National Nurses United

The National Voice for Direct-Care RNs

Washington DC
888 16th Street NW
Suite 640
Washington DC 20006
phone: 800-287-5021
fax: 202-974-8303

Oakland
2000 Franklin Street
Oakland CA 94612
phone: 800-287-5021
fax: 510-663-2771

Murry Wilson
SLO County Dept. of Planning and Building
976 Osos St., Room 200
San Luis Obispo, 93408

Dear Mr. Wilson,

The California Nurses Association (CNA) represents thousands of bedside and public health Registered Nurses (RNs) who live and work across the state of California and the U.S. CNA members work at the bedside in impacted communities, treating patients who daily suffer the devastating health consequences of polluted air, water, and environments. As advocates for patient health, RNs have serious concerns about the health and safety implications of the proposed oil by rail project at the Phillips 66 Santa Maria Refinery. This project presents significant and unacceptable risks to the health and safety of our communities throughout California and beyond. CNA-01

Immediate Health Impacts

The toxic air emissions that would result from this project pose an unacceptable risk to public health. The proposed Phillips 66 oil train offloading facility in Santa Maria would bring an oil train a day through California carrying highly toxic and explosive crude. The toxic air emissions that will result would greatly impact our communities. Volatile toxic chemicals leak out of tank cars into the air directly impacting communities along rail routes. In its latest environmental review, Phillips 66 admits that its proposed oil train facility will create "significant and unavoidable" levels of air pollution, including toxic sulfur dioxide and cancer-causing chemicals. The report cites increased health risks of cancer, heart disease, respiratory disease, and premature death. CNA-02

Our most vulnerable populations are particularly at risk. Children and infants are at greater risk due to their still-developing lungs and respiratory systems. The elderly and people with preexisting respiratory and cardiovascular diseases, diabetes, and cancer all face greater risks than the general public. Low-income and working families, because they are more likely to live near the tracks, also suffer more. When coupled with the fact that these families also are less likely to have adequate healthcare coverage, this creates a real crisis of health in our communities.

In addition to the toxic emissions that would be a direct result of the increased crude-by-rail traffic, the planning department must examine the Santa Maria and Rodeo proposals as a single project. It is clear that Phillips 66 intends to bring toxic Canadian tar sands to California. The proposed oil train terminal in Santa Maria is linked by pipeline to the Phillips 66 refinery in Rodeo, CA. Phillips 66 is proposing to modify these facilities to allow it to refine the most toxic crude oil on Earth: Canadian tar sands. Transporting and refining tar sands will create more toxic air and water pollution for families along the rail line and near the Santa Maria refinery. CNA-03 CNA-04

In the case of tar sands transport, a diluting agent is typically mixed with the semisolid bitumen from the tar sands to allow the bitumen to be moved into and out of railcars and through pipelines.[1] Most diluting agents include natural gas liquid condensate containing volatile hydrocarbons such as benzene, toluene, ethyl benzene, and xylene.[2] The transport of diluted bitumen can involve a multistage transferring process where there is an increased likelihood of toxic vapor release, putting workers at particular risk.[3]

When it comes to tar sands refining, not only does the bitumen portion of the diluted mixture contain 102 times more copper, 11 times more nickel, and 5 times more lead than conventional crude oils, but the added diluting agent contains high concentrations of hazardous pollutants such as benzene.[4] [5] All of these chemicals may be released as air pollutants during the refining process and the presence of highly volatile diluting agents makes it likely that more carcinogenic pollutants will be released into the air.[6] These pollutants have been tied to increased cancer risks, increased respiratory issues including asthma, cardiovascular illness, developmental delays, and other negative health effects.[7] Diluted bitumen from the tar sands also has notably high levels of certain sulfur compounds called mercaptans, which have been linked to central nervous system problems and can irritate the eyes, skin, and upper respiratory system.[8] CNA-04

RNs have the highest proportion of direct interaction with patients of any health-care providers. Because RNs see first-hand on a daily basis the devastating effects of environmental pollution on health, RNs understand the serious health implications that this project will have for patients and communities throughout California.

Safety

The draft EIR's analysis of potential accidents and spills is flawed because it only evaluates rail accident rates from 2003 to 2012 and spill release rates between 2005 and 2009, and omits important data about crude rail accident frequency and magnitude in 2013 and 2014. This is troubling because more crude spilled from trains in 2013 than spilled during the past four decades. The EIR must look at recent data, including accident data from Canada which has also experienced increased crude by rail incidents. This data reflects the increased quantities of dangerous crude being transported in old and unsafe tank cars and will provide a more accurate assessment of accident risk and magnitude along the rail lines that would serve this project. CNA-05

---

[1] Diane Bailey, "Tar Sands Crude Oil: Health Effects of a Dirty and Destructive Fuel" (February 2014), http://www.nrdc.org/energy/tar-sands-health-effects.asp.
[2] See Attachment 1 for health impacts.
[3] Bailey, 2014.
[4] Bailey, 2014.
[5] See Attachment 1 for health impacts.
[6] Phyllis Fox, "Comments on Initial Study/Mitigated Negative Declaration (IS/MND) for the Valero Crude by Rail Project" 25 (July 1, 2013), www.ci.benicia.ca.us/vertical/sites%7B3436CBED-6A58-4FEF-BFDF-5F9331215932%7D/up-loads/Report_by_Dr._Phyllis_Fox.pdf.
[7] Diane Bailey, "Gasping for Air: Toxic Pollutants Continue to Make Millions Sick and Shorten Lives" 1, 3 NRDC Health Facts (July 2011), www.nrdc.org/health/files/airpollutionhealthimpacts pdf.
[8] Bailey, 2014.

Furthermore, the diluted bitumen transported from Canada that arrives in U.S. refineries is more corrosive than conventional crude oils and may lead to increased risk of refinery accidents.[9] In fact, low-quality crudes, like tar sands, were found by the U.S. Chemical Safety Board to be a contributing factor in a major accident at the Chevron refinery in Richmond, California, in August 2012, which sent approximately 15,000 residents to area hospitals and endangered the lives of 19 workers.10 Registered Nurses with California Nurses Association treated affected residents of that refinery accident at nearby, overwhelmed hospitals and saw first-hand the devastating health consequences low-quality crude operations.

Moreover, the EIR's worst case scenario spill analysis estimates a spill of approximately 180,000 gallons, that's approximately six tank cars of crude. Most crude trains are comprised of 100 or more tank cars. As such, a worst case scenario spill would be on the order of millions of gallons of crude. Such a spill could devastate scarce water resources, property and local economies, and would pose a significant threat to public health and safety. This project cannot be approved without analyzing and mitigating its full and true impacts. CNA-05

The EIR must fully analyze the potential worst-case scenario of a spill near each of the many watersheds crossed en route to the Santa Maria refinery. The proposed rail route brings oil trains through the San Francisco Bay-Delta watershed and along California's treasured central coast. Each oil train carries more than three million gallons of explosive, toxic crude oil. A derailment near a river, stream, reservoir, or above a groundwater aquifer could contaminate drinking water for millions of Californians. During a time of extreme drought, SLO must not approve this project and create contamination risk for the rest of our state.

Climate Change

Climate change affects all of the social and environmental determinants of health, including clean air, safe drinking water, sufficient food, and secure shelter. Reducing emissions of greenhouse gases through can result in improved health, not only through immediate reduced air pollution, but also in addressing the long-lasting and potentially irreversible effects of climate change.

Phillips 66 must disclose crude quality information in order for decision makers to fully understand the climate impacts of the proposed rail project. At every stage of the mining, transportation, and refining process, Canadian tar sands are more carbon intensive than any other source of oil. At a time where it is critical for the health of our communities both locally and globally to reduce carbon emissions, this project threatens to bring tar sands to California and undermine the state's efforts to be a global leader addressing climate disruption. CNA-06

For registered nurses the climate crisis is a clear and present public-health emergency as well as a creeping bomb for our planet – and nurses understand the link between extreme forms of energy extraction, refining, transportation and consumption and the horrific impacts on human health.

---

[9] Bailey, 2014.
[10] Bailey, 2014.

Conclusion

RNs provide expert care at the bedside and in the communities of the vulnerable and ill on a daily basis. Whether caring for a child struggling with asthma or a worker battling occupational cancer, RNs treat patients with compassion and are acutely aware of the environmental contributors to health. As advocates, nurses are called to take action to prevent harm and relieve suffering. RNs have serious concerns about the health impacts of the proposed Phillips 66 project.

For all the aforementioned reasons, nurses urge the San Luis Obispo County Planning Commission and Board of Supervisors to reject the Phillips 66 proposed rail spur. This project creates significant, unavoidable, and unnecessary risks for our patients, our communities, and our climate. CNA-07

Sincerely,

Deborah Burger

Toxin	Carcinogen	Health Effects	Sources for Health Effects	Source Viewed Date
Benzene	1	Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidence of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. EPA has classified benzene as known human carcinogen for all routes of exposure.	http://www.epa.gov/ttn/atw/hlthef/benzene.html	Viewed on 4/7/14
Copper		High levels of copper can be harmful. Breathing high levels of copper can cause irritation of your nose and throat. Ingesting high levels of copper can cause nausea, vomiting, and diarrhea. Very-high doses of copper can cause damage to your liver and kidneys, and can even cause death.	http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=205&tid=37	Viewed on 4/7/14
Ethylene	1	Inhalation of air containing high levels of ethylene may lead to effects including headache, drowsiness, dizziness, nausea, weakness and unconsciousness. Studies have shown that ethylene is metabolised to ethylene oxide, which has more adverse effects on human health. The International Agency for Research on Cancer has designated ethylene oxide as a carcinogen.	http://apps.sepa.org.uk/spripa/Pages/SubstanceInformation.aspx?pid=54	Viewed on 11/17/14
Ethylbenzene		Acute (short-term) exposure to ethylbenzene in humans results in respiratory effects, such as throat irritation and chest constriction, irritation of the eyes, and neurological effects such as dizziness. Chronic (long-term) exposure to ethylbenzene by inhalation in humans has shown conflicting results regarding its effects on the blood. Animal studies have reported effects on the blood, liver, and kidneys from chronic inhalation exposure to ethylbenzene. Limited information is available on the carcinogenic effects of ethylbenzene in humans. In a study by the National Toxicology Program (NTP), exposure to ethylbenzene by inhalation resulted in an increased incidence of kidney and testicular tumors in rats, and lung and liver tumors in mice. EPA has classified ethylbenzene as a Group D, not classifiable as to human carcinogenicity.	http://www.epa.gov/ttn/atw/hlthef/ethylben.html	Viewed on 4/7/14
Lead Compounds	1	Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. Highlevel exposure in men can damage the organs responsible for sperm production. EPA has determined that lead is a probable human carcinogen.	http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=93&tid=22	Viewed on 4/7/14
Nickel	1	Nickel dermatitis, consisting of itching of the fingers, hands, and forearms, is the most common effect in humans from chronic (long-term) skin contact with nickel. Respiratory effects have also been reported in humans from inhalation exposure to nickel. Human and animal studies have reported an increased risk of lung and nasal cancers from exposure to nickel refinery dusts and nickel subsulfide. Animal studies of soluble nickel compounds (i.e., nickel carbonyl) have reported lung tumors. EPA has classified nickel refinery dust and nickel subsulfide as Group A, human carcinogens, and nickel carbonyl as a Group B2, probable human carcinogen.	http://www.epa.gov/ttn/atw/hlthef/nickel.html	Viewed on 4/7/14

Toluene		The central nervous system (CNS) is the primary target organ for toluene toxicity in both humans and animals for acute (short-term) and chronic (long-term) exposures. CNS dysfunction and narcosis have been frequently observed in humans acutely exposed to elevated airborne levels of toluene; symptoms include fatigue, sleepiness, headaches, and nausea. CNS depression has been reported to occur in chronic abusers exposed to high levels of toluene. Chronic inhalation exposure of humans to toluene also causes irritation of the upper respiratory tract and eyes, sore throat, dizziness, and headache. Human studies have reported developmental effects, such as CNS dysfunction, attention deficits, and minor craniofacial and limb anomalies, in the children of pregnant women exposed to high levels of toluene or mixed solvents by inhalation. EPA has concluded that that there is inadequate information to assess the carcinogenic potential of toluene.	http://www.epa.gov/ttn/atw/hlthef/toluene.html	Viewed on 4/7/14
Xylene		Acute (short-term) inhalation exposure to mixed xylenes in humans results in irritation of the eyes, nose, and throat, gastrointestinal effects, eye irritation, and neurological effects. Chronic (long-term) inhalation exposure of humans to mixed xylenes results primarily in central nervous system (CNS) effects, such as headache, dizziness, fatigue, tremors, and incoordination; respiratory, cardiovascular, and kidney effects have also been reported. EPA has classified mixed xylenes as a Group D, not classifiable as to human carcinogenicity.	http://www.epa.gov/ttn/atw/hlthef/xylenes.html	Viewed on 4/7/14