

Attachment 2  
Freeport-McMoRan Chino Mines Company  
Closure/Closeout Plan Cost Estimate  
Net Present Value Calculation  
and  
Supporting Information

April 2, 2019

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## **Attachment 2A**

### **Summary and Rationale for Net Present Value Calculation**

## *Overview*

The Net Present Value (NPV) of each component of the Chino Closure/Closeout Cost Estimate has been calculated following the guidance document titled Guidance for Calculating Reclamation Costs in Net Present Value dated May 2016 provided by the New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division (MMD, MMD Guidance) as well as applicable Federal and State regulations. Both primary components of the Chino CCP (earthwork and water management/treatment) have a duration well over five years. The methodology used to estimate future cost inflation for the current permit renewal is consistent with the approach previously used and accepted by the state agencies in prior calculations of the net present value of reclamation costs, and is also consistent with the MMD's published guidelines for these calculations. Freeport-McMoRan New Mexico Operations proposes to use the same methodology and escalation and discount rates for all financial assurance calculations and all New Mexico Operations permits during this renewal cycle (i.e., the same rates would apply to the upcoming Continental and Tyrone Mine financial assurance updates).

The NPV calculation is provided in Attachment 2A followed by the inflation rate calculations/indices in Attachment 2B and the discount rate tables in Attachment 2C. The information required in MMD Guidance is presented below.

The escalation and discount rates utilized in the NPV calculation and a summary of the resulting NPV are presented in the table at the top of the first page of Attachment 2A.

Cash flows are presented in Attachment 1 (for earthwork and water management capital and O&M). The total cash flow for capital and O&M (for earthwork and water treatment) were extracted from Attachments 1 for the NPV calculation presented in Attachment 2A. For Earthwork, the capital phase of the earthwork occurs over a 20-year period with O&M extending for the full 100-year period. Water Management/Treatment capital is phased in over a 7-year period and O&M extends over the entire 100-year period.

The inflation rate calculation was the subject of much analysis and discussion between the State agencies and Chino in 2001. New Mexico State agencies and Chino agreed that it was appropriate to use long-term periods of record going back 100 years when available and as long as possible when not. In 2004 Chino recommended, and the State agreed, that inflation rates be recalculated every five years at the same time the discharge permits are renewed (this is reflected in current permits). At that time, it was reaffirmed that the maximum number of years for each data set would be 100 years (in keeping with the number of years of future cost estimates). For data sets already at 100 years, the earlier years would drop off as later years are added. For data sets less than 100 years, Chino would continue to use the same data set used to calculate the original escalation rate (modified as necessary for changes in scope of work), but add years for new data available up to a maximum 100 years.

According to the MMD Guidance Step 2 indicates that operators must use acceptable publicly available indices to build the inflation rate(s) based on historical inflation rates over an appropriate timeframe (in Chino's case, 100 years was agreed upon).

Chino applied the same methodology used to develop the original inflation rates (as agreed upon and noted above) to the current inflation rates for this renewal period, which conforms with MMD Guidance. The inflation rates were calculated using actual historical inflation data for the underlying cost components of each category (e.g., labor, fuel, equipment) based on a composite of category indices ranging in duration from 32 to 100 years.

### *Earthwork Inflation Rate*

The first page of Attachment 2B provides a summary of the Earthwork escalation rate (3.41%) derivation (See page titled "Dirt Work Reclamation Escalation Rate"). It is the sum of the percent of project-weighted inflation rates for the three major earthwork categories: 1-labor, 2-fuel, 3-machinery and equipment. The exact source and series utilized and time period over which it was utilized are all summarized/listed below the calculation table.

Chino's engineering and cost estimating team identified the major construction and operations and maintenance task categories involved in the earthwork cost estimate and also assisted in selecting appropriate indices that best represent the categories. The engineering team also calculated the percentage of the reclamation project costs for each category (see "% of Project" column in the top table of the summary page).

The best, readily available indices are cited on the summary page and are provided in Attachment 2B immediately after the summary page in the order they are cited on the summary page. Some indices were discontinued and replaced with similar indices, so a composite index has been created (for labor and construction equipment) from the most closely related indices available that reflect the key components of Earthwork. The indices reflect change in labor wages, fuel cost and equipment costs over the period of record. The second column from the right calculates the percent change from the previous year. The last column converts the percent change to a positive number normalized to 1 so that all the numbers are positive so that a geometric mean can be calculated. The geometric mean for each category is calculated at the bottom of the index series.

The geometric mean is used in the first data column (labeled "Rate") of the table at the top of the summary page. The geometric mean from each series is multiplied by the % of Project weighting factor to yield the % of Escalation Rate in the last column. The "Dirt Work Reclamation Escalation Rate" is calculated by summing the % of Escalation Rate for each category which yields an appropriately weighted inflation rate for the Closure/Closeout Plan Earthwork and that rate is **3.41%**.

#### *Water Inflation Rate*

The development of the Water Treatment Escalation Rate followed a similar process and the summary page presenting this calculation is found on Page 7 of the Attachment 2B. The primary cost categories for water treatment are Reagents, Power, Labor, and Maintenance. The water treatment maintenance category is a composite of the following sub-categories and indices: Industrial pumps, domestic water systems, Industrial controls and related parts and accessories, industrial process control instruments, and repair and maintenance services. As stated above, these were selected in consultation with the Chino technical cost estimating team as representative of the primary tasks involved in water management and treatment system maintenance. Each index utilized is presented similarly to the Earthwork indices. The appropriate water treatment escalation rate is **2.99%**.

In summary, an annual inflation rate for earthwork of **3.41%** and an annual inflation rate for water management of **2.99%** are appropriate inflation rates to be applied to the NM Operations CCP cash flows and the methodology used is consistent with the MMD guidance and previous calculations and agreements.

In keeping with historic practice and agreement with New Mexico agencies and the approach to inflation rates described above, Chino has provided the discount rate indices for years 1 through 10 in Attachment 2C - Bloomberg Barclays U.S. Government/Credit Index. These data represent the entire record available for this index (46 years). The geometric mean is calculated in the same way described above for the escalation rates and this yields a discount rate of **7.09%** to be used for years 1 through 10.

The discount rate for years 11 to 100 is derived from Bloomberg Barclays U.S. Aggregate Index as suggested by MMD Guidance. This entire index is also provided in Attachment 3C and the resulting discount rate is **7.27%**

These escalation rates were developed using similar periods of record as the escalation rate development and are fully consistent with MMD guidance and previous calculations and agreements.

The NPV calculation is provided in Attachment 2A in hard copy and in electronic form.

## **Attachment 2B**

### **Escalation (Inflation) Rate Data Tables**

## **Attachment 2C**

### **Discount (Yield or Rate of Return) Rate Data Tables**

	Escalation	Yr 1-10 Discount Rate	Yr 11-100 Discount Rate
Earthwork	3.41%	7.09%	7.27%
Water Treatment	2.99%	7.09%	7.27%

Component	Current Cost	NPV
Earthwork	\$ 22,821,163	\$ 19,330,195
Water Management	\$ 2,144,516	\$ 1,530,858
<b>Total</b>	<b>\$24,965,678</b>	<b>\$ 20,861,054</b>

Earthwork				Water Management and Treatment			
Year	Current Cost		NPV	Current Cost		Total	NPV
	Capital <sup>1</sup>	O&M <sup>2</sup>		Capital Cost <sup>3</sup>	O&M <sup>4</sup>		
1	300,000	12,340	312,340	312,340	105,864	120,515	226,378
2	4,391,941	31,186	4,423,127	4,271,133	0	120,515	120,515
3	5,237,432	53,660	5,291,092	4,933,698	0	120,515	111,463
4	4,324,775	72,218	4,396,993	3,959,101	0	120,515	120,515
5	4,737,786	110,212	4,847,998	4,215,187	0	120,515	120,515
6	300,000	110,212	410,212	344,410	211,049	113,326	324,375
7	0	110,212	110,212	89,353	0	93,501	73,976
8	0	110,212	110,212	86,282	0	93,501	93,501
9	0	110,212	110,212	83,317	0	93,501	68,420
10	0	110,212	110,212	80,454	19,612	93,501	113,113
11	0	110,212	110,212	76,396	0	85,238	85,238
12	0	110,212	110,212	73,647	0	85,238	54,465
13	0	110,212	110,212	70,997	153,264	81,644	234,908
14	0	106,618	106,618	66,211	0	3,594	2,117
15	0	106,618	106,618	63,828	0	3,594	3,594
16	0	106,618	106,618	61,531	0	3,594	1,952
17	0	88,955	88,955	49,490	0	3,594	1,874
18	0	88,955	88,955	47,709	0	3,594	1,799
19	0	88,955	88,955	45,992	0	3,594	1,727
20	0	88,955	88,955	44,337	0	3,594	1,658
21	0	38,506	38,506	18,502	0	3,594	3,594
22	0	38,506	38,506	17,836	0	3,594	3,594
23	0	38,506	38,506	17,194	0	3,594	3,594
24	0	38,506	38,506	16,575	0	3,594	3,594
25	0	38,506	38,506	15,979	0	3,594	3,594
26	0	38,506	38,506	15,404	0	3,594	3,594
27	0	38,506	38,506	14,850	0	3,594	3,594
28	0	38,506	38,506	14,315	0	3,594	3,594
29	0	38,506	38,506	13,800	0	3,594	3,594
30	0	38,506	38,506	13,304	0	3,594	3,594
31	0	38,506	38,506	12,825	0	3,594	3,594
32	0	38,506	38,506	12,363	0	3,594	3,594
33	0	38,506	38,506	11,919	0	3,594	977
34	0	38,506	38,506	11,490	0	3,594	938
35	0	38,506	38,506	11,076	0	3,594	900
36	0	38,506	38,506	10,678	0	3,594	864
37	0	38,506	38,506	10,293	0	3,594	830
38	0	38,506	38,506	9,923	0	3,594	797
39	0	38,506	38,506	9,566	0	3,594	765
40	0	38,506	38,506	9,222	0	3,594	734
41	0	15,369	15,369	3,548	0	3,594	3,594
42	0	15,369	15,369	3,421	0	3,594	677
43	0	15,369	15,369	3,297	0	3,594	650
44	0	15,369	15,369	3,179	0	3,594	624
45	0	15,369	15,369	3,064	0	3,594	599
46	0	15,369	15,369	2,954	0	3,594	3,594
47	0	15,369	15,369	2,848	0	3,594	552
48	0	15,369	15,369	2,745	0	3,594	530
49	0	15,369	15,369	2,647	0	3,594	509
50	0	15,369	15,369	2,551	0	3,594	489
51	0	15,369	15,369	2,460	0	3,594	469
52	0	15,369	15,369	2,371	0	3,594	451
53	0	15,369	15,369	2,286	0	3,594	433
54	0	15,369	15,369	2,203	0	3,594	415
55	0	15,369	15,369	2,124	0	3,594	399
56	0	15,369	15,369	2,048	0	3,594	383
57	0	15,369	15,369	1,974	0	3,594	368
58	0	15,369	15,369	1,903	0	3,594	353
59	0	15,369	15,369	1,835	0	3,594	339
60	0	15,369	15,369	1,769	0	3,594	325
61	0	15,369	15,369	1,705	0	3,594	312
62	0	15,369	15,369	1,644	0	3,594	300
63	0	15,369	15,369	1,584	0	3,594	288
64	0	15,369	15,369	1,527	0	3,594	276
65	0	15,369	15,369	1,472	0	3,594	265
66	0	15,369	15,369	1,419	0	3,594	255
67	0	15,369	15,369	1,368	0	3,594	245
68	0	15,369	15,369	1,319	0	3,594	235
69	0	15,369	15,369	1,272	0	3,594	226
70	0	15,369	15,369	1,226	0	3,594	217
71	0	15,369	15,369	1,182	0	3,594	208
72	0	15,369	15,369	1,139	0	3,594	200
73	0	15,369	15,369	1,098	0	3,594	192
74	0	15,369	15,369	1,059	0	3,594	184
75	0	15,369	15,369	1,021	0	3,594	177

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	Escalation	Yr 1-10 Discount Rate	Yr 11-100 Discount Rate
Earthwork	3.41%	7.09%	7.27%
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Component	Current Cost	NPV
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Year	Earthwork			Water Management and Treatment			NPV	
	Current Cost		NPV	Current Cost		Total		
	Capital <sup>1</sup>	O&M <sup>2</sup>		Capital Cost <sup>3</sup>	O&M <sup>4</sup>			
76	0	15,369	15,369	984	0	3,594	3,594	
77	0	15,369	15,369	949	0	3,594	3,594	
78	0	15,369	15,369	914	0	3,594	3,594	
79	0	15,369	15,369	881	0	3,594	3,594	
80	0	15,369	15,369	850	0	3,594	3,594	
81	0	15,369	15,369	819	0	3,594	3,594	
82	0	15,369	15,369	790	0	3,594	3,594	
83	0	15,369	15,369	761	0	3,594	3,594	
84	0	15,369	15,369	734	0	3,594	3,594	
85	0	15,369	15,369	707	0	3,594	3,594	
86	0	15,369	15,369	682	0	3,594	3,594	
87	0	15,369	15,369	657	0	3,594	3,594	
88	0	15,369	15,369	634	0	3,594	3,594	
89	0	15,369	15,369	611	0	3,594	3,594	
90	0	15,369	15,369	589	0	3,594	3,594	
91	0	15,369	15,369	568	0	3,594	3,594	
92	0	15,369	15,369	547	0	3,594	3,594	
93	0	15,369	15,369	528	0	3,594	3,594	
94	0	15,369	15,369	509	0	3,594	3,594	
95	0	15,369	15,369	490	0	3,594	3,594	
96	0	15,369	15,369	473	0	3,594	3,594	
97	0	15,369	15,369	456	0	3,594	3,594	
98	0	15,369	15,369	439	0	3,594	3,594	
99	0	15,369	15,369	424	0	3,594	3,594	
100	0	15,369	15,369	408	0	3,594	3,594	
<b>Total</b>	<b>19,291,935</b>	<b>3,529,228</b>	<b>22,821,163</b>	<b>19,330,195</b>	<b>489,788</b>	<b>1,654,727</b>	<b>2,144,516</b>	
							<b>1,530,858</b>	

Notes

- 1 Includes all earthwork direct and indirect costs - Refer to Earthwork Cash Flow sheets from the S Stockpile\_Tailing\_Earthwork cost estimate spreadsheets
- 2 Includes all revegetation and all other maintenance costs -Refer to Earthwork Cash Flow sheets from the S Stockpile\_Tailing\_Earthwork cost estimate spreadsheets
- 3 Includes water management capital and capital removal costs - Refer to Water Management Summary and Water Management Worksheet #3
- 4 Includes routine maintenance and replacement O&M-Refer to Water Management Summary and Water Management Worksheet #3

## DIRT WORK RECLAMATION ESCALATION RATE -- GEOMETRIC MEAN METHOD

Category	Rate	% of Project	% of Escalation Rate
Labor	3.03%	3.0%	0.09%
#2 Diesel Fuel	5.11%	28.0%	1.43%
Machinery & Equipment	2.74%	69.0%	1.89%

Dirt Work Reclamation Escalation Rate: 3.41%

### ***Labor Composite***

Current Source	Bureau of Labor Statistics (NM)
Years 1972 - 2002	Series ID : SAU3500002000014 (n1)
31 years	Not Seasonally Adjusted
	State : New Mexico
	Area : Statewide
	Industry : Construction
	Detail : A 1-digit Industry (Industry Division)
	Data Type : Average Weekly Earnings (In dollars)
	(n1): NAICS 2002 replaces SIC beginning March 2003.

Current Source	Bureau of Labor Statistics (NM)
Years 2003 - 2007	Series ID : SMU35000020000004 (n2)
5 years	Not Seasonally Adjusted
	State: New Mexico
	Area: Statewide
	Supersector: Construction
	Industry: Construction
	Data Type: Average Weekly Earnings, In Dollars
	(n2) BLS discontinued Series ID. Replaced with the closest data set

Current Source	Bureau of Labor Statistics (NM)
Years 2008 - 2018	Series ID : SMU350000200000011
11 years	Not Seasonally Adjusted
	State : New Mexico
	Area : Statewide
	Supersector : Construction
	Industry : Construction
	Data Type : Average Weekly Earnings of All Employees, In Dollars

### ***#2 Diesel Composite***

Current Source	Producer Price Index-Commodities
Years 1973 - 2018	Series ID : WPU057303
45 years	Not Seasonally Adjusted
	Group : Fuels and related products and power
	Item : #2 diesel fuel

### ***Machinery & Equipment Composite***

Current Source	Producer Price Index-Commodities
13 years WPS1129	Series ID : WPU112D
19 years WPU112D	Not Seasonally Adjusted
	Group : Machinery and equipment
	Item : Off-highway equipment ex. Parts

<http://data.bls.gov/cgi-bin/srgate>

## State and Area Employment, Hours, and Earnings

Years: 1972 - 2002

Series ID : SAU3500002000014 (n1)

Not Seasonally Adjusted

State : New Mexico

Area : Statewide

Industry : Construction

Detail : A 1-digit Industry (Industry Division)

Data Type : Average Weekly Earnings (In dollars)

Years: 2003 - 2007

Series ID : SMU35000020000004 (n2)

Not Seasonally Adjusted

State: New Mexico

Area: Statewide

Supersector: Construction

Industry: Construction

Data Type: Average Weekly Earnings, In Dollars

Years 2008 - 2018

Series ID : SMU35000020000011

Not Seasonally Adjusted

State : New Mexico

Area : Statewide

Supersector : Construction

Industry : Construction

Data Type : Average Weekly Earnings of All Employees, In Dollars

**Data:**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive	
1972	242.50	211.33	216.40	191.07	198.78	199.43	195.22	196.33	180.01	242.76	195.58	206.97	207.23	N/A	N/A	
1973	192.39	271.70	201.56	193.29	196.72	205.52	214.70	214.30	211.70	220.17	224.45	232.97	213.94	3.24%	1.03	
1974	244.50	266.49	267.86	235.13	215.41	237.23	225.15	229.90	241.20	232.10	243.17	255.06	239.90	12.13%	1.12	
1975	240.75	237.62	268.62	310.90	258.05	253.23	257.85	263.48	250.50	275.22	258.91	276.86	262.58	9.45%	1.09	
1976	264.04	251.98	344.67	341.70	364.63	308.84	263.53	271.81	264.63	260.37	260.23	259.17	287.66	9.55%	1.10	
1977	254.54	267.71	263.52	281.89	285.76	271.20	270.11	278.61	286.51	316.79	316.84	307.09	284.24	-1.19%	0.99	
1978	289.67	329.82	335.94	294.89	297.60	290.30	300.58	305.49	304.56	311.92	302.68	305.27	305.11	7.34%	1.07	
1979	308.88	288.27	315.58	296.48	294.37	297.54	304.67	304.29	307.08	319.23	304.38	330.28	305.89	0.26%	1.00	
1980	328.06	322.94	344.20	369.37	346.30	343.20	350.42	336.88	353.42	339.38	328.94	351.00	342.61	12.00%	1.12	
1981	342.02	355.22	341.79	369.63	384.93	378.89	382.88	371.94	357.92	387.72	366.80	399.85	369.94	7.98%	1.08	
1982	362.96	368.22	423.05	359.84	426.58	377.05	392.15	406.50	386.64	404.42	358.45	370.29	386.90	4.58%	1.05	
1983	388.08	381.99	395.16	358.50	363.60	372.42	367.56	387.02	403.25	383.36	347.22	383.59	376.62	-2.66%	0.97	
1984	382.69	389.12	402.50	387.55	379.78	377.03	391.93	387.45	382.60	379.54	371.11	376.92	383.52	1.83%	1.02	
1985	377.20	381.98	359.50	380.54	387.19	370.99	374.76	391.62	409.22	373.46	373.82	385.09	380.55	-0.77%	0.99	
1986	395.30	382.95	394.13	409.84	399.86	388.05	393.58	406.98	392.35	392.09	444.80	386.63	398.57	4.74%	1.05	
1987	392.41	405.91	401.06	397.50	400.16	402.98	400.92	432.72	402.50	426.89	409.26	403.20	405.98	1.86%	1.02	
1988	399.67	415.13	416.48	409.88	423.75	427.98	424.46	447.82	436.50	448.77	428.22	445.70	428.12	5.45%	1.05	
1989	431.88	412.54	436.80	439.31	435.84	430.10	444.14	452.13	471.22	460.85	426.73	438.66	440.35	2.86%	1.03	
1990	441.56	459.93	460.09	445.17	455.31	468.83	444.89	442.38	453.47	430.40	420.33	441.78	446.56	1.41%	1.01	
1991	422.07	416.10	428.37	432.61	442.60	433.22	431.20	424.32	435.37	444.16	412.40	419.63	428.61	-4.02%	0.96	
1992	419.18	435.86	448.81	438.47	445.74	446.10	453.20	452.80	430.85	466.38	451.92	445.44	444.60	3.73%	1.04	
1993	435.75	448.91	453.56	448.92	466.76	469.34	472.93	490.77	493.29	512.25	488.17	500.99	475.91	7.04%	1.07	
1994	495.46	483.03	466.83	483.80	474.71	482.51	506.52	504.71	502.25	503.47	469.56	520.40	490.84	3.14%	1.03	
1995	524.06	509.44	505.94	466.93	474.79	495.69	492.48	484.40	486.33	503.48	484.67	516.53	494.86	0.82%	1.01	
1996	513.38	514.00	497.44	491.88	515.30	515.62	536.18	525.37	514.80	530.88	498.75	503.54	513.48	3.76%	1.04	
1997	452.87	509.84	509.56	512.40	530.75	536.01	523.26	542.82	538.67	530.33	498.58	511.43	517.86	0.85%	1.01	
1998	512.53	507.28	514.83	524.26	541.63	523.64	527.61	531.98	505.39	514.95	504.44	512.62	518.22	0.07%	1.00	
1999	509.97	507.10	519.17	534.50	550.74	556.37	548.66	560.20	544.60	575.30	549.66	557.67	543.91	4.96%	1.05	
2000	559.50	556.27	554.68	576.11	574.56	580.55	583.83	589.15	598.04	573.50	592.80	625.60	580.94	6.81%	1.07	
2001	617.39	608.36	609.23	565.36	595.89	591.32	558.34	569.97	577.50	592.70	570.51	557.96	583.89	0.51%	1.01	
2002	547.88	546.97	533.63	560.47	556.88	563.01	555.99	579.77	560.88	599.54	600.50	628.49(p)	569.50	-2.46%	0.98	
2002	Change to new Series per note 1 below														573.39	
2003	598.19	586.61	602.65	597.64	591.97	593.60	598.99	596.29	598.99	603.20	601.69	604.40	598.68	4.41%	1.04	
2004	604.40	601.38	601.38	600.26	602.57	603.37	604.56	605.36	607.68	607.75	608.94	608.20	604.56	0.98%	1.01	

## State and Area Employment, Hours, and Earnings

Years: 1972 - 2002  
 Series ID : SAU3500002000014 (n1)  
 Not Seasonally Adjusted  
 State : New Mexico  
 Area : Statewide  
 Industry : Construction  
 Detail : A 1-digit Industry (Industry Division)  
 Data Type : Average Weekly Earnings (In dollars)

Years: 2003 - 2007  
 Series ID : SMU350000020000004 (n2)  
 Not Seasonally Adjusted  
 State: New Mexico  
 Area: Statewide  
 Supersector: Construction  
 Industry: Construction  
 Data Type: Average Weekly Earnings, In Dollars

Years 2008 - 2018  
 Series ID : SMU3500000200000011  
 Not Seasonally Adjusted  
 State : New Mexico  
 Area : Statewide  
 Supersector : Construction  
 Industry : Construction  
 Data Type : Average Weekly Earnings of All Employees, In Dollars

### Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive
2005	609.40	611.78	612.22	614.99	616.57	618.55	622.50	624.08	627.25	628.44	629.64	629.64	620.91	2.70%	1.03
2006	631.23	634.01	635.61	637.99	641.59	640.78	642.37	645.18	649.62	653.67	658.94	661.78	644.40	3.78%	1.04
2007	660.56	660.14	659.31	662.16	662.96	661.73	660.45	660.40	660.74	665.66	666.00	671.34	662.50	2.81%	1.03
2008	Change to new Series per note 2 below														
2008	738.65	719.16	728.46	740.33	783.78	807.70	824.00	843.90	798.79	814.03	820.12	861.37	788.61	6.45%	1.06
2009	827.13	819.00	806.98	795.26	822.42	810.15	839.27	840.31	778.22	843.58	865.36	838.47	824.85	4.60%	1.05
2010	870.58	816.10	808.79	808.50	807.35	832.91	836.08	863.35	831.87	886.38	855.77	872.53	842.02	2.08%	1.02
2011	851.44	840.80	851.21	874.18	845.86	853.34	851.23	868.79	866.58	871.79	867.41	821.34	856.54	1.72%	1.02
2012	818.29	818.91	836.77	816.00	823.86	818.80	801.19	859.46	811.76	847.99	809.51	799.62	822.89	-3.93%	0.96
2013	785.14	791.62	783.74	814.57	823.37	833.13	798.72	832.14	808.40	837.22	859.81	823.68	817.03	-0.71%	0.99
2014	833.82	815.62	830.55	856.80	859.45	864.06	838.30	849.02	820.29	806.96	810.81	789.81	830.88	1.70%	1.02
2015	752.58	782.18	768.57	781.06	795.34	771.36	784.86	820.85	761.57	789.59	804.71	794.77	783.16	-5.74%	0.94
2016	795.85	801.82	809.24	797.99	777.00	806.19	805.81	829.47	835.75	858.65	860.98	846.72	817.93	4.44%	1.04
2017	849.27	836.83	836.20	816.58	861.62	876.11	867.34	889.13	865.96	876.49	902.33	900.68	866.02	5.88%	1.06
2018	865.26	879.74	882.10	887.49	915.62	919.49	902.27	942.44	911.82	944.86	978.46	1014.74	920.36	6.27%	1.06

### Geometric mean:

3.03%

p : Preliminary

Old Series ID : SAU3500002000014 // SAU3500002000014 (n)

(n1): Standard Industrial Classification (SIC) is replaced by North American Industrial Classification System (NAICS) in 2002. The (n) series data stopped at 2002. New series ID uses similar criteria as the old series ID. See <http://www.bls.gov/sae/saenacs.htm> for details.

(n2): Series ID is discontinued in 2008. SMU3500000200000011 is closest to the old data series for New Mexico -Construction Workers

<http://data.bls.gov/cgi-bin/srgate>

## PPI Commodity Data

Series ID : WPU057303

Not Seasonally Adjusted

Group : Fuels and related products and power

Item : #2 diesel fuel

Base Date: 198200

Years: 1973 - 2018

Data:\*

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive
1973	0.0	12.5	12.7	12.8	13.3	13.8	14.4	14.5	14.7	15.0	15.8	17.2	N/A	N/A	N/A
1974	19.8	23.4	24.9	26.1	27.6	28.9	30.2	30.4	31.0	30.4	29.7	30.0	27.7	N/A	N/A
1975	29.8	29.6	29.5	29.7	29.6	30.6	31.5	31.9	32.4	32.7	33.6	34.0	31.2	0.13	1.13
1976	33.9	34.2	34.0	33.7	33.4	33.5	33.7	34.0	34.5	34.6	34.9	35.3	34.1	0.09	1.09
1977	36.1	37.0	37.8	38.4	38.8	38.8	39.0	39.0	39.1	39.0	39.3	39.4	38.5	0.13	1.13
1978	39.7	39.8	39.5	39.4	39.4	39.3	39.3	39.4	39.5	40.0	40.4	41.3	39.7	0.03	1.03
1979	42.0	42.6	44.4	47.0	49.9	53.8	59.0	63.4	68.1	71.2	71.6	72.2	57.1	0.44	1.44
1980	74.6	80.1	84.5	86.5	87.3	86.5	87.9	88.7	88.5	88.1	88.1	89.2	85.8	0.50	1.50
1981	93.3	99.2	107.0	109.4	108.8	108.3	107.4	106.7	105.3	105.2	104.3	104.9	105.0	0.22	1.22
1982	105.2	105.1	103.2	97.0	92.9	95.4	99.8	99.9	98.4	98.3	101.3	103.4	100.0	-0.05	0.95
1983	99.3	93.6	87.9	81.5	81.9	85.5	85.7	86.4	87.2	89.5	88.8	88.1	87.9	-0.12	0.88
1984	86.7	89.2	92.3	86.8	85.8	86.9	87.7	84.8	82.8	83.6	85.2	84.2	86.3	-0.02	0.98
1985	83.2	81.1	79.9	80.1	82.9	79.9	76.1	74.3	78.7	82.6	86.7	89.1	81.2	-0.06	0.94
1986	81.9	63.7	49.5	49.5	45.6	43.7	36.1	38.1	45.2	42.0	42.6	44.8	48.6	-0.40	0.60
1987	50.3	52.8	49.7	51.8	53.1	54.8	56.1	59.5	57.5	59.8	61.3	58.1	55.4	0.14	1.14
1988	54.6	51.5	50.3	53.5	54.5	51.0	47.2	46.9	46.8	42.6	47.1	50.4	49.7	-0.10	0.90
1989	54.2	55.1	57.7	62.9	58.0	54.0	52.9	53.6	59.5	65.4	64.8	68.5	58.9	0.19	1.19
1990	84.6	59.8	60.7	60.8	58.6	54.0	52.2	72.9	88.4	105.6	100.0	91.0	74.1	0.26	1.26
1991	82.4	75.3	62.0	60.1	60.6	58.4	58.5	62.4	65.8	67.4	70.7	63.3	65.6	-0.11	0.89
1992	55.0	57.0	56.2	58.6	62.1	65.6	65.0	63.7	65.4	68.0	65.2	60.9	61.9	-0.06	0.94
1993	60.6	60.3	63.1	63.2	63.4	61.6	57.7	55.2	60.8	66.5	63.0	51.2	60.5	-0.02	0.98
1994	51.4	56.6	56.9	54.6	54.8	54.2	56.4	57.4	57.7	58.4	59.5	54.2	56.0	-0.07	0.93
1995	54.0	53.1	55.0	58.2	59.4	56.8	53.7	56.0	58.5	58.8	59.7	60.2	57.0	0.02	1.02
1996	62.2	59.4	62.6	75.4	74.5	64.9	66.1	66.6	74.7	80.2	77.0	76.0	70.0	0.23	1.23
1997	73.2	73.1	66.5	66.1	63.6	61.0	57.7	62.1	61.3	64.7	65.8	58.9	64.5	-0.08	0.92
1998	53.9	51.3	47.6	50.0	50.0	45.8	44.7	44.4	48.1	47.3	46.1	39.0	47.4	-0.27	0.73
1999	40.2	38.1	43.2	53.1	53.0	53.5	59.8	65.6	68.8	67.5	71.9	72.7	57.3	0.21	1.21
2000	76.1	86.1	90.0	84.1	82.8	85.7	89.5	92.1	110.8	110.0	110.4	101.6	93.3	0.63	1.63
2001	96.7	92.4	83.5	86.4	93.1	90.2	81.6	82.0	91.6	75.9	71.3	56.2	83.4	-0.11	0.89
2002	58.9	60.0	69.7	76.9	74.7	73.3	77.6	80.4	92.3	98.7	85.5	86.8	77.9	-0.07	0.93
2003	97.6	123.8	129.4	102.3	87.9	89.8	92.7	96.6	91.1	101.1	95.9	98.1	100.5	0.29	1.29
2004	109.3	103.7	109.7	119.9	121.0	114.2	123.0	135.1	140.9	166.6	159.7	135.3	128.2	0.28	1.28
2005	141.1	149.5	173.3	175.4	170.8	187.2	189.8	200.6	212.6	264.1	206.2	198.5	189.1	0.48	1.48
2006	197.1	196.2	206.5	230.4	239.6	246.9	237.5	250.2	201.3	197.5	197.2	203.0	216.9	0.15	1.15
2007	180.9	193.5	220.2	238.0	226.5	227.6	243.5	231.2	246.2	249.6	296.7	271.9	235.5	0.09	1.09
2008	278.2	287.5	353.7	365.1	398.2	421.0	431.9	346.7	342.3	281.8	224.1	168.0	324.9	0.38	1.38
2009	161.6	147.2	139.2	167.4	166.4	191.1	172.8	204.1	193.2	202.8	215.7	205.1	180.6	-0.44	0.56
2010	229.4	206.9	225.5	240.0	235.8	221.8	218.5	231.1	227.7	243.7	255.3	259.2	232.9	0.29	1.29
2011	270.0	289.3	321.8	339.8	328.4	333.7	327.8	307.3	317.8	310.6	337.1	311.0	316.2	0.36	1.36
2012	322.0	329.2	344.3	339.4	325.8	295.4	298.7	324.1	342.4	351.0	323.8	317.4	326.1	0.03	1.03
2013	318.9	342.4	321.0	318.3	307.7	304.8	311.6	319.3	328.0	318.4	307.0	314.7	317.7	-0.03	0.97
2014	308.5	322.0	318.1	318.7	316.5	308.8	307.8	306.9	302.3	283.4	272.3	229.9	299.6	-0.06	0.94
2015	182.6	191.5	193.1	183.8	202.6	198.7	194.0	189.2	169.4	173.5	167.4	130.8	181.4	-0.39	0.61

<b>2016</b>	119.2	113.4	119.4	123.6	144.4	155.4	157.6	149.8	163.1	159.7	157.0	158.8	143.5	-0.21	0.79
<b>2017</b>	161.1	163.5	161.3	162.9	173.6	171.5	179.6	188.9	204.2	213.5	223.7	223.8	185.6	0.29	1.29
<b>2018</b>	229.4	226.5	224.8	231.8	251.1	261.4	256.9	254.3	262.5	271.1	267.4	235.1	247.8	0.34	1.34

**Geometric mean:**

**5.11%**

P : Preliminary. All indexes are subject to revision four months after original publication.

\* : Data is regularly evaluated per revised seasonal factor every year

## PPI Commodity Data

Series Id: WPU112D\*

Not Seasonally Adjusted

Group: Machinery and equipment

Item: Off-highway, equipment, ex. parts

Base Date: 199912

Years: 1982 - 2018

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	% Change	Convert to Positive
1982	97.8	98.2	98.8	99.4	100.1	100.5	100.3	100.6	100.9	100.8	101.2	101.4	100	N/A	N/A
1983	101.2	101.2	101.6	101.4	101.8	102	102.6	102.8	103	102.9	103.1	103.1	102.2	2.22%	1.02
1984	102.9	103	103.1	103.2	103.1	103.4	103.5	103.6	103.7	103.7	103.8	103.9	103.4	1.16%	1.01
1985	104.3	104.4	104.4	104.5	104.4	104.3	104.2	104.3	104.3	104.5	104.2	104.4	104.4	0.91%	1.01
1986	104.3	104.4	104.6	104.8	104.8	104.4	104.3	104.3	104.4	104.6	106.5	106.7	104.8	0.47%	1.00
1987	105.6	105.8	105.9	106	107.5	107.1	106.8	106.8	107.5	107.6	107.9	108.1	106.9	1.95%	1.02
1988	108.8	110.2	109.9	110.4	110.7	110.2	112.8	112.9	113.4	113.8	114.1	114.6	111.8	4.62%	1.05
1989	116.7	116.4	117.9	118.5	119.3	122.7	121.1	121.6	121.9	122.3	122.5	122.8	120.3	7.59%	1.08
1994	134.9	134.8	134.9	135.3	135.5	135.7	136	136.3	136.4	136.8	137.1	137.2	135.9	12.97%	1.13
1995	137.7	138.5	138.4	138.4	138.6	138.8	139	139.3	139.5	139.8	140.1	140.9	139.1	2.34%	1.02
1996	140.4	141.8	141.7	141.7	141.8	143.1	143.2	143.5	143.8	144.1	144.4	144.7	142.9	2.71%	1.03
1997	144.7	144.8	144.9	146.1	146.2	146.1	146.3	146.6	146.9	147.2	147.5	147.8	146.3	2.39%	1.02
1998	148.7	148.7	149.4	149.1	149.4	149.7	149.9	150.3	150.6	150.9	151.1	151.7	150.0	2.53%	1.03
1999	150.1	151.3	151.2	152.3	152.6	152.9	153.1	153.4	153.7	154	154.3	154.6	152.8	1.89%	1.02
1999	Change to new Series per note below												100	100	
2000	101.2	101.3	101.3	101.4	101.4	101.4	101.4	101.4	101.4	101.4	101.4	101.4	101.4	1.40%	1.01
2001	101.6	101.6	101.6	101.7	101.7	101.7	101.7	101.7	101.7	102.2	102.3	102.4	101.8	0.39%	1.00
2002	102.9	102.9	102.9	102.9	102.9	102.9	102.9	103.1	103.1	103.1	103.3	103.3	103	1.18%	1.01
2003	104.2	104.2	104	104	104.1	104.1	104.1	104.1	104.1	104.1	104.5	104.6	104.2	1.17%	1.01
2004	105.4	105.7	105.8	106.7	106.8	107	108.7	108.8	108.8	108.1	107.9	107.3	107.3	2.98%	1.03
2005	109.9	109.7	109.7	109.7	111.6	113.1	113.1	113.1	113.1	113.5	113.7	114	112	4.38%	1.04
2006	115.9	116.1	116.2	116.2	115.9	116	116	116	116.4	116.7	116.7	116.6	116.2	3.75%	1.04
2007	117.7	117.7	117.4	117.5	117.5	117.5	117.5	117.6	117	117.9	118.2	118.4	117.7	1.29%	1.01
2008	118.3	119.7	119.9	121.6	121.6	122	122.3	122.7	122.8	122.6	123.7	124.9	121.9	3.57%	1.04
2009	124.6	125.5	126.5	127.6	128.6	129.7	129.9	129.2	127.9	127.1	128.3	131.1	128	5.00%	1.05
2010	129.1	129.6	130	128.5	128.8	129.1	129.9	130.1	133.7	130.1	129.2	131.5	130	1.56%	1.02
2011	131.1	130.8	132.2	132	132.8	134.3	135.5	137.5	137.4	139	138.7	137.2	134.9	3.77%	1.04
2012	143.9	147.6	145.7	146.9	147.7	146	146.1	149.4	145.6	149.3	148.4	150.6	147.3	9.19%	1.09
2013	151.8	151.8	149.1	150.8	151.4	153	152.8	152.8	152.8	153	153.1	153.1	152.1	3.26%	1.03
2014	155.6	155.6	155.6	155.1	155.1	155.1	153.3	153.3	153.3	153.7	154.8	154.8	154.6	1.64%	1.02
2015	157.3	157.3	157.3	157	157	157	157.2	157.2	157.2	157.3	157.3	157.4	157.2	1.68%	1.02
2016	159.8	160.1	159.3	159	159	159	159.1	159.1	159.1	159.1	159.1	159.1	159.2	1.27%	1.01
2017	160.1	160.1	160.1	159.9	160	160	159.5	159.5	159.5	159.8	160	160	159.9	0.44%	1.00
2018	151.9	151.9	151.9	152.3	152.3	152.3	154.1	162.9	162.9	154.1	154.2	163	155.3	-2.87%	0.97

Geometric mean:

2.74%

P : Preliminary. All indexes are subject to revision four months after original publication.

\* : WPS1129 was discontinued in 1999. WPU112D is the closest report to the old WPS1129 report.

## WATER TREATMENT RECLAMATION ESCALATION RATE -- GEOMETRIC MEAN METHOD

Category	Rate	% of Project	% of Escalation Rate
Reagents	2.95%	38.56%	1.14%
Power	3.23%	2.83%	0.09%
Labor	3.04%	42.96%	1.31%
Maintenance	2.94%	15.65%	0.46%

Water Treatment Reclamation Escalation Rate:

**2.99%**

### **Reagents Composite** (*represented by Lime Index*)

Current Source                    US Geological Survey  
Years 1918 - 2018                Unit value per metric ton of lime  
limited to 100 years              Years: 1904 - 2018

### **Power Composite**

Current Source                    US Energy Information Administration  
Years 1960 - 2018                Retail Prices of Electricity Sold by Electric Utilities (Table 7.4, Table 9.9 and Table 5.3)  
58 years                          Years: 1960 - 2018

### **Labor Composite**

See Labor Summary Tab

### **Maintenance Composite** (*includes repair/replacement and maintenance costs*)

See Maintenance Summary Tab

**LIME STATISTICS<sup>1</sup>**  
**U.S. GEOLOGICAL SURVEY**  
[All values in metric tons (t) lime unless otherwise noted]

Year	Unit value (\$/t)	% Change	Convert to Positive
1918	9.22	33.04%	1.33
1919	9.75	5.75%	1.06
1920	11.60	18.97%	1.19
1921	10.80	-6.90%	0.93
1922	10.10	-6.48%	0.94
1923	10.80	6.93%	1.07
1924	10.70	-0.93%	0.99
1925	10.30	-3.74%	0.96
1926	10.00	-2.91%	0.97
1927	9.65	-3.50%	0.97
1928	9.01	-6.63%	0.93
1929	8.64	-4.11%	0.96
1930	8.33	-3.59%	0.96
1931	7.60	-8.76%	0.91
1932	6.92	-8.95%	0.91
1933	6.92	0.00%	1.00
1934	7.89	14.02%	1.14
1935	8.03	1.77%	1.02
1936	7.92	-1.37%	0.99
1937	8.04	1.52%	1.02
1938	7.95	-1.12%	0.99
1939	7.79	-2.01%	0.98
1940	7.66	-1.67%	0.98
1941	7.79	1.70%	1.02
1942	8.01	2.82%	1.03
1943	8.20	2.37%	1.02
1944	8.29	1.10%	1.01
1945	8.55	3.14%	1.03
1946	9.39	9.82%	1.10
1947	10.40	10.76%	1.11
1948	11.40	9.62%	1.10
1949	12.10	6.14%	1.06
1950	12.30	1.65%	1.02
1951	12.90	4.88%	1.05
1952	13.00	0.78%	1.01
1953	12.80	-1.54%	0.98
1954	13.00	1.56%	1.02
1955	13.40	3.08%	1.03
1956	14.10	5.22%	1.05
1957	14.50	2.84%	1.03
1958	14.50	0.00%	1.00
1959	14.50	0.00%	1.00
1960	14.70	1.38%	1.01
1961	14.80	0.68%	1.01
1962	15.00	1.35%	1.01
1963	15.10	0.67%	1.01

**LIME STATISTICS<sup>1</sup>**  
**U.S. GEOLOGICAL SURVEY**  
[All values in metric tons (t) lime unless otherwise noted]

Year	Unit value (\$/t)	% Change	Convert to Positive
1964	15.30	1.32%	1.01
1965	15.30	0.00%	1.00
1966	14.60	-4.58%	0.95
1967	14.80	1.37%	1.01
1968	14.80	0.00%	1.00
1969	15.40	4.05%	1.04
1970	16.30	5.84%	1.06
1971	17.50	7.36%	1.07
1972	18.60	6.29%	1.06
1973	19.20	3.23%	1.03
1974	24.30	26.56%	1.27
1975	30.30	24.69%	1.25
1976	33.30	9.90%	1.10
1977	36.90	10.81%	1.11
1978	40.50	9.76%	1.10
1979	45.50	12.35%	1.12
1980	49.00	7.69%	1.08
1981	51.80	5.71%	1.06
1982	54.50	5.21%	1.05
1983	56.30	3.30%	1.03
1984	56.40	0.18%	1.00
1985	57.00	1.06%	1.01
1986	57.90	1.58%	1.02
1987	55.20	-4.66%	0.95
1988	53.00	-3.99%	0.96
1989	54.90	3.58%	1.04
1990	57.10	4.01%	1.04
1991	57.00	-0.18%	1.00
1992	58.80	3.16%	1.03
1993	57.40	-2.38%	0.98
1994	58.60	2.09%	1.02
1995	59.50	1.54%	1.02
1996	61.50	3.36%	1.03
1997	61.00	-0.81%	0.99
1998	60.30	-1.15%	0.99
1999	60.40	0.17%	1.00
2000	60.60	0.33%	1.00
2001	61.30	1.16%	1.01
2002	62.60	2.12%	1.02
2003	64.80	3.51%	1.04
2004	68.80	6.17%	1.06
2005	75.00	9.01%	1.09
2006	81.20	8.27%	1.08
2007	87.10	7.27%	1.07
2008	92.40	6.08%	1.06
2009	105.00	13.64%	1.14

**LIME STATISTICS<sup>1</sup>**  
**U.S. GEOLOGICAL SURVEY**  
[All values in metric tons (t) lime unless otherwise noted]

Year	Unit value (\$/t)	% Change	Convert to Positive
2010	107.00	1.90%	1.02
2011	111.50	4.21%	1.04
2012	118.50	6.28%	1.06
2013	121.10	2.19%	1.02
	Change to new series per note below		
2013	117.80	n/a	n/a
2014	119.10	1.10%	1.01
2015	121.50	2.02%	1.02
2016	121.00	-0.41%	1.00
2017	123.00	1.65%	1.02
2018	not available yet		

**Geometric mean:** **2.95%**

<sup>1</sup>Compiled by T.G. Goonan and M.M. Miller.

Data are calculated, estimated, or reported.

Original data represented average value of lime used or sold by producers

New series represents average value of quicklime

<http://www.eia.doe.gov/cneaf/electricity/epa/epat7p4.html>

## Retail Prices of Electricity Sold by Electric Utilities

Source: US Energy Information Administration

### Electricity Industrial Sector Nominal Price

Year	Price per KWH	% Change	Convert to Positive
1960	110	N/A	N/A
1961	110	0.0%	1.00
1962	110	0.0%	1.00
1963	100	-9.1%	0.91
1964	100	0.0%	1.00
1965	100	0.0%	1.00
1966	100	0.0%	1.00
1967	100	0.0%	1.00
1968	100	0.0%	1.00
1969	100	0.0%	1.00
1970	100	0.0%	1.00
1971	110	10.0%	1.10
1972	120	9.1%	1.09
1973	130	8.3%	1.08
1974	170	30.8%	1.31
1975	210	23.5%	1.24
1976	220	4.8%	1.05
1977	250	13.6%	1.14
1978	280	12.0%	1.12
1979	310	10.7%	1.11
1980	370	19.4%	1.19
1981	430	16.2%	1.16
1982	500	16.3%	1.16
1983	500	0.0%	1.00
1984	483	-3.4%	0.97
1985	497	2.9%	1.03
1986	493	-0.8%	0.99
1987	477	-3.2%	0.97
1988	470	-1.5%	0.99
1989	472	0.4%	1.00
1990	474	0.4%	1.00
1991	483	1.9%	1.02
1992	483	0.0%	1.00
1993	485	0.4%	1.00
1994	477	-1.6%	0.98
1995	466	-2.3%	0.98
1996	460	-1.3%	0.99
1997	453	-1.5%	0.98
1998	448	-1.1%	0.99
1999	443	-1.1%	0.99
2000	464	4.7%	1.05
2001	505	8.8%	1.09
2002	488	-3.4%	0.97
2003	511	4.7%	1.05
2004	525	2.7%	1.03
2005	573	9.1%	1.09
2006	616	7.5%	1.08
2007	639	3.7%	1.04
2008	683	6.9%	1.07
2009	681	-0.3%	1.00
2010	677	-0.6%	0.99

<http://www.eia.doe.gov/cneaf/electricity/epa/epat7p4.html>

## Retail Prices of Electricity Sold by Electric Utilities

Source: US Energy Information Administration

### Electricity Industrial Sector Nominal Price

Year	Price per KWH	% Change	Convert to Positive
2011	682	0.7%	1.01
2012	667	-2.2%	0.98
2013	689	3.3%	1.03
2014	710	3.0%	1.03
2015	691	-2.7%	0.97
2016	676	-2.2%	0.98
2017	688	1.8%	1.02
2018	696	1.2%	1.01
Geometric Mean:			3.23%

## LABOR ESCALATION RATE SUMMARY -- GEOMETRIC MEAN METHOD

Labor	Rate	% of Project	% of Escalation Rate
Unskilled	3.05%	75%	2.29%
Skilled/Maintenance	3.01%	25%	0.75%
<b>Labor Rate =</b>	<b>3.04%</b>		

### **Labor Composite**

Current Source 1A Years: 1985 - 2005 20 years	Unskilled - Employment Cost Index Series ID : ECU11242I Not Seasonally Adjusted Compensation : Total compensation Ownership : Private industry Periodicity : Index number Group : Handlers, equipment cleaners, helpers, and laborers occupations
Current Source 1B Years: 2006 - 2018 13 years	Unskilled - Employment Cost Index Series ID : CIU2010000510000I Not Seasonally Adjusted Compensation : Total compensation Sector: Private industry Periodicity : Index number Industry Occupation: Production occupations including water treatement
Current Source 2A Years: 1985 - 2005 20 years	Skilled & Maintenance - Employment Cost Index Series ID : ECU11212I Not Seasonally Adjusted Compensation : Total compensation Ownership : Private industry Periodicity : Index number Group : Precision, production, craft, and repair occupations
Current Source 2B Years: 2006 - 2018 13 years	Skilled & Maintenance - Employment Cost Index Series ID : CIU2010000430000I (B) Not Seasonally Adjusted Compensation : Total compensation Sector: Private industry Periodicity : Index number Industry Occupation: Installation, maintenance, and repair occupations

## Employment Cost Index

### Series Catalog:

Years: 1985 - 2005  
 Series ID : ECU11242I  
 Not Seasonally Adjusted  
 Compensation : Total compensation  
 Ownership : Private industry  
 Periodicity : Index number  
 Group : Handlers, equipment cleaners, helpers, and laborers occupations

Years: 2006 - 2018  
 Series ID : CIU2010000510000I  
 Not Seasonally Adjusted  
 Compensation: Total compensation  
 Sector: Private industry  
 Periodicity : Index number  
 Industry Occupation: Production occupations including water

### Data:

Year	Qtr1	Qtr2	Qtr3	Qtr4	Annual	% Change	Convert to Positive
1985				49.4		N/A	N/A
1986	49.7	49.9	50.2	50.5	50.1	N/A	N/A
1987	50.7	50.9	51.3	51.9	51.2	2.25%	1.02
1988	53	53.4	53.8	54.2	53.6	4.69%	1.05
1989	54.8	55.5	56.2	56.7	55.8	4.10%	1.04
1990	57.5	58.1	58.7	59.2	58.4	4.61%	1.05
1991	60	60.7	61.3	61.8	61.0	4.41%	1.04
1992	62.5	62.9	63.6	64	63.3	3.77%	1.04
1993	64.8	65.3	65.7	66.1	65.5	3.52%	1.04
1994	66.7	67.4	68.1	68.2	67.6	3.25%	1.03
1995	68.9	69.5	69.9	70.4	69.7	3.07%	1.03
1996	71.3	71.8	72.1	72.9	72.0	3.37%	1.03
1997	73.7	74	74.5	75.4	74.4	3.30%	1.03
1998	76	76.4	76.9	77.2	76.6	2.99%	1.03
1999	78.2	79	79.5	80.1	79.2	3.36%	1.03
2000	81.2	82.2	82.9	83.5	82.5	4.10%	1.04
2001	84.5	85.1	86	86.8	85.6	3.82%	1.04
2002	88.1	88.7	89.6	90.4	89.2	4.21%	1.04
2003	91.5	92.6	93.6	94.1	93.0	4.20%	1.04
2004	95.3	96.1	96.7	97.3	96.4	3.66%	1.04
2005	98.2	98.7	99.4	100	99.1	2.83%	1.03
2005	Change to new series per note below				99.3		
2006	100.4	101	101.6	102	101.3	1.94%	1.02
2007	102.1	102.8	103.2	104	103.0	1.75%	1.02
2008	104.8	105.2	105.8	106.1	105.5	2.38%	1.02
2009	107.1	107.6	108	108.2	107.7	2.13%	1.02
2010	109.5	110	110.7	110.8	110.3	2.34%	1.02
2011	111.7	113.2	113.4	113.8	113.0	2.52%	1.03
2012	113.8	114.4	114.8	115	114.5	1.31%	1.01
2013	115.7	116.1	116.3	116.7	116.2	1.48%	1.01
2014	117.8	118.1	118.8	119.4	118.5	2.00%	1.02
2015	120.4	121	121.7	122.5	121.4	2.43%	1.02
2016	123.4	124.2	125	125.5	124.5	2.57%	1.03
2017	126.5	127.2	128.6	129.2	127.9	2.69%	1.03
2018	130.2	131.1	131.5	132.3	131.3	2.66%	1.03

**Geometric mean:** **3.05%**

Old Series ID: ECU11242I (no change to data series but data was revised)

Old series data stopped at 2005. New series ID uses similar criterias as the old series ID.

## Employment Cost Index

### Series Catalog:

Years: 1985 - 2005	Years: 2006 - 2018
Series ID : ECU11212I	Series ID : CIU2010000430000I
Not Seasonally Adjusted	Not Seasonally Adjusted
Compensation : Total compensation	Compensation : Total compensation
Ownership : Private industry	Ownership : Private industry
Periodicity : Index number	Periodicity : Index number
Group : Precision, production, craft, and repair occupations	Group : Installation, maintenance, and repair occupations involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair.

### Data:

Year	Qtr1	Qtr2	Qtr3	Qtr4	Annual	% Change	Convert to Positive
1985				50.5		N/A	N/A
1986	51.2	51.4	51.8	52	51.6	N/A	N/A
1987	52.2	52.6	53.2	53.6	52.9	2.52%	1.03
1988	54.4	55	55.3	55.7	55.1	4.16%	1.04
1989	56	56.8	57.5	57.9	57.1	3.54%	1.04
1990	58.7	59.5	60	60.3	59.6	4.51%	1.05
1991	61.3	62	62.7	63	62.3	4.40%	1.04
1992	63.7	64.2	64.9	65.3	64.5	3.65%	1.04
1993	66.2	66.8	67.4	67.5	67.0	3.80%	1.04
1994	68.3	68.8	69.6	69.6	69.1	3.14%	1.03
1995	70.1	70.6	71.2	71.4	70.8	2.53%	1.03
1996	71.8	72.5	72.8	73.3	72.6	2.51%	1.03
1997	73.6	74.3	74.8	74.9	74.4	2.48%	1.02
1998	75.5	76.3	76.9	77.3	76.5	2.82%	1.03
1999	77.9	78.6	79.3	79.8	78.9	3.14%	1.03
2000	80.8	81.8	82.8	83.3	82.2	4.15%	1.04
2001	84.4	85	86.2	86.6	85.6	4.11%	1.04
2002	87.3	88.4	89.1	89.6	88.6	3.57%	1.04
2003	90.9	92	92.6	93.2	92.2	4.03%	1.04
2004	94.9	96	96.6	97.2	96.2	4.34%	1.04
2005	98.3	99.3	99.7	100	99.3	3.28%	1.03
2005	Change to new series per note below				99.3		
2006	100.9	102.1	103	103.4	102.4	3.12%	1.03
2007	103.5	104.1	105.2	105.8	104.7	2.25%	1.02
2008	106.3	106.6	107.4	108.1	107.1	2.34%	1.02
2009	108.6	108.9	109.4	109.8	109.2	1.94%	1.02
2010	111.1	111.5	111.6	111.9	111.5	2.15%	1.02
2011	112.6	114.2	114.9	115	114.2	2.38%	1.02
2012	116.1	116.8	117.5	117.8	117.1	2.52%	1.03
2013	118.6	119.3	119.9	119.9	119.4	2.03%	1.02
2014	121	122.6	123.5	123.5	122.7	2.70%	1.03
2015	124.1	124.2	124.6	124.8	124.4	1.45%	1.01
2016	125.6	126.1	126.9	127.1	126.4	1.61%	1.02
2017	127.7	129.2	130.2	130.9	129.5	2.43%	1.02
2018	131.3	133.4	133.9	134.6	133.3	2.93%	1.03

Geometric mean: **3.01%**

Old Series ID: ECU11212I (no change to data series but data was revised)

Old series data stopped at 2005. New series ID uses similar criterias as the old series ID.

## MAINTENANCE ESCALATION RATE SUMMARY -- GEOMETRIC MEAN METHOD

Maintenance Items	Rate
Industrial pumps	4.43%
Domestic water systems	3.37%
Industrial controls and related parts and accessories	2.30%
Industrial Process Control Instruments	2.41%
Repair and Maintenance Services	2.22%
<b>Maintenance Rate =</b>	<b>2.94%</b>

### **Maintenance Components**

Industrial Pumps Years: 1971 - 2018 48 years	Producer Price Index-Commodities Series ID : WPU114102 Not Seasonally Adjusted Group : Machinery and equipment <b>Item : Industrial pumps</b>
Domestic water systems Years: 2004 - 2018 15 years	Producer Price Index-Commodities Series ID : WPU11411311 Not Seasonally Adjusted Group : Machinery and equipment <b>Item : Domestic Water Systems</b>
Industrial controls and related parts and accessories Years: 1990 - 2018 29 years	Producer Price Index-Commodities Series ID : WPU117507 Not Seasonally Adjusted Group : Machinery and equipment <b>Item : Industrial controls and related parts and accessories</b>
Industrial Process Control Instruments Years: 1983 - 2018 36 years	Producer Price Index-Commodities Series ID : WPU1182 Not Seasonally Adjusted Group : Machinery and equipment <b>Item : Industrial process control instruments</b>
Repair and Maintenance Services Years: 2009 - 2018 10 years	Producer Price Index-Commodities Series ID : WPU551 Not Seasonally Adjusted Group : Repair and Maintenance Services <b>Item : Commercial and industrial machinery and equipment repair and maintenance</b>

## PPI Commodity Data

### Series Catalog:

Series ID : WPU114102

Not Seasonally Adjusted

Group : Machinery and equipment

Item : Industrial pumps

Base Date: 198200

### Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive	
1971	33.1	33.2	33.4	33.5	33.7	33.3	33.3	33.6	33.6	33.6	33.6	33.6	33.5	N/A	N/A	
1972	33.7	34.2	34.3	34.3	33.8	34.5	34.6	34.6	34.6	34.6	34.7	34.7	34.4	2.69%	1.03	
1973	34.7	35	35.1	35.3	35.3	36.2	36.1	36	36.2	36.7	37	37.2	35.9	4.36%	1.04	
1974	37.4	37.6	38.9	40.2	42.3	44.7	46.9	47.6	48	49.3	51.3	51.6	44.6	24.23%	1.24	
1975	52.3	53	53	52.7	52.8	52.8	53.3	53.4	53.7	53.8	54.1	54	53.2	19.28%	1.19	
1976	54.2	55.1	55.5	55.7	55.4	55.5	55.6	56	56.5	56.6	56.5	57.5	55.8	4.89%	1.05	
1977	58.2	58.1	58.3	58.3	58.9	59.5	60.3	60.2	60.7	61	61.5	61.6	59.7	6.99%	1.07	
1978	61.9	62.3	62.5	63.6	63.8	64.6	64.9	65	65.4	65.6	66.9	67.1	64.5	8.04%	1.08	
1979	67.3	67.3	68.1	68.6	69.7	69.9	70.1	70.8	71	71.8	72.3	75.7	70.2	8.84%	1.09	
1980	76.9	77.6	79	80.4	81.1	81.4	82.3	82.8	83.3	85	87	88.5	82.1	16.95%	1.17	
1981	89.2	90.5	91	91.2	93.6	94	95.6	96.3	95.8	96.5	97.3	97.7	94.1	14.62%	1.15	
1982	98.9	99.4	99.8	100.4	100.5	100	100	100	100.2	100.1	100.4	100.5	100	6.27%	1.06	
1983	101.1	101	100.2	100.2	100.2	100.2	100.3	99.2	99.3	98.7	98.8	98.9	99.8	-0.20%	1.00	
1984	99	99.7	100	100.3	99.5	99.9	100	100.1	101	101.6	102.5	101.6	100.4	0.60%	1.01	
1985	101.8	102.4	102.8	102	101.9	102.1	102.2	102.4	102.3	102.8	103.1	101.8	102.3	1.89%	1.02	
1986	102.2	103.7	103.8	103.8	102.8	102.8	102.8	102.9	103.5	103.5	103.6	103.7	103.3	0.98%	1.01	
1987	104.3	104.3	104.5	104.5	105.1	105	105	105.2	105.3	105.6	106.2	106.9	105.2	1.84%	1.02	
1988	106.9	107.1	107.4	108.8	109.2	110.9	110.9	111.4	111.9	112.2	114	114.5	110.4	4.94%	1.05	
1989	115.3	115.4	116.8	118.5	118.6	118.8	118.7	118.9	119.9	120	120.3	120.4	118.5	7.34%	1.07	
1990	121	121.8	122.1	121.1	123.4	123.7	124	124.6	124.9	125.8	125.9	126.3	123.7	4.39%	1.04	
1991	127.6	128.4	128.5	129.4	130.1	130.3	130.1	130.4	130.5	130.5	130.5	131.1	129.8	4.93%	1.05	
1992	132.4	133.1	134	134.3	134.5	134.5	134.8	136.1	136.2	136.2	136.3	136.3	134.9	3.93%	1.04	
1993	138	138.7	139.2	139.5	139.5	139.4	139.4	139.5	139.6	139.8	140	140	139.4	3.34%	1.03	
1994	140.9	141.2	141.9	142.1	142.2	142.2	142.2	142.4	142.6	142.6	143	143	143.6	142.3	2.08%	1.02
1995	145.5	145.4	146.6	146.7	146.7	146.7	146.6	146.8	146.9	147	147.8	148.2	146.7	3.09%	1.03	
1996	149.2	149	149.8	149.9	150.1	150	150.1	150.6	150.7	150.8	151	151.2	150.2	2.39%	1.02	
1997	152.5	152.7	153.5	153.8	155.3	155.2	155.1	155.3	156	156.5	156.5	156.7	154.9	3.13%	1.03	
1998	158.7	158.8	158.8	159	159	159	159.4	159.5	159.5	159.7	160.4	159.8	159.3	2.84%	1.03	
1999	161	160.4	161.2	161.3	160.4	161.1	161.8	161.4	161.3	163.2	161.6	162	161.4	1.32%	1.01	
2000	161.9	162.4	164.2	163.6	164.8	163.3	163.7	164	164.7	163.8	164.9	164.6	163.8	1.49%	1.01	
2001	165.4	164.8	165.5	165.5	166.2	165.7	170.5	170.5	170.9	171	171.4	171.4	168.2	2.69%	1.03	
2002	171.9	172.3	172.1	172.7	172.4	172.3	172.4	172.1	172.9	172.7	172.7	172.2	172.4	2.50%	1.02	
2003	173.4	173.3	174	174.6	174	174	174.5	174.3	174.3	174.9	175	174.4	174.2	1.04%	1.01	
2004	176.3	176	176.6	177.7	178.8	178.7	179.6	180.5	180.9	181.5	182.3	182	179.2	2.87%	1.03	
2005	185.2	185.5	187.5	188.7	188.7	188.5	188.5	188.3	189.7	189.8	190.1	190.8	188.4	5.13%	1.05	

<http://data.bls.gov/cgi-bin/srgate>

## PPI Commodity Data

### Series Catalog:

Series ID : WPU114102

Not Seasonally Adjusted

Group : Machinery and equipment

Item : Industrial pumps

Base Date: 198200

### Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive
2006	191.9	193.4	194.7	195	196.4	197	197.7	198	198	198.2	200.3	201.2	196.8	4.46%	1.04
2007	202.5	205.1	206.9	208.6	209.6	209.6	209.9	210.4	210.4	212.2	212.4	211.8	209.1	6.25%	1.06
2008	214.4	215	216.9	216.7	219	220.6	221.6	221.8	224	224.7	224.2	224.1	220.3	5.36%	1.05
2009	226.3	225.6	226.3	226.3	226.4	226.9	226.6	226.4	226.4	226.1	226.1	227.4	226.4	2.77%	1.03
2010	227.9	228.1	228.3	227.4	227.7	227.5	227.9	228.2	228.3	228.2	228.6	228.6	228	0.71%	1.01
2011	225.4	226.8	227.4	228.1	228.5	228.1	229.1	229.3	229.4	229.7	229.7	229.7	228.4	0.18%	1.00
2012	230.1	232.7	233.4	233.8	233.9	234.3	234.2	234.2	234.2	234.3	229.2	229.2	232.8	1.93%	1.02
2013	229.2	229.4	230.8	231.2	231.1	231.4	231.5	232.3	232.4	232.3	232.8	232.8	231.4	-0.60%	0.99
2014	235.2	235.8	235.8	236	235.9	235.8	235.9	235.9	235.9	236.3	236.7	236.8	236	1.99%	1.02
2015	239.3	239.6	239.7	240.4	240.3	240.3	240.5	240.5	240.5	240.5	240.5	241.7	240.3	1.82%	1.02
2016	244.3	244.6	244.3	244.3	243.2	243.2	243.1	243.1	243.1	243.1	243.1	244.1	243.6	1.37%	1.01
2017	244.5	246.7	247.9	247.9	247.9	247.9	247.9	247.9	247.9	249.5	251.6	252.4	248.3	1.93%	1.02
2018	253.5	253.9	254.3	254.4	256.5	256.5	257.3	258.5	259.8	261.1	260.5	260.7	257.2	3.58%	1.04

Geometric mean:

4.43%

P : Preliminary. All indexes are subject to revision four months after original publication.

<http://data.bls.gov/cgi-bin/srgate>

## PPI Commodity Data

### Series Catalog:

Series ID : WPU11411311

Not Seasonally Adjusted

Group : Machinery and equipment

Item : Domestic water systems

Base Date: 200312

### Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive
2003	0	0	0	0	0	0	0	0	0	0	0	100	100	N/A	N/A
2004	100.5	100.5	100.5	102.6	102.9	103.3	106.1	107.1	107.3	107.5	108.3	109.1	104.6	4.60%	1.05
2005	110.9	114.3	114.3	113.6	114.2	114	114	114.4	114.3	114.7	114.9	117	114.2	9.18%	1.09
2006	116.9	117.9	118.2	118.6	119.1	120.5	118.2	118.6	119.8	120.6	120.9	120.5	119.1	4.29%	1.04
2007	121.7	122.3	122.4	122.4	123.3	123.7	123.3	123.7	123	124.9	125.7	125.8	123.5	3.69%	1.04
2008	126.1	128.3	127	127.7	128.6	128.5	128.4	129.3	128	129.1	129.8	128.4	128.3	3.89%	1.04
2009	129.1	129	129	129.4	130.6	130.6	130.7	130.7	130.7	130.1	130.1	130.1	130	1.33%	1.01
2010	130.2	130.2	130.8	131.4	132.9	133.4	133.3	133.7	133.3	133.4	133.3	132.7	132.4	1.85%	1.02
2011	136.9	135.5	136	136.2	136.4	136.9	138.1	137.8	138	138.1	138.3	139.5	137.3	3.70%	1.04
2012	141.3	141.6	141.5	141.8	141.5	141.8	142.1	142.1	141.7	142.2	141.8	142.5	141.8	3.28%	1.03
2013	143.5	145.3	145.3	145.4	145.7	146	146	145.8	145.7	145.9	146.3	146.3	145.6	2.68%	1.03
2014	148.4	149.5	149.5	149.7	149.7	150.1	150.1	150.3	150.3	150.3	150.1	150.1	149.9	2.95%	1.03
2015	152.8	152.6	153.5	155.3	155.2	155.3	155.4	156.6	156.7	156.9	156.5	157.3	155.3	3.60%	1.04
2016	158.2	158.3	158.6	158.8	156.3	156.5	156.8	156.8	156.8	156.8	156.8	157.6	157.4	1.35%	1.01
2017	158	158.7	160.9	161.3	161.4	161.4	161.4	161.4	161.4	161.4	161.5	161.8	160.9	2.22%	1.02
2018	163.1	163.1	163.1	162.7	163.3	163.3	162.7	162.7	162.7	168.5	168.3	167.8	164.3	2.11%	1.02

Geometric mean:

3.37%

P : Preliminary. All indexes are subject to revision four months after original publication.

<http://data.bls.gov/cgi-bin/srgate>

## PPI Commodity Data

### Series Catalog:

Series ID : WPU117507

Not Seasonally Adjusted

Group : Machinery and equipment

Item : Industrial controls and related parts and accessories

Base Date: 198200

### Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive	
1990	120.2	120.5	120.4	120.6	121.2	121.3	121.5	122.1	123.1	123.6	124.4	124.8	122	N/A	N/A	
1991	125.8	126.2	126.7	126.9	126.8	126.6	127.5	127.8	126.8	127	127.4	127.7	126.9	4.02%	1.04	
1992	128.1	129.1	129.1	129.1	129.7	129.8	130	130.1	129.9	130.4	132.8	132.8	130.1	2.52%	1.03	
1993	132.6	132.9	132.8	132.8	133.3	133.5	133.3	133.3	133.3	133.3	133.5	134.2	133.2	2.38%	1.02	
1994	133.6	134.1	134.1	134.3	134.2	133.8	133.7	133.8	133.8	134	134.8	135.2	134.1	0.68%	1.01	
1995	135.9	136.4	136.5	136.3	136	136.2	137.2	137	137.3	137.2	138.5	138.6	136.9	2.09%	1.02	
1996	139.3	139	139.3	139.1	139.5	139.7	139.6	140.4	140.5	141.1	142.6	142.1	140.2	2.41%	1.02	
1997	142.8	143.6	143.6	143.9	143.9	144.1	144.1	143.9	143.9	143.9	145.3	145.3	144	2.71%	1.03	
1998	145.3	145.4	145.8	146	146.4	146.4	146.4	146.5	146.3	146.5	148.3	148.3	146.5	1.74%	1.02	
1999	148.4	147.8	148	149.3	149.4	149.7	148.8	148.7	148.7	148.8	149.4	149.4	148.9	1.64%	1.02	
2000	149.6	150.3	150.3	150.6	149.7	149.7	149.9	151.1	151.1	151.2	151.2	151.6	151.7	150.6	1.14%	1.01
2001	152.5	153.4	153.6	153.7	153.7	153.8	153.5	153.6	153.5	153.5	154	155.2	153.7	2.06%	1.02	
2002	155.1	154.7	154.7	154.7	154.9	154.9	152.8	152.8	152.9	153.6	154.9	155	154.2	0.33%	1.00	
2003	155	155.4	155.4	155.5	155.5	156	156.2	156.3	157.2	157.2	157.3	157.4	156.2	1.30%	1.01	
2004	158.1	158.2	159.7	159.7	160.1	160.6	160.6	160.6	161.8	162.1	162.2	162.5	160.5	2.75%	1.03	
2005	163	163.9	164.4	164.4	164.4	164.8	165	165	169.6	169.5	169.5	169.6	166.1	3.49%	1.03	
2006	171.2	171.4	172.2	172.3	172.5	172.5	173.4	173.4	178.4	179.9	179.8	179.7	174.7	5.18%	1.05	
2007	179.7	179.6	181.1	181.1	179.3	179.3	179.4	179.8	183.5	183.6	183.6	183.7	181.1	3.66%	1.04	
2008	184.6	185.8	185.8	185.9	186	186.3	186.8	185.5	192.1	192.1	192.2	192.2	187.9	3.75%	1.04	
2009	192.7	192.8	192.7	192.7	192.8	193	193.2	193.3	193.4	193.4	193.8	193.9	193.1	2.77%	1.03	
2010	194.1	197.9	199	199.2	199.5	199.5	200.1	200.1	200.1	200.2	202.1	202	199.5	3.31%	1.03	
2011	202.2	203.9	204.5	204.8	204.8	206.4	206.6	206.7	207.2	206.7	206.7	207.6	205.7	3.11%	1.03	
2012	208.6	209.3	209.7	210	209.9	209.5	210.1	212.1	211.9	211.9	212.7	212.9	210.7	2.43%	1.02	
2013	215	215.1	215.2	215.2	215.1	216	217.3	217.3	217.2	217.3	217.3	217.4	216.3	2.66%	1.03	
2014	218.2	218.2	218.8	219	218.9	218.9	219.5	219.4	220.3	220.1	220.1	220.2	219.3	1.39%	1.01	
2015	222.1	222.4	222.4	222.5	222.5	222.6	222.9	223.3	223.9	224.1	224.4	223.7	223.1	1.73%	1.02	
2016	224.4	224	223.8	223.9	223.9	223.9	224.4	224.4	224	225.1	225.2	225.2	224.3	0.54%	1.01	
2017	225.4	225.8	225.8	226.5	226.5	227.2	227.6	227.3	227.3	227.3	227.3	228.2	226.9	1.16%	1.01	
2018	228.7	228.8	229.5	229.3	229.3	229	231.5	231.5	231.6	231.8	231.6	232.6	230.5	1.59%	1.02	

Geometric mean:

2.30%

P : Preliminary. All indexes are subject to revision four months after original publication.

## PPI Commodity Data

### Series Catalog:

Series ID : WPU1182

Not Seasonally Adjusted

Group : Machinery and equipment

Item : Industrial process control instruments

Base Date: 198306

### Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive
1983	0	0	0	0	0	100	99.9	100.2	100.2	100.2	100.2	100.5	100.2	N/A	N/A
1984	100.6	101.4	101.4	101.5	102.5	102.8	102.7	103.4	103.7	103.9	103.9	104.9	102.7	2.52%	1.03
1985	105.4	105.4	105.7	106	106.2	106.3	106.8	106.8	107	107.4	107.7	107.7	106.5	3.70%	1.04
1986	108.2	108.9	109.3	109.1	110.8	110.8	111.8	113.6	113.6	113.7	113.7	113.9	111.5	4.69%	1.05
1987	114.1	114.9	114.9	115.2	115.5	115.5	116.1	116.1	116.2	116.6	116.6	117.2	115.7	3.77%	1.04
1988	118.6	118.8	119.4	119.9	120	119.5	119.6	120	120	119.7	121.2	121.6	119.9	3.63%	1.04
1989	122	122.5	122.9	122.9	123.5	123.9	124.2	124.4	124.7	124.7	125.9	125.9	124.0	3.42%	1.03
1990	126.3	127.4	127.5	127.5	127.6	127.8	128.2	128.2	128.5	129.3	129.8	130.7	128.2	3.39%	1.03
1991	130.3	131	130.6	130.7	130.9	130.9	131	131.1	131.5	132.9	132.7	132.6	131.4	2.50%	1.02
1992	133.2	133.8	133.5	133.8	134	134	134.5	134.8	134.8	136.6	136.6	136.6	134.7	2.51%	1.03
1993	136.8	137.3	137.3	137.8	137.7	137.8	137.8	137.8	138	138	138	138.2	137.7	2.23%	1.02
1994	138.8	139.3	139.4	139.8	139.9	140	140	139.9	139.1	139.2	139.6	137.6	139.4	1.23%	1.01
1995	137.8	138.7	138.9	138.4	138.5	138.5	140	140.1	140.4	140.3	142.3	142.3	139.7	0.22%	1.00
1996	142.8	143.5	143.5	143.6	143.6	143.8	143.8	144	144	144.2	144.7	145.8	143.9	3.01%	1.03
1997	149.9	149.9	150.3	150.3	149.8	150	150.4	151	151	150.8	152.1	152.4	150.7	4.73%	1.05
1998	153.4	153.2	153.4	152.4	152.9	153	153.2	153.3	153.5	153.5	154.1	154.4	153.4	1.79%	1.02
1999	154.7	154.9	154.9	155.2	155.3	153.8	153.8	154.1	154.2	154.5	154.6	155.7	154.6	0.78%	1.01
2000	156.2	156.3	156.1	155.9	156.3	156.4	156.3	156.3	156.3	156.5	156.5	156.5	156.3	1.10%	1.01
2001	157.8	158	158.1	158.4	158.4	158.4	158.3	158.5	158.4	158.5	159.3	159.3	158.4	1.34%	1.01
2002	159.5	159.8	159.7	159.8	159.7	160	160	160.9	161	161.2	161.4	161.6	160.4	1.26%	1.01
2003	163.2	163.2	163.4	164.7	164.7	164.8	164.8	165	165	165.1	165.2	165.1	164.5	2.56%	1.03
2004	165.2	165.2	165.3	167.3	168.7	168.9	169.1	169.1	169.1	169.1	169	169.4	167.9	2.07%	1.02
2005	169.4	169.9	169.6	169.9	171.8	172.1	172.3	171.5	171.5	172.1	172.6	172.5	171.3	2.03%	1.02
2006	174.2	175.1	175.3	176.3	176.2	176.5	176.8	176.7	176.7	177.1	177.2	178.7	176.4	2.98%	1.03
2007	181.4	181.7	181.4	182.2	184.3	185	185.6	185.1	184.9	185.5	185.2	185.8	184.0	4.31%	1.04
2008	187.4	187.4	187.2	188.2	188.4	188.4	189.2	190.4	191.5	192.3	193.1	193.2	189.7	3.10%	1.03
2009	195.2	195.6	195.8	196.1	196.2	196.1	196.7	196.9	197	196.8	197.3	198.1	196.5	3.58%	1.04
2010	198.5	198.5	198.8	198.2	198	198.1	197.9	198.6	198.7	198.5	199.3	200.7	198.6	1.07%	1.01
2011	202	204.1	204	205.4	205.5	205.9	207.3	208.1	208.1	208.1	208.1	208	206.2	3.83%	1.04
2012	208.6	209.5	209.5	209.5	211.1	211.2	211.2	211.2	211.2	211.5	211.5	212.1	210.7	2.18%	1.02
2013	213.1	213.4	212.7	213.1	213.7	213.7	213.7	213.7	213.9	213.9	213.9	213.9	213.5	1.33%	1.01
2014	215.2	215.1	215.1	216	218.5	218.5	218.6	218.8	219.1	219.1	221	217.8	20.01%	1.02	
2015	222.6	222.9	222.5	223	222.8	222.2	222.2	222.3	222.4	222.6	222.6	222.7	222.6	2.20%	1.02

<http://data.bls.gov/cgi-bin/srgate>

## PPI Commodity Data

### Series Catalog:

Series ID : WPU1182

Not Seasonally Adjusted

Group : Machinery and equipment

Item : Industrial process control instruments

Base Date: 198306

### Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive
2016	223.1	223.7	224.2	224.9	224.9	226	226	226	226.1	226.1	226	226.2	225.3	1.21%	1.01
2017	227.1	227.8	227.9	227.2	227.2	227.2	227.7	227.6	226.9	227.9	227.9	228.8	227.6	1.02%	1.01
2018	230.2	229.2	229.4	230.6	231.4	231.7	231.7	230.1	230.3	230.6	230.6	231.3	230.6	1.32%	1.01
<b>Geometric mean:</b>															<b>2.41%</b>

P : Preliminary. All indexes are subject to revision four months after original publication.

<http://data.bls.gov/cgi-bin/srgate>

## PPI Commodity Data

### Series Catalog:

Series ID : WPU551

Not Seasonally Adjusted

Group : Repair and Maintenance Services

Item : Commercial and industrial machinery and equipment repair and maintenance

Base Date: 200903

### Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann	% Change	Convert to Positive
2009	0	0	100	100	100.3	100.4	100.4	100.2	100.3	100.4	100.3	100.6	100.3	N/A	N/A
2010	100.8	101.4	101.3	101	101.1	101.2	101.3	101.5	105.1	104.8	104.8	104.8	102.4	2.10%	1.02
2011	105.2	106.2	106.9	106.9	106.1	107.9	108	108.5	108.5	108.6	108.6	108.6	107.5	4.98%	1.05
2012	108.9	109.1	109.3	109.3	109.9	109.9	110	109.9	110.1	110.1	110.2	110.2	109.8	2.14%	1.02
2013	110.7	110.6	111.6	111.6	111.6	111.5	111.5	112.5	113.4	113.4	113.4	113.4	112.1	2.09%	1.02
2014	114.1	114.2	114.9	114.9	115	115.2	115.2	115.2	115.2	116.3	116	116	115.2	2.77%	1.03
2015	116.3	116.3	116.6	116.8	117	117	117	117	117	117	117	117	116.8	1.39%	1.01
2016	117	117.8	117.8	117.7	117.7	117.7	117.7	117.7	117.7	117.9	118.1	118.3	117.8	0.86%	1.01
2017	119.2	119.2	119.2	119.2	119.4	119.4	119.4	119.4	119.4	120.7	120.7	120.7	119.6	1.53%	1.02
2018	121	121.8	121.8	121.8	121.8	121.9	122.4	122.6	122.6	122.8	122.8	122.8	122.2	2.15%	1.02

Geometric mean:

2.22%

P : Preliminary. All indexes are subject to revision four months after original publication.