



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

MAY 07 2015

15-ESQ-0073

Ms. K. A. Conaway
Nuclear Waste Program
Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Ms. Conaway:

TRANSMISSION OF 30-DAY REPORTS IN RESPONSE TO "NOTICE OF VIOLATION, U.S. DEPARTMENT OF ENERGY RICHLAND OPERATIONS OFFICE, CATEGORICAL STATE WASTE DISCHARGE PERMIT NUMBER ST0004511 (ST4511 PERMIT)"

The purpose of this letter is to transmit the 30-day reports requested by the Washington State Department of Ecology letter (15-NWP-051), officially received by the U.S. Department of Energy Richland Operations Office (RL) on March 12, 2015. Enclosed are the above referenced reports for each incident listed in the subject notice. An updated incident table is also provided. The table provides updated descriptions, locations, incident occurrence dates and the approximate gallons discharged. RL appreciates the extension of the submission date of these reports from April 11, 2015, to May 12, 2015.

If you have any questions, please contact me, or your staff may contact Joe J. Waring, Acting Director, Environmental, Safety, and Quality Division, on (509) 373-7687.

Sincerely,

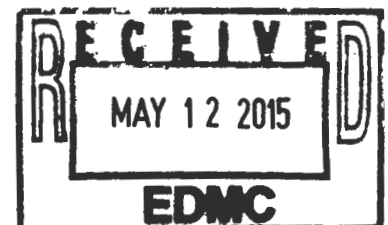
A handwritten signature in cursive script that reads "Ed MacAlister for".

Jeffrey A. Frey, Acting Assistant Manager
for Safety and Environment

ESQ:ETF

Enclosure

cc: See page 2



Ms. K. A. Conaway
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cc w/encl.:

D. A. Faulk, EPA

L. L. Fritz, MSA

S. Hudson, HAB

S. L. Nichols, Ecology

J. B. Price, Ecology

R. R. Skinnarland, Ecology

C. L. Whalen, Ecology

M. B. Wilson, MSA

Administrative Record

Environmental Portal, LMSI, A3-95

cc w/o encl.:

G. Bohnee, NPT

S. Harris, CTUIR

R. Jim, YN

Table 1 provides updated descriptions, locations, occurrence dates, and the approximate gallons discharged for each incident identified in the ST 4511 notice of violation.

Table 1. Updated Incident Table.

Incident Date	Description/Location	Approximate Gallons Discharged	Informal Notification Yes/No
12/11/2013	24-inch export line between 2901Y and 200 West Area	100,000	No
12/20/2013	24-inch export line near 2704HV Building, 200 East Area	1,500,000	Yes
05/15/2014	283W Facility 10-inch discharge header	2,500	No
05/30/2014	24-inch export line between 2901Y and 200 West Area	1,000	No
07/06/2014	24-inch export line between 2901Y and 200 West Area	72,000	No
07/28/2014	24-inch export line between 2901Y and 200 West Area	15,000	No
08/27/2014	24-inch export line east of 2901Y Valve House	665,000	Yes
09/11/2014	282E Facility Reservoir	150,000	Yes
10/12/2014	8-inch 2101M potable water line loop	275,000	Yes

INCIDENT DECEMBER 11, 2013

24-INCH EXPORT LINE BETWEEN 2901Y AND 200 WEST AREA

Description: A leak was discovered on December 11, 2013, 0.6 miles west of the 2901Y valve house. The leak was in a section of the 24-inch mortar-lined steel pipe export water line. This leak required placing the 200 West Area on the 18-inch export line to provide the necessary water service.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 100,000 gallons of water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The line was isolated after placing the 18-inch export line into service for the 200 West Area.
- The line was excavated to expose the leak.
- Determined that the leak was the result of a blowout located at the 5 o'clock position of the pipe.
- Approximately 30 feet of 24-inch steel mortar lined pipe was removed and replaced with 24-inch PVC (Blue Brute) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on December 11, 2013, at 3:50 p.m. and was stopped on December 14, 2013. The line was repaired and restored to service on December 20, 2013.

INCIDENT DECEMBER 20, 2013

24-INCH EXPORT LINE NEAR 2704HV BUILDING, 200 EAST AREA

Description: On December 20, 2013, at approximately 3:30 p.m., an investigation of water pooling on the ground, located in front of the Canister Storage Building (CSB), indicated that a 24-inch mortar-lined steel export water line that feeds the 200 East Area had broken. The broken section was located under the access road and in the secure area of the CSB. The rupture was located in the 200 East Area, approximately 400 feet west of the 2704HV Building. The pipe line was isolated to stop the leak.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 1.5 million gallons of water was discharged to the ground during the event.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The line was isolated to stop the leak.
- The line was excavated to expose the broken line.
- Approximately 120 feet of mortar-lined steel pipe was replaced with 120 feet of 22-inch HDPE pipe.
- An outside contractor was hired to complete the repair because the method utilized required a special "butt fusion welding" process and the application of the slip lining of the HDPE pipe required a special technique.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on December 20, 2013, and was stopped on December 23, 2013. The incident was reported to Ecology by Thomas Pysto, Environmental Compliance Officer, (509) 373-9205, on December 23, 2013. The leak was initially repaired on January 23, 2014; however, upon recharging the line, it was determined that additional thrust blocks were required at the repair joints. This prolonged the completion of the repairs and the recharging of the line. The line was restored to service on February 10, 2014.

INCIDENT MAY 15, 2014

283W FACILITY 10-INCH DISCHARGE HEADER

Description: During the morning turnover on May 15, 2014, a spray of water coming from the 10-inch discharge header was noted in the pump room of the 283W Facility. Due to the location of the water spray, electrical breakers to equipment in the area were turned off and work to isolate the piping was started. Notifications were made to the 200 West Facilities indicating that potable water was on a single source configuration at the time of the isolation.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 2,500 gallons of water leaked to the facility floor, and no water was discharged to the ground at the 283W Facility. The leak occurred inside the facility and the spray of water coming from the discharge header ran into the drain line going to the Effluent Treatment Facility, as the system was designed to do.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce the reoccurrence of the incident are as follows:

- Isolation of the pipe was completed after the breakers were turned off.
- The leaking line was patched and repaired with a Hanford pipe patch.
- The line was tested for leaks.
- The system was recharged and restored to service.
- Since the leak was potable water only, no cleanup was performed.

Time Period for Incident: The leak from the 10-inch discharge header on the potable water line was discovered on May 15, 2014, at 6:00 a.m. and was stopped on May 15, 2014. The leak was repaired and the system was restored to service on May 15, 2014, at 2:35 p.m.

INCIDENT MAY 30, 2014

24-INCH EXPORT LINE BETWEEN 2901Y AND 200 WEST AREA

Description: On May 30, 2014, at approximately 6:00 a.m., a leak was discovered in a 24-inch mortar-lined steel export water line near 2901Y-West. The leak was discovered during a daily drive of the export water line. Standing water was identified by the export water operator. Notifications were made to management. The export and filter plant operators on duty completed the isolation of the line to stop the leak.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 1,000 gallons of water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The line was isolated.
- Since this water supply is critical to continuing Hanford operations, an immediately available alternative water source was identified. The nearby 18-inch export water line was activated as the alternate water source.
- Excavation was completed to expose the line.
- Determined that the leak was the result of a corrosion pin hole on the top of the pipe at the joint area.
- Removed approximately 30 feet of 24-inch steel mortar-lined pipe and replaced it with 30 feet of 24-inch PVC (C900) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was identified on May 30, 2014, at approximately 6:00 a.m. and was stopped on May 31, 2014. The line was repaired and restored to service on June 7, 2014.

INCIDENT JULY 6, 2014

24-INCH EXPORT LINE BETWEEN 2901Y AND 200 WEST AREA

Description: A leak was discovered on July 6, 2014, during a daily drive of the 24-inch mortar-lined steel pipe export water line. The leak was in the 24-inch export line near the 200 West Area Met tower. The export water operator noted standing water. Notifications were made to management, and the export and filter plant operators on duty isolated the line and stopped the leak.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 72,000 gallons of water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The line was isolated.
- Excavation was completed to expose the leak area.
- Determined that the leak was the result of a corrosion pin hole on the top of the pipe.
- Removed approximately 30 feet of 24-inch steel mortar lined pipe and replaced it with 30 feet of 24-inch PVC (C900) pipe.
- The repairs were tested, the line backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on July 6, 2014, at approximately 12:30 p.m. and was stopped on July 7, 2014. The leak was repaired and the line was restored to service on July 22, 2014.

INCIDENT JULY 28, 2014

24-INCH EXPORT LINE BETWEEN 2901Y AND 200 WEST AREA

Description: On the morning of July 28, 2014, the Engineering staff were completing the final inspection of the line break, which occurred on July 6, 2014, prior to backfilling, and noticed dark soil on the east side of the repaired section. This indicated that water was leaking from beyond the repaired section of the pipe.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 15,000 gallons of water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce the reoccurrence of the incident are as follows:

- The line was isolated and drained.
- Excavation was completed to expose the leak.
- Upon investigation, it was determined that the leak was the result of a deteriorated section of pipe to the east of the last section removed.
- Approximately 30 feet of mortar-lined steel pipe was removed and replaced with 30 feet of 24-inch PVC (C900) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on July 28, 2014, and was stopped on July 30, 2014. The line was repaired and restored to service on August 7, 2014.

INCIDENT AUGUST 27, 2014

24-INCH EXPORT LINE EAST OF 2901Y VALVE HOUSE

Description: On August 27, 2014, at approximately 7:15 a.m., a leak was reported on the 24-inch mortar-lined steel export water line located near the 2901Y Valve House. The leak was isolated at 7:35 a.m. Approximately 665,000 gallons of raw water was discharged, resulting in some erosion of the export water line roadway. The leak was declared an emergency repair and work was initiated immediately.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 665,000 gallons of raw water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The water line was isolated and the leak was stopped within 30 minutes of discovery.
- Excavation was completed to expose the broken pipe
- A lateral seam in the pipe running longitudinally failed which caused the leak.
- Removed approximately 30 feet of mortar-lined steel pipe and replaced it with 30 feet of 24-inch PVC (C900) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on August 27, 2014, at approximately 7:15 a.m. The leak was isolated and stopped within 30 minutes of discovery. The incident was reported to Ecology on August 27, 2014, by Thomas Pysto, Environmental Compliance Officer, (509) 373-9205. The water line was repaired on August 31, 2014, and restored to service on September 3, 2014.

INCIDENT SEPTEMBER 11, 2014

282E FACILITY RESERVOIR

Description: On September 11, 2014, at approximately 9:45 p.m., the 283W Water Treatment Operator responded to a high sump alarm at the 282E Facility and discovered that the 282E Raw Water Reservoir had overflowed. The operator found the reservoir automatic level control valves had failed in the open position, resulting in the overflow. The operator manually closed the control valves and the overflow stopped. The reservoir level control system was placed into a manual mode of operation. An instrument technician was contacted and performed troubleshooting of the system. Initial troubleshooting indicated the High Level Alarm switch had failed resulting in no alarm to plant operators. The overflow in the pipeline was due to vegetation plugging the pipeline discharge.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 150,000 gallons of water was discharged to the ground. It is estimated that approximately 5,000 gallons of water overflowed to the ground around the immediate area of the 282E Reservoir. The overflow from the reservoir goes to pipeline 200-E-237-PL. It is estimated that an additional 145,000 gallons of water discharged from the pipeline, approximately 50 yards from the unlined trench.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The high level alarms and level control indicators were initially repaired and then replaced.
- Biological Controls removed vegetation and a large root ball to unplug the pipeline discharge.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The overflow was noted at 9:45 p.m. on September 11, 2014. The overflow was stopped on September 11, 2014. The overflow was reported on September 12, 2014, to Ecology by Thomas Pysto, Environmental Compliance Officer, (509) 373-9205.

INCIDENT OCTOBER 12, 2014

8-INCH 2101M POTABLE WATER LINE LOOP

Description: On October 12, 2014, at 12:03 a.m., a potable water leak was discovered in the MO234 Parking Lot (200 East Area). Early Sunday morning, the 283W Water Treatment Facility Operator on duty noted indications of potable water flow that was not normal during this time period. The situation was investigated and a large pool of water was identified in the parking lot just south of MO234, 200 East Area. It was determined that the 8-inch water line broke resulting in the discharge of approximately 275,000 gallons of water onto the parking lots of MO234 and 2101M. Water flowed into the parking lots and down 2nd Street. The water was partially isolated at approximately 1:48 a.m. Water from the leak flowed over an inactive Waste Information Data System (WIDS) site, 200-E-2, in the MO234 Parking Lot. This site had hydrocarbon stains from parking activities. The contractor assigned responsibility for this WIDS site was notified.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 275,000 gallons of potable water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The water was partially isolated by 1:48 a.m.; a small volume of water flow was maintained to prevent the potable water line from becoming contaminated.
- On October 12, 2014, an emergency excavation was initiated to expose the break.
- On the morning of October 13, 2014, the location of the leak was determined to be inside an existing WIDS site (200-E-2). The WIDS Site Owner was notified of the incident.
- Disposal arrangements for dirt and other debris were initiated, as necessary.
- The broken pipe was removed.
- Upon inspection of the pipe, it was determined that a previous repair (cut and cap) just east of the break had been leaking and caused corrosion within the pipe and manifested into pin holes.
- The line was repaired by replacing approximately 20 feet of 8-inch unlined cast iron pipe with 20 feet of PVC (C900) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.

Time Period for Incident: The leak was discovered on October 12, 2014, at 12:03 a.m. and was stopped on October 21, 2014. The incident was reported to Ecology on October 13, 2014, by Thomas Pysto, Environmental Compliance Officer, (509) 373-9205, and repairs were completed October 22, 2014.

Table 1 provides updated descriptions, locations, occurrence dates, and the approximate gallons discharged for each incident identified in the ST 4511 notice of violation.

Table 1. Updated Incident Table.

Incident Date	Description/Location	Approximate Gallons Discharged	Informal Notification Yes/No
12/11/2013	24-inch export line between 2901Y and 200 West Area	100,000	No
12/20/2013	24-inch export line near 2704HV Building, 200 East Area	1,500,000	Yes
05/15/2014	283W Facility 10-inch discharge header	2,500	No
05/30/2014	24-inch export line between 2901Y and 200 West Area	1,000	No
07/06/2014	24-inch export line between 2901Y and 200 West Area	72,000	No
07/28/2014	24-inch export line between 2901Y and 200 West Area	15,000	No
08/27/2014	24-inch export line east of 2901Y Valve House	665,000	Yes
09/11/2014	282E Facility Reservoir	150,000	Yes
10/12/2014	8-inch 2101M potable water line loop	275,000	Yes

INCIDENT DECEMBER 11, 2013

24-INCH EXPORT LINE BETWEEN 2901Y AND 200 WEST AREA

Description: A leak was discovered on December 11, 2013, 0.6 miles west of the 2901Y valve house. The leak was in a section of the 24-inch mortar-lined steel pipe export water line. This leak required placing the 200 West Area on the 18-inch export line to provide the necessary water service.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 100,000 gallons of water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce recurrence of the incident are as follows:

- The line was isolated after placing the 18-inch export line into service for the 200 West Area.
- The line was excavated to expose the leak.
- Determined that the leak was the result of a blowout located at the 5 o'clock position of the pipe.
- Approximately 30 feet of 24-inch steel mortar lined pipe was removed and replaced with 24-inch PVC (Blue Brute) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on December 11, 2013, at 3:50 p.m. and was stopped on December 14, 2013. The line was repaired and restored to service on December 20, 2013.

INCIDENT DECEMBER 20, 2013

24-INCH EXPORT LINE NEAR 2704HV BUILDING, 200 EAST AREA

Description: On December 20, 2013, at approximately 3:30 p.m., an investigation of water pooling on the ground, located in front of the Canister Storage Building (CSB), indicated that a 24-inch mortar-lined steel export water line that feeds the 200 East Area had broken. The broken section was located under the access road and in the secure area of the CSB. The rupture was located in the 200 East Area, approximately 400 feet west of the 2704HV Building. The pipe line was isolated to stop the leak.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 1.5 million gallons of water was discharged to the ground during the event.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The line was isolated to stop the leak.
- The line was excavated to expose the broken line.
- Approximately 120 feet of mortar-lined steel pipe was replaced with 120 feet of 22-inch HDPE pipe.
- An outside contractor was hired to complete the repair because the method utilized required a special "butt fusion welding" process and the application of the slip lining of the HDPE pipe required a special technique.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on December 20, 2013, and was stopped on December 23, 2013. The incident was reported to Ecology by Thomas Pysto, Environmental Compliance Officer, (509) 373-9205, on December 23, 2013. The leak was initially repaired on January 23, 2014; however, upon recharging the line, it was determined that additional thrust blocks were required at the repair joints. This prolonged the completion of the repairs and the recharging of the line. The line was restored to service on February 10, 2014.

INCIDENT MAY 15, 2014

283W FACILITY 10-INCH DISCHARGE HEADER

Description: During the morning turnover on May 15, 2014, a spray of water coming from the 10-inch discharge header was noted in the pump room of the 283W Facility. Due to the location of the water spray, electrical breakers to equipment in the area were turned off and work to isolate the piping was started. Notifications were made to the 200 West Facilities indicating that potable water was on a single source configuration at the time of the isolation.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 2,500 gallons of water leaked to the facility floor, and no water was discharged to the ground at the 283W Facility. The leak occurred inside the facility and the spray of water coming from the discharge header ran into the drain line going to the Effluent Treatment Facility, as the system was designed to do.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce the reoccurrence of the incident are as follows:

- Isolation of the pipe was completed after the breakers were turned off.
- The leaking line was patched and repaired with a Hanford pipe patch.
- The line was tested for leaks.
- The system was recharged and restored to service.
- Since the leak was potable water only, no cleanup was performed.

Time Period for Incident: The leak from the 10-inch discharge header on the potable water line was discovered on May 15, 2014, at 6:00 a.m. and was stopped on May 15, 2014. The leak was repaired and the system was restored to service on May 15, 2014, at 2:35 p.m.

INCIDENT MAY 30, 2014

24-INCH EXPORT LINE BETWEEN 2901Y AND 200 WEST AREA

Description: On May 30, 2014, at approximately 6:00 a.m., a leak was discovered in a 24-inch mortar-lined steel export water line near 2901Y-West. The leak was discovered during a daily drive of the export water line. Standing water was identified by the export water operator. Notifications were made to management. The export and filter plant operators on duty completed the isolation of the line to stop the leak.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 1,000 gallons of water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce recurrence of the incident are as follows:

- The line was isolated.
- Since this water supply is critical to continuing Hanford operations, an immediately available alternative water source was identified. The nearby 18-inch export water line was activated as the alternate water source.
- Excavation was completed to expose the line.
- Determined that the leak was the result of a corrosion pin hole on the top of the pipe at the joint area.
- Removed approximately 30 feet of 24-inch steel mortar-lined pipe and replaced it with 30 feet of 24-inch PVC (C900) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was identified on May 30, 2014, at approximately 6:00 a.m. and was stopped on May 31, 2014. The line was repaired and restored to service on June 7, 2014.

INCIDENT JULY 6, 2014

24-INCH EXPORT LINE BETWEEN 2901Y AND 200 WEST AREA

Description: A leak was discovered on July 6, 2014, during a daily drive of the 24-inch mortar-lined steel pipe export water line. The leak was in the 24-inch export line near the 200 West Area Met tower. The export water operator noted standing water. Notifications were made to management, and the export and filter plant operators on duty isolated the line and stopped the leak.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 72,000 gallons of water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The line was isolated.
- Excavation was completed to expose the leak area.
- Determined that the leak was the result of a corrosion pin hole on the top of the pipe.
- Removed approximately 30 feet of 24-inch steel mortar lined pipe and replaced it with 30 feet of 24-inch PVC (C900) pipe.
- The repairs were tested, the line backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on July 6, 2014, at approximately 12:30 p.m. and was stopped on July 7, 2014. The leak was repaired and the line was restored to service on July 22, 2014.

INCIDENT JULY 28, 2014

24-INCH EXPORT LINE BETWEEN 2901Y AND 200 WEST AREA

Description: On the morning of July 28, 2014, the Engineering staff were completing the final inspection of the line break, which occurred on July 6, 2014, prior to backfilling, and noticed dark soil on the east side of the repaired section. This indicated that water was leaking from beyond the repaired section of the pipe.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 15,000 gallons of water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce the reoccurrence of the incident are as follows:

- The line was isolated and drained.
- Excavation was completed to expose the leak.
- Upon investigation, it was determined that the leak was the result of a deteriorated section of pipe to the east of the last section removed.
- Approximately 30 feet of mortar-lined steel pipe was removed and replaced with 30 feet of 24-inch PVC (C900) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on July 28, 2014, and was stopped on July 30, 2014. The line was repaired and restored to service on August 7, 2014.

INCIDENT AUGUST 27, 2014

24-INCH EXPORT LINE EAST OF 2901Y VALVE HOUSE

Description: On August 27, 2014, at approximately 7:15 a.m., a leak was reported on the 24-inch mortar-lined steel export water line located near the 2901Y Valve House. The leak was isolated at 7:35 a.m. Approximately 665,000 gallons of raw water was discharged, resulting in some erosion of the export water line roadway. The leak was declared an emergency repair and work was initiated immediately.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 665,000 gallons of raw water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The water line was isolated and the leak was stopped within 30 minutes of discovery.
- Excavation was completed to expose the broken pipe
- A lateral seam in the pipe running longitudinally failed which caused the leak.
- Removed approximately 30 feet of mortar-lined steel pipe and replaced it with 30 feet of 24-inch PVC (C900) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The leak was discovered on August 27, 2014, at approximately 7:15 a.m. The leak was isolated and stopped within 30 minutes of discovery. The incident was reported to Ecology on August 27, 2014, by Thomas Pysto, Environmental Compliance Officer, (509) 373-9205. The water line was repaired on August 31, 2014, and restored to service on September 3, 2014.

INCIDENT SEPTEMBER 11, 2014

282E FACILITY RESERVOIR

Description: On September 11, 2014, at approximately 9:45 p.m., the 283W Water Treatment Operator responded to a high sump alarm at the 282E Facility and discovered that the 282E Raw Water Reservoir had overflowed. The operator found the reservoir automatic level control valves had failed in the open position, resulting in the overflow. The operator manually closed the control valves and the overflow stopped. The reservoir level control system was placed into a manual mode of operation. An instrument technician was contacted and performed troubleshooting of the system. Initial troubleshooting indicated the High Level Alarm switch had failed resulting in no alarm to plant operators. The overflow in the pipeline was due to vegetation plugging the pipeline discharge.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 150,000 gallons of water was discharged to the ground. It is estimated that approximately 5,000 gallons of water overflowed to the ground around the immediate area of the 282E Reservoir. The overflow from the reservoir goes to pipeline 200-E-237-PL. It is estimated that an additional 145,000 gallons of water discharged from the pipeline, approximately 50 yards from the unlined trench.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The high level alarms and level control indicators were initially repaired and then replaced.
- Biological Controls removed vegetation and a large root ball to unplug the pipeline discharge.
- Since the leak was raw water only, no cleanup was performed.

Time Period for Incident: The overflow was noted at 9:45 p.m. on September 11, 2014. The overflow was stopped on September 11, 2014. The overflow was reported on September 12, 2014, to Ecology by Thomas Pysto, Environmental Compliance Officer, (509) 373-9205.

INCIDENT OCTOBER 12, 2014

8-INCH 2101M POTABLE WATER LINE LOOP

Description: On October 12, 2014, at 12:03 a.m., a potable water leak was discovered in the MO234 Parking Lot (200 East Area). Early Sunday morning, the 283W Water Treatment Facility Operator on duty noted indications of potable water flow that was not normal during this time period. The situation was investigated and a large pool of water was identified in the parking lot just south of MO234, 200 East Area. It was determined that the 8-inch water line broke resulting in the discharge of approximately 275,000 gallons of water onto the parking lots of MO234 and 2101M. Water flowed into the parking lots and down 2nd Street. The water was partially isolated at approximately 1:48 a.m. Water from the leak flowed over an inactive Waste Information Data System (WIDS) site, 200-E-2, in the MO234 Parking Lot. This site had hydrocarbon stains from parking activities. The contractor assigned responsibility for this WIDS site was notified.

Individual Reporting: Thomas Pysto, Mission Support Alliance, LLC, Environmental Compliance Officer, (509) 373-9205.

Estimated Discharge to the Ground: Approximately 275,000 gallons of potable water was discharged to the ground.

Repairs and Corrective Actions Taken: Actions taken to repair the system and reduce reoccurrence of the incident are as follows:

- The water was partially isolated by 1:48 a.m.; a small volume of water flow was maintained to prevent the potable water line from becoming contaminated.
- On October 12, 2014, an emergency excavation was initiated to expose the break.
- On the morning of October 13, 2014, the location of the leak was determined to be inside an existing WIDS site (200-E-2). The WIDS Site Owner was notified of the incident.
- Disposal arrangements for dirt and other debris were initiated, as necessary.
- The broken pipe was removed.
- Upon inspection of the pipe, it was determined that a previous repair (cut and cap) just east of the break had been leaking and caused corrosion within the pipe and manifested into pin holes.
- The line was repaired by replacing approximately 20 feet of 8-inch unlined cast iron pipe with 20 feet of PVC (C900) pipe.
- The repairs were tested, the line was backfilled, and the system was restored to service.

Time Period for Incident: The leak was discovered on October 12, 2014, at 12:03 a.m. and was stopped on October 21, 2014. The incident was reported to Ecology on October 13, 2014, by Thomas Pysto, Environmental Compliance Officer, (509) 373-9205, and repairs were completed October 22, 2014.