



Westway and Imperium Terminal Services Expansion Projects EISs
c/o ICF International
710 Second Ave., Suite 550
Seattle, WA 98104

Re: Comments of REG Biofuels, LLC on Draft EIS for Terminal Expansion Project

Nov. 30, 2015

REG Biofuels, LLC (REG) appreciates this opportunity to submit comments on the Imperium Terminal Services Expansion Project Draft Environmental Impact Statement (DEIS). REG is the successor in interest to Imperium Renewables Inc. and is the applicant of record for the terminal expansion project (Expansion Project) that is the subject of the DEIS. REG is a subsidiary of Renewable Energy Group, Inc., a leading North American advanced biofuels producer and developer of renewable chemicals. The recently acquired existing Grays Harbor facility is now one of REG's 11 biofuel refineries.

Since acquiring the Grays Harbor facility, REG has been evaluating the Expansion Project and how it fits into REG's future plans and company focus. In general, the Expansion Project remains important to REG's continued operations in Grays Harbor. However, upon further evaluation and significant deliberation, REG has concluded that its future plans at Grays Harbor do not include handling crude oil. Therefore, REG intends to continue to pursue the Expansion Project, including the proposal to handle all of the commodities identified in its application materials, with the exception of crude oil. REG plans to provide the Co-Leads with more detail regarding this change in the near future.

It is important to note that this project refinement is within the range of options that were assessed in the DEIS. Indeed, the application for the Expansion Project sought to create maximum operational flexibility by providing for a wide-variety of potential bulk liquids, only one of which is crude oil. The application always anticipated that the Expansion Project might ultimately handle a single commodity or small combination of commodities. Removing crude oil from the submitted range of options simply narrows the scope of the Expansion Project.

We anticipate that this change will reduce and simplify the ongoing environmental review and reduce the range of mitigation measures. Many of the impacts analyzed in the DEIS assume the Expansion Project will be built to the maximum extent and would be used solely for trans-loading crude oil. By removing crude oil from the Expansion Project, many of the risks and impacts assessed in the DEIS will no longer be relevant. In particular, we anticipate that the vessel and rail related impacts that are the focus of the DEIS and associated mitigation are not likely to occur or would occur at a reduced scale under the refined proposal. There are very likely other impacts that are similarly minimized by the refinement to the Expansion Project. We intend to work with the Co-Leads to provide additional information to help refine the impact analysis to focus on the refined proposal.

Notwithstanding the foregoing, we do have several concerns about the nature of the Co-Leads' impact analysis and associated mitigation measures. Even though we anticipate that the scale of the impacts will be significantly reduced by the decision to eliminate crude oil from the Expansion Project, we are providing our comments on these topics for the Co-Leads' consideration.

A. The Tsunami Mitigation Should Be Revised.

The DEIS concludes that the risk of a tsunami of a specific magnitude is "significant" and requires mitigation to protect against a tsunami of a magnitude that is only .03% likely to occur in any given year (i.e., once every 3,333 years).¹

Initially, we note that the American Society of Civil Engineers (ASCE) is developing a new draft of its design standards that will incorporate specific measures to protect against a tsunami event.² If the ASCE standards are in place and adopted by the City of Hoquiam at the time of building permit application, compliance with those new code provisions would govern and would adequately mitigate the potential impact.

Additionally, the conclusion in the DEIS that the specific tsunami risk is "significant" is inconsistent with SEPA. SEPA requires consideration of the likelihood of a consequence in assessing whether it is a probable significant impact. Under SEPA, an environmental impact statement (EIS) is only required to analyze "probable significant, adverse environmental impact[s]" RCW 43.21C.03; see also WAC 197-11-402. The definition of "probable" for purposes of SEPA is "likely or reasonably likely to occur . . . Probable is used to distinguish likely impacts from those that merely have a possibility of occurring, but are remote or speculative." WAC 197-11-782 (emphasis added). This is also reflected in the definition of "significant" which means "a reasonable likelihood of more than a moderate effect on the quality of the environment." WAC 197-11-794 (emphasis added). SEPA does not authorize the consideration of impacts (and potential exercise of substantive SEPA authority) where the purported impacts are remote. Although SEPA recognizes that an agency can consider an impact "significant" when the resulting impact would be severe even if "its chance of occurrence is not great," this does not justify review of improbable events. WAC 197-11-794. There is a large distinction between an impact whose likelihood is "not great" and one that has a probability of occurrence that is measured in multiples of thousands of years. Accordingly, the impact analysis is flawed by focusing on an impact that is remote and not reasonably likely to occur and requiring mitigation.³ Any efforts to exercise substantive SEPA authority to address those purported impacts, we believe, are not authorized.

¹ See DEIS at 3.1-15; DEIS at 3.1-24 (characterizing impact from tsunami as "unavoidable and significant" if the facility is not constructed to withstand it).

² See ASCE Press Release, <http://www.asce.org/structural-engineering/news/20140123-new-chapter-on-tsunami-design-in-asce-7-16/> (The "ASCE 7 Tsunami Loads and Effects Subcommittee (TLESC) has developed a comprehensive chapter now being balloted for inclusion in the 2016 edition of the ASCE 7 Standard, Minimum Design Loads for Buildings and Other Structures. Chapter 6 - Tsunami Loads and Effects was developed over a 34-month period by a subcommittee of almost 30 members, along with the contributions and review of numerous other state, national, and international stakeholders. This new chapter, initiated just weeks before the 2011 Tohoku tsunami that devastated the northeastern coast of Japan, would become the first national, consensus-based standard for tsunami resilience for use in the states of Alaska, Washington, Oregon, California, and Hawaii. Recent U.S. and international research and validation by documented case studies of tsunami flows and their effects on structures were utilized in developing this chapter and full commentary.")

³ There are additional examples of impacts analyzed in the DEIS, the consequences of which are purportedly severe, but the likelihood of which are extremely low. For example the DEIS describes the purported risk of a "large" rail transport spill scenario (3-car, 5-car and 30-car), which could occur once every 160-270 years, once

Despite the lack of authority under SEPA to require mitigation for the exceedingly remote possibility of a tsunami of the magnitude identified in the DEIS, REG is willing to accept voluntary mitigation in order to resolve the purported significant impact identified by the Co-Leads. Specifically, if Hoquiam has not yet adopted the new ASCE at the time of building permit application, REG will design any new proposed tanks to be able to withstand the following forces, which were identified in the Co-Lead's tsunami modeling:

- Hydrostatic force of 2,490 Kips
- Hydrodynamic force of 1,018 Kips
- Impulsive force of 1,527 Kips
- Debris Impact force of 47 Kips
- Damming force of 1,018 Kips

Under either scenario, compliance with the ASCE revisions or with the design criteria identified above will mitigate the potential impact for the exceedingly remote likelihood of an event of that magnitude.

B. The Assessment of Impacts to Tribal Fishing Overstates the Nature of the Project's Purported Interference.

While we anticipate that the decision to drop crude oil from the Expansion Project will reduce vessel traffic, we are concerned that the DEIS overstates the nature of tribal fishing by the Quinault Indian Nation (QIN) in the immediate vicinity of Terminal 1 as well as the Project's purported interference with those fishing activities.

The Project does not propose construction of any new in-water facilities and will simply use the existing Terminal 1 berth in a manner consistent with its prior use for many decades. Terminal 1 was initially used for industrial purposes decades ago and vessels have moored at terminal 1 in its present location even before the slips were filled in the 1980s and the uplands adjacent to Terminal 1 were created. See DEIS at 3.11-5 – 3.11-8. The Project proposes to continue using the terminal for those same purposes. To the extent that there has been an interference on the QIN's fishing in the immediate vicinity around Terminal 1, it occurred long ago when Terminal 1 was constructed and any purported interference with tribal fishing has been ongoing since then. The use of the terminal by project vessels is consistent with existing uses and does not constitute a "significant impact."

According to the EIS, vessels moored at Terminal 1 will purportedly interfere with drift gillnet fishing that takes place in Grays Harbor and the Chehalis River.⁴ However, the only area from which tribal fishers would be blocked is the area in the immediate vicinity of a vessel that is moored at Terminal 1. The area occupied by a vessel moored at the Terminal 1 berth constitutes a fraction of the entirety of the QIN's usual and accustomed fishing grounds. Even when focusing on the specific drift gillnet fishing practices described in the DEIS, any "interference" is de minimis. The area occupied by a vessel berthed at Terminal 1 is only a fraction of the segment of the River and Harbor used for drift gillnet fishing that extends from "Cosmopolis to the Crossover Channel Reach." When vessels are moored at Terminal 1, the QIN could, as they have for decades, choose to fish in a different area of their usual and accustomed fishing area to obtain their catch by simply moving further out into the channel and around the moored

every 3,000 – 7,000 years, and once every 6,300 – 46,000 years, respectively. Similarly, the DEIS describes the risk of an oil spill from a tanker vessel occurring once every 270 or 210 years. Mitigation for these remote and unlikely impacts is not justified.

⁴ There is no set-net gillnet fishing from the shore of the Port-owned Terminal 1 uplands.

vessel. In other words, the QIN could continue with their usual fishing practices with minimal interference from the vessels associated with the Project.

By characterizing the moorage of vessel at an existing port terminal as a significant adverse impact, the DEIS creates an unworkable standard that would functionally preclude the Port's use of any of its Port facilities despite the fact that those facilities have been used in that manner for many decades. Any purported "interference" by the continued use of an existing port terminal does not constitute an unavoidable significant adverse impact.

C. The Co-Leads Should Revise the Framework for Assessing Rail-Related Impacts.

While we believe the decision to remove crude oil from the Expansion Project proposal will reduce rail traffic, we have several concerns about the analysis of rail-related impacts and request that the Co-Leads refine their analysis to address these concerns before reviewing the modifications to the Expansion Project proposal.

First, as detailed in a report prepared by TENW, attached as Appendix A, the analysis in the DEIS of impacts of train movements on vehicle traffic at at-grade crossings makes unreasonable assumptions and underestimates the effectiveness of mitigation, including mitigation that was not sufficiently evaluated in the DEIS. While we anticipate the decision to remove crude oil from the proposal will reduce the impacts at intersections in the vicinity of the project site and in the vicinity of Olympic Gateway Plaza such that they should no longer be considered "significant," we ask the Co-Leads to address these concerns when considering the revised proposal because these unreasonable assumptions lead to conclusions in the DEIS that significantly overstate the risk of traffic impact.

Similarly, we anticipate that the decision to remove crude oil from the Expansion Project proposal will reduce rail traffic such that any purported air impacts associated with switching operations will not likely be significant. However, we note that the analysis of diesel particulate emissions assumes incorrect operating conditions that overstate the risk. We have attached as Appendix B a report prepared by Trinity Consultants detailing the corrections needed to the air emissions analysis and ask that the Co-Leads consider those comments when completing environmental review of the reduced Expansion Project.

For example, the DEIS has adopted an overly conservative threshold for evaluating risk of diesel particulate emissions (increased cancer risk of 10-per-million) that exceeds what the threshold recommended by the EPA (100-per-million). See DEIS 3.2-15. This is despite the fact that the DEIS acknowledges that "the 10-per-million risk level is not a threshold to determine significance of the impact." *Id.* Additionally, this conservative threshold in the impact analysis is compounded by overly conservative and incorrect assumptions about variables related to rail switching operations (moving rail cars onto and off of the site) that affect the analysis of diesel particulate emissions, including the assumptions of the types of locomotives used and the number of locomotives used in switching operations. Any changes to the overly conservative assumptions would decrease the purported impact identified in the model. Re-running the model solely to incorporate the correct number of locomotives used in switching operations (reducing from 3 to 2 locomotives) would be enough to bring the risk level at sensitive receptors to below the overly conservative 10-per-million threshold. See App. B, Trinity Report. We request that the Co-Leads recalculate the risk assessment to incorporate correct assumptions for switching operations. Disregarding the impact of eliminating crude oil, even with that one correction to the analysis, proposed mitigation is not warranted.

More generally, we are concerned that the mitigation measures seeking to impose conditions on rail or vessel operations are unwarranted and unlawful. The railroad and vessel operators are the entities responsible for those activities that are in the best position to change operations or adopt mitigation to address those risks, not the applicant for the Project. The Co-Leads cannot impose mitigation on actions and activities over which the Applicant has no control. Moreover, the federal framework governing transportation by rail carriers preempts rail-related mitigation measures in the DEIS that concern operations, safety, hazardous material transportation, and emissions. With the Interstate Commerce Commission Termination Act (ICCTA), the Federal Railroad Safety Act, Hazardous Materials Transportation Act, and the Clean Air Act, Congress granted exclusive authority to federal agencies over much of the rail-related issues addressed in the DEIS. Similarly, the Ports and Waterways Safety Act preempts local regulation of tank vessel operations. Notwithstanding the federal preemption of regulation of rail operations, we understand that the Puget Sound and Pacific Railroad (PS&P) has been and is willing to address certain issues as described in prior conversations with the Co-Leads and in comments. For example, PS&P has expressed willingness to consider a variety of options to conduct switching operations to minimize impacts on traffic. Based on PS&P's commitments, the Co-Leads should revise the analysis in the DEIS accordingly. However, the Co-Leads must recognize generally that federal law preempts all DEIS mitigation measures that require modification of PS&P rail operations leading to the project site and interfere unduly with PS&P operations or vessel operations.

D. Conclusion.

We appreciate the Co-Leads' effort to create the DEIS and the opportunity to provide comment. We welcome the opportunity to discuss and further refine the environmental review in light of our comments here and our plans to remove crude oil from the Expansion Project. We look forward to working with the Co-Leads in the remaining steps in the environmental review.

Sincerely,



Steve Drennan
REG Biofuels, LLC

Enclosures

Appendix A. Traffic Report
Appendix B. Air report



Appendix A:

Transportation Engineering NorthWest Memorandum on Traffic Analysis

MEMORANDUM

DATE: November 30, 2015

TO: Steve Drennan
Renewable Energy Group, Inc

FROM: Michael J. Read, PE, Principal
TENW

SUBJECT: Renewable Energy Group, Inc
Traffic Review of DEIS Assumptions, Methods, and Conclusions
TENW Project No. 3401

This memorandum documents a preliminary review of the assumptions, methodologies and conclusions of potential transportation impacts and mitigation associated with the proposed Renewable Energy Group (REG) terminal expansion project (Project) at its existing biodiesel production and transport facility at the Port of Grays Harbor (Port) in Hoquiam, Washington. The objective of the Project is to expand the existing facility to receive and load bulk liquids in addition to those already permitted at the existing biodiesel production and transport facility. The proposed new bulk liquids include crude oil, ethanol, naphtha, gasoline, vacuum gas oil, jet fuel, no. 2 fuel oil, no. 6 fuel oil, kerosene, renewable jet fuel, renewable diesel, used cooking oil, and animal fat.

These liquids would be used in the existing biodiesel production facilities by the applicant or unloaded, stored in the existing or proposed facilities, and loaded for rail and marine vessel transport. It is anticipated that these bulk liquids would be transported to and from the project site primarily by rail and marine vessel. Most notably, the DEIS focuses on crude oil which would be delivered by unit trains, stored, and loaded onto tank vessels at the Terminal 1 dock for shipping to refineries on the West Coast and potentially abroad.

Given the increased unit trains involved in bulk transport of crude oil, the DEIS analyses the potential increase conflicts at grade crossings with local arterials, streets, and private driveways in the immediate vicinity of Terminal 1 and siding breakdown yard (Poynor Yard) . Under the proposed action, maximum throughput that could be handled by the project would add up to two unit train trips per day (although there are multiple conflicting contents within the DEIS about these assumptions, the length of the unit train itself, and when operations of these trains would occur).

Review of Basic Study Assumptions and Findings

The following is an outline of the basic study assumptions in the DEIS of the analysis of impacts on at-grade vehicle crossings:

- The DEIS primarily uses average annual daily traffic volumes (AADT) as the basis for evaluation of at-grade traffic impacts, including weighting blockages, delays, and queues over a 24-hour period. Some AADT values are from historical data, others are estimated.
- The DEIS also assesses potential impacts of train movements on at-grade crossings using a peak hour scenario. A peak hour scenario is typically defined as a one hour of peak volume occurring during the 4:00 p.m. to 6:00 p.m. peak commute period. The DEIS makes broad adjustments in estimated actual vehicle conflict based on a blanket assumption of a peak hour factor from AADT. Under the extreme worst-case scenario, the DEIS assumes train operations would cross and block for extended periods the grade crossings during the evening peak hour. Given the resultant "calculations of vehicle queue and delay conditions this scenario is estimated to generate" the DEIS considers this to be an unreasonable operating scenario given the 3 miles of vehicle queue that is estimated to be created at a single at-grade crossing with Port Industrial Road.
- Under the proposed action, maximum throughput that could be handled by the project would add up to two unit train trips per day (one loaded and one empty). There are however, multiple conflicting and confusing contents descriptions within the DEIS about these assumptions, the length of the unit train itself, and when operations of these trains would occur - these should be clarified. For example, the description of the rail operations for the proposed action on page 3.16-15 are not clear when distinguishing between project trips and existing rail traffic or future known rail operations.
- The DEIS uses a standard range of delay conditions for signalized intersections to evaluate the weighted delays of at-grade controlled crossings. The DEIS assumes a standard of Level of Service ("LOS") D. While this appears reasonable and is consistent with other adopted plans, the DEIS notes that because there are no applicable LOS standards for non-WSDOT facilities, this standard is not a required threshold to determine significance of the impact.
- Rail operations within Section 3.15 offer the most direct and informative summary of how delivery and assembly of train operations would impact various at-grade crossings. The DEIS concludes that the length of the train (which influences both the time of breakdown and assembly of the unit and the number of crossing it impacts) along with the increased frequency of train operations along the rail line that serves the project result in cumulative adverse impacts.

I have several questions or concerns with the analysis in the DEIS of impacts on at-grade crossings:

- There appears to be no substantiated calibration between existing estimated queues at existing at-grade crossings and those currently being generated. As such, estimated vehicle queues may not be reflective of existing conditions. Also, most AADT volumes

do not appear recent by industry standards and could be outdated or not reflective of current conditions.

- The DEIS appears to be missing components in the analysis. For example, it assumes “no diversion” of trips and it does not evaluate alternative paths that could be made available and open to large areas of affected properties. This could overstate delays or congestion at some crossings, while understate delays or congestion at others. In my experience, it's typical to adjust for use of alternative routes that are available on a more consistent basis when considering rail crossing delays, as this would be reflective of typical driver behavior in avoiding blocked crossings (i.e., routes are chosen by time of day or day of week based on historical knowledge of typical congestion or train operations).
- Without consideration for time of day or other options to assemble the trains off-site, it is my opinion that neither the “average daily” estimates of delay nor “peak hour” estimates of delay provide effective or meaningful measures of traffic impacts. The average daily impact weights or dilutes the true impact of train trips in conflict with daily traffic over the course of the entire day. Peak hour estimates on the other hand take this measure to the extreme, where an hour plus operation of train assemblage effectively blocks multiple at grade crossings for all or a portion of the entire peak hour. As an example, when the DEIS determines a resulting vehicle queue that is estimated at nearly 3 miles, there is an inherent issue within the underlying data and methodology.

As such, the traditional p.m. peak hour analytical tools that is applied within the DEIS for traffic operations during peak commute hours, while standard in the industry for assessing traffic impacts created by other automobiles, is not well suited for characterizing or understanding traffic impacts created by train movements in the context of peak hour operations. An alternative methodology should be considered that can be directly attributable to rail operations when they occur, or other underlying reasonable assumptions applied to better evaluate peak hour traffic operational impacts. Assumed closure of at-grade crossings for over a one-hour period during the peak hour of adjacent street traffic is not an effective measure or assumption of impact.

- Within the DEIS section itself, there is also conflicting information when referencing the No Action versus Proposed Action alternatives. Multiple references within the Proposed Action references seem to refer to the No Action alternative, which causes confusion.

Additional Mitigation and Approach Considerations

The DEIS does not take into adequate consideration the effectiveness of available techniques to mitigate the impact identified and disclosed within the document. As noted in the DEIS, the applicant can work with applicant will work with the City of Hoquiam, City of Aberdeen, Port of Grays Harbor, Grays Harbor Council of Governments, and Puget Sound & Pacific (PS&P) to pursue implementation of demand management techniques (limiting closures of rail or marine

bridge openings during special events or peak commute periods) and intelligent transportation systems (directing traffic to open crossings during unit train breakdown or assembling stages) to reduce or eliminate the types of impacts disclosed or not effectively measured in the DEIS. Contrary to the conclusion in the DEIS that significant unavoidable impacts would remain, implementation of these techniques would reduce or mitigate the impact.

Additionally, the DEIS should assess other operational options to mitigate impacts on vehicle crossings. For example the DEIS assumes the railroad would use a method of moving train cars onto the REG site that would have a more significant impact on traffic than an alternative approach identified in the DEIS:

The method described above to deliver cars to the project site and return cars from the project site [upon which the impact analysis is based] would be the most time-efficient and cost-efficient approach. An alternative method would be for the arriving unit train to stop at Poynor Yard and deliver cars to the project site, similar to operations for existing conditions. While this method would reduce train occupancy times at grade crossings between Poynor Yard and the project site compared to the method described previously, it would not be the most cost-efficient and time-efficient approach, and could affect the capacity for other customers' cars. For this reason, the method described above is assumed in the following analysis of train occupancy times at grade crossings between Poynor Yard and the project site.¹

Despite identifying an alternative approach that the DEIS acknowledges would improve potential impacts on traffic at at-grade crossings in the vicinity of the site, the DEIS does not complete analysis of that alternative and assumes the approach with a more significant impact on traffic. The review of the impact of that alternative approach is already completed as part of the analysis of the neighboring Westway proposal and should also be considered as a project component or operational assumption for REG.

Consideration should be given toward operation of unit trains that would minimize blockage of the most easterly crossings within the Olympic Gateway (Fleet Street) or most logical, the Tyler Street crossing, where full signalized access onto SR 12 into the entire commercial district can be provided when assembling and testing eastbound trains prior to departure. Under this type of scenario, all traffic crossings could be accommodated by maximizing to the extent possible the ability of vehicles to use at least one location for Olympic Gateway while trains are assembled. If the railroad were willing to make this operational change it would also mitigate potential impacts on at grade crossings that serve this retail area.

Finally, the railroad might be willing to create capital improvements to reduce the impact on crossings, including new or use of alternative "breakdown" yard locations for unit trains. There appears no consideration for this type of improvement in the context of mitigation evaluation.

¹ See DEIS at 3.15-24 ("")

We understand that the railroad (PS&P) is willing to make two changes to minimize potential traffic impacts:

- (1) To minimize the impact on the Port Industrial Road crossing, they can use Poynor yard to stage the inbound train onto the REG site, in a similar fashion to the Westway trains. This will shorten the length of the trains going into the REG site. This is the "alternative" described in the DEIS that they identified but disregarded because "it would not be the most cost-efficient and time-efficient approach." That would likely make the impact on those intersections comparable to the impact identified for the Westway site in the Westway DEIS.
- (2) For both Westway and REG, the railroad could minimize the impact on Olympic Gateway Plaza by pushing back the assembled empty train to a point just east of Port Industrial Road which would keep the train clear of all of the intersections for Olympic Gateway Plaza and Port Industrial Road during the final inspection and testing of the trains.

If these are under consideration by the railroad operator, they should be refined and included in the evaluation of at-grade traffic operational impacts. It is anticipated that these operational changes will reduce traffic impacts identified in the DEIS.



Appendix B:

Trinity Consultants Memorandum on Air Impact Analysis



November 30, 2015

Westway and Imperium Terminal Services Expansion Project EISs
c/o ICF International
710 Second Street, Suite 550
Seattle, WA 98104

RE: Comments on the Draft EIS for REG (Imperium) Bulk Terminal Expansion Project

To Whom It May Concern:

On behalf of Renewable Energy Group (REG, formerly Imperium Terminal Services), Trinity Consultants (Trinity) submits this letter to the City of Hoquiam and the Washington State Department of Ecology (Ecology) to comment on the draft Environmental Impact Statement (EIS) for the Imperium Terminal Services Expansion Project, released August 2015. This letter specifically examines the merit and practicality of ambient monitoring to mitigate diesel particulate matter (DPM) emissions. In this letter, Trinity reviews the **Air** and **Cumulative Impacts** sections of the draft EIS pertaining to DPM, and comments on the assumptions used in the analysis.

REVIEW OF DRAFT EIS DPM ANALYSIS

The draft EIS evaluates the impact of DPM as a toxic air pollutant by conducting an AERMOD dispersion modeling analysis for DPM emissions from rail car switching and unloading between Poynor Yard and the project site. Trinity's review evaluates the emission calculation assumptions, modeling methods, and resulting human health impact conclusions.

Emission Calculations

The draft EIS describes the proposed action related to DPM as adding two unit train trips per day on average along the PS&P rail line as a result of the REG expansion. The modeled DPM emission rate of 0.13 tpy is based on the following assumptions, as communicated via email to Steve Drennan (REG) from Kim Marcotte (ICF) on October 16, 2015:

- DPM emissions were determined to be equivalent to PM₁₀ locomotive emissions.
- Idling occurs during hours when the temperature was less than 40° F (42% of the year).
- Tier 0 emission factors (6.66 g/gal PM) were used for each locomotive for the 2017 projections.
- Three locomotives are assumed to operate at all locations (at Poynor yard, REG yard, or in between) for each unit train.
- Each locomotive has a fuel consumption of 3.94 gallons per hour.
- Each locomotive spends 10 hours of operation per delivery, running either at Poynor yard, REG yard, or in between.

Three of the above emission rate assumptions are overly conservative: using Tier 0 emission factors, the idling temperature threshold, and assuming three locomotives operate at the project site. The DPM emission rate of 0.13 tpy assumes that 100% of the locomotives are Tier 0 locomotives per EPA's Emission Factors for Locomotives, resulting in use of an emission factor of 6.66 g/gal to determine DPM emissions. However, the

basis for the assumption of 100% Tier 0 locomotives is not provided in the draft EIS report. Based on discussions with PS&P, Class 1 railroad locomotives (Union Pacific and Burlington Northern) will be used for unit train operations at the project site, and these companies use a combination of Tier 0 through Tier 4 locomotives. Since Tier 0 emission factors are significantly greater than Tier 1 through Tier 4 emission factors, a more representative mix of Tiered emission factors would significantly decrease the DPM emission rate. For example, if it is assumed that 100% of the locomotives are Tier 2 locomotives, the emission factor of 2.89 g/gal would decrease the DPM emission rate by over half, from 0.13 tpy to 0.06 tpy. In order to properly assess possible DPM emission impacts, ICF should provide the basis of the 100% Tier 0 locomotive assumption or use a more representative mix of locomotive Tiers.

Additionally, the assumption related to idling is inaccurate. The draft EIS analysis assumes that idling occurs during hours when the temperature is less than 40 F, but the anti-idling policy described by PS&P dictates that idling occurs at temperatures of 35 F or colder. A review of the temperature data from the Bowerman airport (KHQM) in Hoquiam, Washington shows that only 4.6% of hours have a temperature of 35 F or lower.¹ This drastic correction in idling hours from 42% to 4.6% would significantly reduce the estimated gallons of diesel fired per year, and thus the overall tpy DPM emission rate.

Lastly, the assumption that three locomotives per train will operate at the project site is incorrect, and the basis for this assumption is not provided in the draft EIS report. REG anticipates that the lead locomotive will be left at Poynor yard similar to what is described in the Westway draft EIS, and only two locomotives will be operating at the project site. This expectation is supported by discussions with PS&P and page 3.15-23 of the Westway draft EIS, which states the following:

Upon arrival, the unit train would stop at Poynor Yard. The crew would use the locomotive on the front (west) end of the train to back the head-end 80 cars into the yard tracks, about 20 cars to a track. This process would occupy the grade crossings between Port Industrial Road and Poynor Yard. After all cars are in the yard, the leading locomotive and buffer car would remain and the crew would board the distributed power unit, disconnect radio control, and push the remaining cars in the train to the project site.

A crewmember would ride the leading car into the project site to the end of the track. This crewmember would control the movement by giving directions to the engineer by radio. When the leading end of the train reaches the desired position near the end of the track, the movement would be stopped. The crewmember would walk back to the east end of the track, apply hand brakes to the cars, uncouple the remaining train, and instruct the engineer to back up until the train has cleared the next delivery track. The crewmember would align the switches for the next track, board the leading end of the train, and repeat the procedure.

As stated in the Westway draft EIS, the lead locomotive will be disconnected and remain at Poynor Yard for the duration of the delivery operation. The delivery to the REG project site will follow the Westway switching model to minimize vehicle delays at intersections and to minimize DPM emissions at the project site.

Updating the number of locomotives per train would result in a considerably lower DPM emission rate. Even keeping the overly conservative assumption of 100% Tier 0 locomotives and 42% idling hours, while accounting for two locomotives per train rather than three, the corrected DPM emission rate is 0.09 tpy, rather than

¹ The number of hours less than 35 F in Hoquiam, WA is based on a review of a five year meteorological dataset, years 2008 through 2012, from the Bowerman airport (KHQM) prepared for AERMOD dispersion modeling conducted in support of REG's Notice of Construction application. Note that this dataset also showed that the percentage of hours less than 40 F is 14.1%, not 42% as indicated by ICF.

0.13 tpy. With this significant difference and clear evidence indicating corrections are needed, a lower, more representative emission rate for DPM emissions from the rail yard and the project site should be used in the DPM health impact modeling analysis.

Air Dispersion Modeling

Air dispersion modeling was conducted for DPM emissions from rail switching and unloading activities due to the proposed project (0.13 tpy) along the PS&P rail line using AERMOD. Dispersion modeling was also conducted for the cumulative impacts analysis for rail activities between Poynor Yard and the three project sites identified in the cumulative impacts discussion related to DPM (REG, Westway, and Grays Harbor Rail Terminal Project). The draft EIS did not include detailed modeling methods or input information, nor did it specify whether any background DPM concentrations or prior development projects were included in the cumulative impacts analysis. The report provides sensitive receptor locations and indicates that the meteorological dataset from 2007-2011 is from a station in the Hoquiam area, although the specific station is not listed. Per email communication from Kim Marcotte (ICF) to Steve Drennan (REG) on October 16, 2015, emissions for the Proposed Action scenario were spatially allocated based on locomotive activity: of the 10 hours (600 minutes) activity assumed for each unit train, 4 minutes (1%) were spent in the Poynor Railyard, 49 minutes (8%) in transit between the railyard and the project site, and 547 minutes (91%) at the project site. The report does not include source characterization beyond the 0.13 tpy emission rate and spatial allocation.

Source characterization and locations can greatly influence modeled concentrations. In order to allow for open review and understanding of model input assumptions and methods, the draft EIS should provide model input information used for this study, including specific input values for each modeled source (e.g., source type, dimensions, location, release height), location and input parameters for modeled buildings (if included), background concentrations (if used), and any assumptions which could affect the resulting concentrations. Comparing the draft EIS model assumptions and methods to accepted methods could possibly lead to identifying more overly conservative or incorrect assumptions.

The modeled DPM results were compared to the 10-per-million and 100-per-million inhalation cancer risk levels for both the Proposed Action case (REG project only) and the Cumulative Impacts case. Inhalation risk plots are provided for 2017 and 2037 scenarios for both cases. The 100-per-million and above risk level is limited to the area of the project sites for all scenarios (2017 and 2037 for the Proposed Action and Cumulative Impacts). The 10-per-million risk level extends beyond the project site 0.2 mile in 2017 and 0.15 mile in 2037 for the Proposed Action scenarios, and slightly farther for the Cumulative Impacts scenarios. The only sensitive receptors within the 10-per-million risk level are the 28th Street Landing and Viewing Tower receptors, and, in the 2017 Cumulative Impacts Scenario only, the West End Playfield. The model output concentrations and cancer risk levels at the sensitive receptors are not provided in the draft EIS. The report does not include descriptions of the method of 5-year average annual DPM cancer risk determination or the concentration equivalence to cancer risk. If the draft EIS had provided this specific information, this review letter could have included more precise estimates of representative DPM risk results; however, revisiting the modeling analysis is not necessary considering that updating incorrect assumptions already identified is expected to lead to conclusions that DPM impacts are insignificant.

The draft EIS states that the 10-per-million level is not a threshold to determine significance of impact, and that the EPA would typically urge mitigation action at the 100-per-million risk level. The 100-per-million risk level from DPM inhalation is limited to onsite locations according to the draft EIS. Additionally, in regard to marine emissions, the draft EIS states that a level of 13-per-million is "just at the Ecology acceptable threshold increase

in cancer risk.” For these reasons, taking any mitigation action at the 10-million-risk level goes beyond what is recommended by the EPA.

As discussed in the emission calculation section above, the modeled DPM emission rate was overestimated by at least 50% (by assuming 3 locomotives at the project site rather than 2), and likely overestimated by more (by assuming overly-conservative idling hours and emission factors). Assuming the conservative 10-per-million risk level is the appropriate mitigation trigger threshold, this decrease in emissions compared to the rate used in the draft EIS would very likely result in eliminating sensitive receptors from falling within the 10-per-million risk level under all scenarios. This improved result would clearly support maintaining the mitigation already planned by REG (e.g., minimize idling) and support not applying any additional mitigation measures.

CONCLUSION

Based on the review of the draft EIS, Trinity concludes that additional mitigation of DPM beyond the emission minimization already planned by REG is not warranted. The 100-per-million and above risk level, the level at which EPA would urge mitigation action, is limited to the area of the project sites for all scenarios. Even going beyond the EPA recommendation to use the conservative 10-per-million risk level, correcting the DPM emission calculation assumptions is expected to reduce the impacts below the threshold at all sensitive receptors. Because the West End Playfield, 28th Street Landing, and Viewing Tower sensitive receptors are located near the 10-per-million risk isopleth, the ability to show even a modest decrease in emissions compared to that estimated by ICF (0.13 tpy) would very likely result in eliminating sensitive receptors from falling within the 10-per-million risk level for both the Proposed Action scenario and the Cumulative Impacts scenario. This result would clearly support maintaining the mitigation already planned by REG (e.g. minimize idling, locomotive maintenance, etc.) and support not applying any additional mitigation measures.

If you have any questions or comments about the information presented in this letter, please do not hesitate to call me at (253) 867-5600, or Steve Drennan at (515) 239-8073.

Sincerely,

Trinity Consultants



Anna Henolson, P.E.
Managing Consultant

cc: Mr. Steve Drennan, Renewable Energy Group
Ms. Shannon Flanakin, Trinity Consultants