

States is attracting an unusually gifted group of individuals with high intellectual competence and diligence. The diversity of intellectual background and experience that other foreign-born engineers have brought in the past greatly contributed to the U.S. engineering competence. There are no reasons to believe that the new immigrants will not contribute similarly."

Thank you.

Foreign Engineers--Implications for Transportation Engineering:  
Transportation Industry Perspective

by  
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First, I would like to make a comment of personal nature. I was born in Pennsylvania. When I was 2-1/2 years old, my parents returned to their native Greece. I was brought up in Greece just like any other Greek child. I attended elementary school and high school there and I returned to this country when I was 19. I was too young to remember leaving this country and I learned no English until after I returned. In fact, I returned reluctantly. I thought that perhaps my case would be missed by the statistical categories which were mentioned earlier. The presentation was so thorough though, that even my special case is included in one of the several categories mentioned. I am sure this is not the reason I was invited by Dr. Pignataro to speak to you, because he was not aware of my background. The reason why I brought it up at all was to make you aware that I have seen both sides of the fence so that you can phrase your questions any way you like.

Second, I must confess that I do not feel comfortable representing the transportation industry before you today. Although I have been a railroad person all my life, railroads are only part of the huge transportation system we have in this country. I do feel quite comfortable talking about railroading to you and I hope that what I tell you is somewhat parallel to the experience of the transportation industry at large.

After a 36 year involvement in it, I would say that railroading may be defined as a huge engineering undertaking. Although it requires the services of other professions, its demand for engineered solutions to the available alternatives is insatiable. For this reason, the industry generally needs top engineering talent. This may not be obvious to the general public, but it is true. The demand for engineers fluctuates somewhat. Since the deregulation act of 1980, the railroads have become a lot more competitive and more efficient, and in the process, they have reorganized. As a result of this restructuring, the management staff has shrunk and the engineering positions are not as plentiful as they used to be. Some railroads, though, are hiring a few engineering graduates. I believe the long term trend will improve.

I have met and worked in our industry with foreign trained engineers, foreign born engineers trained in this country, and some with training here and abroad. My observation has been that, in general, they have performed very well.

In the railroad industry, the demand for engineering talent falls in three categories. One is research. Major railroad companies have research departments where they employ engineers. Most of the research for the industry, however, is done by the Association of American Railroads. It is in the railroad research field that I have met many foreign engineers and, in my opinion, they have performed very well.

The second type of engineering positions for which normally there is a demand is for filling vacancies in the engineering departments of individual railroad companies. These departments require civil, mechanical, electrical,

or industrial engineering talent. The occupants of these positions generally are of the office engineer types-- designers and analysts. I have met several foreign engineers in positions of this type and I am happy to report to you that, here too, they have done well.

The third type of engineering positions for which there is need is in field supervision where engineering is used as a background. These positions require a strong leadership quality to deal with a highly unionized and structured labor force. Communication skills are of paramount importance in these positions. Although I have encountered only one foreign born and foreign trained engineer in field supervision, I feel certain that the railroad industry would be happy to fill their vacancies with anyone who can do the job, indigenous or foreign born.

As for the NAE report, I enjoyed reading it. It is an excellent report. It highlights some social behavior characteristic of foreign born engineers that are different. Without question this social difference creates problems that are evident in the real world. On the other hand, there is hardly a group or an individual that does not present a problem or two. The problems stemming from the social differences described in the report may not be perceived to be as intense when viewed comparatively.

I would like to finish my remarks by saying that the railroad industry welcomes those who possess the needed engineering talent when it is mutually advantageous for employer and employee alike.

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