State of California
Division of Occupational Safety and Health

Investigation Summary

Reporting ID	Investigation Summary Number	OSHA-36 Number	OSHA-36 Establishment Name
0950621	**202492161**	**102680253**	**Northern Energy**
Event Date	**08/23/11**	Event Time	**01:00 pm**
Type of Event	**propane rail care exploded**		

Inspection Number/ Establishment Name	**314572660** **Northern Energy**
Injured/Deceased Name	**SEAN SCALISE**
Sex:	**M. Male**
Age:	**37**
Injury:	**C. Nonhospitalized**
Nature:	**05 Burn or scald (heat)**
Part of Body:	**19 Multiple**
Source of Injury:	**16 Fire or smoke**
Event Type:	**14 Other**
Environmental Factor:	**10 Flammable liquid or solid exposure**
Human Factor:	**14 Other**
Task:	**A Regularly Assigned**
Substance Code:	**2150 - PROPANE**
Occupational Code	

Abstract:

On 8/23/2011 at 1:30pm I received a call from Chrys Juneau Anderson the HR manager for Heritage/Titan Propane LLC (dba Northern Energy) to file an accident report. The accident at Titan Propane LLC-DBA Northern Energy, Inc was at 980 9TH Street, Lincoln, CA. Northern Energy is a commercial liquid propane gas (LPG) supplier. Before noon on August 23, 2011 an employee #1 the district manager at the site for Northern Energy, Inc. was on top of a railroad tank car located on a private rail spur at this private facility. He was taking measurements and running checks on the extremely flammable liquid propane inside the rail car tank, prior to unloading it, when some LPG being released flashed causing a fire. I was assigned the case by the Sacramento District manager. Measurements and checks had been done by employee #2 on the first three of 4 railcar tanks each containing a reported 29,000 gallons of LPG. The first railcar tank had been unloaded that morning. The employees switched and employee #1 climbed up on the 4th and last 13 to 15 foot tall railcar tank, opening the dome on top of the manway (a protective housing that contains tank valves and gauges) in the middle of the 67 foot long x 10 foot wide railcar tank. Using a stainless steel wrench channel locks (pliers), standing on the north side of the manway, employee#1, bending over, moved to each gauge or valve and opened a metal plug or cap, performed his observation and then put the cap or plug back on and tightened it. The process involved gauging the amount of propane in the tank, measuring the temperature, and lastly, unscrewing a steel plug from the sampling valve and taking it out and then opening a small sampling valve handle on top of the valve to allow liquid propane under pressure to shoot out of the port to detect if the propane is odorized and also to check water vapor. Water vapor is checked by looking for white crystals as the liquid propane under pressure hits the inside of the round, bowl-like steel manway and starts to fill it. It was after employee #1 had opened the small sampling valve, stood up waited until he got the necessary information and was in the process of bending back down to close the valve that the propane in the manway flashed, injuring employee #1 with 1st and 2nd degree burns to his arms and leg, and starting a fire. When the rail car tanks are unloaded or loaded they are connected by a large bonding strap from the loading tower to a connection point on the tank car. This is done because while the tracks and the wheels (trucks) of the tank car are grounded that can stop at the insulated bearings. As this railcar was being checked and not unloaded, at the time of the fire, it had not been hooked up by this bonding strap. Employee #1 at the time of the incident was wearing rubber soled tennis shoes (these shoes were syhthetic and did not have an attached heel grounding assembly to prevent electrostatic discharge), socks, shorts(65% polyester-35%cotton), leather gloves, tee shirt. Humidity and wind speed at the time of the incident were approximately 27% and 7 mph respectively. The temperature at the time of this incident was about 88 degrees F. The top of the tank car was blackand probably very

hot to the touch. At the Northern Energy tank farm in Lincoln the railroad tank car continued to burn. Four unmanned hoses were continuously spraying 5,000 gallons/min of water on the rail car to keep it cool and keep the pressure down as there was a concern that the tank could build up pressure and cause an explosion or BLEVE (Boiling Liquid Expanding Vapor Explosion). Adding to the danger of the burning railcar was that it was still connected to 3 other railcar tanks possibly containing as much as 29,000 gallons of LPG each, and there were numerous other larger stationary LPG tanks containing from 170,000 to 500,000 gallons located approximately 200 hundred feet away. So if this tank car were to explode, the fear was that it would ignite all the propane in the other tanks. The possibility of an explosion prompted mandatory evacuations for a one mile area surrounding the company. The evacuations remained in place until early Thursday morning. The tank car fire was put out late Wednesday night/early Thursday morning.

Because of the fire and evacuations, I was unable to physically get to the plant until Thursday morning August 25th,2011.This relatively new railcar tank was from UTLX. The dimensions of this railcar are approximately: outside length 67'5" X outside width 10'8"X outside height 15'6".

[redacted]

CSHO Signature:		Date:	11/23/11
DM Signature:		Date:	2/13/12
RM Signature:		Date:	

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

* |__| Fatality

* W.C. Carrier Liberty Mutual___

—

NARRATIVE SUMMARY

Establishment Name	Northern Energy	Inspection Number	314572660
Management Contacted	Richard Martinelli Sean Scalise	Title	VP and regional manager District manager

Information on Injured

Covered by Workers' Compensation Yes_X__ No___

Name, Address, and Phone Number	Occupation
Sean Scalise. [redacted]	DISTRICT MANAGER

Use additional forms(s) as needed.

Witness Name(s) and Title

*Check box preceding name if confidentiality is given.

*	Names and Title(s)	Address	Phone No.	Signed Statement? YES NO
	SEAN SCALISE	[redacted]		GAVE PERMISSION FOR RECORDED INTERVIEW
	GLEN CROCKET			GAVE PERMISSION TO RECORD INTERVIEW
	RICHARD MARTINELLI			LET HIM KNOW THAT WAS GOING TO RECORD INTERVIEW

Summary

On 8/23/2011 at 1:30pm I received a call from Chrys Juneau Anderson the HR manager for Heritage/Titan Propane LLC (dba Northern Energy) to file an accident report. The accident at Titan Propane LLC-DBA Northern Energy, Inc was at 980 9TH Street, Lincoln, CA. Northern Energy is a commercial liquid propane gas (LPG) supplier. Before noon on August 23, 2011 an employee #1 the district manager at the site for Northern Energy, Inc. was on top of a railroad tank car located on a private rail spur at this private facility. He was taking measurements and running checks on the extremely flammable liquid propane inside the rail car tank, prior to unloading it, when some LPG being released flashed causing a fire. I was assigned the case by the Sacramento District manager. Measurements and checks had been done by employee #2 on the first three of 4 railcar tanks each containing a reported 29,000 gallons of LPG. The first railcar tank had been unloaded that morning. The employees switched and employee #1 climbed up on the 4th and last 13 to 15 foot tall railcar tank, opening the dome on top of the manway (an approximately 3.5 foot across protective housing that contains tank valves and gauges) in the middle of the railcar. Using stainless steel wrench channel locks (pliers) employee#1 moved to each gauge or valve and opened a metal plug or cap, performed his observation and then put the cap or plug back on and tightened it. The process involved gauging the amount of propane in the tank, measuring the temperature, and lastly, unscrewing a steel plug from the sampling valve and taking it out and then opening a small sampling valve handle on top of the valve to allow liquid propane under pressure to shoot out of the port to detect if the propane is odorized and also to check water vapor.

Water vapor is checked by looking for white crystals as the liquid propane under pressure hits the inside of the round, bowl-like steel manway and starts to fill it. According to employee #1, the sampling valve port on the majority of railcar tanks would be coming out at a 90 degree angle from the valve. This configuration would shoot LPG straight into the side of the manway. However, on this railcar, the port was pointing up approximately 45 degrees towards the top rim of the manway. The LPG spraying out at a 45 degree outlet would come closer to the sampling valve opening and closing handle on top (and also to the top rim of the steel manway) then a valve port pointing 90 degrees from the valve, spraying straight out. It was after employee #1 had opened the small sampling valve, stood up waited until he got the necessary information and was in the process of bending back down to close the valve that the propane in the manway flashed, injuring employee #1 with 1st and 2nd degree burns to his arms and leg, and starting a fire. When the rail car tanks are unloaded or loaded they are connected by a large bonding strap from the loading tower to a connection point on the tank car. This is done because while the tracks and the wheels (trucks) of the tank car are grounded that can stop at the insulated bearings. As this railcar was being checked and not unloaded, at the time of the fire, it had not been hooked up by this bonding strap. Employee #1 at the time of the incident was wearing rubber (type) soled tennis shoes (these shoes did not have an attached heel grounding assembly to prevent electrostatic discharge), socks, shorts (65% polyester-35%cotton, leather gloves, tee shirt(90%cotton-10%polyester). Humidity and wind speed at the time of the incident were approximately 27% and 7 mph respectively. The temperature at the time of this incident was about 88 degrees F. The top of the tank car was black and could be very hot to the touch. At the Northern Energy tank farm in Lincoln the railroad tank car continued to burn. Four unmanned hoses were continuously spraying 5,000 gallons/min of water on the rail car to keep it cool and keep the pressure down as there was a concern that the tank could build up pressure and cause an explosion or BLEVE (Boiling Liquid Expanding Vapor Explosion). Adding to the danger of the burning railcar was that it was still connected to 3 other railcar tanks possibly containing as much as 29,000 gallons of LPG each, and there were numerous other larger stationary LPG tanks containing from 170,000 to 500,000 gallons located approximately 200 hundred feet away. So if this tank car were to explode, the fear was that it would ignite all the propane in the other tanks. The possibility of an explosion prompted mandatory evacuations for a one mile area surrounding the company. The evacuations remained in place until early Thursday morning. The tank car fire was put out late Wednesday night/early Thursday morning. Because of the fire and evacuations, I was unable to physically get to the plant until Thursday morning August 25th,2011.This relatively new railcar tank was from UTLX. The dimensions of this railcar are approximately: outside length 67'5" X outside width 10'8"X outside height 15'6".

916-647-3429-Office
406-457-8159-Chrys Juneau Anderson HR
964-910-2244-Jerry Lucas
775-530-6742-Richard Martinelli-VP & Regional Manager
916-276-5018-Sean Scalise- District manager at the Lincoln site
530-633-8223-Sean Scalise-Home
916-645-4040-Dave Witt-Lincoln Fire Chief
916-645-4040-David Ibarra- Lincoln police

		Signature	Date
Prepared by:	CSE, IH	[redacted]	
Reviewed by:	DM/SR. IH		2/13/12
	Regional Manager		