Appendix W

Office of Pipeline Safety Documents

Pipeline Rupture and Fire
Bellingham, Washington
June 10, 1999
DCA-99-MP-008

U.S. Department
of Transportation

Research and
Special Programs
Administration

Western Region
Pipeline Safety

12600 W. Colfax Ave
Suite A-250
Lakewood, CO 80215-3736

LETTER OF CONCERN

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 6, 1999

3 Copies / Date 4/7/99
Sent To Compliance Registry

Mr. Frank Hopf
Equilon Pipeline Company LLC
Olympic Pipeline Company
Vice President/Manager
2319 Lind Avenue S.W.
Renton, WA 98057

CPF. No.59503C

Dear Mr. Hopf:

On March 15-19, 1999, a representative of the Western Region, Office of Pipeline Safety (OPS), pursuant to United States Code of Federal Regulations (CFR), 49 Chapter 601, conducted an onsite pipeline safety inspection of Olympic Pipeline Company's (OPL) manuals, records and facilities in the Renton, Washington area.

The facilities and records reviewed during this inspection revealed areas on your pipeline system that are cause for concern.

1. §195.402 Sec. 195.402 Procedural manual for operations, maintenance, and emergencies. (a) General. Each operator shall prepare and follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. This manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year, and appropriate changes made as necessary to insure that the manual is effective. This manual shall be prepared before initial operations of a pipeline system commence, and appropriate parts shall be kept at locations where operations and maintenance activities

locations where operations and maintenance activities are conducted.

OPL has recently adopted Texaco's operations and maintenance manuals that were reviewed within the last couple of years by a team of OPS inspectors. These manuals were accepted in their entirety as being in compliance with 49 CFR Part 195. Also, in discussions with OPL personnel, it was discovered that OPL will more than likely adopt the Equilon manuals as soon as they are combined from the Texaco and Shell manuals. OPL has an ongoing plan to incorporate their site specific plans and procedures into these newly adopted manuals. Eventually, OPL will complete this manual transformation. Until that time, care must be taken to ensure compliance with current procedures contained within the applicable manuals by operations and maintenance personnel.

2. **§195.412(a) Each operator shall, at intervals not exceeding 3 weeks, but at least 26 times each calendar year, inspect the surface conditions on or adjacent to each pipeline right-of-way. Methods of inspection include walking, driving, flying or other appropriate means of traversing the right-of-way.**

At the time of the inspection, areas of the pipeline right-of-way (ROW) were in need of clearing to make it conducive for aerial patrols. OPL is not required to perform aerial patrols, however, if OPL is going to continue aerial patrols in lieu of a more close to the ground inspection of their (ROW), the entire ROW must be sufficiently cleared to allow observations by the pilot.

3. **§195.416(i) External corrosion control: Each operator shall clean, coat with material suitable for the prevention of atmospheric corrosion, and, maintain this protection for, each component in its pipeline system that is exposed to the atmosphere.**

At the time of the inspection, it was discovered that a valve vault near MP 3 was full of water. The flange bolts on the valve showed significant atmospheric corrosion. The OPS is concerned that, left unattended, this situation could cause an unsafe condition on the OPL system. OPL needs to survey each component and portion of pipe in its pipeline system that is exposed to the atmosphere to determine if there are other areas for concern. This survey should pay particular attention to the soil/air interface on a pipe that comes out of the ground and all pipe supports where there is metal to metal contact of the pipe to the

support. All areas where atmospheric corrosion is identified need to be remediated.

4. **§195.424(a) No operator may move any line pipe, unless the pressure in the line section involved is reduced to not more than 50 percent of the maximum operating pressure.**

At the time of the inspection, it was discovered that OPL personnel do not routinely take into account the pressure in the pipeline when moving the line to install link seals in the end of a casing to clear a short. It is stipulated that some of the areas in question are just upstream of a pump station where the pressure in the line is well below the maximum operating pressure, however, other areas may not have normally reduced pressure. Maintenance personnel must work with operating personnel, whenever pipe movement is required, to ensure the pressure in the pipe is reduced to a maximum of 50% of the maximum operating pressure per the requirements of §195.424(a).

We hope you will consider and address these areas of concern to further improve your present level of safety. If we can answer any question, or be of any help, please call me at 303-231-5701.

Sincerely,

Chris Hoidal
Director

OPS UNIT PRIMARY DATA

(6)

OPER/UNIT: 31174 EQUILON PIPELINE COMPANY LLC 925 OLYMPIC PIPE LINE CO

STATUS: ACTIVE ACTIVATED: 06/24/1985 DEACTIVATED:
JURISDICTION: FEDERAL
PIPELINE TYPE: 1 INTERSTATE LIQUID REGION: WE PLAN?: X INSP PLAN: CONUS
CHANGED BY: KATCHMAR, PETER HQ:
EMERGENCY PHONE: 800/271-8880 RECORD LOCATION: AT RENTON, WA ON: 03/30/1999

LOCATION: CONTROL CENTER IS @ RENTON STATION.

PIPELINE DESC:
OLYMPIC PIPELINE COMPANY IS NOW OWNED BY EQUILON AS OF 01/01/99/PJK
~257 MILES OF ROW. ~400 MILES OF PIPE. LINE RUNS FROM CHERRY PT. REFINERIES (ARCO & TOSCO) OUT OF FERNDALE, WA & ANACORTES REFINERIES (TESORO & EQUILON). LINES COMBINE @ BURLINGTON, WA & RUNS SOUTH TO RENTON. (16", .312 WT, X-52, 1440 MOP, 1965 CONSTRUCTION) (LOOPED IN 1972 BY 20", .250 WT, X-52, 960 MOP). LATERALS @ RENTON TO SEATTLE HARBOR ISLAND TERMINALS, RENTON TO SEA-TAC AIRPORT, TACOMA JCT. TO TACOMA (3 MILES LONG), RANIER TO TUMWATER, VANCOUVER TO FRENCHMAN'S BAR. MAINLINE FROM RENTON TO PORTLAND TERMINALS (7 BO TANK OPERATORS) IS 14", .281 WT, X-52, 1440 MOP. OLYMPIC OPERATES THIS SYSTEM @ CLOSE TO MOP.
UNIT COMMENTS:
CURRENT DOT CONTACT IS DAN YOUNT 425-226-8884. LOC ISSUED IN APRIL 1999 FOR AREAS THAT COULD LEAD TO VIOLATIONS...INCLUDED MANUAL UPDATES, ROW CLEARING, ATMOSPHERIC CORROSION, & PIPE MOVEMENT./PJK

OPERATOR

OPERATOR ID / NAME: 31174 EQUILON PIPELINE COMPANY LLC

STATUS: ACTIVE ACTIVATED: 11/24/1998 DEACTIVATED:
CHANGED BY: BROWN, BRENT C ON: 05/27/1999
RISK MANAGEMENT(RM): SYSTEM INTEGRITY(SI):
COMMENTS: FORMERLY SHELL PIPELINE CORP & TEXACO PIPELINE CO.

OPERATOR ADDRESS:

PO BOX 2648

HOUSTON, TX 77252

COMMENTS:

EXECUTIVE:

NAME: ROOTES, GEORGE M
TITLE: PRESIDENT
PHONE: 713/241-3526 FAX:
EMAIL:
COMMENTS: PAGER:

hit = 925

Friday, 06/11/1999

OPS UNIT PRIMARY DATA

OPER/UNIT: 31174 EQUILON PIPELINE COMPANY LLC 925 OLYMPIC PIPE LINE CO
INTERREGIONAL AGREEMENT

DATE	REGION

CONTACTS

NAME	TYPE	TITLE	PHONE	FAX	PAGER	EMAIL
BURNETT, BOB	INTERVIEW	ROW SPECIALIST	425/235-7736			
GALLANT, SAM	INTERVIEW	CORROSION TECHNICIAN	425/235-7736			
HAMMETT, CRAIG	INTERVIEW	ENGINEERING COORDINATOR	425/235-7736			

ADDRESSES

TYPE	ADDRESS
UNIT	2319 LIND AVE. S.W.; P.O. BOX 1800 RENTON, WA 98055-8055

nit = 925

Peter J. Katchmar 3/24/99

IOCS Inspection Summary

CJZ 3/24/99

Activity ID: 84479 From / To Date 03/04/1999 - 03/19/1999 Status: INC Result:
01 UNIT INSPECTION CPF(s):
OPS Representative KATCHMAR, PETER AFO/Total Days: 8.00 8.50
RANK: 21.00 F,R Questions Used

REVIEWED MANUALS AND A REPRESENTATIVE SAMPLE OF APPLICABLE RECORDS. FIELD REVIEW INCLUDED OBSERVING A SLIDE AREA SOUTH OF CASTLE ROCK STATION AND DRIVING THE ROW TO THE NORTH AROUND ANACORTES, WA.

Portion of Unit Inspected:

MANUALS WERE REVIEWED IN OPS OFFICES PRIOR TO MEETING WITH OPERATOR FOR 0.5 DAYS. OLYMPIC OBTAINED & ADOPTED TEXACO'S MANUALS PRIOR TO THE AUDIT. THEY WILL BE ADOPTING EQUILON'S MANUALS AS SOON AS SHELL & TEXACO,S ARE COMBINED. ON TUESDAY WE DROVE THE ROW SOUTH TO CARROLS ROAD SLIDE AREA WHERE PIPE IS EXPOSED. WENT TO CASTLE ROCK STATION & WENT UP RT. 504 TO LOOK @ NW FAILURE THAT PJK/DM INVESTIGATED. WENT TO TUMWASTER STATION @ END OF TUMWATER LATERAL. WED.-REVIEWED CP RECORDS W/SAM GALLANT. DROVE NORTH TO ANACORTES BOOSTER STATION, LOOKED @ VALVE VAULT ON TOP OF HEIGHTS ROAD. WENT TO BAYVIEW TERMINAL. WENT TO ALLEN STATION. WENT TO VALVES ON EAST SIDE OF SKAGIT RIVER. DROVE BACK TO OFFICES @ RENTON STATION AND REVIEWED SCADA OPERATIONS CENTER. THURSDAY - REVIEWED RECORDS IN RENTON OFFICES.

Name	Region	Task(s)	From / To Dates		AFO/Total Days		Comments
KATCHMAR, PETE	WE	INSPECTION	03/04/1999	03/04/1999	.00	.50	REVIEWED MANUALS SENT TO OPS ON DISK.
KATCHMAR, PETE	WE	INSPECTION	03/15/1999	03/19/1999	4.00	4.00	
DAVIS, GERALD E	WE	INSPECTION,OJT	03/15/1999	03/19/1999	4.00	4.00	

Operator Name and Address

1174 EQUILON PIPELINE COMPANY LLC
PO BOX 2648
TWO SHELL PLAZA;777 WALKER
HOUSTON, TX 77252-7252
ROOTES, GEORGE M
PRESIDENT
Phone: 713/241-3526 Fax:

Unit Name and Address

925 OLYMPIC PIPE LINE CO
2319 LIND AVE. S.W.; P.O. BOX 1800
RENTON, WA 98055-8055

Region	Insp Plan	Pipeline Type
WE	CONUS	1 INTERSTATE LIQUID A01

Emergency Phone: 800/271-8880
Location:
CONTROL CENTER IS @ RENTON STATION.

Pipeline Description:

OLYMPIC PIPELINE COMPANY IS NOW OWNED BY EQUILON AS OF 01/01/99/PJK
~257 MILES OF ROW. ~400 MILES OF PIPE. LINE RUNS FROM CHERRY PT. REFINERIES (ARCO & TOSCO) OUT OF FERNDALE, W & ANACORTES REFINERIES (TESORO & EQUILON). LINES COMBINE @ BURLINGTON, WA & RUNS SOUTH TO RENTON. (16", .312 WT, X-52, 1440 MOP, 1965 CONSTRUCTION) (LOOPED IN 1972 BY 20", .250 WT, X-52, 960 MOP). LATERALS @ RENTON TO SEATTLE HARBOR ISLAND TERMINALS, RENTON TO SEA-TAC AIRPORT, TACOMA JCT. TO TACOMA (3 MILES LONG), RANIER TO TUMWATER, VANCOUVER TO FRENCHMAN'S BAR. MAINLINE FROM RENTON TO PORTLAND TERMINALS (7 BO TANK OPERATORS) IS 14", .281 WT, X-52, 1440 MOP. OLYMPIC OPERATES THIS SYSTEM @ CLOSE TO MOP.

Comments:

CURRENT DOT CONTACT IS DAN YOUNT 425-226-8884. LOC ISSUED IN APRIL 1999 FOR AREAS THAT COULD LEAD TO VIOLATIONS...INCLUDED MANUAL UPDATES, ROW CLEARING, ATMOSPHERIC CORROSION, & PIPE MOVEMENT./PJK

IOCS Inspection Summary

Contact / Title	Interviewed	Phone / Fax	EMail	Pager	Address
MR. GALLANT, SAM	X	425/235-7736			
CORROSION TECHNICIAN			INTERVIEW		
MR. BURNETT, BOB	X	425/235-7736			
ROW SPECIALIST			INTERVIEW		
MR. HAMMETT, CRAIG	X	425/235-7736			
ENGINEERING COORDINATOR			INTERVIEW		
MR. YOUNT, DAN	X	425/226-8884			
DOT COMPLIANCE			DOTCOMP, FIELD		
MR. ROOTES, GEORGE M		713/241-3526			OPER
PRESIDENT			EXECUTIVE		

IOCS Inspection Summary - Concerns / Violations

Activity ID: 84479 From / To Dates: 03/04/199 - 03/19/1999 Status: INC Result:
I01 UNIT INSPECTION CPF(s):
OPS Representative: KATCHMAR, PETER AFO / Total Days: 8.0 8.5
RANK: 21.00

Operator ID / Name: 31174 EQUILON PIPELINE COMPANY LLC
Unit ID / Name: 925 OLYMPIC PIPE LINE CO

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE
195.402 Operation and Maintenance **Procedural manual for operations, maintenance, and emergenc**
Result Code: LOC
Violation Comment:
At the time of the inspection, OPL was in the middle of a manual change due to the recent merger of Texaco and Shell into a new company named Equilon. OPL is currently utilizing the Texaco manuals that the OPS accepted during the last team inspection. OPL has plans to digest the Texaco manuals and include their own site specific information into that manual to make it applicable to their pipeline system. Th OPS commends OPL for their continuing strive for excellence by updating their manuals and training their personnel in any newly revised procedures.
Evidence:
MANUAL REVIEW.

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE
195.412 Operation and Maintenance **Inspection of rights-of-way and crossings under navigable wat**
Result Code: LOC
Violation Comment:
At the time of the inspection, areas of the pipeline ROW were in need of clearing to make it conducive for aerial patrols. OPL is not required perform aerial patrols, however, if OPL is going to continue aerial patrols in lieu of a more close to the ground inspection of their ROW, the ROW must be sufficiently cleared.
Evidence:
FIELD INSPECTION.

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE
195.416 Operation and Maintenance **External corrosion control**
Result Code: LOC
Violation Comment:
At the time of the inspection, it was discovered that a valve vault near MP 3 was full of water. The flanges on the valve showed significant atmospheric corrosion. OPL shall clean, coat with material suitable for the prevention of atmospheric corrosion, and, maintain this protectio for, each component in its pipeline system that is exposed to the atmosphere. OPL must examine all of the above ground piping in its pipeli system for atmospheric corrosion and mitigate any atmospheric cossosion that is discovered.
Evidence:
FIELD INSPECTION

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE
195.424 Operation and Maintenance **Pipe movement**
Result Code: LOC
Violation Comment:
At the time of the inspection, it was discovered that OPL personnel do not routinely take into account the pressure in the pipeline when movi the line to install link seals in the end of a casing to clear a short. It is stipulated that some of the areas in question are just upstream of a pump station where the pressure in the line is well below the maximum operating pressure, however, other areas may not have normally reduced pressure. Maintenance personnel must work with operating personnel whenever pipe movement is required, to ensure the pressur in the pipe is reduced to a maximum of 50% of the maximum operating pressure per the requirements of 195.424(a).
Evidence:
PIPE EXPOSURE RECORDS REVIEW CONCERNING THE JACKING OF THE PIPELINE TO INSTALL LINK SAELS AND/OR FIBERGLASS WEDGES.

Recommendations:

1) Maintain normal inspection frequency on this unit.

2) Issue a Letter of Concern (LOC) for the following

   a) 195.402(a) - Concerning adoption/incorporation of Texaco & ultimately, Equilon's manuals.

   b) 195.412 - Concerning keeping the ROW clear from brush.

   c) 195.416(i) - Concerning atmospheric corrossion.

   d) 195.424(a) - Concerning the movement of pipe.

Conclusions:

Olympic Pipeline Company (OPL) appears to be doing a thorough job of operating and maintaining their pipeline system. They are taking a proactive approach to land subsidence along their pipeline ROW. Their personnel appear to be knowledgeable in each one's field of expertise. Auditor's noticed a few areas where improvements to record keeping practices could be made. It was noticed that OPL had recently adopted Texaco's manuals that OPS had approved during the last team inspection. OPL will be incorporating their own site specific procedures into the ones approved by OPS in the near future. Items noted as potential areas for concern are ROW clearing, atmospheric corrossion, and reducing line pressure prior to moving the line for maintenance.

EVALUATION REPORT OF LIQUID PIPELINE CARRIER

Name of Operator:	
HQ. Address: 2319 Lind Ave SW Renton, WA 98055	**Unit Name and Address:** Olympic Pipeline Company
Co. Official (Pres. or VP) Frank Hopf Telephone number: Fax Number:	Telephone number: 425-235-7736 Fax Number: 425-271-5320
Emergency Telephone: 1800 271 8880	Emergency Telephone: 1800 271 8880
Operator ID#:	Unit Record ID#: Inspection Record ID#:
UREC#(s) of adjacent operator Units:	

Persons Interviewed	Titles	Phone Number
Sam Gallant	Corrosion Technician	425-235-7736
Bob Burnett	Right-of-way Specialist	425-235-7736
Craig Hammett	Engineering Coordinator	425-235-7736
Dan Yount	Env. right-of-way	425-235-7736

OPS Representative: Peter J. Rutledge | Date: 3/15/99

Company System Maps - (copies for Region Files)

Unit Description: Olympic is using team inspected Texaco Manuals now. They will adopt Equilon's as soon as they are merged with Shell's. Then they will incorporate their own site specific info. PJK

See Back of this page / PJR for Unit description

Portion of Unit inspected: ≈ 257 miles of ROW ≈ 400 miles of pipe.

Line runs from Cherry Pt. Refinery site of Ferndale, WA + Anacortes Refineries (Texaco + Equilon) (Arco + Texaco Refineries) combines at Burlington + runs S to Renton. (16", 1965 construction, 312 WT, X-52) (Looped in 1972 by 20", .250, X-52 Refineries) (1440 MOP) (960 MOP)

* Laterals at Renton to Seattle Harbor Island Terminals; Renton to SeaTac Airport; Tacoma Jct to Tacoma (3 miles); Renton to Tacoma, Vancouver to Frenchmans Bar. Mainline (14", 281 WT, X-52 (1440 MOP) from Renton to Portland Terminal (7 BO Tank Operations).

EVALUATION REPORT OF LIQUID PIPELINE CARRIER

Performance Review of Field & Records			S	U	N/A
.262		Pumping Stations: vapor warning; station safety devices; 50ft rule; firefighting equipment	✓		
.403		Personnel Training	✓		
.410		Line Markers	✓		
.412		River Crossings	✓		
.414		Cathodic Protection	✓		
.416(I)		Pipeline Components Exposed to the Atmosphere	✓		
.416(c)		Rectifiers	✓		
.420		Valve Maintenance and Security	✓		
.426		Scraper & Sphere Facilities & Launchers	✓		
.428		Pressure Limiting Devices, relief valve, pressure regulator, or other pressure controller	✓		
.430		Fire Fighting Equipment	✓		
.432		Breakout Tanks	✓		
.434		Signs (Pumping Stations and Breakout Tanks)	✓		
.436		Security (Pumping Stations and Breakout Tank areas)	✓		
.438		No Smoking Signs.	✓		

O & M Records				S	U	N/A
.214(b)			Welding - Procedure.	✓		
.266			NDT (life)	✓		
.310			Pressure Testing.	✓		
.404(c)(3)		.402(a)	O & M review (Annually)	✓		
.404(c)(3)		.402(c)(12)	Liaison program with Public Officials	✓		
.404(c)(3)		.403	Training	✓		
.404(a)			System maps & records	✓		
.404(b)(1)			Discharge pressure at each pump station. (Past 3 years)	✓		
.404(b)(2)			Daily operating records that include emergency or abnormal operation. (3 years)	✓		
.404(c)(1)			Repair - Pipe. (Life)	✓		
.404(c)(2)			Repair - Component. (1 year)	✓		
.404(c)(3)		.412(a)	Right-of-way inspection. (3 weeks/26 times a year)	✓		
.404(c)(3)		.412(b)	River crossing under a navigable river. (5 year)	✓		
.404(c)(3)		.416(a)	Annual pipe-to-soil monitoring - pipe and tanks. (1yr/15 months)	✓		
.404(c)(3)		.416(c)	Rectifier monitoring (6 times a year/21/2 months)	✓		
.404(c)(3)		.416(e)	Examination of buried pipe when exposed.	✓		
.404(c)(3)		.418	Internal corrosion control coupon monitoring. (2 times a year/71/2 months)	✓		
.404(c)(3)		.420	Mainline valves. (2 times a year/71/2 months)	✓		
.404(c)(3)		.428(a)	Overpressure devices. (1 per year/15 months) (HVL:2 times a year/71/2 months)	✓		
.404(c)(3)		.428(b)	HVL pressure breakout tank relief valves. (5 year)			✓
.404(c)(3)		.432	Breakout tank inspection. (1 per year/15 months)	✓		
.404(c)(3)		.440	Public education program.	✓		
.404(c)(3)		.442	Damage Prevention Program. (miscellaneous)	✓		

NOTE: Pages 5, 6, 7, & 8 contain questions requesting information that is not required by regulation. However, these items are normally part of good SCADA system design and will normally be incorporated.

I. Review the Control Center Facilities:

A. Have Controller Describe the Pipeline Systems He/She is Monitoring.

1. Controller's Knowledge of Systems._____

II. See a Demonstration of Controller Interface Screens.

A. Description of System Control Screens:

✓ 1. Organization
✓ 2. Graphic Displays - (You may ask for a print out.)
✓ 3. System Control Screens
✓ 4. Color Definition - (Does screen change color to indicate serious alarms?)
✓ 5. Ease of Interpreting Screens.

B. System Controls (Description of Alarms, Alarm Priority System? How does Controller Identify and Acknowledge Alarms?)
Must go to next page to acknowledge the alarm.

Note: In the event of any upset, the controller will see many alarms on the control screen. If a minor upset coincides with a significant event, the controller may not see the significant alarm/event in the midst of the deluge of minor upset alarms.

In some SCADA systems, the controller can quiet or temporarily remove all alarms from the screen with a single command (or mouse click). If the controller believes that all of the alarms on the screen are related to a minor upset, he/she may remove the alarms without reading them, thereby missing a significant alarm.

1. Does the SCADA System Include Audible Alarms? Yes

2. Will Single Command or Acknowledgement Clear the Screen of All Alarms? No

3. If so, is the Operator/Controller Aware of the Possibility of Missing a Significant Alarm in the Midst of Insignificant Alarms? Yes

C. Describe Lock-Out/Tag-Out Procedures for Providing Safety During Maintenance Activities. Magnetic Color indicates a unit is locked out!

III. Security:

A. What Security Measures are Taken to Ensure Only Authorized Personnel are Allowed Into the Control Center? Controlled Entry Push Button Combo Lock

B. What Other Types of Security are Provided? Locked doors on Computer Room & Control Room. Security Gates are closed & monitored at night.

C. What Happens in the Event of a Fire Within the Control Center? Sprinkler fire & evacuate. Call 911.

D. Are Personnel Advised of What Emergency Steps to Take in the Event They Must Evacuate the Control Center? Shut down - evacuate

E. How are Field Personnel Advised of a Control Center Emergency? Pager / Operator / Broadcast Page / 554 Telephone - Petty line / One touch dial to Ops.

F. Does the Control Center Maintain a List of Personnel to Contact in the Event of an Emergency Evacuation? Call Supervisor to be called other.

G. Is the List Kept in a Location Away from the Control Center? N/A

IV. Hardware Redundancy:

✓ A. Computer System.

✓ B. Telemetry from Remote Sensors to Control Center.

1. Describe How Communications are Set Up; i.e. Satellite Earth Stations, Telephone, etc. (Back-ups for Communication System).

✓ C. Uninterruptable Power Supply. ≈ 4-6 hrs Battery

No D. Backup Control Center; if applicable.

1. Location _____

2. Date/Time Last Switch Took Place. _____

3. Any Problems With the Switch? _____

IV. Leak Detection:

A. Does the Company Have Any Leak Detection System (LASP System) for Detecting Hydrocarbons? Yes

B. Can the Controller Monitor the LASP? Yes

C. How Often Are Line Balances Performed? Continuous

D. Pressure/Flow Rate Balance? Computer / by hand

E. Over/Short Calculations? By hand each hour & compare to computer.

F. What Volume of Leak Can the SCADA System Detect With Accuracy? ½ of 1% flow rate (5000 BBL in 5000 BBL/hr)

G. What Leaks Have Been Detected by the SCADA System To Date? Yes

H. Does the Controller Have the Authority To Shut Down the Pipeline If He/She "Thinks" There Is A Leak? _____

V. Controller Training:

A. What Special Training Do Controllers Receive?

1. Computer Based? No emulators.

2. On-The-Job Training? ✱

3. Other? Hire experienced people from other pl.c's.

VI. A. Controller Shift Change:

1. Do Controller Shifts Slightly Overlap to Allow Departing Personnel Time to Relay Significant Information to the Arriving Personnel? Whatever it takes.

2. Is There a Mechanism for the Controller Going Off Duty to Summarize Current Operations for the Controller Coming On Duty? Yes!

3. If a Delivery or Receipt Occurs Just Before, During, or Immediately After a Shift Change, Does the New Controller Double Check the Previous Controller's Calculations and Valve Line Up? Yes.

4. Does Each Controller Have Immediate Access to Emergency Phone Numbers at All Times?

5. Is a Designated Supervisor Available At All Times? Either On-Call or Present? Yes!

6. Do Controllers Know Which Situations Should Be Brought to the Attention of the Supervisor? Yes.

Additional Notes: Very well trained and autonomous controllers. Very knowledgable & allowed to operate on their own, either on VR or not on VR.

OLYMPIC PIPE LINE COMPANY
P.O. Box 1800 / 2319 Lind Ave. S.W.
Renton, WA 98057

Office: (425) 235-7736 FAX: (425) 271-5320
Toll Free 24-Hour Emergency: (888) 271-8880

R. D. (DAN) YOUNT
Supervisor, Regulatory & Environmental Affairs

OLYMPIC PIPE LINE COMPANY
P.O. Box 1800, 2319 Lind Ave. S.W.
Renton, WA 98057
Office (425) 226-8884
FAX (425) 271-5320
Pager (206) 645-3163
Email: yountrd@texaco.com
24 hr. Emerg. (888) 271-8880

SANDY CONLAN
Compliance Specialist

OLYMPIC PIPE LINE COMPANY
P.O. Box 1800, 2319 Lind Ave. S.W.
Renton, WA 98057
Office (425) 227-5209
FAX (425) 271-5320
Email: sandy.conlan@olypipe.com
24 hr. Emerg. (888) 271-8880

Notes: Olympic Pipeline Co. has just adopted Texaco TTI's O&M manual that was team inspected and approved by OPS a couple of years ago. Since the Shell/Texaco merger they will be adopting the Equilon merged manuals once they have been put together. This will be done but will include the site specific info for Olympic.

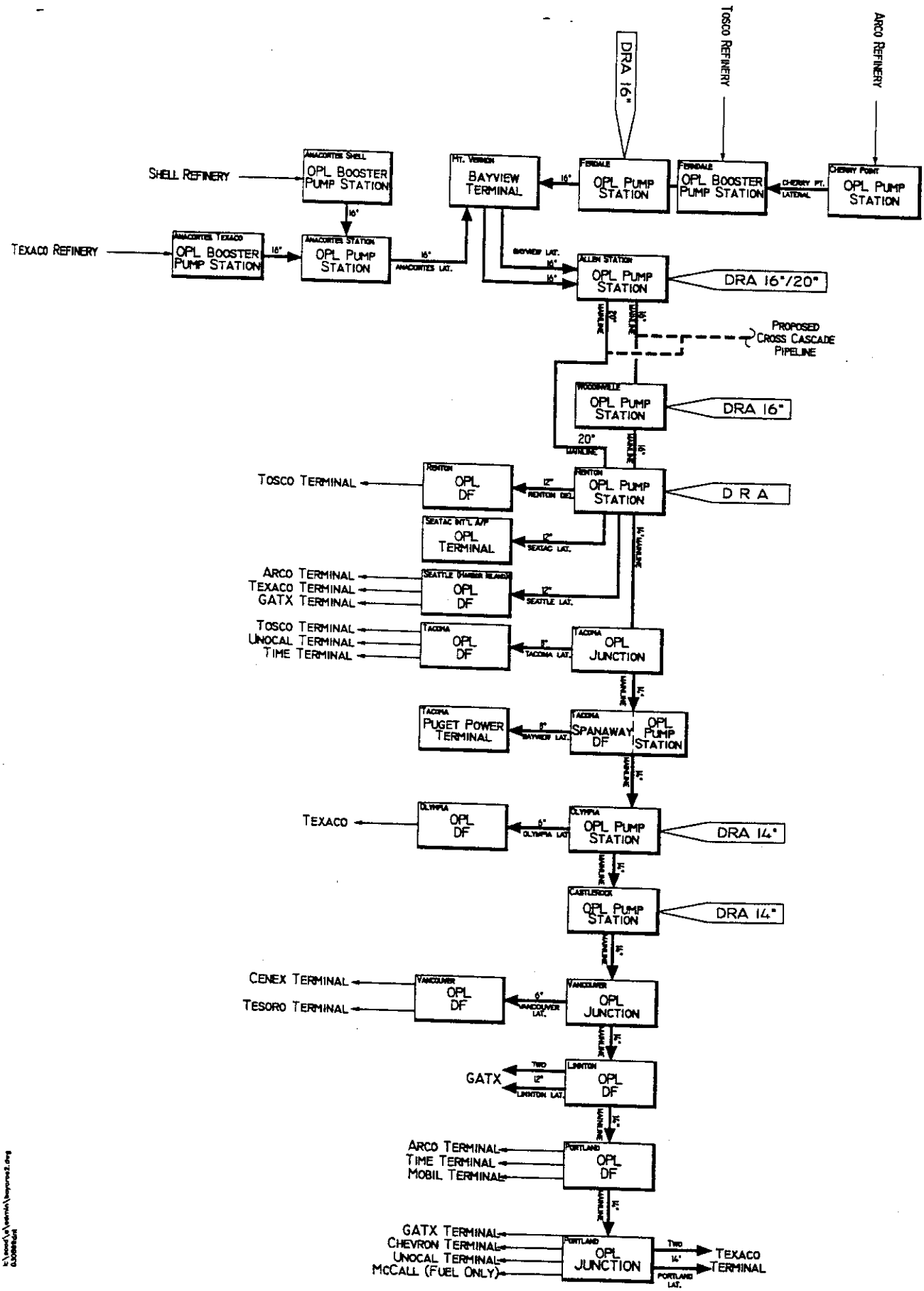
OPS inspection included a cursory review of all applicable manuals and a representative sample of all applicable records.

Tuesday - Drove South to Carrolles Road Slide Area where pipe is exposed. Went to Castle Rock Station and went up Rt. 504 to look at the NW failure that Dave Milligan and Peter Kitchen investigated. Went to Tumwater Terminal at end of Tumwater lateral.

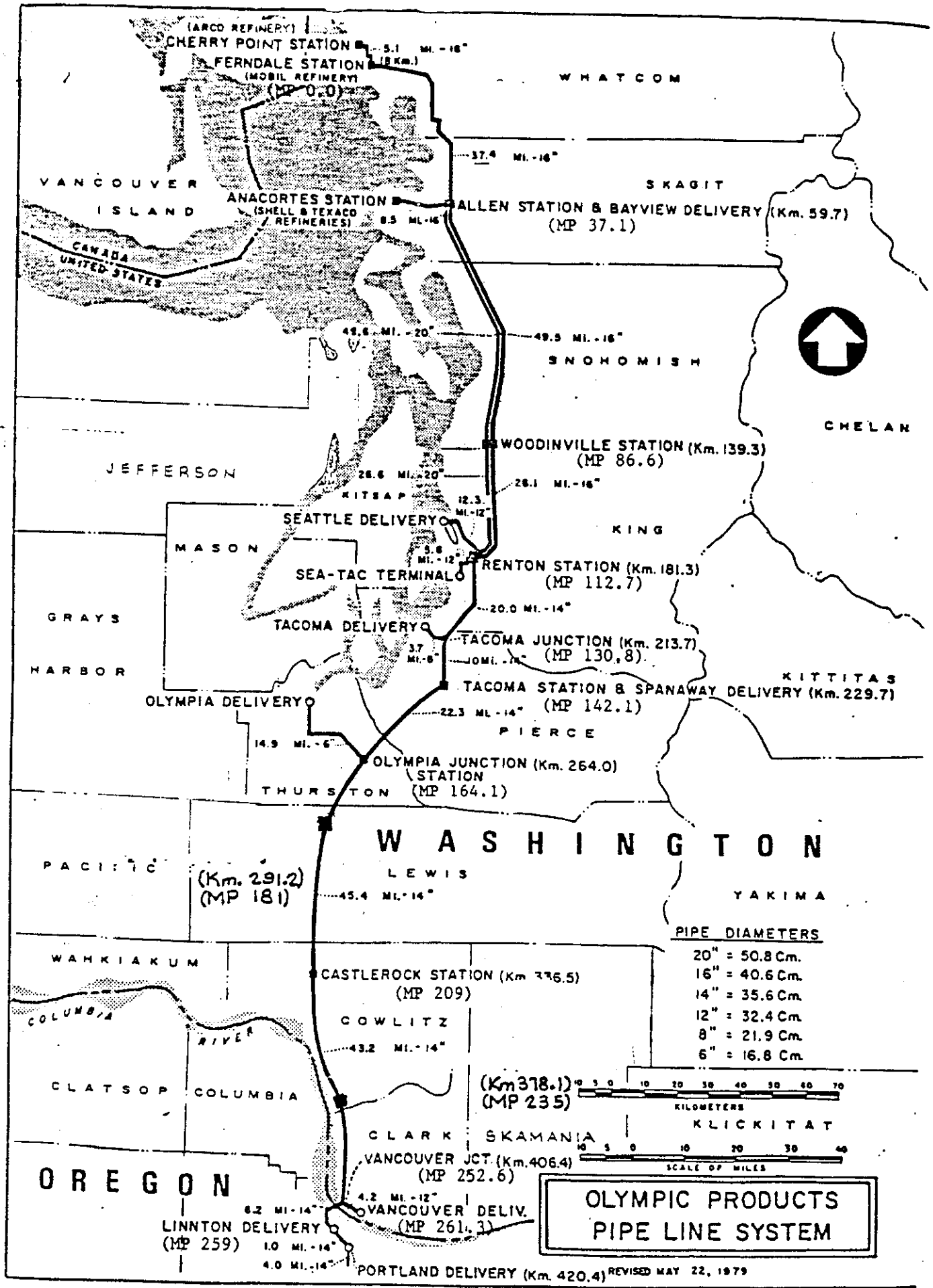
Wednesday - Reviewed OP Records w/ Sam Goldents. Drove North to Anacortes Booster Station, looked at Valve on top of Heights Rd (vault). Went to Bayview Terminal. Went to Allen Station - went to valves on East side of Skagit River. Drove back to office at Renton Station and reviewed the SCADA Center. (See other form).

Thursday - Reviewed records in Renton offices.

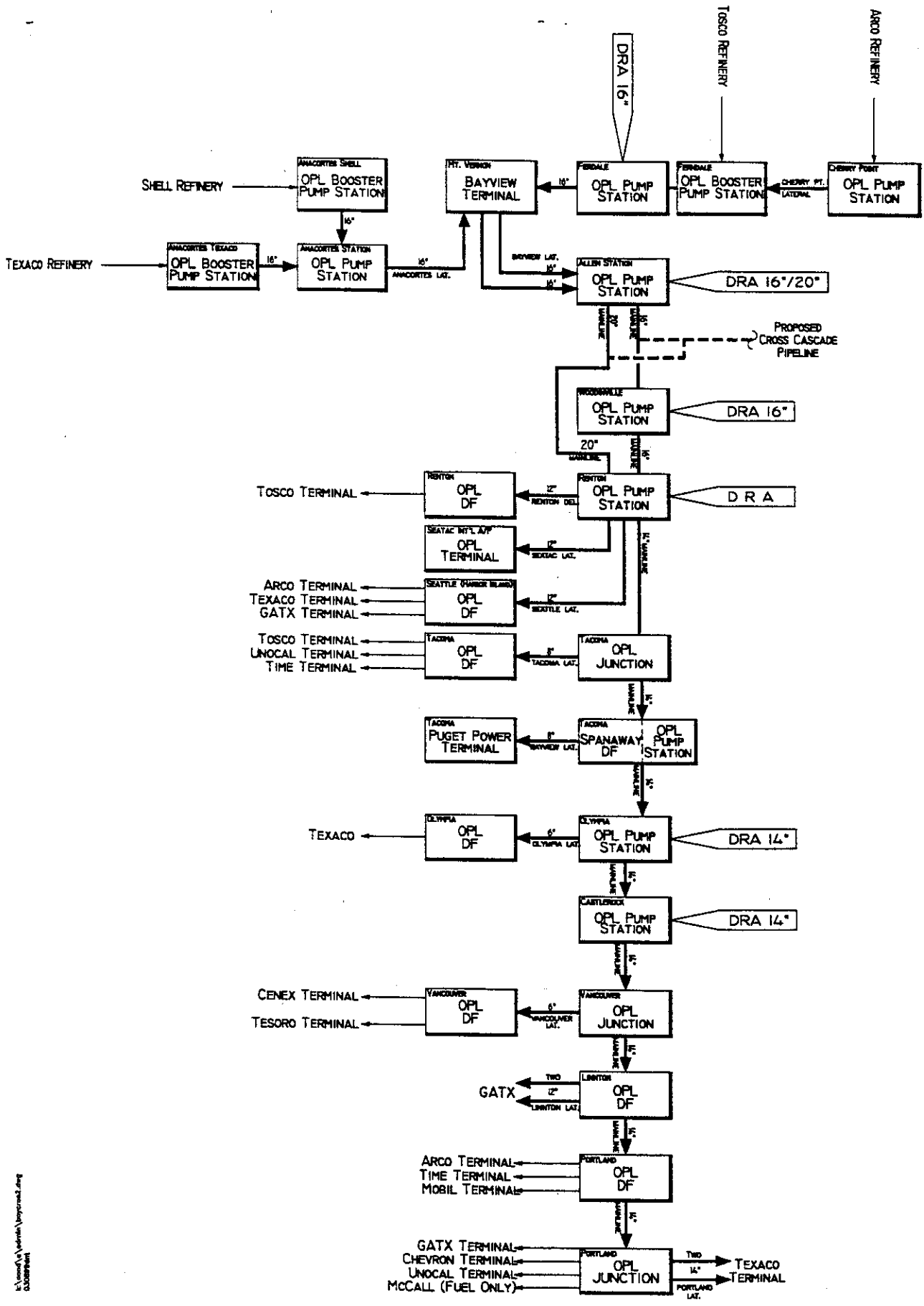
Concerns:
- ROW Clearing
- Moving Pipe while pressure not reduced (pressure closed)
- Valve box vaults filled with water (over MP 3).
- IR drop Consideration
- Manuals (Merging of new with old)


DRA 16"
TOSCO REFINERY
ARCO REFINERY
SHELL REFINERY
OPL BOOSTER PUMP STATION
BAYVIEW TERMINAL
OPL PUMP STATION
OPL BOOSTER PUMP STATION
OPL PUMP STATION
TEXACO REFINERY
OPL BOOSTER PUMP STATION
OPL PUMP STATION
OPL PUMP STATION
DRA 16"/20"
PROPOSED CROSS CASCADE PIPELINE
OPL PUMP STATION
DRA 16"
TOSCO TERMINAL
OPL DF
OPL PUMP STATION
D R A
OPL TERMINAL
ARCO TERMINAL
TEXACO TERMINAL
GATX TERMINAL
OPL DF
TOSCO TERMINAL
UNOCAL TERMINAL
TIME TERMINAL
OPL DF
OPL JUNCTION
PUGET POWER TERMINAL
SPANAWAY DF
OPL PUMP STATION
TEXACO
OPL DF
OPL PUMP STATION
DRA 14"
OPL PUMP STATION
DRA 14"
CENEX TERMINAL
TESORO TERMINAL
OPL DF
OPL JUNCTION
GATX
OPL DF
ARCO TERMINAL
TIME TERMINAL
MOBIL TERMINAL
OPL DF
GATX TERMINAL
CHEVRON TERMINAL
UNOCAL TERMINAL
McCALL (FUEL ONLY)
OPL JUNCTION
TEXACO TERMINAL

ATTACHMENT A



(MP 261.3)


DRA 16"
TOSCO REFINERY
ARCO REFINERY
SHELL REFINERY
OPL BOOSTER PUMP STATION
BAYVIEW TERMINAL
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DRA 16"/20"
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TOSCO TERMINAL
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OPL TERMINAL
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TEXACO TERMINAL
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UNOCAL TERMINAL
TIME TERMINAL
OPL DF
OPL JUNCTION
PUGET POWER TERMINAL
SPANAWAY DF
OPL PUMP STATION
TEXACO
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DRA 14"
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CENEX TERMINAL
TESORO TERMINAL
OPL DF
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GATX
OPL DF
ARCO TERMINAL
TIME TERMINAL
MOBIL TERMINAL
OPL DF
GATX TERMINAL
CHEVRON TERMINAL
UNOCAL TERMINAL
McCALL (FUEL ONLY)
OPL JUNCTION
TEXACO TERMINAL

EVALUATION REPORT OF LIQUID PIPELINE CARRIER

Screening Questions (Unit specific)		
Does the operator have:	Yes	No
■ any lines operating above 72% of SMYS?		✓
■ gathering lines?		✓
■ HVL lines?		✓
■ Breakout tanks?	✓	
■ low stress pipelines operating below 20% SMYS in a non-rural area?		✓
■ SCADA?	✓	
■ offshore operations in the Gulf of Mexico?		✓
■ bare or ineffectively coated pipe?		✓
■ unprotected pipe (not cathodically protected)?		✓
■ a history of internal corrosion problems?		✓
■ smart pig data? (if yes, see table below)	✓	
■ any environmentally sensitive areas? (historic, natural)	✓	
■ any construction plans? (see table below)	✓	

Internal Inspection Information		
Segment	Miles or % Inspected	Year Inspected
Renton to Portland DF Enduro Geometry Pig	148 miles	1999
16" Allen to Renton Enduro Geometry Pig	75.6 mi	1997
20" Allen to Renton Enduro Geometry	76 mi	1997
Additional pigging - See attached listing		1996 through 1999

Pipeline Construction Information		
Location	Length	Date planned
Cross Cascades Project. Woodinville to Pasco	230 mi	Currently in Permitting; Construction anticipated in 2000

OLYMPIC PIPELINE COMPANY
PIPE LINE LISTING
Magnetic Flux inspection By Vetco/Tuboscope

21-Jan-99

Richard Klasen
Renton, WA

425-226-8881
Fax 425-271-5320

	Description	O.D	W.T.	Min. Bend	Length (mi)	Last Insp	Next Insp	Constructed
1	Cherry Point to Ferndale Station	16"	0.312	3D	5.09	May-97	1999	1971
2	Ferndale Station to Bayview Terminal	16"	0.312	3D	*37.4/39.4	Mar-96	2001	1965/98
3	Anacortes Station to Bayview Terminal	16"	0.312	3D	*8.44/7.9	Mar-96	2001	1965/98
4	Bayview Terminal to Allen Station Ferndale	16"	0.312	3D	*2	Mar-96	2001	1965/98
5	Bayview Terminal to Allen Station Anacortes	16"	0.312	3D	*2.3	Mar-96	2001	1965/98
6	Allen Station to Renton Station 20"	20"	0.25	3D	76.02	Mar-96	2001	1973
7	Allen Station to Renton Station 16"	16"	0.312	3D	75.6	Mar-96	2001	1965
8	Renton Station to Seattle Delivery Facility	12"	0.281	3D	12.46	May-97	2002	1965
9	Renton Station to Sea-Tac Terminal	12"	0.281	3D	5.56	May-97	2002	1970
10	Renton Station to Portland Delivery Facility	14"	0.281	3D	148	Apr-96	2001	1965
11	Tacoma Junction to Tacoma Del. Facility	8"	0.188	3D	3.9	May-97	2002	1965
12	Olympia Junction to Olympia Del. Facility	6"	0.188	3D	15	Oct-98	2003	1965
13	Vancouver Junction to Vancouver Del. Facility	12"	0.281	3D	4.46	May-97	2002	1967

Geometry Inspection by Enduro PL Services

	Description	O.D	W.T.	Min. Bend	Length (mi)	Last Insp	Next Insp
1	Cherry Point to Ferndale Station	16"	0.312	3D	5.09		
2	Ferndale Station to Bayview Terminal	16"	0.312	3D	*37.4/39.4	Jan-97	
3	Anacortes Station to Bayview Terminal	16"	0.312	3D	*8.44/7.9	Jan-97	
4	Bayview Terminal to Allen Station Ferndale	16"	0.312	3D	*2	Jan-97	
5	Bayview Terminal to Allen Station Anacortes	16"	0.312	3D	*2.3	Jan-97	
6	Allen Station to Renton Station 20"	20"	0.25	3D	76.02	Jan-97	
7	Allen Station to Renton Station 16"	16"	0.312	3D	75.6	Jan-97	
8	Renton Station to Seattle Delivery Facility	12"	0.281	3D	12.46	Jan-97	
9	Renton Station to Sea-Tac Terminal	12"	0.281	3D	5.56	Jan-97	
10	Renton Station to Portland Delivery Facility	14"	0.281	3D	148	Jan-99	
11	Tacoma Junction to Tacoma Del. Facility	8"	0.188	3D	3.9		
12	Olympia Junction to Olympia Del. Facility	6"	0.188	3D	15		
13	Vancouver Junction to Vancouver Del. Facility	12"	0.281	3D	4.46		

* Note: The Bayview Terminal split the Ferndale and Anacortes pipelines.
The last inspections were from Ferndale to Allen Station and Anacortes to Allen Station

Hum004

TTTI Course Roster

Page 1 of 1

Name of Course: Lead Module 2 - A.S.A.P. Date(s): 12-13-94

Instructor Name(s): MARILYN FREDERICK, Judi McKenna Instructor Signature(s): [signature]

Location (City, State): Renton WA Length of course (in hours): 8

Note to instructor: No credit will be given for course(s) without instructor signature. Instructor should strike through names of attendees not completing course.

Printed Name / Signature / Soc. Sec. No. / Company	Basics	Rules	Conseq.	Misc.	Records	File
William Mulkey [signature] 521-54-0008 DPL	Unit ☑ 12/13/94 Date Instr.	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
Ron Brentson [signature] 548-78-7173 Olympic	Unit ☑ 12/13/94 Date Instr.	Unit ☐ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
Karen Grein-Nagle [signature] 536-56-3216 Olympic	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
Printed Name Signature Soc. Sec. No. Company	Unit ☐ Date Instr.	Unit Date Instr.	Unit Date Instr.	Unit Date Instr.	Unit Date Instr.	☐

RECD JAN 4 1995 TRAIN & DEVEL

Post-It™ brand fax transmittal memo 7671 # of pages ▸ 4

To Brian Connolly	From Cathy Pratt
Co. Olympic PL	Co. TTI - Denver
Dept.	Phone # TN 688-3667
Fax # 206-271-5320	Fax #

TD-941005 KEEP A COPY FOR YOUR FILE; SEND ORIGINAL TO TRAINING AND DEVELOPMENT GROUP - DENVER

O.A 1/24/95

Hum004

TTTI Course Roster

Page 1 of 1

Name of Course: Lead Module 2 - A.S.A.P. Date(s): 12 13 94

Instructor Name(s): MARILYN FREDERICK, JUDI MCKENNA Instructor Signature(s): Marilyn Frederick, Judi McKenna

Location (City, State): Renton, WA Length of course (in hours): 8

Note to instructor: No credit will be given for course(s) without instructor signature. Instructor should strike through names of attendees not completing course.

Printed Name / Signature / Soc. Sec. No. / Company	Basics	Rules	Conseq.	Misc.	Records	Final Check
AL WHITE Signature 535-62-8480 OPUC	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
SAM R. GALLANT Signature 535-50-9294 DPL	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
BRIAN CONNOLLY Signature 524-82-17-0973 TTTI	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
Printed Name Signature Soc. Sec. No. Company	Unit ☐ Date Instr.	Unit ☐ Date Instr.	Unit ☐ Date Instr.	Unit ☐ Date Instr.	Unit ☐ Date Instr.	☐

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QA 1/24/95

Humody

TTTI Course Roster

Page 1 of 1

Name of Course: Lead Module 2 - A.S.A.P. Date(s): 12 13 94

Instructor Name(s): MARILYN FREDERICK Instructor Signature(s): [signature]
Judi McKenna [signature]

Location (City, State): Renton WA Length of course (In hours): 8

Note to instructor: No credit will be given for course(s) without instructor signature. Instructor should strike through names of attendees not completing course.

	Basics	Rules	Conseq.	Misc.	Records	Fin
Will Hood Printed Name Will Hood Signature 536-30-0594 Soc. Sec. No. OPL Company	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
WALLY Stevenson Printed Name W H Stevenson Signature 533-40-1353 Soc. Sec. No. OPL Company	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
David C. Justice Printed Name [signature] Signature 540-66-2884 Soc. Sec. No. O.P.L. Co. Company	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
J. Steve Hoy Printed Name [signature] Signature 520-64-2332 Soc. Sec. No. TTTI Company	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑

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D.A 1/24/95

Hum.004

TTTI Course Roster

Page 1 of 1

Name of Course: Lead Module 2 - A.S.A.P. Date(s): 12/13/94

Instructor Name(s): MARILYN FREDERICK, Judi MCKENNA Instructor Signature(s): [signature], Judi McKenna

Location (City, State): Renton Wa Length of Course (In hours): 8

Note to Instructor: No credit will be given for course(s) without instructor signature. Instructor should strike through names of attendees not completing course.

Printed Name / Signature / Soc. Sec. No. / Company	Basics	Rules	Conseq.	Misc.	Records	Final Other
DUANE WHITLOW / Duane Whitlow / 465-52-1514 / DPL	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
L.H NUSZ / L H Nusz / 415-48-0640 / TPLI	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
FRANK HOOF, JR. / Frank Hoof Jr / 206-38-2433 / TTTI	Unit ☑ 12/13/94 Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	Unit ☑ Date Instr.	☑
Printed Name / Signature / Soc. Sec. No. / Company	Unit ☐ Date Instr.	Unit ☐ Date Instr.	Unit ☐ Date Instr.	Unit ☐ Date Instr.	Unit ☐ Date Instr.	☐

RECEIVED DEC 27 1995 TRAIN & DEVEL.

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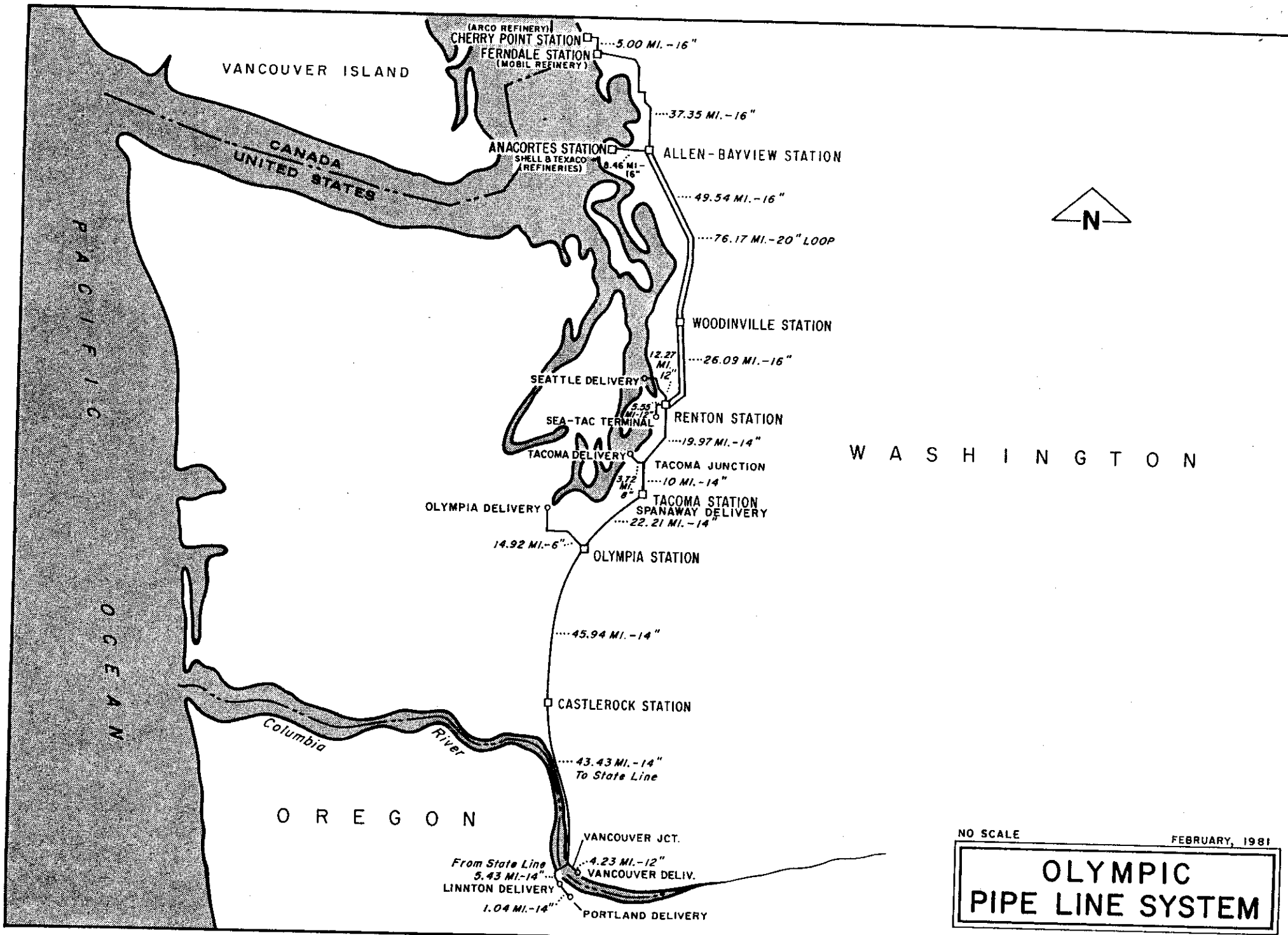
DPL 1/11/95


(ARCO REFINERY)
CHERRY POINT STATION
5.00 MI. - 16"
FERNDALE STATION
(MOBIL REFINERY)
VANCOUVER ISLAND
37.35 MI. - 16"
ANACORTES STATION
SHELL & TEXACO
(REFINERIES)
ALLEN - BAYVIEW STATION
8.46 MI. - 16"
CANADA
UNITED STATES
49.54 MI. - 16"
76.17 MI. - 20" LOOP
N
WOODINVILLE STATION
12.27 MI. 12"
26.09 MI. - 16"
SEATTLE DELIVERY
5.55 MI. - 12"
SEA - TAC TERMINAL
RENTON STATION
19.97 MI. - 14"
TACOMA DELIVERY
TACOMA JUNCTION
3.72 MI. 8"
10 MI. - 14"
TACOMA STATION
SPANAWAY DELIVERY
OLYMPIA DELIVERY
22.21 MI. - 14"
14.92 MI. - 6"
OLYMPIA STATION
45.94 MI. - 14"
CASTLEROCK STATION
Columbia River
43.43 MI. - 14"
To State Line
OREGON
VANCOUVER JCT.
4.23 MI. - 12"
From State Line
5.43 MI. - 14"
VANCOUVER DELIV.
LINNTON DELIVERY
1.04 MI. - 14"
PORTLAND DELIVERY
PACIFIC OCEAN
WASHINGTON
NO SCALE
FEBRUARY, 1981
OLYMPIC
PIPE LINE SYSTEM

OLYMPIC PIPE LINE COMPANY
2319 Lind Avenue SW
P.O. Box 1800
Renton, WA 98057
(425) 235-7736
FAX (425) 271-5320

We are sending _____ pages, INCLUDING this page. If you need confirmation or a resend of any page, please call (425) 227-5215.

FROM: Sandi Gibson

DATE: _____

TO: Pete Katchmar

FAX #: 303 231 5711

COMMENTS: _____

DIRECTIONS TO OLYMPIC PIPE LINE COMPANY

From Seattle Tacoma International Airport:

Follow the signs "to freeway" and "to I-5" or "to Renton I-405 North". This will put you on Highway 518 eastbound. As you continue UNDER I-5, it becomes I-405 northbound (toward Renton). Take the Interurban / West Valley Highway exit (Exit #1). Turn left at light at the end of the exit onto West Valley Highway / Interurban Avenue. Turn right at the next light onto Grady Way. Turn right again onto Lind Avenue S.W.. Turn right onto the private road shared by TOSCO and Olympic (the sign you see is TOSCO). Take immediate right again into Olympic parking lot. Front office entrance is right in front facing parking lot.

You made it!! Welcome!

From Homewood Suites:

Turn left from Fort Dent Way onto Interurban Avenue. Turn left again onto Grady Way (next stoplight). Turn right onto Lind Avenue S.W. Turn right onto the private road shared by TOSCO and Olympic (the sign you see is TOSCO). Take immediate right again into Olympic parking lot. Front office entrance is right in front facing parking lot.

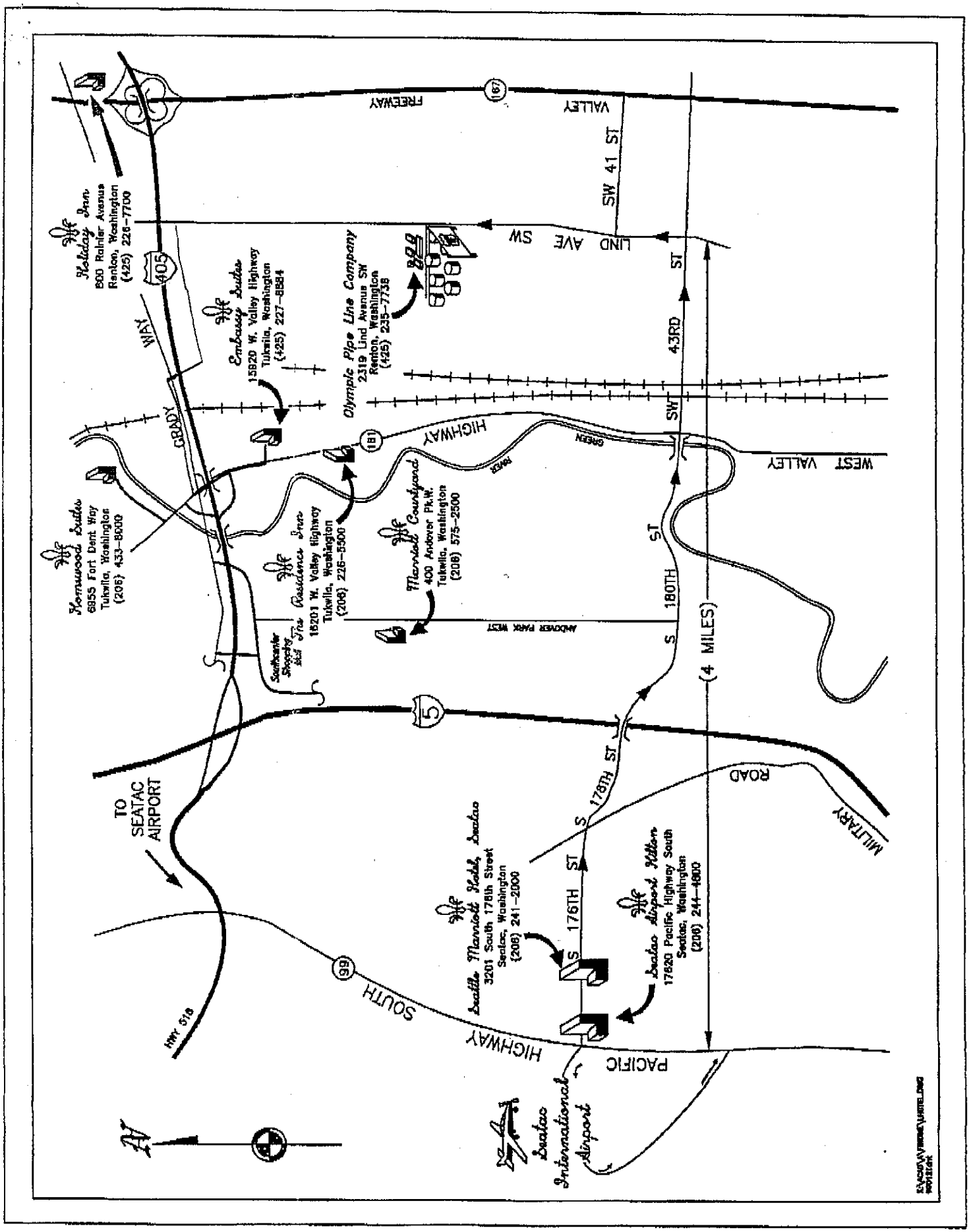
DIRECTIONS TO HOMEWOOD SUITES

From Seattle Tacoma International Airport:

Follow the signs "to freeway" and "to I-5" or "to Renton I-405 North". This will put you on Highway 518 eastbound. As you continue UNDER I-5, it becomes I-405 northbound (toward Renton). Take the Interurban / West Valley Highway exit (Exit #1). Turn left at light at the end of the exit onto West Valley Highway / Interurban Avenue. Turn right at the second light onto Fort Dent Way. Fort Dent Way actually ends in a cul-de-sac affair that makes a left turn into Fort Dent park. Do not turn left into the park but go straight ahead into the parking lot for Homewood Suites.

From Olympic Pipe Line:

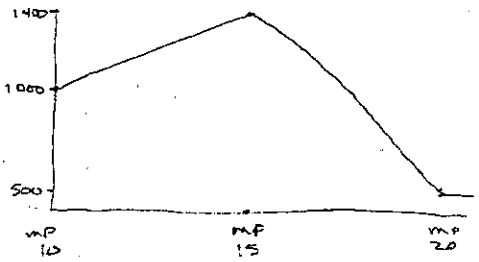
Turn left onto Lind Avenue SW. Turn left at Grady Way (2nd stoplight). Turn right onto Interurban Avenue and right again onto Fort Dent Way.


Holiday Inn
800 Rainier Avenue
Renton, Washington
(425) 226-7700
Embassy Suites
15620 W. Valley Highway
Tukwila, Washington
(425) 227-8884
Olympic Pipe Line Company
2319 Lind Avenue SW
Renton, Washington
(425) 235-7738
Homewood Suites
6855 Fort Dent Way
Tukwila, Washington
(206) 433-8000
Residence Inn
15201 W. Valley Highway
Tukwila, Washington
(206) 226-5500
Marriott Courtyard
400 Andover Pk.W.
Tukwila, Washington
(206) 575-2500
Seattle Marriott Hotel, Sea-Tac
3201 South 176th Street
Seatac, Washington
(206) 241-2000
Sea-Tac Airport Hilton
17620 Pacific Highway South
Seatac, Washington
(206) 244-4800
TO SEATAC AIRPORT
HWY 518
SOUTH HIGHWAY 99
PACIFIC HIGHWAY
S 176TH ST
S 180TH ST
SW 41 ST
LIND AVE SW
43RD ST SW
ANDOVER PARK WEST
WEST VALLEY
MILITARY ROAD
GRADY WAY
(4 MILES)
Seattle-Tacoma International Airport

Source: N, Mode: P
Date of Spill: 01/01/1990 - 09/03/97
States: CO, MT, WA

55423	201151	OLYMPIC PIPELINE CO	01/17/1991	WA	FIRE AT PUMP STATION UNKNOWN CAUSE. UNKNOWN IF ANY RELEASE OCCURRED
332844	484281	OLYMPIC PIPELINE CO.	03/23/1996	WA	14-INCH PIPELINE/CAUSE UNKNOWN
347536	496116	OLYMPIC PIPELINE	06/17/1996	WA	THE SOURCE AND CAUSE IS UNKNOWN
388785	536861	OLYMPIC PIPELINE COMPANY	05/27/1997	WA	CONTROL VALVE ON A PIPELINE / THE VALVE APPEARS TO BE LEAKING FROM A FLANGE ON THE BOTTOM OF THE UNIT

Hydrostatic Test Interpretation



Test location MP 10

Low pressure during test – 1300 psi

Current method

Entire section MAOP based on high elevation

MAOP = [1300 + (1000 - 1400) 62.4 / 144)] x .8 = 901 psi

Pressure source - MP 10

Product - Propane Density = 32 lb/cuft

Set point = 901 – (1000 - 500) 32 / 144 = 790

Proposed method

MAOP

MP 10 E = 1000 MAOP = 1300 x .8 = 1040

MP 15 E = 1400 MAOP = (1300 + (1000 - 1400) 62.4 / 144) x .8 = 901

MP 20 E = 500 MAOP = (1300 + (1000 - 500) 62.4 / 144) x .8 = 1213

Set point

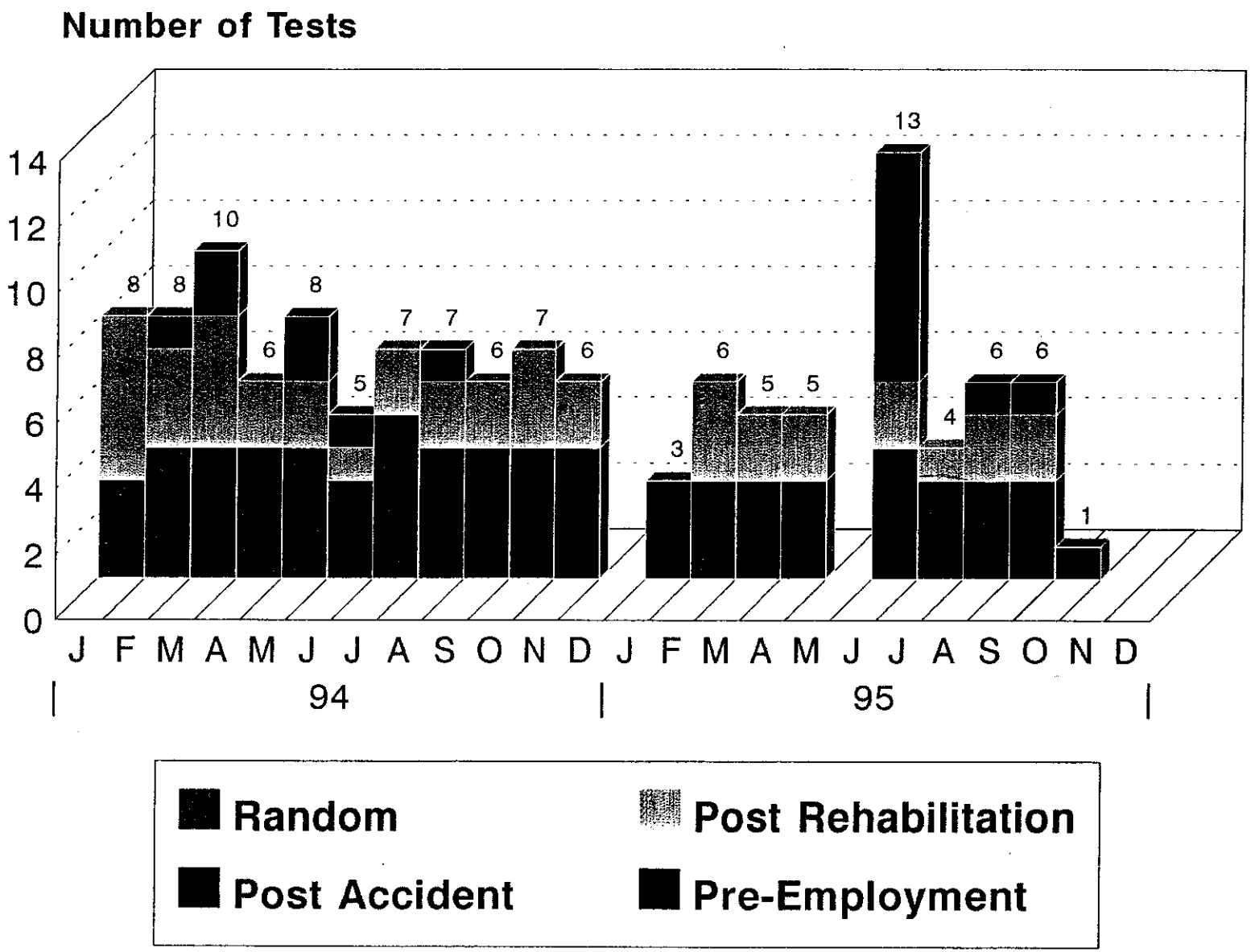
MP 10 MAOP = 1040 Set point = 1040

MP 15 MAOP = 901 Set point = 901 – (1000 - 1400) 32 / 144 = 990

MP 20 MAOP = 1213 Set point = 1213 - (1000 - 500) 32 / 144 = 1101

Set point increased from 790 to 990 psi

1994 & 1995 DOT Drug Testing



For Cause (return to work testing)

U.S. Department of Transportation

Research and Special Programs Administration

Memorandum

Date February 16, 1993 Reply to Attn. of:

Subject: **INFORMATION:** Change in Ownership of Olympic Pipeline Co. UREC #92

From Peter J. Katchmar, Staff Engineer, Western Region, DPS-28

To: Edward J. Ondak, Director, Western Region, DPS-28

On February 4, 1993, it was determined that Mobil no longer owns Olympic Pipeline Co. The new owners are Arco, BP, and Texaco Trading and Transportation, Inc. (TTTI). TTTI is the majority stock holder and so has taken on the responsibility of operating the line.

This has been updated in OPTINS./PJK

OLYMPIC PIPE LINE COMPANY - PIPE SUMMARY

PIPE SIZE/LOCATION	LONE STAR	U. S. STEEL	OTHER	TOTAL
20",0.250" WT, 5LX52, ERW				
ALLEN TO RENTON	---	370,956	---	370,956
20",0.250" WT, 5LX60, ERW				
ALLEN TO RENTON	---	10,346	---	10,346
20",0.312" WT, 5LX52, ERW				
ALLEN TO RENTON	---	13,237	---	13,237
20",0.281" WT, 5LX52, ERW				
ALLEN TO RENTON	---	4,820	---	4,820
20",0.281" WT, 5LX42, ERW				
ALLEN TO RENTON	---	1,978	---	1,978
16", 0.312" WT, 5LX52, ERW				
FERNDALE TO ALLEN	130,987	66,355	---	197,342
ANACORTES TO ALLEN	907	43,587	---	44,494
CHERRY PT. TO FERNDALE	---	26,482	---	26,482
ALLEN TO RENTON	1,824	395,693	---	397,517
SUB TOTAL	133,718	532,117		665,835
16", 0.500"WT, 5LX42, ERW				
ALLEN TO RENTON	---	---	1,741 (KAISER)	1,741
16", 0.500"WT, 5LX42, ERW				
ANACORTES BOOSTER LINES	---	14,834	---	14,834
14", 0.281"WT, 5LX52, ERW				
RENTON TO PORTLAND	---	776,423	---	776,423

OLYMPIC PIPE LINE COMPANY - PIPE SUMMARY

PIPE SIZE/LOCATION	LONE STAR	U. S. STEEL	OTHER	TOTAL
14", 0.500"WT, 5LX42, ERW				
RENTON TO PORTLAND	---	4,533	1,555 (KAISER)	6,088
14",0.375" WT, 5LX42, ERW				
RENTON TO PORTLAND	---	---	35 (KAISER)	35
14", 0.250" WT, 5LX42, ERW				
PORTLAND DF TO PORTLAND JCT	---	48,594	---	48,594
12.750", 0.281" WT, 5LX52, ERW				
RENTON TO SEATTLE LATERAL	---	65,055	---	65,055
SEATTLE DELIVERY LINES	---	1,108	---	1,108
VANCOUVER LATERAL	---	22,026	---	22,026
SUB TOTAL		88,189		88,189
12.750", 0.250" WT, 5LX42, ERW				
SEATTLE DELIVERY LINES	---	5,588	---	5,588
VANCOUVER DELIVERY LINES	---	1,854	---	1,854
LINNTON DELIVERY LINES	---	745	---	745
SUB TOTAL		8,187		8,187
12.750", 0.312" WT, 5LX52, ERW				
VANCOUVER LATERAL	---	2,462	---	2,462
8.625", 0.188" WT, 5LX52, ERW				
TACOMA LATERAL	---	20,717	---	20,717
TACOMA DELIVERY LINES	---	192	---	192
SUB TOTAL		20,909		20,909
8.625", 0.188" WT, 5LX42, ERW				
TACOMA DELIVERY LINES	---	2,860	---	2,860

OLYMPIC PIPE LINE COMPANY - PIPE SUMMARY

PIPE SIZE/LOCATION	LONE STAR	U. S. STEEL	OTHER	TOTAL
8.625", 0.219" WT, 5LX42, ERW				
TACOMA DELIVERY LINES	---	505	---	505
6.625", 0.188" WT, 5LX52, ERW				
OLYMPIA LATERAL	---	78,778	---	78,778

* APPROXIMATE FOOTAGE

NOTICE OF PROBABLE VIOLATION

AND

PROPOSED CIVIL PENALTY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

June 2, 2000

Mr. Carl Gast
Vice President and General Manager
Equilon Pipeline Company LLC
Olympic Pipeline Company
2319 Lind Avenue S.W.
Renton, WA 98057

CPF No. 5-2000-5013

Dear Mr. Gast:

On June 10, 1999, the Olympic Pipeline (Olympic), owned and operated by Equilon Pipeline Company LLC, experienced a release from their sixteen-inch diameter pipeline near the water treatment facility at the east end of Whatcom City Park. Representatives of the Western Region, Office of Pipeline Safety (OPS), pursuant to Chapter 601 of 49 United States Code, conducted an investigation into the cause of the release. During the course of the investigation, Olympic's manuals and records were reviewed in detail in an effort to determine if all applicable procedures were in place, were adequate, and were followed prior to, during, and after the June 10, 1999, release.

As a result of the investigation, it appears that you have committed probable violations, as noted below, of pipeline safety regulations, Title 49, Code of Federal Regulations, Parts 195 and 199. The items inspected and the probable violations are:

- **§195.442 Damage Prevention Program. . . . (c) The damage prevention program required by paragraph (a) of this section must, at a minimum: . . . (6) Provide as follows for inspection of pipelines that an operator has reason to believe could be damaged by excavation activities: (i) The inspection must be done as frequently as necessary during and after the activities to verify the integrity of the pipeline; . . . .**

During the investigation, the OPS requested numerous documents in an effort to determine if Olympic personnel adequately monitored construction activities at the water treatment facility during and after the installation of multiple, large diameter water lines over the Olympic sixteen-inch products pipeline in 1994. This monitoring was critical to verifying the integrity of the pipeline considering the extensive excavation that occurred near the pipeline during this period. There are three documents that have been provided to the OPS that indicate that an Olympic employee was at the construction site on three separate days. Two of these documents detail line crossing construction activities on May 19, 1994 and August 11, 1994, and substantiate that Olympic employees were monitoring the excavation. The third document is a copy of field notes from the construction supervisor for the water treatment plant project which states that an Olympic representative was on site on July 6, 1994.

Olympic has only accounted for three (3) days of inspection during the approximate eight (8) month project. This appears to indicate that inspections were not done as frequently as necessary to verify the integrity of their pipeline. Furthermore, the extensive outside force damage in the vicinity of the June 10, 1999 rupture site confirms that Olympic personnel did not adequately monitor the pipeline during at least one critical phase of this known, long term construction project.

- **§195.401 General requirements. . . . (b) Whenever an operator discovers any condition that could**

adversely affect the safe operation of its pipeline system, it shall correct it within a reasonable time. However, if the condition is of such a nature that it presents an immediate hazard to persons or property, the operator may not operate the affected part of the system until it has corrected the unsafe condition.

During the investigation, the OPS requested and reviewed numerous documents in an effort to determine when the anomalies were discovered on the line segment in the vicinity of the Whatcom Creek Park. OPS discovered that Olympic personnel surveyed this line segment in 1996 with a magnetic flux leakage (MFL) internal inspection device. This device is intended to measure metal loss defects in the pipe wall. Furthermore, Olympic personnel surveyed this line segment in 1997 with a deformation internal inspection device. This device is intended to measure the roundness of the pipe.

The 1996 MFL survey reported a 23% metal loss anomaly, a "possible wrinkle bend" and a "possible mash" in the vicinity of the Whatcom City Park. The 1997 geometry survey reported a 0.45 inch "sharp" indication in the same general area as the other reported anomalies. These conditions, particularly when grouped together, are of the type that could adversely affect the safe operation of a pipeline.

The OPS requested and received documentation concerning these anomalies. Olympic submitted a 1997 document containing a detailed drawing of this area which identifies Olympic stationing distances, 1996 anomalies, and 1997 anomalies. The document contains statements which indicate that Olympic personnel intended to promptly investigate these anomalies.

In a letter entitled, "REQUEST FOR SPECIFIC INFORMATION" dated, September 9, 1999, the OPS requested the following information:

Please provide a detailed written explanation of why Olympic did not excavate the anomaly reported by Enduro at wheel count 843 + 69, and the anomalies reported by Tuboscope as a "possible wrinkle bend" at wheel count 84402 and a 23% defect 0.4 inches long with a "possible mash" at wheel count 84416, in the vicinity of the water treatment facility located at 3201 Arbor Street, Bellingham, Washington, 98226. It appears from our analysis that Olympic was working toward the excavation of these anomalies up to and including obtaining an authorization for expenditure (AFE 95080) and making a "one-call" and then no excavation was performed. In addition, please provide a copy of AFE 95080, the One-Call ticket received for the work and any other internal or external, written or electronic correspondence concerning canceling this excavation.

Olympic's written response to the request, in part, is as follows:

Olympic's investigation into this issue and other related issues is continuing. Further, Olympic's response is limited because certain Olympic employees with personal knowledge relevant to this question are unavailable to provide information, because of the pending federal criminal grand jury investigation. . . . Olympic is currently attempting to obtain more information responsive to this question, and will supplement this answer when new information is received. This effort includes attempts to locate a copy of a letter sent to the Washington Department of Ecology (WA-DOE) in 1997 which may contain information that relates to this question.

The OPS contacted the WA-DOE and requested a copy of the letter referenced above. The OPS received a copy of the letter from Olympic to the WA-DOE on October 19, 1999. The original letter was dated May 22, 1997, and there is a date stamp from the WA-DOE dated May 27, 1997. There was a spreadsheet titled, "SUMMARY OF 1997 CALIPER PIG INSPECTION AND FIELD INVESTIGATION", attached to the letter. On the first page of the spreadsheet, the geometry anomaly at the water treatment facility was identified and under the column heading, "Scheduled or actual investigation 1997", it states, "May". This is further evidence that Olympic intended to promptly excavate this anomaly identified by the 1997 geometry survey but ultimately did not.

- **§195.403 Training. (a) Each operator shall establish and conduct a continuing training program to instruct operating and maintenance personnel to:**

(1) Carry out the operating and maintenance, and emergency procedures established under 195.402 that relate to their assignments;

(2) Know the characteristics and hazards of the hazardous liquids or carbon dioxide transported, including, in the case of flammable HVL, flammability of mixtures with air, odorless vapors, and water reactions;

(3) Recognize conditions that are likely to cause emergencies, predict the consequences of facility malfunctions or failures and hazardous liquid or carbon dioxide spills, and to take appropriate corrective action;

(4) Take steps necessary to control any accidental release of hazardous liquid or carbon dioxide and to minimize the potential for fire, explosion, toxicity, or environmental damage;

(5) Learn the proper use of firefighting procedures and equipment, fire suits, and breathing apparatus by utilizing, where feasible, a simulated pipeline emergency condition; and

(6) In the case of maintenance personnel, to safely repair facilities using appropriate special precautions, such as isolation and purging, when highly volatile liquids are involved.

(b) At intervals not exceeding 15 months, but at least once each calendar year, the operator shall:

(1) Review with personnel their performance in meeting the objectives the training program set forth in paragraph (a) of this section; and

(2) Make appropriate changes to the training program as necessary to ensure that it is effective.

(c) Each operator shall require and verify that its supervisors maintain a thorough knowledge of that portion of the procedures established under 195.402 for which they are responsible to ensure compliance.

During the investigation, the OPS requested numerous documents in an effort to determine if the Olympic personnel who were in the control room on June 10, 1999, had received continuing training. In a letter entitled, "REQUEST FOR SPECIFIC INFORMATION" dated, August 9, 1999, the OPS requested the following information, "Please provide copies of all training records for the two controllers, computer support technician, and supervisor that were on duty during the hours of 8:00 a.m. and 6:00 p.m. on June 10, 1999, for the period of time from January 1, 1994, to the present." Olympic's response to that letter stated in part,

Attached (Attachment F) are the training records for the computer support technician and the supervisor that were on duty on June 10, 1999. Copies of training records for the two controllers identified above were previously provided to the NTSB under production number four, document numbers 0622 - 0639 and 0640 - 0654. We understand copies were forwarded to the DOT/OPS. Please let us know if this is not the case.

The following table summarizes the training documents provided for each person.

Individual	Training Document	Document Date
Controller #1	E-mail from manager stating that this person has completed the Pipeline Simulator Workshop	May 21-23, 1990
Controller #1	Job Performance	24 June 91
Controller #1	Performance and Development Review	5-28-92
Controller #1	Certificate of Completion/OPA 90 training	8-16-93
Controller #1	Performance and Development Review	1-21-94
Controller #1	Certificate of Completion/8 hour OSHA Annual Refresher Class	February 27, 1997
Controller #1	Certificate of Completion/8 hour OSHA Annual Refresher Class	February 26, 1998
Controller #2	Satisfactory Completion/Shell Pipe Line Corporation Operations Training	11/14/90
Controller #2	Job Performance	21 JUNE 1991

Controller #2	Performance and Development Review	5-28-92
Controller #2	Performance and Development Review	1-25-94
Computer Support Technician	Certificate of completion/certification as Operations Controller	17 October 1994
Control Center Supervisor	Aviation-Air Traffic Control First Aid/CPR Media Relations Training Oil Movement Controllers Workshop Fire Training Exercise Intro to Emergency Procedures Manual DOT Drug Testing for Supervisors	1971 16 OCT 89 05 DEC 89 11 MAY 90 22 MAY 90 25 MAY 90 04 JUN 90
Control Center Supervisor	E-mail from manager stating that this person has completed the Pipeline Simulator Workshop	OCT. 22-24, 1990
Control Center Supervisor	Certificate of Completion/8 hour OSHA Annual Refresher Class	March 18, 1993
Control Center Supervisor	Certificate of Completion/OPL's 1993 Driver Improvement Program	May, 1993
Control Center Supervisor	Certificate of Completion/OPA 90 training	12 August 1993
Control Center Supervisor	Certificate of Completion/Power Writing	October 18-19, 1993
Control Center Supervisor	Certificate of Completion/8 hour OSHA Annual Refresher Class	March 15, 1994
Control Center Supervisor	Certificate of Completion/Managing Multiple Projects, Objectives and Deadlines	8 April 1994
Control Center Supervisor	Acknowledgment of Receipt- Supervisor Workbook-Texaco's Alcohol & Substance Abuse Program Supervisor Workbook	12/13/94
Control Center Supervisor	Certificate of Completion/8 hour OSHA Annual Refresher Class	March 6, 1996
Control Center Supervisor	Certificate of Completion/OPL's Spill Response Plan Training	March 11, 1996
Control Center Supervisor	Certificate of Attendance/Transportation Safety Institute Hazardous Liquids Pipeline Seminar	February 19 - 20, 1997
Control Center Supervisor	Certificate of Completion/Completion/8 hour OSHA Annual Refresher Class	February 25, 1998
Control Center Supervisor	Certificate of Completion/Incident Command System (ICS) Orientation (4 Hours)	March 19, 1998
Control Center Supervisor	Course Completion/The AAA Driver Improvement Program	June 11, 1998
Control Center Supervisor	Certificate of Completion/8 hour OSHA Annual Refresher Class	April 1, 1999

With the exception of initial controller certification and OSHA training, Olympic did not provide documentation that any of these particular employees were part of a continuing training program for all of the requirements of Part 195.403. In the absence of a procedure or policy on the extent, scope, and documentation of employee training, it was impossible to determine whether the key control room staff were adequately trained and part of a continuing, effective training program. Section 195.403 clearly contemplates more than an uncoordinated and imprecise informal approach to training in the safe operation of a pipeline.

4. §195.402 Procedural manual for operations, maintenance, and emergencies. (a) General. Each operator shall prepare and follow . . . a manual of written procedures for . . . handling abnormal operations . . . (d) Abnormal operation. The manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded: . . . (2) Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.

On June 10, 1999, the Supervisory Control and Data Acquisition (SCADA) system was not working properly. This caused the operators to take actions to abnormally shutdown the pipeline. Olympic did not provide any documentation that critical locations on the pipeline system were checked after this abnormal shutdown. Nonetheless, the controller restarted the sixteen-inch pipeline system.

It appears that after review of documentation and subsequent analysis, the release occurred during the abnormal shutdown of the pipeline. When the abnormal event with the SCADA system had ended and the line was restarted, there could not have been any flow into the BPT as the release had already occurred. However, Olympic continued to operate the pumps at the Cherry Point and Ferndale stations for fifteen (15) minutes. Only after the leak detection system (PLDS) alarmed and the pumps at Cherry Point and Ferndale went down on low suction, did the controller start shutting down and isolating the pipeline segment.

- **§195.402 Procedural manual for operations, maintenance, and emergencies. (a) General. Each operator shall prepare and follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. This manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year, and appropriate changes made as necessary to insure that the manual is effective. This manual shall be prepared before initial operations of a pipeline system commence, and appropriate parts shall be kept at locations where operations and maintenance activities are conducted.**

During the investigation, the OPS requested numerous documents in an effort to determine if Olympic had prepared and followed appropriate procedures required by Federal regulations. Olympic provided copies of the Operations Manual for Controllers, and appropriate sections of their Operations and Maintenance Manual that were in effect at the time of the release on June 10, 1999. After conducting an in depth review of these documents, there are numerous manual sections where Olympic did not incorporate procedures for the BPT before initial operations there commenced in December 1998. Details are summarized below:

On page 6 of 24, Section 3 of the Miscellaneous Operations section of the Operations and Maintenance Manual, all utility tanks are listed except the BPT utility tank. On page 10 of 24 in Section 3, there are 2 tables of delivery facilities that do not include the BPT. On page 13 of 24, there is a table containing each circuit and the corresponding facility which it controls. The BPT is not represented in this table. On page 14 of 24, there is a table of line fills and displacements. The lines from the BPT to the Allen Station are not included. On the same page there is a table of base volume capacities that does not include the BPT to Allen segments. On page 21 of 24 there are procedures for the restart of the 16" line which includes a table of shut down pressures that does not include the BPT. On page 22 of 24 there is a list of step by step restart guidelines. The BPT is not mentioned in these procedures. On page 23 of 24, there is a list of step by step shutdown guidelines. The BPT is not mentioned in these procedures.

- **§195.262 Pumping equipment. . . . (c) Each safety device must be tested under conditions approximating actual operations and found to function properly before the pumping station may be used.**

During the investigation, the OPS requested numerous documents in an effort to determine if any of the relief

valves, including the one identified as RV 1919, on the Ferndale incoming line at the Bayview Products Terminal (BPT) were tested prior to placing the BPT in service on December 3, 1998. Olympic has not provided any documentation confirming any relief valve testing under conditions approximating actual operations prior to the BPT being placed in service.

Concerning relief valve RV1919, the only documentation, received by OPS, prior to placing the BPT in service, indicated that on November 18, 1998, RV1919 was checked at the set point of 650 psig. This check was a static pressure check and not a check under flow conditions. Furthermore, there were many instances within weeks of placing the BPT into service where relief valve RV 1919 did not relieve at its set point:

- **During 27 scheduled shutdowns for the Ferndale to Woodinville pipeline segment from December 10, 1998 - May 24, 1999, seven resulted in a high enough pressure to close the isolation valve (MV1902 - set point of 700 psig) upstream of the BPT.**

- **During 34 unscheduled shutdowns for the Cherry Point to Woodinville pipeline segment from December 20, 1998 - May 24, 1999, 23 resulted in a high enough pressure to close the isolation valve (MV1902).**

These instances and others appear to verify that RV 1919 could not have been properly tested under conditions approximating actual operations and could not have been found to be functioning properly prior to the BPT being placed in service. Furthermore, Olympic did not provide any documentation showing that RV 1919 had been tested prior to the June 10, 1999, release.

- **§195.402 Procedural manual for operations, maintenance, and emergencies. (a) General. Each operator shall prepare and follow . . . a manual of written procedures for . . . handling abnormal operations . . . (d) Abnormal operation. The manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded: (1) Responding to, investigating, and correcting the cause of: (i) Unintended closure of valves or shutdowns; . . . .**

As reported by Olympic, the isolation valve (MV 1902) closed uncommanded over fifty (50) times since the BPT was incorporated into Olympic's pipeline system. Olympic also reported that forty-one (41) of these events were due to a high pressure at the BPT. Olympic was aware of and did not investigate these abnormal occurrences. Procedures on page 13 of 16 of section 6, item C of Olympic's Operations and Maintenance Manual state:

> DOCUMENTATION AND REVIEW OF ABNORMAL EVENTS.
> Any operation that deviates from the normal mode of operations must be documented by the Operations Controller and by the field personnel involved. This information must include the best and most accurate information available and contain a description of: operations prior to the event, the abnormal event, corrective and final action taken. This information is invaluable to prevent the same situation from occurring again and to assist personnel in rectifying this event.
>
> The Supervisor of Operations will periodically review the response of operations personnel to determine the effectiveness of the procedures controlling abnormal operations and take corrective action where deficiencies are found.

There is no record of Olympic personnel responding to, investigating, and correcting the cause of the repeated uncommanded valve closures at the BPT or the repeated failures of the relief valve to open appropriately. These devices are considered to be safety devices designed to protect the BPT, and directly affect mainline operating pressures.

- **§195.404 Maps and Records. . . . (b) Each operator shall maintain for at least 3 years daily operating records that indicate - (1) The discharge pressure at each pump station; and (2) Any emergency or abnormal operation to which the procedures under §195.402 apply.**

During the investigation, the OPS requested numerous documents in an effort to determine the discharge

pressure at the Ferndale pump station, the pump station directly upstream of the release site, and any abnormal conditions that occurred on the line segment from the Cherry Point to the Allen Station prior to the June 10, 1999, release. Olympic stated that the recording chart for the discharge pressure at the Ferndale pump station had run out of paper on the afternoon of June 9, 1999, and therefore, they could not provide this data.

Olympic also responded to OPS inquiries regarding the recording of abnormal events at the BPT by submitting numerous records concerning valves, maintenance logs and e-mails. These records were reviewed and provided no indication that any records existed documenting the unintended closure of the BPT upstream isolation valve or the malfunction of the relief valve on the Ferndale line (RV1919) in the BPT.

Under 49 United States Code §60122, you are subject to a civil penalty not to exceed $25,000 for each violation for each day the violation persists up to a maximum of $500,000 for any related series of violations. Upon preliminary review of the assessment considerations, we propose assessment of a civil penalty as follows:

Item 1-Damage Prevention Records =$25,000

Item 2- Not correcting an unsafe condition =$500.000 (capped)

Item 3- Training =$500,000 (capped)

Item 4-Not checking sufficient locations after an abnormal event =$25,000

Item 5-Not updating and following procedures =$500,000 (capped)

Item 6- No testing of RV 1919 =$500,000 (capped)

Item 7-Not Responding to and correcting abnormal conditions =$500,000 (capped)

Item 8-Discharge pressure/abnormal event records =$500,000 (capped)

Total =$3,050,000

Enclosed is a description of the available procedures for responding to this Notice. Please note that if you elect to make a response, you must do so within 30 days of receipt of this Notice or waive your rights under 49 CFR 190.209. No response or a response which does not contest the allegations in the Notice authorizes the Associate Administrator, OPS, to find the facts to be as alleged herein and to issue appropriate orders. The 30-day response period may be extended for good cause shown and submitted within the original 30 days.

Please refer to CPF No. 5-2000-5013 in any correspondence on this matter.

Sincerely,

Chris Hoidal

Director

Enclosure

NOTICE OF PROBABLE VIOLATION

AND

NOTICE OF AMENDMENT

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 8, 2000

Mr. Carl Gast
Vice President/Manager
Equilon Pipeline Company LLC
Olympic Pipeline Company
2319 Lind Avenue S.W.
Renton, Washington 98057

CPF #5-2000-50012

Dear Mr. Gast:

During the week of April 11-13, 2000, and the week of April 19-21, 2000, representatives of the Western Region, Office of Pipeline Safety (OPS), pursuant to Chapter 601 of 49 United States Code, conducted inspections of Olympic Pipeline Company's (Olympic) manuals, records and facilities from the Renton Pump station south to Portland, Oregon.

As a result of the inspections, it appears that you have committed probable violations, as noted below, of pipeline safety regulations, Title 49, Code of Federal Regulations, Part 195. The items inspected and the probable violations are:

1. §195.402 Procedural manual for operations, maintenance, and emergencies. (a) General. Each operator shall prepare and follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. This manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year, and appropriate changes made as necessary to insure that the manual is effective. This manual shall be prepared before initial operations of a pipeline system commence, and appropriate parts shall be kept at locations where operations and maintenance activities are conducted.

A. Olympic did not follow their procedures for handling abnormal operations related to unintended shutdowns. Olympic's procedures require all unintended shutdowns to be recorded in the spiral notebook in the control room. At the time of the inspection, it was discovered that a controller had opened a valve to divert some product being pumped into a tank. The resulting pressure drop in the pipeline caused the downstream pump station to shutdown on low suction. This event was not recorded in the log book. The log book was reviewed for past events and it was noted that the controllers are documenting these types of occurrences. Olympic personnel stated that they would use this event as a training mechanism for all controllers to drive home the importance of record keeping.

- Olympic did not follow their procedures for pipeline maintenance activities. Olympic's procedures state that all bonds with foreign pipelines will be inspected and read on a two to a two and one half month time period. At the time of the inspection, it was discovered that there were fourteen

instances where Olympic exceeded the two and one half month period for inspecting their bonds. The following is a list of the late bond inspections:

Bond Identification Inspection Dates Days in Excess of 2 ½ months

AL-WO 16" MP Ebby Slough	3/01/99 - 5/26/99	11 Days Late
AL-WO 16" MP Ebby Slough	11/16/99 - 3/4/00	33 Days Late
AL - WO 20" MP Ebby Slough	3/01/99 - 5/26/99	11 Days Late
Cherry Pt. -FE 16" Intalco	3/01/99 - 5/26/99	11 Days Late
500' S. of Olympia Jct.	3/02/99 - 5/25/99	9 Days Late
Ins. Flange @ ARCO Tank Farm	3/04/99 - 5/20/99	1 Days Late
Texaco - Portland Gasco Line	3/04/99 - 5/20/99	1 Days Late
Texaco - Portland Fuel Line	3/04/99 - 5/20/99	1 Days Late
Texaco Seattle N. Tank Farm	3/03/99 - 5/26/99	8 Days Late
Seattle Texaco Tank Farm	3/03/99 - 5/26/99	8 Days Late
Sauvie Island OPL & NW Xing	3/04/99 - 5/20/99	1 Days Late
Boiler House Test Point	3/04/99 - 5/20/99	1 Days Late
Waterline Xing	3/04/99 - 5/20/99	1 Days Late
Van. Del. Lines @ Tesoro	3/04/99 - 5/20/99	1 Days Late

2. §195.402 Procedural manual for operations, maintenance, and emergencies. (d) Abnormal operation. The manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded:

(1) Responding to, investigating, and correcting the cause of:

(i) Unintended closure of valves or shutdowns;

(ii) Increase or decrease in pressure or flow rate outside normal operating limits;

(iii) Loss of communications;

(iv) Operation of any safety device;

(v) Any other malfunction of a component, deviation from normal operation, or personnel error which could cause a hazard to persons or property.

(2) Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.

(3) Correcting variations from normal operation of pressure and flow equipment and controls.

(4) Notifying responsible operator personnel when notice of an abnormal operation is received.

(5) Periodically reviewing the response of operator personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.

At the time of the inspection, it was discovered that Olympic has general procedures for abnormal operations on their intranet and more specific abnormal operations procedures in the Controller's Manual. Olympic must amend the general procedures to reference the more specific procedures in the Controller's Manual. Olympic shall also review the procedures in both documents to ensure the adequacy and continuity of the procedures.

- **§195.416 External corrosion control. (i) Each operator shall clean, coat with material suitable for the prevention of atmospheric corrosion, and, maintain this protection for, each component in its pipeline system that is exposed to the atmosphere.**

During the field review of facilities, it was noted that there was no dialectric material between certain pipe supports and the above ground carrier pipe. Any area where metal touches metal is prone to atmospheric corrosion. Pipe supports are particularly susceptible due to moisture being trapped between the pipes. While this is not of immediate concern to the integrity of the pipeline, Olympic should install dialectric material between the pipe and the supports as soon as practicable.

Under 49 United States Code §60122, you are subject to a civil penalty not to exceed $25,000 for each violation for each day the violation persists up to a maximum of $500,000 for any related series of violations. We have reviewed the circumstances and supporting documentation regarding items 1A, 1B, and 3, and have decided not to access you a civil penalty. We advise you, however, that should you not correct the circumstances leading to the probable violations, we will take enforcement action when and if the continued violation comes to our attention.

In regard to item 2, as provided in 49 C.F.R. §190.237, this notice serves as your notification that this office considers your procedures/plans inadequate. Under 49 C.F.R. § 190.237, you have a right to submit written comments or request an informal hearing. You must submit written comments or a request for a hearing within 30 days after receipt of this notice. After reviewing the record, the Associate Administrator for Pipeline Safety will determine whether your plans or procedures are adequate. The criteria used in making this determination are outlined in 49 C.F.R. § 190.237. If you do not wish to contest this notice, please provide your revised procedures within 30 days of receipt of this notice.

When appropriate procedures have been prepared, submit them to the Director, Western Region, Office of Pipeline Safety, Research and Special Programs Administration, 12600 West Colfax Avenue, Suite A-250, Lakewood, Colorado 80215-3736. Please refer to CPF No. 5-2000-50012 in any correspondence on this matter.

Sincerely,

Chris Hoidal

Regional Director

enc: Procedures for Response

OPS UNIT INSPECTION LS (Letter) ITEMS

OPER/UNIT: 31189 BP PIPELINE (NORTH AMERICA) INC. 925 WA-UTC/OPL-NORTH

ACTIVITY ID: 88181 — LS Items: 3

Type	Lead Person	AFO/Total Days	From / To Dates	Rank	CPF(s)	Status
I01 UNIT INSPECTION	KATCHMAR, PETER	9.00 9.00	04/11/2000 04/22/2000	22	520005012	COMP LS

PART OF WA STATE COMMITTMENT TO INSPECT ALL PIPELINES IN THE STATE. STEVE & PETER WILL INSPECT THE 14" & LATERALS SOUTH OF RENTON TO PORTLAND, OR.

LS Item ID	Result	Regulation(s)	CPF	Nature
11966	WL	195.402	520005012	FIELD

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE — Operation and Maintenance — Procedural manual for operations, maintenance, and emergencies.

Comments:
Olympic did not follow thier procedures for (A) handling abnormal operations relating to unintended shutdowns, and (B) bonds with foreign pipelines.
Evidence:

LS Item ID	Result	Regulation(s)	CPF	Nature
11967	NOA	195.402	520005012	PROCEDURES

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE — Operation and Maintenance — Procedural manual for operations, maintenance, and emergencies.

Comments:
Olympic must amend the general procedures to reference the more specific procedures in the Controller's Manual and review the procedures in both documents to ensure the adequacy and continuinty of the procedures.
Evidence:

LS Item ID	Result	Regulation(s)	CPF	Nature
11968	WL	195.416	520005012	FIELD

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE — Operation and Maintenance — External corrosion control.

Comments:
Olympic should install dialectric material between the pipe and the supports in areas of above groung piping where this has not been done.
Evidence:

ACTIVITY ID: 85355 — LS Items: 1

Type	Lead Person	AFO/Total Days	From / To Dates	Rank	CPF(s)	Status
I03 FAILURE INVESTIGATION	STRAWN, JON A	41.00 41.00	06/10/1999 07/03/1999		59505H	COMP LS

CONDUCTED AN ACCIDENT INVESTIGATION OF THE OLYMPIC PIPELINE. ON 6/10/99 OLYMPIC PIPELINE EXPEREINCED A RUPTURE OF THEIR FERNDALE TO BAYVIEW 16" PIPELINE. 6600 BARRELS WERE RELEASED INTO HANNAH AND WHATCOM CREEKS IN THE CITY OF BELLINGHAM, WASH. THERE WERE THREE FATALITIES AND 8 INJURIES. THE CAUSE OF THE ACCIDENT IS UNKNOWN AT THIS TIME. THE INVESTIGATION IS ONGOING.

LS Item ID	Result	Regulation(s)	CPF	Nature
11569	CP	195.401(b)	59505H	FIELD

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE — Operation and Maintenance — General requirements.

Comments:
A CAO WAS ISSUED TO OLYMPIC AFTER A RUPTURE IN BELLINGHAM, WA. NUMEROUS VIOLATIONS CONCERNING PROCEDURES, RECORDS & FIELD OPERATIONS WERE DISCOVERED DURING THE INITIAL INVESTIGATION. A SUMMARY WILL BE PRESENTED SUBSEQUENT TO THE INVESTIGATION.
Evidence:

Unit =925

OPS UNIT INSPECTION LS (Letter) ITEMS

OPER/UNIT: 31189 BP PIPELINE (NORTH AMERICA) INC. 925 WA-UTC/OPL-NORTH

ACTIVITY ID: 84479 LS Items: 4

Type	Lead Person	AFO/Total Days	From / To Dates	Rank	CPF(s)	Status
I01 UNIT INSPECTION	KATCHMAR, PETER	8.00 8.50	03/04/1999 03/19/1999	21	59503C	COMP LS

REVIEWED MANUALS AND A REPRESENTATIVE SAMPLE OF APPLICABLE RECORDS. OLYMPIC IS USING TEAM INSPECTED AND OPS APPROVED TEXACO MANUALS. FIELD REVIEW INCLUDED OBSERVING A SLIDE AREA SOUTH OF CASTLE ROCK STATION AND DRIVING THE ROW TO THE NORTH AROUND ANACORTES, WA.

LS Item ID	Result	Regulation(s)	CPF	Nature
10681	LOC	195.402(a)	59503C	PROCEDURES

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE — Operation and Maintenance — Procedural manual for operations, maintenance, and emergencies.

Comments:
At the time of the inspection, OPL was in the middle of a manual change due to the recent merger of Texaco and Shell into a new company named Equilon. OPL is currently utilizing the Texaco manuals that the OPS accepted during the last team inspection. OPL has plans to digest the Texaco manuals and include their own site specific information into that manual to make it applicable to their pipeline system. The OPS commends OPL for their continuing strive for excellence by updating their manuals and training their personnel in any newly revised procedures.
Evidence:
MANUAL REVIEW.

LS Item ID	Result	Regulation(s)	CPF	Nature
10678	LOC	195.412(a)	59503C	FIELD

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE — Operation and Maintenance — Inspection of rights-of-way and crossings under navigabl

Comments:
At the time of the inspection, areas of the pipeline ROW were in need of clearing to make it conducive for aerial patrols. OPL is not required to perform aerial patrols, however, if OPL is going to continue aerial patrols in lieu of a more close to the ground inspection of their ROW, the ROW must be sufficiently cleared.
Evidence:
FIELD INSPECTION.

LS Item ID	Result	Regulation(s)	CPF	Nature
10679	LOC	195.424(a)	59503C	RECORDS

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE — Operation and Maintenance — Pipe movement.

Comments:
At the time of the inspection, it was discovered that OPL personnel do not routinely take into account the pressure in the pipeline when moving the line to install link seals in the end of a casing to clear a short. It is stipulated that some of the areas in question are just upstream of a pump station where the pressure in the line is well below the maximum operating pressure, however, other areas may not have normally reduced pressure. Maintenance personnel must work with operating personnel whenever pipe movement is required, to ensure the pressure in the pipe is reduced to a maximum of 50% of the maximum operating pressure per the requirements of 195.424(a).
Evidence:
PIPE EXPOSURE RECORDS REVIEW CONCERNING THE JACKING OF THE PIPELINE TO INSTALL LINK SAELS AND/OR FIBERGLASS WEDGES.

LS Item ID	Result	Regulation(s)	CPF	Nature
10680	LOC	195.416(i)	59503C	FIELD

TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE — Operation and Maintenance — External corrosion control.

Comments:
At the time of the inspection, it was discovered that a valve vault near MP 3 was full of water. The flanges on the valve showed significant atmospheric corrosion. OPL shall clean, coat with material suitable for the prevention of atmospheric corrosion, and, maintain this protection for, each component in its pipeline system that is exposed to the atmosphere. OPL must examine all of the above ground piping in its pipeline system for atmospheric corrosion and mitigate any atmospheric cossosion that is discovered.
Evidence:
FIELD INSPECTION

Unit =925

OPS UNIT INSPECTION LS (Letter) ITEMS

OPER/UNIT: 31189 BP PIPELINE (NORTH AMERICA) INC. 925 WA-UTC/OPL-NORTH

Unit =925

June 18, 1999

Mr. Frank Hopf
Vice President/Manager
Equilon Pipeline Company LLC
Olympic Pipeline Company
2319 Lind Avenue S.W.
Renton, WA 98057

Re: CPF No. 59505-h

Dear Mr. Hopf:

Enclosed is a Corrective Action Order issued by the Associate Administrator for Pipeline Safety in the above-referenced case. Service is being made by certified mail and telecopy. Your receipt of the enclosed document constitutes service of that document under 49 C.F.R. § 190.5. The terms and conditions of this Corrective Action Order are effective upon receipt.

Sincerely,

Gwendolyn M. Hill

Pipeline Compliance Registry

Office of Pipeline Safety

Enclosure

VIA CERTIFIED MAIL (RETURN RECEIPT REQUESTED) AND TELECOPY

DEPARTMENT OF TRANSPORTATION

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

WASHINGTON, DC 20590

☒

CPF No. 59505-h

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112 to require Equilon Pipeline Company (Equilon) to take the necessary corrective action to protect the public and environment from potential hazards associated with its Olympic Pipeline. Olympic is owned and operated by Equilon. The Olympic Pipeline System originates at the ARCO and Tosco refineries in Ferndale, and the Equilon and Tosoro refineries in Anacortes, all in northern Washington, transporting petroleum products approximately 260 miles south into Portland, Oregon. The Office of Pipeline Safety (OPS) has found that corrective action is necessary to prevent the recurrence of a failure similar to that which occurred on June 10, 1999.

On June 10, 1999, at approximately 4:43 PM PST, a release of approximately 3,600 to 6,600 barrels of gasoline occurred on the Olympic pipeline at milepost 16 in the city of Bellingham, Washington. The release originated onshore near the Bellingham Water Treatment Plant and entered Hannah Creek which carried the product into the Whatcom Creek where it was ignited by an unknown source. The release and subsequent ignition resulted in three deaths, eight injuries, and environmental damage to the Hannah and Whatcom Creeks. Additionally, property damage occurred to the Bellingham Water Treatment Plant, other industrial structures along the creeks, and at least one private residence.

Pursuant to 49 U.S.C. § 60117, the Western Region, OPS initiated an investigation of this incident.

Preliminary Findings

1. On June 10, 1999, at approximately 4:43 PM PST, a release of approximately 3,600 to 6,600 barrels of gasoline occurred from the Olympic 16-inch products pipeline at milepost 16 in the city of Bellingham, Washington resulting in three deaths, eight injuries, and environmental damage to approximately 1.5 miles of the Hannah and Whatcom Creeks.

2. The Olympic Pipeline is owned and operated by Equilon and transports petroleum products from refineries located in Ferndale, Washington approximately 37 miles to the Allen Pump Station where products from refineries in Anacortes are also batched on the pipeline for continued transportation an additional 75 miles to markets south in the Seattle area.

3. The Olympic Pipeline began operation in 1965 and traverses through or near the cities of Bellingham, Avon, Arlington, Marysville, Mill Creek, Woodinville, Redmond, Bellevue, and Renton, Washington. Additionally the pipeline crosses environmental areas and water supplies such as Nooksack River, Samish Lake, Samish River, Skagit River, Pilchuck Creek, Stillaquamish River, Ebey Slough, and Snohomish River.

4. The release occurred on a 16-inch segment of the pipeline that runs from Ferndale to Allen, Washington. This segment is constructed with 0.312-inch wall thickness, 5LX52, Electric Resistance Welded (ERW) pipe of Lone Star and U.S. Steel manufacture.

5. The pipeline is constructed of electric resistance welded pipe manufactured prior to 1970. OPS has issued two Alert Notices ALN-88-01 and ALN-89-01 based on twelve seam failures of such pipe during 1988 and 1989. The Alert Notices advised pipeline operators with such pipe in their systems to take additional precautions to limit pressure, to hydrotest, and to assure adequate cathodic protection.

6. The Ferndale to Allen segment has a maximum operating pressure (MOP) of 1,370 psig and was hydrostatically tested, in February 1965, to a pressure of 1,713 psig for a duration of 24 hours. The normal operating pressure for the segment is 1,320 psig.

7. The operating pressure in effect at the time of the release at approximately 4:43 PM PST on June 10, 1999 is unknown.

8. Preliminary investigation indicates that the mainline block valve located at milepost 16.22 immediately upstream of the incident site either malfunctioned or was not closed in a timely fashion, resulting in as much as an additional 3,100 barrels of gasoline being released at the incident site.

9. Preliminary investigation indicates that the Supervisory Control and Data Acquisition System (SCADA) was not functioning properly prior to, and at the time of, the incident. System response time

was reported as slow and the system's recording of some data was not consistent with normal operation.

10. The cause of the incident is currently unknown as the investigation is on-going and all facts have not yet been determined.

11. The failed pipe has not yet been viewed by investigators as the site has not been deemed safe for investigative efforts.

12. The Olympic pipeline is a critical supplier of refined products from four northern Washington state refineries to airports and other strategic markets in the Seattle, Washington and Portland, Oregon areas. Olympic has arranged for alternative forms of transportation for its products while the Ferndale to Allen pipeline segment is out of service.

Determination of Necessity for Corrective Action Order and Right to Hearing

Section 60112 of Title 49, United States Code, provides for the issuance of a Corrective Action Order, after reasonable notice and the opportunity for a hearing, requiring corrective action, which may include the suspended or restricted use of a pipeline facility, physical inspection, testing, repair, replacement, or other action as appropriate. The basis for making the determination that a pipeline facility is hazardous, requiring corrective action, is set forth both in the above referenced statute and 49 C.F.R. §190.233, a copy of which is enclosed.

Section 60112, and the regulations promulgated thereunder, provide for the issuance of a Corrective Action Order without prior opportunity for notice and hearing upon a finding that failure to issue the Order expeditiously will result in likely serious harm to life, property or the environment. In such cases, an opportunity or a hearing will be provided as soon as practicable after the issuance of the Order.

After evaluating the foregoing preliminary findings of fact, I find that the continued operation of this pipeline without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the circumstances surrounding this failure, the location of the pipeline to populated areas, and the uncertainties as to cause of the failure, I find that a failure to issue expeditiously this Order, requiring immediate corrective action, would result in likely serious harm to life, property, and the environment.

Accordingly, this Corrective Action Order mandating needed immediate corrective action is issued without prior notice and opportunity for a hearing. The terms and conditions of this Order are effective upon receipt.

Within 10 days of receipt of this Order, the Respondent may request a hearing, to be held as soon as practicable, by notifying the Associate Administrator for Pipeline Safety in writing, delivered personally, by mail or by telecopy at (202) 366-4566. Any hearing will be held in Lakewood, Colorado or Washington, D.C. on a date that is mutually convenient to OPS and the Respondent.

After receiving and analyzing additional data in the course of this investigation, OPS may identify other longer term measures that need to be taken. Respondent will be notified of any additional measures required and amendment of this Order will be considered. To the extent consistent with safety, Respondent will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

Required Corrective Action

Pursuant to 49 U.S.C. § 60112, I hereby order Equilon to immediately take the following corrective actions with respect to its Olympic Pipeline.

With respect to the Ferndale, Washington to Allen, Washington segment:

1. Do not operate this segment until completing Items 2 through 4, and obtaining the written approval of the Regional Director, Western Region of the plan provided for in Item 5.

2. Review the Supervisory Control and Data Acquisition System (SCADA) to determine the cause of the deficiencies that occurred on June 10, 1999, and correct these deficiencies.

3. Test mainline valves intended to isolate sections of the pipeline traversing populated and environmentally sensitive areas. Take any needed remedial action to assure they will perform their intended function.

4. Install a check valve adjacent to the Lakeway Drive block valve at milepost 16.22.

5. Develop a plan with corrective measures that address factors playing a role in the release. The plan must include the following items to the extent that they address factors in the release:

a. A review of the existing mainline block valves and check valves taking into consideration elevation, population, and environmentally sensitive locations, and plan for additional mainline block valves and check valves to minimize the consequences of a release from the pipeline. The block valves will have remote operation capability as deemed appropriate by the review.

b. A comprehensive review of the Supervisory Control and Data Acquisition System (SCADA) to detect any deficiencies, with a schedule for modifications.

c. Cathodic protection surveys with scheduled remedial action.

d. Pressure testing.

e. Internal inspection tool surveys and remedial action to assure the integrity of the pipeline. The type of internal inspection tool used shall be the best available technology appropriate for accessing the system based on the type of failure that occurred on June 10, 1999.

6. Submit the written plan to the Director, Western Region, Office of Pipeline Safety, RSPA, 12600 West Colfax Ave., Suite A250, Lakewood, Colorado 80228.

7. Restrict the MOP of the Ferndale, Washington to Allen, Washinton to 1056 psig which is 80% of the normal operating pressure. Equilon may request approval from the Associate Administrator, OPS to increase its pressure based on a showing that the hazard has been abated. OPS' approval must be in writing.

8. Implement the plan in Item 5 and coordinate all corrective actions with the Regional Director, Western Region, OPS to assure the integrity of the pipeline.

With respect to the 16" Allen, Washington to Renton, Washington segment:

9. Restrict the MOP of this segment to 80% of its normal operating pressure. Equilon may request

approval from the Associate Administrator, OPS to increase its pressure based on a showing that the hazard has been abated. OPS' approval must be in writing.

10. Include consideration of this segment within the plan developed under Item 5.

11. The Regional Director may grant an extension of time upon receipt of a written request stating the reasons therefor, for completion of any of the items required under an approved plan.

The procedures for the issuance of this Order are described in Part 190, Title 49, Code of Federal Regulations, § 190.233, a copy of which is enclosed, is made part of this Order and describes the Respondents's procedural rights relative to this Order. Failure to comply with this Order may result in the assessment of civil penalties not more than $25,000 per day and in referral to the Attorney General for appropriate relief in United States District Court.

Sincerely,

Richard B. Felder

Associate Administrator for Pipeline Safety

Mr. Frank Hopf
Vice President/Manager
Equilon Pipeline Company LLC
Olympic Pipeline Company
2319 Lind Avenue S.W.
Renton, WA 98057

Re: CPF No. 59505-h

Dear Mr. Hopf:

Enclosed is an amendment to the June 18, 1999 Corrective Action Order issued by the Associate Administrator for Pipeline Safety in the above-referenced case. The Amendment makes changes appropriate to the current status of the investigation into the failure of June 10, 1999. These include modifications in some information, the addition of specificity to some corrective measures, and some new requirements. Service is being made by certified mail and telecopy. Your receipt of the enclosed document constitutes service of that document under 49 C.F.R. § 190.5. The terms and conditions of this amendment are effective upon receipt.

Sincerely,

Gwendolyn M. Hill

Pipeline Compliance Registry

Office of Pipeline Safety

Enclosure (49 C.F.R. § 190.233)

cc: Barbara Hickl (By Fax 713-241-9070)

VIA CERTIFIED MAIL (RETURN RECEIPT REQUESTED) AND FAX

DEPARTMENT OF TRANSPORTATION

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

WASHINGTON, DC 20590

☒

CPF No. 59505-h

AMENDMENT TO CORRECTIVE ACTION ORDER

On June 18, 1999, the Associate Administrator issued a Corrective Action Order (Order) making preliminary findings of fact, and finding that the continued operation by Equilon Pipeline Company (Respondent) of the Ferndale to Allen and Allen to Renton 16-inch segments of the Olympic Pipeline would be hazardous to life, property, and the environment without the implementation of corrective measures. The Order required that corrective measures be taken prior to the return to service of the Ferndale to Allen segment. It also required immediate reduction in pressure and other steps with regard

to the 16-inch Allen to Renton segment. This Amendment supplements and revises certain information provided in the Order based upon information gained in the course of the investigation. It also adds additional specific requirements to the Order.

Addition and correction of information

The Order indicated that the accident occurred at approximately 4:43 pm PST. Although the precise time of failure is not critical to this Order, this time stated in the Order may be incorrect. Respondent states in its Accident Report, DOT Form 7000-1, filed on July 7, 1999, that the pipeline failure occurred at 3:30 pm PST. The National Transportation Safety Board has not made a finding concerning the specific time of the failure.

The Order indicated that Olympic Pipeline is owned by Equilon. In fact, Olympic Pipeline is owned by Equilon, ARCO, and GATX. Equilon is the operator of the Olympic Pipeline.

The Order provided an incomplete description of the lines operated by Olympic Pipeline. The Order addresses the 16-inch line that originates at refineries near Ferndale, specifically at Cherry Point, in northern Washington, and transports petroleum products to Renton, Washington. The Ferndale to Allen segment is approximately 37 miles long and remains out of service. The Allen to Renton segment is approximately 76 miles. There is a 20-inch parallel pipeline to the 16-inch Allen to Renton segment. This 20-inch line is fed at Allen by a short 16-inch segment from the Anacortes refinery. The third pipeline from Renton, Washington to Portland, Oregon, is a 14-inch line approximately 152 miles long. There are numerous delivery points on Olympic's pipelines including the Seattle-Tacoma and Portland airports.

The Ferndale to Allen segment also includes the Bayview Products Terminal. The Bayview terminal is located two miles northeast of the Allen pump station, and all products transported on this segment pass through the Bayview terminal. This terminal consists of six storage tanks.

When the Order was issued, the failure site had not been excavated. The failed pipe has now been excavated, and the rupture occurred almost at the top of the pipe. The rupture was measured at 28 feet long and 7 inches wide, and is in a 'fish-mouth' configuration. There are gouges in the pipe wall in this area that may have contributed to the failure.

The Order indicated that Olympic had arranged for alternative forms of transportation while the Ferndale to Allen pipeline segment is out of service. In fact, Equilon has informed OPS that the refineries that supply the products to the various markets, not Olympic, have arranged for alternative forms of transportation while the Ferndale to Allen segment is out of service.

Determination of Necessity for Amendment of Corrective Action Order and Right to Hearing

Section 60112 of Title 49, United States Code, provides for the issuance of a corrective action order, after reasonable notice and the opportunity for a hearing, requiring corrective action, which may include the suspended or restricted use of a pipeline facility, physical inspection, testing, repair, replacement, or other action as appropriate. The basis for making the determination that a pipeline facility is hazardous, requiring corrective action, is set forth both in the above referenced statute and 49 C.F.R. §190.233, a copy of which is enclosed.

Section 60112, and the regulations promulgated thereunder, provide for the issuance of a corrective action order without prior opportunity for notice and hearing upon a finding that failure to issue the

order expeditiously will result in likely serious harm to life, property or the environment. In such cases, an opportunity for a hearing will be provided as soon as practicable after the issuance of the order.

Taking into consideration the facts alleged in the Order as well as the above factual amendments, I continue to find that the operation of this pipeline without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the circumstances surrounding this failure, including the numerous possible factors, the proximity of the pipeline to populated areas and environmentally sensitive areas, and the continued uncertainties as to cause of the failure, I find that the failure to expeditiously issue this Amendment would result in likely serious harm to life, property, and the environment.

Accordingly, this Amendment mandating needed immediate corrective action is issued without prior notice and opportunity for a hearing. The terms and conditions of this Amendment are effective upon receipt.

Within 10 days of receipt of this Amendment, the Respondent may request a hearing, to be held as soon as practicable, by notifying the Associate Administrator for Pipeline Safety in writing, delivered personally, by mail or by telecopy at (202) 366-4566. Any hearing will be held in Lakewood, Colorado or Washington, D.C. on a date that is mutually convenient to OPS and the Respondent. A hearing requested on this Amendment may be consolidated with the hearing that Respondent has already requested on the Order.

After receiving and analyzing additional data in the course of this investigation, OPS may identify other longer term measures that need to be taken. Respondent will be notified of any additional measures required and further amendment of the Order will be considered. To the extent consistent with safety, Respondent will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

Discussion of amendments

Technical

There is a misspelled word in Item 5 e of the Order which is corrected for clarity.

The address provided for the Director, Western Region, contained an incorrect zip code. This is corrected by a revision of Item 6 of the Order.

Operating pressure

At the time the Order was issued, there was no knowledge of the pressure at which the pipeline failed on June 10, 1999 and the pressure reductions ordered were based on the lowest operating pressure normally experienced. Based on further investigation, this may not be sufficiently restrictive. Items 7 and 9 are revised to require the reduced operating pressure to be based on the lower of surge pressure at the point of failure and the normal operating pressure. This applies both prospectively to the Ferndale to Allen segment (which is required to be out of service) and currently to the Allen to Renton segment (which is out of service at the option of the operator.)

Control of the system

Item 2 of the Order directs Respondent to "Review the Supervisory Control and Data Acquisition

(SCADA) system to determine the cause of the deficiencies that occurred on June 10, 1999, and correct [those] deficiencies." Item 5 requires Respondent to incorporate a comprehensive review of SCADA within the plan to be submitted for review. How the SCADA system actually performed at the time of the failure is still not fully known. However, analysis of certain data following the accident indicates that abnormalities in the operation of the SCADA system may have inhibited the system controllers from adequately monitoring and controlling the pipeline system. Given the uncertainties of the operation of the SCADA, it is critical that the corrective measures taken under this Order be monitored to ensure that they continue to be adequate. Accordingly, a prospective monitoring and reporting requirement is being added as new item 12.

Although Items 2 and 5 of the Order directs Respondent to correct deficiencies control of the pipeline through the SCADA system, neither specifically addresses possible controller error or the adequacy of controller training. In the course of the investigation, OPS has discovered that controllers may have employed inappropriate procedures in shutting down the pipeline and in attempting to return to normal operations following abnormal operation cycles. OPS has also discovered that controllers responsible for maintaining hardware and software in the SCADA system may not have received training that addressed maintenance of SCADA systems. Item 13 addresses this.

Design issues

Although Item 5 requires a plan for corrective measures addressing factors that may have been contributed to the failure, the Order did not specifically include the need for a review of the design of the Olympic pipeline system. In the course of the investigation, OPS has discovered that a higher than anticipated pressure on the Ferndale to Allen segment may have been resulted from the operation of one or more of the relief valves. At this time, it is not clear whether the valve malfunctioned, was improperly sized, or incorrectly installed. Item 14 addresses this with a requirement for a surge analysis and valve examination.

Internal inspection

Item 5 of the Order directed Respondent to develop a plan which would include the use of internal inspection tool surveys and remedial action to the extent needed to address factors in the failure. As stated above, there are gouges in the pipe wall near the top of the pipe that may have contributed to the failure of the line and internal inspection must be a part of the plan. Respondent has already indicated its intention to include this. Most damage caused by excavation occurs in the top half of the pipe. OPS believes it is reasonable to require Respondent to excavate any gouges in this area of the pipe for visual examination and remediation and includes this in Item 15.

As already noted, Item 5 of the Order requires Respondent to conduct an internal inspection of the pipeline. Because of the proximity of refinery operations, it is possible that corrosive materials may have been introduced into the line. Item 16 would require Respondent to consider this possibility in conducting and evaluating the results of the internal inspection.

Bayview Products Terminal

The Order did not separately address the Bayview Products Terminal. In the course of the investigation, OPS has discovered that Respondent's operations and maintenance manual fails to incorporate the Bayview terminal in some key areas such as delivery area surge relief valves and tank liquid alarms. Item 17 is added to the Order to assure that Respondent reviews its plans and corrects any omissions.

Monitoring by OPS

In undertaking any testing, repairs, or construction with respect to the Ferndale to Renton segment, Respondent must follow the requirements of 49 C.F.R. Part 195, industry practice, and procedures required by 49 C.F.R. Part 195 to be established by Respondent for those activities. However, because of the failure, OPS needs to monitor closely those activities undertaken in preparing the pipeline for possible return to service. Accordingly, the Order is amended by adding Item 18 to aid in this monitoring.

Amendments

Pursuant to 49 U.S.C. § 60112, I hereby amend the Order and require Respondent to immediately take the following additional corrective actions with respect to its Olympic Pipeline.

Item 5 e is amended to read as follows:

5. * * * *

e. Internal inspection tool surveys and remedial action to assure the integrity of the pipeline. The type of internal inspection tool used shall be the best available technology appropriate for assessing the system based on the type of failure that occurred on June 10, 1999.

Item 6 is amended to read as follows:

6. Submit the written plan to the Director, Western Region, Office of Pipeline Safety, RSPA, 12600 West Colfax Avenue, Suite A-250, Lakewood, CO 80215-3736.

Items 7 and 9 are amended to read as follows:

7. Restrict the MOP of the Ferndale, Washington to Allen, Washington to 1056 psig which is 80 % of the normal operating pressure or 80 % of the surge pressure at the point of failure, whichever is lower. Equilon may request approval from the Associate Administrator, OPS, to increase its pressure based on a showing that the hazard has been abated. OPS' approval must be in writing.

* * * *

9. Restrict the MOP of this segment to 80 % of its normal operating pressure or 80 % of the surge pressure at the point of failure, whichever is lower. Equilon may request approval from the Associate Administrator, OPS, to increase its pressure based on a showing that the hazards ha been abated. OPS' approval must be in writing.

The following new sections are added to the Order:

12. For a minimum period of one (1) year after the last change to the SCADA system undertaken because of Item 2 have been completed, monitor the operations of the SCADA system for anomalies in the operations including, but not limited to, all processing errors, computer slow downs, unintended defaults to the backup computer system, and communication failures. Report each anomaly in writing to the Director, Western Region, OPS within 2 weeks of its occurrence.

13. Within 3 months of issuance of the Amendment, do the following with respect to persons involved

with controlling the operations of the pipeline through the SCADA system:

a. Develop and implement a training program for controllers specific to the SCADA system in use that includes responding to abnormal operations and starting up and shutting down any part of the pipeline system.

b. In addition to the training, review the qualifications of each controller to perform his or her duties and to recognize conditions that are likely to cause emergencies and be able to predict the consequences of facility malfunctions or failures such as those that occurred on June 10, 1999.

c. Provide specific, specialized, technical training to controller personnel responsible for maintenance and operation of the hardware and software components of the SCADA systems.

d. Review the qualifications of the personnel responsible for maintenance and operation of hardware and software components of the SCADA systems to assure that they can perform the functions needed.

e. In training provided under this item, include classroom and practical exercises and use of a pipeline simulator as appropriate.

14. Perform a design review of the Ferndale to Renton segment to ensure the station safety devices will shut the segment down within applicable parameters. This review will include at least the following:

a. A surge analysis using the worst case scenario, i.e. highest flow rates using drag reducing agent with the shortest possible valve closure times and the highest density product;

b. A test of the relief valves to determine that capacity is adequate and each valve operates reliably; and

c. A design review of the physical piping in the Bayview Products Terminal that includes the interaction of all station safety devices.

15. In conducting any internal inspection, including any required under this Order, excavate and visually examine any anomaly that could be associated with excavation damage which is identified in the top half of the pipe, and take appropriate remedial action with respect to each.

16. In conducting any internal inspection, including any required under this Order, consider the possibility of internal corrosion in conducting the inspection and in analyzing the results.

17. Review existing procedures for normal, abnormal, and emergency operations of the Ferndale to Allen segment and make any necessary changes to insure that they address operations at the Bayview Products Terminal.

18. Prior to undertaking any testing, repairs, or construction needed to prepare for the return of the pipeline to service or for a rerouting of the pipeline, notify the Director, Western Region, and submit plans for the testing or repairs or comprehensive construction specifications unless told by the Director that it is not necessary in a particular situation.

The terms of the June 18, 1999 Corrective Action Order, as modified by this Amendment, remain in effect.

Failure to comply with the Corrective Action Order, as amended, may result in the assessment of civil

penalties of not more than $25,000 per day and in referral to the Attorney General for appropriate relief in United States District Court. The terms and conditions of this Amendment are effective upon receipt.

_____

Richard B. Felder

Associate Administrator

For Pipeline Safety

Date Issued: _____

DCC-20

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Mr. Frank Hopf
Vice President/Manager
Equilon Pipeline Company LLC
Olympic Pipeline Company
2319 Lind Avenue S.W.
Renton, WA 98057

Re: CPF No. 59505-h

Dear Mr. Hopf:

Enclosed is the Second Amendment to the June 18, 1999 Corrective Action Order issued by the Associate Administrator for Pipeline Safety in the above-referenced case. The Second Amendment makes changes appropriate to the continuing investigation into the failure of June 10, 1999, the failure at Renton on August 30, 1999, and the conduct of pressure testing done during the period September 17-18, 1999. The new corrective measures include reduction of operating pressures, pressure testing of portions of the pipeline, and required written criteria for evaluating internal inspection data based on fitness for service. Service is being made by certified mail and telecopy. Your receipt of the enclosed document constitutes service of that document under 49 C.F.R. § 190.5. The terms and conditions of this amendment are effective upon receipt.

Sincerely,

Gwendolyn M. Hill

Pipeline Compliance Registry

Office of Pipeline Safety

Enclosure (49 C.F.R. § 190.233)

cc: Barbara Hickl (By Fax 713-241-9070)

VIA CERTIFIED MAIL (RETURN RECEIPT REQUESTED) AND FAX

DEPARTMENT OF TRANSPORTATION

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

WASHINGTON, DC 20590

☒	CPF No. 59505-h

SECOND AMENDMENT TO CORRECTIVE ACTION ORDER

On June 18, 1999, the Associate Administrator issued a Corrective Action Order making preliminary findings of fact, and finding that the continued operation by Equilon Pipeline Company (Respondent) of the Ferndale to Allen and Allen to Renton 16-inch segments of the Olympic Pipeline would be hazardous to life, property, and the environment without the implementation of corrective measures. On

August 10, 1999, the Associate Administrator amended the order.

The Corrective Action Order, as amended, requires that corrective measures be taken prior to the return to service of the Ferndale to Allen 16-inch segment. It also reduces the operating pressure of that segment once it is returned to service as well as the operating pressure the 16-inch Allen to Renton segment. In addition, many of the corrective measures address operations on the remainder of the Olympic pipeline system because they concern the SCADA system and the controllers.

Since the August 10, 1999 amendment, several events have occurred and information has been discovered which indicate the need for further amendment including an extension of the findings with respect to the entire Olympic pipeline system.

Additional preliminary findings

The preliminary facts supporting the original finding of hazardous facility as modified by the August 10, 1999 amendment support the findings made in this amendment. The following are additional findings:

13. During the course of the investigation of the June 10, 1999 failure, investigators for the Office of Pipeline Safety became aware that a series of valves closures had occurred recently. By a letter dated August 19, 1999, the Regional Director, Western Region, OPS, requested specific information from Respondent on shutdowns of the 16-inch line that includes SCADA event logs. A review of the material received so far indicate that , since December 1998, 59 mainline valve closures not commanded by the operator have occurred on the 16-inch line just upstream of the Bayview Terminal. It is possible that the unusually high number of closures could increase cyclic fatigue on the line.

14. By letter dated August 10, 1999, the Regional Director, Western Region, OPS, followed up on previous oral requests of its investigators for records. In particular, the letter requested specific information from Respondent about training records for the controllers and other personnel in the control center at the time of the June 10, 1999 failure. The most recent records that have been made available were 1994.

15. On August 26, 1999, OPS learned that a longitudinal seam failure had occurred during the original pressure testing in 1965 of the 14-inch Renton to Portland segment.

16. On August 30, 1999, a spill occurred at the Renton Station during a procedure in which transmix was being injected into the pipeline. The SCADA system indicated the high fluid level in the sump in the station, but the timing of the shutdown and the design of the containment did not prevent release of the product. Although the cause of the failure was mechanical, the reaction of the employees on duty and the timing of reporting of the failure to OPS and emergency responders raise concerns about pipeline operations and design. The failure resulted in contamination of the water table.

17. Early in September, the City of Bellingham and Olympic Pipe Line Company reached an agreement on a temporary license for the operation of the pipeline on the city property (City Agreement). The City Agreement includes several corrective actions with respect to the segment of the pipeline on city property. This segment is part of the Ferndale to Allen 16-inch section which is subject to the Corrective Action Order in this case. Among the actions required by the City Agreement are the performance of a pressure test of the segment at 90 % of the specified minimum yield strength (SMYS) and a management audit. For this segment, a test pressure at 90 % of SMYS is equivalent to a test pressure of approximately 133 % of maximum operating pressure (MOP). Federal regulations on pressure testing new pipelines require a test pressure of 125 % MOP.

18. On September 18, 1999, during the pressure testing being conducted under the City Agreement, a failure occurred at M.P. 17.3 when the initial pressurization of the test section reached 115 % of MOP for the Ferndale to Allen segment.. The line pipe that failed is 0.312-inch wall thickness, 5LX52 pipe constructed by the low frequency electric resistance weld process by Lone Star prior to 1970. The failure was a 78-inch long rupture in the longitudinal seam.

19. Initial information available is that most of the 16-inch Ferndale to Allen segment is constructed of identical pipe.

20. Initial information available is that parts of the 16-inch Allen to Renton segment and the16-inch Anacortes to Allen segment are constructed of identical pipe. The remainder of these segments are constructed of pre-1970 ERW pipe which was manufactured by U.S. Steel or Kaiser under different processes.

21. Initial information available indicates that the 20-inch Allen to Renton segment, which was constructed after 1970, does not contain any pre-1970-ERW pipe; the 14-inch Renton to Portland segment and the remainder of the segments in the system were constructed of pre-1970 ERW pipeline manufactured by U.S. Steel or Kaiser.

22. RSPA concerns about electric resistance welded pipe manufactured prior to 1970 (pre-1970 ERW pipe) is discussed in preliminary finding 5 made on June 18, 1999. In addition, in rulemaking on pressure testing based on risk, RSPA has found the all pre-1970 ERW pipe is presumptively subject to longitudinal seam failures. 63 Fed. Reg. 59480 (November 4, 1998). That presumption can be overcome for the purposes of the rule by an engineering analysis that takes into account such factors as whether the process was high frequency or low frequency, quality control during the process, and fracture toughness. *Id.*

23. RSPA experience indicates that pre-1970 ERW pipe manufactured by Lone Star is actually, not merely presumptively, subject to longitudinal seam failures. RSPA does not have the same experience to point to with respect to pre-1970 ERW pipe manufactured by U.S. Steel or Kaiser.

24. Investigators for OPS have examined the logs of three previous internal inspections of parts of the Olympic pipeline system. Although analysis of this examination is still incomplete, initial indications are that not all anomalies that should have triggered additional investigation for possible corrective action were located, investigated and corrected in a timely way.

25. There are numerous water crossings and heavily populated areas in the vicinity of the pipeline. This includes the Portland, Oregon area.

Correction of information

The Amendment to the Corrective Action Order issued August 10, 1999 provided inaccurate dimensions of the rupture that had occurred on June 10, 1999. The correct dimensions are 28 inches long and 7 inches wide.

Determination of Necessity for Amendment of Corrective Action Order and Right to Hearing

Section 60112 of Title 49, United States Code, provides for the issuance of a corrective action order, after reasonable notice and the opportunity for a hearing, requiring corrective action, which may include the suspended or restricted use of a pipeline facility, physical inspection, testing, repair, replacement, or

other action as appropriate. The basis for making the determination that a pipeline facility is hazardous, requiring corrective action, is set forth both in the above referenced statute and 49 C.F.R. §190.233, a copy of which is enclosed.

Section 60112, and the regulations promulgated thereunder, provide for the issuance of a corrective action order without prior opportunity for notice and hearing upon a finding that failure to issue the order expeditiously will result in likely serious harm to life, property or the environment. In such cases, an opportunity for a hearing will be provided as soon as practicable after the issuance of the order.

I continue to find that the operation of the 16-inch portions of the Olympic Pipeline without corrective measures would be hazardous to life, property and the environment. I note the continued concern about the operations and management of the pipeline, the existence of pre-1970 ERW pipe in the system, and the possibility that operational irregularities may have increased the chance that latent defects in pre-1970 ERW pipe could have grown. Accordingly, I extend the finding that corrective measures are needed to the remainder of the Olympic Pipeline system. Additionally, after considering the circumstances surrounding this failure, including the numerous possible factors, the proximity of the pipeline to populated areas and environmentally sensitive areas, and the continued uncertainties as to cause of the failure, I find that the failure to expeditiously issue this Second Amendment would result in likely serious harm to life, property, and the environment.

Accordingly, this Second Amendment mandating needed immediate corrective action is issued without prior notice and opportunity for a hearing. The terms and conditions of this Second Amendment are effective upon receipt.

Within 10 days of receipt of this Second Amendment, the Respondent may request a hearing, to be held as soon as practicable, by notifying the Associate Administrator for Pipeline Safety in writing, delivered personally, by mail or by telecopy at (202) 366-4566. Any hearing will be held in Lakewood, Colorado or Washington, D.C. on a date that is mutually convenient to OPS and the Respondent. A hearing requested on this Amendment may be consolidated with the hearing that Respondent has already requested on the original Corrective Action Order. No hearing was requested with respect to the August 10, 1999 amendment.

After receiving and analyzing additional data in the course of this investigation, OPS may identify other longer term measures that need to be taken. Respondent will be notified of any additional measures required and further amendment of the Order will be considered. To the extent consistent with safety, Respondent will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

Discussion of amendments

Operating pressure

• To provide for a margin of safety when there is a question of the integrity of pre-1970 ERW pipe, OPS has uniformly required that an operator reduce operating pressure by 20 %. In this case, the failure during pressure testing occurred during the initial pressurization of the line when the test pressure of the section reached 115 % of MOP. Thus a 20 % reduction would provide substantial margin of safety in this case.

• Ferndale to Allen and Allen to Renton 16-inch segments -- These segments which include the site of the test failure are already subject by Items 7 and 9 of the Corrective Action Order, as amended, to

limitations more restrictive than 80 % of MOP. Thus there is no need to impose further pressure restrictions on these segments.

• Allen to Renton 20-inch segment, Renton to Portland 14-inch segment, and the remainder short segments in the system -- The 20-inch segment is currently being operated at less than 80 % of MOP. Following the test failure on the 16-inch segment, the Regional Director, Western Region, OPS, recommended that the operating pressure on the 14-inch line be reduced to 80 % of MOP. Respondent has indicated that it has voluntarily done so. The remainder of the lines are currently operated at less than 80 % of MOP. Item 19 of this amendment makes the reduced operating pressures of these lines mandatory until OPS approves the removal of the restrictions based upon a showing that the line can be operated safely at the normal pressures.

• Item 22 of this amendment provides that any pressure testing required by it may not be used to support a higher MOP in the future without the express approval of OPS.

Pressure testing

• Ferndale to Allen 16-inch segment -- The Ferndale to Allen segment on which the test failure occurred is constructed largely of pre-1970 ERW pipe manufactured by Lone Star. Pursuant to the City Agreement, parts of it are already being pressure tested to 90 % of SMYS. Item 20a. of this amendment requires pressure testing to 90 % of SMYS of the entire segment. Testing of those portions not constructed with Lone Star pipe will provide information to use in decisions on the need to pressure test the remainder of the Olympic Pipeline system and assurance that the 16-inch Ferndale to Allen segment may be operated safely.

• Allen to Renton 16-inch segment, Anacortes to Allen 16-inch segment, Allen to Renton 20-inch segment, Renton to Portland 14-inch segment, and the remainder of the short segments in the system -- Although most of these segments are constructed of pre-1970 ERW pipe, only portions are constructed of pipe manufactured by Lone Star. Item 20b. of this amendment requires pressure testing to 90 % of SMYS of those portions constructed with Lone Star pipe. Items 20c. and 21 requires that, if there are seam failures during testing of non-Lone Star pipe on the Ferndale to Allen segment, Respondent develop a plan for pressure testing the remainder of these lines based upon an analysis of the risks posed. The plan must meet the approval of OPS.

Internal inspection

• Respondent has already indicated its intention to use internal inspection tool surveys as part of its satisfaction of the requirements of Items 5, 15, and 16 of the Corrective Action Order, as amended. In reviewing the internal inspections previously done on the Olympic Pipeline system, OPS has questions about the accuracy and interpretation of, and response to, those inspections. Item 23 provides additional guidance on selecting the appropriate internal inspection tool and requires Respondent to complete remedial action within six months of completing the inspections. Item 23c. requires Respondent to develop written criteria for evaluating and responding to the data gathered in the inspections with an emphasis on fitness for service.

OPS Monitoring of the Management Audit

• The City Agreement requires that Respondent's Olympic Pipeline participate in a management audit of the safety of the system conducted by a third party. The audit is designed to determine whether there are adequate management processes in place to ensure that the pipeline is designed, maintained, and

operated safety. OPS will be invited to participate in the audit. Item 24 of this amendment requires that Respondent implement any corrective measures identified in the management audit that cover matters regulated in 49 C.F.R. Part 195 within six months of completion of the audit. It also require that Respondent provide periodic progress reports to OPS to allow for adequate monitoring. This item also provides that Respondent can request a more specific statement of the requirements from OPS as the management audit nears completion.

Amendments

Pursuant to 49 U.S.C. § 60112, I hereby amend the Order by adding the following additional sections which require corrective action with respect to the Olympic Pipeline system:

19. With respect to operating pressures,

a. Maintain normal operating pressures on the following segments not to exceed 80 % of the MOP previously established for each segment:

• the 20-inch Allen to Renton segment,

• the 14-inch Renton to Portland segment,

• the 16-inch Anacortes to Allen segment, and

• the various short delivery segments on the system.

If necessary, reduce current operating pressures to achieve this.

b. A request for relief from pressure restriction with respect to one of the segments may be made prior to a decision to close this action based on completion of the Corrective Action Order. The request may must be accompanied by a written showing that the segment can be operated safely at the normal pressures. It may be granted by the Regional Director. A denial may be appealed to the Associate Administrator.

20. Conduct hydrostatic pressure testing at a test pressure of 90 % of SMYS for a minimum period of eight hours as follows:

a. Pressure test the Ferndale to Allen 16-inch segment of the system in its entirety;

b. Pressure test any sections of the remainder of the Olympic Pipeline system that are constructed of pre-1970 ERW pipe manufactured by Lone Star;

c. Pressure test any remaining sections of the Olympic Pipeline system if pressure testing is indicated by the evaluation and plan provided for in item 21.

d. Metallurgically test any failure that occurs in a manner which will identify the cause of failure including possible cyclic fatigue.

21. If, during the pressure testing required by item 20 a., a failure occurs on line pipe which was not manufactured by Lone Star, evaluate the need to pressure test the remainder of the Olympic Pipeline system and plan any pressure testing that the evaluation indicates is advisable. The evaluation and plan

are to be done as follows:

a. The evaluation must take into account the failure mode, the characteristics of the pipe, the pressure at the time of failure, the existence of other alternative assurances of integrity, and other factors relevant to a decision of the risk of a similar failure. For example, if the failure occurred in a longitudinal seam, pressure testing of any segment containing pipe of the same manufacture as that which failed should be done. If the failure was not in the longitudinal seam, the failure mode as determined by metallurgical testing and internal inspections required under this order or voluntarily done should be considered.

b. Submit the evaluation and the plan to the Regional Director for approval.

22. Notwithstanding the provisions of 49 C.F.R. § 195.406 regarding the establishment of MOP based upon pressure testing, a pressure test conducted pursuant to this Corrective Action Order may not be used to establish a higher MOP than that previously established for the segment absent written concurrence of the Associate Administrator, OPS.

23. In conducting internal inspections on the Olympic Pipeline system including those provided for in items 5, 15, and 16, do the following:

a. Select internal inspection devices that can accurately detect metal loss, pipe deformation, and enable strain calculation to be conducted.

b. Complete the analysis of internal inspection data and any remedial actions for anomalies that affect pipeline integrity within six months of completion of an internal inspection. The analysis shall include a comparison of metal loss with pipe deformation..

c. Develop and follow written procedures for the conduct of internal inspections that includes fitness for service criteria for identifying, prioritizing, and correcting defects. These shall include criteria for deciding on direct pipeline examination, further integrity assessment, and corrective measures including repair, replacement, or operational restrictions. At a minimum, consider the criteria established in ASME B31-4 and ASME B31-G.

24. Within 6 months of completion of the management audit provided for in the City Agreement, implement any corrective measures that cover matters regulated in 49 C.F.R. Part 195 and report progress on the implementation to the Regional Director periodically, but no less frequently than every three months. As the management audit nears completion, Respondent may request that OPS specify which corrective actions are subject to this item.

Failure to comply with the Corrective Action Order, as amended, may result in the assessment of civil penalties of not more than $25,000 per day and in referral to the Attorney General for appropriate relief in United States District Court. The terms and conditions of this Second Amendment are effective upon receipt.

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Richard B. Felder

Associate Administrator

For Pipeline Safety

Date Issued: _____

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