

US EPA ARCHIVE DOCUMENT

Appendix E

List of Environmental Business Practice Indicators and Detailed Statistical Analysis

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List of Environmental Business Practice Indicators

The following is the list of Environmental Business Practice Indicators, or EBPIs, that were proposed to be measured in this project. Where possible, the measures are compared to the outcomes listed in the Logic Model by their number: ST=short term, I=intermediate, LT=long term. The Logic Model proposed for this project can be found in Appendix A. From the original list, some measures the SBEAPs agreed we would not attempt are in ~~strikeout~~ text in the list below while others we modified or added are in **bold**. Among the long-term outcomes identified, project staff were uncertain whether the data collection within just two to three years was sufficient to show progress. Other outcomes in the Logic Model not identified here are considered side benefits to the project that cannot be directly measured through the ERP format.

The outcomes under Impact Changes are probably the hardest to measure, and depend on the ability to capture accurate information about emissions/waste generation, etc. We proposed use of a couple tools that might help us measure (DfE's Emissions Reductions Calculator for the Auto Refinishing Industry (May 2008) and the Motor Vehicle and Mobile Refinishing NESHAP baseline emissions and emissions reduction estimates prepared during rule development); however we decided those both had issues and ultimately settled on capturing both the quantity of paint used and the 'average paint hours'. This allowed us to calculate "paint used per hour" which better indicates whether actual paint use per shop changed, or just that the mix of the size [and/or quantity of business] of the shops changed between rounds.

For comparison purposes, each indicator is identified by the actual question in the checklist related to measuring the performance of that practice.

EBPIs	Related Question(s) in Checklist
Practices Associated with subpart 6H (ST-1, I-1)	
• % using HVLP or equivalent high transfer efficiency technology (I-2)	I6
• % with high transfer efficiency painting training in place (I-3)	B2a
• % with different components of training (I-3)	B2b
• % using hands-on or classroom-only training (I-3)	B2b
• % with documentation of training	B2c
• % at which all spray-applied coatings used in enclosed booth or prep station	C3, I1, I3
• % of booths/stations fitted with particle filters (I-2)	C4b, I2, I4
• % of booths/stations fitted with filter/system achieving 98% capture (I-2)	C4c&d
• % where spray gun cleaning is done with enclosed or non-atomizing washers	C5, I7
• % maintaining MSDS or formulation records for all solvents/coatings use	C9
• % maintaining records of the amount/content of coatings containing Cr, Pb, Cd, Ni, Mn	C10
• % NOT using paint strippers containing Methylene Chloride (I-4, I-5)	C6, I8
• % keeping records to document annual MeCl usage	C7
• Average and range of MeCL used (I-4, I-5)	C7b
• % of MeCL users with written MeCl minimization plan	C8
• % maintaining records of the amount/content of coatings containing VOC and HAP	A6

EBPIs	Related Question(s) in Checklist
Other Practices	
AIR PRACTICES	
• Average throughput (vehicles painted) per year (I-5) [replaced with measure of "paint hours per year" to control for operational variability of paint use by calculating paint use per month divided by paint hours per month]	A7
• Average quantity and range of coatings used (and HAP content) (I-4, I-5)	A6
• % using dustless vacuum or overhead capture equipment (I-8)	F
• % keeping shop doors closed to avoid releasing sanding dust (I-8)	
• % meeting applicable state requirements (ST-2)	
AIR RECORD KEEPING:	
• Average and range of VOC and HAP content (% by weight) (I-4, I-5)	
• Average and range of listed metals content (% by weight) (I-4, I-5)	
• [replaced with "Average use of high VOC and low VOC coatings and solvents per year"]	A6
HAZARDOUS WASTE (I-8)	
• Average and range of maximum amount of RCRA waste the facility generates in a month	D3
• Numbers of facilities in generator classes (CESQG or VSQG, SQG, LQG or not)	D3
INDUSTRIAL WASTERWATER INDICATORS (I-8)	
• % of facilities <u>not</u> discharging IWW to surface water	E2
• % of facilities <u>not</u> discharging IWW to a storm, sanitary or combined sewer system	E2
POLLUTION PREVENTION-ENERGY EFFICIENCY INDICATORS (I-8)	
• % of facilities taking one or more actions to conserve water the past three years (distribution across menu of possible actions)	
• % of facilities taking one or more actions to conserve energy over the past three years (distribution across menu of possible actions)	G1
• % of facilities taking one or more actions to reduce toxics pollution (VOC, PM and toxics) the past three years (distribution across menu of possible actions)	F1

OTHER OUTCOMES (from the States ERP Consortium's Core Measures)

The States ERP Consortium developed a "Template for Reporting Core ERP Measures" (Appendix C to "The States ERP Consortium Guide to Reporting ERP Results", April 2009). The Template contains 23 "Core Measures of ERP" that were evaluated to the extent possible. The following 17 Core Measures were proposed for inclusion in this project and data is presented in this report, where feasible.

Self-Certification (ST-3)

- Final certification rate

- Rate of "high-concern" discrepancies with regard to facility certifications on indicators
- Rate of self-disclosed noncompliance
- ~~Rate of return to compliance (RTC) plan submission (if RTCs used) RTCs not used.~~
- ~~Rate of self-disclosing facilities submitting one or more return to compliance plans (if RTCs used)~~

Performance/Compliance Rates (I-1, I-5, LT-1)

- Summary of performance changes for each indicator (where follow-up inspection data is available from EPA Region 5)
- Aggregate achievement rate for all indicators
- Achievement rate across all compliance-related measures (commonly called a traditional compliance rate)
- Average facility score for all indicators
- Distribution of facility scores for all indicators
- Average facility score for compliance-related indicators
- Distribution of facility scores for compliance-related indicators

Impact Changes (I-5, LT-2)

- Rate of managing/controlling certain environmental aspects
- Level of group emissions/waste/discharges/chemical usage related to certain environmental aspects
- Relationship of project activity and typical impact on environmental justice areas

Detailed Statistical Analysis

For those questions with “Yes/No” responses, we used Results Pro 2.1, an Excel-based spreadsheet tool developed by Mike Crow, Crow Environmental to analyze simple random samples. Results for EBPIs and Facility Characteristics with yes/no responses are detailed below.

Other qualitative responses were summarized and statistical results analyzed using the EPA Results Analyzer, a simple Excel-based tool created by a consultant for EPA to help states conducting statistical analysis in ERPs for simple random samples. The Results Analyzer is available from the States ERP Consortium website at: www.erpstates.org/p/softools.php. The Results Analyzer offers results in the difference in proportion for one or two samples or difference in the mean for one or two samples. It calculates these results for individual questions, requiring you to enter sample and response data one question at a time.

Sample Data Detail:

State	Baseline		Follow-Up	
	Facility Population	Number of Inspections	Facility Population	Number of Inspections
Illinois	1,225	35	1,223	33
Indiana	489	19	380	15
Michigan	877	27	858	25
Minnesota	675	20	520	19
Ohio	1,347	38	1,422	38
Wisconsin	456	17	394	15
Total:	5,069	156	4,797	145



In the detailed analysis below, note:


- Follow-Up Inspections were conducted by EPA Region 5 and only included questions related to facility characteristics and the 6H rule. Therefore, complete analysis could not be performed for several questions as noted.
- “Observed”: for “Yes/No” questions, “Observed” = percent of facilities answering that answered “Yes” to the question. “Yes” is the answer that means in compliance with the requirement or is the “preferred” answer from an environmental perspective. However, not all questions are compliance or environmental performance questions, meaning that neither “yes” or “no” are preferred – these are informational questions and noted as “FACILITY CHARACTERISTIC”.
- Answers were not always obtained from every facility for every question, typically because the question did not apply in that particular instance. The figure in the “All” column of Counts of Responses is the total number of facilities where an answer was entered. The figure in the “Yes” column is the total number of facilities where the answer to the question was “Yes”.
- Questions that are included in Facility Score Calculations are noted.
- The two software tools used to conduct the statistical analysis were designed for use with a single random sample. This project used a stratified sample – dividing the total number of random sample inspections required for a 90 percent confidence interval in the results among states in proportion to overall population of the state. Then each state chose the required number of facilities for inspection at random from within their state sample population. Analyzing a stratified sample as a simple sample could reduce the precision of the results. However, statistical analysis of a stratified sample over multiple questions is complex and

beyond the resources available for this project. In general, the results from analyzing a stratified sample as a simple sample are more conservative; however this might not always be the case.


Introduction Questions

(A3) Did your shop start coating vehicles or parts after September 17, 2007? FACILITY CHARACTERISTIC

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		2.5%	4.5%	8.0%	7	156
Follow-up:		2.7%	4.8%	8.6%	7	145

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				no	-4.1	0.3

(A5) Do you use any water based paints or solvents? [Baseline only]

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		11.9%	16.0%	21.4%	25	156

(A6) How much paint and solvents have you used or purchased in the last few months?				
Survey	Observed Mean <i>Paint use (gal/mo)</i>	Std Dev	Margin of Error	Confidence Interval
Baseline	17.5	24.8	3.2	14.3-20.7
Follow-up	18.5	28.4	3.8	13.7-21.3
Difference in Means	1.00 gal/mo ± 5.0 gal			-4.0 - 6.0

Range of Values	Solvent based coatings (gal/mo)		Water based coatings (gal/mo)		High VOC cleaning solvents (gal/mo)		Low VOC cleaning solvents (gal/mo)		Paint Hours/mo	
	Baseline	EPA	Baseline	EPA	Baseline	EPA	Baseline	EPA	Baseline	EPA
High	118	256	50.75	62	311	41.2	8.3	10	1187	970.5
Low	0.08	0.24	0.02	0.04	0.17	0.09	0.04	0.12	0.08	0.42
Average	17.5	18.5	8.8	8.7	8.2	7.1	1.85	1.6	91.3	123.8
Median	8.3	9.8	3.5	3.7	2.9	4.0	0.5	0.6	41.7	51.0

(A7) What are your total paint hours in the last few months?						
Survey	Observed Mean <i>Paint time (hours/mo)</i>	Std Dev	Margin of Error	Confidence Interval	Estimated Population	
Baseline	91.3	160.6	20.9	70.4-112.2	91.3	
Follow-up	123.8	194.9	26.2	97.6-150.0	123.8	
Difference in Means	32.5 hours/mo ± 33.60 hours			-0.9 - 65.9	Not Statistically Significant	

(A8) Do you do any paint work using a gun with 3 ounce cup or less? FACILITY CHARACTERISTIC

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		31.0%	37.0%	43.5%	57	154
Follow-Up:		86.5%	92.7%	96.1%	76	82

	Confidence Intervals for Performance Change (percentage points)				Lower Bound	Observed	Upper Bound
	-50%	0	+50%	Statistically Significant?			
Difference:				YES	47.4	55.7	63.9

Training Questions

(B1a) Do you have an employee training program that teaches proper hazardous waste management procedures? [Baseline Only]

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		43.2%	49.7%	56.1%	77	155

(B1b) Do you have documentation related to the employee hazardous waste management training, including who was trained, when and in what? [Baseline Only]

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		37.9%	46.2%	54.7%	42	91

(B2a) Have ALL your paint technicians been trained in proper selection, use and maintenance of spray equipment, within the proper time frames?

Used for Facility Score: Compliance, EBPI

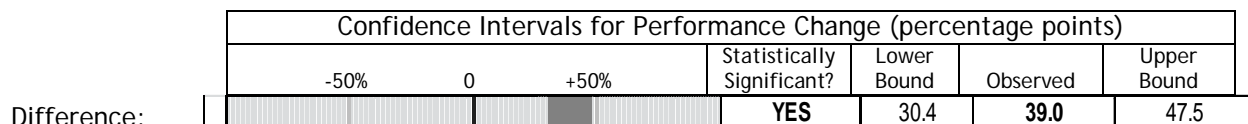
	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		43.2%	49.7%	56.1%	77	155
Follow-Up:		75.0%	80.8%	85.5%	118	146

	Confidence Intervals for Performance Change (percentage points)				Lower Bound	Observed	Upper Bound
	-50%	0	+50%	Statistically Significant?			
Difference:				YES	22.7	31.1	39.6

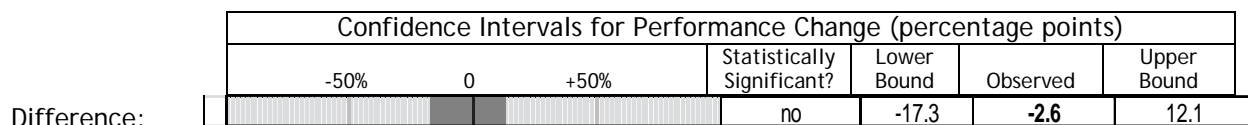
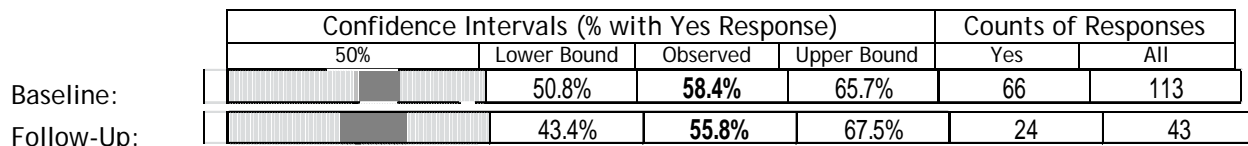
(B2c) Do you have records on technicians trained on the use of spray equipment?

Used for Facility Score: Compliance, EBPI

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		37.8%	44.4%	51.2%	63	142
Follow-Up:		77.7%	83.3%	87.7%	120	144



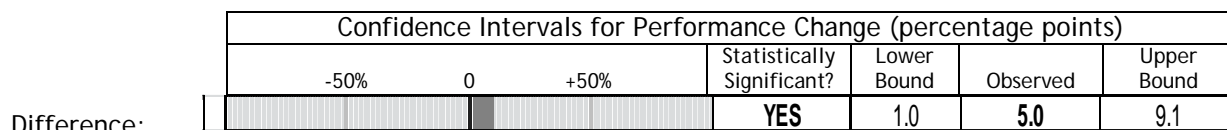
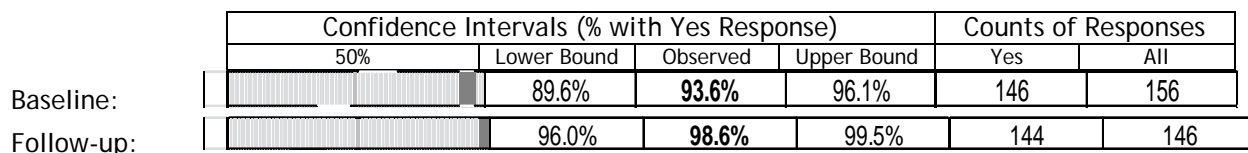
(B2d) Are there any specific reasons paint technicians have not been trained on ALL of the topics?
FACILITY CHARACTERISTIC



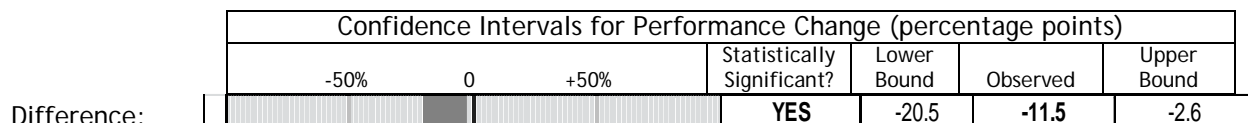
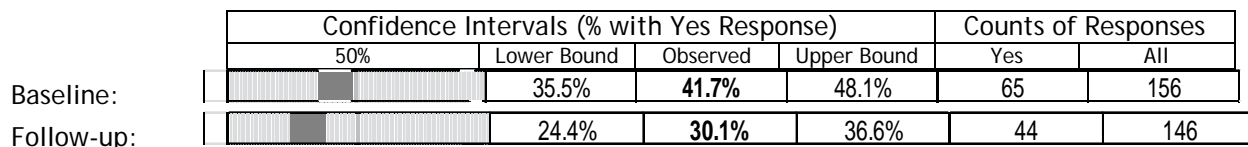
Air Pollution - EPA Rule

*Paint Booths

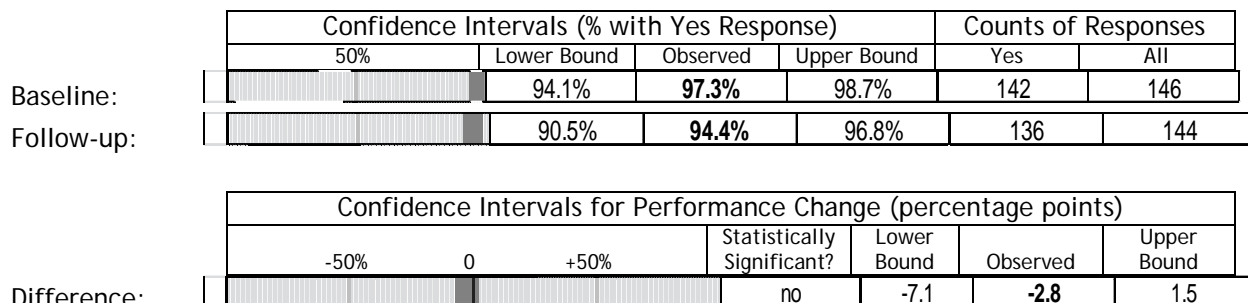
(C1a) Does your shop have a spray booth?
Used for Facility Score: EBPI



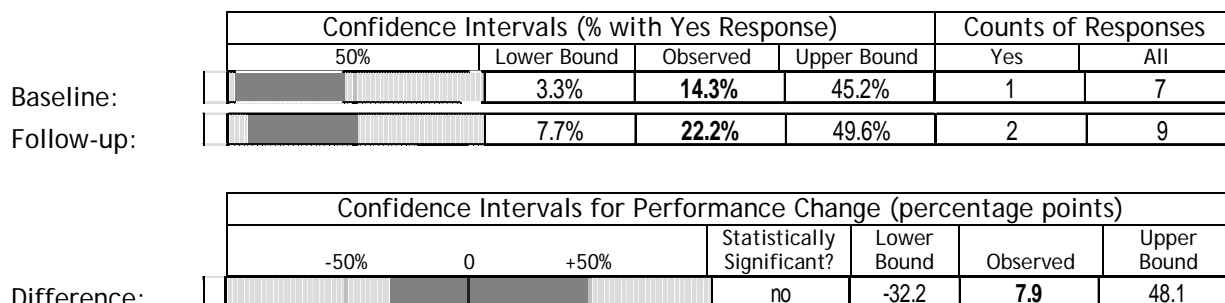
(C2a) Do you have a prep station/area where coatings are applied on vehicle components? FACILITY CHARACTERISTIC



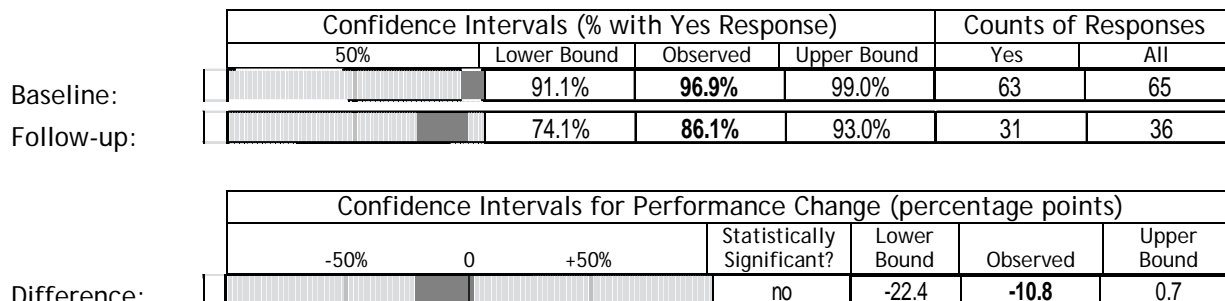
(C3b) Did your shop first begin using each enclosure to apply coatings on or before Sept 17, 2007?
FACILITY CHARACTERISTIC - Booth 1



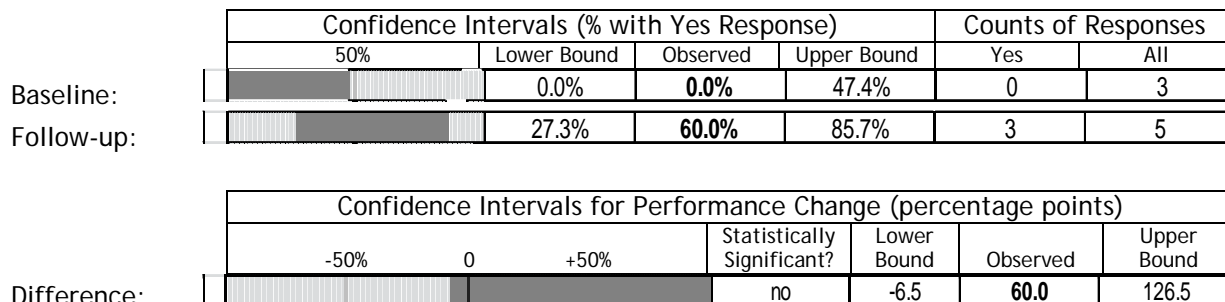
(C3c) If any enclosure (paint booth, walled prep area) was installed after September 17, 2007, was the installation due to the new area source NESHAP regulations? FACILITY CHARACTERISTIC - Booth 1



(C3b) Did your shop first begin using each enclosure to apply coatings on or before Sept 17, 2007?
FACILITY CHARACTERISTIC - Prep Station 1



(C3c) If any enclosure (paint booth, walled prep area) was installed after September 17, 2007, was the installation due to the new area source NESHAP regulations? FACILITY CHARACTERISTIC - Prep Station 1



(C4a) Is each spray booth/prep station ventilated with an exhaust fan?

		Confidence Intervals (% with Yes Response)			Counts of Responses		
		50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		84.7%	89.5%	92.8%	136	152	
Follow-up:		96.0%	98.6%	99.5%	144	146	

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				YES	4.4	13.9

(C4b) Does your exhaust system have a filter system?

		Confidence Intervals (% with Yes Response)			Counts of Responses		
		50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		87.7%		92.1%	94.9%	139	151
Follow-up:		94.1%		97.3%	98.7%	142	146

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				YES	0.6	9.8

(C4c) Is the filter capture efficiency rating of your exhaust/filter system at least 98 percent? Booth 1

		Confidence Intervals (% with Yes Response)			Counts of Responses		
		50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		37.2%		43.9%	50.8%	61	139
Follow-up:		96.2%		99.1%	99.8%	114	115

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				YES	48.0	62.5

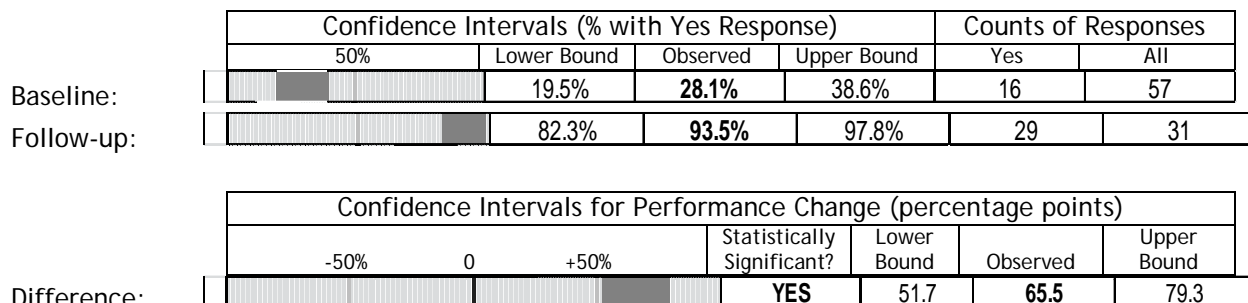
(C4d) Is the documentation related to the capture efficiency of your exhaust and filter system present and available for review? Booth 1

Used for Facility Score: Compliance, EBPI

		Confidence Intervals (% with Yes Response)			Counts of Responses		
		50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		23.5%	29.3%	35.9%	41	140	
Follow-up:		63.4%	70.0%	75.9%	98	140	

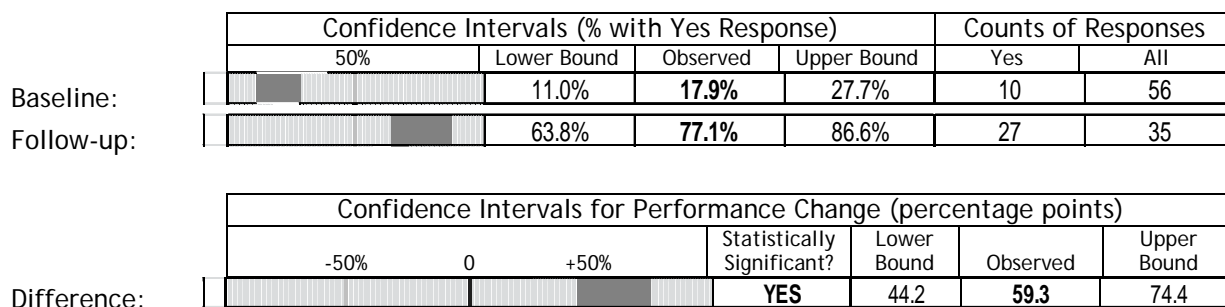
	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				YES	31.8	49.6

(C4c) Is the filter capture efficiency rating of your exhaust/filter system at least 98 percent? Prep Station 1

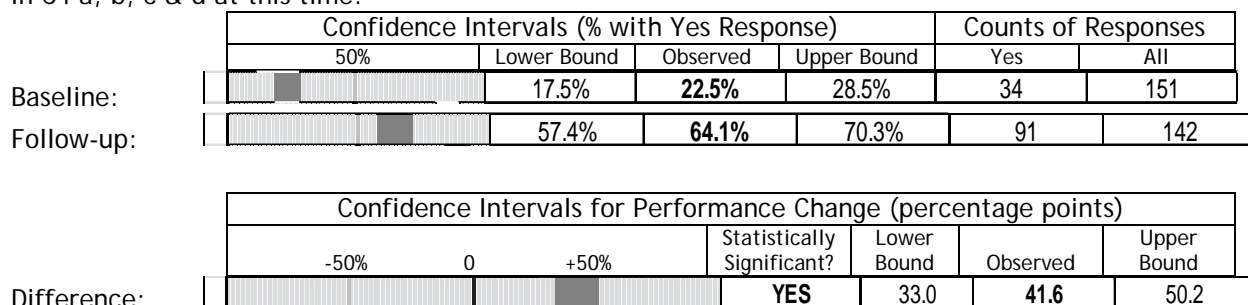


(C4d) Is the documentation related to the capture efficiency of your exhaust and filter system present and available for review? Prep Station 1

Used for Facility Score: Compliance, EBPI

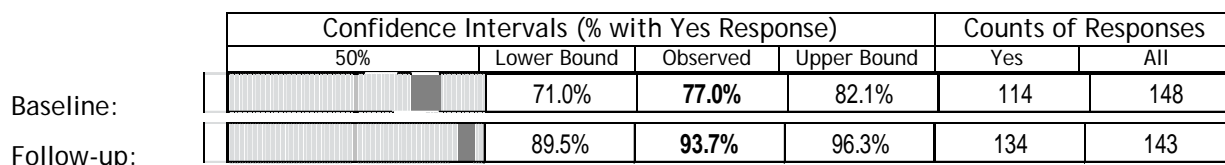


(C4f) Do ALL of the booths [enclosures - includes prep stations] meet the exhaust/filter requirements in C4 a, b, c & d at this time?



(I1b) Is there no evidence that spray coating occurs outside of a spray booth?¹

Used for Facility Score: Compliance



¹ Question reworded so yes is the preferred answer. Original wording: Is there evidence that some spray coating occurs outside of a spray booth?

Confidence Intervals for Performance Change (percentage points)							
-50% 0 +50%				Statistically Significant?	Lower Bound	Observed	Upper Bound
Difference:				YES	10.0	16.7	23.4

(I1c) Do the spray booths ALL meet the [enclosure] requirements at this time [has 4 walls, roof, and exhaust]?

Used for Facility Score: Compliance, EBPI

Confidence Intervals (% with Yes Response)				Counts of Responses	
50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:	64.3%	70.7%	76.3%	106	150
Follow-up:	87.0%	91.6%	94.6%	131	143

Confidence Intervals for Performance Change (percentage points)							
-50% 0 +50%				Statistically Significant?	Lower Bound	Observed	Upper Bound
Difference:				YES	13.7	20.9	28.2

(I2a) Does the spray booth have a filter on the exhaust? Booth 1

Confidence Intervals (% with Yes Response)				Counts of Responses	
50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:	86.8%	91.3%	94.3%	136	149
Follow-up:	92.2%	95.8%	97.8%	138	144

Confidence Intervals for Performance Change (percentage points)							
-50% 0 +50%				Statistically Significant?	Lower Bound	Observed	Upper Bound
Difference:				no	-0.4	4.6	9.6

(I2d) Do the spray booth exhaust/filter systems ALL meet the requirements at this time? [filter in good condition, adequate exhaust pressure]

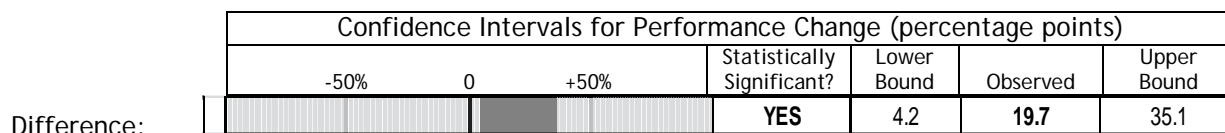
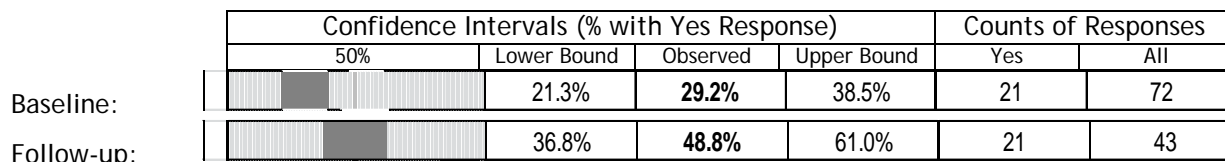
Used for Facility Score: Compliance, EBPI

Confidence Intervals (% with Yes Response)				Counts of Responses	
50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:	47.4%	54.1%	60.6%	80	148
Follow-up:	59.2%	65.9%	72.1%	91	138

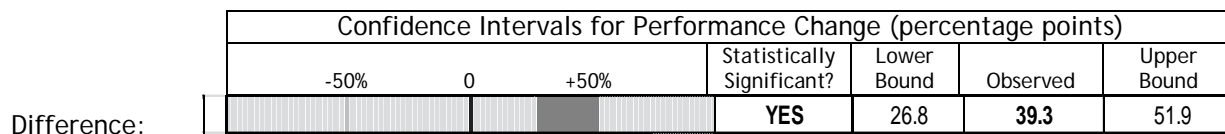
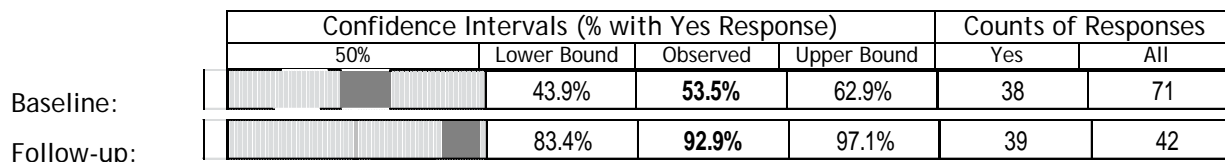
Confidence Intervals for Performance Change (percentage points)							
-50% 0 +50%				Statistically Significant?	Lower Bound	Observed	Upper Bound
Difference:				YES	2.5	11.9	21.3

(I3b) Do the prep stations/areas ALL meet the [enclosure] requirements in at this time [has 3 wall, roof and exhaust]?

Used for Facility Score: Compliance, EBPI

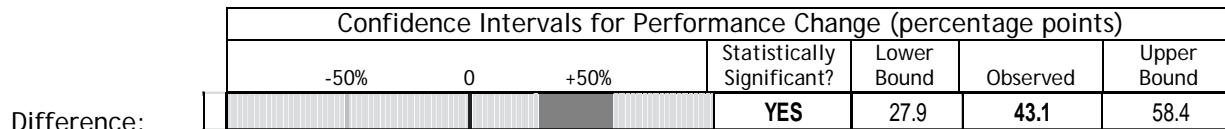
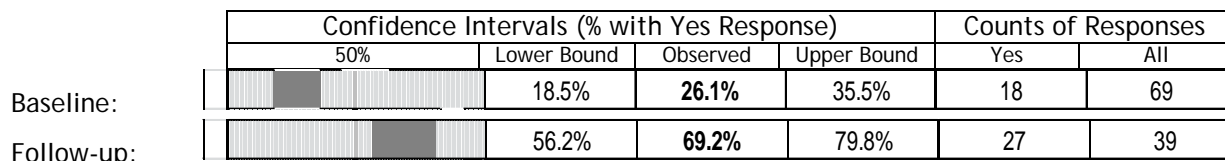


(I4a) Does the prep station/area have a filter on the exhaust? Prep Station 1

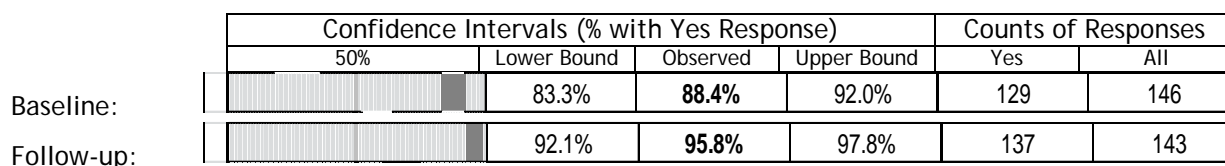


(I4d) Do the prep station/area exhaust/filter systems ALL meet the requirements at this time [filter in good condition, adequate exhaust pressure]?

Used in Facility Score: Compliance, EBPI



(I5) Is lighting in the booths/paint areas clean of paint residue, besides what may be present from the most recent job?



Confidence Intervals for Performance Change (percentage points)							
-50% 0 +50%				Statistically Significant?	Lower Bound	Observed	Upper Bound
Difference:				YES	2.0	7.4	12.9

*Spray Guns/Gun Cleaning

(C5) Is all paint spray gun cleaning done with a fully enclosed spray gun washer or in a manner that avoids creating a mist of solvent?

Used for Facility Score: Compliance, EBPI

Confidence Intervals (% with Yes Response)					Counts of Responses	
50%	Lower Bound	Observed	Upper Bound		Yes	All
Baseline:	80.6%	85.8%	89.7%		133	155
Follow-up:	83.1%	88.2%	91.9%		127	144

Confidence Intervals for Performance Change (percentage points)							
-50% 0 +50%				Statistically Significant?	Lower Bound	Observed	Upper Bound
Difference:				no	-4.1	2.4	8.9

(I6b) Do they have only compliant spray guns, based on the requirements for 6H, available for use at this time?

Used for Facility Score: Compliance, EBPI

Confidence Intervals (% with Yes Response)					Counts of Responses	
50%	Lower Bound	Observed	Upper Bound		Yes	All
Baseline:	51.6%	58.1%	64.3%		90	155
Follow-up:	60.3%	67.5%	73.9%		83	123

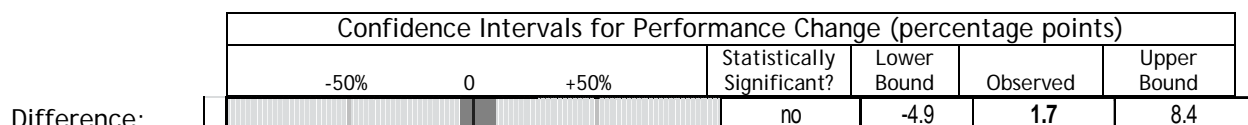
Confidence Intervals for Performance Change (percentage points)							
-50% 0 +50%				Statistically Significant?	Lower Bound	Observed	Upper Bound
Difference:				no	0.0	9.4	18.9

*Paint Stripping

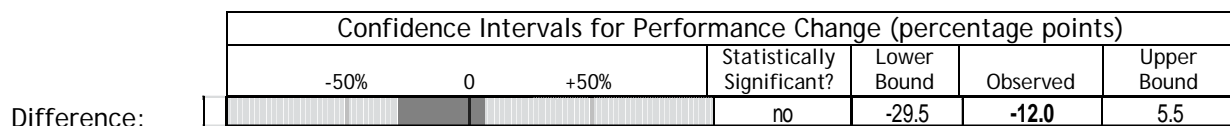
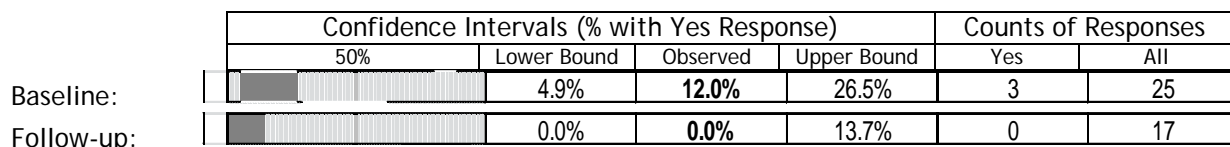
(C6a) Are all paint stripping tasks done without the use of chemical products?² FACILITY CHARACTERISTIC

Confidence Intervals (% with Yes Response)					Counts of Responses	
50%	Lower Bound	Observed	Upper Bound		Yes	All
Baseline:	80.1%	85.3%	89.3%		133	156
Follow-up:	81.8%	87.0%	90.8%		127	146

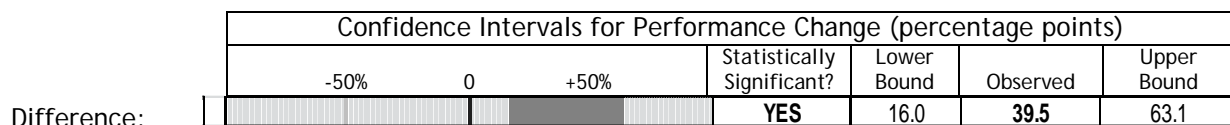
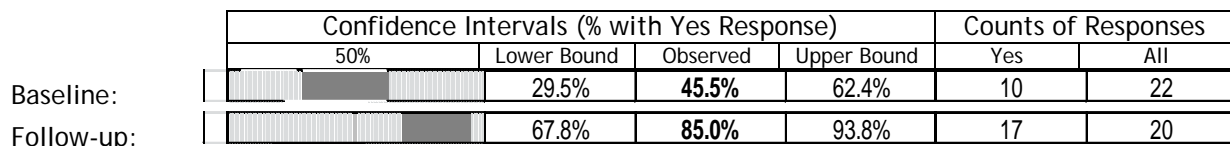
² Question reworded so yes is the preferred answer. Original language: Do you use chemical products for paint stripping tasks?



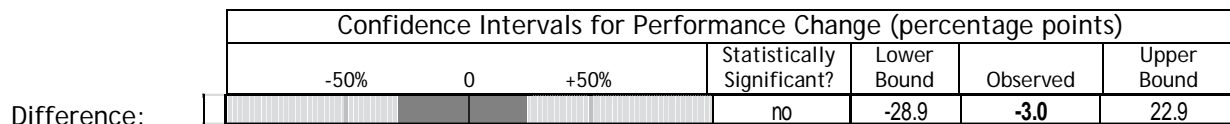
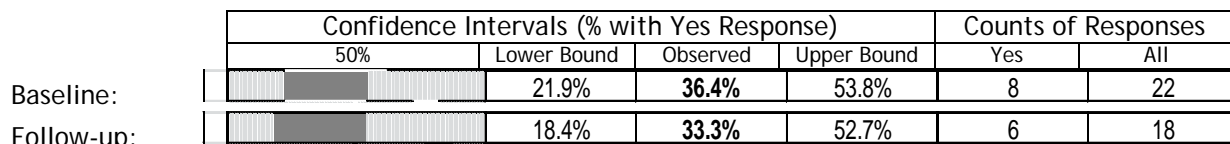
(C6b) Do none of the chemical products you use for paint stripping contain Methylene Chloride?³



(C7a) Do you have records relating to your shop's use of paint stripping products containing MeCl?
Used for Facility Score: Compliance, EBPI






(C8a) Does your shop have a minimization plan for use of MeCl?
Used for Facility Score: Compliance, EBPI





³ Question reworded so yes is the preferred answer. Original language: Do any of the chemical products you use for paint stripping contain Methylene Chloride?


(I8a) Does no chemical paint stripping occur in the shop?⁴ FACILITY CHARACTERISTIC

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		78.6%	84.0%	88.1%	131	156
Follow-up:		82.4%	87.6%	91.3%	127	145

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				no	-3.1	10.3



(I8b) Do none of the {chemical paint stripping materials} contain MeCl?⁵
Used for Facility Score: EBPI


	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		7.1%	15.4%	30.2%	4	26
Follow-up:		3.4%	10.0%	26.1%	2	20

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				no	-24.6	13.8

*Paint Formulation/Documentation

(C9) Does your shop have Material Safety Data Sheets (MSDS) and coating formulation data supplied by the manufacturer for ALL the solvents and coatings that you use?
Used for Facility Score: EBPI

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		71.5%	77.4%	82.4%	120	155
Follow-up:		77.4%	83.1%	87.6%	118	142

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				no	-1.9	13.3

⁴ Question reworded so yes is the preferred answer. Original language: Does chemical paint stripping occur in the shop?

⁵ Question reworded so yes is the preferred answer. Original language: Do they {chemical paint stripping materials} contain MeCl?

(C10a) Do none of the coatings used by your shop contain any of the following hazardous air pollutants: chromium, lead, cadmium, nickel, or manganese (includes compounds of these metals)?⁶
FACILITY CHARACTERISTIC

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		25.9%	31.6%	37.9%	49	155
Follow-up:		24.6%	30.3%	36.8%	44	145

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				no	-10.0	7.4

(C11) Before this visit, did you know you are affected by the new EPA rule that affects autobody shops and other small paint shops? FACILITY CHARACTERISTIC

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		59.0%	65.4%	71.2%	102	156
Follow-up:		85.6%	90.3%	93.6%	131	145

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				YES	17.5	25.0



(C12a) Are you aware that autobody shops may be able to petition out of new requirements by changing the paints they use? FACILITY CHARACTERISTIC


	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		14.6%	19.2%	24.9%	29	151
Follow-up:		30.8%	37.1%	43.8%	53	143

	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				YES	9.4	17.9


⁶ Question reworded so yes is the preferred answer. Original language: Do the coatings used by your shop contain any of the following hazardous air pollutants: chromium, lead, cadmium, nickel, or manganese (includes compounds of these metals)?

(C13a) Have you submitted an initial notification report form to USEPA and the state, where required?
Used for Facility Score: Compliance, EBPI

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		52.5%	59.0%	65.1%	92	156
Follow-up:		65.2%	71.7%	77.5%	99	138


	Confidence Intervals for Performance Change (percentage points)					
	-50%	0	+50%	Statistically Significant?	Lower Bound	Upper Bound
Difference:				YES	3.8	21.7

(C13b) Have you submitted a notification of compliance status form (due Jan 10, 2011) to USEPA and the state, where required? **[Follow-up Only]**


	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Follow-up:		63.4%	70.0%	75.9%	98	140

Hazardous Waste [ALL Baseline Only]


(D1) Do you understand what you are supposed to do with each of the wastes generated by your shop?

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
		91.2%	94.9%	97.0%	148	156

(D2) Have you identified all of your facility's hazardous wastes?


	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
		76.1%	81.7%	86.2%	125	153

(D5) Are they using all proper disposal methods at this time?


	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
		39.1%	45.5%	52.0%	70	154

Wastewater [ALL Baseline Only]

(E1) Are none of your motor vehicle service liquids (solvents, oils, antifreeze, car wash water, floor washing, etc) or shop wastewater discharged through a utility sink, toilet, unsealed floor drain, or out on the ground?⁷

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
		20.7%	26.0%	32.1%	40	154

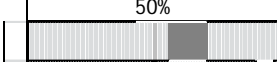
(E2f) If you have any liquids going to municipal sewer or a holding tank that is later transported to POTW, have the POTW or municipal authorities been notified of the motor vehicle service liquids or wastewater in your discharge?

	Confidence Intervals (% with Yes Response)				Counts of Responses	
	50%	Lower Bound	Observed	Upper Bound	Yes	All
		41.6%	50.0%	58.4%	46	92

(E3) Are they using all proper liquid disposal methods at this time?


	Confidence Intervals (% with Yes Response)	Counts of Responses
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⁷ Question reworded so yes is the preferred answer. Original wording: Are you discharging any of your motor vehicle service liquids (solvents, oils, antifreeze, car wash water, floor washing, etc) or shop wastewater through a utility sink, toilet, unsealed floor drain, or out on the ground?

	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		54.7%	62.7%	70.1%	64	102


Pollution Prevention [Baseline Only]

(F1a) In the past 3 years, have you taken any of the following actions to reduce toxics?

	Confidence Intervals (% with Yes Response)			Counts of Responses		
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		88.6%	93.1%	95.9%	122	131

Energy Efficiency [Baseline Only]

(G1a) In the past 3 years, have you taken any of the following actions to minimize energy use in your shop?

	Confidence Intervals (% with Yes Response)			Counts of Responses		
	50%	Lower Bound	Observed	Upper Bound	Yes	All
Baseline:		85.4%	90.4%	93.7%	122	135