In closing, when I was asked by Greg to give a presentation for the Wenk Lecture, I thought wow... how cool and then I thought oh my gosh...I have to talk for an hour. Public speaking is not my easiest skill set...

But as I thought about this opportunity to be asked to speak to a room full of engineering students, I thought well...I do and have had a great deal of influence in how public policy is and has been set at the state and national level. And I want every one of you to know that you also have a great deal of influence. It truly is amazing for me to think of the work you can do to help shape public policy. As engineers you have a tremendous and unique ability to inform our national and state leaders on a number of issues that have an impact on the public.

I think about how science and technology has changed the business of oil spills, just over the past 20 years. There is a growing need for more research and development investment in oil spill technology now and into the future.

You all have great opportunities ahead of you regardless of the area of work you choose to get into, but you also have the responsibility as engineers to bring sound and balanced perspectives that will help provide information that can help policy makers make informed decisions. **Challenge yourself to think as broadly as you can, to understand others perspectives, to shape the future on a good path forward.**

Oil spills are complex and emotional issues. It is the job of the policy makers, when setting policy, to temper and balance between emotional drivers, competing values...that include science and technology, and what can be achieved.

We have come a long ways from the Exxon Valdez, but we must also continue to be vigilant. We cannot afford to be reminded of the important lessons learned from that spill, or the yet to be fully understood "lessons learned" from a spill like the Deepwater Horizon.

Thank you again for this opportunity to share my thoughts with you students, the faculty, those of you here from the public, and Dr Wenk on these very important issues facing our state and global environment.

I would be happy to take any questions you may have.