Hanford:

Government Owned facility, operated by the Government

Police Corruption:

Government Law Enforcement agency

Alaska Pipe Line:

Private Sector owned and operated, heavily regulated by state and federal governments

Shuttle:

Government space program with private sector contractor to design and build rocket components

To supplement the video, "Nice Guys Finish Last" I have searched for updated information about these cases. I could find nothing on the Australian Police officer, Gordon Harris, and the Challenger Disaster is well documented for anyone who takes the time to seek information.

Hanford and the Alaska Pipeline are not so clearly understood. The linked document provides additional information on these two cases.

Please note that while many comments this week have focused on the misdeeds and improper tendencies of large businesses, the government is the primary actor for three of these four cases. Furthermore, the State and Federal governments played a huge role in the permitting and oversight of operation and maintenance of the Alaska pipeline.

Finally, the pipeline has operated for over 45 years. Think about the issues that the pipeline whistleblowers raised in their day about the welds, etc. and then compare those concerns with the history of operation. Did the whistle blowers' concerns manifest during the 45 year operation history. The operation of the pipeline has not been without issues. It has had to endure major earthquakes, permafrost thaw, and corrosion from use and aging.

Compare the last 45 years for the pipeline with the last 45 years of the Hanford facility. The federal government continues to spend untold dollars every year trying to clean up that mess, yet look at the USEPA 10-Slide summary of the site published recently and compare the reality to this characterization of the site.

Alaska Pipeline Construction. Hampered by Welding Problem

April 3, 1976
September 7, 2006 | Ken Reed

ANCHORAGE, April 2—Builders of the trans-Alaska oil pipeline, who discovered alleged falsified X-rays of welding work on the southern half of the 800-mile project last summer, are now questioning 2,300 X-ray pictures of welds on the northern part of the project.

The continuing difficulties will undoubtedly raise the final cost of the project, Chuck Champion, head of the state pipeline monitoring office, said today.

The Alyeska Pipeline Service Company, the consortium responsible for building the pipeline, reviewed the X-ray examination of welding work on the southern half of the project last fall, and found that a number of the X-rays had been falsified and others had been misinterpreted.

The discrepancies in the southern half led to a review of all X-ray work on the pipeline.

The Exam Company has the contract to make and analyze X-rays of welds on the north. ernpost three sections of the pipeline. The questioned X-rays are all in the top two sections. The section just north of the Yukon River won a clean rating after the preliminary restudy of X-rays.

Ketchbaw Industries, a subsidiary of Houston Gamma Ray Company of Houston, was the contractor responsible for Xray analysis south of the Yukon.

Alveska dismissed Ketchbaw on Dec. 31 and then filed a civil lawsuit in Alaska Superior Court charging the company with faking X-rays. Ketchbaw filed a counter-suit in February, contending that its reputation had been wrongly besmirched.

ALASKA PIPELINE FAILURE

September 7, 2006 | Ken Reed

More data has been released concerning the Alaskan oil pipeline leak that shut down a major portion of the Prudhoe Bay oil field on the Alaskan North Slope. It appears that BP changed their pipeline PM requirements based on the history of failures, then did not check to see if this new schedule was working correctly. After years of running a pig through the pipeline at fairly close

intervals to clean the pipes, they decided to stop the cleaning and only conduct spot ultrasonic testing of the piping instead. Another pig inspection and cleaning was slated for next year (9 year interval), but leaks were found last month that required the shutdown. The company now plans to replace 16 miles of deficient piping.

Oil Leak Is Latest Mishap for Alaska's Troubled Pipelines

Months before the latest leak was discovered, we'd obtained on a report that flagged extensive corrosion in BP's Alaska pipeline system.

by Marian Wang

Jan. 10, 2011, 2:53 p.m. EST

Almost all oil production on Alaska's North Slope remains shut down after workers on the Trans-Alaska Pipeline system discovered a leak over the weekend. BP, the pipeline company's largest single owner, has called it a "significant event."

BP is no stranger to pipeline problems in Alaska. We recently reported that a BP maintenance report in October found severe corrosion throughout its own system of pipelines, and workers had complained of "Band-Aid" solutions to long-running maintenance issues.

At the time, BP spokesman Steve Rinehart told us that the company has "an aggressive and comprehensive pipeline inspection and maintenance program," and the 148 pipelines ranked "F" for corrosion were not necessarily a current safety risk. "We will not operate equipment or facilities that we believe are unsafe," he said.

BP's listing of corroded pipes and its documentation of pipeline failures wouldn't have included the Trans-Alaska Pipeline, which is operated by Alyeska Pipeline Service—technically a separate company. But as we've noted, Alyeska is largely controlled by BP, which owns 47 percent of the company. Other owners include ConocoPhillips, Exxon Mobil, Unocal Pipeline, and Koch Alaska Pipeline.

With the exception of the company's current CEO, Alyeska has always taken its top talent on loan from one if its oil company owners, and only once has its CEO come from a company that's not BP, noted AlaskaDispatch. Alyeska's current CEO, Thomas Barrett, took his post on January 1, exactly one week before the most recent spill was detected.

The pipeline system has had a long history of maintenance problems and worker safety complaints. Here's what we reported in November:

In 2006, two spills from corroded pipes in Alaska placed the company's maintenance problems in the national spotlight. At the time, BP temporarily shut down transmission of a portion of its oil

from its Prudhoe Bay field to the continental United States, cutting off approximately 4 percent of the nation's domestic oil supply, while it examined its pipeline system.

Photographs taken by employees in the Prudhoe Bay drilling field this summer, and viewed by ProPublica, show sagging and rusted pipelines, some dipping in gentle U-shapes into pools of water and others sinking deeply into thawing permafrost. Marc Kovac, a BP mechanic and welder, said some of the pipes have hundreds of patches on them and that BP's efforts to rehabilitate the lines were not funded well enough to keep up with their rate of decline.

Several more close calls on Alaskan pipelines came between September 2008 and November 2009, when three BP gas and oil pipelines on Alaska's North Slope ruptured or clogged, as we've reported.

Prior to this weekend's incident, the most recent closure of the Trans-Alaska Pipeline occurred in May—during the BP oil spill—when "several thousand barrels" of oil spilled from the 800-mile line.

Thawing Permafrost has Damaged the Trans-Alaska Pipeline and Poses an Ongoing Threat

The pipeline operator is repairing damage to its supports caused by a sliding slope of permafrost, and installing chillers to keep the ground around it frozen.

By David Hasemyer
July 11, 2021

The Trans-Alaska Pipeline, one of the world's largest oil pipelines, could be in danger.

Thawing permafrost threatens to undermine the supports holding up an elevated section of the pipeline, jeopardizing its structural integrity and raising the potential of an oil spill in a delicate and remote landscape.

The slope of permafrost where an 810-foot section of the pipeline is secured has started to shift as it thaws, causing several of the braces holding up the pipeline to twist and bend.

More oil flowed through Trans Alaska Pipeline last year than in 2021 or 2020, operator reports

Sunday, January 15th, 2023 3:31pm

By Yereth Rosen of the Alaska Beacon

Juneau, Alaska (Alaska Beacon) - The amount of oil flowing through the Trans Alaska Pipeline System was higher in 2022 than in each of the two years prior, the system's operator said on Tuesday.

The system shipped over 176.4 million barrels of oil in the calendar year, averaging 483,415 barrels per day, said Alyeska Pipeline Service Co., the consortium that operates the 800-mile line and its Valdez marine terminal.

It was the first time since 2017 that oil flowing through the pipeline – known as throughput – increased from the previous calendar year, Alyeska said in a statement. The 2022 totals were also higher than those from 2020, the company said.

In 2021, nearly 174.4 million barrels were shipped through the system, averaging 477,798 barrels per day, Alyeska said. In 2020, about 175.8 million barrels were shipped through the system, averaging 480,199 barrels per day, Alyeska said.

The throughput increase is good news, Alyeska said in its statement.

"The best long-term solution for safe and sustainable TAPS operations is more oil, so this increase is a notable milestone," Betsy Haines, Alyeska's interim president, said in the statement. "It's also a positive for Alaskans and our state's economy. We are all encouraged by discoveries and development on the North Slope, and supportive of an external environment that fosters responsible resource development, creates future throughput increases for TAPS, and strengthens our state and country."

The Trans Alaska Pipeline System began shipping oil in 1977. Average daily throughput peaked in 1988 at over 2 million barrels per day. It has been declining since then, though with some variability, as North Slope fields age and become less productive.

But also during the period since 2020, under Hilcorp Energy Co.'s new management, the long-term decline of production at the Greater Prudhoe Bay Unit was halted and, eventually, reversed.

https://www.epa.gov/fedfac/hanford-site-spotlight

A 10-Slide presentation by the USEPA about the history of the Hanford facility

About Hanford Cleanup

Last Updated 12/14/2022 5:45 AM

For more than 40 years, reactors located at Hanford produced plutonium for America's defense program. The process of making plutonium is extremely "inefficient" in that a massive amount of liquid and solid waste is generated, while only a small amount of plutonium is produced. Additionally, all the facilities and structures that were associated with Hanford's defense mission must also be deactivated, decommissioned, decontaminated, and demolished. That environmental cleanup project is the work that about 10,000 Hanford workers are involved in today.

Demolition crews tear down underground fuel storage bunker near the former K West Reactor after removing thousands of gallons of excess water and fuel oil to reduce risk to the nearby Columbia River.

Teams perform demolition work on the Plutonium Uranium Extraction Plant (PUREX), including cutting piping and building scaffolding. PUREX is one of five chemical processing facilities built on the Hanford Site that isolated plutonium from fuel rods irradiated at its nine reactors.

Crews responsible for Site cleanup are dealing with several different kinds of waste in several different forms, with many of the wastes being potentially harmful to people and the environment. Precautions have been taken so that the waste does not contaminate the air, the ground, the water table underneath the ground, the Columbia River, the people who are doing the cleanup work, or the people and environment near the Hanford Site.

Solid waste can be everything from broken reactor equipment and tools to contaminated clothing that a worker wore during the plutonium production activities. The solid wastes were buried in the ground in pits or trenches. Some of the waste was placed in steel drums or wooden boxes before being buried while other waste was placed in the ground without a container to hold it. Depending on when the waste was buried, records about what was buried and where it was buried can be difficult.

Besides the millions of tons of solid waste, hundreds of billions of gallons of liquid waste were generated during the plutonium production days. These liquid wastes were disposed of by pouring them onto the ground or into trenches or holding ponds. Unintentional spills of liquids also took place. Liquid wastes generated during the process of extracting plutonium from the uranium fuel rods were put into underground storage tanks. Just like with the solid wastes, while some records accurately describe the kinds of liquid wastes that were generated and where they went, some of the spills and the volume of the spills went undocumented.

Reactor buildings, support facilities, and auxiliary structures needed during the plutonium production days must also be cleaned up. For many of these buildings, the work requires crews to come in with bulldozers and other heavy equipment to bring them down. As some of

these structures are either contaminated or were built using materials like asbestos, crews must take precautions to avoid being contaminated themselves or to avoid releasing contamination into the ground, the air, or the groundwater.

Crews remove asbestos from the 211A Pump House that supported the PUREX facility during the Hanford Site operations to allow for safe demolition of the structure.

During cleanup operations, where the waste will end up after it is removed from the ground is based upon waste characteristics. A majority of the solid wastes, contaminated soil, and building debris will be taken to the Environmental Restoration Disposal Facility (ERDF) located on the Hanford Site. This facility is regulated by the United States Environmental Protection Agency and is basically a huge landfill. ERDF accepts waste in disposal cells eight of which are 500 feet wide, 1,000 feet long and 70 feet deep and two of which are "super cells" that are twice as large. 2.8 million tons of waste can be disposed of in a cell at ERDF, and once each cell is filled up, the waste is covered with clean dirt and a soil fixative to ensure it will safely and permanently remain in the landfill.

Some of the more hazardous chemical or radioactive solid wastes are not taken to ERDF. For example, the fuel rods that came out of the reactors but never had their plutonium extracted are stored in a facility called the Canister Storage Building at Hanford. Ultimately, these fuel rods will be sent for permanent burial at a national repository designed to accept these kinds of materials.

Solid transuranic waste is the debris that is contaminated with plutonium or other materials that may remain radioactive for hundreds of thousands of years. This waste, referred to as TRU waste, is securely packaged and shipped to the Waste Isolation Pilot Plant in New Mexico where it will be permanently and safely buried.

Of the liquid wastes generated at Hanford, much of the waste that is currently stored in the underground tanks on the Site will ultimately be transformed into a stable, glass product in a process called vitrification. In order to vitrify the waste, it is mixed with glass-forming materials and then introduced to high heat so that the waste bonds with the glass. A facility is being constructed at Hanford which will perform this vitrification work called the Low-Activity Waste (LAW) Vitrification Facility. Once the vitrification process has taken place, the molten, glass-like material is poured into cylinders where it will cool and become solid. Ultimately, cylinders containing the most hazardous vitrified waste will be taken to a national repository for permanent burial. The cylinders with less hazardous waste are candidates for disposal in the Integrated Disposal Facility (IDF) located on the Hanford Site.

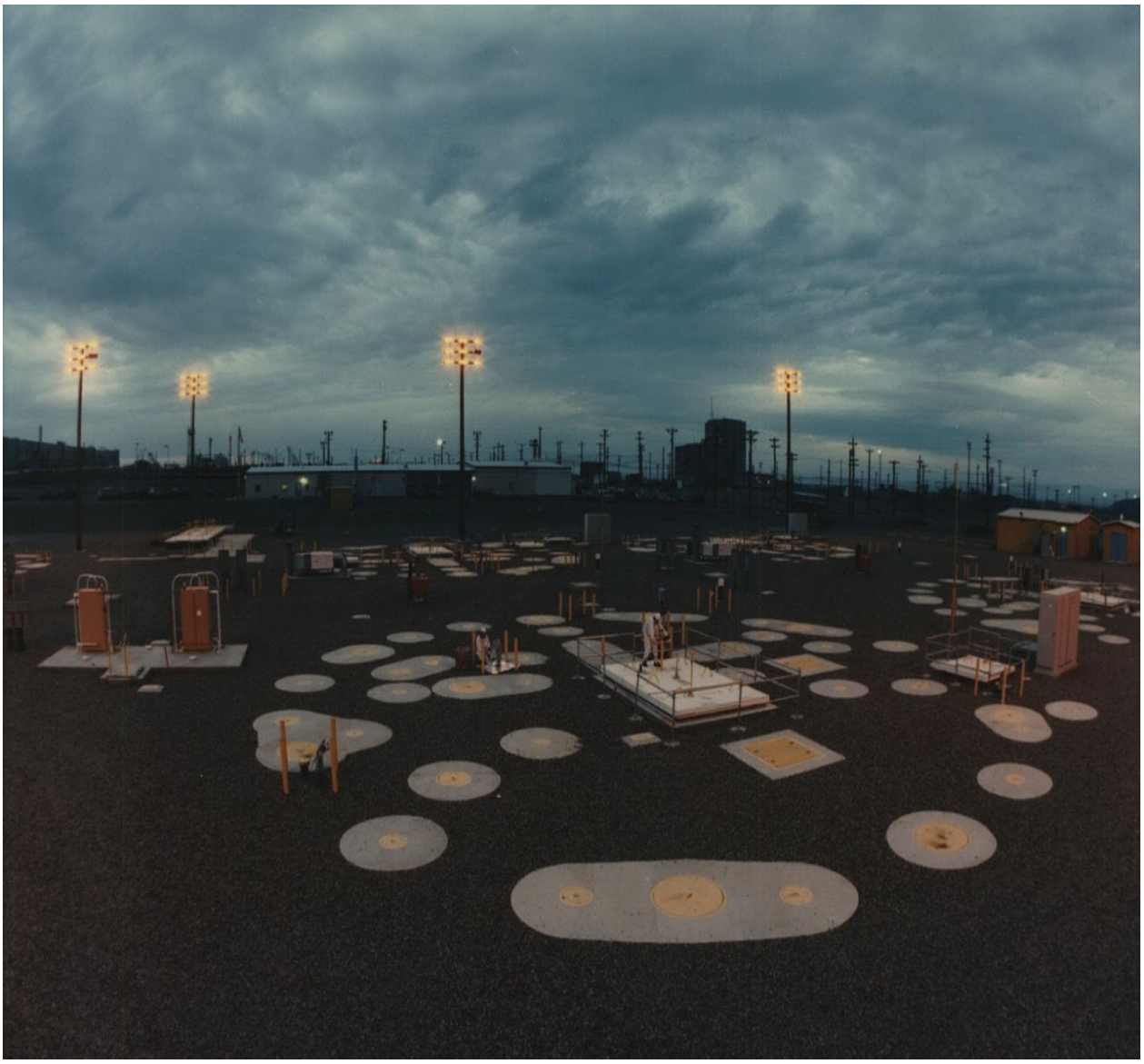
The liquid waste that had been poured onto the ground or held in ponds or trenches has long since evaporated or soaked into the soil on the Site. In doing so, the waste did contaminate some of the soil and is thought to have also created underground “plumes” of contaminants. A “plume” is kind of like an underground river where contaminants join with water that exists beneath the surface of the Earth. Many of these plumes move in varying speeds and move toward the Columbia River. Hanford employees are actively involved in projects designed to prevent any more of the contamination from reaching the river. Several different strategies are being used in that effort.

Tank farms crews remove an older pump from double-shell tank AP-105 to make way for a new 45-foot pump that will be installed in the tank where nuclear and chemical waste will be staged prior to treatment through the Tank-Side Cesium Removal System and eventual vitrification at the Waste Treatment and Immobilization Plant.

One strategy is simply to block the groundwater contamination from getting to the Columbia River. Various kinds of barriers are placed in the ground that allow the clean groundwater to move through, while chemically altering any harmful contamination into a non-toxic form as it passes through. Another strategy is called “pump and treat.” Through this process, contaminated groundwater is pumped out of the ground and treated with chemicals. These chemicals change the chemical makeup of the contaminants, rendering them harmless to the environment. Once the treatment of the groundwater is complete, the cleansed water is pumped back into the ground. Yet another strategy in dealing with groundwater contamination is called “biostimulation.” This is a new technology where crews pump materials like molasses and vegetable oil into the ground where tiny microorganisms in the soil eat the molasses and vegetable oil. The microorganisms then reproduce, and in doing so, they alter the chemistry of the groundwater and render the contaminants harmless to the environment. The process also prevents the contamination from moving any closer to the river.

Hanford nuclear site's contamination, growing risks to entire Northwest region detailed in new journal article

- Updated: Oct. 06, 2021, 9:57 a.m.|
- Published: Oct. 06, 2021, 9:29 a.m.



The sprawling Hanford complex, seen here in 1996, was the U.S government's foremost nuclear-production facility throughout the Cold War.

By Douglas Perry | The Oregonian/OregonLive

A deadly pandemic, spiking murders, houselessness, climate change. Distressing news arrives every day from across the U.S.

The Pacific Northwest, unfortunately, has still more -- specifically, the situation at the federal government's decommissioned nuclear-production workhorse known as the Hanford Site, a problem so entrenched we tend to forget about it.

The literary journal Virginia Quarterly Review (VQR) is now reminding us of this looming threat. Its deeply reported new piece "Cold War, Hot Mess," available online for free, is well worth the time of anyone who lives in the region. Here are some of the highlights:

• The article opens with longtime Hanford Nuclear Reservation employee Abe Garza and other workers making their way to one of the site's holding tanks in 2015 to conduct a routine inspection.

"Shortly after he arrived at the work site, [Garza's] nose started bleeding, and wouldn't stop," reporter Lois Parshley writes. "Another crew member complained of a terrible headache. A third said he could smell something like onions. (Previous chemical exposures at work had destroyed Garza's ability to smell.) Garza knew right away something had gone wrong, but it was already too late: A potentially lethal cloud of chemicals was sweeping over them."

Garza was later diagnosed with heavy-metal poisoning -- as well as toxic encephalopathy, a dementia-like condition that often proves fatal.

A Hanford worker on the job in 1994.

Nearly 60% of Hanford workers have reported exposure to hazardous materials, the article states. And workers aren't the only ones at risk. Over the eight decades of Hanford's existence, radioactive waste has seeped into the groundwater and radioactive effluvium has been released into the air that has blown for miles. Portland is about 230 miles from Hanford.

A 2002 study found that Native American children from the Hanford area have "an extremely elevated risk of immune diseases." Cancer is also exceptionally prevalent among residents of the area.

• There are hundreds of tanks at Hanford like the one Garza was inspecting that day in 2015. "The amount of high-level waste currently in just one of Hanford's hundreds of tanks would cover a football field to a depth of one foot," the VQR article points out. "More than a third of the single-shell tanks have already leaked. One of the double-shell tanks, into which waste was moved after concerns over leaks, has also failed. In late April of 2021, news broke about a new leak in one of the single-shell tanks, which is estimated to be spilling nearly 1,300 gallons a year." The tanks' expected life span, in many cases, reached their limit 50 years ago.

The risk of an explosion that would cause a Chernobyl-like disaster is very real, says Tom Carpenter, who heads up the watchdog group Hanford Challenge.

• What is the U.S. government doing about it? Perennially underfunding cleanup of the sprawling Cold War-era site.

The journal writes: "In the face of these rising costs, the [Department of Energy] announced in 2019 that it would redefine what constitutes 'high-level radioactive waste' under federal law, which would allow it to leave additional waste in place, rather than transferring it to safer, long-term storage."

The article adds:

"If Hanford's tanks are left in place, it is likely that their radioactive pollutants and heavy metals will contaminate one of the country's largest rivers, the Columbia. David Trimble, of the Government Accountability Office, describes this decision-making as 'DOE has got the steering wheel from Mom and Dad and are now running for the highway.'"

• The cleanup is ongoing, but radioactive waste will continue to be stored at Hanford for decades, maybe forever. This could mean big trouble if the Big One -- that is, a large earthquake -- hits the Pacific Northwest.

"Geologists have also found that the power plant at Hanford -- which stores spent fuel rods in pools similar to the Fukushima reactor [in Japan] -- is at risk of experiencing seismic activity two to three times stronger than it was designed to handle," the VQR piece states. "If power supplies failed, 'it would take about a day for enough water to evaporate [from the pools] to cause a catastrophe.'"