

Exhibit No. ___ (KSC-3)
Docket No. PG-041624
Witness: Kuang-Shi Chu

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

DOCKET NO. PG-041624

**EXHIBIT TO
TESTIMONY OF**

Kuang-Shi Chu

**STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

Chronology

July 21, 2005

Chronology

Timeline Of Events

Time	Date	Event	Person involved
	1/10/1963	69 feet of ¾ inch steel service line installed by Mid Mountain contractors	Mid Mountain Contractors
	1982	Vasa Park Rectifier installed in 1982.	
	6/30/2004	PSE exposed pipe report with good PSP readings in Spiritridge neighborhood	Bruce Voutour (Pilchuck)
	July-August, 2004	Investigation by PSE about the potential coating damage of a high pressure (HP) main by the installation of a sound wall over the coated pipe.	PSE personnel
	8/30/2004	PSE exposed pipe report with -0.0V PSP reading in Spiritridge neighborhood indicating reverse polarity on the system	Pilchuck & PSE
8:29 AM	9/2/2004	The occupant at 16648 SE 26th Place in Bellevue called PSE to report a strong outside odor.	George Thompson
8:37 AM	9/2/2004	PSE personnel notified of the leak requiring an immediate response	Clipper Edwards
8:50 AM	9/2/2004	PSE's first responder arrived at the site	Clipper Edwards
	9/2/2004	Francis Schmitz was talking to her son on the telephone just before the incident. Prior to the explosion, her son heard her gasp as if she had seen something, when the conversation abruptly ended.	
9:00 AM	9/2/2004	PSE personnel arrived at the site at 8:50 AM on the south side of the road before the cul-de-sac. Residents approached the technician almost immediately. According to the technician, he, "Saw approximately five neighborhood residents standing on the street and spoke with them for approximately one minute about the gas odor report. The resident who had contacted PSE was not present." He then began performing a general assessment of the area using his leak detection instrument (Gas Trac) checking sewers and other areas. There was a lot of confusion because the residents were asking questions and	Clipper Edwards

		offering information. The technician continued with company procedures trying to identify the location of the gas leak.	
	9/2/2004	<p>The PSE technician checked meters at residences located at 16635, 16639, and 16641 and found zero readings for gas to air concentration. As he went back to the street, he found a reading near the front of the house at 16641. He called the company dispatch and asked for a "service run" which gives details on the service. This neighborhood earlier had gas lamps near the street at many of residences. These lamps were removed.</p> <p>He bar holed (about ½" diameter solid steel bar punching a hole into the ground for gas leak detection) the area in approximately seven locations and again found zero readings.</p> <p>The PSE technician called the dispatch office and asked for backup assistance. In the process, he moved his car to the front of the failure site. He resumed bar hole testing over sewers and the main.</p>	Clipper Edwards
9:29 AM	9/2/2004	The PSE technician was standing in the cul-de-sac in front of 16641 when he heard a loud boom and felt the home at 16645 (Schmitz house) exploded.	Clipper Edwards
9:29 AM	9/2/2004	The PSE technician telephoned PSE dispatch and explained what had happened and asked for emergency notification. He asked to have the power to the area shut off because he noticed a power line sagging overhead. PSE is also the power supplier in the area.	Clipper Edwards
9:29 AM	9/2/2004	<p>Francis Schmitz walked out of the front door of the burning house still smoldering when her neighbor assisted her to a grassy area across the street. She was taken to the Harborview Medical Center Burn Unit where she was found to be in critical condition with burns covering 50 percent of her body. The burns were rated at third degree and higher. She remained in critical condition until September 26, 2004 when she died because of her injuries.</p> <p>The only other injuries were to the family dog which was never found. The family cat managed to escape and was</p>	

		taken to a nearby veterinarian for treatment.	
9:30 AM	9/2/2004	The City of Bellevue's Fire Department (BFD) was notified of the incident at 9:30 AM and the first unit arrived onsite at 9:36 AM. According to Mr. Spivey of the BFD, "Enroute to the scene we could see a smoke column from over 30 blocks away." He noted that the power line was down.	Del Spivey
10:00 AM	9/2/2004	Approximately at 10:00 AM, PSE contractors squeezed off the service line approximately 3-4 feet from the main, shutting off gas supply to the Schmitz home.	Pilchuck Contractors
10:28 AM	9/2/2004	The WUTC was notified of the incident by Harry Shapiro of PSE	Shapiro
11:00 AM	9/2/2004	Heath Consultants Inc. were notified of the incident and conducted a leak survey with a portable flame ionization unit after the explosion. No gas readings were found at the residences of 16636, 16639, 16641, and 16642 which had reported gas odor. A reading of 20 and 30 percent gas in air was discovered near the rockery at the failed site. There was no access because of the fire.	Ed Allen
12:12 PM	9/2/2004	Alcohol testing of PSE's Mr. Edwards found to be negative.	Dynacare Patient Services Center, Bellevue
1:42 PM	9/2/2004	National Response Center received the call from PSE	CIV Rawls
		The BFD monitored the site until the next day when the State Farm Insurance company representatives secured the area with a chain-linked fence and padlock. A security guard was hired to watch the area 24 hours a day.	
8:45 AM	9/3/2004	The failure site opened up and the BFD, WUTC, Schafer Engineering (representing State Farm Insurance), State Farm Insurance, Pickchuck Contractors, Western Engineering (representing PSE), and PSE, arrived onsite to continue investigation. Mr. John Freeman of Western Engineering used CGI to test gas concentration in the ground by bar hole along the service line. He then conducted air tests of the service in an attempt to locate the leak.	
10:00 AM	9/3/2004	Drug testing of PSE's Mr. Edwards found to be negative.	Dynacare

			Patient Services Center, Bellevue
Late morning	9/3/2004	PSE's contractor took a pipe-to-soil potential reading at the stub between the gas main and the service line and found a reading of negative 1.6 volts.	Pilchuck
Early afternoon	9/3/2004	PSE corrosion consulting engineer, corrosion technician, and WUTC investigators met on site at the rectifier to discuss the miswired rectifier. The	Patty Johnson, Aaron Drake, Alan Mulkey, Kim West
Afternoon	9/3/2004	<p>PSE's construction contractor removed the soil around the service line. The service line was a 3/4-inch steel service line connected to a 2-inch main near the road. A cinderblock wall sat over and perpendicular to the service line located near the front of the house. The wall was removed and the service line was exposed. A corrugated plastic gutter drain was also found adjacent and parallel with the foundation of the home. The escaping gas was believed to migrate along the loose soil of the gutter drain where the gas vented away from the home and up. With the wind direction, the gas odor was carried across the street.</p> <p>A drain opening leading away from a sink in the basement was found below grade. The foundation opening had a rubberized drain pipe or hose that extended approximately 1 foot away from the foundation just over the service line. The foundation opening was not sealed and could allow escaping gas to enter the residence.</p> <p>The area near the meter was exposed and two 1/4" x 3/4" holes were found at the top of the service line upstream of the riser.</p> <p>The pipe was excavated by Pilchuck contractors. No anodes were found on the service line.</p>	
7:00 PM	9/9/2004	Bellevue community meeting conducted by BFD and attended by representatives from WUTC and PSE.	

3:00 PM	9/15/2004	WUTC issues a complaint under an Emergency Adjudication	
	9/23/2004	PSE began to conduct leak surveys of all mains and service lines served by the Vasa Park rectifier required by the Commission's order in the emergency adjudicative proceeding.	
	10/26/2004	Spiritridge Neighborhood Association meeting in Bellevue	
	10/29/2004	Letters mailed to customers informing them of the incident	
	11/22/2004	PSE began to replace all steel mains and service lines in the Spiritridge neighborhood.	
	12/8/2004	WUTC began to take soil samples of the failed site and other areas in the Spiritridge neighborhood where the pipe replacement project was taking place. M.J. Schiff & Associates submitted the soil test results to PSE and City of Bellevue on March 17, 2005.	
	12/20/2004	Preparation for coating survey began	
9:32 AM	3/15/2005	Pre-hearing conference	
	4/26/2005	PSE collects risers and performs preliminary testing through C.C. Technology	
	5/4/2005	Additional soil samples were taken at the failed home by GeoEngineers while representatives from WUTC, PSE and the office of the Schmitz family's attorney were present.	
	6/21/2005	Results of coating survey submitted to WUTC Staff	
	6/28/2005	Hearing at WUTC	