



WHITE PAPER / 03 / SEPTEMBER 2026

Dry Ice Blasting During a Plant Shutdown

A clear sequence for planning cleaning, protecting the work area and handing assets back to production.

- Reserve the window for suitable work
- Give every handoff an owner
- Measure the full time to an accepted asset

FOR PLANT MANAGERS, MAINTENANCE LEADERS AND PROCUREMENT TEAMS

Mobile service in New Jersey, New York, Pennsylvania and Delaware. Precision Dry Ice Cleaning operates under Tri-State Laser Cleaning LLC.



Plan for an accepted asset

A shutdown puts cleaning, inspection and other trades on the same clock. Dry ice blasting may fit selected installed equipment, but it still needs access, compressed air, ice delivery, ventilation, isolation and debris collection [1, 2]. Plan those needs before assigning a cleaning window.

SET THE FINISH LINE

The work ends when the site accepts the asset for its next step: inspection, repair, reassembly or restart. Finishing the blast is only one milestone.

Choose the right work for the window

Work	Question	Ready when
Exterior residue	Can the area be reached and separated from other work?	Scope and area controls approved.
Mold or roller	What finish, coating and owner limits apply?	Representative test approved.
Inspection prep	Which feature must become visible without damage?	Inspector agrees on endpoint.
Heavy coating or rust	Can dry ice meet the required removal?	Method trial or different method chosen.

Use four gates

- **1. Freeze the scope.** Agree on assets, deposits, photos, excluded features and acceptance criteria. Name the person who approves changes.
- **2. Check readiness.** Confirm access, utilities, ice, ventilation, barriers, other trades and debris containers.
- **3. Release the asset.** The site confirms isolation and safe access. OSHA 1910.147 addresses hazardous energy in covered servicing [3].
- **4. Accept and hand off.** Collect material, inspect the result, record open items and use the site's restart process.

Control the blast area

Dry ice becomes CO₂ gas. NIOSH lists an 8-hour recommended limit of 5,000 ppm and a short-term limit of 30,000 ppm; the OSHA 8-hour limit is 5,000 ppm [2]. These values do not replace a site assessment. Plan ventilation and monitoring where needed, including low areas and nearby crews.

- Separate others from the blast zone. Assess noise; OSHA's hearing-conservation action level is an 8-hour average of 85 dBA [4].
- Identify the deposit and its collection method. Paint, dust and other dislodged material remain after the dry ice becomes gas [5].
- Plan for cold contact, hoses, trip routes, lifts, guards and nearby electrical parts.

Give each handoff an owner

Decision	Typical owner	Evidence
Release asset	Site operations	Isolation and access approval.
Approve trial	Tool or process owner	Settings and pass condition.
Coordinate trades	Shutdown coordinator	Work areas and schedule.
Accept cleaning	Named inspector	Findings and open items.
Authorize restart	Site operations	Handoff record.

Measure the entire unavailable window

Start the clock when the asset becomes unavailable. Stop when it is accepted for the next operation. Include setup, access, isolation, cleaning, debris removal, inspection and restart. If tasks overlap, use a schedule of dependencies instead of simply adding their hours.

Compare	Current method	Dry ice trial
Unavailable hours	Use the same start and end.	Use the same start and end.
People	Site and contractor labor.	Site and contractor labor.
Materials	Media, water, chemical, utilities.	Ice, air and power.

Compare	Current method	Dry ice trial
Cleanup	Collection and disposal.	Collection and disposal.
Outcome	Inspection and rework.	Inspection and rework.

USE YOUR FACILITY'S FIGURES

Compare direct spend, internal labor, outage cost, disposal and verified rework. Keep outage cost separate when it is unknown. Avoid generic industry dollar-per-hour assumptions.

Review readiness 48 hours before work

- Confirm assets, photos, surface restrictions and any test results.
- Confirm access, escorts, shifts, other trades and the equipment-release owner.
- Match air and electrical supply to the selected equipment. Confirm ice delivery.
- Confirm ventilation, monitoring plan, noise controls, isolation and debris collection.
- Name the inspector, handoff owner and fallback if the test does not pass.

Readiness signoff

Write the responsible person and any open issue next to each checkpoint.

Checkpoint	Owner	Open issue or signoff
Asset and test	_____	_____
Release and access	_____	_____
Air and ice	_____	_____
Ventilation and area	_____	_____
Debris and inspection	_____	_____

Protect the critical path

Show when each asset can be released, inspected and handed to the next trade. Cleaning before inspection may control the schedule; exterior housekeeping may run elsewhere. Reserve time to decide what to do if the deposit differs from the test.

PUT THE HANDOFF ON THE SCHEDULE

If inspection cannot start until cleaning is accepted, name the person who signs off and when that person can attend.

Review after restart

Compare planned and actual time at each gate. Record waiting, scope changes and whether the trial predicted the final result. Use that record to improve the next maintenance window. Recheck the plan when equipment, materials or work conditions change.

Sources and scope

Sources checked September 23, 2026. Equipment-maker examples show possible applications, not results for an untested asset. The checklists and calculations are planning tools; they are not measured savings.

[1] Cold Jet, Dry Ice Cleaning Equipment for Plastic & Rubber Molds

[2] NIOSH, Pocket Guide to Chemical Hazards: Carbon dioxide

[3] OSHA, 29 CFR 1910.147: The control of hazardous energy

[4] OSHA, 29 CFR 1910.95: Occupational noise exposure

[5] OSHA, Abrasive Blasting Hazards in Shipyard Employment

Next step Request a project review. Send equipment photos, the deposit, ZIP code and maintenance window. You can also email support@precisiondryicecleaning.com or call **917-695-9595**.