

National Enameling & Stamping Company, which manufactures at its Granite City works the steel required by its chain of enameling factories (as well as steel for the general market) began to go on three shifts not many years after the Commonwealth Steel Company, but unlike its neighbor, made the change gradually, department by department, because the men had asked for it. The National Enameling & Stamping Company is one concern in the steel industry which for many years has dealt with a labor union not

for the open-hearth work due to the change in the shift system was about 6 per cent. The output of the open-hearth furnaces has been increased 10 per cent per furnace during these 6 years. The company does not, however, attribute this 10 per cent increase in output to the shorter shift, as other efforts were being made to increase output at the same time. They think it possible, however, that so large an increase in tonnage would not have been obtained had the men not been on the shorter hours.

TABLE VI. DEPARTMENTS IN A STEEL PLANT, AND HOURS WORKED IN EACH, UNDER THREE-SHIFT SYSTEM

(National Enameling & Stamping Co.)

Department	8-Hour Men	10-Hour Men	12-Hour Men
Tin and Sheet Mills	872	83	134*
Finishing Department	124	193	52
Open-hearth Department	151	11	
Universal Mill	129	47	6
Plate Mill	55	51	6
Mechanical Department	234	12	7
Boiler house	69		
General	6	102	6
Total (2350)	1640	499	211

*One department not on three shifts.

only in one but in practically all departments. The change in shift systems was in each case arranged in the course of the annual negotiations with the union. The basis of wage adjustment upon which the men voted to go on three shifts will therefore be of interest.

Table VI shows the various departments with the number of men in each department working 8 hours, 10 hours, and 12 hours, as things are arranged this year. It will be observed that the shift men are on 8 hours but that the day workers are on 10, with a few odd men who are working 12. The sheet mills, and most of the 8-hour men in the finishing department, have been on 8 hours from the time the company was started. The first departments to make the change from two to three shifts were the open-hearth department and the universal mill, both of which made the change six years ago. The wage adjustment upon which the open-hearth men went on the shorter day was an increase in hourly rates of 12½ per cent. The company figures that the net increase in labor cost

In the case of the universal mill, the change from two to three shifts was made without any increase in labor cost. This was because there was a substantial increase in output, the output now being 25 per cent larger than it was 6 years ago. Not quite all of the increase in output is due to the change from two to three shifts; but the company estimates that at least 20 per cent increase in output is due to the shorter day. I might add here that I have come across quite a number of plants where output on rolling mills has been increased in just about this percentage, due, the managements say, very largely, to the change to the shorter shift.

The plate mill was put on an 8-hour day one year ago, that is, where it had before run two 10-hour shifts it was arranged to do the work in two 8-hour shifts. About the same production was obtained in 8 as in 10 hours, not because the men worked faster, but because the limited shearing capacity had kept down the amount of work which could be turned out on the 10-hour shift. When the shift was reduced to

8 hours the work was not held back in this way.

In the mechanical department less than half of the men were ever on 12 hours; but those that were (with a few exceptions) were changed from 12 to 8 hours three years ago. There was an increase in cost, but the figures are not obtainable. In the boiler house the increase in labor cost was 10 per cent. This is the only department in the case of which the company does not feel satisfied with the change to three shifts, this being because the company feels that the men are here disappointed over the reduction in daily earnings which the change involved.

In making the change to three shifts, the National Enameling & Stamping Company always increased the number of men 50 per cent, excepting a very slightly smaller increase in the boiler house. The company believes that there are noticeably less accidents among men working 8 hours than among men working 12 hours, and the general impression of the management is that the health of employees is better while working 8-hour shifts than while working 12-hour shifts.

3. THE COLORADO FUEL & IRON COMPANY

Our next illustration will be a large steel company which went on three shifts rather unexpectedly just two years ago, and then found out, somewhat to their surprise, that, in their special circumstances, the three-shift system was a financial saving to the company, as well as a satisfaction to their employees. The Colorado Fuel & Iron Company has a steel plant at Pueblo, Colorado, having 6 blast furnace stacks, 15 open-hearth furnaces, a Bessemer converter, and a variety of mills for rolling blooms, rails, rods, etc., as well as departments for making wire, various wire products, bolts, etc. There are about 6,200 employees.

Under their industrial representation plan the Colorado Fuel & Iron Company has an agreement with its employees by which it pays the same wages as are paid in the east. When, therefore, it was learned in October, 1918, that the Steel Corporation was to introduce the basic 8-hour day, the company promptly

The change was not as difficult for the men and their families financially as might appear; for their hourly rates did in fact advance 10 per cent at this time; also, simultaneously with the change from the 12 to the 8-hour day, many of the men went (at their own request) from the 6 to the 7-day week. So actual earnings did not drop so greatly from the previous level; though compared with what the men would have earned had they accepted the offer of the basic 8-hour day, the sacrifice was substantial.

called its men together in a series of meetings for the purpose of working out methods for putting the basic 8-hour day into effect. The basic 8-hour day did not, of course, contemplate any reduction in hours, but was simply a wage advance, by which the men were paid time-and-a-half for all work over 8 hours. It happened, however, that after the company had made substantial progress toward arranging with its men for the basic 8-hour day, one of the groups called into conference declared that what they wanted was not the basic 8-hour day but the actual 8-hour day. And it was agreed that this group should have the actual 8-hour day, at an advance in hourly rates of 10 per cent over the base rates prevailing in the East.

A little reflection will show that under this arrangement the men, instead of receiving more per hour than the men in 12-hour plants, would actually, on the average, receive a little less. For under the basic 8-hour day, the steel worker who works 12 hours is paid for 14, an increase of 1/6, on the average, over the basic hourly rates. So where the Colorado Fuel & Iron Company was offering to employ its men 12 hours, at an average increase of 162/3 per cent in hourly rates, the men asked that they be employed 8 hours, at an increase of 10 per cent in hourly rates. The 8-hour day meant less than two-thirds of the earnings which the 12-hour day would have meant. Nevertheless, as soon as it was learned that this one group of men had obtained the actual 8-hour day, all the other groups which had already been disposed of came back; and matters soon ended by the whole plant going on 8 hours.

The reason why the company was dubious about the new arrangement was the fear that when the men received their checks they would regret their agreement; but as a matter of fact there was very little complaint. There is no question but that the men regard the winning of the actual 8-hour day as a very great achievement. The company also is very highly pleased with the new system. There is no reason why they should not be, considering the favorableness of the wage adjustment. But, aside from the question of the rate paid per hour, there was prior to the change a good deal of skepticism as to how so unheard-of a thing as the 8-hour day in a steel works would work out. Two years of three-shift operation have proved it practicable.

In view of the fact that the shorter hours were introduced without increase in labor cost to the company, there was no reason to expect that the men would feel under obligation to turn out a larger out-