



DEPARTMENT OF
ECOLOGY
State of Washington

Small Business Economic Impact Analysis Industrial Stormwater General Permit

*National Pollutant Discharge Elimination
System (NPDES)*

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**Small Business Economic Impact Analysis
Industrial Stormwater General Permit**

*National Pollutant Discharge Elimination
System (NPDES)*

by

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for the

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List of Acronyms

APHA	Standard Methods for the Examination of Water and Wastewater
AKART	Available and Reasonable methods of prevention, control and treatment
BMPs	Best Management Practices
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstract Service
CFR	Code of Federal Regulations
COD	Chemical Oxygen Demand
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
MDL	Method Detection Limit
MSGP	Multi-Sector General Permit
NAICS	North American Industry Classification System
NPDES	National Pollutant Discharge Elimination System
PAH	Polycyclic Aromatic Hydrocarbon
PQL	Practical Quantitation Level
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
SBEIA	Small Business Economic Impact Analysis
SWMM	Stormwater Management Manuals
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSD	Treatment, Storage, and Disposal
TSS	Total Suspended Solids
WAC	Washington Administrative Code

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Executive Summary

This Small Business Economic Impact Analysis (SBEIA) estimates the costs of complying with the Industrial Stormwater General Permit (“permit”). It compares the costs of complying with the permit for small businesses to the costs of compliance for the largest ten percent of businesses, to determine whether the permit disproportionately impacts small businesses. This analysis is required by state rule in Washington Administrative Code (WAC) 173-226-120, which directs Ecology to determine if the permit imposes disproportionate burden on small businesses, and if it does, to mitigate the disproportion to the extent that is legal and feasible.

WAC 173-226-120 requires the SBEIA to include:

- A brief description of the compliance requirements of the general permit.
- The estimated costs of complying with the permit, based on existing data for facilities intended to be covered under the general permit.
- A comparison, to the greatest extent possible, of the cost of compliance for small businesses with the cost of compliance for the largest ten percent of businesses intended to be covered under the permit.
- A summary of how the permit provides mitigation to reduce the effect on small businesses (if a disproportionate impact is expected), without compromising the mandated intent of the permit.

For the purposes of the SBEIA, a small business is an independent entity with 50 or fewer employees organized for the purpose of making a profit. Employment is typically based on the highest available level of ownership data. Not-for-profit and government enterprises are excluded.

The Industrial Stormwater General Permit regulates stormwater discharges from industrial facilities to surface water bodies.

Ecology requires industrial facilities that conduct activities under specific North American Industry Classification System (NAICS) codes to apply for a permit if they discharge stormwater from their industrial areas to storm drains or directly to surface waters. This activity does not have to be the primary activity for a facility; it only has to be part of a facility’s activities.

Costs associated with permit requirements include costs of complying with:

- Sampling and monitoring
- Laboratory analysis
- Visual inspections
- Record retention

Annual compliance costs for facilities permitted under the Industrial Stormwater General Permit vary by type of monitoring required.

Table i: Total compliance costs for industrial stormwater permit holders by monitoring type

Monitoring Type	Small Facilities Low	Small Facilities High	Large Facilities Low	Large Facilities High
Timber Products etc.	\$534	\$966	\$1,047	\$1,955
Mining	\$564	\$996	\$1,107	\$2,015
Air Transportation	\$589	\$1,021	\$1,157	\$2,065
Chemicals and food	\$594	\$1,026	\$1,167	\$2,075
Primary metals etc.	\$579	\$1,011	\$1,137	\$2,045
TSDs	\$849	\$1,281	\$1,677	\$2,585
Marine Industrial Construction	\$854	\$1,286	\$1,687	\$2,595

The cost per-employee falls as firm size increases. Ecology concluded, based on this result, that the general permit has a disproportionate impact on small businesses.

The governing rule states the following options should be considered to reduce the impact of the permit on small businesses.

- Establishing differing compliance or reporting requirements or timetables for small businesses.
- Clarifying, consolidating, or simplifying the compliance and reporting requirements under the general permit for small businesses.
- Establishing performance rather than design standards.
- Exempting small businesses from parts of the general permit.

Ecology has taken the following actions to mitigate the costs to comply with the permit and still achieve the best environmental protection. These actions were developed during the drafting of the permit, based on input from permittees.

The permit:

- Allows “substantially identical” discharge points to be excluded from sampling.
- Streamlines requirements.
- Allows the reduction of quarterly benchmark sampling, based on consistent attainment of benchmarks (eight consecutive quarters).
- Allows the use of alternative lab analysis methods.

Chapter 1: Introduction to the Economic Impact Analysis

This Small Business Economic Impact Analysis (SBEIA) estimates the costs of complying with the Industrial Stormwater General Permit (“permit”). It compares the costs of complying with the permit for small businesses to the costs of compliance for the largest ten percent of businesses, to determine whether the permit disproportionately impacts small businesses. This analysis is required by state rule in Washington Administrative Code (WAC) 173-226-120, which directs Ecology to determine if the permit imposes disproportionate burden on small businesses, and if it does, to mitigate the disproportion to the extent that is legal and feasible.

1.1 Scope

WAC 173-226-120 requires the SBEIA to include:

- A brief description of the compliance requirements of the general permit.
- The estimated costs of complying with the permit, based on existing data for facilities intended to be covered under the general permit, including:
 - The minimum technology based treatment requirements identified as necessary under WAC 173-226-070.
 - The monitoring requirements contained in the general permit.
 - The reporting and recordkeeping requirements.
 - Plan submittal requirements.
 - Equipment.
 - Supplies.
 - Labor.
 - Increased administrative costs.
- A comparison, to the greatest extent possible, of the cost of compliance for small businesses with the cost of compliance for the largest ten percent of businesses intended to be covered under the permit.
- A summary of how the permit provides mitigation to reduce the effect on small businesses (if a disproportionate impact is expected), without compromising the mandated intent of the permit.

1.2 Definitions of small and large businesses

For the purposes of the SBEIA, a small business is an independent entity with 50 or fewer employees organized for the purpose of making a profit. Employment is typically based on the highest available level of ownership data. Not-for-profit and government enterprises are excluded.

1.3 Permit Coverage

1.3.1 Permit Overview

The Industrial Stormwater General Permit regulates stormwater discharges from industrial facilities to surface water bodies.

Ecology requires industrial facilities that conduct activities under specific North American Industry Classification System (NAICS) codes to apply for a permit if they discharge stormwater from their industrial areas to storm drains or directly to surface waters. This activity does not have to be the primary activity for a facility; it only has to be part of a facility's activities.

The following NAICS code groups are required to obtain permit coverage.

Table 1: Impacted industries

<i>Impacted Industries NAICS Codes (x indicates each number from 0-9 is included.)</i>						
2111	2121	2122x	2123	22132	311x	312x
313x	314x	315x	316x	321x	322x	323x
324x	325x	326x	327x	331x	332x	333x
334x	335x	336x	337x	339x	42314	42393
4247	481x	482x	483x	484x	485x	487110
487210	487990	4883	488490	491x	493x	5111x
531130	53241	562x	ECY003 ¹	-	-	-

Ecology does not require facilities to get a permit if they retain all the stormwater on site (e.g., infiltrate into the ground, or discharge to sanitary sewer) unless they are determined to be a Significant Contributor of Pollutants. If the facility has no potential to expose stormwater to pollutants, that facility may apply for a Conditional No Exposure Certificate so they are exempt from the general permit.

This statewide permit currently provides coverage for about 1,200 industrial facilities that discharge stormwater to waters of the state.

¹ The ECY003 code category applies only to a small subset of permittees included under NAICS code 237990. The ECY003 code is being used to pull into coverage only those permittees who are engaged in Marine Construction. Utilizing an Ecology Only code instead of the NAICS code allows excluding some activities from coverage. The inclusion of this category only applies to their storage and maintenance yards, not to the construction activity itself.

1.3.2 Stormwater Pollution Prevention Plan

All permit holders and applicants for coverage under this permit are required to develop a Stormwater Pollution Prevention Plan (SWPPP) for the permitted facility. The SWPPP must contain:

- A site map.
- A detailed assessment of the facility.
- A detailed description of the best management practices (BMPs) necessary to:
 - Provide all known, available and reasonable methods of prevention, control and treatment (AKART).
 - Comply with state water quality standards and applicable federal technology-based treatment requirements under 40 CFR 125.3.
- A sampling plan.

The SWPPP must also have proper selection and use of BMPs from approved stormwater management manuals (SWMM).

1.3.3 Sampling and testing

The general permit requires all facilities to sample the stormwater discharge from designated locations at least once per quarter (four times a year) as outlined in the SWPPP. Permittees must sample each distinct point of *discharge* off-site except those determined to be “substantially identical” to a discharge point being sampled. Substantially Identical Outfall means an outfall that shares the following characteristics with other outfall:

1. The same general industrial activities conducted in the drainage area of the *discharge* point.
2. The same *BMPs* conducted in the drainage area of the outfall.
3. The same type of exposed materials located in the *discharge* point that are likely to be significant contributors of *pollutants to stormwater discharges*.
4. The same type of impervious surfaces in the drainage area that could affect the percolation of *stormwater runoff* into the ground (e.g., asphalt, crushed rock, grass.).

Each sample must be visually monitored for oil sheen and tested using the following four parameters:

1. Turbidity
2. pH
3. Zinc, Total
4. Copper, Total

Facilities must also ensure the analytical methods they use, to meet the sampling requirements, conform to the latest versions of the:

- Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136.
- Standard Methods for the Examination of Water and Wastewater (APHA).

However, if an alternative method from *40 CFR* Part 136 is sufficient to produce measurable results from the sample, the facility may use that method for analysis.

For each stormwater sample taken, facilities must record the following in the site log:

- Sample date, time, and location.
- Method of sampling and method of sample preservation.
- Name of person who performed the sampling.

Facilities must also keep laboratory reports in the site log. All laboratory reports must include the following information:

- Date of analysis
- Parameter name
- CAS number
- Analytical method(s)
- Name of person who performed the analysis
- Method detection limit (MDL)
- Quality assurance/quality control data
- Sample result
- Reporting units
- Laboratory practical quantitation level (PQL) achieved by the laboratory

1.3.4 Additional testing requirements

A variety of industrial groups are required to test for other pollutants that are likely to be present in their discharge. The costs for an industry within each group are analyzed in Chapter 2. Table 2 lists the additional required tests for the selected industry.

Table 2: Industry groups required to conduct additional testing

Industrial Group	Types of Pollutant
Chemical and Allied Products, Food and Kindred Products	Five-day biochemical oxygen demand (BOD ₅) Nitrate + Nitrite Nitrogen, as N* Phosphorus, Total*
Primary Metals, Metals Mining, Automobile Salvage and Scrap Recycling Metals Fabricating, Machinery Manufacturing	Lead, Total Petroleum Hydrocarbons (Diesel Fraction)
Hazardous Waste Treatment, Storage and Disposal Facilities and Dangerous Waste Recyclers subject to the provisions of Resource Conservation and Recovery Act (RCRA) Subtitle C	Chemical Oxygen Demand (COD)* Total Ammonia (as N)* Total Suspended Solids (TSS)* Arsenic, Total* Cadmium, Total* Cyanide, Total* Lead, Total* Magnesium, Total Mercury, Total* Selenium, Total* Silver, Total* Petroleum Hydrocarbons (Diesel Fraction)
Air Transportation	Total Ammonia (as N)* BOD ₅ * COD*

Industrial Group	Types of Pollutant
	Nitrate + Nitrite Nitrogen, as N Petroleum Hydrocarbons (Diesel Fraction) COD*
Timber Product Industry, Paper and Allied Products, Wood Product Manufacturing	TSS*
Transportation, Petroleum Bulk Stations and Terminals, Transportation Equipment Manufacturing, Construction, Transportation, Mining, and Forestry Machinery and Equipment Rental and Leasing	Petroleum Hydrocarbons (Diesel Fraction)
Coal Mining, Oil and Gas Extraction, Nonmetallic Mining and Quarrying, except Fuels, Petroleum and Coal Products Manufacturing, Nonmetallic Mineral Product Manufacturing, Steam Electric Power Generation	TSS* Petroleum Hydrocarbons (Diesel Fraction)
Marine Industrial Construction (ECY003) ²	Arsenic* PAH compounds p-cresol Phenol TSS* Petroleum Hydrocarbons (Diesel Fraction)
* These pollutants are also required to be analyzed in EPAs Multi-Sector General Permit for Stormwater Discharges associated with Industrial Activities and therefore they are not analyzed as costs in this analysis. If the pollutant is not required by all sectors in the MSGP then, to be conservative, it is analyzed here.	

² The ECY003 code category applies to a small subset of permittees included under NAICS code 237990. Ecology is using the ECY003 code to pull into coverage only those permittees who are engaged in Marine Construction. The inclusion of this category only applies to their storage and maintenance yards, not to the construction activity itself.

1.3.5 Visual inspections

Facilities must conduct visual inspections of the site each month and document these inspections in the SWPPP. Each inspection must consist of:

- Observations made at sampling locations and areas where stormwater is discharged.
- Observations for the presence of floating materials, visible sheen, discoloration, etc., in the stormwater discharge.
- Observation for the presence of illicit discharges.
- Verification of the descriptions for potential pollutant source required under this permit are accurate.
- Verification the site map in the SWPPP reflects current conditions.
- Assessment of all BMPs that have been implemented.

1.3.6 Corrective actions

Facilities that exceed benchmarks are required to follow the corrective action process outlined in the permit. The level of corrective action depends on the number of benchmarks exceeded. Please refer to Special Conditions-8 of the permit for details.

1.3.7 Reporting and recordkeeping

The general permit sets reporting and recordkeeping requirements for all facilities.

Reporting

Facilities must use Discharge Monitoring Report (DMR) forms to report the sampling data they collect each reporting period. The reporting periods and subsequent due dates for receipt of DMRs by Ecology are as follows:

Table 3: Reporting dates and DMR due date

Reporting Period	Months	DMR Due Date
1	January - March	May 15
2	April – June	August 15
3	July – September	November 15
4	October - December	February 15

Records retention

Facilities must retain the following records on site for a minimum of five years:

- A copy of the permit.

- A copy of the permit coverage letter.
- Records of all sampling information.
- Inspection reports.
- Any other documentation of compliance with permit requirements.
- All equipment calibration records.
- All BMP maintenance records.
- All original recordings for continuous sampling instrumentation.
- Copies of all laboratory reports.
- Copies of all reports required by this permit.
- Records of all data used to complete the application for the permit.
- Any records that can substantiate compliance with the permit.

1.4 Excluded costs

This SBEIA does not include the costs of complying with existing laws and rules, as permittees would be required to comply with requirements regardless of whether the permit reiterated or referenced them, or if the permit did not exist. Costs excluded from all SBEIAs include the costs of complying with:

- Water Quality Standards for Groundwaters of the State of Washington (WAC 173-200).
- Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A).
- Sediment Management Standards (WAC 173-204).
- Water Quality Permit Fees (WAC 173-224).
- Federal laws and rules, including but not limited to the Clean Water Act and federal National Pollutant Discharge Elimination System (NPDES) regulations if discharging to surface waters.

1.5 Compliance costs included in the SBEIA

The following table summarizes the permit requirements, with the last column indicating whether Ecology is required to consider the costs associated with the respective section in the current analysis.

Table 4: Compliance costs included in the SBEIA

Requirement	Condition Number	Basis of Requirement	Required to be in SBEIA
Submittal of application for coverage	S2.A	Federal	No

Requirement	Condition Number	Basis of Requirement	Required to be in SBEIA
Development of SWPPP	S3	Federal	No
General sampling requirements (federal)	S4	Federal (once/year)	No
General sampling requirements (state)	S4	State (quarterly)	Yes, three extra samples
Specific sampling parameters: Core parameters	S5.A	State	Yes
Specific sampling parameters: Industry-specific parameters	S5.B	Federal and State ³	Yes
Specific sampling parameters: Industries with effluent limits	S5.C	Federal	No
Sampling discharges to impaired waters: Discharges to 303(d)-listed waters	S6	State ⁴	No
Sampling discharges to impaired waters: Discharges to waters with TMDLs	S6	State ⁵	No

³ Some of the specific sampling requirements are in the Federal Multi-Sector General Permit (MSGP) and therefore they will not be analyzed. However, any sampling requirements not in the MSGP will be analyzed. See Table 2.

⁴ MSGP largely defers to the appropriate state authority. Sampling requirements in Ecology's permit are primarily a state requirement. However, since the benchmarks are based on the acute water quality criterion in WAC 173-201A, the economic analysis does not consider these sampling costs, as they are part of the baseline.

⁵ MSGP largely defers to the appropriate state authority. Sampling requirements in Ecology's permit are primarily a state requirement. However, since the benchmarks are based on the acute water quality criterion in WAC 173-201A, the economic analysis is not allowed to consider these sampling costs.

Requirement	Condition Number	Basis of Requirement	Required to be in SBEIA
Sampling discharges to impaired waters: Inspections (federal)	S7	Federal (quarterly)	No
Sampling discharges to impaired waters: Inspections (state)	S7	State (monthly)	Yes, eight extra inspections
Sampling discharges to impaired waters: Corrective Actions	S8	State ⁶	No
Reporting and Recordkeeping: Reporting DMRs	S9.A	Federal	No
Reporting and Recordkeeping: Records Retention (federal)	S9.B	Federal (three years)	No
Reporting and Recordkeeping: Records Retention (state)	S9.B	State (all five years)	Yes, two extra years
Reporting and Recordkeeping: Non-Compliance	S9.D	Federal	No

⁶ MSGP does not require eventual compliance with all benchmarks and therefore the corrective action and adaptive management set in this permit are primarily a state requirement. However, these requirements involve simply potentially meeting the benchmarks in some other manner and are necessary to comply with WAC 173-201A (Water Quality Standards for Surface Waters of the State of Washington.). Therefore, they are exempt from the economic analysis.

Chapter 2: Costs of Compliance with the General Permit

Compliance costs are dependent on size of the facility. In this chapter, Ecology estimated ranges of costs for most requirements—a low cost and a high cost. The low cost estimate is for small facilities and the high cost estimate is for large facilities. Some requirements have the same cost for any size of facility or business.

Most of the major assumptions used in making the compliance cost estimates are presented in this chapter. In general, we assume that large facilities will have twice as many samples and requirements will take twice as long to complete. In addition, assumptions used in making estimates of capital costs are included. Capital costs are annualized to compare them to services facilities provide annually.

It is necessary to annualize costs because some costs are annual (incurred every year), while other costs are capital costs (incurred once). For example, equipment for pH testing is a one-time capital cost, while monitoring is an annual cost that must be incurred every year.

2.1 Compliance costs

Costs associated with permit requirements include costs of complying with:

- Sampling and monitoring
- Laboratory analysis
- Visual inspections
- Record retention

2.1.1 Sampling and Monitoring

All facilities must sample and monitor their discharges four times a year. Based on previous experience, Water Quality Program staff estimate the time needed for facility staff to carry out each of the major tasks required by the permit, divided into time of professional or supervisory personnel and time of other employees.

The Bureau of Labor Statistics⁷ identified labor costs of \$60.01 per hour for professional or supervisory personnel and \$24.44 per hour for employees. These costs are averaged across all types of occupations within those categories due to the wide variety of types of industry facilities covered by the permit. The calculations in Table 5 use these wages. For activities associated with monitoring (such as sample collection, record keeping, reporting), large facilities are assumed to require twice as much labor as small facilities, to reflect greater sampling activity.

⁷ http://www.bls.gov/oes/current/oes_wa.htm on March 15, 2019 for occupations 11-1021 and 47-3019.

Table 5: Labor costs for sampling and monitoring small and large facilities

Requirement Type	Small Facilities Prof/Sup	Small Facilities Staff	Large Facilities Prof/Sup	Large Facilities Staff
Sampling	1 – 2 hr	6 – 12 hr	2 – 4 hr	12 – 24 hr
Training	0 – 2 hr	0 hr	0 – 4 hr	0 hr
Recordkeeping	0 hr	2 – 4 hr	0 hr	4 – 8 hr
Total Time	1 – 4 hr	8 – 16 hr	2 – 8 hr	16 – 32 hr
Cost	\$60 - \$240	\$196 - \$391	\$120- \$480	\$391 - \$782
Total Annual Labor Cost	\$256 - \$631		\$511 - \$1,362	

2.1.2 Laboratory Analysis

The permit also requires samples to be sent to an accredited laboratory for analysis. Ecology surveyed the three primary labs used by Treatment, Storage, and Disposal (TSD) facilities regarding their fees for various water quality parameters.⁸ This provided average fee levels for each of the monitoring parameters required by the stormwater general permit.

It is assumed that small facilities will have 1 sample analyzed for each parameter, while large facilities will have 2 samples analyzed for each parameter, to reflect the probability that sampling in more than one location would be necessary to capture the impact of a large installation. These lab fees only include the cost for analyzing parameters that are not required in the Federal Multi-Sector General Permit.

When the initial list of industry-specific monitoring requirements is narrowed to those requirements contained in the current analysis, some groups can be combined. This results in six broad types of testing groups among permittees, each with a different set of required tests. Each set has its own costs. Table 6 lists the fees associated with each set of tests.

Table 6: Annual laboratory fees for small and large businesses

Monitoring Type	Business Type (Small)	Business Type (Large)
Timber Products etc.	\$ 116	\$ 232
Mining	\$ 146	\$ 292

⁸ Personal communication between Shon Kraley and Als Global, Edge Analytical, and Fremont Analytical, April 2019.

Monitoring Type	Business Type (Small)	Business Type (Large)
Air Transportation	\$ 171	\$ 342
Chemicals and food	\$ 176	\$ 352
Primary metals etc.	\$ 161	\$ 322
TSDs	\$ 431	\$ 862
Marine Industrial Construction	\$ 436	\$ 872

Through discussion with Ecology’s Lab Accreditation Program and environmental laboratories the necessary equipment requirements for on-site pH testing was determined.⁹ For a sample to be valid, pH testing needs to be done immediately after a sample is drawn. Ecology annualized values for long-term equipment purchase based on a 3 percent real rate of interest and a 5-year period of use.

A suitable pH meter and probe was assumed to cost \$256, with annual replacement parts costs of \$64.¹⁰ For the low cost estimate, facilities were assumed to already own the equipment, leaving only the annual purchase of replacement parts. Large facilities were assumed to have twice the replacements parts costs, to reflect increased sampling. There are no lab fees for pH analysis because pH testing is done on site.

Table 7: Annual equipment costs for pH testing by facility size

Costs	Small Facility	Large Facility
Initial Cost, Annualized	\$0 - \$57	\$0 - \$57
Annual Replacement Cost	\$64 - \$64	\$128 - \$128
Total Annual Cost	\$64 - \$121	\$128 - \$185

2.1.3 Visual inspections

Facilities are required to visually inspect their site each month and document the inspection in the SWPPP. The Federal Multi-Sector General Permit (MSGP) requires only quarterly inspections, so Ecology estimated the cost for the additional 8 inspections. Ecology assumes visual inspection will take a small facilities .5 hours and large facilities 1 hour. Ecology assumes a staff wage of \$24.44 per hour.¹¹

⁹ Personal communication between Shon Kraley and Rebecca Wood, April 2019.

¹⁰ Equipment meeting the minimum requirements was found to cost from \$256 - \$788. The lower cost was used as it meets all of the necessary requirements.

¹¹ http://www.bls.gov/oes/current/oes_wa.htm on March 15, 2019 for occupation 47-3019

Table 8: Inspection costs for small businesses

Method	Hours	Frequency	Duration	Annual Cost
Visual Inspection	.5 hr	1/month	8 month	\$98

Table 9: Inspection costs for large businesses

Method	Hours	Frequency	Duration	Annual Cost
Visual Inspection	1 hr	1/month	8 month	\$176

2.1.4 Record retention

Facilities must retain records on site for a minimum of five years. The cost of complying with this provision is the cost of storing records. This cost is likely very low or close to zero.

2.2 Total annual compliance costs

This section presents the total annual costs of compliance for facilities under the Industrial Stormwater General Permit.

Table 10: Total compliance costs for industrial stormwater permit holders by monitoring type

Monitoring Type	Small Facilities Low	Small Facilities High	Large Facilities Low	Large Facilities High
Timber Products etc.	\$534	\$966	\$1,047	\$1,955
Mining	\$564	\$996	\$1,107	\$2,015
Air Transportation	\$589	\$1,021	\$1,157	\$2,065
Chemicals and food	\$594	\$1,026	\$1,167	\$2,075
Primary metals etc.	\$579	\$1,011	\$1,137	\$2,045
TSDs	\$849	\$1,281	\$1,677	\$2,585
Marine Industrial Construction	\$854	\$1,286	\$1,687	\$2,595

Chapter 3: Relative Compliance Costs for Small and Large Businesses

This chapter compares the costs of compliance for small businesses to the compliance cost for the largest ten percent of businesses covered by the permit. The governing rule (WAC 173-226-120) allows for this comparison to be made on one of the following bases:

- Cost per employee
- Cost per hour of labor
- Cost per one hundred dollars of sales

In this chapter we use cost per employee because this data is readily and comprehensively available for businesses operating in Washington State.

3.1 Analysis of facilities intended to be covered under the general permit

For the purposes of the current analysis, the permit involves six different levels of monitoring for different industry sectors. One of these sectors, TSD facilities, has at least nine companies in the state and a different list of tests for monitoring, so we analyzed them separately.¹²

The other sectors are large with a wide variety of company types, so we analyzed a representative sector in each of these five groups. The criteria for “representative” are below:

1. The sector must have a mix of large and small businesses in Washington.
2. The sector should be as highly represented as possible among holders of the stormwater general permit.

The sectors analyzed for each monitoring type appear in table 11.

Table 11: Representative sector for each monitoring type

Monitoring Type	Representative Sector	NAICS
Timber Products etc.	Sawmills	321113
Mining	Petroleum and Coal Products Manufacturing	3241
Air Transportation	Support activities for air transportation	4881
Chemicals and food	Seafood product preparation and packaging	31171
Primary metals etc.	Scrap and Waste Material	42393

¹² The economic data for this subset was drawn from a larger group.

Monitoring Type	Representative Sector	NAICS
TSDs	Hazardous Waste: Treatment, Storage & Disposal	562211 562112
Marine Industrial Construction	Other Heavy and Civil Engineering Construction	23799

3.2 Business size data

Table 12 lists the average number of employees for the small businesses (less than 50 employees) and the largest 10% of industries in each of the representative industries.¹³

Table 12: Average number of employees for small and large businesses by sector

Sector	NAICS	Average number of employees for small businesses	Average number of employees for large businesses
Sawmills and Planing Mills, General	321113	7.6	333.3
Petroleum and Coal Products Manufacturing	3241	8.6	150.0
Airports, Flying Fields & Airport Terminal Services	4881	4.6	181.2
Prepared Fresh or Frozen Fish and Seafood	31171	9.7	185.2
Scrap and Waste Materials, Metals	423930	7.4	185.0
Hazardous Waste: Treatment Storage Disposal	562211 562112	5.7	143.6
Other Heavy and Civil Engineering Construction	23799	4.4	50.0

¹³ Employment data for potentially impacted entities comes from Ecology's third-party database of employers with locations in Washington State.

3.2 Relative costs of compliance

To determine whether the impacts of the permit are proportional for small businesses, the per-employee costs for small and large firms must be compared. This is done using the total cost estimates shown in Table 10 and the average firm size for small and large firms by sector shown in Table 12. The cost estimates in Table 10 are based on facility size, not business size. When comparing facility size and business size, there are three possible scenarios:

1. Large businesses have larger facilities than small businesses;
2. Large and small businesses have the same facility sizes; and
3. Large businesses have smaller facilities than small businesses.

Table 13 shows these estimates under the scenario 1.

Table 13: Per-employee cost estimates for small and large businesses by sector

Sector	Small business low cost estimate	Small business high cost estimate	Large business low cost estimate	Large business high cost estimate
Sawmills and Planning Mills, General	\$70.26	\$127.11	\$3.14	\$5.87
Petroleum and Coal Products Manufacturing	\$65.58	\$115.81	\$7.38	\$13.43
Airports, Flying Fields, and Airport Terminal Services	\$128.04	\$221.96	\$6.39	\$11.40
Prepared Fresh or Frozen Fish and Seafood	\$61.24	\$105.77	\$6.30	\$11.20
Scrap and Waste Material	\$78.24	\$136.62	\$6.15	\$11.05
Hazardous Waste: Treatment, Storage & Disposal	\$148.95	\$224.74	\$11.68	\$18.00
Other Heavy and Civil Engineering Construction	\$194.09	\$292.27	\$33.74	\$51.90

The cost per-employee falls as firm size increases under this scenario. Scenarios 2 and 3 would decrease the costs for large businesses relative to small businesses, acting to increase the disproportionality. Ecology concluded, based on this result, that the general permit has a disproportionate impact on small businesses.

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Chapter 4: Mitigation of Disproportionate Impacts

The general permit likely imposes disproportionate costs on small businesses, so Ecology took the legal and feasible actions described in this chapter to reduce the small business compliance burden.

4.1 Mitigation options under WAC 173-226-120

The governing rule states the following options should be considered to reduce the impact of the permit on small businesses.

- Establishing differing compliance or reporting requirements or timetables for small businesses.
- Clarifying, consolidating, or simplifying the compliance and reporting requirements under the general permit for small businesses.
- Establishing performance rather than design standards.
- Exempting small businesses from parts of the general permit.

4.2 Mitigation actions

Ecology has taken the following actions to mitigate the costs to comply with the permit and still achieve the best environmental protection. These actions were developed during the drafting of the permit, based on input from permittees.

The permit:

- Allows “substantially identical” discharge points to be excluded from sampling.
- Streamlines requirements.
- Allows the reduction of quarterly benchmark sampling, based on consistent attainment of benchmarks (eight consecutive quarters).
- Allows the use of alternative lab analysis methods.

Mitigation measures must comply with state and federal laws and rules. Because of this, Ecology’s ability to reduce compliance costs on small businesses is limited. We can only mitigate costs imposed by permit conditions that are stricter than those required by the laws and rules listed in Section 1.4. For the most part, the permit contains conditions that all businesses need to comply with based on these laws, so we can only offer minor mitigation measures and the cost reductions that result are usually small.

The general permit rule requiring an economic impact analysis (WAC 173-226-120) states that mitigation only needs to be undertaken when it is legal and feasible in meeting the stated objectives of the federal Clean Water Act, and Chapter 90.48 RCW, the State Water Pollution Act. This provision is an important restriction. If a proposed mitigation measure violates federal or state laws or rules then it cannot be undertaken.

The conditions of the general permit based on federal rules are requirements of federal law. Significant mitigation of these conditions would be a violation of federal National Pollutant Discharge Elimination System (NPDES) program rules, which establish effluent standards. Because these conditions are a consequence of federal law, they cannot be mitigated, and the compliance costs associated with them cannot be reduced. The general permit must contain effluent limits that are at least as strict as federal effluent standards, to mitigate their impact on small businesses.

Conditions required to meet the AKART requirement of the state Water Pollution Control Act (Chapter 90.48 RCW) are also legal requirements that Ecology cannot allow permit holders to violate. Thus, compliance costs based on the AKART requirement also cannot be mitigated.

Ecology also places conditions in general permits to ensure discharges do not violate the state surface water quality, ground water quality, or sediment management standards (173-200, 173-201, 173-204, 173-224 WAC). These conditions are legal requirements that Ecology cannot allow permit holders to violate. Compliance costs associated with these permit conditions cannot be mitigated.

4.2.1 Impact of mitigation on effectiveness of general permit

The general permit rule states mitigation only needs to be undertaken when it is legal and feasible in meeting the stated objectives of the Clean Water Act and Chapter 90.48 RCW, the State Water Pollution Control Act. Even if a proposed mitigation measure is legal, if it would limit the general permit's effectiveness in controlling water pollution too much, it should not be undertaken.

Ecology has reduced the cost of the permit where possible. Reducing costs does not remove the disproportionate impact. The size of the facilities' impermeable surface, nature of the industrial activity, and installation and maintenance of best management practices determines the quantity and quality of the stormwater discharge. Given this, there is no reason to believe small businesses will have a small stormwater impact simply because they have fewer employees. Therefore, there is no basis that would allow Ecology to be more lenient on small businesses without an unreasonable risk of violating federal or state water quality laws and rules.

All facilities discharging pollutants to receiving water require a permit. If Ecology issues a general permit that allows facilities to harm the quality of the water receiving the discharge then Ecology would be in violation of state and federal law. Ecology hopes the benchmarks coupled with the adaptive management strategy in the general permit will allow dischargers to meet water quality standards without excessive costs. Nonetheless, the elements in the following section can potentially reduce the cost of the permit. Most of the mitigation presented is not only for small businesses, but applies to all facilities and therefore will benefit small businesses as well.

Reduced Sampling

The permit allows "substantially identical" discharge points to be excluded from sampling, which is intended to reduce sampling costs. The permit also allows the reduction of quarterly benchmark sampling, based on consistent attainment of benchmarks (eight consecutive quarters).

Streamlining

The permit has been modified in several ways to ease the burden on permittees through streamlining. For example, the permit requires annual reports to begin the year following permit coverage. Also, DMRs are not required until the first full quarter following permit coverage.

Allowance of alternative lab analysis methods

The permit allows for the use of alternative lab analysis methods. This allows permittees to use alternative methods if they so choose, for example, when it is less expensive.

References

RCW 34.05.272 requires Ecology to categorize sources of information used in significant agency actions made in the Water Quality Program.

Independent peer review: Review is overseen by an independent third party.

Internal peer review: Review by staff internal to Ecology.

External peer review: Review by persons that are external to and selected by Ecology.

Open review: Documented open public review process that is not limited to invited organizations or individuals.

Legal and policy documents: Documents related to the legal framework for the significant agency action, including but not limited to: federal and state statutes, court and hearings board decisions, federal and state administrative rules and regulations, and policy and regulatory documents adopted by local governments.

Data from primary research, monitoring activities, or other sources, but that has not been incorporated as part of documents reviewed under independent, internal, or external peer review.

Employment data by impacted industry taken from Remi database.

Records of the best professional judgment of Ecology employees or other individuals.

Personal communication between Shon Kraley and Rebecca Wood, April 2019 on necessary equipment to conduct on-site pH monitoring.

Personal communication between Shon Kraley and Als Global, Edge Analytical, and Fremont Analytical, April 2019 on cost of laboratory testing of stormwater samples for various substances.

Other: Sources of information that do not fit into other categories.

United States Bureau of Labor Statistics (2019) http://www.bls.gov/oes/current/oes_wa.htm