

### Risky Business

During my internship I worked on two major projects, recommending improvements for the Center's Risk Management Workshop and helping with the strategic planning efforts for Safety and Mission Assurance (S&MA). The risk management improvements is the key project I worked on this semester through my internship, while the strategic planning is the secondary assignment. S&MA Business Office covers both aspects in its delegation, getting both spans some of the work done in the office.

A risk is a future event with a negative consequence that has some probability of occurring. Safety and Mission Assurance identifies, analyzes, plans, and tracks risk. The directorate offers the Center a Risk Management Workshop, and part of the ongoing efforts of S&MA is to make continuous improvements to the RM Workshop. By using the Project Management Institute's (PMI) Standard for Risk Management, I performed a gap analysis to make improvements for our materials. I benchmarked the PMI's Risk Management Standard, compared our Risk Management Workshop materials to PMI's standard, and identified any gaps in our material. My major findings were presented to the Business Office of S&MA for a decision on whether or not to incorporate the improvements. These suggestions were made by attending JSC working group meetings, HSE panel reviews and various risk review meetings. The improvements provide better understanding of risk management processes and enhanced risk tracking knowledge and skills. Risk management is an integral part of any engineering discipline, getting exposed to this section of engineering will greatly help shape my career in the future. Johnson Space Center is a world leader in risk management processes; learning risk management here gives me a huge advantage over my peers, as well as understanding decision making in the context of risk management will help me to be a well-rounded engineer.

Strategic planning is an area I had not previously studied. Helping with the strategic planning efforts in S&MA has taught me how organizations think and function as a whole. S&MA is adopting a balanced scorecard approach to strategic planning. As part of this planning method strategic themes, objectives, and initiatives are formed. I attended strategic theme team workshops that formed the strategy map for the directorate and gave shape to the plan. Also during these workshops the objectives were discussed and built. Learning the process for strategic planning has helped me better understand how organizations and businesses function, which also helps me to be a more effective employee.

Other assignments I had during my internship included completing the Safety and Mission Assurance Technical Excellent Program (STEP) Level 1, as well as doing a two week rotation through the Space Exploration division in S&MA, specifically working with a thermal protection systems (TPS) engineer. While working there, I learned about the Orion capsule and the SpaceX Dragon cargo capsule. I attended meetings to prepare the engineers for the upcoming Critical Design Reviews for both capsules and reviewed test data. Learning risk management, strategic planning, and working in the Space Exploration division has taught me about many aspects of S&MA. My internship at NASA has given me new experiences and taught me numerous subjects that I would have otherwise not learned. This opportunity has expanded my educational horizons and is helping me to become a more useful engineer and employee.