

*W. C. Webb*  
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METHODS & STANDARDS PROGRESS REPORT - DECEMBER 1974

Suggestion Plan

Suggestion Plan data for the month of December 1974 are as follows:

	Current Month	Total Year to Date	Total Last Year to Date
Suggestions received	30	271	254
Suggestions in effect	6	81	84
Suggestions withdrawn	11	156	145
Suggestions pending	142	142	108
Cash awards	\$ 1,209	\$ 5,294	\$ 5,787
Estimated gross savings	\$ 9,405	\$ 62,515	\$ 72,255
Average award per suggestions	\$ 202	\$ 65	\$ 69

Two hundred and seventy-one suggestions were received in 1974, and (108) were carried over from 1973 for a total of (379) to be investigated. Of these, (237) were acted upon by the Suggestion Committee with a total of 81, or 34% being accepted for award payments. Awards for the year amounted to \$5,294, and a cost reduction of \$62,515 was reported as a result of the suggestions placed into effect.

The number of suggestions received was 6% higher than in 1973 but the gross savings reported as accomplished was about 13% less. One hundred and forty-two active suggestions were carried over at the end of the year.

Wage Roll Evaluation Plan

During the year job descriptions were prepared and new job classifications were established for (8) new wage roll occupations.

Several existing job classifications and job descriptions were reviewed and the records updated to reflect current operating conditions.

Plant Layouts - 1974

During the year sixty-five (65) plant layouts were prepared and submitted for plant approval.

Forty (40) layouts were to provide space for new equipment purchased for the current plant expansion program. Nineteen (19) were to improve labor assignments and/or increase Production output. Six (6) layouts were approved to increase current equipment utilization.

Incentive Labor Standards

In 1974 a total of (399) new incentive labor standards and relevant cost standards established and placed into effect.

Methods Improvements

The annual savings accomplished in 1974 as a result of standards reviews amounted to \$254,000 compared to \$171,000 in 1973. A total of (284) labor standards were reviewed as compared to (272) in 1973.

Methods work by M&S personnel resulted in an annual savings of \$233,000 from improved labor utilization during 1974, compared to \$134,000 in 1973.

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METHODS & STANDARDS PROGRESS REPORT - DECEMBER 1974Methods Studies

The following layouts were completed this month:

1. Rearranged equipment in Bldg. 76-1 to provide space for the new ROBHI cutoff saw.
2. Rearranged the Bell Anneal furnace control panels to provide space in Bldg. 80 for the eighth GFM.
3. Revised the office layout in Bldg. 50-1-N to provide space for a new polishing jack.
4. Relocated the M/870-1100 Vent Rib Lines from Bldg. 72-1 to Bldg. 60.
5. Relocated the GFM New Britain turning lathes from Bldg. 76-1 to Bldg. 72-1.
6. Provided a tentative layout to P. E. & C. for the trigger plate forging machine to be installed in Bldg. 78.
7. Revised layout of M/3200 Final Assembly area in Bldg. 50-4-N to provide for better work flow.

An evaluation was completed for a proposal to replace the present Center Fire Rear Sight Base Blank with a new designed blank which would eliminate Oper. #5 - Mill Top and Radius Front, and Oper. #10 - Deburr Top of Base. An estimated potential gross savings of \$10,310 is indicated with a reduction of \$7,080 in working capital requirements.

An economic evaluation was made for substituting carbide for high speed steel form tools on the 8-Spindle Conomatic Screw Machine for the M/700 Bolt Head. It is estimated that a \$2,750 gross annual savings can be realized from the change.

An evaluation was completed comparing the cost of producing a shotgun barrel with the Verson Process vs. a Welded Tube Process. The Welded Tube Process indicated an operating cost increase of 3¢ per barrel, due primarily to the machinability problems at the ream operation.

Economics were completed comparing the cost of sycamore to birch wood for processing M/788, 600 and 580 series stocks. The evaluation indicated a substantial savings can be obtained by changing to birch.

A utilization report has been developed and is issued weekly on the presses for press forming the M/870 fore ends as part of a program to improve the effective use of this equipment. Economics were developed for cut checkering M/1100 TB-SB-SA, M/870 TB-TC-SC and M/742-760 BDL stocks and fore ends. Cut checkering these on (2) 3-spindle checkering machines would increase operating costs by \$106,000 per year compared to the present cost of custom press checkering. Checkering on the 3-spindle machines would result in an estimated annual gross savings of \$590,730 compared to hand checkering.

Operating Cost Improvements - 1974

The total gross annual savings from items completed on the Cost Improvement Program amounted to \$1,807,200 for 1974, based on current forecasts.

Of this total, approximately \$674,000 resulted from a savings in labor costs. Revised layouts, groupings, and labor assignments along with improved planning and scheduling in Production accounted for \$540,000 of this figure, of which \$233,000 resulted from methods studies by Methods and Standards. Improved work assignments in Plant Engineering reduced costs by \$34,000 and a program to improve quality and reduce rework costs in Production saved \$50,000.

METHODS & STANDARDS PROGRESS REPORT - DECEMBER 1974Operating Cost Improvements - 1974 (cont'd.)

Operating methods improvements contributed \$392,000 to the program. Standards reviewed by Methods and Standards represented \$254,000 of this amount and other methods improvements accounted for \$91,000. Methods work in Powder Metal resulted in an annual savings of \$47,000.

Improvements in direct expense costs saved \$227,000 annually. Of this, \$130,000 resulted from a reduction in perishable tool usage and costs. New sources of supply and negotiated new prices for various supplies and other direct expense items reduced costs \$62,000. Reduced equipment maintenance costs during the year amounted to \$35,000.

New and improved processes and materials added \$145,000 to the total. Changes in material specifications and a concerted effort to utilize both steel and wood supplies to the fullest extent improved costs by \$110,000. A savings of \$35,000 was realized from improvements to various component processes.

New and improved equipment, including Remington-built machines, and a machine replacement program accounted for \$137,000 of the total.

Programs to improve quality and product yield resulted in an annual savings of \$86,000.

An energy conservation program resulted in improvements which have reduced fuel oil and electricity usage by \$84,000 annually.

Savings from the Plant Suggestion System amounted to \$63,000.

Operating Cost Increases - 1974

The total annual increase in costs reported for 1974 amounted to \$5,482,000. Of this, the general wage increase granted in July accounted for approximately \$1,514,000.

Increases in the cost of wood for stocks and fore ends amounted to \$1,034,000. Increases in steel prices added \$655,000 to annual costs. The cost of purchased parts was increased \$91,000 and Powder Metal increases amounted to \$15,000.

Cost increases of overtime and other related labor costs to meet this year's schedules amounted to \$386,000. Approximately \$173,000 in increased costs resulted from operations added to alter or modify components and to improve quality.

Increases in the cost of natural gas and electricity amounted to \$359,000 annually. Fuel oil price increases amounted to \$270,000 and the added cost of anhydrous ammonia was \$19,000.

Improvements made in the Pension Plan this year increased costs by \$551,000 a year.

Increases in the cost of packaging materials amounted to \$102,000 and increases in the price of supplies and other direct expense items added \$55,000.

An increase in Hospital Plan rates amounted to \$137,000 annually and the cost of granting a 10th paid holiday added \$70,000. An increase in Social Security rates amounted to \$33,000.

Increased depreciation resulting from the plant's equipment replacement and increased capacity programs amounted to \$17,000.

METHODS AND STANDARDS PROGRESS REPORT - DECEMBER 1975

Cost Improvement Program

	<u>Current Month</u>	<u>Year to Date</u>
New items added	11	194
Anticipated savings	\$ 384,100	\$ 2,364,100
Items closed out	17	241
Anticipated savings	\$ 58,200	\$ 1,813,300
Actual reported savings	\$ 51,600	\$ 1,454,700
Active items being followed	198	
Total anticipated savings (All items on Agenda)	2,764,200	
Last year's total	\$ 2,213,400	

Cost Improvement Items Anticipated

(This is a partial listing of items being worked on and scheduled for completion).

<u>Code No.</u>		<u>Est. Gross Savings</u>	<u>Estimated Completion Date</u>	<u>% Return on Investment</u>
PB-294	Chemical etch matting on Vent Rib Barrels.	\$ 14,300	Jan.'75	39%
PB-251	Adhesive Bonded Vent Rib Shotgun Barrel Ass'y.	74,300	July'75	24
WE-61	Provide additional plant well water. (Bal.)	5,900	Jan.'75	21
HD-7	Purchase new Multipress for powder metal parts.	6,600	Jan.'75	C
PBB-116	M/3200 Frame-build special machine, Oper.#83 & 87.	4,900	Jan.'75	16
PBB-121	M/3200 Frame-build special machine, Oper.#290 & #300; & Oper. #30 - Frame Sear Block Assembly.	3,800	Apr.'75	11
PBB-120	M/3200 Frame Assembly-build special machine, Oper. #40.	4,900	Jan.'75	17
PL-22	Warehouse re-arrangement in Bldg. 52.	5,200	Jan.'75	**
PBB-37	M/3200 Frame Assembly Complete - Vibratory finish vs. polish.	15,500	Jan.'75	**
PA-125	New Center Fire, Rim Fire Rifle carton with molded inserts.	105,500	Feb.'75	Inf.
PBM-90	M/742-760 Firing Pin - purchase vs. manufacture	7,300	Feb.'75	**
PBM-109	Install auxiliary filter at Barnes Drills. Reclaim additional oil.	4,200	Jan.'75	C
PBB-146	M/3200-make (7) components from formed bar stock.	19,400	Feb.'75	71
PBB-178	M/3200 Ejector-proposed cold headed construction.	10,600	Feb.'75	**
PL-21	Use of storage racks and stock pickers in Warehouse.	16,100	Feb.'75	67
WE-105	Install new windows in Bldg. 50, 82, 84 and 86. Reduce fuel oil usage.	25,500	Jan.'75	M
PBM-127	M/600-700 Bolt Body - replace special machine.	22,000	Feb.'75	99
PW-260	M/3200 Fore End - Combine Oper. #40 & #50 on N/C Router.	4,900	Jan.'75	**
PBB-131	New type coolant to improve tool life. (Bal.)	5,700	Mar.'75	**
PBB-124	M/3200 Firing Pin Housing - purchase N/C drilling machine for Oper. #80, 90 & 100 and Tang Connecting Block, Oper. #105.	6,700	Feb.'75	15
PL-21	M/1100 design improvements - reduce custom repair costs.	52,200	Dec.'75	**
WE-103	Change from ammonia to nitrogen gas - Bldg. 76 & 80.	5,600	Jan.'75	21

METHODS & STANDARDS PROGRESS REPORT - DECEMBER 1974

Cost Improvement Items Anticipated (cont'd.)

<u>Code No.</u>		<u>Est. Gross Savings</u>	<u>Estimated Completion Date</u>	<u>% Return on Investment</u>
PBB-355	Shotgun Vent Rib Barrels - improve type grinding wheels.	\$ 7,600	May '75	**C
PE-36	In-plant forging - family Trigger Plates, M/700 Trigger Guard & Floor Plates.	138,200	May '75	32
HD-10	Powder metal - Purchase grinder vs. vendor grind, Part #12819.	62,800	Jan. '75	62
FBM-110	Center Fire Front Sight Ramp - Replace (2) Special machines with (1) Kingsbury machine.	6,600	Apr. '75	12
GA-12	System to separate water from soluble oil before burning. Reduced fuel oil usage. (Bal.)	8,500	Mar. '75	23
PR-371	M/1100 Receiver - Manufacture Carbide Tool #38655 on Plant.	10,500	Jan. '75	**
<b>Total</b>		<b>\$655,300</b>		

- \*\* - No capital investment.
- R - Machine Replacement.
- C - Increased plant capacity.
- M - Plant modernization.

Incentive Wage Plan

"Off Standard" time under the Measured Performance Plan average 7.0% for the month of December as compared to 7.5% for the month of November and 7.1% for the month of October.

The Measured Performance Plan variance averaged 3.6% for the month of December, as compared to 3.5% for the month of November and 3.3% for the month of October.

Operating Cost Improvements

		<u>Gross Annual Savings</u>
Operating Cost Improvements - December		\$ 252,600
Improved methods and procedures in Plant Engineering in 1974.	\$ 84,000	
Improved product yield-1974 Quality Improvement Program.	70,200	
Machine maintenance reduction accomplished during 1974.	34,900	
Improvements in processing powder metal components.	27,200	
Fourth quarter suggestion system savings.	17,200	
Improvements in perishable tool usage and costs in 1974.	13,700	
Miscellaneous smaller process improvements this month.	5,400	
Operating Cost Increases - December		(\$ 451,900)
Increased labor costs from overtime and other operating arrangements necessary to meet 1974 schedules.	(\$ 386,500)	
Increased cost of supply and direct expense items in 1974.	( 54,600)	
Temporary or extra operations to improve quality.	( 10,800)	
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Net Effect - December		(\$ 199,300)
Summary - Year to Date		
Cost Improvement - 146 cost improvement items.		\$ 1,807,200
Cost Increases		(\$ 5,481,800)
Increased cost - extra operations.	(\$ 137,200)	
Increased cost - improved quality.	( 36,000)	
Increased cost - wood for stocks and fore ends.	( 1,034,000)	
Increased cost - purchased pre-formed components.	( 91,200)	
Increased cost - fuel oil.	( 269,800)	
Increased cost - paper packaging material.	( 102,500)	
Increased cost - anhydrous ammonia.	( 18,700)	
Increased cost - powder metal.	( 15,600)	
Increased cost - Blue Cross/Blue Shield rates - 2/1.	( 136,900)	
Increased cost - higher Social Security tax rates.	( 32,800)	
Increased cost - improved Pension Plan - 4/11.	( 551,300)	
Increased cost - steel.	( 655,500)	
Increased cost - natural gas and electricity.	( 359,000)	
Increased cost - depreciation plant capacity projects.	( 16,700)	
Increased cost - general plant Wage Adjustment - 7/1.	( 1,514,000)	
Increased cost - additional (10th) Paid Holiday.	( 69,500)	
Increased labor costs to meet 1974 schedules.	( 386,500)	
Increased cost supply and other direct expense items.	( 54,600)	
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Net Effect		(\$ 3,674,600)