# THE SLAB YARD SLOWDOWN

Even the tremendous roar of the nearby open-hearth furnace would not have drowned out Bob Flint's screams when he was handed the latest slab yard payroll report. Flint, a division superintendent at Midland Steel's Dayton, Ohio plant, was outraged to discover that a crew of "scarfers" had reported a 410 percent incentive pay performance level on last week's day shift. To earn the $81 hourly wage reported by the scarfers would have required a physically impossible work pace.

## The Steel Production Process

Raw iron ore is melted down in large blast furnaces to form basic pig-iron soup. The soup is transported to open-hearth furnaces where certain alloys are added to produce a molten steel mixture of malleability and strength, tailored to unique specifications. This mixture is reheated, then poured into ingot molds and transported to a mill for further processing.

In the mill, the ingot molds are removed and the ingots rolled and chopped into steel slabs of predetermined dimensions. After the slabs cool to 1,000 degrees, jet streams of water are turned on them to further reduce their temperature. At this point, the scarfers mount the steel slabs and use their torches to burn off any cracks, scabs, or blemishes on the slab surface. When the scarfers have completed their work, the slabs are transferred to a rolling mill, reheated, and rolled into either plates or coils, depending on customer specifications.

## The Scarfing Process

The scarfers were specifically responsible for burning all cuts, cracks, scabs, and blemishes off the surface of the steel slabs before they were reheated and rolled into plates or coils in the rolling mill. Their function was vital, since failure to remove defects in the steel slabs could have resulted in scrapping much of the metal during the rolling process. The defects could ruin the metal in two ways: (1) impurities could prevent the steel from

reaching the required level of malleability during reheat, causing the metal to snap during the coiling process; or (2) even a small blemish could become greatly enlarged during the rolling process, e.g., a two-inch-wide blemish on the surface of a six-inch-thick slab of steel would be stretched out over the face of over 100 feet of finished product when the slab was rolled into a plate one-tenth of an inch thick.

The scarfers' task was achieved by standing on top of the steel slabs in thick, wooden-soled boots and cutting paths along the steel surface with a heavy blowtorch. Obviously, the working conditions were not comfortable. The workers endured the discomfort of extreme heat, bulky clothing and protective goggles, moisture from the water jets used to cool the slabs, and an immediate environment full of acid fumes from molten steel.

This harsh environment dictated that a scarfer be in top physical condition. Some of the workers were very large physically while others were not. Regardless of his size, each scarfer was exceptionally strong. The majority of the scarfers were either junior high or high school dropouts. Most scarfers would spend their entire working lives in the slab yard, working until well into their sixties; consequently, many had worked together for years. Over time, they had developed good friendships and did many things together after work.

Added to the physical discomforts of the environment and the monotony of the task were the inherent dangers of working in an enclosed area among eight-foot stacks of hot steel slabs. The slab yard was the division with the highest accident rate in the corporation. According to the shift supervisors, a high percentage of Midland's scarfers had died on the job from accidents or from heart attacks caused by overexertion.

## The Current Incentive Plan

Because scarfing was one of the most difficult, dangerous, and dirty tasks at Midland Steel, the job was more financially attractive than others. Under the current incentive plan, scarfing had become the highest-paying blue-collar position in the steel plant. In fact, good scarfers would make over $80,000 a year; consequently, they were

considered by themselves and others to be the "elite" of steelworkers. However, the large pay differential between scarfers and other blue-collar workers created tension between the two groups.

The scarfers' incentive system was based on measures of production output, that is, actual number of slabs and amount of square inches scarfed. Measurement of square inches and slab counts were performed by inspectors who were also responsible for slab quality. Markers carried out another function, that of marking areas on the slabs that needed scarfing. Markers, as well as inspectors, received compensation based on the number of slabs scarfed.

In addition to the piece-rate incentive system, management provided scarfers with a base pay which was calculated by the dollar amount of rolled or coiled steel which would have been wasted in absence of the scarfing process. To increase their variable incentive pay, scarfers had often skipped their hourly heat breaks.

When the bargaining union had first negotiated the incentive plan in 1970, management had expected scarfers to average about 150 percent of their base pay, but scarfers saw the incentive plan as a much larger money-making opportunity. Throughout the 25 years of the plan's existence, scarfers had averaged 262 percent of base pay.

## The Problem

Under Midland Steel's quantity-oriented incentive system, division superintendent Flint knew that the scarfers had been cheating for years by altering their blowtorch tips so that they could scarf more steel slabs per shift, thereby earning a higher wage. The workers would simply drill larger holes in the tip of their blowtorch so that the flame broadened, enabling them to burn a larger path with one pass of the torch over the steel slab. The larger torch path enabled the scarfer to finish more slabs during a shift, thereby increasing his income. However, by broadening the torch flame, the worker also decreased the flame's intensity such that the burn into the steel would not penetrate deeply enough to lift out the defects and blemishes from the steel. Rather, the weaker flame

would simply cover the defect with molten steel, hiding it from the inspector's visual check. These hidden defects resulted in costly scrap in the final steel-making process.

In addition, markers would often mark slabs for scarfing that did not need treatment in order to increase slab count and total square inches scarfed. Since quantity incentives were also offered to inspectors, they typically qualified inferior steel as acceptable in order to increase their own and scarfers' pay.

The only real contact between the scarfers and management was via the shift supervisors. The shift supervisors were thought of as the bridge between white- and blue-collar workers (each shift had two supervisors, one in each slab yard). Their function was to ensure that the scarfers worked safely, kept on schedule, and did quality work. This was not an easy task considering the strong-willed and independent-minded attitudes of the scarfers.

The shift supervisors also had the task of inspecting the blowtorches. Because some of the scarfers had altered their tips, a large number of defects had caused the rejection of significant quantities of finished steel products. In order to decrease their refection rate, the shift supervisors conducted periodic inspections to ensure that the tips met regulations. Managers at any level higher than the shift supervisors were prohibited by union contract from conducting these inspections themselves.

## The Raid

Management, including the shift supervisor, believed that greed was the motivating force behind the scarfers' altering their blowtorch tips. Management also thought that the incentive plan was a problem in that it rewarded output but not quality. The newer scarfers particularly were seen as guilty because they had been under pressure to keep up with older employees. The tip alteration problem had been going on for a long time, and the finished product rejection rate at the Dayton plant was twice the corporate rate. With the obvious abuse of the incentive plan (410 percent by one crew for one period), management felt that it was time to make an example of the violators and to correct the abuses.

Blowtorch tip checks had been conducted before on the initiative of the shift supervisors to discover and replace altered torch tips and to mildly reprimand the workers, but Flint felt the whole thing had gone too far this time. Now was the time for more drastic action. Flint felt that the recent 410 percent incentive pay performance level provided him with an opportunity to show the scarfers who was boss. It would also serve as an excuse for him to implement changes in the types of torch tips the scarfers used and in their incentive system.

Consequently, Bob Flint ordered his shift supervisors to conduct an immediate torch tip check on all scarfing crews, telling them that any workers found using altered tips were, in his words, "to be dealt with." When Dee Colton, the shift supervisor at the time, conducted a job-site tip check in the slab yard, he found 50 percent of the scarfers using altered tips. Following past procedure, he issued each guilty worker a reprimand requiring two days off without pay. When Colton reported his actions to Flint, however, Flint was incensed. He demanded that Colton fire the guilty workers immediately and that he fire any other scarfers found cheating in the next two shifts. Despite the fact that the first shift had warned the next shift -- swing shift -- that a tip check was on, three workers supposed that the action taken would not be any different from that of the usual inspections and therefore they did not bother to change their tips. They were subsequently fired. Bu the time the graveyard shift shuffled into the slab yard that night, the word had gotten around that top management had its hands in this crackdown. No altered tips were found during the graveyard shift.

Two days later the scarfers began a wildcat slowdown that created a bottleneck potentially costing the company millions of dollars.