

September 11, 2014

Re: Questions and Comments on Valero Crude by Rail Project DEIR

By Stephen Young, Planning Commissioner

There are several substantive issues that the DEIR does not appear to address, or addresses with insufficient documentation to support its findings.

**Environmental Impacts of Transporting Bakken Shale or Tar Sands oil**

Question 1- Has the DEIR properly considered the environmental impacts of unit trains consisting of 50 cars of Bakken Shale or tar sands oil, given the extensive public information available about its use by both Valero and other refineries. I would like to see the EIR provide analysis of these two types of crude oil in regards to emissions, environmental impacts of a possible spill, and emergency preparedness.

The press has reported the use of Bakken shale or Canadian tar sands oil at: 1) Shell Refinery in Martinez, Phillips 66 refinery in Rodeo and Chevron refinery in Richmond currently processing tar sands oil (Contra Costa Times, 6/1/13); Tesoro refinery in Martinez currently receiving and processing 5,000-10,000 barrels of Bakken shale oil per day (Contra Costa Times 3/29/14); and an October 2012 Memphis Commercial-Appeal interview with Valero spokesman Bill Day who described how using Bakken was a cost savings for Valero, and that Bakken represented 75% of the oil used at the Memphis refinery. In another interview with investors reported by the financial website ADVFN, Mr. Day said Valero had been moving Bakken crude to its Memphis refinery by rail for some time, and was looking into rail options for other refineries as well.

In a conference call with investors in January 2013, reported on Wall Street Cheat Sheets, Joe Gorder, President and CEO of Valero, was quoted as saying "we're running Bakken". In the same investors conference call, Lane Riggs, Valero Sr. VP of Refining Operations, spoke extensively of the qualities of Bakken and its use in refining operations.

Both Bakken shale oil and tar sands oil have significant potential environmental impacts, especially in the area of emergency preparedness and clean-up, as well as GHG and other toxic emissions that should be addressed in the EIR. Do we know if the higher sulfur or acid content in those crudes will increase the risk of corrosion to factory equipment and pipes, which in turn could lead to leaks, fires or explosions? This should be analyzed.

Valero and the DEIR describes the project as simply a logistics project. This description is far too narrow. The approval of this project, and the construction of the off-loading facility, will allow for the importation of 100 train cars per day of crude oil and have impacts on cities up rail.

It is the Commission's responsibility to look at a broader definition than the one offered in the DEIR. I would like to see the DEIR look more closely at the environmental impacts of the daily movement of large amounts of crude oil by rail, not only within the City of Benicia, but also along the train route through the sensitive Suisun marsh and other environmentally sensitive areas as well.

**Possible Increase in amount of oil refined and associated increases in emissions**

Page 3-2 of the DEIR states that the refinery is limited to processing an annual average of 165,000 barrels per day. However, elsewhere in the DEIR, the applicant says it is currently refining 75,000 barrels per day.

Question 2- Would the approval of this project potentially lead to the refining of more oil than is currently being refined? If more oil could be refined than is currently being refined, please calculate the quantities of additional emissions that would be produced from the additional refining activity.

**Lack of Disclosure of Documentation for Greenhouse Gas (GHG ) Calculations**

The applicant states, and the DEIR agrees, that the shipping of oil by train will be less polluting, and therefore an environmentally superior alternative, to shipping oil by tanker. That argument rests on the analysis of GHG and other emissions from both sources of transport.

However, documentation to support that argument is missing or inconclusive.

CEQA defines the baseline period as one ending with the publication of the Notice of Preparation (NOP) by the City. For this project, the NOP was issued in August, 2013. However, the consultant uses the period ending November, 2012 as the baseline for purposes of calculating GHG emissions.

Question 3- Why was the period ending in November 2012 used rather than the CEQA defined baseline period ending in August 2013? I would like to see the consultant re-calculate GHG emissions for the three year period ending August, 2013.

Question 4- What is the distance used to calculate GHG emissions for ships?

On P.4.1-21, the reports states that, currently, Valero imports crude oil on ships coming from Alaska, (a distance of approximately 2000 miles), South America (4000 miles) and the Middle East (8500 miles). "Using a weighted average composite distance for crude oil delivered to the refinery from source countries of origin during the baseline period (a period that should be recalculated for the CEQA defined baseline period of August, 2010-August, 2013), Valero has estimated the average maritime distance travelled from source to the refinery was 7,305 miles."

To arrive at that exact composite average, however, it is necessary to know precisely how much oil was imported from each of the stated regions over the three year baseline period.

Appendix E2 (p.1015-P.1039) is titled "Marine Vessel Criteria Pollutant and GHG Baseline Emissions", and contains 25 tables with data totally or partially redacted.

Baseline Ocean Going Vessels Emissions

Date	
12/10/09	
12/13/09	
12/25/09	
12/29/09	
12/31/09	
1/10/10	
1/28/10	
1/29/10	
2/7/10	
2/5/10	
2/4/10	
2/9/10	
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2/21/10	
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6/23/10	
7/13/10	
7/27/10	
7/14/10	
7/27/10	
8/2/10	
8/4/10	
7/29/10	
8/17/10	
8/14/10	
8/24/10	
9/1/10	
9/5/10	
9/7/10	
9/12/10	
9/14/10	
9/16/10	

Baseline Ocean Going Vessels Emission

Date	Emissions: Sea Buoy - Valero Marine Terminal Main Engine Emissions (g/trip)									
	NO <sub>x</sub>	CO	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
12/10/09	564613	39584	32120	13108	12073	59789	2883	18503110	963	18862224
12/13/09	582954	40773	32987	13520	12453	61825	2960	19133246	994	19503694
12/25/09	561549	39362	31976	13040	12010	59448	2870	18397814	958	18754838
12/29/09	290396	27758	20809	7060	6503	45424	1867	14057832	708	14316232
12/31/09	406015	40577	32842	10090	9294	61503	2947	19033619	989	19402242
1/10/10	555459	38961	31691	12903	11884	58770	2844	18187913	948	18541377
1/28/10	313993	29907	22324	7623	7021	49210	2003	15229052	765	15508334
1/29/10	390351	39105	31793	9714	8947	59014	2853	18283157	951	18617970
2/7/10	163815	15971	12543	4029	3711	25188	1126	7794989	399	7942384
2/5/10	582419	40735	32954	13508	12441	61770	2957	19116205	994	19486308
2/4/10	300349	28471	21114	7276	6702	47188	1895	14603296	732	14869990
2/9/10	299589	28442	21085	7260	6687	47067	1892	14566022	730	14832088
2/11/10	276744	26485	19905	6733	6201	43249	1786	13384498	674	13631081
2/13/10	307060	29121	21687	7446	6858	48207	1944	14918910	748	15191715
2/21/10	315423	30040	22419	7657	7053	49438	2012	15298624	769	15580166
2/22/10	282043	18201	14430	6100	5618	28395	1295	8787602	462	8954884
2/24/10	579524	40544	32816	13443	12381	61448	2945	19018501	989	19394816
3/6/10	276341	19076	15214	6377	5873	29535	1365	9140398	471	9315206
3/10/10	547933	38470	31347	12735	11729	57929	2813	17927423	936	18278259
3/9/10	534633	53209	43081	13277	12229	81062	3866	25086506	1303	25571593
3/14/10	581342	40664	32904	13484	12419	61650	2953	19079124	992	19448562
3/23/10	337246	32141	24027	8190	7544	52827	2156	18348619	822	18648676
2/24/10	456292	45301	38206	11299	10407	69494	3249	21508680	1112	21919608
3/30/10	546759	38393	31292	12708	11705	57798	2808	17887002	933	18235114
4/11/10	356722	22437	17089	7624	7022	36528	1534	11304361	572	11513746
4/5/10	578882	40502	32788	13428	12368	61376	2943	18994407	988	19362327
4/16/10	389551	39030	31740	9696	8929	58886	2848	18223817	949	18577925
4/14/10	307452	29554	22488	7501	6909	47849	2018	14807910	749	15082559
4/21/10	346685	33007	24698	8418	7753	54292	2216	18802099	845	17110553
4/27/10	427711	42616	34294	10612	9774	64852	3078	20100828	1042	20488576
4/29/10	573884	35903	26968	12225	11260	59046	2420	18273242	919	18609107
5/3/10	212946	20580	15882	5212	4801	32968	1425	10202878	519	10393681
5/13/10	306767	20220	16383	6689	6161	30505	1470	9440383	492	9623624
5/20/10	152625	14976	11905	3767	3469	23351	1068	7226406	372	7364145
5/21/10	294993	28015	20782	7150	6586	46334	1865	14339291	719	14601313
5/25/10	319658	30457	22822	7765	7152	50033	2048	15484019	779	15786519
5/31/10	407796	40744	32961	10133	9333	61786	2958	19121282	994	19491445
6/1/10	289986	27508	20431	7028	6473	45535	1834	14091909	707	14349487
6/4/10	269702	25618	19071	6540	6024	42313	1712	13094690	667	13334382
6/6/10	576766	36079	27093	12286	11316	59348	2431	18366796	924	18704327
6/8/10	226593	21843	16718	5537	5099	35187	1500	10889605	552	11092294
6/15/10	268044	25600	19219	6517	6002	41922	1725	12973842	653	13212559
6/17/10	294855	28024	20894	7153	6588	46235	1875	14308587	719	14570716
6/23/10	531412	37383	30573	12364	11388	56091	2744	17358572	907	17697212
7/13/10	293564	27964	20879	7127	6565	46004	1874	14237017	715	14488143
7/27/10	453467	30241	22666	10281	9469	49683	2034	15375573	774	15658094
7/14/10	296017	28133	20971	7181	6614	46421	1882	14365950	721	14629102
7/27/10	180253	17427	13418	4411	4063	27928	1204	8642968	439	8804430
8/2/10	418276	27958	21048	9494	8745	45752	1889	14158930	714	14419791
8/4/10	356942	34043	25480	8671	7987	55886	2287	17295322	870	17612999
7/29/10	252216	24188	18195	6138	5654	39378	1633	12186570	615	12411401
8/17/10	255137	24398	18366	6207	5717	39865	1648	12337130	622	12564489
8/14/10	432014	28851	21682	9801	9028	47285	1948	14633474	737	14902796
8/24/10	380890	38216	31180	9487	8738	57510	2796	17797773	928	18144246
9/1/10	311288	29718	22365	7570	6972	48849	2007	15055460	759	15332775
9/5/10	193586	18607	14570	4748	4373	29908	1308	9255747	472	9429453
9/7/10	285733	19116	14454	6493	5981	31219	1297	9681585	487	9839927
9/12/10	274807	26304	19777	6686	6158	42941	1775	13288991	670	13533869
9/14/10	333511	31881	23932	8109	7489	52151	2148	16139437	813	16436494
9/16/10	558249	39145	31822	12966	11942	59081	2866	18283988	952	18639174

Since this information on sources of crude oil purchased in the period 2010-2013 is not listed as confidential business information in Section 1-7 of the DEIR, that information should be released by the applicant so that the calculation of the composite average distance for shipping crude oil can be validated. Without data showing clearly how the composite distance of 7,305 miles was calculated, the Planning Commission cannot rely on that estimate of GHG emitted by ships. In addition, the argument that ships are more polluting than trains must be re-examined using all required documentation.

According to CEQA, a DEIR must cite all documents used in its preparation (Guidelines S. 15148), and is required to make all documents available for public review (Public Resource Code 21092 (b)). It must also identify all people consulted in the preparation of a DEIR (Guidelines S.15129). I would like to have the applicant disclose from which countries it bought oil, and in what amounts, for the baseline period July 2010 to July 2013, and direct the consultant to re-calculate GHG emissions with updated information for the corrected baseline period.

#### **GHG Emissions in Bay Area vs. GHG Emissions in Benicia.**

Table 4-1-5 of the DEIR shows "Net Operational Exhaust Emissions within the Bay Area Basin" and calculates the emissions from ships traveling from the buoy west of the Golden Gate Bridge to Benicia. It then deducts the emissions expected in Benicia from the use of diesel locomotives delivering oil by rail from those larger emissions covering the entire Bay Area, and makes a finding that this constitutes a less than significant impact.

Question 5- Is it appropriate to compare displaced emissions from a much larger area to new emissions from the project area, and then to make a finding of less than significant impact if the reduced emissions in the larger area exceed the new emissions generated by the project?

I would like to see comparisons of emissions in the same geographic area (Benicia) rather than comparing increased emissions in Benicia to decreased emissions in the much larger Bay Area.

#### **Calculation of GHG emissions for trains**

DEIR Table 4.1-7 compares emissions for trains and ships measured in tons per thousand miles hauled. (It is not clear in the DEIR if the calculation assumes use of one or two locomotives per train and the DEIR does not appear to answer that question. It is now believed that UP plans to use two locomotives per train and calculations need to reflect this fact and be confirmed by consultants.) The table lists six types of emissions, and shows that ships are less polluting than trains for five of them. "Even with these emissions factors, there is no way to estimate with any certainty the net effect of the Project on areas outside the Bay Area and Sacramento Basins because there is no way to predict the length of locomotive trips that could occur if the project were approved..."

The California Energy Commission reports that 85% of the oil being imported by rail into California is Bakken shale. Assuming that this is true, it is reasonable that the calculations for train emissions be made from North Dakota, where Bakken shale originates. Since there are only three main rail routes from Northern California borders to Roseville (Feather River Canyon, Donner Summit, and Dunsmuir) it is not too difficult to predict the actual GHG emissions for each train trip using two locomotives. I would like to see the consultants perform this analysis of GHG emissions for trains using the entire predictable train routing.

Table 4.1-4 (Baseline Maritime Emissions in Bay Area) calculates TOTAL emissions over the 3 year baseline period while the project, if approved, would reduce oil delivered by ship by 82%. I

would like to see the Consultant recalculate marine emissions using 82% rather than 100%, and using the corrected baseline period.

### **Air Quality Impacts**

Section 4.1.4 (Discussion of No Air Quality Impacts) states that the project would not conflict or obstruct the applicable air quality plan (Bay Area 2010 Clean Air Plan). To make that determination, the Commission must consider three questions. The second question is whether the project would “reduce population exposure and protect public health”.

The result of this project would be to shift transport of oil from ships to trains. Ships do not put populations at risk from an air quality aspect as they come from out to sea, through the bay, and never get close to population centers until they dock and off-load at the Benicia Port. Trains, by contrast, pass close by population centers in Roseville, Sacramento, Citrus Heights, West Sacramento, Davis, Vacaville, Fairfield and Suisun City.

It seems that this project would increase, not decrease, population exposure to emissions and, in fact, the DEIR states that there would be significant emissions for nitrogen oxide in those cities which cannot be mitigated. Nevertheless, the DEIR makes the finding that there is no air quality impact in regards to this question because “there are no 2010 Clean Air Plan (CAP) measures applicable to the Project.”

Question 6- Is the fact that there are no CAP measures applicable to the project sufficient to make a finding that there are no air quality impacts?

CEQA guidelines (S.15064.4) relate to determining the Significance of Impacts from Greenhouse Gas Emissions. Among the things the City should consider are whether the project “increases or reduces GHG emissions resulting from the project in comparison to baseline conditions; whether the emissions exceed an adopted threshold of significance; and the extent to which the project complies with plans for reductions of GHG emissions.” (CEQA Deskbook, 3rd Edition). The DEIR should describe what is the baseline level of significance for GHG, who established it, how was it calculated, and where is it available for review?

Question 7- If BAAQMD set this threshold, and the project has cumulatively considerable GHG emissions, but is still below the air district threshold, does that mean that the impacts are less than significant?

Question 8- If the limit for each toxic emission is 10,000 tons, and the project emits 9,500 tons for each emission, is that considered less than significant? Or is there a cumulative impact that should be acknowledged and reported within the DEIR?

In the discussion of GHG, the DEIR states that the project will emit a net increase of 6,726 metric tons of carbon dioxide per year, but since that is below the City’s significance threshold of 10,000 metric tons, it is not considered significant.

Question 9- Please provide copies of the City’s significance thresholds for GHG emissions or explain how they were calculated or determined.

### **Cumulative Impacts**

P. 5-15 of the DEIR lists various projected increases in rail and other projects in the Suisun marsh, and then concludes “The cumulative increase in railcar usage, however, would occur on the existing

mainline track where baseline usage is already the routine. Thus, addition of project related railcars would not involve a cumulatively considerable contribution to impact on biologic resources. "

Question 10- What is the baseline used for this purpose and how was that determined?

Question 11- How is an increase in railcar usage considered to be the same as the baseline usage?

Page 5-16 of the DEIR states that changing transport of oil from ship to rail actually lessens the chance of an oil spill, and also states that the cleanup of an oil spill in marsh land would be easier to clean up than a spill in the Bay because it would be easier to contain. The DEIR should provide information to support these conclusions.

### **Traffic Impacts**

It has been repeatedly stated that railroads, as a federally regulated entity, cannot be regulated in any way by the City. As a result, one of the alternatives presented in the DEIR to limit trains to once per day, or to have trains only operate at night, was deemed by the DEIR to be a non-permissible condition and that, therefore, the idea of reducing the number of daily trains as an alternative could not be considered.

Question 12- If that is the case, how can the applicant assure with any level of certainty that train deliveries will only happen in the described off-peak traffic hours? Given that these oil trains will share the tracks with AMTRAK and other freight trains, it is reasonable to assume that, occasionally, deliveries will be delayed, and could then reasonably be anticipated to occur during peak traffic times. I would like to see the traffic consultant re-do their traffic analysis to reflect impacts of traffic delays in the event trains were to enter Benicia at peak hours.

The traffic study from Fehr and Peers is included in the Appendices. It describes traffic Level of Services (LOS) as going from A (no delays) to E (more than a 35-50 second delay) to F (more than 50 second delay with intersection capacity exceeded). The Benicia General Plan calls for no worse than Level D (long traffic delay of 25 to 35 seconds) throughout the City, but does not have a standard for at-grade RR crossings as exist at Park and Bayshore Road. The traffic study says that LOS levels may not be appropriate to use in industrial park because people driving there "have a higher tolerance of delay with intermittent at grade rail activity".

Question 13- Is this assumption about people's different tolerance for delays in the Industrial Park supported by any evidence? If so, please provide evidence used for that conclusion.

Because the estimated crossing of an oil train is 8 1/2 minutes, every crossing of an oil train at Park/Bayshore will, by definition, create a LOS F at that and surrounding intersections. According to the traffic study, "During periods of the day when traffic volumes are low, it is possible that an at-grade crossing will result in LOS F, with resulting vehicle queues accommodated within storage capacity provided at intersections. In that case, it is less likely at-grade crossings will adversely affect the transportation network."

Although the City doesn't have significance criteria for at-grade crossings, the traffic study recommends using the following criteria to determine if impacts are significant: "if train crossings cause vehicle backups that impede other traffic such as on to the mainline of 680 or other intersections not trying to cross intersections, and if the project would result in a change of traffic patterns or would it result in inadequate emergency access."

Table 2-6 says traffic backups during train crossings would be 975 ft on 680N off-ramp, about 7 times longer than without a train crossing, but since the ramp is 1300 ft long this won't be a hazard.

Question 14- How was it determined that traffic backups would only reach 975 feet and not 1300 feet onto the mainline of 680?

As part of the traffic study, the traffic consultant set up a video camera in April, 2013 and recorded all train crossings for a one week period. The study showed that the average train crossing on weekdays was under 3 minutes, with 86% of crossings taking under 5 minutes. Yet the traffic study assumes a baseline condition of 11 minutes 50 seconds (p.21 of traffic study), despite the fact that only 2 of 58 trains recorded in that week took that long to cross the intersection.

Question 15- Why use a train crossing of nearly 12 minutes used as the baseline if it only happens twice a week, and the average crossing was closer to 3 minutes?

The longest reported train observed in the study was 35 cars, and took over 16 minutes to cross the Park/Bayshore intersection. The baseline being used in the DEIR does not reflect the actual results of the video study of train crossings performed by the traffic consultant. That study showed significantly shorter average crossing times. I would like to see the consultant use a baseline that reflects the majority of actual train crossing times.

Question 16- How would a 50 car train take only 8 1/2 minutes to cross if a 35 car train takes 16 minutes to cross? I would like more information on why the consultant used an 8 1/2 minute projected train crossing interval when trains with significantly fewer cars took longer than 8 1/2 minutes to cross the same intersection.

On P. 1307 of the report it is stated that, if there are no train crossings at intersections, traffic is acceptable, but if there were train crossings of more than 5 minutes, conditions at intersections degraded to LOS F. The study says there was, on average, one train per day that took over 8 minutes to cross. Table 3.1 shows LOS F at different intersections in off-peak hours and assumes a 8 1/2 minute train crossing for the oil trains. Table 3.2 of the traffic study compares the existing situation to the situation with proposed oil train crossings. Yet the study shows queue length of cars waiting to cross over the intersection to be shorter with oil trains than without the trains.

Question 17- How would a presumed train crossing of 8 1/2 minutes, 4 times/day, not worsen traffic delays at Park/Bayshore intersection?

Table 2.5 on p.22 of the traffic study shows that 5 intersections would degrade from LOS A to LOS F at times of train crossings, but assumes a nearly 12 minute train crossing as the baseline, despite an average train crossing of less than 3 minutes, with 86% of all trains taking less than 5 minutes to cross.

Using that one time exception as the baseline, the study concludes that the delays caused by oil train crossings were less than significant. Using this much higher baseline assumption vs. the existing documented reality of train crossings allows the study to make a conclusion that the intersections are already at LOS F, even though there are only two trains a week that actually take that long.

Using the assumption that those twice weekly events are normal (or baseline), the study then concludes that the addition of 4 trains a day (which would obviously mean LOS F) is not a change- and therefore represents a less than significant traffic impact.

This is important because a finding of a significant impact in a DEIR requires a mitigation of that impact, or explanation of why it cannot be mitigated. And the only real way to mitigate this particular impact of excessive traffic delays (as well as emergency services discussed below) is to either not



have the extra crossings or require a mitigation measure like the construction of an overpass or underpass to allow traffic to pass unimpeded.

Table 3.1 and table 4.2 (cumulative intersection crossings) shows delays actually decreasing at all intersections with additional trains vs. no additional trains. The conclusion that delays decrease with more train crossings needs to be supported by documentation.

### **Impact on FAST Transit**

Page 1315 of the study says that train crossings will likely happen between 330 and 4 pm and 6 and 8 pm. How is that assertion made, if UP refuses to allow any limitation on scheduling of their trains? It also says the likelihood of a bus wanting to cross at the time of a train crossing is small.

Question 17- What constitutes a “small likelihood” and how was it calculated?

The study also says that FAST already travels on clogged segments of I-80 and I-680, and that since delays are variable, delays from oil train crossings should not be a factor.

Question 18- Does the fact that traffic delays occur elsewhere outside the project area, at various times of the day, lessen the impact of delays occurring within the City because of the project?

Question 19- Was FAST consulted on the traffic study, and do they agree with its conclusions?

### **Emergency Preparedness**

The National Fire Protection Association standard for emergency response time in 2012 was 5 minutes from dispatch. The Benicia Fire Department (BFD) has an agreement with Solano county emergency medical services to provide advanced life support for all medical emergency calls within 7 minutes. The BFD tries to reach all incidents within 7 minutes. In 2012, the BFD response time was 5min 13 seconds in the rest of the city and 6min 35 sec in the Industrial Park.

Question 20- If a train crossing were happening at the time of an emergency call to BFD from within the Industrial Park, and the train takes 8 1/2 minutes to clear the intersection of Park and Bayshore, how could BFD respond in a timely manner? How much time would be needed to access a call via 2nd street if the call was to a site just north of the Park/Bayshore intersection? What if cars were clogging the street in each direction waiting for the train to clear?

The study says the probability of an emergency happening at the time of a train crossing is low. I would like to see more information on emergency preparedness and how that would be addressed, even if chances of an emergency are low.

Question 21- What is the probability of a simultaneous train crossing and emergency service call, and how was it determined? Is it sufficient to say that the probability of an impact is low, without providing information supporting that assumption, and then conclude that the impact is therefore less than significant?

Mitigation measure 1 says the applicant will work with BFD to prepare an action plan in the event an emergency occurs. According to the CEQA training provided to the Commission by its Attorney (Kat Wellman), CEQA does not allow the adoption of mitigation measures based on the promise of a future action.

According to the DEIR, Valero would be the first responder for any accident, fire or derailment on their property. BFD would be the first responder outside the refinery, but within city limits.

Question 22- Have BFD personnel been trained to fight crude oil fires? Have they had the advanced training offered by the National Fire Protection Association for hazardous materials responders which has sections specifically devoted to tank car incidents?

Anywhere outside Benicia, the DEIR says UP would be the first responder.

Question 23- How many first responders does UP have on call to serve the Roseville-Benicia main line at any one time? Where are they stationed? How much foam does UP have on hand to fight fires and where is the foam located? Can the consultant obtain this information?

### **Emergency Planning and difficulty in fighting oil fires of Bakken Crude**

Attempting to put out fires involving Bakken crude has proven to be very difficult. According to testimony by the National Fire Protection Association (NFPA) to the National Transportation Safety Board in March, 2014, crude oil and ethanol fires caused by derailed freight trains are left to burn out on their own because first responders can't extinguish them. "They are no-brainers," according to Greg Noll of the NFPA. "There is very little we as first responders are going to do." (White Plains NY Journal Mar 17, 2014).

On December 30, 2013 there was a derailment and explosion in Casselton, North Dakota involving a train carrying Bakken oil. The oil tanker train belonged to the BNSF Railway Company. BNSF spokesman Steven Forsberg said "A fire ensued, and quickly a number of the cars became engulfed," adding that firefighters had managed to detach 50 of the 104 cars but had to leave the rest before concluding, "They can't fight the fire due to the extremes of the explosion and high temperatures." Firefighters had to let the oil burn for 18 hours until foam was delivered.

In the explosion of the oil train in Quebec, firefighters tried to fight the fire with only water, were unsuccessful, and had to wait until 8000 gallons of foam was delivered from Toronto, 8 hours away. The foam used to fight Bakken oil fires is quite expensive-it costs \$45/minute to use. The DEIR says Valero has less than 3000 gallons of foam on hand. Would that be sufficient in a fire that involved an entire 50 car train of Bakken oil? How much foam does BFD have on hand? Who pays for the foam used by BFD?

After the derailment and explosion of the Bakken oil train in Quebec last year, the National Transportation Safety Board did an extensive investigation along with their Canadian counterparts. The investigators recommended that rail carriers be able to ensure that they are capable of responding to worst case scenarios of the discharge or a fire of the entire quantity of product carried on a train.

Question 24- Does UP have an emergency response plan that anticipates responding to a discharge or fire of a 50 car trainload of Bakken oil? Has that plan been shared with the BFD, the California Office of Emergency Services as well as up-rail emergency responders?

According to the Chair of the National Transportation Safety Board (Deborah Hersman), the agency is concerned that a "major loss of life, property damage and environmental consequences could occur as a result of the 400% increase in oil by rail since 2005. Our safety regulations need to catch up to reality." (Toronto Globe and Mail, 1/24/14).

In a memo to the Pipeline and Hazardous Materials Safety Administration on Jan. 21, 2014, NTSB Chairman Hersman wrote that "Oil spill response planning requirements for rail transportation of oil/petroleum products are practically nonexistent compared with other modes of transportation." Unlike marine barges, pipelines and fixed facilities that transport and store crude oil, U.S. railroads

are not federally required to have comprehensive plans in case of a worst-case oil disaster. When it comes to oil spills – as opposed to emergency planning — railroads must write basic response plans, but they don't need to be shared with state agencies or sent to the Federal Rail Administration. These basic plans don't include training drills and exercises, assigning a qualified individual to man the response or plans for a worst-case discharge – which can result in up to three million gallons spilled. Railroads only have to file comprehensive plans if they haul a tank car with a 42,000-gallon capacity – and no tank cars currently in use can hold that much. Though U.S. railroads don't have to disclose any information about hazardous materials to communities, they are not prevented from doing so.

The DEIR contains a document from UP called the Hazardous Materials Emergency Response Plan. The plan is dated 2009, and makes no mention of oil fires or the special equipment and training needed to fight fires involving derailments of oil trains. Are there other documents or plans that UP can provide that deal specifically with how possible fires, leaks and explosions involving Bakken shale oil and tar sands oil would be addressed?

### **Financial responsibility of cleanup**

After the Bakken oil explosion and fire in Quebec, the railroad involved declared bankruptcy and left the local and provincial governments responsible for rebuilding their town. After an oil spill from a train in Michigan in 2011, in which tar sands oil sunk to the bottom of the Kalamazoo river (because tar sands oil is heavier than water), the cleanup is still ongoing three years later- with cleanup costs exceeding \$1 billion.

The NTSB has sent a letter to the Federal Railway Administration stating that railways are "not required to develop detailed emergency response plans for crude oil shipments. As a result, the burden of responsibility for responding to an accident or remediating the aftermath is still left with local communities." In testimony before the Senate, NTSB Chairman Deborah Hersman said "no community is prepared for a worst case event". (Toronto Globe and Mail, 1/24/14).

**Question 25-** Who would be responsible for the cost of cleanup if there were a derailment, leak or fire outside Valero property in a sensitive environmental area like the Suisun marsh or in a populated community up rail?

**Question 26-** Are there any limitations on liability for UP in the event of a leak, fire or explosion?

**Question 27 -** Would Valero be liable for damages or clean-up costs for an accident of a train full of oil they owned?

Presumably, UP carries insurance to pay for cleanup of derailments and accidents. In January 2014, the Wall Street Journal (WSJ) had an article describing insurance issues for railroads hauling crude oil. The article concluded that any railroad would be unable to cover costs of an oil train explosion in an urban area. According to the Journal story, even if railroads wanted to buy insurance for a catastrophic accident, no one would sell it to them. Marsh and McClellan provides insurance to railroads. James Beardsley of the firm was quoted in the article as saying there is not enough coverage in the commercial market anywhere in the world to cover a worst case derailment scenario.

The worst derailment and explosion so far, in Quebec, has estimated liabilities of \$2 billion and cleanup costs of \$200 million. The shipper of the oil in that case is denying responsibility since they were not the owner of the oil, and the railroad involved has filed for bankruptcy.

There is a fund that is supposed to be used for cleanup costs of oil spills. Most oil companies pay an 8 cents per gallon excise tax into the Oil Spill Liability Trust Fund. But a 1980 federal law states that tar sands oil (AKA diluted bitumen (dilbit)) is not classified as oil. In 2011 the IRS ruled that oil companies do not need to pay this tax on tar sands oil. The fund itself is at risk of running out of money because of the cost of the cleanup of the BP oil spill in the Gulf of Mexico, as well as the cost of the tar sands spill in Kalamazoo Michigan which to date has cost over \$1 billion. Are there any other funds available for clean up costs and reimbursement for property losses due to oil spills by rail?

Question 28- In the event of a tar sands spill into the Suisun Marsh, or the Feather River Canyon, or a derailment of a Bakken crude unit train in downtown Sacramento, who is responsible for paying for the clean up of the spill and associated property damages?

### **Explosiveness of Bakken Crude**

Although Bakken crude is listed in the DEIR as one of several crude oils that could be brought in on oil trains by the applicant, it represents 70% of all oil in the US being transported by train, and 85% of all oil moved by train in California (according to the California Energy Commission). As such, it is reasonable that the DEIR should analyze the characteristics of Bakken as it relates to air emissions and emergency preparedness.

On Jan 2, the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a safety notice to the general public, first responders, and shippers stating that Bakken crude oil may be more flammable than traditional heavy crude, and advised that trains carrying Bakken crude be routed away from populated areas and sensitive areas.

Question 29- Are there any plans for UP to avoid populated areas like downtown Sacramento or sensitive areas like the Suisun marsh?

The Pipeline and Hazardous Materials Safety Administration has said that properly characterizing the oil and its properties could help improve awareness of the risks involved in its transportation, or in the case of an accident. Properly labeling the oil also could ensure that it is moved and transported properly, the agency said. "Based upon preliminary inspections conducted after recent derailments in North Dakota, Alabama and Quebec involving Bakken crude oil, PHMSA is reinforcing the requirement to properly test, characterize, classify, and where appropriate, sufficiently de-gassify hazardous materials prior to and during transportation". The agency said that the quality of light sweet crude oil from the Bakken fields should be categorized in one of two groups of products, including one for materials that have a low boiling point. "This means the materials pose significant fire risk if released from the package in an accident," the agency said.

According to a July 7, 2014 article in the Wall Street Journal, companies extracting oil from the Bakken Shale field in North Dakota have not installed necessary equipment to de-gassify Bakken and make it safer to handle and transport. "The result is that the second fastest growing source of crude in the US is producing oil that pipelines often would reject as too dangerous to transport... Only one stabilizer, which can remove the most volatile gases before transport, has been built in North Dakota and it hasn't begun operation. Stabilizers use heat and pressure to force light hydrocarbon molecules-including ethane, butane and propane-to form into vapor and boil out of the liquid crude. The operation can lower the vapor pressure of crude oil, making it less volatile and therefore safer to transport by pipeline or rail tank car."

Question 30- Will Valero require that all Bakken oil shipped to their refinery be sufficiently de-gassed to make it safer to transport?

### **Rail Cars, Tracks and Positive Train Controls**

The project anticipates 4 trains per day traveling to and from Roseville to Benicia, through several cities as well as the Suisun Marsh. Among the concerns listed by the National Transportation Safety Board in the transportation of crude oil is the ability of older and deteriorating rail lines and bridges to handle the exceptional weight of oil trains.

Question 31- What is the weight of a 50 car train carrying crude oil and what are the weight limits on bridges on the rail line between Sacramento and Benicia and in the Suisun marsh?

Question 32- With rising waters in Suisun marsh predicted because of climate change, what impact would that have on the condition of rail lines?

These questions are not addressed in the DEIR.

In the United States, freight railroads are privately owned and the companies that operate them are responsible for track maintenance and upkeep. According to the General Accounting Office, the Federal Railroad Administration (FRA) is able to inspect only two-tenths of one percent of the railroads operations each year.

### **Rail cars - Positive Train Controls**

Federal Law (RSIA of 2008) requires railroads to implement Positive Train Controls (PTC) by the end of 2015. PTC is a computerized system to control speeds and avoid collisions and derailments. Railroads were required to submit PTC implementation plans to the Federal Railway Association.

Question 34- Has Union Pacific's implementation plan for PTC been approved, and will it meet the December, 2015 deadline for implementation of PTC on the Roseville-Benicia mainline?

### **Likelihood of Oil Spill**

The report from Dr Barkan in the DEIR appendix says that the chance of a spill between Roseville and Benicia is one in 111 years. It is impossible for a layperson to understand the calculations Dr. Barkan used in his projections, and it would be helpful if this could be simplified to make it comprehensible to the average educated person. While I do not pretend to understand the complexity of his study, the conclusion seems counter-intuitive when considering the number of oil train derailments and fires that have occurred in the last 18 months.

The study states in section 3.3 that the railroad industry hazardous materials accident rate has declined in the years since 2009. This is in conflict with data from the US Pipeline and Hazardous Materials Safety Administration, which stated that there was more crude oil spilled from trains in 2013 than in the previous 37 years combined, with more than 1 million gallons of oil spilled in 2013 alone.

Figure 4 in the study shows data from the FRA from 1980 until 2012, which roughly tracks with data from Pipeline and Hazardous Materials Administration.

But the study does not show data from 2013, when accident and spill rates spiked with the surge in oil train traffic from less than 100,000 gallons spilled to more than 1 million gallons.

The study used train derailments from 2005 to 2009, when crude oil was not being shipped in trains in significant amounts during that period.

Question 35- Did the study take these facts into account when predicting the likelihood of an oil spill from a train?

I would like to see the consultant and sub-consultant (Dr. Barkan) update his study using data from 2013 and 2014, and issue an executive summary in layman's language explaining his conclusions and including the source documents used for his conclusions.