THE RIGHT TECHNICAL PERSON FOR THE RIGHT TECHNICAL JOB

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ABSTRACT

The petroleum industry today is faced with an acute shortage of technical personnel. If this trend continues, the industry will suffer economically as well as technologically. The United States' petroleum industry has always been a leader in the world in technological achievements and in all facets of oil and gas drilling and production techniques.

Oil, gas and service company personnel have traveled the world over aiding many countries in their oil and gas development. Without this technological aid of engineers and service company personnel, our nation and many other countries would not have advanced as rapidly in the industrialized world we live in. This paper is directed toward a major problem which faces the petroleum industry, this being a shortage of technical people to supply this industries critical need.

INTRODUCTION

This paper is written for the purpose of analyzing some of the problems associated with recruiting and hiring personnel in today's labor market. The petroleum industry is faced with an acute shortage of technical personnel in all facets of drilling and production. The solutions for supplying the industry's growing need for technical personnel are complicated. Many different approaches should be taken in order to create a stable balance of experience. These approaches will be discussed in this paper.

This subject is quite appropriate in view of the labor situation facing the oil, gas and service companies. Hopefully, information contained in this paper will stimulate new approaches in (1) recruiting personnel and (2) maintaining an acceptable balance in the present work force.

In years past, when jobs are available in the petroleum industry, filling them was not a problem, due to the high unemployment markets in other parts of the country. People were willing to work long hours and make the sacrifices the industry required. Those days are gone. A new factor today is that many people can stand in the unemployment lines and survive. This trend probably will not change soon. The oil, gas and service companies must address themselves to the problems at hand.

PRESENT THEORIES AND PRACTICES

Present practices pertaining to recruiting and hiring of technical personnel for the petroleum industry revolve around institutions of higher learning. There are fewer petroleum engineering graduates for companies to hire and current college graduates have a lower academic achievement level as compared to those of five years ago. In search of personnel, the petroleum industry has been recruiting professors and instructors from

many engineering institutions. It is economically impossible for colleges and universities to compete with the petroleum industry in the areas of wages and benefits. This recruiting leaves a void in the quality of instruction a student receives due to a larger class size and less experienced professors, which only serves to perpetuate the problem. Many colleges and universities are trying rapidly to rebuild their petroleum engineering departments, but are having little success.

Another cause for the shortage of college graduates is lower college enrollment. This is directly linked to the cost of education and its popularity, or lact of it. Due to inflation, the average cost of an engineering degree is now $25,000, which puts extreme pressure on the home budget.

Inflation is making the cost of education prohibitive for most lower and middle income families. This trend does not appear to be changing for the better. The tax revolt, which is growing in this country, will possibly drive educational costs up even further because much of the property tax goes directly to education.

It has been the consensus for many years for the employer to hire a college graduate in the same career field in which the need exists. However, because of the extensive shortage of qualified engineering personnel in the petroleum industry, many other degrees are now recognized as useful; chemical engineers, mechanical engineers, aeronautical engineers, and others. The purpose behind this innovation is to give a mathematical foundation, as well as a background in physics, in order to cross-train individuals in the petroleum engineering field.

This hiring practice has created many problems that are difficult to cope with. One such problem is the communications between the new engineer and the field personnel. Many engineers have no background in the petroleum industry and are not accustomed to many common procedures used to obtain the best results from a particular job. When a novice is writing these procedures, many errors are made. These errors are not necessarily checked by a more experienced engineer, so a certain amount of improper techniques are used in the field. The inexperienced men are easily taken advantage of and influenced by salesmen. The combination of these factors results in the response of the well or the work being done not achieving design expectations, which is directly linked to the economics involved.

Companies with assets of 20 million dollars and up generally have personnel departments with the primary responsibility of recruiting personnel. Smaller companies tend to turn the responsibilities of recruiting over to employment agencies, which are supposed to screen the applicants. Both personnel departments and employment agencies are well qualified in the areas of applicant screening, laws which pertain to discrimination, and other state and federal regulations. However, as for technical skill evaluation, the majority of personnel people have glaring deficiencies. Of course, this factor makes it difficult to determine what an applicant does or does not know. Many personnel departments and employment agencies tend to relate to charts and graphs, various types of aptitude tests, and

in many cases, psychological profiles of the individual. These types of testing have little or no bearing on a person's capabilities in the job assignment. This is especially true in the service industry.

Personnel departments tend to evaluate an applicant by his past work record; for example, the number of companies the applicant has worked for in the past few years. Many service company applicants have worked for several companies over a period of years. In many cases, a service company employee will go from one company to another depending on the economics of the area. This moving trend is often called "job hopping". For example, a small drilling contractor finds it necessary to relocate drilling equipment. This creates a turnover problem caused somewhat by the lack of moving expenses furnished by the company. Then the drilling contractor faces the reality of setting up new crews to drill wells. This "job hopping", is not a major problem for the oil and gas companies, but is a major problem for the service companies. A personnel department unfamiliar with situations such as this, is going to have difficulty maintaining a qualified work force. "Job hopping" is a factor with which the service company has to cope.

There are other idiosyncrasies of service company personnel that set them apart from the standard employee. An aspect of a service company worker that is unfamiliar to the majority of personnel departments is the directness in his manner of speech. Many personnel departments interviewing a worker with ten or more years experience in the field tend to interpret this directness as being arrogant or egotistical. It is assumed that the applicant would not be compatible with the other employees. Again, this conclusion directly reflects the inexperience which exists in the personnel departments.

The petroleum industry has always been a world of very few words. The closer one gets to where the work is actually done, the more direct the speech. The measurement of a good employee in the petroleum industry is his ability to get the job done and make decisions when necessary. Most of the survivors in the oil industry are accustomed to making many decisions during the course of a day.

Shortage of personnel is a major problem facing the service company. The number of working hours required of an individual is often high. Regulatory agencies are now observing the number of hours service company employees are working which will result in the need for more employees to fill the gap. The extreme turnover rate is another major problem of the service companies. Some service companies are reflecting 100% turnover per year. This turnover is created by many conditions. One is "job hopping" as mentioned previously. Another is pay. Pay is relatively low on a per-hour basis. A man must work a great number of hours in order to maintain the type of living desired. When these hours are decreased, or when the work demand slows down, the employee falls back to hourly guarantees. Due to the shortened work week and the corresponding reduction in pay, the employee many times will seek other employment in order to maintain his lifestyle. This creates turnover problems, of course, but it creates an even bigger training problem. Part of the solution is that the service industry must become more competitive in the labor market on a per-hour basis.

Another aspect involved in this high percentage of turnover is the major oil companies search for experienced personnel. The service industry is an obvious source to serve this need. Therefore, the service companies became a prime recruiting ground for the major oil companies. This results in a shortage of trained personnel in the service industry which compounds the high turnover problem. Ultimately, the oil company pays the price for this recruiting, since shortages in the service industry results in low job quality and excessive down time.

The service industry has a turnover problem, a training problem, and a job performance problem (low productivity per-man hour). Each of these problems are becoming more critical. When these problems become too severe, the service company's main alternative is to sell out, as further growth of the company would require a great deal of capital funds. This is sometimes impractical because of today's financing costs. Many other factors are also required for a service company to grow. As a result, certain areas of the service industry have become smaller as a competitive body since 1950. This trend will probably continue, unless a basis is created for being more competitive. This can not be done without the help of the oil and gas companies.

The service companies' problem of finding qualified personnel should be obvious to the oil and gas companies, since their own engineering staffs have been heavily recruited by "head hunters". Their prime people with five to seven years experience are leaving for more competitive markets which offer more challenge and higher wages. An engineer being promoted from a staff engineer to a management position with a 20% to 25% raise by changing jobs is not uncommon. In some cases, they offer overrides and incentive programs that would have not been possible five to six years ago. Nevertheless, these are the enticements being used for recruitment.

A major factor often overlooked is that the petroleum industry is tied to certain trends which do not produce the right attitude in its people. One is the promotional system. Another concerns the labels the company becomes obsessed with. These are the things that the industry has to address in order to attract new blood.

The term promotional system is very general. However, after much investigation, many jobs, especially in major companies, are found to be limited. In the past, it was traditional to have each department's goals outlined emphasizing the number and qualifications of the staff. However, companies tend to handicap themselves when dealing with qualifications. Remember that the basic concept of success in the United States today is based on achievement.

Question: Is the individual more limited when opportunities for growth are reduced, or is the company more apt to suffer? Many individuals with the initiative to be achievers who cannot find avenues in their present jobs to fulfill this drive will ultimately look for new markets to accelerate their abilities. An under achiever, who may become a "stayer", must be checked to establish if he is a productive entity. If not, is the individual and/or the lack of proper training to blame? In either case, the company must be critical of itself, because it is part of the problem.

Years ago, the Marine Corps and the Navy developed a testing system in order to achieve a higher competency level within the ranks. Tests were given to all eligible candidates for promotion. The candidates who scored the highest on the test received the promotions. Their eligibility to take the test was established by their time on the job, quality of their work, and manner of dress. The system produced a competitive edge which raised the standard and is still used today. The Air Force and Army maintain the same type of testing and other qualifications as the Marine Corp and Navy do, with one major difference. The testing, instead of being most important, is secondary to time on the job, public relations ability, and dress code.

Many parts of the petroleum industry tend to follow the same direction as the Air Force and Army. Types of hiring and promotional procedures rely more on personal appearance than experience and previous achievements. These procedures have been established by inexperienced personnel managers which the industry has been dependent on.

Question: Should limits be set on an individual's range of achievements? If a field foreman or a roustabout feels that he could become the company president, should he be given the opportunity to try?

Minnesota Mining and Manufacturing, better known as 3M, is one of the most successful chemical companies in the United States today. Started 74 years ago, it now employs 79,500 people and has sales in excess of 4 billion dollars annually. In annalyzing its personnel, 3M discovered that the most important ingredient for its success in growth was competitiveness. Allowing its employees to become as creative as possible made 3M competitive in the market place. In Minniapolis-St. Paul, over 10,000 people employed at 3M are actively engaged in research, product development and product service. An individual is given every opportunity and incentive to advance his educational level irrigardless of his previous academic background. He is given in-house training programs and courses that will give him college equivalent grades. He is given special courses in his field and time to excel in his preferred areas. The result of this training is some 4,500 PHD's educated primarily by 3M backing.

3M also offers its employees another advantage, 3M split its promotional system to offer two avenues for advancement...(1) management and (2) research and development. The earning capabilities in either route are equal. Some senior researchers make as much as any vice president within the company. This incentive helps 3M keep a very low turnover rate and stimulates a tremendous amount of growth and new product development. Sales continue to grow at a rate of 10% to 15% per year, which help create profits.

The petroleum industry should adopt various phases of this promotional system. Companies must not limit their employees' ambitions. The desires for educational advancement must be supported and encouraged. Companies have the assistance of the API, the SPE, and many other organizations to aid in specific areas of training with schools and study centers. Many oil, gas and service companies have already recognized the benefits of in-house training and have begun similar programs. The turnover problems will be diminished as the industry itself educates its people.

The petroleum industry has its own problems in the fields of recruiting and maintaining a viable labor force. Nevertheless, recognizing a problem is half of the solution. Preparing a program to deal with the problem indicates that a solution is probable. Only the amount of time needed is unknown.

Conclusion:

In researching this paper I have found some very basic problems in our labor force which make it difficult to maintain the right technical person in the right technical job. One such problem with the work force in general is apathy. The majority feel that this apathy is brought about by the continuous bad news bombarding the American people. Example: If the employee is 30 years old or younger, he would be considered to be from the T.V. generation. The television has done a tremendous job in polluting the minds of our young people with a continuous stream of negative news, such as seven years of Viet-Nam, three years of Watergate, seven years of inflationary problems, and many others. It is quite easy to see why many of the younger employees develop acute attitude problems. The petroleum industry today, must deal with these attitude problems. First, we must recognize that they do exist. Secondly, we must incorporate into whatever training program the company has, motivational type training as well as technical training. It does very little good to train a man who lacks motivation to apply his knowledge toward his job. The company does not benefit at all from this training efforts and to be able to express job related ideas freely without incrimination. Now more than any other time, the employee must be shown that he is appreciated. The petroleum industry must recognize experience to be as important as various types of college or university degrees and by doing so, open doors for this experience to migrate into the ranks of engineering staffs, geological staffs, and others.

There are many talented people at the lower eschalon of oil, gas and service companies. It is my firm belief that if a testing system was adopted to screen employees as to (1) overall aptitude, (2) knowledge of the job, and (3) general attitude toward the company and himself, it could be determined how effective the person's training has been as well as determining deficiencies in the training the company is offering, if any. However, the major reasoning behind such a testing program would be to seek out employees with above average technical skills and abilities who have several years field experience. These employees could be further trained in four to six weeks courses in basic engineering skills such as math and physics. Intergrating these individuals into company engineering staffs as engineer assistants would achieve two goals, (1) better utilization of present staff engineer time and (2) introducing a competitiveness that may not have been there before. After a period of receiving this on-the-job training, if it is determined the employee has achieved certain levels with the company's program, he could be elevated to a full engineering rank with the same wage and benefit considerations as other engineers. Adopting a program along these lines could create a source for technical personnel, reduce turnovers, and improve productivity per man hour performances.

There are many ways to achieve results when faced with a problem. I have only outlined one. I sincerely hope this paper will stimulate

personnel and training departments to look among their ranks to fill technical needs. The oil industry was built by persistant people with conservative approaches to problems. The success of their effort is visible all around us. This philosophy is recognized today as somewhat old-fashioned and out-of-date, but this is the attitude that built the industry and will sustain the industry. A person's worth should be measured by his attitude toward the job, and his ability to get the job done.

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