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Karina Drees: Taking the Controls At Mojave Space Port

In January 8, 2016, Stuart "Stu" Witt found himself sitting in the office at the Mojave Air and Space Port, where he had worked as the company's CEO for the past 14 years, the second to serve in that position. After a tenure filled with successes and an occasional controversy, Witt was ready to hand over the reins to his successor. Inside the conference recently renamed in Witt's honor by the airport's board of directors, a large crowd of people was waiting to celebrate his impending retirement, including Virgin Galactic CEO George Whitesides, XPRIZE Chairman Peter Diamandis, Congressman Kevin McCarthy and Witt's chosen successor as CEO – Karina Drees.

Looking around his office filled with mementos of his careers as a fighter pilot, test pilot, entrepreneur and business executive, Witt could not help but reflect on the unique legacy he would be leaving behind at Mojave, familiar to pilots by its call letters "MHV" (for photographs of the Mojave Air & Space Port see **Exhibit 1**). From an obscure special district airfield, Witt had transformed Mojave into the first inland space port—the home to over 60 companies engaged in flight development, including Virgin Galactic, Stratolaunch Systems, Interorbital Systems and XCOR Aerospace. Witt's tenure had seen the number of employees at the facility skyrocket from 400 to 2500.

However, as he looked out at the runway from his office window, it was the future of the Air and Space Port that concerned Witt. He had invested more than a decade of his life into building something really special in this remote location. Little MHV was now on the map in a big way. The air and space port was a hub of aerospace activity well-respected by business and political leaders at the state, federal and even international level. The once-neglected outpost had been built into one of the world's leading centers for spaceflight innovation and experimentation. That momentum would be tough to follow. Witt was hoping his Mojave experiment in public entrepreneurship would continue to thrive after his departure and that Drees would prove to be as strong of a leader as he and the Mojave board expected.

History of the Mojave Air and Space Port

Mojave Air and Space Port had humble beginnings (for a timeline of major events at Mojave, see **Exhibit 2**). Situated in the Mojave Desert in California, 100 miles from Los Angeles, it began as an obscure municipal airfield established by Kern County California for mining companies in 1935. The original airport consisted of only two dirt runways. However, six years later, the United States Marine Corps took over and rapidly expanded the airport in the aftermath of the attack on Pearl Harbor. Mojave became a center for gunnery training for World War II pilots and hosted multiple military squadrons.

In 1961, the Marine Corps transferred operations back to Kern County. MHV continued as a flying hub, where several flight world records were set and the first flights of several types of aircrafts were made. The National Test Pilot school (TNTP), the only civilian test pilot school in the United States, was established on site in 1981. Located not too far from Los Angeles and a built-in macho flying culture, Mojave also became a popular film and television shooting location. Films and shows shot at Mojave included *The Las Vegas Story*, *Die Hard 2*, *The Rookie*, *Speed* and *JAG*.

Aggressive flying was accompanied by significant risks and Mojave had had its share of tragedies during this time. The initial prototype of the Bombardier Challenger 600 crashed nearby on April 3, 1980, killing one of the pilots. On July 2, 1982, the Free Enterprise (AKA Big Bird), an experimental aircraft designed to set a flight distance record, crashed at the end of the runway killing its pilot and designer, Tom Jewitt. Filming a movie ended at Mojave in September 1990 when a Folland Gnat fighter jet crashed on the runway, killing pilot Morgan Merrill. Planes were lost, and pilots also perished in the Mojave Air Races as well. The culture of Mojave embraced failure, loss and even death as a part of the price that aviation pioneers paid for the freedom to experiment in the air. Safety was important to everyone, but progress in the air would continue and the sacrifices were the harshest part of the learning process. As Chuck Yeager, who broke the sound barrier over Mojave in 1947, had remarked, “You do what you can for as long as you can, and when you finally can’t, you do the next best thing. You back up, but you don’t give up.”

Witt Comes to Town

In 2002, Stuart Witt became the second CEO of Mojave. Witt was a former Navy aviator and TOPGUN graduate who subsequently became a test pilot and an IT executive. He was enjoying retirement in Zuma Beach, Malibu, California when he was told about the position at Mojave. Out of 97 applicants for the role, Witt was eventually chosen.

When Witt arrived, the situation at Mojave was far from ideal. As he described it, “It was a mess, everything was run down. It had the appearance of no adult supervision. Sixty percent of the buildings were empty and falling down. The airport had a 40 percent occupancy, there were 400 people, 14 companies…and it just had the appearance that nobody cared.” Witt immediately focused on changing the culture with an “activity breeds activity” mentality. “Every day we’re going to be working on a project,” he recalled telling his employees. “And if we don’t have one, we’re going to invent one.” The mentality worked. “The entire time I was there, we had projects”, Witt said. These projects ranged from running a railhead into the airport so a tenant could run a business refurbishing train car axels to building the infrastructure to support large scale wind and solar energy projects. The variety and pace of innovation breathed new life into the place and its people. “It became infectious!” Witt exclaimed.

A New Space Place

Witt’s work led to Mojave becoming the first inland space port designated by the Federal Aviation Administration in June 2004. The 2004 flights of SpaceShipOne, a privately-built spacecraft, had revamped interest in space and created a regulatory environment more conducive to private space travel. The subsequent Commercial Space Launch Amendments Act provided a legal framework for

firms to pursue manned space flight and passenger services. Under his leadership, Mojave transformed into a research and development center for advanced space vehicles. The flurry of flight activity and high-tech research at the space port contrasted starkly with the rural poverty, unemployment and drug issues that plagued the surrounding community of the town of Mojave. With over 60 companies on site engaged in flight development, the number of engineers, pilots, machinists and support staff ballooned. Mojave firms included such notables as Virgin Galactic, XCOR Aerospace, Masten Space Systems and Stratolaunch Systems. The Mojave Airport—and now Space Port—had surprisingly become a financially viable, successful business operation during Witt's tenure (see financial statements in **Exhibit 3**). Important policy makers began to see the Mojave Air and Space Port as a laboratory for public-private partnership. House Majority Leader, Kevin McCarthy whose congressional district includes the Mojave Space Port remarked, "You look at Mojave and what has been going on and it's transforming *everything*; it's not just about space."

Just as significantly, MHV was very much at the center of the "New Space" phenomenon, the main hub of the community of private spacecraft firms that was growing across the United States. One of the first breakthrough projects in the New Space industry was SpaceShipOne, which won the prestigious Ansari XPRIZE in 2004 (a $10M award for the first organization to demonstrate the ability to launch a reusable manned vehicle capable of carrying people into suborbital space). This success led to others entering New Space, including Elon Musk's notable startup, SpaceX and Jeff Bezos' Blue Origin. SpaceX was located about 100 miles south of Mojave, in Hawthorne, CA. Although SpaceX's vertical launch rockets weren't appropriate for flight testing at Mojave, Musk's firm did do some of its early engine testing at space port and the firm's leadership was strongly connected to the Mojave space community as well. Everyone knew everyone in the early days of commercial spaceflight; there was both competition and a sense of comradery among the small firms looking to disrupt the government's lock on the space business.

While ever more advanced technology landed at the port, the male-dominated "cowboy" space culture continued. Unfortunately, as with earlier periods of aerospace test programs at Mojave, there were also some notable and tragic accidents. In July 2007, while preparing for a rocket engine test, Scaled Composites suffered an explosion that killed three of its engineers. In October 2014, Virgin Space Ship Enterprise crashed during a powered test flight. This incident took the life of popular Mojave pilot Mike Alsbury. The National Transportation Safety Board (NTSB) investigation did not find any major problem with the design of the vehicle and testing resumed the following year with a newly built vehicle. Still, things progressed much more slowly than many in the industry had previously expected. Despite the efforts of several firms on its campus, Mojave had not seen another vehicle achieve spaceflight since 2004. The process was going to demand support and patience from space port management.

Witt suspected that he could not rely on a male-dominated, pilot-centric employee base to move Mojave forward. Witt was inclined to bring in new employees with a diversity of perspectives, more business-minded people with patient, methodical approaches. Comparing job candidates to a three-legged stool, Witt commented, "To me, for a person applying for a job, it's okay if they don't have one leg, but you better have at least two of the three legs: domain knowledge, technical expertise, or some business knowledge."

Karina Drees: New Kind of Employee

Unlike Witt and most of the others in the space industry, Karina Drees did not come from a flight background, although she had always had an interest in space. After obtaining a BS in Finance at Arizona State University, Drees went on to get her MBA from Massachusetts Institute of Technology's Sloan School of Management with the goal of becoming an executive in the technology field. However, at MIT, Drees found herself drawn to entrepreneurship activities, including running the Business Plan Competition. An entrepreneur herself, Drees had put herself through college working as a locksmith.

Drees decided she wanted to combine her love of space with her business acumen following a fortuitous meeting:

> *What really inspired me to connect those two, space and business, was attending a talk by Peter Diamandis, who was the Founder of the XPRIZE Foundation. He came to talk to the class in 2005 and I met with him afterward. I told him that I was very interested in coming to work at XPRIZE, getting to know the people in the space community and just seeing how I could be of value to the industry.*

The meeting led to a summer internship at the XPRIZE Foundation, a non-profit organization that conducted competitions with the goal of encouraging technological development. Although her official role was focused on future prize development, Drees was able to meet many of the important players in the space industry. The experience led to Drees considering new possibilities: pursuing a career in the nascent, and very small, New Space industry. "It's what opened my eyes to the possibilities of combining space and business, which is what I really wanted to do."

The Connection

Finding out about the variety of aerospace innovators at Mojave, Drees began peppering Witt with requests for an interview. "She kept sending all these letters," recalled Witt. "I wondered, 'Who is this person that wants us to pay her to come out here and work during a recession? How arrogant!'" But eventually Drees' tenacity wore him down. "I finally called her up one day," Witt admitted, "And I said, 'What do you want?' And she said, 'I want to be in the space industry. You guys are the hotbed, everything's happening out there, and I just want to be a part of it.'"

In 2007, Drees completed a short internship with Witt and put together a plan that envisioned a future where access to space from Mojave was routine. Unlike other MHV employees at that time, Drees had the analytical and computer skills that were taken for granted in most of the business world, but rare in the Mojave cowboy pilot culture. Witt explained, "It is really hard for a lot of people to even imagine, but there was an utter dearth of basic business skills out here. Karina came in with solid business experience and an MBA. She just took everything up a notch really quick. Until Karina came on, I really didn't have anybody that could take a meaty subject and boil it down and build a kickass fifteen-minute presentation with graphics. We knew rockets, but she knew how to do that." Witt took one of her presentations, a strategy slide deck, on a tour of space conferences around the country. Witt remarked that it was, "a real example of what Mojave was capable of doing for its current and prospective tenants, and it was very well received." Witt was pleased to have a professional manager on board and participating in that strategy project. Hearing industry feedback gave Drees her first taste of what it would be like to work at Mojave. She was excited to be at the forefront of the New Space industry.

"Mojave…You're Kidding, Right?"

After graduating from MIT, Drees traveled to China to attend a three-month program through the International Space University (ISU). The interdisciplinary course was geared toward teaching students the basics of space exploration in a very short period of time. This gave Drees further exposure to other parts of the growing space technology sector.

Afterwards, to bolster her entrepreneurship credentials, Drees worked for a series of technology startups in the D.C. area. Drees believed the startup experience was crucial for her, giving her experience in general business planning and helping her learn even more about the dynamics of nascent markets. "There are a lot of entrepreneurs out there or people who would like to be entrepreneurs who have a great idea for a new technology who just don't understand who's going to buy it, how are they going to fund it, and how are they going to mass produce it, if necessary," she noted. "Those lessons can definitely be applied to the space industry as well."

Her experiences in startup firms drove home the importance to Drees of finding the right product/market fit for technologies in entrepreneurial companies. She noted:

> *A lot of startups really struggle when they try to identify a real market for their technology. I think a lot of startup companies often fail to understand what the market potential is. They tend to be* technology *shopping for a market, rather than a* market *shopping for a technology. There are a couple of companies, not necessarily at Mojave, but just startups in the space industry, that are kind of in that bucket of technology shopping for a market. They haven't really identified what they intend to do…how they intend to apply this technology…and it's impossible to get money if you don't have a good market strategy.*

Throughout this time, Drees kept in touch with Witt. So, it wasn't a complete surprise when he reached out to her in 2012 regarding a role with Mojave. Witt was looking for a director of business development and encouraged Drees to apply; she was the first one to do so. In total, nine space enthusiasts applied for the position, but Drees was selected and approved by the board of directors.

However, life had changed substantially for Drees. She was now married with a husband who had been deployed in the military. He had also recently finished a master's degree in a specific area for which there would not be job opportunities in the middle of the desert. It was a challenge to convince him to leave his career in D.C. and move with her to Mojave. In the end, he supported her passion for the space industry and agreed to make the move. Explaining her overriding passion to work at Mojave, Drees said:

> *From my career perspective—and I think this goes for a lot of people who are attracted to the space industry, despite the risks—we believe that we're supporting something that's bigger than ourselves. People who seek work in Mojave, they're not looking for a job. They're looking for a career to help change the game just a little bit, to alter the universe just slightly.*

The New Deputy Rides In

Despite having interned at MHV for three months, when Drees arrived at the male-dominated facility to begin work on a more permanent basis, it was a bit of a culture shock. As she described it, "I felt like I'd stepped into an episode of *Mad Men* [a popular television show set in the 1960s] when I moved to Kern County." Mojave had also seen radical changes in the previous five years under Witt's stewardship. "There was just so much more activity going on," she explained. "Virgin Galactic had built their hangar, while Stratolaunch at that time was just starting to be built. I saw so much opportunity to continue growing with this industry out here."

Drees quickly took over most of the "blocking and tackling" operational tasks at Mojave and kept the air and space port running smoothly. She dealt with facility maintenance and expansion issues. She handled tenant lease renewals. She negotiated with vendors. She recruited and interviewed new hires. She even managed the preparations for the board meetings. Drees explained, "Working as Stu's deputy, I was focused on the internal day-to-day business operations so he could focus more on the external. He had relationships with members of Congress. I developed relationships at Mojave."

Part of Drees' responsibilities included dealing with a cast of colorful characters that had long called Mojave their home. One of these, pioneering aircraft designer Burt Rutan, had retired from Scaled Composites and left Mojave years earlier, but his legacy still cast a shadow over the companies and culture at the port. A consummate self-made, Western entrepreneur, Rutan had built a reputation from the ground up in the less-than-prestigious market of amateur kit aircraft. Rutan had turned that market upside down by delivering world class performance in inexpensive, homebuilt aircraft. His success in

that market had allowed him to pursue more ambitious goals and fund unique projects like Voyager, the first aircraft to circumnavigate the globe without refueling. Voyager's flight established Rutan as a first-rate aircraft designer and put MHV on the map as a world class aircraft R&D center. His reputation eventually attracted the attention of Microsoft Co-founder Paul Allen who was looking to fund construction of a spacecraft to capture the Ansari XPRIZE. Voyager, SpaceShipOne and three other Rutan craft were to eventually hang in the Smithsonian Air and Space Museum. Although Rutan sold Scaled Composites and retired in 2011, his success ensured his presence and spirit would loom large at the Mojave Air and Space Port.

Burt's brother, Dick, was a fixture at the city of Mojave's small restaurant, which had been renamed "Voyager" in honor of the plane he had piloted around the world with Jeana Yeager in 1986. If anyone had the pulse of the place, it was Dick. He had built a powerful network within the Mojave community and always seemed to have a plan for a new aircraft, business or even political adventure. Dick even served as a rocket plane test pilot for XCOR, a competitor of Scaled Composites and its partner Virgin Galactic.

Jeff Greason, a veteran of early space startup Rotary Rocket and founder of XCOR, had settled into the role of an elder statesman for the commercial space industry. Greason had served on an important Presidential commission designed to set a new national direction for human spaceflight. He always had an opinion and had never been afraid to share it in the media. He had often attracted attention to Mojave, which had usually been a positive thing.

Following the success of SpaceShipOne, Richard Branson and other members of the "Billionaire Boys Club" began to descend on the little airport. Working with these larger than life characters required credibility and skill. The press corps that followed them and the important projects at Mojave also required a steady hand.

Despite the challenges of Mojave's peculiar environment and unique residents, Drees thrived and contributed. The space cowboys came to terms with her and she quickly rose to become Witt's new deputy. Witt remarked, "Karina won them over with competence and confidence. She was different but she did the job, made their work run smoothly and they had to respect that."

Witt Expands His Scope

The addition of Drees allowed Witt to broaden his set of activities beyond solely managing Mojave. Drees noted, "I essentially maintained all airport-related tasks so Stu could work on PR and legislative issues." Witt believed that, as a space port operator, Mojave also needed to help customers succeed by influencing legislative and policy issues. Hiring Drees allowed Witt to represent the interests of the space port and, by extension, this nascent industry at the California State Legislature and even to the United States Congress. He was able to spend more time in Sacramento and Washington D.C., meeting with legislators and regulators about issues facing the growing New Space industry.

Witt's success in this effort resulted in him being appointed as Chairman of the Commercial Spaceflight Federation (CSF) in 2012.[1] Founded in 2006, the private spaceflight industry group's mission was to "promote the development of commercial human spaceflight, pursue ever-higher levels of safety and share best practices and expertise throughout the industry."[2] CSF represented Mojave tenants such as Virgin Galactic and XCOR as well as bigger Orbital launch companies like Elon Musk's SpaceX and Jeff Bezos' Blue Origin.

[1] http://www.commercialspaceflight.org/2012/09/commercial-spaceflight-federation-elects-stuart-o-witt-chairman/
[2] http://www.commercialspaceflight.org/

An Accounting Scandal Tests the New Deputy

As Witt fulfilled new responsibilities that took him away from Mojave with greater frequency, Drees' ability to handle crises was put to the test. MHV had had the same CFO in place for almost ten years. Officials associated with the facility had been assured that the books were balanced and all of the necessary annual audits that had been scheduled were executed without trouble. However, when the board began to ask questions about some anomalies, it was discovered that Mojave had not been audited for four years. When Witt and Drees moved forward to schedule an immediate audit, the CFO abruptly sent in an email tendering her resignation. "Immediately, I started wondering, 'Okay, what's going on?' Did she just not get the prep work done in time…or did something else happen?," said Drees.

Forced to reach out to the auditors herself, Drees soon discovered that Mojave was in trouble. Not only had no audit occurred, but the books had been mismanaged; Mojave had $3 million less in the bank than the board had been led to believe, a substantial amount for a relatively small operation. "The first thing we did, obviously, was to look for theft, if she ran off with a whole bunch of money and drained the bank account," recalled Drees. "We came to find out that's not what happened, she [the CFO] just completely mismanaged the books for years. A lot of our accounts had gone into default and we didn't know about it. None of that information had been reported to the board."

It was imperative that Drees, with assistance from Witt, get the situation under control as soon as possible to reassure their board and rectify their account situation. "Stu and I got together after we let the shock wear off a little bit and we decided that I would focus on the internal cleanup," she remarked. After finally having an audit done, they were able to make significant progress in cleaning up the books in the next few months. The deep dive revealed not only a failure to pay on accounts, but also many unnecessary expenditures that Drees was able to curtail.

Ultimately, the situation did not lead to the scandal it could have become. Drees' calm and immediate actions helped. Witt remarked, "Karina's presence out there was absolutely critical. I had a lot on my plate and her methodical approach to the problem kept the trust of our stakeholders."

Drees also felt that her crisis management efforts were effective and that they importantly placated most constituencies associated with MHV. "[Mojave] didn't get a lot of complaints surprisingly," she said. "We were really prepared for that. We were prepared to address it." Drees credited her open approach to dealing with the bookkeeping errors with preventing further harm. "Once it was discovered, we were really transparent," she explained. "We were very upfront in our board meetings. We were very upfront with our employees. We told the employees step-by-step what was going on. We didn't hide anything from them." More importantly Drees developed new practices to provide more oversight and transparency. She took the lead on getting approval for these changes and implemented them. Drees noted that the entire process took about a year to complete.

Riding off into the Sunset: Witt Prepares His Exit

When he accepted the position at Mojave, Witt didn't anticipate staying more than a decade. "I don't believe people should stay in public sector jobs more than ten years," he remarked. "They forget who owns it. They end up personalizing it. And to me, their motivations can be a bit twisted after that many years." However, in 2012, when Witt hit his ten years, some of the port's major tenants approached him asking him to remain a little longer. They had all experienced unanticipated delays in spacecraft development and desired continuity at the facility. Witt wanted to see these programs succeed under his watch and he agreed to stay on until the tenants were able to achieve a space launch, but no later than January of 2016.

As his retirement approached, Witt saw the opportunity for a more relaxed lifestyle. After more than a decade of hard work at Mojave, he was ready for a change. Despite the slow progress of the tenants in

getting spaceflights going again at Mojave, Witt planned to stick to his January 2016 departure date. He was following advice passed on from his father many years before: "The most important business plan you'll ever write is your exit strategy." Witt had already been ready to retire prior to accepting the CEO role; moving on from Mojave would let him spend more time enjoying the outdoors he loved. Furthermore, retirement offered an opportunity for him to profit from his years of building relationships in the space industry by launching a consulting business.

However, Witt sensed that with his departure, Drees might leave as well, leaving Mojave with a serious leadership vacuum. Drees had handily overcome the initial resistance at Mojave and was well integrated into the culture of the port. Witt began working more intensely with Drees to see if she could be a potential replacement. Drees, however, did not believe his plan was realistic. "She was convinced my board of directors would never pick her for any reason," he remarked. As Drees saw it:

> *When I first got to Mojave, I had no idea that Stu was ready to retire or was even thinking about retiring. I had not come out here with the intention of taking over his job by any means. I thought that I'd work for him for a long time. When [Witt] decided that he was going to retire, I didn't think that I stood a chance at all and I wasn't even going to apply for it.*

Big Boots to Fill

As word got out that the CEO position at Mojave was opening, the board was inundated with over 30 applications to consider in addition to that of Drees. All the other candidates were male. They were all pilots or engineers; Drees was the only female and the only candidate coming from a purely business background, but her years at Mojave had given her some advantages within the space industry. Bringing in an outsider to a municipal airport who did not understand spaceflight, or the entrepreneurial environment could be disruptive to the ecosystem, some believed. On the other hand, it was possible that some still felt that a candidate lacking flight experience and who appeared incompatible with the macho male culture at Mojave could also be problematic.

The candidates were all prescreened and were whittled down to ten, then four, until only two remained to be interviewed. One was Drees, the other was John Doe.[3] John Doe was accomplished, polished and articulate, with experience in flight operations but not in business. And while Doe was a Mojave outsider, he knew the space industry and the local environment there.

In addition to his background and the ability to work within the entrepreneurial, macho culture, Mojave's board was looking for more. "We actually wrote down requirements," said Witt, "and number one was 'passion for the job.'" Drees clearly filled that number one requirement in spades, the board believed. They were also looking for someone with a customer-centric approach. Under Witt, the priority had been to allow the customers—aerospace firms resident at the space port—to focus only on development and production; Mojave would handle the rest. It was imperative that the new CEO maintain the same business approach of protecting their customers' investments and operations.

Witt recalled ticking through some of the major factors he believed the board of directors for MHV should consider:

> *What will the new CEO need to accomplish? What kind of background and style of management will be the best fit for Mojave? And as Mojave continued to grow, will it be possible to sustain an entrepreneurial startup atmosphere at a maturing*

[3] Name has been changed to protect the individual's privacy.

> *public sector facility where capital investments were already in the hundreds of millions?*

Witt believed this selection was far more important than simply selecting a CEO to run a municipal airport. To Witt, Mojave was a very unique and special place. He believed his little facility had already changed the world and the spaceflight programs under development there could profoundly influence America's economic and strategic future. The visions of tenants like Scaled Composites, Virgin Galactic and Stratolaunch extended beyond national borders and promised to have a deep impact on the future of all humankind, Witt felt. Getting the right business-minded CEO at this critical juncture was a profound decision.

The New CEO

The announcement that Karina Drees would become the third CEO of Mojave Space and Airport had come in September 2015. Drees herself had been "absolutely shocked" she was chosen. While many more women populated the New Space industry than a decade prior, they were still significantly in the minority within the growing sector. Additionally, Drees lacked training as a pilot, historically an important factor in executive roles in the field of aviation. But in the end, the board relied on her passion and knowledge of the company. "When I interviewed," she recounted, "the board seemed to be a lot more interested in having somebody who was committed, who understood that this was a 24-7 job. If there is an incident at midnight on a Tuesday, the CEO is expected to show up." She also believed that the businesses operating at MHV made a difference in her choice. "From our customers' perspectives, they were really eager to see some level of continuity to make sure that they could continue business as is," she explained. In contrast, Witt noted that, "My experience in aerospace is that males tend to see positions as entitlements and female counterparts don't. The women work harder to prove themselves each day." Witt remained for another three months to guide the transition before officially stepping down; Drees assumed the CEO position in January of 2016.

Drees knew she would have to strike the right balance between guiding the space port in new directions and maintaining some core practices that Witt had used to build the facility into an aviation mecca. Taking the stage last at Witt's retirement celebration, Drees commented on the importance of the contribution that Witt had made, the role that he had carved out for and the void his retirement would leave.

> *Taking on the role of CEO is truly a privilege. Stu, your shoes are sincerely the largest I've had to fill – probably not the cowboy boots – and I'm humbled to have the opportunity to carry out your vision at Mojave Air and Space Port. The environment you've created for the New Space Industry is an inspiration for so many people around the world.*

The choice of Drees was popular with almost everyone, but did not go over smoothly with 100% of the population. A few old-school holdouts remained. "There were some pretty strong feelings," amongst the employees at Mojave," Witt recalled. "There were mostly men. Now there were female pilots, they didn't have a problem with [Drees] at all. But some of the male pilots made comments to me." Rather than citing her gender, a common complaint was 'there's no way you can run this place without a pilot.'" Knowing this set her apart from many of the other employees at the space port, Drees immediately began training for her pilot's license.

In addition to push back from some male employees, Drees knew that she would face life or death challenges uncommon in most other industries. "There was a really unfortunate accident in the summer of 2007 with Scaled Composites out here on the airport property," Drees recalled. "It was incredibly

tragic…this is such a tightknit community. People become family to everyone out here, it affects everybody. It doesn't matter if you work directly with them or if you work for a competing company. Everybody knows each other and it's just incredibly tragic when something like that happens." However, Drees felt that she could handle the challenges and maintain the customer-centric approach championed by Witt:

> *I understood that we as a space port operator had an opportunity to help our customers succeed by getting more involved with things like legislative and policy issues. Issues that affect us on a local level where having somebody in this role who's not being very proactive in terms of helping our customers could be really devastating not only to Mojave, but ultimately to the industry.*

Drees also needed to adjust to being the face of Mojave to the world. While she was highly familiar with the internal workings at MHV, Witt had handled many of the external responsibilities. Training for her new role included getting to know the players at the Commercial Spaceflight Federation (CSF), local legislators, and members of Congress that were aiding in the drafting of legislation in the space industry. The transition period with Witt was integral to allow Drees to get a handle on these new job requirements.

Ultimately, Drees had to suspend her nearly complete effort to obtain a pilot's license and many of her CEO responsibilities—when she found out she was pregnant. With such an interruption occurring during the first year of her executive duties, old-fashioned thinkers might question whether the board had made a "practical choice.". While Drees was confident in the support she was receiving, she knew others might worry about how the "macho culture" at Mojave might respond.

An Unexpected Challenge

Drees found herself in a stressful position and anticipated significant criticism. She recalled being eight months pregnant in the male-dominated office and pondering, "They look at my belly and I don't know what they are thinking." But overall, she found her fellow employees and the board to be supportive of her need to take maternity leave. "I heard congratulations from everybody, not, 'Well how does that affect us?' I felt pretty good about preparing to go on leave," said Drees. "They wanted me to succeed because if I succeeded, the entire organization would succeed."

Preparing her Director of Operations to handle many duties and staying connected to MHV throughout maternity leave was stressful. Drees continued to handle high level decisions, and returned to work part-time after two months. In hindsight, she reflected that she might have put too much responsibility on herself. "It was probably a lot more stressful to me than it was to anybody else, including our board," she mused. After three months, she was back at work full-time. Staying connected to the Air and Space Port from home was not enough for her. "It was hard for me to disconnect from work. Mojave had become part of my identity."

Heading into the Future

Upon her return, Drees found she was able to resume her role, credibility intact with those whom she had previously won over. In fact, she found that the locals were now defending her against outsiders and those who appeared to be guilty of sexism. Drees remarked that, "My employees have said things like 'I didn't like the way he was talking to you.'"

And in one particular incident, her husband, who by this point worked for a Mojave aerospace tenant, sat in a meeting and was astounded when a male customer asked his CEO wife, "So, what do you actually do here?" Drees' husband was infuriated by the question and told her, "He would have never asked you that if you were a man." Drees said she didn't take it nearly as personally as he did. She

remarked, "Being a woman in business, and aerospace, requires one to differentiate an actual threat from a pitch in the dirt. Anything else only sets back the next generation of female leaders." One of her goals was to pay forward the support she had gotten from Witt in entering the space industry. She hired interns from the Brooke Owens Fellowship, a program dedicated to giving young women in college a leg up in the aerospace world. She noted that, "It's hard to get in. Whenever I do get calls from students, I spend as much time as it takes with them to encourage them to continue pursuing this level of interest."

Drees felt she would have to continue evolving as a leader in order to best deal with employees and other stakeholders at MHV. She worked on finding the right balance between her own natural management style and what had worked so very well for Witt. Drees noted that Witt "built relationships by storytelling" whereas she, "always depended on the results to justify the relationship." Drees noted she had been "investing more time in people and building relationships and getting stakeholders' input ahead of time." That represented a change for her and she remarked upon the difference: "In the past I wouldn't have bothered, I'd have just made the decision and moved on."

Both Drees and Witt saw a bright future ahead, but there were a plethora of challenges facing the aerospace industry in California. The state was notoriously difficult for manufacturing and testing, with high taxes, seemingly redundant labor laws and the nation's strongest environmental regulations. The large traditional firms that established the industry had been closing facilities in the Golden State for many years. Other states, notably Texas and New Mexico, had used the lure of lower taxes, leaner regulation and even cash incentives to lure California's New Space startups away. Witt continued to advocate for the industry in D.C. and Drees still leveraged his skills to help Mojave. She said, "We implemented a consulting agreement with him. When we have issues at the Federal level, he's the first person we call."

Drees felt that while she would have liked to focus on new goals, the business environment made her first order of business simply not losing the existing tenants, "Retaining our existing customers is the key before growing Mojave airport. One major firm relocated out of state to the dismay of their pilots. In hindsight, they knew it would have been better to stay and we need to sell that to all of our tenants. In Mojave you have a decent environment for your family and you're less than two hours away from a major municipal in center in Los Angeles. Those don't always come together elsewhere. I can sell that over Florida and Texas."

On this particular day, Drees would be entertaining some executives from an aerospace firm considering expanding operations at Mojave. She did a final check on the presentation deck—one which featured some slides updated for her Powerpoints from years earlier—and reflected on how much the operation at MHV had matured in that time. Drees summoned one of her key deputies headed to the Voyager Restaurant to greet the visiting team.

Exhibit 1: Photos from Mojave Space Air & Space Port

Rotary Rocket's Rotan vehicle at Mojave Air and Space Port

Stu Witt, Scaled Composites' Burt Rutan and Microsoft co-founder Paul Allen after SpaceShipOne first spaceflight in June of 2004.

Richard Branson announces Virgin Galactic on the flightline at Mojave following a successful flight of SpaceShipOne in October 2004.

Rep. Dana Rohrabacher (CA-46) speaks at ground breaking for The SpaceShip Company in 2010.

Virgin White Knight Two carries VSS Enterprise aloft for a test flight in October of 2010

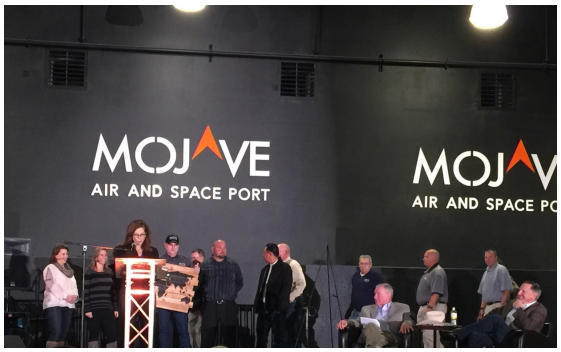
Xcor's R&D development hanger at Mojave, 2012.

Exhibit 1: Photos from Mojave Space Air & Space Port, continued

Mojave Air and Space Port Team grabs breakfast on the taxiway before a test flight, 2010. Stu Witt center.

Stu Witt, Karina Drees (co-pilot seat) and Greg Autry (case author) ready to fly to Sacramento to speak to the State Senate about commercial spaceflight, 2012.

Voyager Pilot Dick Rutan in Mojave's Voyager Restaurant, 2014.



Karina Drees speaks at the retirement of Stu Witt (seated at far right) with Mojave Air and Space Port staff on stage in 2016.

Photo Credits: Greg Autry

Exhibit 2: Mojave Timeline

Year	Event	Note
1935	Airport established by Kern County	
1942	Re-designated as Marine Corps Auxiliary Air Station (MCAAS)	World War II
1953	After post-WWII return to civilian authority, MCAAS reestablished	Korean Conflict
1971	Permanent return to civilian authority; establishment of East Kern Airport District (EKAD) Dan Sabovich starts tenure as first airport manager	
1981	The National Test Pilot School is established, only civilian test pilot school in the United States	One of only seven worldwide recognized by Intl. Society of Experimental Test Pilots
1982	Scaled Composites founded by Burt Rutan	
1986	Rutan's Voyager makes first unrefueled circumnavigation of earth	Developed at MHV; takeoff from nearby Edwards Airforce Base
1999	XCOR Founded	
2002	Stu Witt takes over EKAD from Sabovich	
2004	Scaled composites files SpaceShipOne; wins Ansari X-PRIZE Mojave granted first commercial space port license from Federal Aviation Administration (FAA); first inland space port Announcement of establishment of Virgin Galactic space tourism by Richard Branson	First privately-funded piloted spacecraft
2007	Fueling accident at Scaled Composites kills three technicians	
2010	Groundbreaking of TSC production facility Virgin SpaceShipTwo "Enterprise" makes first flight	68,000 square feet First SpaceShipTwo vehicle
2011	Stratolaunch announcement	World's largest plane, designed to launch orbital rockets
2012	Karina Drees arrives at Mojave as Director of Business Development	
2014	VSS "Enterprise" crashes killing one pilot and injuring another	
2015	Drees appointed CEO by Board	

Source: XXXXXX

Exhibit 3: Mojave Financial Statements

Mojave Air and Space Port						
Statement of Net Position						
Assets						
Current	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Cash & equivalents	$7,841,238	$7,181,585	$2,985,315	$3,516,086	$6,178,619	$2,560,218
Receivables	$471,920	$266,953	$409,656	$496,159	$548,662	$308,093
Other Receivables	$51,521	$3,348	$825	$447,882	$3,432	$57,455
Fuel Inventory	$155,912	$250,144	$238,318	$238,924	$321,597	$347,816
Total	$8,520,591	$7,702,030	$3,634,114	$4,699,051	$7,052,310	$3,273,582
Capital Assets	$39,589,688	$41,236,599	$42,958,334	$42,481,860	$38,622,101	$37,721,928
Note Receivable	$93,785					
Total Assets	$48,204,064	$48,938,629	$46,592,448	$47,180,911	$45,674,411	$40,995,510
Deferred Outflows						
CalPERS (pension)	$410,461	$245,275				
	$48,614,525	$49,183,904	$46,592,448	$47,180,911	$45,674,411	$40,995,510
Liabilities						
Current						
Accounts Payable	445,228	400,001	278,520	412,157	527,916	375,637
Accrued liabilities	47,963	73,993	129,394	123,198	147,095	135,449
Customer deposits	107,170	139,498	97,123	69,320	314,799	76,066
Compensated absences	100,311	548,215	601,366	532,450	506,993	505,620
Total current liabilities	700,672	1,161,707	1,106,403	1,137,125	1,496,803	1,092,772
Long-Term						
Other Post-employment benefits	1,417,470	1,173,800	946,800	778,800	613,100	426,300
Net Pension Liability	3,509,188	3,066,778				
Total long-term liabilities	4,926,658	4,240,578	946,800	778,800	613,100	426,300
Total Liabilities	5,627,330	5,402,285	2,053,203	1,915,925	2,109,903	1,519,072
Deferred Inflows						
CalPERS (pension)	314,129	682,245				
Net Position						
Net invested capital assets	39,589,688	41,236,599	42,958,334	42,481,860	38,622,101	37,721,928
Unrestricted	3,083,378	1,862,745	1,580,911	2,783,126	4,942,407	1,754,510
	42,673,066	43,099,344	44,539,245	45,264,986	43,564,508	39,476,438
	48,614,525	49,183,874	46,592,448	47,180,911	45,674,411	40,995,510

Exhibit 3: Mojave Financial Statements, continued

Mojave Air and Space Port						
Statement of Revenues and Expenses						
Operating Revenue	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Rents and leases	$4,744,246	$4,629,184	$4,363,564	$4,329,423	$3,917,494	$3,670,309
Landing area	$1,822,354	$2,862,395	$1,779,427	$1,740,232	$1,696,504	$1,898,261
Non-aviation activities	$484,045	$613,151	$600,571	$823,026	$872,705	$1,363,817
Other buildings and areas	$18,923	$16,768	$44,834	$56,686	$66,770	$57,623
	$7,069,568	$8,121,498	$6,788,396	$6,949,367	$6,553,473	$6,990,010
Operating Expenses						
Direct expenses	$1,920,812	$2,875,589	$2,131,813	$2,281,134	$2,348,821	$2,025,865
General shop and equipment	$1,258,569	$1,174,162	$1,267,109	$1,553,657	$1,474,233	$1,374,070
General and administrative	$3,157,980	$3,283,069	$3,405,637	$3,766,504	$3,504,895	$3,576,259
Depreciation expense	$2,251,932	$2,136,403	$1,822,078	$1,761,253	$1,755,258	$2,014,019
	$8,589,293	$9,469,223	$8,626,637	$9,362,548	$9,083,207	$8,990,213
Operating Profit / Loss	($1,519,725)	($1,347,725)	($1,838,241)	($2,413,181)	($2,529,734)	($2,000,203)
Nonoperating income						
Interest Income	$29,650	$9,598	$7,905	$16,142	$12,905	$13,931
Tax revenues	$687,622	$594,029	$673,441	$462,958	$259,725	$196,090
Grant revenue	$289,152	$539,387	$472,355	$3,579,921	$1,792,650	$700,802
Other income*	$87,023	$2,197,854	($41,201)	$54,638	$4,552,524	$36,018
	$1,093,447	$3,340,868	$1,112,500	$4,113,659	$6,617,804	$946,841
Change in net position	($426,278)	$1,993,143	($725,741)	$1,700,478	$4,088,070	($1,053,362)

* Other income includes substantial revenues from activities related to nearby wind energy generation

Source: MHV