

Co-Op Work Report
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Summary

On January 5th 2015 I began my first co-op session at KARL STORZ Endovision, (KSE) located in Charlton, Massachusetts. Specifically, I worked in the Environmental Health & Safety (EHS) Department. My employee coordinator from the Human Resources Department is Jessica Barnes, and my immediate supervisor is Christopher King, the Environmental Health & Safety Department Manager.

Being a small department comprised of Christopher King and myself, I assisted Christopher with offering key additional EHS support for the entire 600-employee Charlton facility, split over two shifts. I assisted the EHS department with various responsibilities, ranging from: increasing safety awareness & communication facility-wide, supporting the Emergency Response Team (ERT) and the Solid Waste Action Team (SWAT), assisting with Job Hazard Analysis (JHA) and Ergonomic Assessments of different processes on-the-floor, understanding and improving the EHS compliance matrix in conjunction with Capaccio Environmental Engineering Firm. Additional tasks will be discussed in detail in the “Project and Work Experience” Section.

I would classify my first session at KARL STORZ Endovision as an enormous learning experience. Working with Chris King in the EHS department has broadened my horizons beyond the classical engineering knowledge; I came in with a solid theoretical background in chemical and environmental engineering. However, my safety background consisted of a few elective courses that I have taken during my education at Purdue. I feel very fortunate to have this opportunity of learning at such a world-class company, and outstanding safety professional such as my immediate supervisor. In my next session, I am looking forward to driving my ongoing projects to completion and absorbing more valuable EHS knowledge and experience.

Company Profile: KARL STORZ History

KARL STORZ Endovision (KSE) is a subsidiary of the KARL STORZ Endoscopy, one of the world's largest privately held medical device companies. KARL STORZ was founded by Dr. med. h. c. Karl Storz. In 1945, he started a company for manufacturing Ear, Nose, and Throat (ENT) instruments. This interest in medical vision, illumination, and physics consequently led him to specialize in endoscopes.

Dr. Storz was fascinated by the idea of building endoscopes that allow physicians to look inside the body. At the time, the technical resources available for this purpose were limited, using either tiny light bulbs or mirrors that reflected external light into the body. Dr. Storz, –with his craftsmanship, technical competency, and creativity– invented a revolutionary illumination solution for endoscopy that is still in use today: light generated externally by a powerful light source that is transmitted into the body through a flexible fiber optic light cable. This "cold light illumination" principle laid the foundation for modern endoscopy as well as for the success of the KARL STORZ Company. With more than 400 patents and utility models, it is safe to say that Dr. Storz has made a significant impact on modern endoscopy.

Modern endoscopy paved the way for a new branch of medicine: Minimally Invasive Surgery (MIS). This technique relieves patients of a lot of anxiety and above all, physical trauma. The name KARL STORZ is closely connected with this development. For more than six decades, KARL STORZ has been developing products this surgical technique and has been a world leader in this field. In addition to human medicine, KARL STORZ also makes products for the Veterinary medicine and Industrial fields, offering a full line of veterinary endoscopy systems developed in collaboration with veterinarians at universities, private practices, and research centers. KARL STORZ also manufactures endoscopes for industrial applications such as automotive, aviation, and construction. These endoscopes are known as borescopes. Not only do they offer great image quality, the borescopes are also durable and reliable even in extreme conditions.

Company Profile: KARL STORZ Now

Within KARL STORZ, there are over 4,000 employees worldwide, made up of over 40 nationalities. The global headquarters for KARL STORZ is located in the town of Tuttlingen, Germany. However, it is represented in all five continents, with more than 50 KARL STORZ subsidiaries in over 40 countries.

Moreover, KARL STORZ has manufacturing centers/facilities in Germany, Switzerland, United States, and Estonia. KARL STORZ Endovision (KSE) –the subsidiary in Charlton, MA– manufactures and repairs medical endoscopes, video scopes, industrial scopes, and manufactures optical fiber (glass) for KSE as well as other KARL STORZ subsidiaries.

Projects and Work Experience

As I mentioned earlier, I have been serving a supporting role within the EHS Department. This role –unlike traditional internships, which usually involve one long-term project–, encompassed a wide range of responsibilities and cross-departmental projects. As a result, I quickly learned to adapt to a fast-paced interactive work environment, as well as handling several scopes and multi-tasking efficiently.

I will present each goal/objective that was set to me at the beginning of my co-op session, and list/discuss the projects and contributions that I have completed to tackle each objective.

1) Increase Safety Awareness and Communication

This is a company-wide drive that became a primacy for all departments. To embark upon that, I have discussed with my supervisor the launching of *Safety Notifications*. Which are concise, visual, and informative communication tools from the EHS department informing the KSE Charlton facility about recent incidents, near-misses, and pertinent safety updates. As of May 2015, the EHS department has sent out 12 notifications, and the general reception has been overwhelmingly positive.

The second facility-wide program that I have discussed launching with my supervisor is the *Safety Huddles Program*. The program has been in development and successfully approved and introduced in the first week of May 2015. The Safety Huddles Program provides standardized safety communication messages to be read and discussed at daily operational meetings by each department. The topics and messages are to be chosen by EHS department and sent to all departments a week in advance. I will be collecting feedback regarding this to ensure that the program is effectively serving its purpose.

The third communication improvement by the EHS department is revamping the EHS corporate website. Chris King, myself, and the IT Department have been closely working together on redesigning the website layout, making it more user-friendly, and adding an up-to-date EHS Library that includes older Safety Notifications, Safety Huddles, Training Material, Environmental Statistics, and much more valuable information. The website development is approximately 70% complete; I will continue working on that throughout my second session.

2) Understanding and using the EHS Compliance Matrix

The Environmental Health & Safety (EHS) Compliance Matrix is a large database that includes all the regulatory requirements with respect to KARL STORZ Endovision (KSE). That includes regulations from: the Environmental Protection Agency (EPA), Massachusetts Department of Environmental Protection (MassDEP), US Department of Transportation (US DOT), and the Occupational Safety and Health Administration (OSHA), as well as many others.

Christopher King –in conjunction with a third party consulting firm– has helped me understand the requirements in full at the beginning of my session. Since then, I have been assisting the EHS Department in ensuring that KSE is compliant by following up with requirements in a timely manner.

3) Participating in the Behavior-Based Safety (BBS) Program

The Behavior-Based Safety (BBS) Program is a world-class program implemented by companies that view safety as the utmost priority. BBS proactive approach in resolving safety issues focuses on what people do, analyzes why they do it, and then applies a research-supported intervention strategy to improve what people do. BBS has been implemented at KARL STORZ Endovision (KSE) for three years with great results. Chris King has paired me with Jody Houghton, an experienced engineer and a trained professional in BBS observations, Jody has demonstrated several BBS observations to me,

as well as trained me to perform them. I have completed several BBS observations on-the-floor, a couple of which required simple solutions –which I have executed– with the result being a safer work place and a more satisfied operator.

4) Participating in the Emergency Response Team (ERT) and the Solid Waste Action Team (SWAT)

I have received The Initial Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) 8-hour training at the beginning of my session and officially joined the Emergency Response Team (ERT). Since then, I have participated in several ERT calls – when incidents occurred–. I have also coordinated the 2015 ERT schedule of events, which included CPR and 1st aid training, Personal Protective Equipment (PPE) review, spill drills, and other emergency scenarios. I am also responsible for setting-up quarterly ERT review meetings.

As for the Solid Waste Action Team (SWAT), I have participated in the 2015 SWAT kick-off meeting and assisted with several Earth Month events that were carried out during April-May time period. I am also involved in installing standardized waste/recycle containers across all departments; I have finished the data collection phase of this project and will continue working on it throughout my second session.

5) Ergonomic Assessment: Grind & Polish

I have been involved within the EHS department in a comprehensive ergonomic review of the *Grind & Polish* process in the *Endoscope Assembly Department*. The review consisted of: observing the task and performing Job Hazard Analysis (JHA), recording different operators doing the Grind & Polish task, helping in holding an ergonomic review with the managements and operators (from 1st + 2nd shift) where observations and ideal work methods were recommended, and finally reviewed work instructions and helped incorporating the ergonomic piece into it.

This method has proved very successful with the Grind & Polish task; the plan is to execute the same methodology with more tasks in other departments, the next process/task that I will be assisting with is the *Endoscope Teardown* process in the *Endoscope Evaluation Department*.

6) Assisting with the EHS Trainings & Orientation

I have been providing help with the new-hire EHS department trainings by executing the Blood Borne Pathogens (BBP) training. I will also be performing portions of the Hazard Communication (HAZCOM)/OSHA Safety Trainings for recently-hired employees.

Professional Development

The experience gained by working for KARL STORZ Endovision (KSE) provided a large impact on my professional development as a student. Working in both office and manufacturing environments, I had the opportunity and privilege of interacting with a wide spectrum of professional, personal, and cultural backgrounds.

My communication skills have significantly improved as well. Whether in an office or manufacturing environment, meetings and clear communication make a robust foundation for productive and efficient professional relationships. I learned skills such as how to prepare, communicate, and resolve conflicts. I have also enriched my problem-solving and critical thinking skills, by managing multiple projects from idea-generation, to evaluating, to implementation in a short period of time.

All of the above professional development skills have been further enriched and overseen by my great mentor and supervisor Christopher King. I am extremely pleased with my experience with KARL STORZ Endovision so far and looking forward to my next co-op session during the summer of 2015.