



Victor L. Regnier Traveling Fellowship for Construction Science



“Hidden Costs and Challenges for International Constructors”

Monthly Report: June 2007

by: Mary Evans

SUMMARY

My fully independent research began when the University of Florida-Gainesville study abroad group left Europe at the end of May. Their guided tours of construction sites, and the opportunity they provided to interview Professor Jablonski from the Fachhochschule in Detmold, Germany, established a good foundation for my research and aided in my personal, cultural adaptation to living in Germany.

From Detmold I traveled to Berlin where I worked with Hensel Phelps Construction Company for the next two weeks as a field engineer. As a future Hensel Phelps employee, I was allowed to join the team, to attend safety meetings and subcontractor meetings, and to do some field engineering work. This experience was very beneficial to me for three major reasons. First of all, it facilitated in making additional contacts and scheduling future interviews. Secondly, because of my 2006 internship with Hensel Phelps in Colorado, I was able to compare my previous experiences with the adaptations made by the company in Berlin. And lastly, on a personal level, I received valuable professional advice and had opportunities to join in social and cultural activities with co-workers on some of my free time.

Also, during this time in Berlin, I completed a number of other interviews through contacts with Sunrise Senior Living. I interviewed Bernard Heiming, of Terragon GmbH, who performs the construction management function, and Ekkehard Voss, the President of nps tchoban voss GbR, the architectural firm Sunrise is utilizing in Germany. To interview Mr. Voss I traveled to Hamburg, which enabled me to walk through the construction of Heffen City. When completed, Heffen City will expand downtown Hamburg by 40% in twenty years. This large development encompasses offices, infrastructural facilities, commercial uses, residences, and a Sunrise Senior Living site, as well. I was also lucky enough to finish my stay in Germany by completing interviews with the Director of the Overseas and International Relations Division of the German Construction Industry Federation, Mr. Frank Kehlenbach, and the CEO of the German Society for Concrete and Construction Technology, Doctor of Engineering (Dr.-Ing.) Hans-Ulrich Litzner.

Travel from Germany to Italy occurred during the third week of June, which seemed to be a bad time for my Italian contacts to set up interviews and site visits. I spent this week coordinating future appointments and travel plans, and journeying through Italy to Catania, Sicily for the weekend to visit my cousin for help in learning about the Italian culture. I also began the compilation of my research about Germany while it was still fresh in my mind. I currently have revised and sent out copies of my questionnaire notes to the respective interviewees. At present, about half of the interview sheets have been returned with comments and corrections. The rest of my trip in Italy is now essentially planned. At the end of this past week, because of a referral from a professor at the Fachhochschule in Detmold, I met with Professor of Engineering (Prof.-Ing) Frederico Gervaso who teaches courses on construction management at the Politecnico di Milano, the Polytechnic University of Milan.

In the month of July, I will be visiting jobsites in Italy and, later, in the Czech Republic. I am looking forward to expanding on what I have already experienced here in Italy and learning about yet another European culture.

The U. S. Embassy

Presently I believe that the U. S. Embassy project in Berlin, managed by Hensel Phelps Construction, may prove to be the most useful case study. Last summer I interned with Hensel Phelps, a large American general contractor based in Greeley, Colorado. Hensel Phelps was more than accommodating to me with regard to my research and provided much project information. As an intern in 2006 I had attended many Hensel Phelps corporate culture seminars. This background allowed me to see that, internationally, the company's philosophy was basically the same. For example, on the day that I arrived on site, there was a staff meeting in which the corporate policy about sexual harassment was discussed. The free German newspaper in Berlin includes a centerfold of girls, which the local workers tend to display in their work areas and do not consider to be offensive. Although the popular culture of the area may accept this, the corporate policy opposing such displays was clearly defined.



Upon my arrival at the construction site in Berlin, I immediately noticed one of the biggest challenges. Because of the height of security required for an embassy, every person entering or exiting the site must be either an American with a security clearance, or someone granted limited access after passing an extensive background check, or an escorted visitor, which I was. The site could only be accessed through an area called "the snake pit," in which every person had to pass through security. On my first day there, I spent about 45 minutes in the snake pit because of confusion with the paperwork. I was informed that getting the subcontractors, and then the workers, the required clearance is a lengthy process that takes approximately six months. The maze of

paperwork and red tape necessary for security of the project was very cumbersome throughout my time there.

This initial experience led to one of my first questions to Gary Johnson, the project manager. Why is Hensel Phelps, a very successful contractor in the United States, willing to invest in procuring international work like this embassy project? The answer was that expanding into overseas markets is essential to the goals for growth of the company. At the current growth rate of their business, Hensel Phelps needs to begin looking at new sources to acquire work. The company can expand in the United States to areas beyond their current focus, but, within a decade, it will no longer be reasonable to maintain the desired volume of work if operations are limited to the domestic market. A project such as the U. S. Embassy in Berlin is a great way to test the waters of the international construction market. The company is paid in dollars and the owner is the government, therefore, payment is assured. Hensel Phelps feels that with each international project they perform, they are getting better, but they are not perfect. For this reason, they like the idea of trying things out in small proportions when the company is doing well in other markets, so that they have more freedom to be selective in project procurement. The embassy project in Berlin is their first international job in a country that that has limited fluency in English.

Except for times when I had other scheduled appointments, I conducted interviews at the jobsite and worked as a field engineer, typically from 6:30 am to 6:30 pm. These hours are the times when the craftsmen work. Only cleared Americans could be on-site at other times. During my time at the U.S. Embassy site, I was also able to gain perspective on the project through input from the Project Manager, Project Superintendent, Office Engineer, a German Construction Manager, and a German Scheduler.

My interviews with the Project Manager and the Office Engineer provided me with insight into the administrative challenges of dealing with the contractors. The German subcontractors had to be taught Hensel Phelps' systems for completing submittals and pay applications, and changing

order request pricing. The plans and specifications were all done by an American architect per American standards. Submittals had to be in English, and the forms were all standardized Hensel Phelps forms, with minor changes where required.

The Project Superintendent, Mr. John Coffman, and I spent a lot of time talking and walking the site. We spoke in detail about managing the local craftsmen. He said that the German craft workers are perhaps the best with whom he has ever dealt. They take pride in their work, but they have the least site management he has ever seen. German subcontractors will assign double the workers per foreman as compared to a typical crew in the United States. Scheduling and productivity are not emphasized in the manner to which I was accustomed. We also spoke about the major differences in means and methods. German workers typically swing the large pieces of rebar into place, piece by piece with a tower crane, and tie the bar in place. Mr. Coffman tried to explain the idea of rebar cages and swinging in large pieces at once, which was viewed as impossible by the Germans due to the way they tie the bars. In hindsight, Mr. Coffman wishes he would have bought some rebar tying guns to the site and let the craftsmen use the guns to tie the big cages. However, he stated that, at this time, there would be no point to teaching them another way to tie the rebar by hand because what they do, they do very well and very quickly.

And finally, the freelance German construction scheduler and the German Construction manager that Hensel Phelps hired for this project were very helpful as resources to compare the Embassy project to a typical German construction project. They both agreed that the project was inherently plagued with some issues and challenges from the language and cultural barriers. However, they also agreed that Hensel Phelps' project management techniques were some of the best they have seen. They were impressed with the concept of trend charts and how well kept and detailed the schedules were. Their advice for international contractors would be to hire someone who understands the complicated German construction industry and laws, so that all parties signing the contracts fully comprehend their rights, duties, and responsibilities.

Sunrise Senior Living

I first visited with the President of nps tchoban voss GbR, Ekkehard Voss. His architecture firm does a large range of projects, mainly in Germany, but works internationally as well. Mr. Voss



offered a valuable perspective of the international construction process from trying to not only supply the owner, in this case Senior Living, with their desired project, but to explain the differences in the preferences of the German consumers who will be occupying the developments. The issues ranged through all aspects of the project, from the post World War II emotions that might be felt by the German senior citizens in response to keeping an American name "Sunrise," to the use of precast bathrooms. Mr. Voss was extremely proud of the common use of concrete in German structures. Concrete's durability and thermal mass assure the Germans, who typically buy only one house in their entire

lifetimes, that the structure is sturdy, made to last, and energy efficient. The precast bathrooms used in the Senior Living project are of top quality and greatly impress the prospective owner.

In order to meet with Mr. Voss, I had to travel to Hamburg. While in Hamburg I walked through the part of the Heffen City project currently under construction. This extensive development, which will nearly double the size of Hamburg once it is completed, has a row of about ten or twelve different projects all under construction simultaneously. I really enjoyed seeing the

multiple contractors working side by side. My previous perceptions of German construction were further enforced. The use of hard hats, fall protection measures, and even full clothing seemed limited in comparison to what I have experienced on American construction sites, but everyone wore their special safety shoes. Restrictions placed upon the public seemed limited as well. The street dividing the sets of projects might typically have been shut down by a U. S. contractor, but at Heffen City anyone was able to walk down it, weaving through piles of construction debris and machinery. Rebar caps were not used and tower cranes were active throughout the project area. Most structures were in the early foundation stages, which were a mixture of piles, matt slabs, and grade beams. I also noticed more use of cast-in-place concrete than I had expected, and I was able to view some precast, prefabricated rooms being placed in structures. The Sunrise construction site was still in the site preparation phase.



Upon returning to Berlin, I met with Bernard Heiming of Terragon GmbH, a construction management firm. He offered further insights into the challenges of working with an American project developer in Germany and emphasized the cultural differences in building materials. I was sitting in his office when he received a call in which he was discussing some issues concerning the use of external sun protection blinds. Sunrise is resisting the use of the blinds because they create an institutional look, which is by no means acceptable in American standards for senior housing. However, the use of external blinds is common place for the Germans. With air conditioning systems and the cost of energy being so expensive in Germany, seniors can not afford to keep the buildings adequately cool during the summer heat without the aid of the blinds. Mr. Heiming explained that much of his role as a construction manager for Sunrise is to explain the cultural differences and help facilitate the design and construction to satisfy the owner's needs for a product which is unique to the German market.

The German Construction Industry Federation (Frank Kehlenbach), and the German Society for Concrete and Construction Technology (Dr.-Ing. Hans-Ulrich Litzner)

These interviews were excellent sources for comparisons and contrasts of the German construction industry to the European and international construction markets. The German Construction Federation represents the large contractors, which make up only about five percent of all German construction contractors. We discussed the union influence and yearly bargaining practices. I was also informed that currently, the German construction market is the largest in Europe, but not the most profitable. The most profitable market is in the United Kingdom, the last country I will visit.

We were also able to talk about current laws, and laws that may be passed soon, that will affect the construction market. At present, there is a proposed law under consideration that, if passed, will open up the public German construction market to U. S. contractors if the U. S. will do the same. This is called a reciprocity agreement. Also, we spoke about the laws concerning outsourcing. Currently only a certain number of work visas are allowed for skilled workers to be brought into Germany from each country. However, there are no rules or regulations on how many legal foreign workers a firm can hire. These workers are paid in accordance to German minimum wages, but as "unskilled labor" and that is how outsourcing is occurring. We also discussed the challenges of the black market of workers in Germany. When illegal workers are discovered, they are deported but typically return to the German construction industry within a month.

Experiencing the Italian Culture

Due to the benefits of my experiences with the UFL-Gainesville group in adapting to life in Germany, I spent a few days in the first part of my stay in Italy acclimating myself to the culture.



During this time, I noticed that there is a large demand for construction renovation and rebuilding of historic structures. There seem to be large campaigns throughout Italy to raise money for these types of projects. I have seen numerous billboards with hardhats, and even walked past a benefit concert to raise money for restoring a church in Milan. The materials used in construction of the buildings are similar to those used in Germany, all heavy massive materials like concrete and brick, and the methods appear similar as well with the use of many tower

cranes. There seems to be, however, less construction occurring in Italy than in Germany, which agrees with the preliminary information I have gathered.

One of the main reasons I chose to include Italy in my research was due to my interest in union labor. For my honors research study at Kansas State University, I created a general contractor's "Need to Know" about unions and the National Labor Relations Board, NLRB. I was aware of the strength of Italian labor unions and experienced them almost immediately. On my way to Catania for the weekend, the train unions decided to strike and I was stranded in a small port town called Bari for an extra evening. The next day I had a train layover in Naples and saw impressive the results of a trash strike.

The Italian people are dramatically different than the Germans. The Germans have a reputation for being very organized and systematic. The Italian culture appears to be more laid back and relaxed. A work day is much less structured and may include two hour lunches. Italians enjoy many holidays and schedules seem to be more flexible. This is apparent in many of the little things in my day, from making appointments to interpreting train schedules, which are often late. However, the people are extremely friendly and business is done on much more of a personal relationship level, rather than with strict rules and formalities. I was told by Professor Gervaso that to truly understand Italian business and the construction industry culture, I would have to live and work in Italy for years.

Politecnico di Milano, Prof.-Ing. Federico Gervaso

The Polytechnic University of Milan is internationally known as a leading university for the study of engineering and construction. They offer a construction engineering masters program that may be obtained in English and facilitate many engineering study abroad programs and international construction events. Professor Federico Gervaso has only been with the institute for two years. Prior to teaching courses on construction management practices, he worked as a construction manager on large projects all over the world. Due to experience building in the United States, he was able to compare and contrast the differences quite well and I feel lucky to have started my research with such a knowledgeable contact.

Essentially, I sat down and explained what I am researching, and Professor Gervaso bluntly



stated that an American contractor looking for international work should not look to Italy. There has been no profit in the public sector of Italian construction since the enactment of what was called “Clean Hands.” This event put approximately 300 people in jail due to corruption in the public construction market. Professor Gervaso recommended to me to further research this program and its impact on the Italian construction market. Furthermore, the private market is too small and too saturated with local contractors for there to be enough work for international contractors. The professor also

informed me that the Italian business world is something completely unique. His guidance set the foundation for the rest of my time in Italy. Although perhaps the Italian construction market will not be the place I would recommend for a foreign contractor to enter the international market in the near future, I believe that my experience in Italy will be an interesting, exciting, and eye-opening one. Professor Gervaso described that with Italian construction, “you can either cry all the time or laugh all the time, but you will never be bored.”

Conclusion

In the past six weeks I have seen and experienced so much and I feel that, although there is no way I can uncover all of the challenges a contractor would face in each country, I will be able to compile a very useful final document. Many of the personal and cultural challenges that may have seemed overwhelming initially, are working out and I am adapting well. I look forward to meeting with numerous other contacts and experiencing and learning even more.

I also feel that it is necessary to address the personal issues that have occurred in spending time overseas. My initial thought was to spend my time in each country, except for the Czech Republic, basically nomadically alone. I do not now think that I could have spent four months alone, thousands of miles away from my family and friends, without anyone to insure my well being or safety. I found myself becoming lonely a lot easier than I would have imagined. My two weeks with the UFL-Gainesville and Fachhochschule students in Detmold, the two weeks with Hensel Phelps, and my family in Italy have been essential to my emotional adaptation to these dramatically different cultures and new experiences.

