



# Plant Maintenance Resource Center

## 2003 Maintenance Salary Survey Results

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### Overview

The fifth annual survey of salaries in the Maintenance sector was conducted on the Plant Maintenance Resource Center website between January and March 2003. This salary survey is a regular, annual event. The 1999 Salary survey results are available [here](#), and the 2000 Salary Survey results are available [here](#). The 2001 Salary Survey results are available [here](#), and the 2002 Salary Survey results are available [here](#). The 2004 Maintenance Salary survey will open in mid-January 2004, so make a note to check back at the site then (if not before!).

### Raw Data - Overview

Voluntary (and confidential) responses were sought to the survey, and 158 valid responses were received. This was approximately 12% fewer than the 180 responses received in 2002, 36% fewer than the 248 responses received in 2001, and more than 50% fewer than the 320 responses received in 2000. We are unclear about the reasons for this continuing drop in response rate, given that this site is receiving approximately double the number of visitors in 2003 that it did in 2000.

### Raw Data - Industries

The greatest number of responses, once again, were from individuals in the Manufacturing industries. A complete list of industries represented in the last 4 surveys is tabulated below.

Industry	2003		2002		2001		2000	
	Responses	% of Total						
Manufacturing: Metal products	19	12.0%	22	12.2%	29	11.7%	36	11.3%
Manufacturing: Wood and paper products	15	9.5%	8	4.4%	14	5.6%	14	4.4%
Manufacturing: Petroleum refining, chemicals and associated products	14	8.9%	26	14.4%	18	7.3%	35	10.9%
Manufacturing: Food, beverages, tobacco	14	8.9%	14	7.8%	31	12.5%	28	8.7%
Manufacturing: Machinery and equipment	14	8.9%	6	3.3%	14	5.6%	18	5.6%
Services: Property services/Building Maintenance	8	5.1%	9	5.0%	14	5.6%	14	4.4%
Utilities: Electricity Generation	8	5.1%	6	3.3%	13	5.2%	10	3.1%
Services: Contract Maintenance/Repairs	7	4.4%	5	2.8%	12	4.8%	17	5.3%
Services: Business Services/Consulting	5	3.2%	9	5.0%	7	2.8%	3	0.9%
Manufacturing: Other	4	2.5%	28	15.6%	30	12.1%	38	11.9%
Services: Healthcare	4	2.5%	5	2.8%	5	2.0%	9	2.8%
Services: Education/Academia	4	2.5%	3	1.7%	4	1.6%	15	4.7%
Manufacturing: Non-metallic	4	2.5%	3	1.7%	4	1.6%	7	2.2%

Industry	2003		2002		2001		2000	
	Responses	% of Total						
mineral processing								
Other	4	2.5%	3	1.7%	3	1.2%	5	1.6%
Mining: Metal ore	4	2.5%	1	0.6%	5	2.0%	7	2.2%
Services: Research & Development	4	2.5%	1	0.6%	2	0.8%	1	0.3%
Services: Defence	4	2.5%	1	0.6%	1	0.4%	7	2.2%
Oil and Gas: Oil and gas extraction	3	1.9%	6	3.3%	8	3.2%	10	3.1%
Mining: Other	3	1.9%	2	1.1%	1	0.4%	5	1.6%
Mining: Coal	3	1.9%	1	0.6%	2	0.8%	2	0.6%
Manufacturing: Printing, publishing, and recorded media	3	1.9%	1	0.6%	1	0.4%	9	2.8%
Services: Other	2	1.3%	5	2.8%	5	2.0%	1	0.3%
Manufacturing: Textiles, clothing, footwear, leather	2	1.3%	2	1.1%	4	1.6%	4	1.3%
Utilities: Electricity Transmission and Distribution	2	1.3%	1	0.6%	4	1.6%	1	0.3%
Utilities: Water, sewerage, drainage	2	1.3%	0	0.0%	2	0.8%	5	1.6%
Services: Transport	1	0.6%	3	1.7%	3	1.2%	3	0.9%
Trade: Wholesale	1	0.6%	3	1.7%	0	0.0%	2	0.6%
Trade: Retail	0	0.0%	4	2.2%	1	0.4%	1	0.3%
Services: Telecommunications	0	0.0%	1	0.6%	3	1.2%	1	0.3%
Services: Software Development/Sales	0	0.0%	1	0.6%	1	0.4%	5	1.6%
Construction: General	0	0.0%	0	0.0%	3	1.2%	1	0.3%
Utilities: Gas supply	0	0.0%	0	0.0%	2	0.8%	3	0.9%
Agriculture: Other	0	0.0%	0	0.0%	1	0.4%	2	0.6%
Mining: Services to Mining	0	0.0%	0	0.0%	1	0.4%	1	0.3%

## Raw Data - Countries

Half of the responses received were from the USA, with the proportion of respondents from this country steadily declining over recent years. The next most represented country was Australia (with the proportion of respondents from this country continuing to increase) followed by India, the United Kingdom, France and Canada as the countries with the next greatest number of responses.

Country	2003		2002		2001		2000	
	Responses	% of Total						
United States	79	50.0%	92	51.1%	142	57.3%	225	77.6%
Australia	21	13.3%	20	11.1%	26	10.5%	18	6.2%
United Kingdom	5	3.2%	14	7.8%	6	2.4%	12	4.1%
Canada	5	3.2%	11	6.1%	18	7.3%	14	4.8%
France	5	3.2%	3	1.7%	3	1.2%		
India	5	3.2%	2	1.1%	3	1.2%	1	0.3%
South Africa	3	1.9%	5	2.8%	3	1.2%	3	1.0%
Colombia	3	1.9%	1	0.6%	2	0.8%		
Iran	1	0.6%					2	1.3%
New Zealand	2	1.3%			3	1.2%		
Germany			1	0.4%	1	0.3%	2	1.3%
Qatar	2	1.3%						
Netherlands	1	0.6%	2	1.1%	5	2.0%	2	0.7%
Saudi Arabia	1	0.6%	2	1.1%				
Indonesia	1	0.6%	1	0.6%	2	0.8%	6	2.1%
Chile	1	0.6%	1	0.6%	1	0.4%	1	0.3%
Singapore	1	0.6%	1	0.6%			2	0.7%
Denmark	1	0.6%	1	0.6%				
Ireland	1	0.6%			1	0.4%	2	0.7%
Sweden	1	0.6%			1	0.4%		
Norway	1	0.6%					2	0.7%
Philippines	1	0.6%					1	0.3%
Italy	1	0.6%						
Romania	1	0.6%						
Egypt	1	0.6%						
Antartica	1	0.6%						
Northern Mariana Islands	1	0.6%						
Zimbabwe	1	0.6%						
Dominican Republic	1	0.6%						
Malaysia			2	1.1%	4	1.6%	2	0.7%
Israel			2	1.1%	3	1.2%		
Kuwait			2	1.1%				
Brazil			1	0.6%	2	0.8%	6	2.1%
Turkey			1	0.6%	2	0.8%		
United Arab Emirates			1	0.6%	2	0.8%		
Spain			1	0.6%	1	0.4%	2	0.7%

	2003		2002		2001		2000	
Country	Responses	% of Total						
Korea			1	0.6%	1	0.4%		
Tunisia			1	0.6%				
Hungary			1	0.6%				
Russia			1	0.6%				
Virgin Islands			1	0.6%				
Mexico					2	0.8%		
Venezuela					2	0.8%		
Puerto Rico					2	0.8%		
Pakistan					2	0.8%		
Thailand							1	0.3%
Other	7	4.4%	8	4.4%	8	3.2%	19	6.6%

## Raw Data - Job Positions

As in previous years, the positions with the greatest representation in the survey were Maintenance Managers/Superintendents, followed by Plant/Maintenance Engineers. Proportionally, there were fewer responses from Maintenance Foremen/Supervisors in this year's survey. The proportion of respondents who are Maintenance Planners appears to be increasing.

Position	2003		2002		2001		2000	
	Responses	% of Total						
Maintenance Manager/Superintendent	46	29.1%	42	23.3%	68	27.4%	85	29.3%
Plant/Maintenance Engineer	33	20.9%	26	14.4%	43	17.3%	54	18.6%
Maintenance Technician	22	13.9%	21	11.7%	29	11.7%	44	15.2%
Maintenance Planner	17	10.8%	16	8.9%	14	5.6%	12	4.1%
Maintenance Foreman/Supervisor	14	8.9%	21	11.7%	36	14.5%	48	16.6%
Maintenance Crafts/Tradesperson	8	5.1%	12	6.7%	12	4.8%	21	7.2%
Other	2	1.3%	8	4.4%	5	2.0%	21	7.3%
CEO/Managing Director	2	1.3%	2	1.1%	1	0.4%	6	2.1%
Reliability Engineer	2	1.3%	2	1.1%				
Process/Industrial Engineer	2	1.3%	1	0.6%	5	2.0%	2	0.7%
Management Consultant	1	0.6%	3	1.7%	2	0.8%	2	0.7%
Design Engineer	1	0.6%	3	1.7%			2	0.7%
Computer/IT Consultant	1	0.6%	2	1.1%	2	0.8%	1	0.3%
Consulting Manager	1	0.6%	2	1.1%	1	0.4%	1	0.3%
Maintenance Accountant	1	0.6%	2	1.1%	1	0.4%		
Product Support Professional	1	0.6%	1	0.6%	1	0.4%		
Research Professional	1	0.6%					1	0.3%
Maintenance Contract Officer	1	0.6%						
Research Manager	1	0.6%						
Consulting Engineer			8	4.4%	7	2.8%	5	1.7%
Maintenance Contract Manager			6	3.3%	3	1.2%	4	1.4%
Operations/Plant Manager			1	0.6%	3	1.2%		
Maintenance Clerk			1	0.6%	2	0.8%		
Software Support Manager					4	1.6%	1	0.3%
Product Support Manager					1	0.4%	2	0.7%
Research Technician					1	0.4%		
Software Support Professional							3	1.0%
Teacher/Academic							2	0.7%
Marketing/Business Development/Sales Manager							1	0.3%
Product Support Technician							1	0.3%
Marketing Officer/Business Development Officer/Salesperson							1	0.3%

## Raw Data - Educational Levels

The distribution of educational levels was similar to previous years.

Education	2003		2002		2001		2000	
	Responses	% of Total						
High School	24	15.2%	21	11.7%	37	14.9%	58	18.1%
Formal Trade Training	22	13.9%	27	15.0%	39	15.7%	54	16.9%
Certificate/Diploma/Associate Degree	52	32.9%	60	33.3%	67	27.0%	83	25.9%
Undergraduate/College (Bachelors) degree	24	21.5%	52	28.9%	76	30.6%	101	31.6%
Post Graduate (Masters) degree	24	15.2%	20	11.1%	28	11.3%	21	6.6%
Post Graduate (Doctorate) degree	2	1.3%			1	0.4%	3	0.9%

## Raw Data - Work Experience

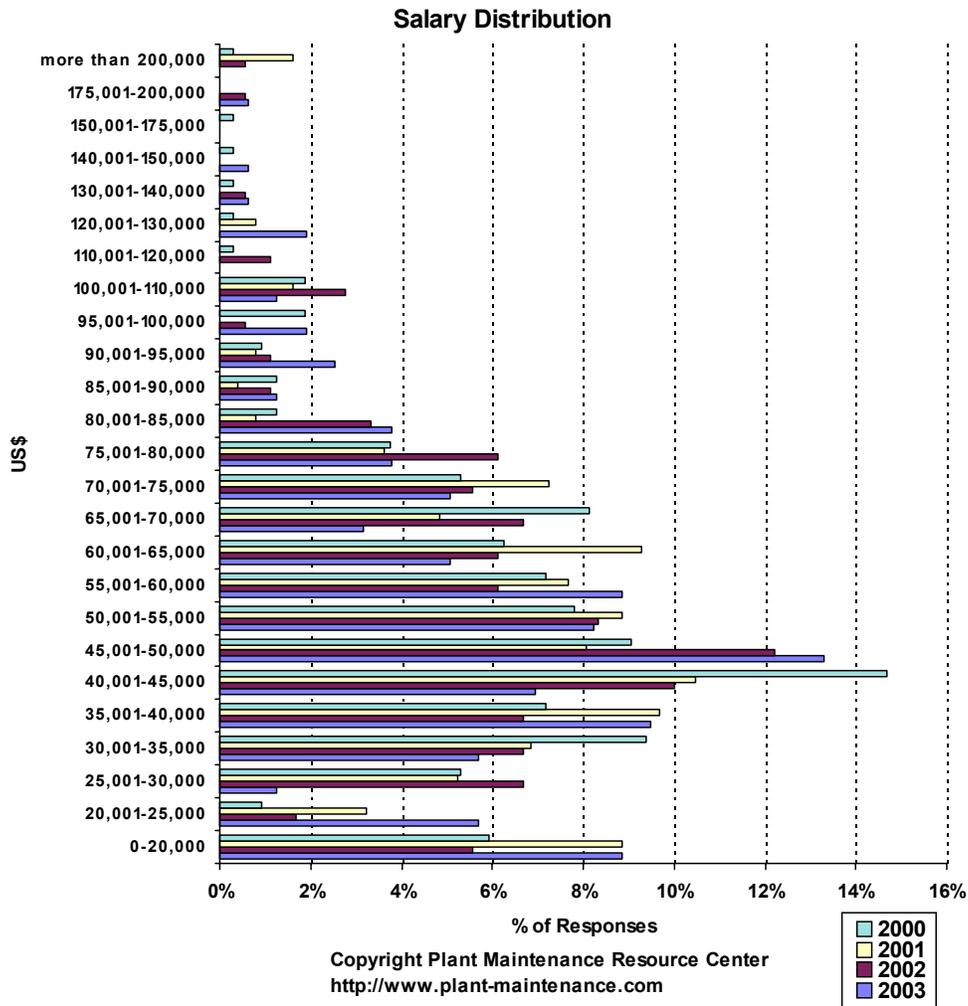
A wide range of work experience was represented, with the distribution of experience being similar to previous years.

Experience	2003		2002		2001		2000	
	Responses	% of Total						
0 to 5	23	14.6%	27	15.0%	38	15.3%	32	10.0%
5 to 10	25	15.8%	27	15.0%	41	16.5%	54	16.9%
10 to 15	26	16.5%	37	20.6%	50	20.2%	65	20.3%
15 to 20	22	13.9%	32	17.8%	33	13.3%	68	21.2%
20 to 25	29	18.4%	33	18.3%	56	22.6%	51	15.9%
25 to 30	22	13.9%	20	11.1%	20	8.1%	36	11.3%
more than 30	11	7.0%	4	2.2%	10	4.0%	14	4.4%

## Raw Data - Salaries

The total annual earnings, inclusive of all benefits, displayed a similar distribution to last year, with overall salaries slightly lower than previous years.

Salary Band (US\$)	2003		2002		2001		2000	
	Responses	% of Total						
0-20,000	14	8.9%	10	5.6%	22	8.9%	19	5.9%
20,001-25,000	9	5.7%	3	1.7%	8	3.2%	3	0.9%
25,001-30,000	2	1.3%	12	6.7%	13	5.2%	17	5.3%
30,001-35,000	9	5.7%	12	6.7%	17	6.9%	30	9.4%
35,001-40,000	15	9.5%	12	6.7%	24	9.7%	23	7.2%
40,001-45,000	11	7.0%	18	10.0%	26	10.5%	47	14.7%
45,001-50,000	21	13.3%	22	12.2%	20	8.1%	29	9.1%
50,001-55,000	13	8.2%	15	8.3%	22	8.9%	25	7.8%
55,001-60,000	14	8.9%	11	6.1%	19	7.7%	23	7.2%
60,001-65,000	8	5.1%	11	6.1%	23	9.3%	20	6.3%
65,001-70,000	5	3.2%	12	6.7%	12	4.8%	26	8.1%
70,001-75,000	8	5.1%	10	5.6%	18	7.3%	17	5.3%
75,001-80,000	6	3.8%	11	6.1%	9	3.6%	12	3.7%
80,001-85,000	6	3.8%	6	3.3%	2	0.8%	4	1.3%
85,001-90,000	2	1.3%	2	1.1%	1	0.4%	4	1.3%
90,001-95,000	4	2.5%	2	1.1%	2	0.8%	3	0.9%
95,001-100,000	3	1.9%	1	0.6%	0	0.0%	6	1.9%
100,001-110,000	2	1.3%	4	1.6%	6	1.9%	7	2.4%
110,001-120,000	0	0.0%	2	1.1%	0	0.0%	1	0.3%
120,001-130,000	3	1.9%	0	0.0%	2	0.8%	1	0.3%
130,001-140,000	1	0.6%	1	0.6%	0	0.0%	1	0.3%
140,001-150,000	1	0.6%	0	0.0%	0	0.0%	1	0.3%
150,001-175,000	0	0.0%	0	0.0%	0	0.0%	1	0.3%
175,001-200,000	1	0.6%	1	0.6%	0	0.0%	0	0.0%
more than 200,000	0	0.0%	1	0.6%	4	1.6%	1	0.3%



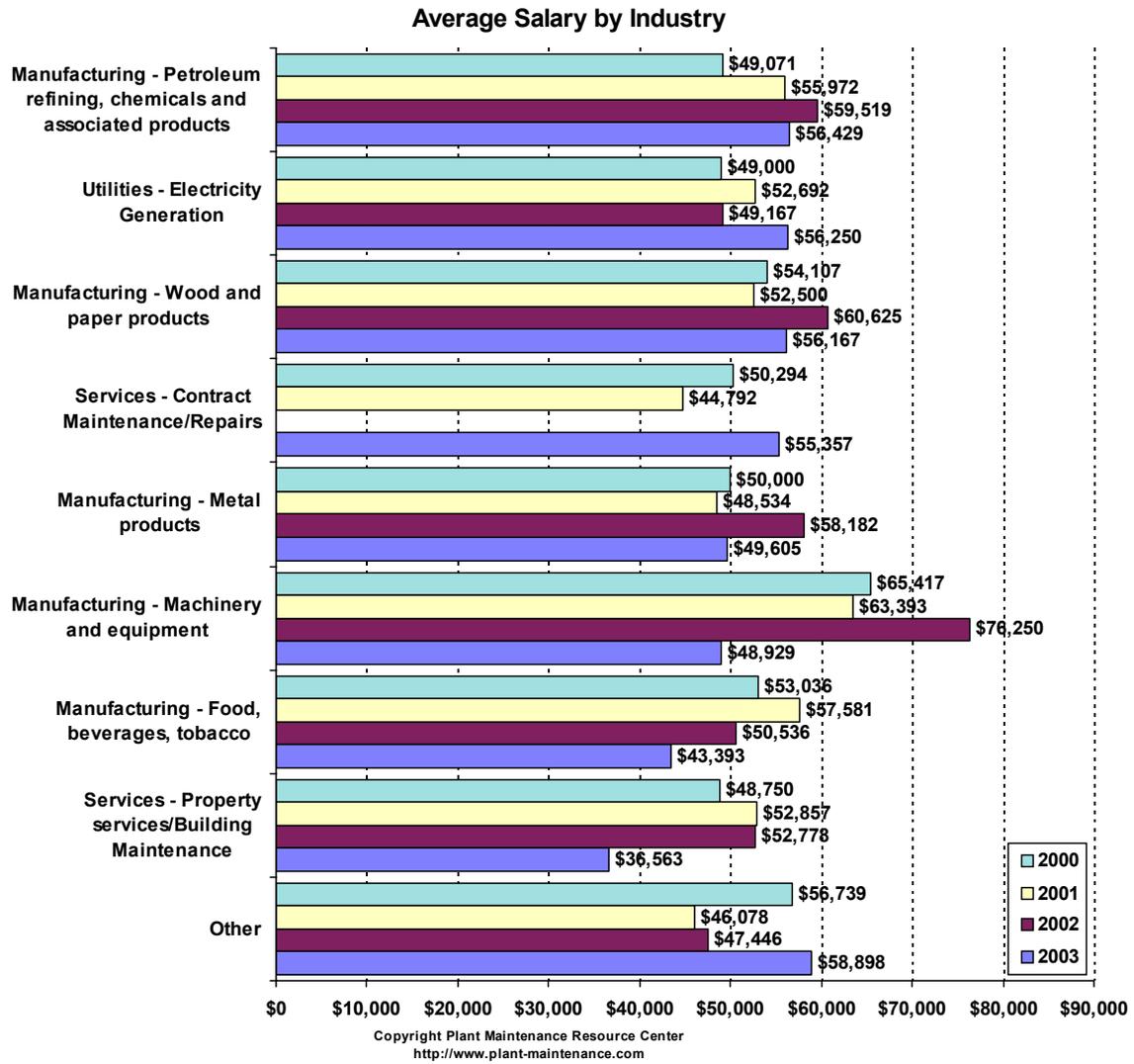
## Overall Results

The median salary band for the 2003 survey was US\$45,001-\$50,000, down from US\$50,001-\$55,000 in last year's survey, but returning to the levels of the 2000 and 2001 surveys. Assuming the average salary for each band is the midpoint of each band, the mean salary in 2003 is US\$53,623. This is a drop of 2.4% compared with the 2002 average of US\$54,917, but is 4.5% higher than the 2001 mean of US\$51,290, and 2.1% higher than the mean 2000 salary of US\$52,523. It is also 0.2% higher than the mean salary of US\$53,521 in 1999. However, the changing mix of respondents could explain some of this variation, rather than any underlying trend in salary movements.

## Salary by Industry

An analysis of salaries by industry (for those industries with 5 or more responses) indicated that the industry paying the highest salaries was Manufacturing:Petroleum Refining, Chemicals and Associated Products. This industry has been consistently among the highest paying in previous surveys. However, this survey indicates a significant drop in the salaries being paid in Manufacturing:Machinery and Equipment - it is highly likely that the size of this drop is merely a statistical aberration. Wood and Paper products also appears to be a consistently financially rewarding industry for Maintenance professionals.

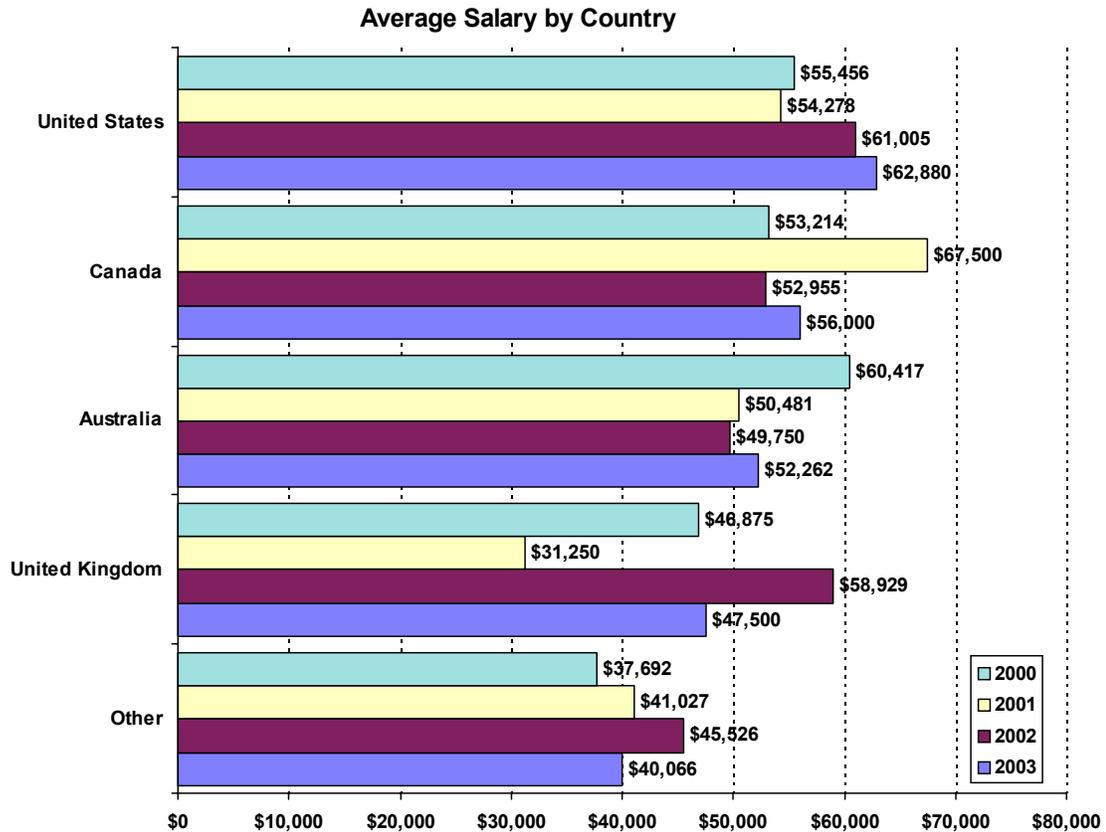
Note that, for the purpose of this analysis, only industries containing 5 or more respondents were included. The overall result is shown graphically below.



## Salaries by Country

Once again, only countries with 5 or more respondents were included in this analysis, which showed that the highest salaries were to be obtained in the USA, followed by Canada, Australia and the United Kingdom. After the remarkable apparent increase in UK salaries in 2002, UK salaries have dropped to a more "normal" level this year, but this may be due more to the varying mix of respondents from this country.

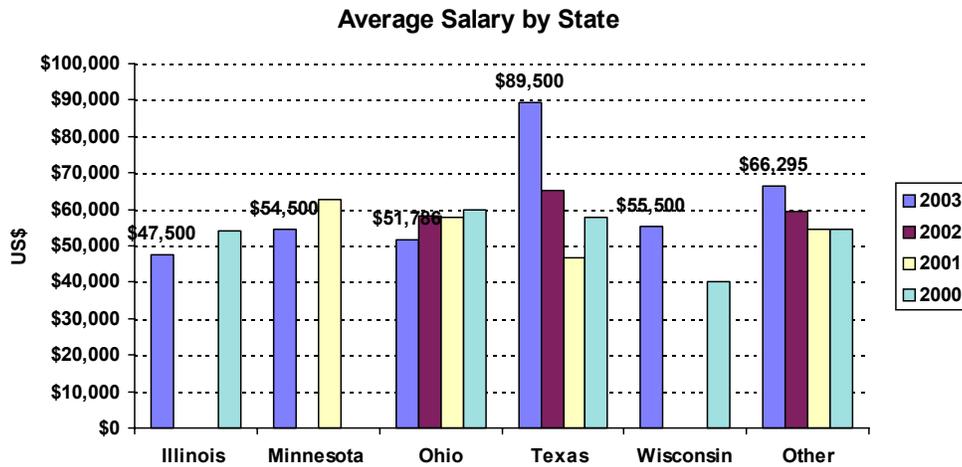
As usual, it should be noted that tax rates will differ between countries, as will the cost of living, so direct comparisons of salaries between countries should be treated cautiously. As already noted, changes in exchange rates mean that comparisons, year on year, for non-US countries should also be treated cautiously.



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## Salaries by State

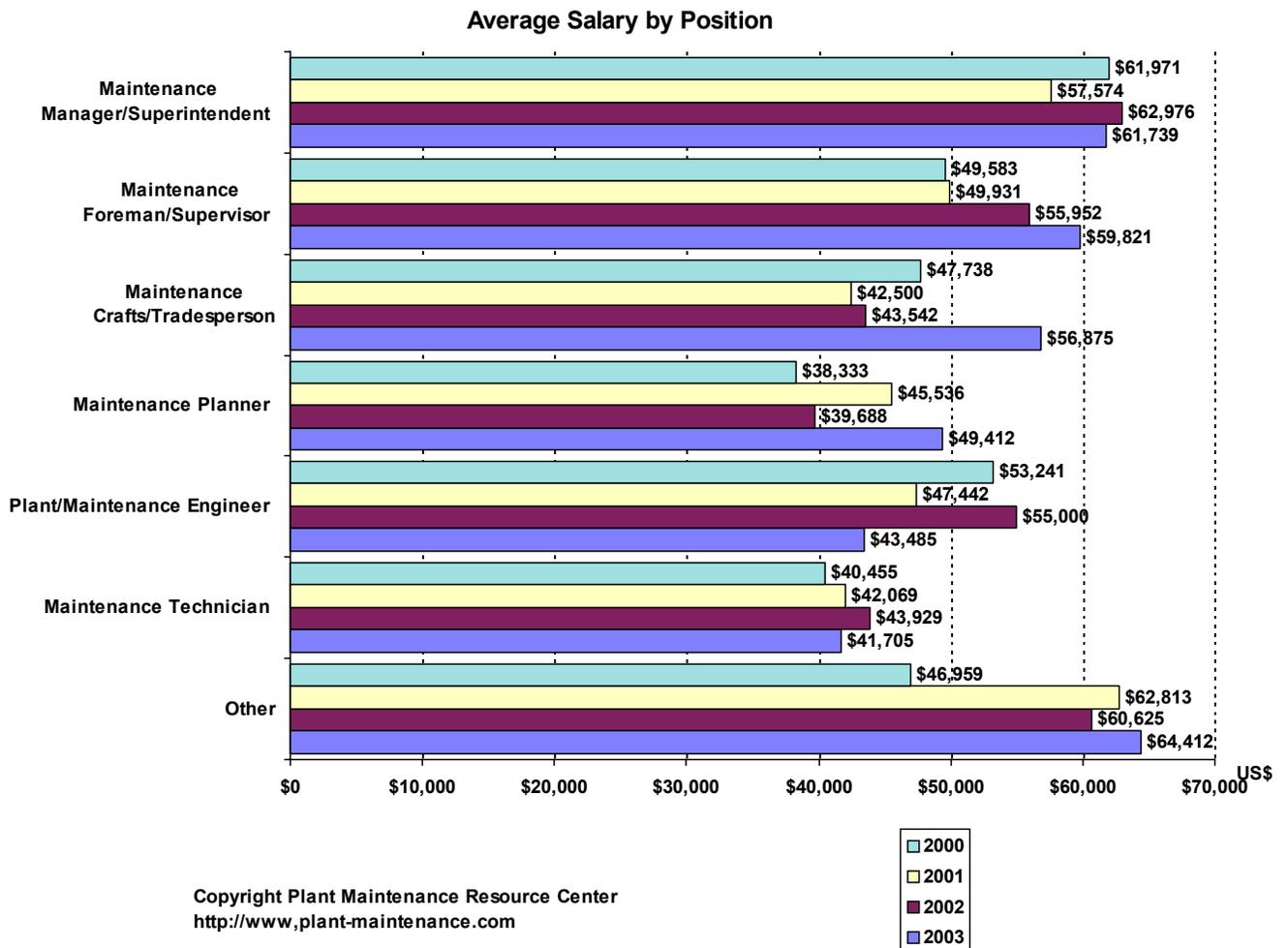
Average salaries are given for those states with more than 5 responses in the following chart. However, given the low number of results for each state, meaningful comparison between states is almost impossible.



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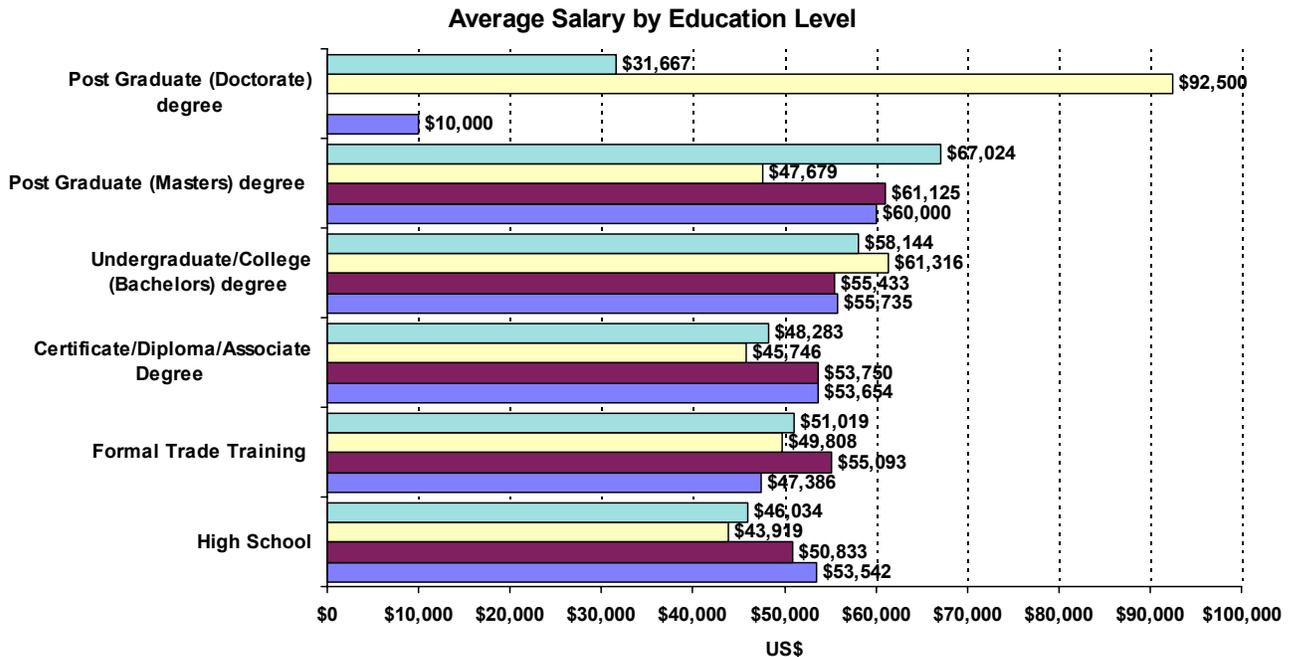
## Salaries by Position

Yet again, only positions with more than 5 respondents were included in this analysis. Once again, not unsurprisingly, Maintenance Managers/Superintendents were the highest paid positions, followed by Maintenance Supervisors/Foremen. Somewhat surprisingly, this year appears to have seen a large jump in salaries for Maintenance Crafts/Tradespeople, putting them ahead of both Plant/Maintenance Engineers and Maintenance Technicians. This could be a statistical aberration, based on the low number of responses. Maintenance Planners continue to be paid less than Maintenance Foremen/Supervisors, and apparently, based on this year's result, are paid less than Maintenance Crafts/Tradespeople. Hardly an incentive to become a Maintenance Planner, and if this is true, an ongoing indictment on the value that industry gives to this role which is vital for ensuring ongoing plant and equipment reliability, and the effective and efficient use of Maintenance Labour.

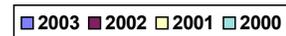


## Salary by Education

Again, not unsurprisingly, it appears that increasing levels of formal educational qualifications generally lead to increasing salaries, although, for some reason, this year it appears that those with only high school education earn more than those who have undergone formal trade/crafts training. The small number of responses obtained for those with Doctorate level qualifications (only one this year, and none last year) effectively mean that the statistics for this educational level can be ignored.

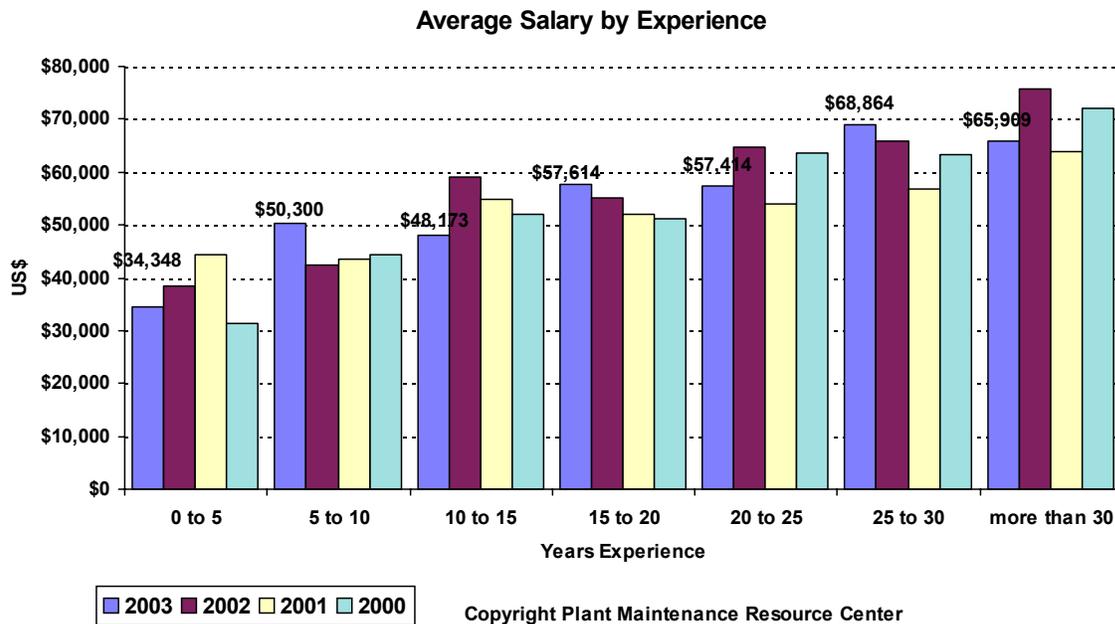


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## Salary by Experience

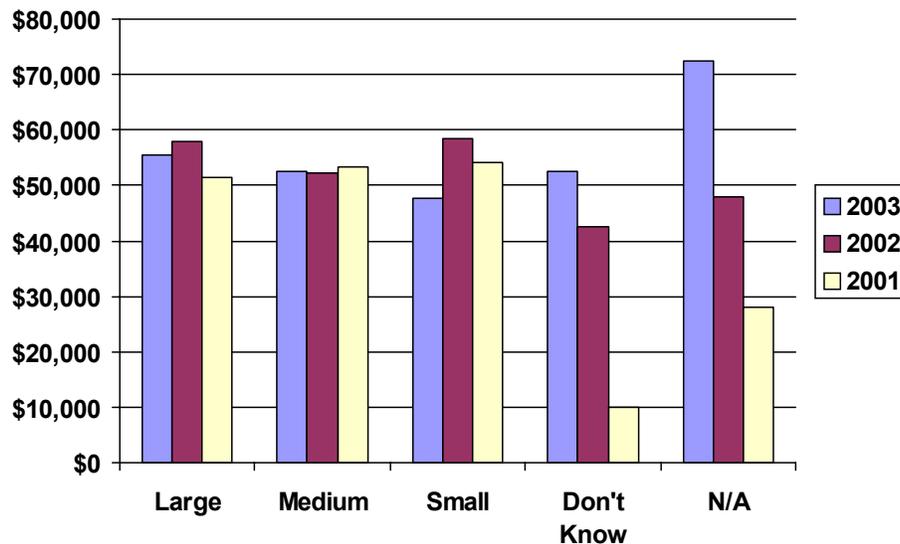
Once again, this survey highlights that experience is an important factor in generating additional salary.



## Salary by Company Size

This year's results show that the smaller the organization, the lower the average pay. This is the exact opposite of the results from two years ago. Could smaller organizations be suffering more than larger organizations in the current economic downturn?

**Average Salary by Company Size**



## Conclusion

In summary, the main conclusions from this survey are:

- Overall, salaries seem to have fallen slightly, in \$US terms.
- In US\$ terms, the best paid countries for Maintenance workers are the US, Canada and Australia. Salary levels have risen in all of these countries in the last year.
- Experience and Education continue to have a significant impact on salaries in the Maintenance sector.
- Maintenance Planners continue to be paid significantly less than Maintenance Foremen/Supervisors.
- Larger organizations appear to be paying better, at present, than smaller organizations. This is the reverse of the result from two years ago.
- Manufacturing:Petroleum Refining, Chemicals and Associated Products appears to be the most consistent, best paid industry sector for Maintenance workers.

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