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Seattle WA 98117

Date: 8/7/15

Re: Letter to UTC re oil leak citation of BNSF – case # TR 150284.

Chairman David Danner
PO Box 47250
Olympia WA

Dear Chairman Danner,

I am writing to express strong support for the UTC citation of March 2015 against BNSF railroad in case TR 150284, alleging failure to comply with WAC 480-62-310 – failing to provide required notice of 14 separate oil leaks, several of which involved oil train leaks of Bakken crude oil. My concern is that there will be a quiet, minimal settlement, which discounts the importance of these charges and this case. The following is to explain why I feel that the issue of low volume spills or leaks from tanks cars carrying crude oil is a serious risk to the environment and health of people in this State. BNSF has not only repeatedly disregarded the reporting requirements of WAC 480-62-310, but as I set out below, they have engaged in other, similar failures to report various hazards or incidents relating to oil trains and their negligence generally. BNSF's contempt for the law, demonstrated in their pattern of secrecy and deceptive statements cited here should be relevant to this Commission not only on the question of credibility as to the nature and extent of these spills, but also on the amount of the penalty that is appropriate in this case.

I have included extended citations to many media studies, so that others researching these issues can determine for themselves if I have fairly characterized what these journalists have gathered. I intend to provide a copy of these comments to Dow Constantine, chairman of the Safe Energy Leadership Alliance, to see if his organization also wishes to comment on the issues presented here, since all member organizations of that alliance have expressed concern about oil trains. I hope the Commission will welcome such input, and will take care to embrace transparency and allow time for such comments. Even the appearance of a pro-industry bias by this Commission or the Dept. of Ecology is incredibly damaging to public confidence, and the questions raised about the credibility of the 2014 Ecology Marine and Rail Study on Oil Transportation should be taken into account.

A. The Resolution of This Case Should Be Done In the Context of BNSF's Pattern of Secrecy, Deception, and Reckless Disregard for Safety

The biggest fear of transporting crude by rail is a major derailment that could result in a massive spill and explosive fire event, like the one that leveled La Megantic on 7/5/13 in Quebec – vaporizing 47 people, 50 buildings, and polluting a river that was a sole water source for communities for hundreds of miles downstream. (note 1, and Transport Board of Canada Report, note 17 below). There was a high level report, by CCPA Executive Director, Bruce Campbell in Canada in Aug. 2014, citing eight particular

regulatory failures by Transport Canada, which were felt to be major contributing factors to the Lac Megantic disaster. Most of these points seem to track many of the current regulatory failures in the US, including dangerous tank cars, lax regulation of operating practices, disregard of the explosiveness of Bakken crude, and excess influence and power of corporate lobbies (note 17).

Seattle had its own close call with Bakken crude on 7/24/14, when three tank cars, carrying more than 80,000 gallons of crude oil, derailed under the Magnolia Bridge at 1:50 AM. BNSF advised the Ecology Dept. of a derail about 3:11 AM, but did not disclose that the tanker cars contained hazmat material, so there was no response. BNSF never did disclose to outside Fire Dept. or Ecology responders that the derail was of highly flammable crude, and the Seattle Fire Dept. only learned of the incident from a 911 call from a citizen at 6:50 AM, and Dept. of Ecology learned that the derail was of an oil train from a call from the Anacortes Refinery about 7:15 AM. When outside responders did get notice, and got to the scene, they concluded that BNSF's response was grossly inadequate (note 2).

This incident is the best predictor of how BNSF is likely to handle the next derail of an oil train in this state, and that is very troubling, because their response was reckless and incompetent. BNSF seemed mainly focused on secrecy, and the nature of their reporting suggests that the company hoped that the fact that the derailed train carried highly flammable crude would go unnoticed by the public. Their strategy has largely succeeded, despite some media coverage, since most of the public and policy makers are really unaware of how flagrant their conduct was on 7/24/14. Footnote 2 below lays out more detail of the time line following BNSF's report of the incident. When the head of the Ecology team (David Byers) arrived on scene about 7:30 AM, there was no BNSF incident manager on scene; welders were working at the site without knowing that the tank cars were full of highly flammable crude, and members of the public were in the area taking "selfie" photos in front of the tank cars (note 3; Id, note 2, Ahern article, 6/16/15).

Mr. Byers and Fire responders began taking standard protective measures, to anticipate the possibility that the cars might still be found to leak or might be breached in the efforts to move them off the tracks – not to mention the risk of welding torches being used in the areas. A metal handle was found to be broken off the bottom of one of the CPC 1232 model tank cars (note 3). Whether we like it or not, BNSF will be in control of critical information, if there is another oil train derailment here. The history of this company, most recently including the citations before this Commission, do not show that they have learned any lessons or changed their attitude about risk and safety of the public (note 4 and 5).

BNSF's response to the Seattle derail incident of 7/24/14 is unsettling, both as to the failure to give notice of the involvement of hazardous material / crude oil in the derail to outside responders, and as to the incompetent response that was apparent when outside responders did arrive (note 2-3). This 7/24/14 incident was also not an isolated incident. A slow and uncooperative response and disrespect for the efforts of fire and first responders were very much a part of a hazmat derail incident at Chambers Bay, near Tacoma on 2/26/11 (note 4), and the series of 14 separate failures to give required notice under WAC 480-62-310 before this Commission shows a continuing lack of cooperation with regulators, even though this Commission's staff has reached out multiple times with technical assistance to BNSF so they would understand what was required of them (note 44, Report pp 7-9). These 16

incidents, spread over 4 ½ years show a pattern of noncompliance with basic safety measures that all seem directed toward hiding or understating risks to the environment or the public from the rail transport of hazardous materials. This Commission's own staff investigations conclude from all of the investigation that BNSF's conduct suggest that such offenses are like to continue in the future: "Unless BNSF makes significant changes in its reporting practices for hazardous incidents, it is likely these violations will recur" (note 44). For the Commission to settle this case, by accepting BNSF's weak excuses and efforts to minimize the offenses, breeds contempt for regulatory compliance and may encourage future cover-ups of oil train risks, when we desperately need the true facts to be publicly disclosed so that the democratic process can work to reduce risk. The leaks of Jan. 12 / 13, 2015 at issue in this case are just examples of the more serious issue of "crude shrinkage", discussed in sec. F and footnote 41 below, and it is important that that bigger issue be addressed by BNSF as a part of resolving this matter. That is a big part of the significance of this case.

BNSF's conduct also seems to include particularly aggressive, persistent, and vindictive retaliation against employees, who put their jobs on the line by complaining of accidents and safety issues, and must work in a climate of fear (note 6). Silencing and discouraging employee safety complaints are a necessary part of keeping safety risks out of the public eye, since BNSF employees are the best experts on how safety risks translate into increased risk of harm to the public and the environment. The number of whistleblowers who were winning retaliation cases reached a troubling level by 1/15/13 (note 7), which required the company to enter into an agreement with OSHA to discontinue various practices, which appeared related to the large number of whistleblower retaliation cases being filed (note 8). The "programs" discontinued under the agreement with OSHA, were different, systematic ways to retaliate against employees (note 8). Despite this agreement, additional cases of retaliation have emerged in detailed evidence at trial.

BNSF whistleblower, Mike Elliott, won a verdict of \$1.25 M in federal Court in Tacoma, WA. on 7/1/15, where Elliott reported numerous incidents of vegetation blocking the signal system in Western WA, "along with several potentially catastrophic signal violations" to the Federal Railroad Administration (FRA). He warned of antiquated infrastructure as to signals as a serious problem. When BNSF was not responsive to the complaints, Elliott notified the FRA, whose six week investigation found 357 violations by BNSF, and resulted in fines. The Seattle Times reported that, "evidence also showed that BNSF officials colluded to provide inaccurate information to a mediator" in the case. The Times also reported, "that a supervisor set up a physical confrontation with Elliott in a BNSF parking lot, and then had him charged with assault. Elliott spent two days in jail, but was acquitted in a Pierce County Court. The railroad used the incident to justify his dismissal" (note 9). The Times article also describes the fact that the employee who BNSF managers used to set up Elliott happened to be the same supervisor who had responsibility for the area of signal violations that led to the FRA citations. This apparently means that the negligent supervisor continued his employment and was used as a major actor in management's targeting of Elliott, while the employee who brought attention to correcting "catastrophic signal violations" (Elliott) was the target of an elaborate and aggressive effort by management to destroy Elliott's career. The Tacoma jury apparently accepted the argument made on Elliott's behalf – that management intended to send a message to any other employees who would stand up for public safety.

In another personal injury case in Minnesota in 2010, there was a verdict against BNSF of \$24 M for the wrongful death of four teens arising from an accident caused by a malfunctioning signal, but BNSF was also fined \$4.18 M for sanctions by a trial judge, who described a prolonged period of misconduct by BNSF during the case (note 10). The Judge's memorandum described the reasons for the huge fines, and recounted years of manipulation and hiding critical evidence and witnesses to cover up the fact that BNSF crossing signals were not operative. The Judge described that she had "lost count" of how many misrepresentations BNSF had made to the Court on material issues, and the extent of the misconduct was likened to the plot of a John Grisham novel (note 11). This remarkable case shows that deception and manipulation by BNSF managers referenced in the Mike Elliott case above is apparently not an isolated situation.

Perhaps the most remarkable and troubling use of deception is that BNSF was able to have prior BNSF managers, doing business as Mainline Management Inc, draft the railroad portion of the 2014 Ecology Marine and Rail Transportation Study. Gov. Inslee's office confirmed to the media that the Ecology Dept. was "unaware" that any of the authors of Ecology's 2014 Oil Safety Study had "formerly worked for railroad companies" (note 12). Matt Krogh, the Oil Campaign Director of Forest Ethics, called it a case of the "fox guarding the hen house." Injecting deceptive and misleading information into this "Study" is particularly critical, since it is a very high profile document for use by policy makers and the legislature to address issues of the safety of rail transport of crude in WA. It will also presumably be used by the oil producers and BNSF in their environmental impact statements to get approval of proposed new oil terminals and refinery expansions, and in defending any later litigation for damages if there is a future oil train disaster in Washington. Mainline Management Inc., is a consulting company with three principals who were former BNSF managers for decades, and they apparently still list BNSF as a major client of their consulting work. To the extent this Study understates or distorts the risks of transport of crude by rail, it creates at least the appearance of impropriety and conflict of interests, because of the prominent authorship role of former BNSF managers referenced above (note 12).

[The 2014 Oil Transport Study](#) is a deeply disappointing pro-industry document that seems mainly directed at providing context for what appears to be the Inslee Administration's efforts to set the stage for approval of the ten plus refinery and rail terminal expansion projects that will pave the way for turning Washington into a petroleum corridor for decades to come. The "study" is nothing more than a shallow acknowledgment of risk and the vague suggestions that The FRA and the US Coast Guard will somehow address the enormous number of serious risks. A former teacher and community organizer, Dan Leahy, has summarized some of the problems with the study, beginning with fact that it was authored by consulting groups, Mainline Management and the Environmental Research Consulting (ERC) – with ties to BNSF and the Petroleum Institute respectively (note 12). The Study recommendations, such as having FRA and PHMSA insure that standards protect the public, is a meaningless suggestion in light of the inability of these agencies to effectively regulate in the past ([Study, p. 120](#)). Recommendations of cooperative approaches and communication with the railroads seem equally useless in light of the oil producers and railroad industry refusals to institute basic safety measures on a broad range of issues for many years. The study dismisses the risks of oil spills as something the state has faced for decades, "The environmental risks from spills already existed in all areas of the state for

decades” ([Study p. 38 and 40](#)). It is only in the last few years, that there has been a staggering increase in crude transported by rail – so this is not a risk that has been faced for decades. Mr. Leahy’s summary recounts how out of control the situation is: >3 M people in Washington live very near the crude oil route ([study 30](#)); “none of the current crude by rail is subject to requirements for comprehensive response plans”; railroad spills are not currently covered by state approved oil spill contingency plans ([study 67](#)); current state regulatory definitions may not include certain types of bitumen and crude oil ([Study 68](#)); “currently the state does not have means to gather information on type or volume of oil being shipped through WA ([Study 69](#)); 62% of 278 fire depts. State wide don’t feel they have enough training and equipment to deal with these fires ([Study p. 70](#)); an overwhelming majority of firefighters are not aware of response strategies or response plans of railroads ([Study 71](#)); there is not a comprehensive inventory of equipment location to facilitate sharing ([Study 72](#)); training is insufficient, and funding sources are insecure ([Study 72](#)); geographical response plans for oil in water are not developed ([Study 73](#)); and placards on the tank cars do not adequately notify first responders of tanker contents ([Study 51](#)) (see Leahy, note 12). Despite all this, the Dept. of Ecology issued declarations of non-significance as to two of the refinery projects planned for Gray’s Harbor, and until 8/3/15, it was only community activism which had now required the environmental impact statements to be done on three of the pending oil by rail projects (note 12, Leahy). The references cited here help to flesh out how out of control the crude by rail crisis is and the idea that the Dept. of Ecology thinks such facility permits should be granted without an environmental impact statement, raises concerns about a pro-industry bias in the Ecology Dept. The decision to have pro-industry authors writing such a study shakes the confidence of citizens who want to feel that their government is protecting them, as opposed to these industries. To the extent that the Study itself contains conclusions that appear to favor industry, this can only increase the public concern about a conflict of interests.

On 8/4/15 it was announced that the EPA appears to have called for full environmental reviews of all 24 pending oil by rail expansion projects in Oregon, WA, and British Columbia, regardless of the stage of their permitting, due to the risks of oil spills and apparent violation of the Clean Water Act, and risks that might not be subject to remediation (note 43). This Commission would do well to follow the progress of this action.

This Commission also acknowledges that it took the lead in overseeing the railroad portion of the 2014 Oil Safety Study, so presumably would have been aware of Mainline Management as being made up of former BNSF managers. One of the central conclusions in the study was the overall prognosis for major derailment events of Bakken crude in the future. On that subject the Study concluded that, “Since the 1980’s the rate of spillage per amount transported has decreased 91% and since the last decade has decreased by 77% (figure 35). This means that rail transport of crude and rail transport generally is safer than in past decades.” ([Final Draft, p.77](#)). Table 34 of the Study also purports to show a steady decline in “average US oil Spill Rate per Oil Transported”: 80-82 - .000992; 83-93 - .000495; 93-2003 - .000378; 2003-2012 - .000086 ([Study p. 78](#)).

It is very difficult to conclude that the data for this conclusion, was not cherry picked – leveraging the fact that so little crude was transported in WA prior to 2010, and then seizing on the huge increase in volume of crude by rail, and the lack of large oil spills in WA so far as proof of safety. The Study carefully

lists the US and Canadian oil spills by rail after 2012 in table 9, at pp. 54-56, to blunt any criticism that they have ignored them entirely, but the tone of the report is generally to manipulate data to overstate safety. It is easy to see why BNSF managers writing the Ecology Study, might not want to focus any attention on the [DOT Study in July of 2014](#), analyzing all prior derailment data for crude and ethanol transported by rail, which predicted that there would be an average of 10 derailment of crude and ethanol trains in the US and Canada each year for the next 20 years (note 18).

It is particularly insidious that BNSF has made it appear that these deceptive conclusions on how rail transport of oil has gotten so dramatically safer in recent decades is the conclusion of the Washington Dept. of Ecology – an agency with a governmental mandate to protect people and the environment. Had this report been candid about the fact that it was really written by former BNSF managers, readers would have read it with the skepticism that would attach to any industry effort to claim that it was committed to safety. The whole power of this “Study” is that it purports to be the work and opinions of the Ecology Dept. – and it is hard not to conclude that the whole purpose of keeping the real authorship secret, as reported in note 12, ([Hertz article, 11/6/14, The Stranger](#)), was done to keep the conflict of interests out of the public eye. It does not seem unfair to ask this Commission to take note of the pattern of misconduct recounted above – a.) the failure to report that a derailment in Seattle involved an oil train, and non-cooperation with first responders at Chambers Bay; b.) years of retaliation against workers who try to warn of BNSF’s dangerous practices; c.) lies and manipulation of evidence for which BNSF was sanctioned \$4.18 M in the Chase and Frazier cases; and d.) BNSF’s secret role in drafting the 2014 Ecology “Study.” There is a common thread that runs through these incidents, which should have a bearing on BNSF’s credibility about their past conduct; the likelihood that they will comply with self-reporting requirements of the regulation in the future; and the question of what amount of fine is appropriate in this case. This Commission’s investigation, in reviewing the factors that have a bearing on an appropriate fine, looked at factor 5 as to prompt corrections and remediation of impacts, noted BNSF’s intransigence: “BNSF neither corrected the violations nor remediated the impacts of the companies failures to report 8 hazardous material incidents to EOC between 11/1/14 and 12/9/14” (note 44, report, p. 15) Most importantly, credibility is central to how the Commission deals with BNSF’s response to the issue of “crude shrinkage” and fugitive spills, as illustrated by the citation as to Jan. 12 / 13, 2015, since “shrinkage” is an ongoing part of every oil train that passes through this state – 113 trains, carrying >339,000,000 gallons of crude a week by 2035 (note 16 and 41, and Sec. F below).

The written record of the resolution of this case should be handled in a way that gives citizens confidence that BNSF’s long record of secrecy, deception, and abusive conduct documented here has been considered by this Commission in fashioning a resolution of this case. Given the fact that this Commission took the lead on the drafting of the 2014 Ecology Study, mentioned above, it is particularly important that the resolution of this case give the public confidence that regulators take these charges and protecting the environment from oil train spills very seriously.

B. The Oil Transport of Bakken Crude by Rail is Out of Control

For many years people of Washington thought that if we had responsible laws, and leaders who valued our environment, we could preserve it, even if other states chose a different path. This view now looks

naive. The oil producers and railroads have shown that they can create a political environment that essentially makes them immune from effective regulation, and they seem on the verge of forcing us to become their crude oil corridor to Asia, and they claim that their system gives us no way to stop them.

Washington State is being overwhelmed by so many oil trains that farmers in Eastern Washington and the Central Plains States are having trouble getting their crops to market (note 15), and that is before the 600% increase of crude volume projected by 2035. In June of 2014 there were an average of 19 oil trails a week moving through WA, and by 2035 there will be an average of 113 oil trains a week passing through the State (note 16). Oil transport by rail has increased 6,000% in the US from 2007 to 2013. BNSF and the oil producers are projecting a 600% increase in oil volume over the next 20 years by building and expanding at least 10 oil terminals and refineries in Washington that are currently in the permitting process, although only three were previously required an environmental impact statement (note12, Leahy; 16, and 35). An 8/4/15 announcement by the EPA now appears to have opened the environmental process to all crude by rail expansions in Oregon, WA, and BC (note 43). In 2010 trains transported 55,000 barrels a day of crude from North Dakota, but in 2014 trains transported > 1 M barrels a day (note 16, Schlake), and we are projected to have 2.87 M barrels passing through WA. in 2015 (note 12, Hertz, below). The increase in volume is even greater in California, "According to the Calif. Energy Commission, oil imports by rail into California grew from 45,491 barrels in 2009 to 6.3 M barrels in 2013. (Note 41, Forest Ethics, p. 21, note 5-6)"

1. **Frequency** -The frequency of major derailments and spills from oil trains increased dramatically in the US and Canada after 2012. In the single year of 2013, oil spilled by rail in the US and Canada was more than in the prior 34 years total (note 14). As noted above, the DOT study in June of 2014, based on accident data, predicted an average of 10 major derailments of crude oil or ethanol trains per year for the next 20 years. The estimate gains credibility since it covers a broad enough base to be statistically significant, and includes the major derailments that have increased dramatically as the crude by rail volume increased in recent years (note 18). The major derailments continued in 2014 with 6 derailments, leading to 65 derailed tank cars and spills of about 250,000 gallons. Then in 2015 there have been 8 major derailments as of 7/16/15, one of which was a train carrying empty hazmat cars on 7/14/15. This included 5 major derailments in the first half of 2015, in which 126 tank cars derailed, which contained approximately 3,690,000 gallons of crude oil. Not all of these cars exploded or were breached, but they suggest that the cited federal prediction of increased derailments is correct (note 19). On 7/1/15 there was a derailment in Tennessee, and a single tank car containing acrylonitrile burned for several days; sent 52 people to the hospital, with 25 being admitted; and required evacuation of 5,000 people (Note 19). On 7/16/15, 21 cars of a BNSF oil train derailed near Culbertson Montana, with two cars leaking 35,000 gallons of crude; this was 2 days after a BNSF freight train with empty hazmat cars had detailed a short distance away on 7/14/15, which closed the rail line and damaged 1 mile of track (Note 19); and the 7/16/15 derail event occurred shortly after the track re-opened from the 7/14/15 derail event.
2. **Industry control of regulatory agencies** -Univ. of Oregon Law Professor, Mary Wood, has gained prominence as a leading expert on environmental and administrative law. She has written extensively about how large corporations have so co-opted and captured regulatory agencies, that

the administrative law system is irrevocably broken. She documents in her writing how regulators no longer protect people and the environment, but instead protect corporate interests. Professor Wood describes how normal legal channels are no longer a feasible way to change this system, since new laws will be subject to the same corrupt influences (note 20).

- 3. Oil producers could remove most of the explosive risk of Bakken crude by stabilization, but are not doing it, since they have an industry – friendly regulation in North Dakota that allows rail transport of unstabilized crude** – The story of how industry has been able to co-opt North Dakota regulators, to permit the rail transport of unstabilized crude, is a good example of professor Wood’s analysis of how these industries have been able to manipulate the regulatory law system to make the regulations a tool that enables their practices, at the same time that it endangers the people and the environment. The references below show how the risk of highly flammable Bakken crude oil trains could be eliminated or drastically reduced by a commonly used stabilization process, and one of the reasons that crude by rail is so out of control, is because these industries have found a way to increase profits, by externalizing an avoidable risk onto the public. Stabilization is used effectively in Texas crude production, but it is simply not done in the Bakken formation, because they have found a way to avoid a regulation requiring it (note 24). The risks of a toxic spill to the environment will still be there, even with stabilization, but the risk of the fiery inferno from a derailment could be dramatically reduced. Professor Michael Niman from Buffalo State Univ. sums up the dilemma of how political corruption in North Dakota, allows these industries to subject the entire country to the shipment of explosive crude by rail, without stabilizing it by simply controlling the three person North Dakota Industrial Commission: “While crude oil can be stabilized to make it less volatile in transit, whether or not it receives such treatment is up to the discretion of regulators in the state that produces it – not necessarily the states through whose cities it will roll. Most of the explosive Bakken crude coming our way originates in North Dakota, where the energy industry all but owns the legislature, fertilizing the state’s anti-regulatory zeitgeist with a healthy dose of cash. The end result is, whatever passes for a state government in North Dakota fails to meet even Texas’s modest safety standards for anti-explosive fuel stabilization”. Niman also indicates that NY emergency planners have calculated that in Buffalo NY, “about one third of the population lives within one half mile of these bomb train routes, and 27 public schools and 8 private schools lie within a potential evacuation perimeter as well.... While the profits from this oil boom have been privatized, much of the costs associated with reckless extraction have been externalized, meaning dumped on the public. Aside from the obvious environmental costs that we and future generations will have to bear, are the less visible emergency preparation costs that every school, hospital and municipality within a half mile of bomb train routes must now cover” (Niman note 23). Railroad expert, David Thomas is also outspoken on what he considers the inexcusable failure of the federal government not to require “stabilization” of Bakken crude, as is routinely done in Texas, before it is shipped by rail. In an [editorial in Railway Age Magazine in Sept 26 of 2014](#), Thomas describes how these industries used their control of regulators to insure they could continue to ship explosive crude: “The State’s three-person Industrial Commission seems likely to adopt a set of industry-designed best practices. Simply put, North Dakotan crude will have to be lightly pressure –cooked to boil off a fraction of the volatile “light – ends” before shipment. This conditioning lowers the ignition temperature of

crude oil – but not by much. It leaves in solution most of the culprit gases, including butane and propane. Even the industry itself says conditioning would not make Bakken crude meaningfully safer for transportation...The only solution for safety is stabilization, which evaporates and re-liquefies nearly all of the petroleum gases for separate delivery to refiners. Stabilization is voluntarily and uniformly practiced in the Eagle Ford formation in Texas, whose untreated crude is even more volatile than that fracked from the Bakken...So far, stabilized Eagle Ford crude has been transported by tank car as far away as Quebec City, without the fireballs that have plagued the shipment of unstabilized Bakken crude... ” ([Railway Age](#), note 24). Oil industry people in Texas, who know both markets, say that the reason that Bakken crude is not stabilized is simply that they have been able to get industry – friendly regulators in place. The sham standard of “conditioning” the oil to a vapor pressure of 13.7 psi protects them from having to make the oil safe before transportation, so they do not stabilize it, because they are not forced to. As explained by a Texas industry expert, Myron Goforth, who specializes in stabilizing equipment: – “It’s a little like the wild west up in the Bakken, where everybody gets to do what they want to do. In the Eagle Ford, you’ve got to play by the rules, which forces the oil companies to treat it differently....It’s very easy to stabilize crude – it just takes money. The producer doesn’t want to pay for it, if he can ship it without doing it....That’s the reality. It’s really hard to justify making investments that you’re not required to do.” -- (5/14/14, Reuters, [“Safety Debate Eyes Taming Bakken Crude Before It Hits Rails”](#) by Kristen Hayes (note 24).

4. **Local leaders not able to protect constituents** - Both of Washington’s Senators in Congress, the [Seattle City Council](#), the [King County Council](#), and similar leaders from around the entire Pacific Northwest, have all expressed alarm at the dangers of oil transport by rail, but they have been unable to get regulators to adopt the reforms needed to increase safety on the most critical issues. The reason that even when these elected leaders, who are dedicated to protecting the environment and public from the reckless conduct of the oil and railroad industries, have failed, is because of the reasons outlined by Professor Wood. These industries so completely control regulators, that even high level elected officials cannot break their hold on the regulatory system. These leaders have organized and combined their efforts to address the hazards of unsafe transport of crude by rail as [the Safe Energy Leadership Alliance \(SELA\)](#), to try to coordinate their efforts in the future. But the weak, [inadequate federal regulations, announced in May 2015](#), relating to the transport of crude by rail again confirm Professor Wood’s conclusion – the regulatory system is irreparably broken. The long awaited new Federal regulations from the FRA require no stabilization of crude before transport; the industry was required to have computerized brake system only on oil trains of a certain length; and the industry was given at least 5-8 years to phase out the most inadequate of the tank cars, and they can continue to use them after that in shorter trains. The industry is challenging even these grossly inadequate regulations (note 21, The new FRA regulation on oil trains are reviewed at, 5/1/15, NY Times , [“New Oil Train Rules Are Hit From All Sides”](#), by Jad Mouawad; and see also note 27 Reuters article by Morgan, relating to the Senate weakening safety regulations re: brake systems as of July of 2015).
5. **Secrecy and community right to know** -BNSF has long refused to produce hidden worst –case-scenario risk documents; scheduling information; routing; and liability insurance coverage information to state, county, and city fire officials and first responders (note 22). BNSF is able to

withhold such critical information from first responders, because the railroads have been able to exempt themselves from community right-to-know laws (note 22). BNSF has done a safety study of the BNSF tunnel (Great Northern) in Seattle, and claims that it is safe in the event of a crude oil derailment in the tunnel, but refuses to provide a copy of the study (note 22). BNSF really has no choice about keeping their internal planning documents secret from the public, since they certainly contain scenarios of urban derailment disasters that are so alarming, that if they were disclosed, the public would demand that these bomb trains be stopped. The fact that they can so successfully manipulate government and regulatory agencies that nobody can force these documents from them, may be the best evidence of how corrupt and out of control this crude by rail story has become. Instead, BNSF will try to co-opt the fire Departments or city governments, who are desperate to get funding for preparedness planning, training, and equipment, and fashion a deal to provide funding and training, in exchange for broad language in an agreement with first responders or a City Council resolution about how BNSF is working “to make the transport of highly flammable crude oil through Seattle safer” or making “voluntary commitments...to address safety concerns of crude-by-rail transport in Seattle.” True, but deceptive in terms of the greater record of industry failures to address the really big safety issues (note 22). Whatever BNSF pays for such things will be cheap for them – as long as they do not have to give up worst case risk documents, which they will keep secret at any cost. The problem for first responders, who do not have information in a hazardous materials spill is illustrated in the incident on 2/26/11 at Chambers Bay, near Tacoma. Described below in note 4, this involved delayed notice of a hazmat spill, and then an extended period of almost 4 hours where the first responders were unable to get any communication or cooperation from BNSF, putting first responders at increased risk (note 4). This incident and the derailment in Seattle on 7/24/14 discussed (note 2) above should be of particular interest to this Commission, since they show that refusal to give proper notice of such incidents and to cooperate with outside agencies, is not just limited to the notice of spills at issue here under WAC 480-62-310, but there is a pattern of noncompliance, even in situations involving risk to the public or to first responders.

6. **Profits over safety** -To maximize profits oil producers and BNSF have refused to make concessions on a long list of safety issues that each add to the cumulative risk being forced onto the public, while the huge profits from crude by rail are being privatized. But even while there are no spills or flaming derailments, thousands of schools, hospitals, and communities across the country must incur ongoing costs to do emergency response planning, to train first responders on response to exploding rail cars, and acquiring the firefighting equipment and foam needed to prepare for a catastrophic derailment in an urban area (note 23). Safety issues which increase risk to the environment and people include: a.) failure to remove volatile liquid natural gas (LNG's) components (degasify) the crude before shipment, as discussed above (note 24); b.) use of tank cars that are prone to leaks and punctures, and were never designed for crude transport (note 25); c.) trains that are longer, heavier, and traveling at speeds that increase the chances of derailment, since the trains are harder to control (note 26); d.) use of “enhanced braking methods” like distributed power and end of train devices (EOTD) to minimize derailments from the “run- in” problem of antiquated air brake systems, rather than adopting electronically controlled pneumatic (ECP) brake systems. As of 7/14/15 the Senate was poised to strike the provision of the May 2015

regulations weakening safety regulations by no longer requiring ECP brakes on trains, and replacing that rule with a provision calling for years of study (note 27); e.) at the same time BNSF refuses to replace antiquated air brake systems, they also have a history of disciplining employees who insist on doing the inspections that air brake systems require (note 28); and f.) use of longer, heavier trains over antiquated infrastructure, including aging bridges and substandard short line tracks, knowing that problems with tracks are the leading cause of derailment (note 29). The recent Elliott whistleblower case was also an example of BNSF not attending to warnings of aging infrastructure (see note 9 above). In addition to these operational issues that raise the risk, BNSF has a history of ignoring FRA citations for track condition violation in places where derailments have occurred. Senator Heitenkamp of North Dakota, got the FRA to review track condition data following the Casselton N. Dakota derailment on 12/30/13, because of four previous derailments in the area. The FRA reported that inspectors found 13,141 defects on BNSF tracks over a 9 year period in the area of the Casselton derailment and fire of 12/30/13 (note 30). BNSF has also failed to effectively resolve employee complaints about cutting crew size (note 31), and work assignment policies that create chronic crew fatigue (note 32) – both of which also increase the risk of accidents.

7. **Intimidation of employees** - The most troubling part of BNSF's secrecy and deception relating to the safe transport of crude oil by rail, is its use of intimidation of employees who fear retaliation if they report accidents or safety issues. Media investigations have confirmed that there is a widespread climate of fear among employees, who express concern that the company will retaliate if employees report accidents or safety issues (see notes 6 and 7 above). Even after whistleblower cases were allowed by Congress in 2008, employees still report being fearful that even employees who win whistleblower cases will be crushed by the company, to discourage employees from expressing concerns about safety (note 6, 7, 8, and 9).
8. **Shrinkage / in transit spills** - As is argued in Sec. F, and footnote 41 below, the average oil unit train on a one way trip from North Dakota to WA refineries may lose at least 30,000 gallons in "crude shrinkage" from leaks, small spills, and vapor releases, assuming a 1% "shrinkage" rate, so that **even if there is no derailment or major spill**, the current level of 19 oil trains a week at this rate may lose 570,000 M gallons of "crude shrinkage" in a single week of 19 oil trains passing from North Dakota to a refinery on the coast (note 41).
9. **Fossil fuel and railroad lobbyists** - Oil and railroad lobbies were able to substantially weaken various rail transport safety measures in several bills in the 2015 WA. State legislative session (note 42), including even such basic measure as holding such industries responsible for the costs of clean-up of spills; community right – to – know language; and funding to improve degraded rail infrastructure (note 42). Industry was also able to keep Federal Regulations by the FRA, effective 5/1/15, from addressing serious safety issues such as, including no requirement of stabilization; 8-10 more years of usage of dangerous tank cars; and a gutting of right to know requirements, to allow risk related to be available to first responders, which has prompted a challenge in the 9th circuit by environmental groups (note 25, and 27).

C. The Physical Evidence of the FRA Investigation and Recall of Valves Suggest Many Similar Spills, Since 11,200 Valves Had a Common Design Defect that Destroyed Valve Integrity After Only Two Normal Cycles of Opening and Closing

BNSF's contention, in defending the pending charges before this Commission, is that there have been few spills like those experienced on Jan 12 and 13, 2015. But this argument is not credible, because the physical evidence suggests the McKenzie valves have been leaking on thousands of tank cars for years. There was a FRA recall of thousands of valves in March of 2015, that was triggered by the Jan 12 and 13, 2015 spills which constitute one of the charges in this case. Investigators found that the leaking cars in question had valves that the FRA found to be defective in design. Field testing on 1/26/15 by the FRA on new 3 " McKenzie valves replicated a destruction of the valve's ability to seal, due to the design of metal parts that destroyed the integrity of the seal in any normal usage, after only two normal cycles of opening and closing. All of the valves in use on an estimated 6,000 tank cars were immediately taken out of service by the FRA in the March 2015 recall order, due to the likelihood of similar leaks (Note 36). Although few of such leaks are reported by trains in route, the FRA found that 11,200 of the 3 " valves were sold since 2009, and 37,000 1" and 2" valves were also sold – none of which had been approved by the AAR for use on tank cars. FRA concluded that despite the few reported leaks, it is likely that many more such spills occurred, due to the physical evidence developed in testing of a uniform defect found in the design of all 3" valves (note 37). The Bellingham Herald articles describe a broad range of questionable excuses expressed by BNSF for the failure to comply with WAC 480-62-310, offered to the reporter, including: a.) confusion over what the regulation requires; b.) good faith compliance; c.) characterization of the amount of the spills as minimal or non-existent; and d.) fault of other parties. The FRA immediately took 6,000 tank cars out of service by this recall, because the physical evidence suggested that they were all leaking and had been since put into service, since the design caused them to quickly self - destruct in normal usage. The Recall Directive described the issue as follows: "To date, FRA has identified only a small number of relatively minor hazardous materials leaks directly attributed to the identified McKenzie Valves. The FRA believes that the number of leaks potentially attributable to the identified valves used in tank cars liquid lines could be much higher" (note 36). The FRA has also acknowledged as much to the media: "In addition to the oil train accidents, the FRA says a number of tank cars with faulty valves have been leaking oil along the tracks" (note 38). The FRA apparently agreed with UTC Chairman Danner's testimony before the Wash. State House Ecology Committee: "I can't tell you the number of gallons that come out, but it was significant. It was basically leaking all the time the train was traveling through the State" (note 5, re Bellingham Herald article of Feb 2015, above).-

The defective McKenzie valve is only one example of design problems that promote spills and leaks in route on oil trains. There are similar design issues with respect to Manway covers, which create more spills than the 3 " valves, but these seldom come to light in a self - reporting environment (note 39).

D. BNSF's Sending the UTC Copies of Federal Notice of Oil Spills, 30 Days Late, Is Done For Tactical Advantage, and Is Not Good Faith Compliance with the Regulation in Question

BNSF will certainly contend that to the extent that they filed USDOT form 5800 forms, reporting spills to federal agencies within the federally required 30 day period of notice, and then sent copies of the

federal notice to this Commission, that this essentially complied with the spirit, if not the letter of the law. But it seems clear that a main goal of BNSF's repeated refusal to give notice within 30 minutes of learning of the spill, under the regulation, is to avoid notice to state officials, while the spill scene is fresh; contingency measures can be mobilized; and physical evidence of causation can be assessed by first responders. So now, this Commission is facing BNSF claims that the Jan 12-13, 2015 spills were either very minimal, or simply evaporation of oil in transit, and not really spills at all. The reason this regulation requires notice within 30 minutes is for exactly the reasons discussed above, and sending the Commission a federal notice within 30 days defeats the whole purpose of the regulation. The Commission notes that while BNSF has complied with some types of Commission regulations, but that in the area of hazardous materials their reporting practices are "unacceptable." (note 44, report p. 16)

E. There Have Been a Growing Number of Oil Spills In North Dakota, And Media Investigations Have Showed That The Secrecy and Lack of Public Awareness Contributed to The Problem

ProPublica did an investigation in June of 2012 of oil spills in the State of North Dakota covering the period from 2009 -2011. The oil spills were associated with fracking wells, as well as transport of crude oil by rail, truck, and pipeline. The media investigation found data showing that the number of spills for 2012 were about double what they had been for the prior two years. The investigation also found that the industry generally claimed that the amount of the spills was minimal, but that on investigation some were found to be much larger -- some totaling millions of gallons. The study found that there was very little public awareness of the spills, in part because regulators were considered to be pro-industry, and cooperated with keeping the spills out of the public awareness (note 33).

Shortly after the ProPublica story, there was an 840,000 gallon spill of Bakken crude oil near Tioga North Dakota on 9/29/13, from a ¼ inch hole in a pipeline transporting crude to a rail terminal, which polluted a 7.3 acre piece of farmland. Following the Tioga spill, the Associated Press did another study of oil spills in the state, similar to the one done in 2012 by ProPublica, looking at the period from Jan. 2012 through 2013. "The AP conducted an investigation after the [Tioga] spill, and found that nearly 300 oil spills and 750 'oil field incidents' had occurred in North Dakota since Jan. 2012 – none of which were reported to the public" (note 34).

Secrecy as to spills and leaks in transit must be a particular priority for BNSF, since so much of their ability to achieve the 600% increase in volume of crude by rail over the next 20 years depends on getting the permits granted for the 10 or more refinery expansion projects or rail terminal construction projects (note 16, above). On 5/21/15 the Skagit County Superior Court denied Shell Oil's appeal of a hearing examiner's finding that they must have an environmental impact statement for their refinery expansion. The Skagit County Judge essentially followed the findings of a hearing examiner who found, in Feb. 2015 that the proposed expansion of the refinery posed significant risks to people, water, and wildlife. The hearing examiner had previously found that the EIS he required needed to study the potential effects of a major train accident, as well as examine resources for responding to a disaster. The examiner said: "it is clear that new hazards have been introduced by enormous volumes of crude being shipped by rail, the great length of crude trains, and the high volatility or flammability of Bakken crude. There is no convincing evidence that safety efforts are really effective and that the weight of the evidence shows

local spill response plans are inadequate.” There are apparently only three of these proposed projects that will require EIS submissions – this project, projects in Gray’s Harbor, and in Vancouver. BNSF must certainly be anxious that there be as few spills as possible going forward, since leaking oil trains in transit would likely pose difficulties in their permitting – where the stakes are extraordinarily high. Secrecy and deceptive statements about the risks of rail transport of Bakken crude should be viewed in the context of these pending permit applications, in addition to the industry fear of added safety measures being mandated (note 35 above, and Seattle Times, 2/20/15).

F. Low Volume Spills and Leaks are a Unique Problem and Bakken Crude Is Particularly Toxic:

Low volume leaks and spills, are likely to go undetected if not self-reported for various reasons: a.) they are not confined to a single identifiable area; b.) trains are consistently on the move; c.) there have been an inadequate number of inspectors to find leaking cars in the places where the cars are stopped; d.) small spills and leaks will often be into remote waterways and terrain, not accessible to the public; and e.) such spills are cumulative over time, but moving water in rivers and drainage areas disperse evidence of spills. I have obtained Dept. of Ecology oil spill data, for the last 10 years of railroad oil and hazmat spills. The data, which covered from Jan, 2005 to July 9, 2015, showed 344 incidents; 121 of them were attributed specifically to BNSF; and these incidents totaled approximately 39, 639 gallons of spills – mostly oil, with a few chemicals and ethanol. Ten of these spills were reported as 1,000 gallons or greater. I also found no reported spills by BNSF involving crude oil in the seven years prior to July of 2014, but nine reports of crude oil spills between 7/24/14 and 7/9/15. While this does suggest a beginning to report crude oil spills, it also suggests that they simply were not reporting crude spills prior to that time. There are an additional eight spills of perhaps 38,000 gallons that do not identify the party doing the spill; some are likely by BNSF; and some of these are substantial.

I did a similar review from this same data looking at Union Pacific RR spills, and found 101 spills attributed to them, which totaled 11,103 gallons. Nine of these spills were 500 gallons or more, with the largest being 3200 gallons (275).

What is clear, in any event, is that oils and hazmat spills by rail are a regular occurrence, and there are a great many spills, which I total to 88,742 gallons, counting only the BNSF, Union Pacific, and unidentified spills, as set out above. So the cumulative effect on the environment is substantial despite the issue of underreporting (note 41).

Bakken crude obtained by fracking is particularly toxic, since it includes potent volatile organic compounds (VOC’s), which are strong carcinogens, such as hexane, pentane, etc. (Sightline, note 41), and note 1 describes findings of a major, persistent high levels of carcinogenic hydrocarbons that were 394,444 times greater than recommended levels and arsenic in surface water 28 times recommended levels at Lac Megantic Quebec after that spill in July 2013 (note1). This crude also contains toxic fracking chemicals such as hydrogen sulfide and hydrochloric acid, which create additional toxic threats. Reported spills in North Dakota have shown significant long term damage to the environment, and have threatened the aquifers because of the solubility of this type of crude (note 34 and 35).

Note 41 below cites some references to the issue of “crude shrinkage,” which refers to the cumulative total of small spills, leakage, and vapor releases, which are generally considered in the industry as averaging between .5 -3% of the total volume of crude transported in the one-way trips from North Dakota to the refineries. The complexity of such releases is described in some detail, in comments by expert, Dr. Phyllis Fox, in comments on a revised draft environmental Impact Statement for Phillips 66 Rail Spur Extension and Crude Uploading Project, Santa Maria, Calif., 11/24/14, on behalf of The Sierra Club, Forest Ethics, et al (Note 41). “These losses are consistent with the well-known ‘crude shrinkage’ issue associated with crude by rail. The crude delivered is significantly less than the crude loaded. The reported range in ‘crude shrinkage’ is .5 – 3% of the loaded crude...Further, each tank car has a bottom outlet which is used for loading and unloading, that includes pumps, manifolds, and valves, all of which leak ROG’s and TAC’s. Finally, liquids leak when unloading arms are disconnected, even with state of the art, no-leak arms. These disconnect leaks evaporate, contributing to ROG and TAC emissions” Fox also confirms that field tests have confirmed the accuracy of the .5-3% shrinkage rate. (Note 41, Fox p. 18-19).

The recent Forest Ethics Report, “Crude Injustice On the Rails,” describes one producer’s estimate that they lose 1% of crude oil in transport from such shrinkage spills and vapor “off-gassing” so that an estimated 30,000 gallons is likely lost from each 3 M gallon train in route, spreading carcinogenic oil and chemicals across the state, and the practice is apparently not to report such releases as spills. (note 41, Forest Ethics, p. 23). It is significant that the estimated increase in the number of oil trains over the next 20 years is projected to move from about 19 a week in 2014 to about 113 a week in 2035 (note 16) -- so that the “crude shrinkage” releases as the train is in transit from North Dakota – if the 30,000 gallons a trip is correct – would be 113 times that amount, or about 3.4 M gallons of fugitive releases a week from such trains assuming NO major spills from derailments by 2035. If the level of leakage were at the high end of the range at 3%, the pollution could be three times these levels!

There are a substantial number of physicians around the country, particularly warning of the public health risks from the rail transport of crude oil, and the various carcinogenic elements in it. This includes The Whatcom Docs, which is a group of 180 Whatcom County physicians who have written of the health risks from toxic pollution from oil and coal trains passing through communities (see for example, Rehr, Mittan, and Forest Ethics in note 41).

G. Suggestions For Settling or Resolving This Case

Whatever resolution is reached in this case, care should be taken not to let BNSF use the settlement as a vehicle to distort, trivialize, or hide the facts. Avoiding any written record of negative facts will likely be BNSF’s highest priority if their normal operating procedures are followed.

1. Whatever written findings or opinion comes in the resolution of this case, it should highlight the problem of continuous leaks and spills from “crude shrinkage,” and the findings of the FRA 3/13/15 Directive, recalling the McKenzie valves, and the findings discussed in detail above and in note 38 and 39 below. The Mc Kenzie valve issue is very significant, since it is physical evidence and testing done by the FRA, which showed that the design made it inevitable that all

of these valves leaked from the beginning; 11,200 were sold since 2009; and the immediate removal from service of 6,000 tank cars that still had them was because the FRA wanted to stop what appears to be 6 years of leaking valves (Id, note 38-39). The fact that the railroads have been able to keep these in route leaks out of public eye is the problem, not a defense, and the Mc Kenzie valves are just one of the many sources of “crude shrinkage”. If the physical evidence is ignored, and BNSF gets a finding that this may have been a one-time event, or that the spills found can be attributed to a “benign” evaporation of crude oil, rather than air pollution or a spill, they will make a mockery of this Commission.

2. The amount of the fine should be commensurate with the seriousness of the issues here, and should be as much of a deterrent as possible. The examples of their conduct here should convince this Commission that they are recalcitrant and willing to engage in very extreme and unethical actions to keep uncomfortable facts secret from the public. The investigation showed that BNSF’s attitude was problematic enough, “that, “it is likely these violations will recur.” (note 44, report p. 15). To a company making >\$4 Billion in profits a year (note 40), even a fine of \$700,000 fine will not have much deterrent value, but modest fines trivialize the offense and breed contempt for regulations, in a company that already has repeatedly shown contempt for legal requirements.
3. A substantial fine going into the Public Service Revolving Fund, to advance things like crossing safety, would be a worthwhile way to fund projects to advance the public good, but it would not serve as a way to minimize the chances that BNSF will simply continue to keep future low level spills and leaks secret.
4. The Commission should explore whether or not there is a way to utilize the addition of four new inspectors this year, funded by HB 1449 (note 43), to do unannounced spot checks along the route of transit or at refinery destination shrinkages to determine if there is any real chance that BNSF will report the leaks and spills that are a part of crude shrinkage. Given BNSF’s track record, reports on crude shrinkage need to come from refineries or third parties if at all possible. The facts set out here suggest that BNSF’s present management cannot be trusted to self – report fugitive releases of crude oil (Note 41). The most affective resolution would be to set up a hotline for railroad workers, oil refinery workers, and citizens that may know of spill situations that BNSF is not reporting. If there were a hotline that the newly expanded inspectors could investigate, this might provide a viable way to give added assurance that spills in route would be reported. This has the benefit of a citizen based source of information, provided at no cost, and a hot line that if anonymous would afford some protection to railroad employees who were concerned about retaliation if they reported a safety issue.

Footnotes

1. **Lac Megantic, Persistent Damages** -- Although the fire damage from the 7/5/13 derail incident at Lac Megantic has often been cited, the ongoing damage to the environment from the oil spill is less well known. (8/13/13, The Globe and Mail , [“Study Shows High Pollution At Lac Megantic: One Carcinogen 394,444 Times Above Limit”](#), by Melanie Marquas). Tests of surface water at Lac Megantic by Canadian Press in Aug. of 2013 showed that carcinogenic polycyclic aromatic hydrocarbons were 394,444 above acceptable levels and arsenic was 28 time above such standards. A year after the spill, there were was still 30 KM of the river that, “has considerable levels of oil along the bottom.” 5/12/14, CBC News, [“Lac Megantic Rail Disaster Oil Remains in Chaudiere River.”](#)
2. **The Seattle Oil Train Derailment of 7/24/14 Under Magnolia Bridge** – BNSF delayed notification of various State agencies and outside first responders. The derail incident occurred at 1:50 AM, and BNSF dispatch notified Dept. of Ecology at 3:11 AM that three cars derailed, “informing state officials there were no hazardous materials involved, even though crude oil is unambiguously considered a hazardous material.” At 5:44 AM, the Seattle Times had a story posted about the incident, “though some reports suggest neither local authorities not the Dept. of Ecology were aware that an oil train had derailed. Sometime during the six o’clock hour, the City of Seattle’s Director of Emergency Management became aware of the incident by hearing a news broadcast, rather than receiving an emergency management notification. By 6:54 AM the Seattle Fire Department learned of the incident via a 911 call placed from a nearby business, but emergency responders had still not heard anything direct from BNSF. The Fire Dept., clearly concerned, deployed 19 firefighters, including a hazardous materials team. At 7:30 AM, more than 5 hours after the incident, the Dept. of Ecology finally learned that the derailed cars reported hours earlier did, in fact, contain hazardous materials – a particularly volatile form of crude oil – one that could, in fact, pose a risk. The source of the notification? Not BNSF. It was the officials at the Tesoro oil refinery in Anacortes, the train’s destination, who alerted the state. Like the Fire Dept., Ecology deployed staff...” (Sightline , [“Failure to Report: A Pattern of Secrecy By Major Oil Train Hauler Puts Public At Risk”](#), by Eric De Place). When the Dept. of Ecology did arrive at the scene, they learned that welders were working at the derailment scene without knowledge that the tank cars contained highly explosive crude oil, and members of the public were around the derailment scene taking photos of themselves with the derailment behind them – all without an BNSF incident manager on scene (6/16/15, KUOW [“Wash. State’s Oil Train Traffic is Shrouded in Secrecy”](#), by Ashley Ahern).
3. **Ecology Presence at 7/24/14 Magnolia derail** -- Mr. David Byers is head of Dept. of Ecology hazmat spills response. He confirms that Ecology got only a notice from the BNSF dispatch at about 3:11 AM that there was a small detail event at the Balmer yard in Seattle; that there was no hazardous materials involved; and that there were no present or future risks from the derail incident. As a result of this notice, no field response was made. He confirms that the Ecology Dept. fist learned that the cars involved highly flammable crude only when his Dept. got a call from the Tesoro Refinery in Anacortes that the oil train was overdue. When Mr. Byers got to the scene of the derail about 7:30 AM he found that there was no BNSF incident manager at the scene; there were welders working in the areas, who did not know that flammable crude was in the derailed cars; and members of the public were taking

“selfie” photos in front of the derailed tank cars. The tank cars were model CPC 1232, and one had a handle sheared off on the bottom of the car, even though the speed of the train had been only a few miles per hour. Ecology and Seattle Fire began planning measures based on the possible risk of a delayed or latent leak that could trigger a future explosive event, if there was a breach of the tank cars as they were removed from their position. In communication with BNSF, Mr. Byers felt the company was mainly focused on getting the scene cleared, and there seemed to be no concern or awareness of the potential risk of the incident or the importance of prompt notice to outside responders in such an event.

4. **BNSF’s Response to Hazmat Spill near Tacoma** – The story of BNSF’s response to a derailment of a hazardous materials train at Chambers Bay near Tacoma on 2/26/11, shows a similar pattern of refusal to make a timely notice to first responders as was demonstrated in the Seattle derailment of 7/24/14 described above. The spill involved sodium hydroxide, known as lye, which is toxic, corrosive, and can cause serious burns to human flesh, and the derailment occurred at 8:00 PM. When the northbound train derailed and sideswiped a southbound train, which included four tank cars of liquid sodium hydroxide, one car was punctured and leaked on the beach. There was a 911 call at 8:02, and fire fighters responded by 8:10 PM. By 8:30 the Pierce County Sheriff had notified the National Response Center that notifies state and federal response agencies. State Dept. of Ecology learned of the accident by 8:52, but BNSF did not notify emergency managements until 8:56 PM. As various agency personnel assembled at the command center, including sheriff’s dept., fire fighters, Coast Guard, and oil – spill clean-up experts, the responders were unable to get BNSF to respond to requests for information or have a representative at the command center. By 11:00 PM, three hours after the accident, the command center had a briefing to plan entry to the spill scene, but there was still no BNSF personnel present. At 11:45 PM, the first responders deployed at the scene, but a BNSF representative did not appear on scene until 11:50 PM. As first responders moved into the scene, there was movement of the trains that put responders into harm’s way. It took days to clean up the spill, and on 3/1/11, a contractor lost control of one of the tankers of sodium hydroxide, as they tried to clear it, and another 100 gallons of the chemical were spilled. BNSF was fined \$3,000 for failure to respond, and \$6,370. For the clean-up. (2/21/14, Sightline, [“What Happened When a Hazardous Substance Train Derailment on Puget Sound Beach”](#), by Eric De Place).
5. **Facts of Nov. 2014 and Jan. 2015 Spills** -The aggravated aspects of the Nov. 5, 2014 oil spill and the Jan 12/13, 2015 are set out well in the reporting of the Bellingham Herald, and these articles also contain BNSF’s responses to the reporters to the allegations, which contain the company’s excuses and explanations, that continue an ongoing effort to minimize and evade responsibility for the spills. (Bellingham Herald, [“State, Local Officials Not Notified of Oil Spill Spotted at BP Refinery.”](#) By Curtis Tate, McClatchy v. WA, 1/26/15); (2/6/15, The Bellingham Herald, [“Officials Say Oil Train Leaked As it Crossed WA. State,”](#) by Samantha Wohlfiel); 3/20/15, [“Washington State Rail Regulators to Fine BNSF for Not Reporting Leaks”](#), by Samantha Wohlfiel; 3/13/14, Bellingham Herald, [“Feds: Defective Valves Led to Crude Oil Leaks on Train Cars in Washington State.”](#), by Samantha Wohlfiel.

6. **Retaliation** - There is a division among BNSF railroad workers, and certainly some are supportive of the company, but a substantial number of employees choose to speak out to report accidents and safety violations, and some employees who have spoken out have experienced serious retaliation. National Public Radio has reported on some of those concerned about the issue of retaliation, which has gone on for years. (7/2/14, Oregon Public Broadcasting, [“Rail workers Raise Doubts About Safety Culture As Oil Trains Roll On”](#) by Ashley Ahearn).
7. **Pressure not to report injury or safety issues** - Five citations by OSHA as to retaliation in whistleblower cases involving BNSF were resolved in the 9 months from April 20, 2014 – Jan, 15, 2015, included the following: a.) 1/15/15, Region 10, OSHA release #15-1219-SAN (SF-51), “BNSF Must Reinstate Injured Conductor and Pay \$536,000”. Whistleblower complaint filed Feb 2011, when conductor was fired for a knee injury in route from Vancouver to Pasco; b.) 10/15/14, Region 7, OSHA release #14-1901-KAN, “BNSF Ordered to Pay More than \$225,000 to Worker Terminated After Reporting Injury at Kansas City”. OSHA found that employees had been dishonest in failing to report minor prior job injuries unrelated to his shoulder, and was fired for injury to his shoulder reported 8/17/13. He was re-hired and fired again on 10/18/13, and OSHA found it was retaliation. Damages included \$50,000 compensation, \$150,000 in punitive damages, more than \$22,305 in past wages, and attorney’s fees; c.) 10/1/14, “BNSF Ordered to Pay \$30,000 For Retaliating Against Workers”, OSHA release # 14-1799-DEN. BNSF retaliated against a Mandan, N. Dakota worker in Dec. 2013 after he reported a work-related injury, and submitted a physician’s treatment plan. The medical report was found to be a contributing factor in terminating the employee, and reinstatement was ordered as well as \$6,000 in compensatory damages and attorney’s fees; d.) 9/2/14, OSHA Release # 14-1519- CHI; Region 7, “BNSF Ordered to Pay \$12,000 to Worker Disciplined for Taking Doctor Ordered Leave” -- The conductor reported he was ill on 11/18/13; he saw the doctor; and took the remainder of the day off under the doctor’s orders. Discipline was found to be retaliation and BNSF was ordered to pay \$2,000 compensatory damages, and \$10,000 punitive damages; e.) 4/23/14, OSHA release # 14-807-DEN, Region 8, [“BNSF Ordered To Pay More Than \\$526,000 to Terminated Workers”](#) Two workers were fired in 2010 and 2011 respectively based on reporting injuries, resulting in \$526,000 in damages.
8. **BNSF / OSHA Agreement re Whistle-blower Retaliation** -- In Jan. of 2013 BNSF reached an agreement with OSHA, where they agreed to stop various programs and practices which appeared to be linked to retaliation against whistleblowers. (1/15/13, OSHA Release # 13-27-NAT, [“BNSF Signs Accord With...OSHA Regarding Employee Practices Under FRSA”](#)). The accord signed by BNSF with OSHA included, among other things: 1.) making offers to 36 employees with pending whistleblower cases; 2.) training programs for managers and labor relations professionals at the company relating to responsibilities under the Fed. Railroad Safety Act (FRSA); 3.) institute a higher level of review by upper management in cases where employees report injuries; 4.) revising a program requiring increased safety counseling and prescribed operations testing so that worker related injuries are no longer a basis for enrollment in the program, and the company removed 400 workers from the program; 5.) eliminating a program that assigned points to employees who were injured; and 6.) changing disciplinary procedures so injuries no longer play a role in the length of probation.

9. **Whistleblower verdict** - (7/1/15, The Seattle Times , [“Railroad Whistle-Blower Awarded \\$1.25 M”](#), by Mike Carter). The Times reported that: “a former union and safety official proved he was targeted and terminated on a pretext in 2011, after reporting dozens of safety violations to federal authorities. The unanimous verdict, which was reached late Wed., included \$250,000 in rare punitive damages against BNSF for its efforts to discredit Michael Elliott after he raised the safety concerns and they fired him – twice.” Evidence proved, “that a supervisor set up a physical confrontation with Elliott in a BNSF parking lot, and then had him arrested and charged with assault, Elliott spent two days in jail, but was acquitted in a Pierce County Court. The railroad used the incident to justify his dismissal.” The Times also said, “Evidence also showed that BNSF officials in WA. colluded to provide inaccurate information to a mediator about when Elliott had properly reported a 2007 felony conviction for drunk driving and vehicle assault. Elliott had insisted he had, and internal e-mails he produced at trial indicated BNSF supervisors knowingly provided inaccurate information...” The article described the basis for the retaliation, “Elliott reported several complaints about overgrown vegetation blocking the signal system along BNSF tracks between Tacoma and Vancouver, WA, along with several potentially catastrophic signal malfunctions. The signal system is designed to keep trains from colliding on tracks that are owned by BNSF and shared by passenger and cargo trains. The lawsuit alleges BNSF was slow to address the issue, and in Jan. 2011, after receiving an inadequate response, Elliott took his concerns to the FRA. The FRA conducted a six-week investigation in which it found 357 violations, including one that resulted in a \$1,000 fine.”
10. **BNSF Sanctions For Misconduct and Cover-Up** - BNSF was fined \$4.18 M by a Minnesota trial Judge for hiding and destroying evidence; making false and misleading representations to the Court and opposing parties; and misconduct with a witness in a trial in 2009. This was a wrongful death case for four teenagers near Anoka, Minnesota on 7/26/03, when the car they were riding in was struck by a BNSF freight train. BNSF contended that the crossing gates and signal were working on the night in question, and the plaintiffs’ lawyers contended that the signal and gate were not working, such that there was no notice of the coming train. There was evidence that BNSF had tampered with the device on the signal that provided a record of how it had been operating, to cover up the fact that the signal was not working properly on the night in question. On Jan. 10, 2008 a jury found that the liability for the deaths was 90% the fault on BNSF, and 10% on the driver of the car. In a subsequent damage trial the jury returned a verdict of \$6.0 M per victim, totaling \$24 M, with a net verdict of \$21.6M. (see documentary summary, Insider exclusive , [“Death on The Tracks – BNSF Railroad’s \\$24 M Cover-Up.”](#) also referenced at plaintiff’s lawyer’s website, www.petroff.com, the case citation is Frazier v. BNSF, 788 NW 2d 770, Court of Appeals, 2010; see also (Minnesota Sup. Ct, 2012 [Decision](#))
11. **Grounds for Sanctions in Minnesota** - Following the trial plaintiffs’ counsel sought sanctions from the trial Court, for various, “specified incidents of misconduct”, which involved: “1.) evidentiary abuses; 2.) misrepresentations and false testimony; and 3.) witness abuses and obstructing law enforcement.” This Commission should note the Order and Memorandum awarding sanctions in this case, entered by trial Judge Ellen Maas on 10/15/09, since it describes how extensive and flagrant the abuses by BNSF were. Judge Maas’s description in the memorandum with her Order on Sanctions describes how important the hidden or destroyed

evidence was to the case, and how – even when the deception was discovered – BNSF tried to explain it away, or blame it on a single rogue employee. Judge Maas said: “Many of these lost, misplaced, destroyed or selectively preserved items of evidence were critical to this case (Memorandum, p. 8, ¶ 2),... BNSF has attempted to rationalize the loss, destruction of evidence in this case as ‘recycling’ or destruction occurring in the ordinary course of business (Id. p. 9, ¶ 1)... This Court has lost count of the total number of misrepresentations BNSF made to counsel, the parties, and this Court throughout the proceeding”. (Id. p. 10, ¶ 10-14). The award of \$4.18 M in sanctions speaks to the gravity of this situation, but it is also another strong statement about the corporate culture of BNSF. This Commission should find this case relevant to the credibility to be attached to BNSF’s version of facts put forward in this case (Trial Court Order and Memorandum, Anoka County Dist. Court Judge Ellen Maas, Oct. 15, 2009, [Chase v BNSF](#), file # C4-05-1607; a good video summary prepared by plaintiffs’ counsel is, insider exclusive (note 10).

12. **Industry Influence on 2014 Ecology Study** - Retired teacher and community organizer, Dan Leahy, has done a summary and review of the 2014 Oil Transportation Study, (11/14/14) Works in Progress , [“A Study In Mis-direction: Inslee’s Draft Marine and Rail Transportation Report”](#), July 2015, vol. 26, no. 3, By Dan Leahy). Mr. Leahy points out that the Dept. of Ecology hired the Environmental Research Council (ERC) as the sole, prime contractor to do the 2014 Marine and Rail Study, and that ERC received \$250,000 of the \$300,000 allocated to fund the study. Mainline Management Inc, which is made up of three former BNSF managers, was allegedly hired by ERC to write the railroad portion of the report. Mr. Leahy reports that Ecology has allegedly hired ERC for prior studies, and that ERC has done consulting work for the American Petroleum Institute. Although the Ecology Dept. claims that it did not know that former BNSF employees were connected with authorship (see Hertz article below), it appears that Ecology made Environmental Research Consulting, (ERC) the sole contractor for the Study, and presumably knew of ERC’s background. Mr. Leahy notes that the study claims that it does not treat, “the potential ways in which the crude by rail system and the increase in port activities with new facilities affects tribal treaty rights, the environment, and the regional economy” in that they are “ancillary,” and are not the direct topic of the study (Study, p. 82). The Study begins from the premise that federal pre-emption leaves the State very little ability to impact the activities of the railroad, and then proposes some very modest recommendations, which basically suggests that the FRA and PHMSA, “should insure that standards, operational controls, and speed restrictions for rail cars transporting crude oil provide the highest level of protection for the state’s citizens and environment” (Study p. 120). Mr. Leahy notes that the Study claims that all of the risks at issue here have been around “for decades”: tribal risk from spills (Study, p. 36); environmental risks of spills (Study, p. 38); risks from diluted bitumen (Study, p. 38); and the socio –economic risks of spills (Study, p. 40). These statements, of course, skip over the fact that the risks of minimal volumes of crude by rail in past decades have nothing to do with the risks associated with the huge increases of volume (note 16 below) of current crude by rail being posed by mile and a half long explosive oil trains being transported in notoriously dangerous tank cars. There has not been extensive media coverage of the conflict of interests in having BNSF play a critical role in the drafting of the 2014 Ecology Study on Rail Safety, but there has been some. (11/6/14,

Stranger, [“Gov. Jay Inslee’s Oil Train Safety Study Comes Under Fire From Environmentalists,”](#) by Ansel Herz). This article notes that WA has moved from almost zero crude oil being transported through WA in 2010 to a projected 2.87 B gallons traveling through the state in 2015. Matt Krogh of Forest Ethics described the idea of BNSF managers being a lead author of the 2014 Oil Safety Study as a case of the “fox guarding the henhouse”, since the three principals of Mainline were former BNSF executives for decades. The author of this article, Mr. Herz, contacted a spokesperson for Gov. Inslee, David Postman, who confirmed in writing that the Ecology Dept. was “unaware” that any of the authors had any prior employment with any railroad company. The article also reported a protest by “Seattle’s Ragging Grannies” who did a sit-in front of the Dept. of Ecology in Olympia in early Nov. 2014 objecting to permitting new oil terminal facilities and “letting former BNSF executives write their oil study...”

13. **Were Deceptive Conclusions Included In Ecology Study?** - [2014 Dept. of Ecology Study of Marine and Rail Safety Study](#), final draft, 3/1/15, pp. 76-78 deals with the probability of oil spills. The study concluded that “the rate of spillage per amount transported has decreased by 91%” since the early 1980’s, and “since the last decade has decreased by 77% (fig. 35). This means that said transport of crude and rail transport is generally safer than in past decades.”(Id. p. 77). Table 34 shows a steady and substantial decline in “average US oil spill rate per oil transported” from 1980-2012 (Id. P.78). The data for this portion of the Study only goes to 2012; the treatment of derailment events after 2012 is minimal; and I found no credible reference or discussion of the major DOT study, that shows the exact opposite – federal accident data shows that there will be an average of 10 major derailments a year for the next 20 years (see note 18 below)!
14. **Oil spill Rate by Rail for 2013** - In the year 2013, there was a total of 1.15 M gallons of crude by rail spilled, and this was well above the 800,000 gallons of crude by rail spilled in the prior 34 years from 1979-2012. (Washington Post, 1/21/14, “Crude Oil Spills in US in 2013 top total since 1975”, by Curtis Tate). See also note 19 below relating to six more major derailment in 2014 and six more in 2015.
15. **Oil Train Traffic Crowds Out Agricultural Shipments** -The priority given to oil trains has caused serious delays for farmers getting grain and crops to market, and keeping manufacturers from getting critical shipments. 8/25/14, NY Times, [“Grain Piles Up, Waiting For A Ride, As Trains Move N Dakota Oil”](#), by Ron Nixon. See also, 4/7/15, [“Founders of Failed ‘Cold Train’ Blame BNSF Railway, sue for \\$41 M”](#) The Cold Train plaintiffs claim that their fresh produce business from Quincy WA. to Chicago depended on rail service, which was degraded so severely by oil and coal train traffic, and the conduct of BNSF, that it destroyed their business. Plaintiffs also allege that they invested large amounts of money building their business, when BNSF knew or should have known that the required service would not be given, in a way that was deceptive and misleading.
16. **Increases in Volume of crude-by-rail Transport** -“Last year, trains transported > 1,000,000 barrels of oil per day from North Dakota by rail in 2014 – a huge jump from 55,000 barrels per day in 2010.”, 4/17/15, Brink News , [“Reducing the Risk of Shipping Oil By Rail”](#), by Brian Schlake, Rail Transport Engineering Dept., Penn State Univ.). Transportation of crude oil by rail has increased 6,000% in the US between 2007 and 2013. (3/16/15, NPR State Impact, [“Railroad](#)

[Chief Says Oil companies Need to do More for Rail Safety](#)”, by Susan Phillips). As of June of 2014, 19 oil trains a week passed through WA State (Washington State 2014 Marine and Rail Oil Transportation Study, final draft 3/1/15, Pub #15-08-010, p. 42), and the volume is expected to increase 300 % by 2020, and 600% by 2035, which would mean 113 trains a week passing through the state or 16.6 oil trains a day (2014 Ecology study, Id, p. 43).

17. **Canadian Study of Regulatory Failures** - The Executive Director of the Canadian Center For Policy Alternatives, issued a scathing indictment of the failure of Canadian regulators, Transport Canada, in Aug. Of 2014, highlighting eight significant failures, which almost completely track and describe similar failures in the US today. Campbell said that serious regulatory failures contributed to the Lac Megantic disaster, including: 1.) “Operating rules are at times vague and inadequately enforced, giving companies too much latitude and granting too many exemptions”; 2.) “officials allowed one person crews, “carrying massive amounts of crude oil, a dangerous good...”; 3.) “despite multiple warnings, allowed crude oil to be transported in unsafe tank cars”; 4.) “disregarded concerns about the explosiveness of Bakken crude, had lax testing requirements, and collected insufficient data about the transportation of dangerous goods”; 5.) “safety management systems were defective – lacking sufficient oversight and enforcement”; 6.) “risk assessment processes and protocols were flawed”; 7.) “complacency in light of oil-by-rail boom, allowing insufficient regulatory resources to cope with the massive surge”; and 8.) “allowed the industry lobby to become too powerful”. www.policyalternatives.ca , 8/18/14, “Willful Blindness: New Report Chronicles Regulatory Failures Behind Lac Megantic.” The Transportation Board of Canada, despite the CCPA criticism set out above, described the Lac Megantic disaster in a detailed investigation, 10/28/14, [TSB Detailed Summary](#). There have been a steady string of explosive derailments of crude oil trains since the disaster at Lac Megantic, Quebec on 7/6/13, which killed 47 people; destroyed a town; and polluted hundreds of miles of a major river, which was a sole water source for multiple communities. There was a \$200 M settlement announced in Jan. 2015, which was considered inadequate, given limited insurance coverage and bankruptcy of the railroad involved. Estimates to rebuild the destroyed buildings were felt to be \$2 B. 1/12/15, Huffington Post , ["Lac Megantic Quebec Says Train Disaster Settlement Provides Little"](#).
18. **Probability of Future Oil Train Derailments From DOT Accident Data** - A DOT study done in mid - 2014 estimated that there would be an average of 10 oil train derailments per year for the next 20 years hauling crude or ethanol, with damages estimated as high as \$4.5 dollars, but a derailment in an urban area could kill as many as 200 people and cause \$6 B in damages. The DOT projections estimated 15 derailments in 2015, falling to 5 in 2034. Daily KOS, 2/23/2015, ["Get used to It. Dept. of Transportation Predicts 10 Oil Train Derailments a Year"](#) by Meteor Blades.
19. **History of Oil Train Derailments 2014 and 2015** - There were six more oil train derailment/ spills in 2014 (Plaster Rock, NB, Canada; Red Wing Minnesota area; Vandergriff PA; and Lynchburg, VA; LaSalle Co; and White River, Calgary), and eight more derailments up to July 16, 2015 – six of which involved oil train tank cars, and two others described below. ([2014, Dept. of Ecology study](#), Id, table 9, pp 54-56 describes some of these). In the 11 weeks from 2/14/15 – 5/6/15 there were five major oil train crashes, causing a total of 123 railroad tank cars (of the newer

CPC1232 design) to derail. Assuming an average of 30,000 gallons of crude in each car – this appears to total approximately 3,690,000 gallons of crude in these 5 derailments, although not all of the derailed tank cars breached. Locations for these derailments include: 1.) 2/14/15, Gogama, Ontario, 29 Canadian National cars derail, with seven cars on fire; 2.) 2/16/15, Mont Carbon, W VA, 28 CSX cars derail along banks of Kanawah River; 3.) 3/5/15, Galena, Ill, 21 BNSF cars derail and fire erupted; 4.) 3/7/15, Gogama, Ont. 39 Canadian National cars derail, with multiple cars exploding; 5.) 5/6/Heimdal, N. Dakota, 6 BNSF cars derail and fire erupted. (5/11/15, McClatchy DC, [“New Rules on Oil Trains Draw Flak From Firefighters, Too”](#), by Curtis Tate; see also 2014, DOE Report, Id, pp. 54-56). The three derailments since 5/6/15 include, the following: (7/2/15, USA Today, [“Smoke Diminishes After Derailment, Toxic Spill in Tenn.”](#), AP) – where a single car of acrylonitrile burned; see (7/17/15, Fox News, “Crude Oil Train Derailment in Montana Prompts Evacuations, by AP) – Where 21 cars of a BNSF oil train derailed, near Culbertson Montana, with two tank cars leaking about 35,000 gallons and no fire. This derailment occurred shortly after the tracks were reopened from a derailment of a BNSF freight train a short distance away on 7/14/15, where nine cars of a 116 car train, which were mixed cargo and “mostly empty” hazmat tank cars, derailed and damaged about 1 mile of track, but no spills or fires were reported. (7/15/15, KFYR TV, “Aerial View of Ft. Kipp Montana, Train Derailment”, by Megan Mitchell; 7/15/15, Seattle PI, [“Freight Train Derailment closes Line in Northern Montana”](#), by AP).

20. **Is System of Regulatory Irreparably Broken Due to Industry Political Power and Influence?** - Professor Wood has written that the only way to address what she describes as the collapse of the regulatory law system is through creative use of the Courts and massive civil disobedience, to protest the government’s breach of the public trust doctrine. Professor Wood’s treatise is, “Nature’s Trust: Environmental Law for a New Ecological Age.” (2014). This treatise invokes the age old common law doctrine of the public trust: “With roots extending back to early Roman law, the [public trust] doctrine rests on a civic and judicial understanding that some natural resources remain so vital to public welfare and human survival that they should not fall exclusively to private property ownership and control ...Public trust law demands that government act as a trustee in controlling and managing critical national assets. Held to strict obligations, government must promote the interests of the citizen beneficiaries and ensure the sustained resource abundance necessary for society’s endurance.” [David Bollier Blog](#), 2/10/14, “Mary Wood Crusade to Reinvigorate the Public Trust Doctrine, by David Bollier. Wood has supported the “Children’s Trust Litigation” (also known as Atmospheric Trust Litigation or ATL). “The goal is to persuade Courts to invoke the public trust doctrine to force government to uphold it’s duty to protect the atmosphere. The suits all ask essentially the same relief, that the Courts require governmental agencies to adopt a plan of carbon reduction in line with the guidelines of an international team, including Jim Hansen, so that climate equilibrium can be achieved. Suits call for a 6% annual carbon reduction from 2013 global levels. (Id, Bollier). A King County Superior Court Judge, Hollis Hill, just ruled favorably in Children’s Trust case filed in Washington State, requiring that the State Dept. of Ecology to reconsider it’s carbon emissions target by July 8, 2015. Ecology's current target is a 50% reduction of co2 emission by 2050, and the goal is to reach a target of 80% reduction of such emissions. (6/24/15, The Seattle Times,

[“Judge: Student’s Petition on Carbon Emissions Should Be Reconsidered”](#) by Hal Bernton). A good summary of the public trust doctrine, with many citations is, “The Revival of the Public Trust in Environmental Law” by Rance Shaw, Environmental and National Resources Law Center, www.enr.uoregon.edu. In a television interview on 1/2/15 with [Bill Moyers](#), Prof. Wood explained in more detail why administrative law remedies are not a viable option for addressing climate change or effectively regulating large corporate entities, because the federal agencies are essentially captives of corporate influences. “But street democracy is so powerful. I don’t know of any major movement that has succeeded without street democracy. When hundreds of thousands of people take to the streets, as they did in New York City, exercise their constitutional rights of free assembly; and then when you see, also, almost 100,000 people signing up and pledging to risk arrest if Keystone, The Keystone Pipeline, that would transport tar sands from Canada, those people are pledging to risk arrest if Obama or congress approves the Keystone Pipeline. When you have this kind of uprising, it only reinforces the more formal legal approaches that are put forward in the Atmospheric Trust Litigation. The two go very much hand in hand, because what is very important is for Judges to serve as the moral authority of the people. Judges have a finger on the pulse of the American people in a way that I think we don’t really understand that well. Judges can, if they sense the need, move very rapidly and order swift injunctions to force the legislatures or agencies, or both, to create a carbon reduction plan.” [Alter Net](#). Bill Moyers interview with Professor Mary Wood, 1/2/15, “The Ingenious Project To Save Our Climate.” The recent ruling of Judge Hill in Seattle, cited above, illustrates exactly this process. Professor Wood further explained her views to Mr. Moyers: “Environmental law held a lot of promise, but that is not working, and that agencies have basically used it to allow almost unfettered destruction of our natural resources... There are dozens of agencies at the federal and state level that control environmental resources. And they are supposed to represent the public interest and not corporate of moneyed interests in making these decisions. And we the public assume that the agencies are doing the right thing when they are implementing environmental laws. Whereas in fact, nothing could be further from the truth. Agencies have largely become politicized creatures that largely serve industry....so we are at a very dangerous situation in this country where the very life systems that support us are now in peril and in jeopardy. ...It matters little what new laws emerge, for they will develop the same bureaucratic sinkholes that consumed the 1970’s law. Only a transformative approach can address sources of legal decay....Climate is not an environmental issue. This is a civilizational issue. This is the biggest case that Courts will get in terms of the potential harm in front of them. The population affected by that harm, and in terms of the urgency. ... And so the federal Congress has essentially been purchased through millions and millions of dollars of campaign contributions. The whole purpose of the public trust is to prevent one branch of government from precisely that type of corruption.” (ID, Moyer interview, 1/2/15).

21. **Regional Leaders Unite To Object To Regulatory Failure to Address Crude-By-Rail Risks** - Dow Constantine, the King County Executive is the chairperson of the newly formed [Safe Energy Leadership Alliance](#) (SELA), and it is made up of elected leaders from the entire Pacific Northwest region, including Montana, Idaho, Washington, Oregon, California, Canada, and numerous Tribal Councils from the entire region. The organization seeks to coordinate regional

efforts, and gain political power from unity. Complaints by Washington State officials as to dangers of oil trains include: a.) On July 21, 2014, the entire [Seattle City Council signed a letter](#) to US Dept. of Transportation Sec. Anthony Foxx, indicating, among other things: “The City of Seattle is deeply concerned about the threat to life, safety and the environment of potential spills and fires from the transport of petroleum by rail. More oil has spilled from rail accidents in 2013 than the last 38 previous years combined. Just in the last year, there have been a number of high profile derailments of DOT 111 cars carrying Bakken crude that have led to massive oil spills, catastrophic explosions, evacuations and deaths. The volume of petroleum-by-rail moving through Seattle is expected to triple to over 1 million barrels per week over the next few years, primarily from the Bakken formation. The rail lines that carry this petroleum run through and by Seattle neighborhoods, parks, business and industrial areas, sporting arenas and stadiums, and along our waterfronts, creeks, and other natural resources.” The letter went on to urge use of emergency powers to aggressively phase out DOT -111 tank cars immediately. A year later, the regulations of May 2015 give the industry 8 - 10 years to phase out the DOT -111 cars, and the CPC -1232 design that is being phased in has been involved in four of the five explosive crashes since Jan 1, 2015: b.) [On 4/7/15 US Senator Maria Cantwell issued a press release](#) that provided that she, “joined Seattle Mayor Ed Murray, King County Executive Dow Constantine and area fire chiefs to call for stronger regulations on crude oil shipped by trains, including limits on the volatility of oil inside tank cars. In addition, an organization representing Washington State fire chiefs sent a letter calling on their national organization to endorse the “Crude-By-Rail Safety Act of 2015” – legislation that would set safety standards for trains hauling flammable crude oil and provide resources for first responders to fight potential disasters caused by oil train accidents ...Up to 11 oil trains pass through Seattle each week, running beneath downtown in a tunnel that is 100 years old and lacks modern safety features.”; c.) Washington Fire Chiefs Executive Director, Wayne Senter has also been outspoken on the need for increased safety measures relating to crude transportation by rail, and requested secret risk – assessment documents from BNSF: “The Washington Fire Chiefs have a keen interest in protecting our citizens from disastrous fire and explosions, especially the hazards we have experienced nationwide from Bakken oil train disasters...Here in Washington State we have had “near-miss” Bakken oil train disasters and the railroads report that the frequency of these trains carrying this commodity will increase exponentially over the next few years. We don’t want to wait for the event to occur in Washington State before we advocate for improved safety with this commodity.” (note 23, below, Letter, 3/1/15 from Senter to Mathew Rose, CEO of BNSF, quoted in Cantwell press release 4/7/15); d.) Seattle Mayor, Ed Murray also voiced his concern over the safety of oil trains: “In Seattle, BNSF railway runs two oil trains under our city nearly every day...Our first responders are training and preparing for an incident, but we must also act to reduce the risk of a catastrophic event. I stand in strong support of Senator Cantwell’s legislation to prevent and reduce the impacts of an oil train disaster here and across the country.” (quoted in Cantwell press release 4/7/15); e.) Dow Constantine, who is both King County Executive, and also chair of the multi-state “Safe Energy Alliance” stressed the need for policy leaders to unite in speaking against the hazards of transport of Bakken crude by rail: “If we stand together – as we do today – we can make our voices heard at the national level...There’s clearly a growing

demand for an organizational structure that enables local governments to speak with a unified voice on this important issue – and we are growing the Safe Energy Leadership Alliance to meet that demand.” (quoted in Cantwell press release 4/7/15); f.) Jim Hall, former chairman of the National Transportation Safety Board told the Los Angeles Times: “We have never had a situation equivalent to 100 tanks cars end to end traveling through local communities. This is probably the most pressing safety issue in the country. The industry has turned a deaf ear.” See also, LA Times, 3/12/15, [“Crude—Oil Train Wrecks Raise Questions About Safety Claims”](#) by Ralph Vartabedian.

22. **First Responders Demand Hidden Risk Assessment Documents and Community Right –to-Know** - The Washington State Firefighters have been unable to get the necessary information from railroads on the types of hazardous material and routing of trains carrying hazardous materials for purposes of planning for disaster responses. Director of the Washington Fire Chiefs Assoc., Wayne Senter, made written demand on BNSF CEO, Mathew Rose on 3/5/15, seeking information, including: a.) Calculated worst case scenarios for an oil train emergency in an urban area or a sensitive environmental area; b.) evidence of levels of catastrophic insurance coverage; c.) high hazard flammable comprehensive emergency response plan for a crude oil disaster ; d.) Route analysis documentation and route selection results for Washington State pursuant to 2007, Public Law 110-53 on urban hazmat, safety, and security routing. Mr. Senter went on to say: “These documents are vital to the safety and health of our fire agencies, community, and environment. Our citizens have a right to know what chemical disaster risks exist and the various hazardous operations that are exposing them to this risk.” Mr. Senter also points out in this letter, that, “normally we would be able to access the hazard through right to know and other public documents; however your industry has sought and gained exemption to these sunshine laws.”(3/6/15, Wash Fire Chiefs, Letter from Director, Wayne Senter to Mathew Rose, BNSF). There was one meeting of BNSF on 4/30/15, with various state first responder groups, and a press release was issued, describing the meeting as helpful (5/4/15, [Washington Fire Chiefs](#) , Press release, “Washington Fire Chiefs Meet With BNSF”). BNSF is reported to have offered free training for Seattle firefighters for derailment responses; has volunteered to provide a foam truck; has offered specialty training for firefighters in Colorado; and agreed not to put passengers or oil trains into the BNSF Tunnel (Great Northern) (3/24/15, Seattle Weekly, [“Recently Revealed Oil Train Violations Increase Concern In Seattle”](#), Casey Jaywork). On 7/22/15 Seattle City Council member, Mike O’Brien wrote and open letter to Warren Buffett, whose Berkshire Hathaway company owns much of BNSF railroad, asking that Mr. Buffett use his influence to get industry to address some of the unsafe practices that have raised the risk of rail transport of crude oil, and to assume financial responsibility for the potential damages that threaten people and the environment from unsafe transport of crude oil. (7/22/15, Huffington Post, “An Open Letter to Warren Buffett: Put Public Safety Before Profit and Prioritize Oil Train Regulations”, Mike O’Brien). I support Councilman O’Brien’s letter to Mr. Buffett. The City of Seattle also adopted a Resolution relating to oil trains on 7/27/15, which had 31 recitals and nine sections, which had not been circulated ahead of time for public comment. Much of the Resolution is helpful, but I objected to the failure of the document to focus on some of the most important issues of risk from crude by rail, and the fact that the resolution used broad language

seeming to praise efforts by BNSF to make crude by rail “safer” (recital 30) and their “voluntary commitments...to address safety concerns” (sec. 2). I understand the City’s desire to get financial help from BNSF on training firefighters, getting firefighting equipment, improving rail crossing safety, and addressing “small safety gaps,” but in the larger picture of risk from crude by rail, these are far less critical safety matters. The language used allows BNSF to get a deceptive public relations benefit out of the resolution, by putting the City Council on record as acknowledging that BNSF is working for and making safety concessions, when in fact these industries have made almost no concessions on most of the most serious safety issues of reckless transport of crude. This seemed similar to the BNSF role in the drafting of the 2014 Ecology “study” discussed at note 12 above (7/27/15, www.seattle.gov, Resolution # 31604, re crude by rail). On 7/21/15 I attended the Seattle Land Use Committee relating to the City’s work on an oil train resolution. The lead staff member, Steve Lee, reported that he had learned that BNSF had done a study of the safety of the King’s Street tunnel in Seattle; that the study allegedly indicated the tunnel was safe with respect to oil train risks, but that BNSF would not provide a copy of the study to the City. The issue of the BNSF tunnel is very significant, and it is unacceptable not to have BNSF’s expert evaluation of its risk.

23. Communities Forced to Pay Costs of Emergency Planning and Response Due to Unsafe

Practices - Smaller communities across the country must incur the costs of emergency planning and response, just because of the severity of the risks, apart from the costs of an actual spill. “While the profits from the oil boom have been privatized, much of the costs of the reckless extraction have been externalized, meaning dumped on the public. Aside from the obvious environmental cost that we and future generations will have to bear, are less visible emergency preparation costs that every school, hospital, and municipality within a ½ mile of bomb train routes must now cover” (3/1/15, AV Artvoice , [“Buffalo’s Bomb Trains”](#) by Michael Niman).

24. Why Does Bakken Crude Get Shipped Without the Stabilization Required In Texas?- The single most important factor in reducing the risk of explosions of Bakken crude is to “degasify” or “stabilize” the oil, so that explosive gases are largely removed before the crude is transported by rail, as is routinely done in Texas with Eagle Ford crude oil. In Texas the pipeline companies will not transport the crude unless it is “stabilized”; the oil industry in Texas had to invest in the infrastructure to remove the explosive gases in 2012, to safely transport the crude; and they now avoid the problem of exploding crude that Bakken oil presents. In contrast, the oil industry in North Dakota was able to dominate the state government, and pass a sham regulation that approves transporting of Bakken crude with a minimal process of “conditioning.” “Conditioning” removes very little of the explosive gases, but once the three person, North Dakota Industrial Commission adopted this pro-industry, inadequate standard, it gave the industry a “legal” cover to ship crude oil that is not “degasified.” The North Dakota standard requires reduction to only 13.7 psi, while the vapor pressure at Lac Megantic averaged less than 10 psi. The oil industry found that by getting pro - industry people in place as regulators in North Dakota, they could avoid the cost of refining out the volatile liquid natural gas components that make Bakken crude so flammable, and they did not have to incur the cost of infrastructure that is used in the Eagle Ford crude oil play in Texas. Because the law of the producing state controls, the oil and railroad industries are now able to subject the rest of the nation to the hazard of “bomb

trains” without incurring the costs of refining out the most explosive gases before shipment. But a Texas expert on stabilization of crude oil, [Myron Goford, told Reuters](#) that the producers in North Dakota will never take the explosive LNG’s out of the crude oil before transport by rail until they are forced to by regulation, but with industry favorable regulators they will never have to incur the cost of stabilizers to make the oil safe to transport: “It’s a little like the wild west up in the Bakken, where everybody gets to do what they want to do. In the Eagle Ford, you’ve got to play by the rules, which forces the oil companies to treat it differently....It’s very easy to stabilize crude – it just takes money. The producer doesn’t want to pay for it, if he can ship it without doing it....That’s the reality. It’s really hard to justify making investments that you’re not required to do so.” , (5/14/14,Reuters, [“Safety Debate Eyes Taming Bakken Crude Before It Hits Rails”](#) by Kristen Hayes; see also Sept 2014, , [“Dakota Resource Council Comments re Cause #23084, proposed oil stabilization standards, 9/22/14”](#); see also. Senator Charles Schumer has also said that the North Dakota standard of only conditioning crude oil to the 13.7 psi currently required is inadequate, because of the influence of oil producers in North Dakota, but because the 13.7 PSI vapor pressure is well above (40% >) the vapor pressure of the Lac Megantic tanks cars that exploded in 2013; 9/26/14, Railway Age, [“Federal hazmat regulator AWOL from North Dakota Oilfields”](#) , David Thomas; 3/4/15, San Antonio Express News, [“Senator Wants Crude Stabilized Before Put in Rail Cars”](#) by Jennifer Dlouhy. The fossil fuel companies and the railroads have opted for a cheaper approach to try and create the impression that they are trying to make the Bakken crude less explosive by obtaining a regulation from the North Dakota Industrial Commission, which requires them to do a minimal removal of some of the gases, sufficient to bring the pressure of the volatile products down to < 13.7 pounds per Sq. inch starting April of 2015. (Bangor Daily News, 5/12/15, [“North Dakota Rules to Tame Volatile Crude Before Rail Shipment”](#), by Ernest Scheyder, of Reuters, posted, 12/9/14). The best evidence that the vapor pressure of 13.7 psi in the North Dakota regulation is far too high to be safe comes from the fact that it is 40% greater than the average pressure found in the 72 cars at the Lac Megantic disaster, where the pressure averaged 10 psi. (see The Bernica Independent, 5/11/15, [“Latest ‘Bomb Train’ Incident Predictable.”](#) by Kathleen Sloan.) The pressures in the tank cars at the most recent Heimdal North Dakota explosion on 5/6/15 were 10.8 psi – higher than Lac Megantic, but well below the “legal” level under the new North Dakota regulation. (Associated Press, 5/7/15, [“Oil In North Dakota Derailment Was Treated to Cut Volatility”](#), Brown and Nicholson.). These numbers confirm the opinions of David Thomas in his Railway Age article, supra.

25. **Industry Resists Even Weak Federal Regulations of 2015** - Earth Justice brought suit in the 9th Circuit to challenge the Obama administration on the recent [federal safety regulations effective 5/1/15](#), on behalf of seven environmental groups including Forest Ethics and the Sierra Club. The suit objects to the long term, 10 year phase out of DOT-111 and CPC 1232 tank cars, which have been deemed unsafe by various agencies, including the NTSB. Even at the end of the 10 year period the regulation would still allow the unsafe cars to continue to be used in trains containing 35 tank cars or less. The regulation also was alleged to have gutted public notice requirements, leaving citizens and emergency responders in the dark. The regulations on speed reduction were also alleged to be inadequate, since even the speed reductions for “high threat urban areas” is a

designation that few areas have achieved. 5/14/15, [“Groups Sue Obama Administration Over Weak Tanks Car Standards”](#) by John Wathen.

26. **Factors That Make Long, Heavy Oil Trains Prone to Derail** - 12/11/14, [“Oil Trains Are Too Long and Too Heavy”](#) by Jared Margolis, quoting PHMSA analysis that determined oil trains, “are longer, more challenging to control ...[and] can be more prone to derailments when put in emergency braking.”; 5/5/14, [“Excessively Long and Heavy Trains Opposed by Railroad Workers Group”](#).
27. **Government Challenges Industry Refusal to Adopt Electronically Controlled Pneumatic (ECP) Brakes** - ECP brakes are considered by many to be the best solution, since they achieve faster application of all the brakes at the same time. This prevents “‘run ins’ ... where the cars in the front of the train begin braking before those in the rear, causing the rear cars to ‘run into’ the cars in front of them, creating higher in-train forces.” The industry claims that the costs of the ECP are not justified, so in July 2014 agreed to use the much cheaper “enhanced braking” procedures of a.) distributed power, where locomotives are put at the front, middle and end of trains, or b.) two - way end of train devices (EOTD) that allow the brakes signals to initiate from the rear of the train. (4/17/15, [“Reducing The Risk of Shipping Oil By Rail”](#) by Brian Schlake, Penn State Professor of Rail Transport Engineering). Reuters reported 7/14/15 that the US Senate was poised to weaken the new safety standards by removing the required adoption of ECP brake systems as mandated by the May 2015 FRA regulations, in favor of a provision that would call for years of study of the effectiveness of such brakes. (7/14/15, Reuters. [“Buffett May Benefit As Train Lobby Bids to Weaken Safety Rules”](#) by David Morgan). It appears that the Senate will succeed in removing the regulation requiring ECP brakes. This article said: “The Transportation Dept. disputes the industry’s claim that the new regulation would cost \$3 B: over 20 years the officials say the costs would be \$492 M, offset by \$426 M to \$1.7 B in benefits. Without the ECP brake and other new safety rules, including thicker tank car hulls, damages from the ‘high consequence events’ could reach \$12. 6 B over the next 20 years the Dept. says.” Since 2012, the article says the Amer. Railroad Assoc. spent \$14.5 M lobbying Congress, and BNSF spent \$12.7 M. In 2013 BNSF hauled 324,206 of the total of 435,560 tank cars of crude hauled in the US.
28. **History of Whistle-blower Lawsuits Making Complaints About safety Issues and Accidents** - Earth Fix has reported that there are cases in three different states where employees were fired for making whistleblower claims related to making safety objections, including making brake inspections, 7/2/14, [“Rail workers Raise Doubts About Safety Culture As Oil Trains Roll On”](#) by Ashley Ahearn, including Chad Dafoe v. BNSF, [case # 0:14 cv 00239- JRT-TNL](#), in Anoka Minnesota, represented by attorney, Michael Tello, (763) 427-0159. This article also highlights the case of Curtis Rookaird, who alleges he was fired by BNSF for insisting on doing a brake inspection on an oil train. OSHA findings supported Rookaird’s allegations, and his case will go to trial in Federal Court in Seattle on 9/14/15 in [case #14 CV 00176—RSL](#).
29. **Antiquated Rail Infrastructure and Bridges Compounds Risks Of Long, Heavy Trains, Going Too Fast, With Inadequate Brake Systems** - “FRA data shows that poor track integrity was the number one cause of more than 1,200 class 1 derailments during 2014,” according to former PHMSA director, Brigham Mc Cowan. He went on to say, “We need to really focus on an aging

infrastructure.” (5/7/15 , [Obama’s Oil Train Regs Don’t Solve the Problem](#)”, by Michael Batasch. The industry seeks to focus on the reduction of accidents and derail incidents on mainline track, and the claim is that there has been a 90 % reduction in such incidents over the last 40 years. The data for 1975, when volumes of rail traffic were about what they are now, there were 200 reported collisions and 3,600 derailments on mainlines in the US. But if the accidents and derailments include those in switchyards, sidings, and private yards, the number of such incidents is significantly larger – 8,000 accidents, 1,000 collisions, and 6,000 derailments. But even with the reduction of such collisions and derailments, the fact that oil trains are so much longer, and heavier, makes the risk associated with such events much higher. (3/19/15 , [“Coming Off The Rails? Safety Risks in Crude By Rail”](#) by John Kemp.) A New York Times investigation cited an example of the aging infrastructure of the Mobile and Ohio Railroad bridge near Tuscaloosa Alabama, built in 1898, which has a wooden trestle structure that allows oil trains to traverse pedestrian areas 40 feet below. This investigation found that many of the wooden trestle members on this bridge are rotted through and dangling or missing. If the public wants to know about such bridges, their only remedy is: “Ask the railroads. That’s because the federal government doesn’t routinely inspect rail bridges. In fact, the government lacks any engineering standards whatsoever for rail bridges. Nor does it have any inventory of them. The only significant government intrusion into the railroad self-regulation of the nation’s 70,000 to 100,000 railroad bridges is a requirement that the companies inspect them each year. But the FRA, which employs only 76 track inspectors as of last year, does not routinely review the inspection reports and allows each railroad to decide for itself whether or not to make repairs.... Even where federal engineering standards do exist, it’s unclear how much safety they provide. For instance, federal track safety standards allow 19 out of 24 cross ties to be defective along any 39 – foot stretch of the lowest grade track, where the speed limit is 10 mph. These crossties stabilize the rails. On the best tracks, which have a speed limit of 80 mph, the standards allow half of the crossties to be decaying or missing.” 3/12/15, [“Dangerous Trains, Aging Rails”](#) by Marcus Stern. A recent FOIA request, relating to the Skagit County area of Washington, disclosed that there may have been safety issues with wooden bridges (Conley and Swinomish Channel) used by oil trains going to the Anacortes refinery . As of 2/19/14, FRA region 8 Track Safety Specialist James Adams directed a structures specialist, “to conduct a thorough inspection of this line, also take a look at the rail anchor pattern approaching the bridge. It appears there may be issues regarding rail movement.” I do not know the current status of the bridge, but it troubles me that the initial review of this issue, which prompted Mr. Adam’s action, was the result of community activists intervening to get authorities to look at this aging infrastructure in a very critical environmental area.

30. **BNSF Citations by FRA for Rail Bed / Track Violations in North Dakota** – BNSF has a record of failing to maintain it’s tracks in the areas of N. Dakota, where there had been four derailments, prior to the 12/30/13 derailment of an oil train in Casselton N. Dakota. That single derailment resulted in \$6.1 B in damages. Following the derailment of an oil train in Casselton N. Dakota on 12/30/13, Senator Heidi Heitkamp asked the FRA to supply data on track inspection violations. The data provided to the Senator by the FRA showed that during the period from 2006 to 2014, inspectors did 3,822 inspections on BNSF tracks that found 13,141 defects. Many of these

defects were resolved without citations, but 19% of the inspections yielded 721 track violations that were either not addressed or were serious enough that they did result in citations for the violation. It seems like this pattern of conduct, just like the failure to report spills and failure to properly report the Seattle derailment, demonstrates a casual approach to safety, which seems particularly troubling since ignoring rail bed issues, is critical to the risk of derailment of oil trains. This is all the more flagrant, since the areas near Casselton had had so many prior derailments. NY Times [“BNSF Cited for Serious Flaws on Tracks Before North Dakota Accident”](#), by David Shaffer, 2/20/14). “FRA data shows that poor track integrity was the number one cause of more than 1,200 class 1 derailments during 2014,” according to former PHMSA director, Brigham Mc Cowan. He went on to say, “We need to really focus on an aging infrastructure.” (5/7/15, The Daily Caller, [Obama’s Oil Train Regs. Don’t Solve the Problem](#)”, by Michael Batasch.

31. **BNSF's Push for Crew Reduction – What Does a One person Crew Mean?** - 9/26/14, McClatchy DC, [“End of The Line For Railroad Conductors? Not So Fast Union Says.”](#) By Curtis Tate. Unions, the FRA, and some members of Congress say that single person crews are dangerous, but the railroads claim there is no proof that single person crews are dangerous. Unions won the union vote to block BNSF from going to one person crews in Sept. of 2014, but the company is expected to continue the effort to reduce crews. 4/25/15, Jacoboin Magazine [“Challenging The Industrial Narrative”](#) by Trish Kahle, Univ. of Chicago, contains an interview with and railroad engineer who described the logistics of what a single person crew might involve, when an engineer has an accident, and needs to evaluate and manage an emergency. If the train strikes something or has an incident of some kind, the engineer has to report the incident to the dispatcher by radio, which may take time. An oil train may be over a mile and a half long, so an engineer must take a long time to walk back to the end of the train to do a damage assessment – which might involve a tank car with hazardous material like chlorine or crude which is leaking. The engineer cannot even leave the engine, to begin a damage assessment, until brakes are secured on the engines, and if the train is on a grade, the engineer must also set additional air brakes on 6-8 cars additional cars by hand. Then, after doing that, he could walk back to the end of the train, but if he finds that the train needs to be moved, he needs to walk back to the engine, since there is not a second crew member that could move the engine on a radio command from the engineer. If the event occurs in the Midwest in winter, this routine may take place in snow of with temperature far below zero. All of this takes more time, and might well cause a dramatic increased harm if something like a hazmat spill or fire is in progress. Employees feel that even a two person crew is not enough, but a one person crew in such situations is unthinkable.
32. **Chronic Crew Fatigue with Mandatory Scheduling** -Ron Kaminkow, the General Sec. of the Railroad Workers United, (RWU) also gave an interview to Jacoboin Magazine,(Kahle, Id.), and described the problem of chronic fatigue among railroad workers, and it’s causes: “...[C]hronic crew fatigue is a fact of life for most trainmen and engineers who work on the railroad in the United States and Canada. This leads to accidents and train wrecks. The rail carriers of course will never admit that crew fatigue is a problem, but we know it is. In the interest of their stockholders and Wall Street, the rail carriers keep it trimmed to the bare bone. They don’t want to have any more trainmen or engineers on the payroll – than they absolutely have to at

minimum. And so all of this contributes to overwork, lack of time off, harsh attendance policies, and so forth, all of which leads to chronic crew fatigue. In the face of all this, the rail carriers are intent on running all these trains, including oil trains and other hazardous materials trains, with a single employee. This is a fight that RWU has been engaged in for almost a decade: to stop them and maintain a minimum of two employees on every job.”

33. **The Result of Keeping Oil Spills Secret From Public—The North Dakota Experience** - The ProPublica investigation of June 2012 found the following: “...Oil companies in North Dakota reported more than 1,000 accidental releases of oil, drilling wastewater, or other fluids in 2011, about as many as in the previous two years combined. Many more illicit releases went unreported. State officials say that most of the releases were small. But in several cases spills turned out to be far larger than initially thought, totaling millions of gallons. Releases of brine, which is often laced with carcinogenic chemicals and heavy metals have wiped out aquatic life in streams and wetlands and have sterilized farmland. The effect on land can last for years, or even decades.” (6/7/12, ProPublica [“North Dakota’s Oil Boon Brings Damage Along with Prosperity”](#), by Nicholas Kusnetz). The article quoted N. Dakota Health Dept. representative Kris Roberts, who acknowledged the problem, but says that the state simply does not have the manpower to prevent or respond to spills of oil and toxic fluids from the oil boom. One spill in July of 2010 in an area of farmland where the owner was unable to grow anything was initially reported as involving 12,600 gallons, but later investigation found it was really a 2 M gallon spill. (Kusnetz, Id.) The study also found that regulators rarely sanctioned the parties responsible for the spills, with only 45 citations issued over 3 years. One fine against Continental Co. was for \$328,500, but was settled for \$35,000. The study also reported on 20 years of mapping of oil contamination in Montana by groundwater specialist, Jo Anna Thamke, for the US Geological Survey in Montana. “She estimates that the plume of contamination has spread through 12 square miles of an aquifer, which is the sole source of drinking water in the area.” (Kusnetz, Id.)
34. **Media Coverage Mobilizes Dakota Resource Council -- As Case Study In Community Resistance** - Another AP investigation, after that done by ProPublica was reviewed by Think Progress. (1/2/14, [“It Will Never Be The Same: North Dakota’s 840,000 Gallon Spill.”](#) by Emily Atkins). One of the effects of the Tioga oil spill in the Fall of 2013 was to begin to focus public attention on how little public awareness there was of the problem of oil spills. “After the spill was discovered by a lone farmer, it was not reported for nearly two weeks, and only after reporters from the Associated Press asked about it specifically.” A year after the spill “the soil is still saturated with oil,” even though cleanup crews are working on it seven days a week, 24 hours a day. The AP study found 1,500-1,600 incidents of contamination, and sparked a public outcry by farmers, ranchers, and concerned citizens, acting through their public interest organization, the Dakota Resource Council (DRC). (Adkins, Id.; see also, (10/10/13, The Guardian, [“Tesoro Oil Spill: Over 20,000 Barrels Seep Into North Dakota Wheat Field”](#), by Assoc. Press).
35. **Community Activism Forces Environmental Impact Report On Shell Expansion In Anacortes** - Earth Justice challenged the Appeal by Shell Oil in Skagit County Superior Court requiring that there needed to be an environmental impact statement for Shell’s proposed expansion of the Anacortes Refinery. On 5/21/15 the Court denied Shell’s appeal and essentially followed the findings of a hearing examiner who concluded, in Feb. 2015, that the proposed expansion of the

refinery posed significant risks to people, water, and wildlife. The proposed expansion would add 6 oil trains a week to the rail traffic in Skagit County. The hearing examiner noted that the rail line went right through the cities of Mt. Vernon and Burlington; the trains crossed the old Burlington / Mt Vernon Bridge over the Skagit River, just upstream from the Anacortes Water Treatment Plant; then it crossed the old Swinomish Channel Swing Bridge, which is directly adjacent to the Padilla Bay National Research Reserve. 5/15/15, Earth Justice [“Shell Loses Appeal of Oil Train Project in Skagit County.”](#) The hearing examiner had previously found that the EIS needed to study the potential effects of a major train accident, as well as examine resources for responding to a disaster. The examiner said: “it is clear that new hazards have been introduced by enormous volumes of crude being shipped by rail, the great length of crude trains, and the high volatility or flammability of Bakken crude. There is no convincing evidence that safety efforts are really effective and that the weight of the evidence shows local spill response plans are inadequate.” 2/20/15, The Seattle Times, [“Shell’s Plan to Increase Oil Trains in Anacortes Hits Snag”](#) by Hal Bernton.

36. **Defective Tank Car Valves – One Aspect of “Crude Shrinkage”** - (Bellingham Herald, [“Feds: Defective Valves Led to Crude Oil Leaks on Train Cars in Washington State”](#), by Samantha Wohlfeil, 3/13/15); The FRA issued a directive ordering the recall of defective tank car valves in March of 2015, saying: “FRA further found certain closure plugs installed on the 3” valves cause mechanical damage to the valves, which leads to the destruction of the valves’ seal integrity and the 3” valves, as well as the similarly – designed 1” and 2” valves provided by this manufacturer are not approved for use on tank cars....BNSF discovered 14 tank cars leaking crude oil in route and in accordance with the applicable regulations, notified FRA of the releases. Upon discovery of the defective condition of these cars BNSF removed the cars from the train (at Hauser, ID, Vancouver and Auburn, WA, respectively). When the train arrived at it’s final destination in Anacortes, the consignee, Tesoro Refining, discovered two additional cars leaking product. In all, BNSF and Tesoro identified 16 leaking tank cars from the original train consist.” When FRA inspectors examined 7 of these cars they, “observed crude oil on the side of each of these cars, and upon inspection of each tank car’s top fittings, found product leaking from the liquid line ball valves and around each valve’s closure plug. The FRA also found the standalone closure plugs in each of these valves loose. Further inspection revealed that the valve balls had visual signs of mechanical damage. The mechanical damage FRA observed indicated that the bottom face of the closure plug came in contact with the valve ball, consequently preventing complete engagement of the closure plug.” The FRA directive went on to recount how field testing on Jan 27, 2015 on new McKenzie valves, was able to quickly reproduce the destruction of the valve integrity, with only two normal open and close cycles of the valve: “The field testing included two cycles of application and removal of each valve’s plug. ...[W]hen a 3” closure plug was applied and tightened in the 3” McKenzie valve, the plug contacted and damaged the ball. The damage observed during this test was consistent with the type of damage observed on the leaking ...tank car described above. FRA’s field testing further found that the application of downward force on the valve ball applied by the 3” plug resulted in the over-compression, damage, and misalignment of the inboard seal, causing the valve to leak. FRA also observed that once the valve’s ball is damaged, when the valve is subsequently opened, and the damaged

surface of the ball also damaged the valve's top seals by tearing the seals. This further compromises the valve's seal. ...This continual degradation of the threads will require increasingly more tightening of the plug, exacerbating the damage to the ball and seal. In summary, FRA found that normal application and tightening of the 3" plug in the 3" McKenzie valve destroys the valve seal integrity." (p.2- 4) The directive also found a similar leaking of mineral spirits on Jan 15, 2015 in a BNSF yard in Denver that, "that the leak occurred through the liquid line valve while the car was in route to its destination" (p.3). [FRA Recall Directive](#), March 13, 2015, "Railworthiness Directive For Railroad Tank Cars Equipped With Certain McKenzie Valve Machining LLC valves"

37. **Defective Valves Likely Leaked For Years With No Reporting** - "McKenzie provided information to FRA indicating that from 2009 through the present, it sold approximately 11,200 of the 3 " valves to a variety of tank car owners and tank car facilities. McKenzie indicates that since 2012, its sales of these valves were predominantly to replace in-kind valves previously installed on existing tank cars....Overall, McKenzie and UTLX provided information leading FRA to conclude that approximately 6,000 DOT specification railroad tank cars are equipped with the unapproved 3 " McKenzie UNNR valves. In addition, McKenzie indicates that it has sold over 37,000 1" and 2" valves to a variety of tank car owners and tank car facilities."(FRA Recall Directive, Id, p.6). "To date, FRA has identified only a small number of relatively minor hazardous materials leaks directly attributed to the identified McKenzie Valves. The FRA believes that the number of leaks potentially attributable to the identified valves used in tank cars liquid lines could be much higher." (Id, FRA Recall, p. 7)
38. **Lack of Safety** - (3/16/15, The Seattle Times, ["Railway Chief Says Oil Companies Need to Do More For Rail Safety,"](#) by Susan Phillips).
39. **Inadequate Design of Manway gaskets – Another Example of "crude Shrinkage"** - Manuel Guerriero, of Parker Hannifin Co is an expert on the subject of the inadequate design of Manway covers that account for a majority of leaks form tank cars. He has a great deal of expertise in valves and seals on tankers carrying crude oil, and he has very detailed knowledge of the mechanics of how valves and fittings perform and eventually leak on railroad tank cars carrying crude. 12/11/14, Parker blog, ["Why Non-Accident Releases are increasing"](#), by Emanuel Guerreiro, a Marketing Manager for Parker Hannifin. There is also a 4 minute U Tube video on the Parker Manway gasket product: "Parker Manway Gasket – Parker ISS reduces NAR's with short torques Manway nozzle."
40. **BNSF Profits Relevant to Deterrent Value of a Fine** - BNSF 's earnings for the 4th quarter of 2014 were \$1.19 B, up from \$1.12 B for the 4th Qtr, 2013, 2/28/15, NewsMax Finance, ["Berkshire Profit Falls 17% to \\$4.16 B on Investments"](#), by Noah Buhayar; BNSF 's revenue for the First quarter of 2015 were \$5.6 B with net income of \$1.045 B -- BNSF 10-Q report, www.bnsf.com .
41. **Toxicity and Frequency of Small Spills, Leaks, and Vapor Releases of Trains in Transit, and Impact of Future Increase in Oil Train Traffic – "Crude Shrinkage"** - I have obtained and reviewed oil and hazmat spill data from railroad transport for the last 10 years from the Dept. of Ecology, through David Byers. I have reviewed and summarized some of this data, and I would be willing to provide Commission staff with a copy of the database material from Ecology, if that would be helpful to evaluate my observations here. I reviewed the spills that were noted as

being by BNSF, and have summarized those findings in the text above at Sec. F., where I estimate the total BNSF and Union Pacific reported spills, plus 38,000 where the company doing the spill is not identified, as 88,742 gallons for the data period of 2005 through July 6, 2015. This data shows that oil / hazmat spills from trains have been a regular and significant source of pollution for years, and will certainly accelerate as crude volume increases. Testing of Bakken crude oil has shown that it contains Toluene, Xylene, Benzene, and Hexane in the following percentages by weight, 5 %, 5%, 2% and 3%. These volatile organic compounds at times may constitute up to 40 % by weight of Bakken crude in some areas according to expert Scott Smith; such compounds are more flammable than crude oil; and they are also carcinogenic. Bakken oil also contains hydrogen sulfide. (1/21/14, Sightline Daily , [“Why Bakken Oil Explodes”](#) by Eric De Place). A very technical, but complete assessment of the subject of leaks, spills, “crude shrinkage” and other releases from crude transport by rail, appears in the National Resources Defense Council comments on the Valero Draft Environmental Impact Report (DEIR) for the City of Benicia California (9/15/14, [NRDC, Comments re: City of Benicia DEIR](#) for Valero Crude Rail Project). The Valero project involved a daily capacity to handle 70,000 barrels a day, which is substantially below the 360,000 barrels a day that is planned for the proposed rail facility in Vancouver WA. The NRDC analysis is particularly helpful to show the various ways that the industry DEIR finds to understate the environmental and health impacts of their project. For example, industry projections for environmental impacts tended to look at Alaskan North Slope (ANS) or California produced crude oil, which had previously been handled by the refinery, but which had a much lower volatility and toxic profile than Bakken crude. Since Bakken crude has a volatility of at least twice that of crude previously processed, that significantly affected the leaks, spills, and “shrinkage”. This volatility at least doubles the ROG (reactive organic gases) and the TAC’s (toxic air contaminants) released into the environment from vapor releases (NRDC, Id. Pp.12-13). The comments specifically discuss transport of crude by rail “shrinkage” and leaks, and the mechanics of how higher vapor pressure causes these leaks / spills (NRDC, ID, pp. 22, et. Seq.). Increases in temperature of Bakken crude cause substantial expansion due to it’s high volatility, and can actually force valves open causing liquid spills. These pressure increases also force crude emissions from gaskets or other sealed areas causing liquid leaks in addition to gas emissions from various points (NRDC, Id. pp. 23-24). Issues of chronic pollution and cumulative health impact from oil and coal trains have also been referenced in, Forest Ethics, “Crude Injustice On the Rails: Race and Disparate Risk From Oil Trains in California”, June 2015. This article points out the health risks from oil leaking and air pollution from oil trains in transit: “Even without derailment, spill, and fire oil trains create hazardous air pollution from diesel exhaust and releases emit volatile pollutants...The antiquated tank cars currently used to move crude oil leak. They were not designed to carry volatile chemicals or contain chemicals at high pressure. The unpressurized DOT-111 and CPC – 1232 tank cars currently permitted to carry crude under federal rules vent carcinogens and other toxic gasses into the atmosphere. In a process of shrinkage, one oil company calculated a loss of 1% of volume from oil tank cars on a journey from North Dakota to the Gulf coast from off-gassing through pressure release valves and anticipated leakage. At this rate a 100 car, 3 M gallon train may lose as much as 30,000 gallons of volatile, cancer causing chemicals as it rolls down the tracks past homes and schools

on the way to coastal refineries.” A helpful, detailed discussion of these fugitive releases from oil tank cars is contained in comments by Dr. Phyllis Fox, in (Comments to the Revised Draft Environmental Impact Report for Phillips 66 Rail Spur Extension and Crude Uploading Project in Santa Maria, Calif, 11/24/14, submitted by Sierra Club, Forest Ethics, et al.) An extensive quote is provided in the text above, explaining the various types of fugitive releases and “crude oil shrinkage,” and the various projections of volumes of carcinogenic releases from spills and vapor releases. Fox also cites Alan Mazaud, an oil marketing expert with Exergy Resources, who presented at the Penn Rail Freight Seminar in 2013 on the industry acceptance of “crude shrinkage” rates of .3 – 3% in transit as the industry range. Fox points out that field studies have confirmed these rates. The Forest Ethics study also makes reference to The Whatcom Docs, which is a group of 180 physicians from Whatcom County, who have warned of various medical conditions that are linked to the types of pollution described here (Forest Ethics, p. 24). An overview of public health impacts of crude by rail is contained in many papers – for example ([“Considerations for Public Health and Safety: Crude by Rail”](#) July 2015, by Rebecca Rehr, for the Maryland Environmental Health Network,. The paper speaks of an, “unacceptable threat to human health and safety,” from the 70 fold increase in crude transport in the US from 2005 to 2013. This report cites a [“Position Statement on Crude Oil Transport and Storage”](#), 6/30/15, by Concerned Washington and Oregon Health Professionals. See also, (7/19/15, The Daily World, [“Health Care Workers Oppose Crude Oil in Washington and Oregon”](#) by Kyle Mittan)

42. **Industry Ability to Block Safety Measures – Washington 2015 Legislative Session** -Industry was able to defeat or water down most of the rail transport safety measures in several different bills in the 2015 WA. State Legislative session. www.wa.audubon.org , [“legislative Session 2015”](#). This site includes various helpful links to sites and commentaries on various safety issues and the legislation that addresses each. The issue by issue comparison of the governor’s bill (5087), is compared to the Ericksen / industry bill (5057), and the comparison shows how the industries fights each separate safety-related provision. The site also describes the provisions of HB 1449, which “focused on planning (that is already required) and backed by the oil industry; lacks public disclosure and community right to know clause; provides a grant program for first responders by raiding MTCA. A weak version of HB 1449 passed. The legislative [history of HB 1449](#) “Concerning Oil Transportation Safety” is reviewed at Washington Votes, and allows tracking of specific amendments and who offered them. , Bill Analysis, House Environmental Committee Bill [Analysis, 2/3/15, for HB 1449](#). This Audubon summary earlier discussed provisions of the Oil Transportation Safety bill, **which did not pass**, saying what the Bill hoped to achieve, “The risk of spill or disaster from crude oil is growing here in WA, but our laws were crafted in the 1970’s and need to be updated to reflect reality. The Oil Transportation Safety Bill now asks for: 1.) easily accessible public information, including the type of oil and exactly where and how much of it is moving through WA; 2.) authority to use proven oil spill prevention measures like tug escorts for ships carrying oil , as well as improving degraded rail infrastructure; 3.) financial protections to insure that companies carrying dangerous crude oil shipments through our region, not taxpayers, can pay to clean up oil spills ; and 4.) a requirement of oil companies to pay for increased oil spill prevention, preparedness, and response needs.”

43. **EPA Declares Need for Full Environmental Review On All Crude –By – Rail Projects in WA, Oregon, and British Columbia** -- In comments as to the [Vancouver WA Tesoro-Savage Rail Terminal project](#), the EPA indicated that there should not only be a full environmental review of this project by the Corps of Engineers, but that there should also be a full review of the environmental impacts of all two dozen similar oil by rail projects in Oregon, WA, and British Columbia, no matter what stage they were at. (8/4/14, The Vancouver Columbian, "[EPA: Oil Terminal Plan Doesn't Pass Muster: Agency Says Permit Should be Withheld Until Issues are fully Assessed](#)" by Eric Florip,). The EPA letter just received was part of the comment period: "The EPA noted a potential impact area that includes 1,493 miles of railroad track in Washington, the entire Columbia River downstream of Vancouver, and marine areas off the coast. The letter highlighted the risk of oil spills and leaks, and said proposed mitigation measures to minimize accidents, 'may not be adequate.'" The Columbia River Keeper attorney, Lauren Goldberg said, "I think this could be a game-changer." The facility could handle four full oil trains a day. The WA. Energy Facility Site Evaluation Council is still evaluating the project, and will make a recommendation to the Governor, "who holds the final say on a permit," but the Corps of Engineers also has a permit to issue. The draft environmental impact statement is due in Nov. The Vancouver oil terminal project is one of the largest rail terminal expansions in the region, with the capacity to handle 360,000 barrels of crude a day. The breadth of the EPA action was a surprise to many. In the EPA's, "letter to the Corps [of Engineers], the EPA recommended a broad, cumulative analysis that considers not just the Tesoro – Savage terminal, but other regional facilities that handle crude oil. The review should account for, 'all potential impacts from oil by rail projects, which have been permitted, that are pending, and that are reasonably foreseeable throughout the state and region, including British Columbia.'" http://switchboard.nrdc.org/blogs/jaxelrod/time_to_say_no_army_corps_comm.html
44. **UTC Staff Investigative Report re BNSF Railway Co, March 2015** -- The Commission Investigative Report on the pending charges in case [#TR – 150284](#), includes a listing of the 14 violations from the 16 incidents examined from 11/5/14 – 2/12/15, and attaches inspection reports for each incident (pp. 3-4). On Oct. 22, 2014, Commission manager Kathy Hunter sent BNSF's Patrick Brady a copy of the relevant WAC - 480-62-310 regulations, so that he was aware of exactly what the regulation required. On Oct 23, in response to a request from Mr. Brady on where he was to send the DOT 5800 forms, Ms. Hunter provided that information to him on that same day as well. On Dec. 3, 2014 Mr. Brady again asked staff for the regulation reporting requirements, and that was resent by two different staff members on Dec. 3 and 5, 2014. Then on Feb. 4, 2015 another technical assistance letter was sent to all railroads, including BNSF, again spelling out reporting requirement and sanctions for violations. A copy of this letter was also sent by Ms. Hunter to Mr. Brady individually by e-mail (pp. 7-8), to which he replied that he, "had already initiated changes." (p 9). The investigative report also summarizes BNSF's actions: 1.) BNSF did report the 16 incidents to USDOT, (including their 5800 form filings); 2.) only two of the incidents (12/15/14 and 2/20/15) were reported to the EOC within the required 30 minute time; and 3.) of the 14 incidents not reported to the EOC in a timely way, 8 were not reported to the EOC at all and 6 were not within 30 minutes (pp. 9-13). With respect to the 9 factors that are to

be considered with respect to the fines and punishment for the case, the staff recommendations and observations included: a.) Factor 5, as to whether or not the company promptly corrected the violation and remedial impact: "BNSF neither corrected the violations nor remediated the impacts of the companies failures to report 8 hazardous material incidents to EOC between 11/1/14 and 12/9/14; but did notify EOC of 8 incidents between 12/10/14 and 2/20/15 (p. 15; and b.) Factor 7 as to likelihood of recurrence, the staff observation was that, "Unless BNSF makes significant changes in it's reporting practices for hazardous incidents, it is likely these violations will recur;" (p.15); and c.) As to factor 9, on existing compliance programs, the staff observation was that although BNSF generally complies with the commission's other regulations, their handling of hazardous materials reports is "unacceptable." (p. 16).

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