Washington State Department of Labor & Industries

Nippon Dynawave Longview fatal tank failure

Summary of Washington State Department of Labor & Industries' citation and notice

Nov. 20, 2026

Table of contents

Background **1**
History of G-tank **2**
What happened that morning **3**
L&I's response **4**
Steps L&I is taking **5**
Additional resources **10**

Background

Nippon Dynawave Packaging Co. operates a kraft paper mill in Longview, Wash. The mill produces dry market pulp used to make items like printing paper, tissue, pet pads, insulated doors, and filtration paper. It also produces paperboard used to make cartons and cups. As part of the process, the mill uses white liquor, a caustic chemical mixture used to break down wood into pulp during paper production.

At 7:08.48 a.m. on May 26, 2026, an aboveground chemical storage tank known as the G-tank failed while holding approximately 900,000 gallons of white liquor.

Eleven workers died, and 12 others were injured as a result.

The Washington State Department of Labor & Industries (L&I) opened a workplace safety investigation that day, and investigators started work at the site while emergency crews continued their search and recovery efforts. State law sets a six-month time limit on L&I's investigations. In that time, inspectors focused on not only the G-tank failure, but also the safety of other tanks at the facility, and Nippon Dynawave's emergency planning and response.



Nippon Dynawave Packaging Co.'s G-tank failed on May 26, 2026. (U.S. Chemical Safety and Hazard Investigation Board)

History of G-tank

The G-tank is an aboveground storage tank used to hold white liquor, a chemical mixture used in the mill's pulp-making process. The white liquor in the tank is heated to roughly 200 degrees Fahrenheit.

1986-87: G-tank is built and put into service. It has five courses, which are steel rings stacked on top of one another and welded together. Course 1 is the bottom course. Course 5 is the top.

April 2011: A leak is discovered in Course 3. Courses 2 and 3 are replaced. Both are 7/8 of an inch thick.

August 2016: Nippon Paper Industries buys Longview plant and operates it as Nippon Dynawave Packaging Co.

September 2017: Courses 1 and 4 are replaced.

July 2025: Exterior ultrasound testing shows thickness of tank walls significantly below minimum safe levels, as determined by the American Petroleum Institute's engineering standards (API 653). Report from the inspection company says the tank is "not fit for continued service unless corrected. High likelihood/consequence of failure."



APPLIED TECHNICAL SERVICES

Job Number
456472

Recommendations

Action items listed below are based on observations recorded at the time of inspection and/or findings determined during the post-inspection analysis. Priority 1, 2, or 3 has been applied to each action item; which are defined as:

Priority 1: Not fit for continued service unless corrected → High likelihood/consequence of failure (or) Critical code/standard deficiency
Priority 2: Owner should plan/schedule for correction → Med likelihood/consequence of failure (or) Additional info needed for evaluation
Priority 3: Considered best practice or prev. maintenance → Low likelihood/consequence of failure (or) Non-critical code/standard deficiency

August 2025: Documented Nippon management receipt of the July testing report.

September 2025: In an internal email, a process manager responds to the report by saying it does not look good. They ask the group for input on whether the tank should be taken out of service for repairs or run at a lower volume.

October 2025: Second round of external ultrasound testing confirms July test results. It shows almost all of Course 2 and the majority of Course 3 are below minimum levels.

November 2025: Nippon discusses plans to start monthly monitoring of wall thickness. No monitoring inspections occur in November, December, January, March, April, or May.

Late 2025: Nippon Dynawave Packaging Co. managers seek approval from Nippon Paper Industries, their parent company, to include G-tank replacement in their 2026 capital budget. Company records show they believed it had reached the end of its safe service life.

February: A third round of exterior ultrasonic testing confirms previous findings and identifies accelerated corrosion since the most recent tests. Report shows Course 3 is measured in limited areas to be as thin as .270 inches, below the minimum allowable thickness of .341 inches.

April: After months of back and forth, the local plant is told that they will have to reduce capital expenses before adding any G-tank replacement to the 2026 budget. They choose to prioritize other projects.

May 26: An early morning appointment was scheduled with an engineer to discuss G-tank thickness calculations.

What happened that morning

4 a.m.: White liquor stops flowing from G tank to the digester that was shut down. G-tank fills up to nearly full, more than 900,000 gallons. At that volume, the pressure was more than 200% the stress capacity of those lower courses.

7:08.48: G Tank fails, flooding the courtyard, electrical maintenance shop, and machine maintenance shop.

7:14 a.m.: A Nippon worker makes the first internal radio call for assistance.

7:18 a.m.: Nippon's communications center makes the initial call to 911.

7:25 a.m.: The first emergency responders arrive at the main gate.

7:34 a.m.: The company's nominal incident commander informs the communications center he is on his way to the mill.

7:39 a.m.: First ambulance leaves the site, transporting the plant safety officer.

8 a.m.: The first hazmat vehicle arrives.

8:07 a.m.: Direction is given to shut down the plant.

10:37 a.m.: First DOSH safety inspectors arrive on the scene and open L&I's inspection.

L&I's response

L&I INVESTIGATION

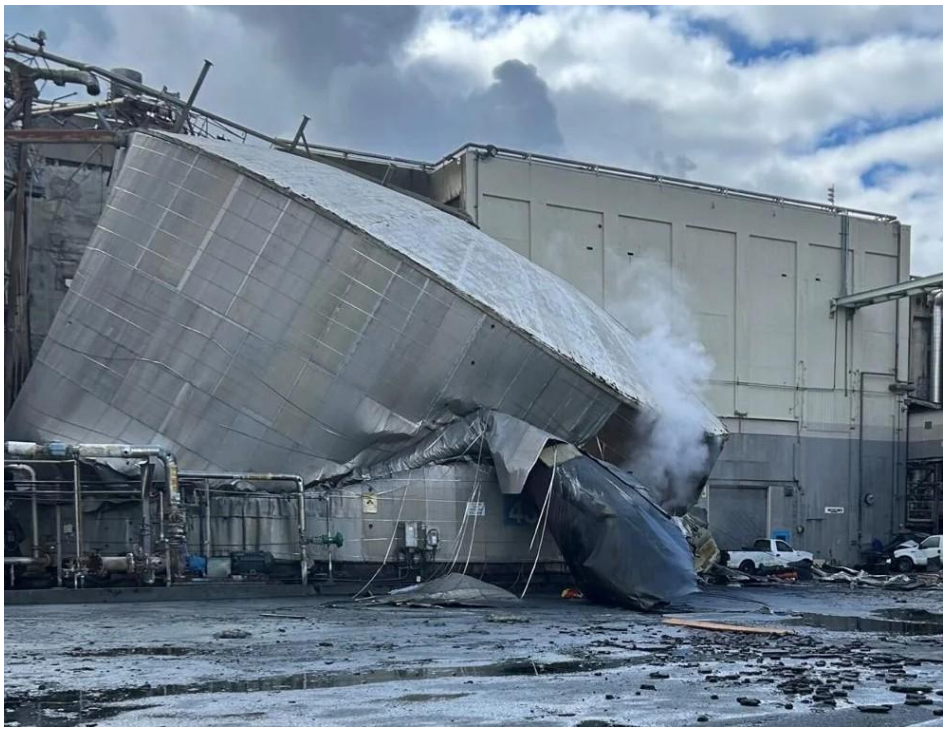


Photo taken about five hours after the tank failed shows some of the destruction. (City of Longview)

The first investigators from Labor & Industries were on the scene three hours after the tank failed.

Over the next six months, almost a dozen investigators interviewed more than 70 witnesses, including workers and managers at the plant.

They reviewed more than 40,000 documents, including records of previous inspections on G-tank, the company's safety plans and programs, tank inspection reports, and emails where the company's managers discussed the problems with G-tank.

The investigation focused not only on G-tank, but also other hazardous chemical tanks on the site, as well as Nippon's preparation for, and response to, the emergency.

SUPPORT FOR FAMILIES AND INJURED WORKERS

A team from L&I's Insurance Services division was in Longview the next day, and left information for families about how to file for workers' compensation and survivor benefits. They returned the following week to attend the family resource event where they were available to assist family members of the deceased and injured workers.

A Pension and Fatality Section specialist has contacted each family of the deceased workers and has helped them with the process for filing for benefits. The division's Catastrophic Claims Unit, made up of highly experienced claim managers, has been handling claims filed by those with injuries.

Steps L&I is taking

SAFETY EXPECTATIONS FOR TANKS

Tank safety and inspection requirements

All Washington businesses are required to assess hazards on their worksite and control those hazards to keep workers safe. In many circumstances, L&I has created rules for exactly how business must do that. When circumstances are not covered by specific rules, businessesmust still meet their statutory duty to provide a safe place for their workers, free from recognized hazards.

This is called the safe place standard, laid out in Revised Code of Washington (RCW) 49.17.060(1) and Washington Administrative Code (WAC) 296-800-11005. Aboveground storage tanks are well-recognized and serious hazards to workers that are covered by the safe place standard. Under safe place, an employer putting a tank on a site must identify a nationally accepted engineering standard under which they will design and build them. Then they must inspect, maintain, and repair them according to the standards they are built to.

In the paper mill industry, the American Petroleum Institute's standard 653 – *Tank Inspection, Repair, Alteration, and Reconstruction*, is a widely accepted, well known, and commonly followed engineering standards for maintaining the integrity of these types of tanks. API 653 is also the standard Nippon cites in their own internal procedures.

Failure to meet that standard constitutes a citable health and safety violation.

Emergency response requirements

State rules, specifically WAC Chapters 296-824**,** lay out specific requirements for emergency response to potential hazards on an employer's worksite. They require, among other things:

- Emergency response plans.
- Training and certification in the specific skills needed.
- Access to the right personal protective equipment (PPE).
- Effective incident command and control.

Failure to meet these standards constitutes a violation under the rules.

BASIS FOR VIOLATIONS

Conclusions

The investigation concluded, based on all available information and analyses, that the immense outward pressure of the liquid inside G-tank exceeded the strength of the tank's dangerously thinning walls, making an overstress failure inevitable.

Under normal operation, the white liquor from G-tank emptied into a digester where it broke wood chips down into pulp. On the morning of May 26, the digester was shutdown. With nowhere to go, white liquor filled G-tank to nearly full, putting massive outward pressure on the tank's lower courses.

Based on the February ultrasonic thickness tests, at that level of volume, the pressure was more than twice the stress capacity of the lower courses of the tank. It was not uncommon for that tank to be at a high capacity. Going back to August 2025, volume was at or above 60% on 181 of 295 days — more than half the time.

The walls of Course 2 started at .875 inches thick, with a minimum safe thickness of .508 inches. February ultrasonic testing measured a part of Course 2 at just .178 inches. In the aftermath of the tank failure, L&I measured an exposed piece of Course 2 along the rupture seam at just .07 inches, or more than seven times thinner than the safest minimum thickness.

Nippon Dynawave failed to meet requirements under state law to effectively inspect, maintain, and repair G-tank and dozens of other tanks on the site. The company also failed to adequately prepare for, or respond to, the emergency of the tank failure at a level that meets requirements in state rules.

Nippon willfully kept G-tank in operation despite problems

G-tank's five courses were built to the following specifications:

- Course 1 (bottom course): .938 inches
- Course 2: .875 inches
- Course 3: .875 inches
- Course 4: .625 inches
- Course 5 (top): .625 inches

Courses closer to the bottom of the tank are built with thicker walls because they must withstand greater outward pressure from the weight of the liquid in the tank. Tanks are built with wall thickness well above minimum requirements to allow for expected corrosion of the walls over time from the caustic material inside.

The minimum safe thickness for G-tanks five courses were:

- Course 1 (bottom): .589 inches
- Course 2: .508 inches, or just over half an inch.
- Course 3: .341 inches, around 1/3 of an inch
- Course 4: .231 inches, or about a quarter of an inch
- Course 5 (top): .100, or 1/10 of an inch

Nippon received three separate reports, created by inspectors they hired to conduct external ultrasonic wall thickness testing. One in August 2025 regarding testing conducted in July 2025, one in October 2025, and one in February of 2026. All three reports showed extensive thinning in Course 2 and Course 3 that put the average thickness of both below the minimum safe thickness measures.

Under API 653, when corrosion causes a tank's wall thickness to fall below the minimum safe level, employers must do one of the following:

- Repair it.
- Reduce pressure on the walls by limiting how much liquid goes in.
- Take it out of service.

Emails and internal documents demonstrate the company knew of the tank issues and discussed options they could take, including those outlined by API 653. In late 2025, local plant leaders were actively soliciting bids for replacement and lobbying their parent company to include it in the capital budget for 2026. They emphasized that the tank had reached the end of its safe service life.

In communications, they acknowledged that if they didn't replace the tank, they'd need to reduce the storage capacity or run white liquor through a different tank for two to three months while they made repairs.

But, on the ground in Longview they took no action to protect workers, and eventually made the decision to prioritize other projects.

Missed or ignored inspections at dozens of other tanks

API 653 specifies what types of tank inspections the employer must do, and how often to do them.

It requires, at minimum:

- An internal inspection within 10 years, and subsequent inspections periodically based on corrosion rate, release prevention barriers, and other factors.
- External inspections with insulation removed to the extent necessary and ultrasonic thickness testing every five years.

- If tank walls are approaching their minimum safe value or corrosion is happening faster than expected, the standard calls for even more frequent inspections.

External inspections are critical to detect corrosion. Internal inspections assess the extent of the corrosion.

On most of the tanks on the site, including G-tank but 28 others as well, the company did not have appropriate documentation they'd conducted these tests or followed up on inspection recommendations as required. When testing was conducted, it often failed to meet requirements under API 653, including removal of external insulation, or a failure to conduct ultrasonic testing.

In some cases, Nippon did enough testing to know there was a problem, but did not meet the requirements of API 653 in how they responded to the results. Under that standard, after a tank deficiency is identified, employers must conduct a fitness for service test before operating it again. Without it, there is no way to know if a tank is still a risk for failure. There were at least three tanks aside from G-tank where this kind of test was required, but no documentation was provided that showed it was ever conducted.

Shortcomings in Nippon's emergency response

Nippon's emergency response planning and actual response fell well short of the requirements outlined in state rules. In their response on the morning of the tank failure, Nippon failed to:

- Establish an effective, employer-led incident command. Outside agencies' emergency responders established the first effective overall incident command when they arrived at the scene.
- Sufficiently brief emergency responders.
- Communicate with other employers on the same property about what was happening, leaving other businesses on the site to reach out to them repeatedly for direction on what their workers should do.
- Set up an effective boundary around the spill. Employees were accessing the area of the spill hours after the event, even while dangerous chemical material was still all over the site.

Failures in the response were a contributing factor in serious injuries to four of the 12 workers who were hurt.

VIOLATIONS AND PENALTIES

L&I is citing Nippon Dynawave Packaging Co. for 75 violations and issuing a total penalty of $9,177,127. The violations range from egregious willful serious, the highest level, to willful serious, to serious. They are:

Egregious willful serious

- Keeping G-tank in operation despite repeated notice that it was not fit for service and did not meet the minimum thickness requirements. 43 violations, one for each week they kept the tank in operation following receipt of the July 2025 report in August 2025.
  - **Total penalty:** $7,117,102.
- Failing to perform required internal inspections and not acting on inspections at G-tank and 13 other tanks on the site. 14 violations, one for each tank requiring these inspections.
  - **Total penalty:** $1,048,740
- Failing to implement and maintain an incident command system and making sure the incident commander oversees activities during the response. Four violations, one for each worker injured during the emergency response activities.
  - **Total penalty:** $299,640
- Failing to perform fitness for service tests as required on three other tanks, not including G-tank. Three violations, one for tank requiring these tests.
  - **Total penalty:** $224,730

Willful serious

- Failing to ensure an adequate emergency response plan, training, and implementation; failing to document discussions around whether to make recommended repairs to tanks; and, failing to conduct external tank inspections and ultrasonic thickness testing in accordance with requirements every five years. Six violations.
    - **Total penalty:** $449,460

Serious

- Failing to install and maintain an employee alarm system; failing to provide information, a buddy system, and equipment to employee emergency response team members. Five violations.
    - **Total penalty:** $37,455

The company received the results of the investigation on Nov. 20. It has 15 days to appeal. Money collected from fines goes to the workers' compensation supplemental pension fund, helping workers and families of those who died on the job.

Criminal referral

Because Nippon's safety and health violations were both willful and contributed directly to the deaths of its workers, L&I will refer the case to the appropriate authorities for potential criminal prosecution.

CORRECTING THE VIOLATIONS

Employers cited for violations of Washington's safety and health rules must fix, or abate, the identified hazards. L&I documents each required abatement in the citation and sets a time frame for the correction.

At Nippon, among other abatements, the company must:

- Rebuild, reduce capacity on, or drain tanks where engineers or contracted inspectors found deficiencies.
- Conduct external and internal inspections and fitness for service tests on tanks wherever due.
- Document the development of effective emergency response plans and training.

As L&I identified and communicated hazards during the investigation, Nippon has already drained some tanks and brought in engineers to conduct testing on others.

The agency will conduct follow-up inspections and monitor all required abatements, with the potential for stop work orders or additional citations where appropriate.

ONGOING INVESTIGATIONS

There are two ongoing inspections at Nippon's Longview mill.

- The first opened June 12 for observed and reported hazards at the site that were not related to the tank failure. That inspection citation and notice must be issued by Dec. 9.

- The second opened July 1, after an employee operating a forklift and handling a tote with sulfuric acid was hospitalized. That inspection citation and notice must be issued by Dec. 28.

L&I also opened inspections at the two other kraft paper mills in Washington: Port Townsend Paper Co. in Port Townsend and Smurfit Westrock, in Longview. The agency also has opened inspections at the seven non-kraft mills in Washington.

The inspections are part of a targeted enforcement program to make sure the issues at Nippon Dynawave are not widespread at other paper mills.

The agency will release the full results from those inspections in February of 2027.

REPORT UNSAFE WORKSITES

There are multiple options for workers or members of the public who want to report unsafe working conditions — with full anonymity if needed.

Call the L&I hotline at 1-800-423-7233, or use the online DOSH Complaint Form at Lni.wa.gov to report concerns. L&I will respond based on the circumstances in each case.

Additional resources

Tank rupture web page: Lni.wa.gov/NipponDynawaveResources

News release on L&I and Ecology penalties, cost recovery: Lni.wa.gov/news-events

Explanation of types of L&I violations: Lni.wa.gov/safety-health/safety-rules/citation-penalties