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California Energy Commission
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Ms. Stephanie Bailey
California Energy Commission
Dockets Office, MS-4
Re: Docket No. 14-IEP-1
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Draft *2014 IEPR Update* (Docket number 14-IEP-1)

Dear Ms. Bailey,

This letter provides comment on behalf of BNSF Railway Company ("BNSF") to the California Energy Commission Integrated Energy Policy Update ("Update"), specifically with respect to Chapter 7, "Changing Trends in Sources of Crude Oil". We appreciate the opportunity to have participated in the workshop in Berkeley on June 25, 2014 and believe the Update accurately portrays the discussion; however, we believe the Update falls short of truly representing BNSF's commitment to safety, overstates the local risks associated with rail shipments of crude oil, and inadequately addresses the extent to which Federal laws control the shipments of crude oil and hazardous materials in general.

BNSF Railway is a Safety Leader

Nothing is more important to BNSF than safety. As a leader in railroad safety, we recognize a safe and secure railroad network is essential to our nation's future and important to all our stakeholders. U.S. railroads have some of the lowest injury and accident rates in the transportation industry and are continually improving. The rail industry as a whole is very safe and has reduced employee injury rates, train accident rates, and grade crossing collision rates by more than 80 percent since 1980. In 2013, BNSF experienced the lowest number of main line derailments in its history.

Each year, BNSF makes significant capital investments which help ensure a safe and reliable physical plant for our employees, our customers and the communities we serve. BNSF has invested more than $42 billion since 2000 in infrastructure, equipment and technology, with an additional $5.5 billion underway in 2014.

BNSF's safety vision is to operate free of accidents and injuries – preventing them in the first place. In striving to accomplish our vision, we have learned over many years that success in safety depends on creating a culture of safety – it is the foundational basis for future safety improvements.

Safety starts with our people in the communities where we operate. Ultimately, we measure our safety success by having a safe environment free of accidents and injuries for our employees. Behavior-based safety has been one of BNSF's key people initiatives for several years and continues this year. This initiative focuses on the processes that reinforce safe behaviors and rules compliance, including communication and training. To drive continued safety improvements, we will maintain our focus on rules compliance, continue our commitment to eliminating all at-risk behavior, and take accountability for our own safety and the safety of our co-workers.

This safety culture, combined with other safety initiatives, has allowed BNSF Railway to reduce reportable injuries by 38 percent compared to 2010 and 48 percent over 2008.

In fact, 2012 and 2013 were the safest years in history for the rail industry, according to Federal Railroad Administration (FRA) records, with rail volumes of all kinds increasing as the economy continued to recover. In 2013, BNSF Railway delivered record crude oil volumes safely – 99.997 percent of crude shipments moved by rail without incident. Rail is the safest mode of land transportation for freight in general and is one of the safest ways to transport crude oil and hazardous materials on land. By comparison, moving hazardous material by truck is 20 times more likely than rail transport to result in a spill.
(https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Dashboard&NQUser=HazmatWebsiteUser1&NQPassword=HazmatWebsiteUser1&PortalPath=/shared/Public%20Website%20Pages/_portal/10%20Year%20Incident%20Summary%20Reports)

BNSF Railway Safety Program Elements

BNSF has a broad-based risk reduction program designed to address the most significant causes of derailments and accidents. The first element addresses the human factor, emphasizing training, remote monitoring, self-reporting protocols, and developing new technologies, such as positive train control as a safety overlay.

Training—Employees are trained on exposure and risk identification. They look out for one another—reinforcing positive safety behavior by acknowledging when people are working safely and expressing concern when someone puts themselves or others at risk. Employees are trained on a comprehensive set of safety rules and practices, from federal mandates and rail industry recommendations to BNSF-specific safety initiatives. A major portion of our formal training is conducted at BNSF Railway's Technical Training Center (TTC) in Overland Park, Kansas, which features simulation and lab equipment representing all major equipment types. Mobile field training is also utilized. In addition, we have collective agreements with our employee organizations utilizing craft instructors across our system focused on safety rules and practices.

Testing and Audits—BNSF conducts operational tests and audits, in the field and remotely, to verify employees are working safely and in compliance with all company rules, policies, instructions and procedures.

The second element of our testing program encompasses equipment and mechanical issues. BNSF conducts mechanical inspections of cars at our terminals and during roll-by inspections of trains. We also utilize sophisticated technology in our extensive network of wayside detectors, measuring key conditions of each passing freight car, so we can identify undue stresses on the wheels or other equipment and prevent potential equipment failures. Devices deployed all along

our right of way provide instant readings on rail equipment conditions, making it possible to pull cars and equipment out of service – even when in transit – if conditions pose a risk of derailment or failure. For example, rail cars and other mechanical components are regularly inspected using ultrasonic devices and a network of detectors designed to identify problems such as dragging equipment or acoustic abnormalities indicative of wheel defects. Further, we utilize thermal/infrared scanning for warm bearing detection in rail car wheels and force-based strain gage systems to find wheels which need replacement while in transit.

The third element of our testing program covers track, bridges and signal systems. BNSF inspects track and bridges more frequently than required by the FRA. Key main line track is inspected at least four times each week, with the busiest track inspected daily. BNSF geometry cars measure track surface, alignment, curve geometry, gage and rail wear. The geometry vehicles use sophisticated computer and laser technologies that serve to identify defects and monitor performance. The geometry car inspections have increased with many of our core routes inspected up to 6 times per year. This does not include the geometry cars that the FRA uses to inspect, as well. Internal rail inspections are done with state-of-the-art ultrasonic hy-rail equipment. This equipment inspects for internal defects such as detail fractures. In addition to the normal hy-rail inspections, on-foot inspections of all turn-outs on the main lines and yard tracks are performed at least monthly. Track inspectors record track conditions and update our automated database following each inspection. This information is provided to the FRA. Moreover, supervisors are also required to make regular train rides over their assigned territories to gain additional perspective on track conditions.

BNSF is responsible for 1,098 railroad bridges in California. Each bridge has its own unique inspection requirement based on factors such as design, age, type of construction, and inspection history. BNSF's inspection frequency significantly exceeds FRA requirements, including inspection of bridges on core routes three times per year and when special conditions or events occur. Inspectors are selected based on a combination of demonstrated ability, field experience in the Structures Department, and passing examinations testing their knowledge of Federal regulations.

BNSF's vigorous preventive maintenance program is backed by an industry-leading capital budget that provides unprecedented financial resources. BNSF will spend a record $5.5 billion on capital projects in 2014 to support maintenance and expansion – $2.3 billion for network maintenance.

Regular maintenance, inspections and operating practices are modified or supplemented as warranted when weather or other natural conditions change our operating environment. We monitor all weather conditions and seismic activity which could affect the railroad. For example, depending on speed and direction, high winds may require we stage trains differently or alter operating speeds. Flooding, heavy rains, unusually cold or hot temperatures and seismic activity can trigger additional inspections and speed restrictions.

Positive Train Control—Another technology the company is advancing is called Positive Train Control (PTC). PTC is predictive, advanced train control safety technology that is designed to prevent train-to-train collisions, enforce speed limits and protect workers, equipment and the public. It allows train actions to be monitored remotely and even provides an opportunity to remotely take control of a train if it deviates from normal operating requirements. For example, a train approaching a switch may be required to begin decelerating within a certain range. Using

information provided by the PTC system, if a technician watching that train from a remote location determines that it is approaching the switch too fast, the technician would make a preliminary contact with the train engineer to ensure the train is otherwise operating properly. If this contact is unsuccessful, then PTC allows the technician to stop the train remotely in order to avoid a possible incident. This emerging technology is an additional tool in identifying potential problems before they occur.

Prevention: Operating Practices for Key Trains

For more than two decades, BNSF and the rail industry have operated specially identified "Key Trains," which carry certain hazardous materials, with more restrictive operating procedures than required by federal law. These practices now extend to crude oil and ethanol shipments. Special handling procedures are put in place for Key Trains, including special identification and tracking as well as speed restrictions, including a 50 mph max speed limit. Key Trains will not be left unattended on main line or siding tracks unless a detailed briefing regarding securement procedures has taken place between train crew members and the train dispatcher. Key Trains left unattended will have the reverser removed and the cab will be locked when equipped.

Key routes are also identified and are subjected to more intensive deployment of wayside wheel bearing detectors, undergo more frequent track inspections, and more intensive minimum track maintenance standards.

Prevention: U.S. DOT Agreement Provides Additional Operating Practice Risk Reductions

Earlier this year, BNSF and the other Class 1 railroads operating in the U.S. entered into a voluntary agreement with the U.S. Department of Transportation (DOT) on a program of additional operating measures focused on addressing challenges posed by moving crude oil. This program includes the following features:

Speed Restrictions: Speed restrictions of 40 mph for Key Trains carrying crude in DOT-111 tank cars through High Threat Urban Areas (HTUAs).

Risk-based Routing: Apply the DOT adopted Rail Corridor Risk Management System (RCRMS) and its 27 risk factors that define the "most safe and secure" route for trains carrying TIH/PIH, to the routing of unit crude trains.

Derailment Prevention: Wayside Detector Network – a maximum of 40 mile spacing of defective bearing detectors (detects flaws with equipment wheels as they pass detector device) on key crude oil routes. Railroads will also perform at least one more internal rail inspection than required by federal regulations and at least two high-tech track geometry inspections each year on main line routes over which 20 or more loaded cars of crude oil are moving.

Distributed Power: All key crude trains operated with Distributed Power (DP) or an operative two-way End of Train Device (ETD). BNSF crude trains operate with DP.

Emergency Response: In addition to local training already undertaken by BNSF, the rail industry committed up to $5 million to develop and deliver crude-specific hazmat training to first responders and committed to develop an inventory of emergency response resources. The

funding will provide program development as well as tuition assistance for an estimated 1,500 first responders in 2014.

BNSF has committed to Tank Car Improvements

BNSF Railway is reviewing bids from major railcar manufacturers for the construction of 5,000 Next Generation Tank Cars to be used for transporting crude oil. The tank car RFP represents an important milestone in the improvement of safety standards for the transportation of crude by rail.

First Responder Coordination

There has been no evidence presented, to date, of "numerous local emergency response agencies that [sic] lack resources to respond to a CBR incident", as claimed on p. 158 of the Update. The railroads have historically worked with and provided training for local responders.

Information Sharing – For many years, BNSF has provided local first responders information about hazmat shipments upon request. In addition, pursuant to the U.S. DOT Emergency Order issued on May 7, 2014, BNSF provides State Emergency Response Commissions an estimate of the number of trains per week which transport 1 million gallons or more of Bakken crude oil. BNSF has complied with the Emergency Order in every state where our Bakken volumes are sufficient to trigger the order. Nevertheless, inasmuch as the Emergency Order does not provide detailed guidance on how to present the required information, and in response to concerns expressed by California Office of Emergency Services ("OES") representatives, we have endeavored to work with OES to provide this information in a format and on a basis they believe is easier to read and review. It is our understanding BNSF, OES and CPUC representatives have refined the report to make it more useful to state officials.

Through the AAR, the rail industry has implemented the first phase of an automated system which will give first responders the ability to directly access current information about specific rail cars in the event of derailment and possible hazmat issue. AAR hopes to put in service the next phase of this automated access system designed to give first responders hazmat information for an entire train in their jurisdiction.

First Responder Training – BNSF believes first responders must be properly trained to respond safely. BNSF and the railroad industry train first responders in their communities under a longstanding program called "TRANSCAER" (Transportation Community Awareness and Emergency Response). This in-depth and hands-on emergency response training covers critical topics such as:

- Railroad safety
- Train list / Shipping papers / Placards / Equipment
- Incident Assessment and Response

Moreover, BNSF trains between 4,000 to 8,000 local emergency responders each year (~8,500 year-to-date in 2014) in communities across our rail network and, through TRANSCAER, we have trained more than 70,000 emergency responders nationally since 1996. In recognition of our outreach and training efforts, BNSF has received the National TRANSCAER Achievement Award for the last 11 years in a row.

As part of the rail industry's commitment to the U.S. Secretary of Transportation, we are also sponsoring specialized training for first responders on BNSF crude oil routes. In 2014, BNSF is covering the cost for over 750 students to attend the three-day class at the Security and Emergency Response Training Center (SERTC) at Pueblo, Colorado. We have invited first responders from agencies along our routes in California to this specialized training. In 2015, BNSF will offer additional training opportunities at SERTC.

Mobilizing a Local Response – In the event of an incident, BNSF has pre-positioned 220 first responders and equipment at 60 locations across the network. Our resources include:

- Industrial fire-fighting foam trailers
- Emergency breathing air trailers
- Chlorine kits
- Midland kits
- Air monitoring assets
- Spill containment and control equipment (e.g. deflection and absorbent boom, etc.)

In addition, BNSF maintains an extensive network of contract responders and utilizes a Geographic Information System (GIS) to locate the nearest responder to an incident as well as potential sensitive receptors.

Federal Rules Address Crude-by-Rail

With respect to the Update's outline of agency roles and responsibility, we generally agree with the Update's summary of the roles of federal, state and local agencies as described on pp. 141-143, but the Update merely touches the surface of the safety-related Federal rules that govern crude-by-rail shipments. In fact, the Pipeline and Hazardous Materials Safety Administration ("PHMSA") and the Federal Railroad Administration ("FRA"), both agencies of the U.S. Department of Transportation ("DOT"), have promulgated dozens of rules, occupying hundreds of pages of the Code of Federal Regulations, resulting in a sweeping set of intricate federal statutes and regulations dictating the processes and procedures required for carrying oil and other potentially dangerous substances via train. For example, pursuant to federal rules, hazardous materials shipped by BNSF receive special identification and handling that includes tracking of all sensitive shipments, in-train placement checks and emergency response information. Crude-by-rail shipments in California are covered by these federal rules and are not unique. And an additional federal rulemaking is currently underway for crude movements on rail that will implement a stronger tank car standard and a phase-out of existing tank cars that are not retrofit to the new standard.

Further, the Federal Railroad Safety Act ("FRSA") declares that "[l]aws, regulations, and orders related to railroad safety . . . shall be nationally uniform to the extent practicable," and includes an express preemption provision prohibiting state regulation wherever the U. S. Department of Transportation "prescribes a regulation or issues an order covering the subject matter of the state requirement." Other federal laws, such as the Locomotive Inspection Act and the ICC Termination Act ("ICCTA"), govern related aspects of railroad operations—including the design of rail safety devices, and the financial solvency of carriers—and have long been held to preempt state rules addressing those areas.

Federal uniformity of regulation is necessary to avoid a patchwork of state by state regulation of interstate railroad operations that would add unneeded inefficiencies and complications to railroad operations and would ultimately be detrimental to all railroad stakeholders?

Working Towards a Common Understanding and Fact-Driven Solutions

As people whose lives and livelihood depend on moving freight safely and without incident, we are affected by any accident, but profoundly so when an accident results in loss of life or devastates a community. This is so whether any such accident takes place on our railroad or another railroad. We hope you understand that we make it our mission and business to run as safely as possible and to learn from any incident to achieve our safety goals.

While we share a commitment to safety, this commonality requires frankness and direct communication about risks. To that point, we believe the Update omits key facts about rail safety. There is little or no credit given to either the rail industry or Federal officials for a number of safety measures which have produced and will continue to result in significant safety improvements – several of which we have highlighted for you in this letter. More specifically, the Update implies that a mere increase in crude shipments will result in more frequent incident. Yet, the safety data clearly establish that despite rapid growth in crude by rail transport in the U.S., the actual rate of incidents resulting in oil spills has declined.

Although crude-by-rail shipments are increasing, the overall percentage of crude received in California—by the Update's own admission (p. 155)—remains quite low. The Update claims crude by rail transportation will increase dramatically, yet these projections are quite speculative. Actual growth will be a function of many factors, including the price of oil and the approval of new facilities, which can be a time-consuming and costly process.

In fact, the volume of crude oil shipped by rail in the United States has increased by 37 times in the last four years, from 10,840 carloads originated on U.S. Class I freight railroads in 2009 to 407,642 in 2013. If we compare the years of sharp crude oil traffic increases (2010-2013) with prior years going back to 1978 (the earliest year for which we have crude oil traffic data) with respect to train accidents with a crude oil release, here's what we find:

1978-2009: 719,984 carloads of crude oil; 56 cars releasing in 23 train accidents;
32 accidents per million carloads; 0.0078 % of carloads releasing;

2010-2013: 736,696 carloads of crude oil; 51 cars releasing in 6 train accidents;
8 accidents per million carloads; 0.0069 % of carloads releasing;

So, in the last four years, U.S. Class I railroads have originated more carloads of crude oil than in the prior 32 years, a period eight times as long. In the last four years, U.S. railroads have had a crude oil release accident rate (accidents per million carloads) one-fourth of that over the prior 32 years, and the percentage of originated carloads releasing in accidents has actually gone down about one-tenth.

We offer this data to illustrate how a better, more open dialogue with regular direct communication focusing on all the facts can point to the safety-critical issues and most

meaningful solutions. Improved tank car standards, in conjunction with current safety measures undertaken for all Key Trains and crude oil trains, have a major impact in reducing the risk and severity of possible crude by rail incidents. Without a common understanding of the facts, an organization runs the risk of mistaking actions taken for real measures which will actually result in greater safety.

I appreciate the opportunity to submit this comment to the Update. Please do not hesitate to contact me with questions regarding these comments.

Regards,

LaDonna DiCamillo