Career Years

My career at OUC shows how God works in strange and mysterious ways. It started at a "college night" at College Park Baptist Church. College night was a Sunday evening church service during the Christmas Holidays. Several college students, who were home for Christmas, would give a short talk on what their Christianity meant to them as college students. I was one of those students who gave such a talk. The essence of my talk was that of a science major and how I could see the hand of God in everything I studied and learned. In the audience that night was a regular and staunch member of the church, Frank Little. A few months later, just a few weeks before my graduation from Rollins College, I was at a Sunday school party given by Helen's Sunday school class. Frank Little was also there, since he was dating Marilyn, who was also in Helen's class.

This was my first real introduction to Frank, since Sunday school classes were age related and Frank was a few years older than I. During the course of our conversation, I mentioned I was graduating soon and was lamenting the fact that I might have to move out of the area to get a job in some scientific endeavor. Frank mentioned that his employer, Orlando Utilities Commission, would soon be starting a new power plant in Orlando (Lake Highland Plant), and he would be needing a helper in the boiler water treatment laboratory. He further stated that he had heard my presentation during College Night at Christmastime and was impressed at what I had to say. It was that conversation and its ultimate consequences that lead me to state without any doubt that my forty year career at OUC began during College Night at College Park Baptist Church during the Christmas season of 1948. I immediately told Frank I was interested and to let me know as things developed.

My best friend and fraternity brother Ivor Groves was also a science major at Rollins and graduated a year earlier. He immediately went to work at Oak Ridge, Tennessee, for Union Carbide, the contractor which operated the facility at Oak Ridge for the Atomic Energy Commission. We had kept in contact and as my graduation closed in, I inquired of him about my chance of going to work there. He was very positive about the prospects and obtained the necessary application forms. He said they were always looking for newly graduated physics students and I fit the bill. I obtained the forms, filled them in, and returned them to the appropriate address. A couple of weeks before I graduated, I was informed that I was a candidate for employment, subject to a security check, and that my annual salary would be $3000. They neither offered any funds for relocation expenses nor explained any of the fringe benefits. They explained that those details would be forthcoming after the security check. I advised them to proceed with the security check, and I would confirm my acceptance after I obtained all of the details.

I graduated from Rollins in June 1949, and I had not heard from Union Carbide. As an interim job, I was working at Bumby Hardware in Winter Park. My father had worked at that store since the early twenties and had been the de facto store manager since the early thirties. That relationship provided me a part time job while I was attending college. My G.I. subsistence along with my hourly pay ($1.00/hour) at Bumby's provided me with enough income to live in a newly built and owned G.I. mortgaged house. It was across from the Winter Park High School and within walking distance of Rollins College and downtown Winter Park. I was also the sole provider for the welfare of my wife Helen and my first born daughter Charlotte.

There were very few two-income families in those days. The wife was a stay-at-home mother and wife. I was doing the accounts receivable bookkeeping for Bumby's during this interim while their part time bookkeeper was away for the summer. Around the end of the first week of July, I had not heard from Union Carbide, and I was beginning to have a sinking feeling about that prospect. While at Bumby's, I received a phone call from Frank Little. He said he had obtained approval for the laboratory helper, and the job was mine if I so chose. I immediately accepted. I was to report for work on Wednesday, July 13, 1949. I had neither had an interview, nor had I obtained any kind of pre-employment physical. Frank had informed me that my confirmation as an employee was contingent on passing a physical, but that was of no concern to me. I knew that I was in great physical shape, being age twenty-five and having served in the army during some severe combat operations.

What has been a family joke all these years is that when I was hired by OUC, there was no confirmation of my salary or wages. Frank had not had a value approved, but from some of the other hourly rates, he stated it would be at least fifty dollars per week. That was good enough for me. I really didn't know what my salary was until I received my first pay check. Helen's mother, Grandma Taggart (G-Tag), was living with us at the time, and she went "bananas" when she learned I had accepted a job without really knowing my salary. The stories of her chagrin about this situation are the basis for many family jokes. The date of July 13th was selected for my starting date, because it was a Wednesday and that was the beginning of a weekly pay period. Initial thought was that I would be employed on an hourly rate rather than an annual salary.

To put things in perspective, a little review of the Orlando Utilities Commission and the City of Orlando at that time is in order. These facts and figures are strictly from recall and, therefore, may suffer from being a little inaccurate, but they express the general conditions of the situation at that time.

In July, 1949, the total capability of the Orlando Utilities Commission's generating plant was 18 megawatts (MW). It was all contained in the Lake Ivanhoe Power Plant, although the plant had not been given that name at that time. It was just

the Orlando Utilities Commission's Generating Plant. Names did not come about until the Indian River Power Plant was built in the late 1950's and started up in February of 1960. I'll have much more to say about that later. The Lake Ivanhoe Plant was a steam plant, operating on a header system with steam pressure of 250 PSI. The first unit was installed in the early 1920's, at the time that the Orlando Utilities Commission was created by an act of the state legislature. It had four horizontal fire tube boilers of various sizes and four operating steam turbines in sizes from 1.5 MW to the largest and newest rated at 10 MW. The 10 MW steam turbine had been installed in 1936. Its installation created a lawsuit that eventually wound up in the Florida Supreme Court and established the autonomy of the Orlando Utilities Commission.

The controversy was between the City of Orlando and the Orlando Utilities Commission. The mayor of Orlando at that time was S.Y. Way. As a member of OUC, he was also the mayor of the City of Orlando. He led the fight against the purchase and installation of such a large generator. OUC felt it was needed for future growth of the city and OUC's customers. The resulting opposition by Mayor Way ended in litigation, with the resulting lawsuit bearing Mayor Way's name. The end result was that OUC's autonomy was established.

In 1949, OUC obtained all its potable water from surface supplies, namely from Lake Ivanhoe, which had been tied together with an eighty-four inch concrete pipeline with Lakes Highland and Concord. To assure adequate supplies were available for its customers, OUC had a deep well at Lake Underhill that pumped water through a pipeline to Lake Highland. Lake Adair had a deep well located on the shore at the southwest corner of the lake that discharged its water directly into that lake. Using surface water and having only one pumping station for the entire OUC service area had many disadvantages. This problem became more acute as the service area grew.

Lake Highland Plant

The problem with using surface water for potable use was the fact that it was constantly changing. It changed in sunny periods due to algae blooms and growth. It changed in rainy periods due to street runoff and fresh rain dilution. It changed in dry periods due to concentrations from evaporation and makeup use from the deep wells. All of these changes in some way affected the taste and

odor of the water. It was not unhealthy, since it was chlorinated to sanitize it for potable purposes. The water treatment at the Lake Ivanhoe Plant consisted of only chlorination and filtration. The filtering was done through sand filters into what was known as a clear well. From this clear well, the treated water was pumped out to the potable water users. When the Lake Highland Plant was built with its attendant water treatment plant, it added another stage of treatment known as flocculation. That was a treatment where chemicals were added, primarily aluminum sulfate, which formed a fluffy suspended flock. This flock would act as a form of filtration as it settled. The water received a final purification through sand filters on its path to the clear well. This improved the water somewhat, but those surface water tastes and odors were still evident.

The problems with only one central pumping and treatment plant are numerous. The first one is the principle of water pressure decreasing as the distance from its pressure source increases. To maintain an acceptable pressure at the extremities of the system, the pressure at the plant would have to be excessive. One means of combating this was the use of overhead storage tanks. They were strategically placed around Orlando where the pressure would get excessively low during times of high use. Water would flow out of the tanks and help boost the pressure. Then they would be refilled at night when the use was lower and the ability to fill them was present. There came times when, due to growth in the system, it would not be possible to fill them at night. Even though we think of Central Florida as a flat area, the topography of OUC's service area caused problems with water pressure. The higher points in OUC's system suffered from low water pressure coming from a central pumping station.

Another problem with a central plant is that of maintaining adequate levels of chlorine at the extremities of the system. Chlorine is an odd chemical which doesn't remain in its germicidal state continually in water. As it stays in the water, it changes into other compounds that are not detected as free chlorine and lose their ability to purify the water. There were regulations that required a certain level of free chlorine in the water at all locations. To make that possible, large levels must be present at the central plant in order to have that level at the extremities. You don't have to be a rocket scientist to understand that to have safe levels at the extremities, you must have an inordinately high level at the plant. This would cause horrible complaints from customers close to the central pumping station. OUC wrestled with these problems of surface water, pressure levels, and chlorine concentrations until it went to deep wells for its supply and started building satellite plants near these wells.

The tying of the lakes together was for the purpose of obtaining cooling water for the Lake Highland Plant's (LHP) steam turbines, which were under construction. The cooling water would draw in from Lake Highland through traveling screens, enter the main condenser, condense the steam vapor in the exhaust section of the steam turbine, and return the heated water to Lake Concord. The circulating water would pick up about eight to ten degrees of temperature in this process.

The water would then circulate through Lake Concord, Lake Ivanhoe and return to Lake Highland where it would start its cooling cycle again. By evaporation and surface cooling, the water temperature would lower back to the conditions normal for the natural environment. That environment would make the water temperature follow, but lag, the ambient temperature. Thus it would be warmer in the summer and cooler in the winter. The temperature of the cooling water had a significant affect on the efficiency of the steam turbines, hence the cost of producing electricity.

In the electric trade, BTU/KWH is the measure of efficiency of electric power production, referred to as heat rate, just as miles per gallon is the measure of efficiency for an automobile. I don't recall the exact figure for the Lake Ivanhoe Plant, but it was around 14,000 BTU/KWH. Not only was it a very inefficient plant, it was too small to generate enough power for the growing needs of Orlando. When the LHP came into operation, its heat rate was in the range of 12,000 BTU/KWH. This was the nominal efficiency for the steam turbines installed in the LHP. Unit 1 was a 25 MW rated steam turbine. The steam conditions were 900/900. That means the pressure was 900 psi and the temperature was 900 degrees. That was the state of the art for that size unit at that time. There were larger units available at that time, but they didn't fit into the OUC plan of growth and overall needs. Unit 1 was supplied steam by two steam generators rated at 150,000 lbs/hour. With a nominal use of 10 lbs. of steam per KWH, this was sufficient to make the turbine generator rating. The boilers fed into a header system which allowed one boiler to be out of service. In this case, the steam turbine generator would be limited to about half power. This header system design was a part of the overall design of the Lake Highland Plant. OUC never had a unit system, one boiler connected to one turbine generator, until the installation of Unit 1 at the Indian River Plant which started up in February, 1960.

The Lake Highland plant was fraught with design flaws. The design was by Robert and Company, a design engineering firm from Atlanta, Georgia. They designed both the power plant and the water treatment plant, which were built at the same time and by the same contractor on the same site. I am not aware of how or when Robert and Company was selected. The Lake Highland Plant was most likely their first designed central generating station. As my old-timer friend Charlie Underhill told me, "They were good cotton mill designers, but I wouldn't let them design an outhouse for me".

It was while working on these design flaws that Harry Luff's star began to shine. He was the only one familiar enough with the operation of a complex steam power plant to effectively analyze the cause and effect relationships that were creating many of the operational problems. It was during this stage that I began working with Harry, as time allowed me away from my primary duties as a plant chemist working for Frank Little. It is worth noting that at that time, Harry Luff, Frank Little, and I were the only employees at the Lake Highland Plant with a bachelor's degree.

Frank had graduated from Georgia Tech and Harry from Brown University, where he was a naval V-12 student.

Not only were there problems with the reliability of the Lake Highland Plant, the vulnerability of the 12 KV substations exposed the entire OUC system to system-wide blackouts. The system was designed with no reclosers, and when a feeder tripped, that feeder was out until it was checked or the operator tried to reclose it. The generator was tied directly through a breaker to the 12 KV bus without the need for any step-up transformer since generation was also at 12 KV. Coordination of feeder and system relays was not done in any analytical manner, but rather by the hunch of the engineering manager Leo Little.

Rodents, especially squirrels, were the nemesis of the open bus work in the 12 KV substations. Several system-wide blackouts were caused directly by either rats or squirrels. One of the Orlando Sentinel's stories on the blackouts had a picture of a large rat lying on the ground in the substation. The story told of how the rat caused the outage by shorting out the open bus at the substation. The rats intruded into the station by traveling through the tunnel from the plant to the station. This tunnel was the path for all the connecting cables from the plant to the substation. The squirrels intruded by hopping through the chain link fence surrounding the station. They would run and romp on the open bus work or on the supporting steel structure. When one of their bodies was on the steel and his bushy little tail contacted one of the busses, an arc would develop that created a short on the bus. The nature of an electric arc is such that it ionizes the air. This ionized air acts as a conductor and therefore acts as a short until the arc is extinguished by removing the voltage from it. This arc would trip out the generator breaker as a bus fault, extinguishing the arc. This was all well and good as a protective measure, but now the entire service area of the OUC, including its power plants, was dark, all because of a squirrel.

One of the paradoxes of power generation is that a power plant needs power to get it started. In fact, a power plant uses a significant percentage of it generation to generate power for its own use. A control of this use is one of the efforts to increase its efficiency. It is called station use. With no power from the power plant available, how did we start up a dark power plant? There was an answer, but it was rather involved and intricate. OUC had a very small, 2300 volt, circuit connection with Florida Power Corporation coming from the old Atlantic Ice and Coal ice plant a few hundred yards away from the Lake Ivanhoe Plant. This connection had been made many years prior to this time when Florida Power Corporation was preceded by the Florida Public Service Company. They served the Orlando area with manufactured gas and the periphery of Orlando with electric power. OUC was their staunch rival. They also had an ice plant which was operated by Atlantic Ice & Coal. This ice plant was one of their customers and even had a small substation next to it. As an aside, it later became the Atlantic Brewery which produced beer and ale at that plant. This small connection through the Lake Ivanhoe Plant over to the Lake Highland Plant was

the only source of startup electric power. Having never been used for this purpose before, very few plant operators or others understood the switching sequence necessary to make it work. The first time it was used required an inordinate amount of time, primarily due to ignorance.

After seeing this happen a few more times, I came to the realization that the present method of teaching the employees how to achieve this was not effective. In the meantime, OUC also was being criticized by the press as being irresponsible. This is where I came into the picture and made the move that was the linchpin to my career with OUC. I studied the steps necessary to make the tie with Florida Power and concluded that I could build a mock up switchboard simulator. Simulators were only for the most intimate engineering situations at that time. I don't recall all the details, but I do remember how difficult it was for me to get the necessary approval from Charlie Stebbins, the plant superintendent, to build this simulator. My budget was around one hundred dollars. I purchased the parts from a local electronics shop with which I had become familiar as a ham operator. I assembled it in the machine shop at the Lake Highland Plant. It took me around two weeks to assemble the unit. All my work was done after I completed my primary duties in the boiler water laboratory. During construction, there were many observers and a lot of interest was generated. One of my staunchest supporters was Charlie Brown, the assistant plant superintendent. I don't know for sure, but I feel that it was only through his support that Charlie Stebbins gave me approval to build the simulator.

Since I was the designer and builder, I also became the chief instructor. Starting with the switchboard operators, all plant personnel would go through hands-on switching training on the simulator. It was designed so that when an error in switching procedures was made, an alarm would sound. At that point, I would stop the process and let the operator analyze what he had done wrong. Not only was this a very successful training activity, it also became a method for retraining. By making all operators go through the process, they had already been trained when they were promoted up to the job that would require them to do the switching. After this training and the construction of a squirrel-guard fence around the substation, no more switching errors occurred when tying into this small Florida Power connection. The initial training took several weeks and recurrent training continued until a large 115 KV tie with Florida Power Corporation was made at the Pine Hills Substation when OUC built it first 115 KV lines. I don't know what ever happened to that old plywood simulator, but it served its purpose at the time.

The reason I attribute so much value to that experience being the linchpin in my career at OUC is because it elevated me from an obscure water laboratory chemist to the role of an "expert" in power plant operation. In particular, I was considered the expert on internal switching procedures. Even more important, it increased my visibility to the general manager, Curt Stanton, who had been combating an irate public and bad press from the extended outages that resulted

from incorrect switching. In Biblical terms, "I had pulled the ox cart out of the ditch". I continued working daily with Harry Luff and Bill Rowley in plant maintenance, meter calibration, efficiency tests, and every aspect of power plant operations. I studied electrical diagrams and plant systems. I often asked questions that could not be answered by plant personnel. For these I would ask the expert sales engineers who called on us as part of their representation. General Electric (GE) people were invaluable in this respect. Later, when the engineering firm of Black & Veatch was selected as OUC's engineers, I would pose similar questions to them. My three main questions were, "why?", "how?", and "what's this?" You would be surprised at how much you can learn by asking those three simple questions.

I can't conclude the story of this phase of my career without saying that Harry Luff was my true mentor. His intellect, compassion, stability, integrity, and willingness to share his knowledge were the qualities that allowed me the opportunity to achieve the success that I enjoyed at OUC. As another side note, Harry and I would often have little quiet times together. Often these occurred while we were doing an inventory of special pipe fittings we used in our work. As young men looking into the future, we would speculate about what would be our ultimate level of advancement with OUC. We never in the least ever thought it would be anywhere else. Our most optimistic conclusion was that Harry may someday be a plant superintendent, and I would be his assistant. The relationship was almost correct, but the jobs were not. Harry became OUC's general manager, the highest position OUC had to offer, and I became assistant general manager.

With the growth of Orlando continuing at an alarming rate, it became obvious that OUC needed more power generation and needed it in a hurry. As a low level chemist in the boiler water laboratory at the Lake Highland Plant, I was not privy to the selection process, but Black and Veatch (B&V) of Kansas City, Missouri, was selected to make a study of OUC's growth and power production needs. B&V dispatched a team which collected reams of data and information on OUC's system and capabilities. The research engineer for B&V was an engineer named Bud Wallace. His familiarity and knowledge of OUC's personnel and system led to his later designation as project manager for B&V.

B&V's first engineering effort after presenting their growth scenario was to modify the design of the Lake Highland Power Plant that had been made by Robert and Company. The major components, the steam turbines and power boilers, were not matched in capacity. There was steam turbine capacity of approximately 100 MW but boiler capacity of only around 60 MW. There was no possibility of increasing the capacity of the largest boiler, since it had been stretched to its limit when installed, in order to get it in the physical space available. That left the two smaller boilers as the only options for increased capacity. The Commission authorized the expenditure for increasing the steam capacity of the two boilers, and work began on an expedited basis.

Concurrently with this boiler work, engineering studies were underway for the installation of the two largest simple cycle gas turbines in the United States. Simple cycle means that the turbine exhausts to the atmosphere without utilizing any of the heat energy in the exhaust gasses. Later developments incorporated the current combined cycle units, with their superb cycle efficiency, by combining the exhaust heat into waste heat boilers, where steam was generated for use as a prime mover for a steam driven turbine for electric generation.

Similar simple cycle units as being proposed for Orlando had been used in Venezuela for gas compressors, but none as large had been installed in the United States. It truly represented the introduction of combustion turbines as prime movers for power production. The Commission approved the installation of two 15 megawatt combustion turbines for electric power generation at the Lake Highland Plant. Their installation would be inside the existing plant and would be made while the plant was in full operation. They would be installed on turbine foundations, including pilings, between the three existing steam turbines. It was an engineering and construction marvel. Piles being driven inside an operating power plant was considered by many to be impossible, but it was done by OUC and Black & Veatch and, especially, by the construction company. I can't remember their name but they were from Oklahoma and their foreman was a man named Merle Dinkens. He became a close friend of Curt Stanton and that friendship survives until this day.

Concurrent with this construction, others who made aircraft combustion engines for jet aircraft, including G.E. the provider of the stationary engine for OUC, developed designs to utilize these aircraft engines as prime movers for power generation. I don't recall the details but one of these aircraft engine hybrids may have been the first combustion power in the United States. This technology continued to develop, and the major aircraft engine manufacturers of jet engines became the leaders in this type of prime movers for power generation. Among the largest were General Electric and Pratt & Whitney.

OUC completed the combustion turbine installation, but there was a pressing need for additional power resources. Concurrent with the installation of these gas turbines, a study was completed and under the secrecy of only a few OUC personnel, property was obtained in Brevard County for a new steam plant. It was located on the Indian River, approximately halfway between Titusville and Cocoa. The Indian River would offer two strategic advantages. First, it would provide an unlimited supply of cooling water for the steam condensers. Second, it would offer water transportation for fuel oil deliveries from Port Canaveral when that was feasible and economically justified.

Obtaining the property was a very important and successful task. It had to be done in secrecy for two compelling reasons. First and foremost was that OUC didn't have the power of eminent domain at that time outside of Orange County.

Second, and almost as important, was that the missile development programs for the United States were underway at that time at Cape Canaveral. Many of the largest corporations in the country were buying up sites in order to establish their ability to become a vital part of this new defense strategy. NASA was not in the picture at that time. The real powerhouse was the Air Force, which controlled the test site and the down range facilities. All of us are now aware of what impact the missile and later the space industries had on Brevard County. OUC became a small player with its plans to build a plant there in the late 1950's, which started up in February 1960.

During the construction of the Indian River Plant (IRP), which began around 1957, there were reviews of the plans by many people in plant operations. This review was led primarily by Harry Luff, but there was no indication as to who would be the plant superintendent. There were many discussions going on behind the scenes, but nothing was more than rumor. One school of thought was that it would remain within the old establishment, and the entrenched old-timers would have the leadership roles. Since I was not privy to the internal discussions, I don't know the details of what ensued, but from later conversations with Curt Stanton and Harry Luff, I know that Charlie Stebbins, Lake Highland Superintendent, was lobbying strong and hard for Eddie Hayes. Eddie had worked in the phosphate industry as an electrician and shared some of the same history as Charlie Stebbens.

The final decision was made by Curt Stanton after consultation with Harry Luff. In December of 1958, Curt Stanton designated me as superintendent of the Indian River Plant. Later discussions with Curt indicated he felt that the Indian River Plant represented the state of the art in power plants, and he wanted someone who understood the technical aspects of this current technology. He said that the days of sawmill boilers and phosphate wood steam conditions were no longer in vogue as steam sources for electric power generation.

The Indian River Plant represented the most modern technology available at that time for steam power generation. Such new concepts were triple-flow steam turbines and boilers with reheaters. The pressure-temperature ratings were the state of the art. Steam temperatures of 1000 F and pressures of 1800 psig were at the top of the list. Even today, this is the temperature limit due to metallurgical constraints. 1100 F was tried, but was backed down to 1050 F. Then it was backed down even further and has now stabilized at 1000 F, the same as the IRP in 1960. I will not go into the history of power boilers and turbines, but the industry has stabilized on the sub-critical pressure of 2400 psig and a temperature of 1000 F as the practical limits for power generation. These are the ratings of the Stanton Energy Center units.

It was some time before the tremendous responsibilities of the superintendent's job was fully understood by me. The more I thought about what the future held in store for me, the more complex my understanding became. But I can honestly

say that at no time did I have any doubts about my ability to carry out the responsibilities of the plant superintendent.

My first responsibility was setting up and training an organization to operate and maintain the plant. I was very instrumental in selecting Bill Rowley as the assistant plant superintendent. I said it early on, and I will repeat myself now after almost fifty years, Bill was the best assistant superintendent in the country. However, Bill would not have made a good superintendent. He needed someone looking over his shoulder in an oversight position. After the selection of the assistant plant superintendent, we began selecting employees from the Lake Highland Plant for operator positions. The watch engineers then assisted in the selection of the operators. Most of the initial cadre of operators for the Indian River Plant had come from the Lake Highland Plant.

I'll never forget the fact that I went to the Orange County Jail for the release of one of the operators whom I had selected for the Indian River plant. He and I had a talk like a father to a son. He promised me that he would straighten out and become a law-abiding citizen. Little did I know that at the time he was a full-fledged alcoholic. Even with that background, he became one of my best operators. At the time I removed him from the jail, I made him a promise that if he were ever arrested again, I would discharge him. Unfortunately after about two years, I saw in the local newspaper where he had been arrested for public drunkenness. True to my word, I discharged him. I lost track of him for several years. Then one day I received a personal letter from him. He had obtained employment with one of the space center contractors and was stationed at a remote tracking site in the Caribbean. He admitted to me that my discharging him had turned his life around and that now he was a responsible citizen. The remoteness of the tracking station had helped him overcome his dependence on alcohol. That was the last word that I ever heard from him. He was a prime example of what alcohol could do to a person. He had lost his wife, his family, and finally his job.

After the operating crews had been selected, it was now necessary to start training. It didn’t take us to long to recognize the fact that we had no real knowledge of just how the plant should be operated. No one knew better as to how it should be operated than the engineers who designed the plant. With that in mind, Black and Veatch were retained to prepare an instruction manual for the proper operation of each and every system in the plant. That manual became the foundation for training and proper operation of the plant for years to come. Along with this training manual, we utilized representatives from the various vendors to act as lecturers in our training sessions.

Simultaneously with the training of the operators, it was necessary to start searching for the proper maintenance personnel. Since the Indian River plant represented a level of technology above that at the Lake Highland plant, I felt it was necessary to recruit technical people with the experience in similar

technology. This was accomplished by employing technicians from outside of OUC to head the electrical and instrument maintenance. The person selected as the chief electrician was Zach Crumpton. Zach had been an electrician for one of the major power systems in the Carolinas for several years. He was well qualified for the job. The individual who was employed as the chief instrument mechanic was Bill Schreiber. Bill had garnered most of his experience in the instrument field while working for the Hudson Pulp and Paper Company in Palatka, Florida. The head of mechanical maintenance was an OUC employee who had learned his trade in the U.S. Navy. His name was Don Blickley. Another recruited for the electrical maintenance shop was an electrician, also from Hudson Pulp and Paper Company, who also possessed experience in elevator and air-conditioning maintenance. His name was Dave Marks. Additionally, some craft personnel were employed from the construction force.

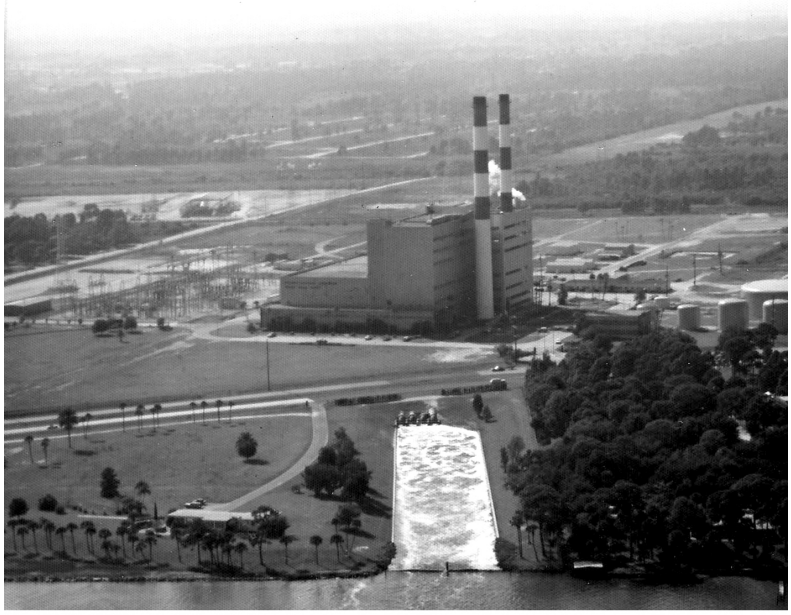
After many systems operational tests were performed and the important task of phasing the generator, the unit was synchronized and put online for the first time on February 20, 1960. The unit had a nameplate rating of 78.5 megawatts but was capable of producing in excess of 90 megawatts under peak load conditions. Usual outages were experienced by the new unit during the "shakedown" period due to various causes, including equipment, design, and operations. But the unit was declared commercial in a relatively short time after its initial synchronization. OUC had almost doubled it capacity with this one unit and was now generating electric power with state-of-the-art equipment. It had entered the big-time and was now poised for the tremendous growth that Central Florida would experience in the next few decades.

We moved into the superintendent's residence, on the plant property, during the Christmas season in 1959. I soon realized that I had obtained a completely different identity than I had previously experienced. I was instantly thrust into the position of being "Mr. OUC" as far as Brevard County was concerned. The construction and operation of the Indian River Power Plant was the single largest enterprise, other than the then fledgling ballistic missile industry, in Brevard County. It was the tallest building in the county, as well as the only building containing an elevator. I was amazed later when we began hosting school students for a tour of the plant. Many were experiencing their first elevator ride. Our auditorium, immediately off the plant lobby, was declared a community room and also served as a hurricane shelter during hurricane Donna. This hurricane occurred the first summer that we were in operation.

Because of this high visibility in the community, I was OUC’s chief spokesman for that area. That responsibility caused me more anxiety while I was superintendent at the Indian River Plant than any other aspect of my job. I also came to realize that among OUC employees, my word became gospel as far as OUC was concerned. An example of that occurred one morning during our routine office coffee break in the chemistry laboratory. During those breaks, the

topic of conversation ranged from soup to nuts. On some occasions perhaps, much of the conversation was an attempt to get into my mind and try to determine what was going on within OUC. On one occasion, after the budget had been approved and just before the next fiscal year, someone asked me what was going to be the level of pay raises for the next year. Not considering the consequences, I replied that I did not think there would be any increases. Before the end of the day, I thought there would be a rebellion of the plant employees. The word was rampant that OUC would not provide any pay raises for the next year. That was one of the lessons I learned the hard way. I learned to be sensitive to the fact that when in a management position, my word became gospel as far as the personnel of my organization were concerned.

I also learned that the image you project is very important. I specifically recall one instance where I neglected to say "Good morning" to one of the employees. As I recall, I was in deep thought trying to mentally organize my schedule for the day. As I passed this employee, I was silent, in another world with my deep thoughts. There was no intentional neglect. A few hours later I heard through the grapevine that the boss (me) was in a terrible mood that day, and if you had any requests for him it would be best to put them off. I learned that my every word and every move as a boss was an important image that I projected. Whether it was my mood, my attire, or even my desktop, it was always noticed and analyzed by my subordinates.



OUC's Indian River Plant and our home

I don't recall exactly the time, but it was probably in late 1961 when Curt Stanton asked me if I was ready for a 200 MW unit. My response was, "You put it in, and we'll operate and maintain it". That is exactly the answer he wanted and exactly what happened. As with unit one, the turbine generator was a General Electric (GE) machine and the boiler was purchased and installed by Combustion Engineering (CE). Ultimately this combination would also be responsible for the final unit, unit three, at the Indian River Plant. Unit two had a generating capability slightly in excess of 225 MW.

As plant superintendent, I was intimately involved in interfacing with the outside contractors for the project. Our engineering consultant was once again Black and Veatch, headquartered in Kansas City, Mo. I had met and worked in some capacity with one young engineer with that company, Earl Windisch, since 1956. Now with the intense planning of the new unit at IRP, Earl and I developed a close relationship, both in and out of the workplace. I have often described our careers as parallel. When Bud Wallace retired, Earl became the OUC sponsor and eventually became a partner in the Black and Veatch firm. For a few years, Earl and his family moved to Orlando, and our families are known to one another. Over the years, I visited Earl in Kansas City many times, both before and after my retirement. This has been another special relationship that has withstood the test of time. We still keep in touch with one another periodically.

My experience as the plant superintendent at the Indian River plant significantly broadened my horizons. In retrospect, it amazes me how the same person can go through such a metamorphosis with a job change. As plant superintendent, I began to become more and more oriented to the electric utility industry. My horizons broadened to encompass the entire industry, even though my focus was primarily on generation. It was during this time that I became interested in the subject of reliability, even though, at that time, it was centered primarily on the reliability of power plant equipment. Since that time, I have learned that reliability is more than just equipment issues, it is a culture that must be created and nurtured.

Superintendent's residence

It was the General Electric Company that first opened my eyes to the subject of reliability. Throughout my career, it became an obsession with me and became the genesis of the reliability theme, which is now OUC's logo "The Reliable One." Most large equipment is manufactured to exist for a certain life cycle. Life cycle is determined by how a piece of equipment is operated and maintained. One of the main components of a power plant is the power transformer. General Electric developed a method for determining the life cycle of such a transformer by how much of the time it was subjected to an overloaded condition. This was the stimulus that I needed to

become more and more interested in reliability. I must interject here that reliability is not cheap, because it encompasses all levels of almost any endeavor.

In a power plant, reliability begins with the philosophy of the personnel responsible for the design and specifications, then the purchase of quality equipment, and finally the maintenance and operation of all of these elements. From this experience, I readily learned that the lowest initial cost is not always the lowest final cost. There are many elements involved in determining the ultimate cost of any endeavor. One of the most valuable lessons I learned was the use of present worth evaluations during purchase of equipment and the life of any object. This technique allows one to determine which product was the best value if you knew the cost of money (interest) and the life of the equipment. Later on, I was able to instill this concept into the purchase of all major equipment utilized in the electric department of OUC. Another valuable lesson I learned was that in dealing with the unknown, never ever rely on the word of the marketers of a product. That vendor has a fiduciary responsibility with his own organization to stretch the truth as much as possible.

My tenure as superintendent of the Indian River Plant was a significant aspect of my evolution in the hierarchy of OUC. Of profound significance was living in the superintendent's residence on the Indian River from 1960-1964. These four years in the life my family and I will forever be indelibly inscribed in our memories, as well as being an integral part of our family's history. We lived there during the height of the development of the military missile program at Cape Canaveral, later to be named Kennedy Space Center in honor of the president who was responsible for the U.S. trip to the moon.

Les, Beth and Charlotte

The launch of a missile for test purposes during the days of the military space development was always a period of great excitement, the date and time being super secret. Even though launch dates, times, and missile contractors were classified, local residents had many techniques to bypass these security measures. One of the most

common resources was the children attending school who were the offspring of workers at the Cape. They would know when their dads or moms would be working late or getting up extra early. Another resource was the communication between the wives or husbands who were working there. After dark, work was done with the missile on the launch pad in preparation for a launch, and one sure indicator was the floodlights beaming skyward, which could be seen across the river. Once a launch date was determined, the next thing was trying to find out the time. I was able to do this when I learned the radio frequency used by the security organization that made sure there were no intruders into the ocean area designated as being prohibited when a launch was imminent. Since I was a ham operator, I was able to receive this frequency and relay the information to my associates at the plant.

The roof of the power plant was an ideal spot for watching missile launches. With binoculars, we could see the missile sitting on the pad. Our roof was the site from which many employees, family, and friends watched launches. In the beginning, the launches were primarily military vehicles, but the ultimate result was the NASA launches which resulted in space exploration. These ranged from the early programs such as the Mercury and Gemini launches to today's spectacular shuttle launches into space. I don't know what the present management's attitude about visitors may be, but I can only relate the fact that we were there during the early days of the military launches and the predecessor to today's special launches by NASA. We could see and hear and "feel" the power of the rockets when they were launched. These were the best of times.

Now back to the "career years" of this autobiography. The time spent as superintendent of the Indian River Plant from late 1958 to July of 1964 was a period of significant learning in all facets of management for me. One of the biggest lessons I learned was that of "cause and effect". I came to learn that in all situations there existed such a relationship. Even inaction is an action itself. By doing nothing, you are creating a cause that exemplifies itself in some action. This knowledge of cause and effect has served me well during all of my life, even to this day at the age of 86.

My Family at IRP, circa 1963

As a plant superintendent, I learned that it was possible to maintain the equipment rather easily, although mechanical and electrical failures occurred occasionally. What I really learned was that managing people was a very delicate and tricky job. One key to good management was the art of picking the proper people during the selection process. I also learned that in managing people there were two groups that I needed to continually satisfy. The first group consisted of those people who were subordinate to me in the management process, and the second group consisted of those people who were senior to me in the management process. It is necessary and vital that anyone in management has the confidence of both groups at all times. Losing the confidence of either will result in one's ultimate failure as a manager. Fortunately for me, I was able to preserve the confidence of both of these groups during my forty years of service to OUC.

One of my fond memories that goes back to my years as superintendent of the IRP demonstrates that confidence. As the plant superintendent, I lived on the plant site and was readily called when an emergency occurred at the plant. On one occasion, I remember arriving at the scene of a problem and some of the first words I remember hearing were, "Have no fear, Stone is here". What that meant to me was that my presence was a calming factor that reduced the tensions of the operators in the emergency. Many times the emergency had been solved by the time I arrived, but my presence was always important.

Looking back on my tenure at the IRP, some equipment failures stand out in my recall. One of the first failures was due to faulty construction. Blowouts in the fittings of the instrument air supply occurred regularly. It was determined that the air lines had been installed using an ineffective silver solder for the joint connections, thus paving the way for the failures. All joints were subsequently re-soldered, using the correct soldering elements.

Another failure during the early startup of the IRP was a tremendous water hammer, which fractured a water box on the main condenser of Unit I. It was feared at the time that damage may have also occurred to the 108-inch fiberglass piping which connected the circulating water from the Indian River to the power plant. It was also feared that there was damage to the valve system. Subsequent inspections and testing proved there was no damage to this piping and valve system. This left us with "only" a cracked water box. The water box was constructed of cast-iron and weighed several tons. After much thought and consternation, it was decided that repairing the water box was more practical than replacing it. Because it was constructed of cast-iron it could not be welded. A series of drilling and then threading holes was utilized, stitching the crack together. It was very successful and to my knowledge continues to operate to this day. As a result of this violent water hammer, the sequence of valve operations utilized on this circulating water system was changed, along with the starting sequence for the pumps.

Another big disaster occurred shortly after the first turbine generator overhaul, during startup of the unit. It was determined that the thrust plate in the high-pressure end of the turbine had been reinstalled incorrectly. The damage to the thrust plate required some precision machine work that appeared likely could only be accomplished back at the manufacturer's facility in Schenectady, New York. Fortunately for us, we determined that the Martin Company, who had recently moved to Orlando, had the capability to do such precise machine work. By negotiations with their management, OUC was able to get the work done in a few days, instead of a few weeks which would have been required if the thrust plate had been shipped back to Schenectady.

There are many operational issues that are embedded in my memory as a result of being the superintendent of the Indian River Plant. Foremost is the recollection that most major work that required an outage was done either at night or on the weekends, depending on the length of plant outage necessary to accomplish the work. Nights and weekends were selected due to the fact that these were "off-peak" times. Planned outages were coordinated on a statewide basis to ensure the integrity of the interconnected system. Having the largest and most efficient generating unit in the OUC system created some outage problems when planning emergency repairs.

One specific incident that occurred during an emergency outage will forever remain in my memory, although it was not related to our outage. First, however, I must set the stage for the incident. At that time, in 1960, the missile development program in Brevard County was beginning to take precedence over everything else locally. Brevard County was making the transition from being a mosquito-infested small town locality into becoming the top technical area of the world. Some of the most intellectual minds in the universe were being relocated to Brevard County. The county was experiencing fantastic growth in every imaginable area at that time. U.S. Highway No.1, the highway which ran the entire length of our country from Key West to New England, was the only north-south highway running through Brevard County. This was several years before the interstate highway system was completed. U.S. 1 was only a 2-lane road system where it passed in front of the Indian River plant. Port St. John did not exist at that time. Things were significantly different in 1960 than they are today, fifty years later. I don't remember the cause of the emergency outage at the power plant, but I do remember that it was one of those night outages which required that we work all night in order to be back in service by the beginning of daylight the following morning.

I would estimate the incident to which I refer occurred around midnight to 2:00 am. I was informed that an automobile accident had occurred approximately a half mile south of the plant, in the area where the entrance to Port St. John is now located. We were aware of the accident, because a passing motorist came upon it and quickly decided that emergency help was needed. Our guard shack at the entrance to the power plant was manned 24/7 and therefore became a

source of calling for emergency help. This call had to go through our switchboard in the power plant, so I was informed immediately. At the beginning, information on the accident was very scarce. The only word I received was that it was a terrible accident. As more information began to come in, I ultimately learned that there had been fatalities. We learned that it had been a head-on collision. Even more dramatic for me was the fact that the driver of one of the vehicles had been a classmate of mine at Rollins College. He was a member of Rollins' football team and had become a successful football coach in growing Brevard County. As I recall, later investigations revealed that DWI was involved. My Rollins classmate survived the accident, but he had been critically injured and suffered the consequences of it for the rest of his shortened life.

One of the most common causes of a "short time" outage was an air leak somewhere in the pressurized boiler. Whenever there was an air leak in this pressurized system, it would manifest itself by burning the outside skin casing of the boiler. It was necessary to locate the leak, repair it, and return the unit to service. This sounds pretty straightforward, but taking a unit out of service and returning it to service requires several hours. Additionally, time must be spent on repairs after the unit is out of service. Determining the location is not too difficult, since it is easy to determine exactly where the leak is occurring by its location on the boiler casing. Those leaks in the pressurized boiler became very numerous and burdensome to me personally. I vowed that if I ever was in a decision-making capacity, OUC would never again, during my tenure, have a pressurized boiler in its system.

True to my word, the pressurized units at the IRP were the last in OUC's system. In order to clarify any misunderstanding, the alternative to a pressurized unit is what is known as a balanced draft unit. This type of unit uses a force draft fan to supply combustion air, and the furnace operates at a slightly negative pressure. The induced draft fan then removes the combustion gases from the furnace and the tail end of the boiler. Pressurized units look good in theory due to the fact that they require only one draft system. This means that a pressure rise unit does not have an induced draft fan. All the air required is forced through it by the force draft fans. This cost savings as a result of only having one fan system for the boiler is soon neutralized by the outages of a pressurized system.

I might interject here that the IRP Unit 1 had very little operator input. This was due to the fact that the OUC operators had no experience in the operation of a reheat, tandem compound turbine generator. In the design of a power plant unit, many decisions have to be made. In the design of the IRP Unit 1, all of these decisions were made by the design engineers at Black and Veatch. As the operating experience of OUC personnel became more mature and learned, the design of a new power plant became a joint effort of OUC and Black and Veatch. The steam generating units at the Stanton Energy Center are prime examples of these coordinated efforts.

There were many more similar experiences during my tenure as superintendent, both relating to outages and to personnel problems. However, retrospectively, my primary memory is that it was a period in my life where I gained experience and matured personally. I would say the same thing occurred with my associates at the plant. Many of the later executives within OUC came from the cadre of personnel at the IRP. Foremost among that group was Ted Pope, who succeeded me as plant superintendent and ultimately became the general manager, the top executive position at OUC.

Sometime around the beginning of 1964, I was informed that I would be promoted and must return to Orlando. I received that information with mixed emotions. First, we lived in a beautiful residence on the banks of the Indian River. But more importantly, my family had become integrated into the social and educational structure of Brevard County, and we would lose our status as OUC's number one family in Brevard County. My daughter Charlotte was a senior in high school, Beth was in junior high, and Les was still in elementary school. He began his school years in the Brevard County system. Looking back, it was a milestone in life for me and my family, but I will never forget the trauma it created for me for a while. It was a tremendous adjustment. I now realize that it was the strong bonds of family love and commitment that helped me to overcome the trauma of this relocation and promotion.

We had sold our home in Winter Park when I was transferred to the IRP, so we no longer had a house in the Orlando area. Therefore, one of the first decisions to be made was the area in which we would live in Orlando. My wife Helen became the chief architect of our relocation. Helen found several "old" homes that were charming, but I decided that I would really enjoy not spending a large portion of my free time on home repairs, especially after having lived in a home for four years in which all the maintenance was provided. Another decision I made was that we must live in the OUC service area since employees received a discount on their water and electric utility bills. Due to my tenure, this would result in my paying only the minimum bill, which at that time was only $3.00 a month. It did not take one of those rocket scientists to see how much savings this would represent in earned income. Having selected a few desirable locations, Helen would pack a lunch and spend a full day or two in determining the characteristics of each location. Ultimately, we decided to build a new home on a one block dead-end street in southeast Orlando, which had previously been an orange grove. As soon as the house was completed, we moved back to Orlando, and I began my job as director of generation for OUC.

At that time, in the summer of 1964, OUC was operating three different power plants; the Indian River Plant, the Lake Highland Plant, and the Ivanhoe Plant. My office was located in the dispatch center building located on Webber Avenue across from the Lake Highland Power Plant. The building had been constructed to house the dispatch operations for OUC, which were located on the upper floor. On the lower floor were two executive offices and two secretarial offices. One of

the offices was occupied by my secretary and I, and the other executive office was occupied by the manager of electric operations, Harry Luff, and his secretary. As director of generation, I was one of four directors who reported directly to Harry. As part of OUC's organizational changes, Harry had been designated manager at the same time that I was appointed director. Prior to that time, Harry had been in charge of all generation, but his position had not been formally characterized. At that time there were four managers, whose corporate responsibilities were equal to those of a vice president in a non-municipal organization.

One of my first chores as director of generation was the selection of a secretary. I informed the personnel department of my need, and they began the recruitment process. One of my interviewees was only available after the close of a business day. Out of deference to the applicant, I made the interview after 5:00 pm. To make a long story short, it was that applicant whom I employed. Her name was Sylvia Waldo, and she served as my secretary and administrative assistant for the next twenty-five years. My last official duty, before the commissioners of OUC, was awarding her twenty-five year service award, from 1964 to 1989. I might interject here that referring to the job as administrative assistant is a much more meaningful title than secretary. She was an outstanding assistant. Her stenographic skills were vital, but her real value was in other areas of office management, truly "assisting" me in so many ways.

In this position, I felt almost as if I were in a holding pattern, since my duties were only associated with managing the three power plants. Even though there were three plants involved, I only interfaced with two people, since the Lake Highland Plant and the Ivanhoe Plant were under the management of the same plant superintendent. Most of the innovative and progressive ideas of Harry Luff and I had already been implemented while I was superintendent at the IRP. During this period, I began to learn more about the workings of the electric department in its entirety. Because of the proximity of my office to the dispatch operations, knowledge of OUC’s transmission system and dispatch operations were easily obtained. As director of generation, I was naturally associated with transmission due to the fact that the power from the IRP was transported to Orlando over the OUC transmission network. With the construction of Unit 1 at IRP, two 115 KV transmission lines had been constructed. Shortly thereafter, a 230 KV line was constructed. These lines were the genesis of OUC’s transmission system.

Back at home, Helen was busy with all of the trials of starting a new household. Charlotte went to the University of South Florida in Tampa for her first year of college. Beth was settled in at Cherokee Junior High School. Les began schooling at Blankner Elementary School. Beth was attending the same junior high school that I had attended during my school years. Les was going to an elementary school named after the mother of one of my OHS classmates. She had been honored due to the fact that she was one of the leaders of the Orange County School Board. Helen, a stay-at-home mom, was deluged with all the

chores of making a new house into a home for the family.

It was 1964, and OUC was beginning to experience the rapid growth which the entire state of Florida began to experience during those years. OUC was making the transition from a small municipal utility into one of the fastest growing utilities in the country. Fortunately for OUC and the city of Orlando, OUC was led by a very progressive leader, who was surrounded by young people eager to learn the electric utility business. This combination was the foundation of the culture of OUC.

This was also the period when nuclear power began its prominence in the electric utility industry in the United States. I sincerely believed that my primary duty as director of generation would be to lead OUC into the nuclear era. OUC was very interested in that aspect of generation. To that end, I made a trip to Washington, D.C., along with Earl Windisch of Black & Veatch, to meet with the Nuclear Regulatory Commission. Our primary goal was to determine whether such a plan was feasible for OUC. The final decision was that nuclear energy was too expensive, overregulated, and publicly unpopular for OUC to be a primary player in that part of the industry. OUC's first entry into nuclear power was as part owner of Florida Power Corporation's (now Progress Energy) Crystal River Nuclear Plant. Those of us in the electric power industry have discussed this issue many times in many forums, and the consensus of all is that the power of nuclear energy has not been readily accepted by the general population because it was introduced into our culture as a weapon of war. If it had been introduced in the normal course of human events, it would have been much more acceptable to the public, even with its negative attributes, both then and now.

My career at OUC languished for a couple of years as director of generation until, all of a sudden, I was given the opportunity of my lifetime. It was at the end of the year in 1966 when Harry Luff was made assistant general manager, and I was promoted to Harry's former job, manager of the electric operations department. In that capacity, I catapulted to the number three individual in OUC's hierarchy. I maintained that position for approximately twenty years before becoming assistant general manager of OUC. I was now thrust into the position of managing the largest segment of OUC's operation. Up until that time, most of my thinking was directed toward power generation. Now I was responsible for every facet of the operation, from its generation, its transmission, and ultimate distribution to the consumer.

I readily created an analogy in order to explain the full scope of the electric operations department (hereinafter referred to as the EOD). The analogy was that of a manufacturing facility who transported its product to the consumer. The generation division was the manufacturing arm of the facility. The transmission division was the tractor-trailer bulk hauling facility that took the product to the warehouses. The substations were the warehouses. The distribution division was the transporter of the product from the warehouse to the consumer, using

small trucks such as pickups to make the deliveries. The engineering division was the planners who determined how to make the deliveries to the consumer.

Electric power is a very unusual commodity. It is the only product in our manufacturing culture which requires that it be manufactured at the very instant it is consumed. As you can imagine from this analogy and description, the matter of flipping on a light switch is not quite as simple as it first appears. From one who was almost totally introduced into the electric power industry by means of the manufacturing process, you can readily see how much I had to learn. This challenge was the part that made the job so appealing to me. Fortunately for me, those men who directed the activities of the other divisions were as competent and knowledgeable as I was in the generation division. My learning experience in those divisions was just beginning. OUC was fortunate to have Ted Pope as director of generation, Irving Reedy as director of transmission, Vic Gardner as director of distribution, and Wendell Dixon as director of engineering. Each one of these individuals was instrumental in teaching me his area of expertise.

I had my introduction into the EOD by virtue of the fatality of one of my servicemen. He was an old-timer and everyone knew, except me, that he was an alcoholic. He attempted to climb a power pole in the vicinity of where I now reside. He was working alone and was so unsteady that he fell from the power pole and was killed. There was no wrongful death litigation initiated by any of his next of kin. Because it became known to management that he was an alcoholic, the incident opened the eyes of OUC to the treatment of people who drank. Alcoholism was becoming recognized as a disease, rather than a lifestyle. That transition became basic in the health treatment within OUC. This incident also demonstrated to me that providing electric power to the many customers of OUC was more than just having good equipment; it also required having competent people. It renewed my commitment to seeing that everyone was adequately trained for his/her job in both procedures and commission policy.

Early on as the manager of the EOD, I learned that the major cause of individual outages was squirrels on the top of power transformers, which convert the power down to the level for a group of homes. The squirrel's extended tail would come in contact with the 7.2 KV jumper which connected the transformer to the primary circuit. This would create a ground condition which would blow the fuse and also create a relay operation on the feeder circuit. This caused a total outage for those being served by the transformer and a blinking electric digital clock for all those served by the feeder. After a little research, I concluded that this type of outage could be minimized by the use of rodent guards on the transformers. The slightly additional cost increased the reliability of OUC service considerably. This practice was terminated after many years, when it was discovered that these rodent guards had a finite life and had to be replaced. These guards were constructed of some type of rubberized material which limited their life. To my knowledge, the material was never upgraded to a longer-lasting substance. Probably the cost was prohibitive.

In March of 1968, OUC moved into its new office building located on Orange Avenue on the north shore of Lake Lucerne. I resided in that building until my retirement in August of 1989. The new offices were spectacular. Of particular interest, all of the executive offices were on the second floor. This greatly enhanced the ability of all of the managers to interact and communicate with one another. All of my directors were located externally, with the exception of the director of engineering whose office was in the same building. When I was promoted to manager, I selected Wendell Dixon as my assistant. Wendell had been the director of the engineering division before being selected as my assistant. He served in the capacity as assistant manager of EOD even after I was made assistant general manager in 1986. At that time, I was replaced by Bill Herrington as manager of the EOD.

The 1960's constituted a dramatic change for OUC. I had been a part of that change with the construction of the Indian River Plant. I became a more integral part of that change when I became manager of the EOD. When I began working at OUC, it was composed of several managed fiefdoms. In the 1960's, it made the transition from a small municipal utility into a major utility, which was part of an interconnected system. I recall that one of Harry Luff's first jobs as manager of the EOD was to require the engineering division to start a mapping system that contained all of OUC's distribution circuits down to the individual service requirements. This was a project that continued for several years and was finally completed during my management of the EOD. Up until the time that a mapping system was required, the details of the system remained lodged in the minds of only a few people. Dispatching became a function of the transmission division. Both of these were relatively new to OUC. The distribution division began to work with the maps and details which were being provided by the engineering division. The generation division was slightly ahead of the others, due to the fact that it had the operation of the Indian River Plant under its purview. OUC was making the transition into becoming one of the major players in the interconnected system. All of this was made possible by: (1) aggressive management, including the Commission, (2) a young organization, and (3) the phenomenal growth of the service area.

One of management's responsibilities that is often overlooked is the requirement to keep abreast of technological changes. When I started work at OUC in 1949, World War II had only been over for about four years, and the economy was on the verge of tremendous growth. Television was in its infancy in the large metropolitan areas, and there was no such thing as a copying machine, Computers were only a dream. Hand-held calculators were well back in the mind of computer scientists. Two-way communications were just beginning, and the list goes on and on. Keeping up with these developments in a commercial atmosphere was a major responsibility of management. Fortunately, the characteristics of aggressiveness, youthfulness, and growth were a basic part of OUC. These qualities allowed OUC to take advantage of the tremendous technological growth that occurred during my tenure.

This quality of leadership after my tenure continues on with the new OUC headquarters having been awarded multiple accolades for its efficiency and green qualities.

One of the fascinating jobs that I had as the manager of EOD was the negotiation with Florida Power Corporation (FPC) for a power interchange that turned out to be the largest in OUC's history. A power interchange is where one power system is the seller and the other is the buyer for a certain amount of KW's of power for a certain period of time. To set the stage for this negotiation, it is necessary to set down a few facts. OUC had purchased and was installing a rather large unit, Unit 3, to increase its productivity at the Indian River Plant. To accommodate this large unit, it was vital that a large portion of its generation would be available for sale in the early stages of its life. FPC was constructing its first nuclear power plant at Crystal River, where some coal units were already in operation. It became apparent to the people at FPC that some type of power interchange would be necessary until the nuclear unit became operational. Thus the stage was set for the negotiations between FPC and OUC.

I was selected as the chief negotiator for OUC and Lee Scott, later to become FPC's president, was designated as the chief negotiator for them. Lee Scott had begun his employment with FPC as a distribution engineer in the Winter Park office. While there, he met and fell in love with a Winter Park girl who was the daughter of the Fire Chief, whom I remember as "Smitty". They were subsequently married, and Lee's ties to Winter Park became permanent. Several trips and meetings between St. Petersburg and Orlando ensued due to the slow negotiations. Finally, all issues were resolved, except the starting date and the ending date for the power interchange. Both parties were committed to installing "date certain" for each of the starting and ending dates. This issue was finally resolved by me stating that we could not supply the power until the Indian River Unit 3 became commercial, and they would need the power until the Crystal River nuclear unit became commercial. Commercial dates are those utilized by the power industry to indicate a unit has been debugged of the numerous startup problems that are usually encountered and is ready for commercial operation. The most significant accounting issue is that the unit now becomes a part of the corporate assets and, from an accounting standpoint, depreciation begins. On paper, the unit changes from a work in progress to part of the rate base. We both agreed to that terminology, and it became the dates utilized in the power exchange contract.

The construction of the Indian River Plant Unit 3 was inordinately delayed due to the bankruptcy and demise of the construction contractor. After much distress and haggling, the construction contract was taken over by the bonding company who had guaranteed that the work would be completed at its original cost. The construction contract was then taken over by the bonding company, who immediately turned the construction over to Blount Brothers, a large contractor in Alabama. This entire scenario resulted in a delay to the commercial operation of

the Indian River Unit 3 for several months. I could only see the power interchange contract resulting in no power being exchanged. Little did I know or realize at the time that FPC was also having delays with its Crystal River nuclear unit due to construction problems and, even more so, with regulatory problems. After substantial delay, the Indian River Unit 3 became commercial. Our power interchange agreement with FPC was finally beginning. As I recall, the agreement provided that OUC would furnish FPC with 100 MW of power. This was provided on a daily basis by schedule.

I did not realize it at the time, but the Crystal River nuclear unit continued to be plagued by substantial delays due to a myriad of reasons. The power interchange agreement continued on and on. After significant and substantial delays, the Crystal River nuclear unit eventually became commercial. At this time, I cannot recall just how long the power sales agreement was effective, but I do remember it was measured in years rather than in months. It became the most significant interchange agreement in the history of OUC up until that time.

During the latter stages of construction of the Indian River Plant Unit 3, there were rumors floating around about legal action being taken by both parties, OUC and the construction contractor who was now the bonding company, USF&C (United States Fidelity & Casualty), whose headquarters were in Baltimore, Maryland. These rumors persisted for quite some time and came to fruition with the filing of a lawsuit in the U.S. Federal Court. My memory is not too clear as to who filed the first lawsuit, but I do recall that countersuits were entered and the legal shenanigans began. Even though there were multiple parties in the litigation, the major players were OUC and USF&C. My part in all of this litigation was that I was selected to represent OUC in this legal sojourn.

Many people do not understand that a lawsuit consists of many phases. After filing the initial suit, there are multiple motions entered by both parties. These motions are ruled on by the presiding judge. Then the "discovery" phase usually consumes the major amount of time. This is the period in which each party gathers their information which will be used later during the trial itself, if it goes that far. The discovery phase provides each side the opportunity to review all the information that their adversaries may possess. The discovery phase is one of the major reasons that litigation is so expensive. It involves much traveling to the headquarters of all parties. The travel expenses which include airfare, accommodations, and meals are considered a part of the cost of discovery. Efforts to shield some of this information are one of the multiple reasons for so many motions being made before the court. Again, my memory is unclear as to the exact time involved, but I would estimate that approximately two years elapsed between the filing of the litigation and the beginning of the trial.

A trial date was finally set in federal court with the Honorable George Young presiding. OUC was represented by the firm of Guerney, Guerney, and Handley, with Leon Handley being the lead attorney. Handley was one of the finest trial

lawyers in all of Florida. He was assisted by other lawyers in the firm and by Jack Snead, who was the investigator. The lawyer for USF&C was Brian McEwen. Each of the other parties to the lawsuit was represented by trial lawyers, but their names escape me after thirty-five years. I will always remember, however, just how justice is meted out in our judicial system. It may have its flaws, but it is the finest judicial system in the world.

At the beginning, Judge Young proclaimed that the initial phase of the trial would only be for the purpose of determining guilt. At that time, he was only interested in determining whether a delay in construction had occurred and who was responsible for such delay, if responsibility could be determined. The major thrust of OUC's damage had occurred because of the delay in completing the unit on time, resulting in a delay in the designation of the unit being in commercial operation. Even though damages were not a part of that lawsuit at that time, they were constantly mentioned during the course of the litigation. After about three months of testimony before the judge, without any jury, both sides rested. It would be almost nine more months before Judge Young would issue his ruling. When the ruling was finally issued, it was a significant victory for OUC. The judge ruled that there was a delay and that it had been caused primarily by the actions of the other party, not OUC.

After Judge Young's ruling, it became apparent that the damage phase would even be longer than the initial phase. The Commission designated me as the lead negotiator in the effort to negotiate a settlement with USF&C, in order to avoid more and lengthy litigation. The lead negotiator for USF&C was their claims manager from their headquarters in Baltimore. During the negotiations, it was obvious to both of us that whatever settlement the two of us agreed upon, it would not be final until approved by our principles. During this negotiation, I was reminded of a conversation I had previously with Mr. J. Tom Guerney. He counseled me by saying that, in a negotiation, if either party left the negotiation saying, "I really stuck it to him", the negotiation was no good and would ultimately fail. On the other hand, if both parties could walk away and say, "I didn't get what I wanted, but I can live with it," then the negotiation was a success. My job during this negotiation was determining what I (OUC) could live with.

After considering all the factors involved, I developed a figure that would be my bottom line in any negotiations. This figure was determined after much deliberation with all my associates and legal counsel. The negotiations with USF&C all took place in my office in the OUC headquarters. After lengthy negotiations, I had finally reached my "I can live with it" point. Any further concessions on my behalf would only be made in a court of law. The lead negotiator for USF&C told me he felt the same way and that he would see me in court. We shook hands amicably, and he departed. Within a couple of minutes, he reappeared in my doorway, extended his hand, and said, "Lou, you have a deal". This was the end of the negotiations between the two of us.

Our principles accepted our recommendations, and the long drawn-out saga of the litigation over the delay of the Indian River Unit 3 came to an end.

The modern history of OUC came to an end in September of 1983. This was when Curtis H. Stanton retired. He had begun his employment at OUC in 1947 as assistant general manager. The manager, Martin Brown, died of an aortic embolism that same year, and Curtis H. Stanton became general manager. He served in that capacity alone until 1983. There are many and varied stories about Curt Stanton, but they can all be summed up by saying that he was the right person at the right time at the right place to lead OUC through these years of phenomenal growth and prosperity. One of his qualities of leadership that I will always remember is that there was never any question about who was boss. Curt attributes the success of OUC to the fact that he surrounded himself with knowledgeable and capable individuals and then listened to them for their advice and counsel. I have always maintained that it even went further than that by having the right people doing the right job at the right time. Curt handled the political and social aspect, Harry Luff handled the major financial problems, I handled the electric operations for which OUC was known, and the other subordinate jobs were handled just as competently.

Harry Luff was appointed Curt Stanton's successor by a unanimous vote of the Commission. A search committee was designated to investigate for an assistant general manager. I was considered one of the leading candidates, but was shortly rejected by the Commission, due to the fact that the age difference between Harry Luff and I was only a few months. The Commission wanted a younger person to be Harry's assistant, so that he would be primed to take over upon Harry's retirement. Their search remained primarily within OUC. The search committee's recommendation was that Ted Pope be made assistant general manager. This recommendation was unanimously accepted by the Commission. One thing that has not been addressed in this autobiography is the fact that the general manager and assistant general manager are appointed annually. Up to that time and, up until after I retired, there had never been a contract between the Commission and the individuals involved in these management positions.

Harry Luff's tenure as general manager was rather tumultuous. This was due to many factors, but one of the leading ones was a political faction that was led by the popular Orlando mayor. The other factor was a customer-base that was not totally convinced that building a coal-fired power plant approximately fifteen miles southeast of Orlando was a wise decision. The popular Orlando Mayor was Bill Frederick, and the two major legislative delegates were Tom Drage and Richard Crotty. This political threesome was committed to making the Orlando Utilities Commission more receptive to the political whims of the City of Orlando, which prior to that time had operated virtually as a private enterprise. The politicians were able to do this by sponsoring legislative action that would make the selection of members of the Orlando Utilities Commission determined by a

nominating committee from the City of Orlando. This nominating committee was controlled and designated by the Mayor of Orlando. The beneficial offshoot of this legislative action was that OUC no longer had to obtain approval from the City of Orlando to issue revenue bonds. Up to that point, all revenue bonds issued by OUC had to be ratified by the City of Orlando. OUC became its own financial master, but the Commission itself became beholden to the City of Orlando, and now politics were introduced into the Commission for the first time in its history.

The pressure on Harry began to take its toll. Those of us who were close to him could see that he was not the jovial, carefree individual that he had formerly been. Harry was financially secure, due to the fact that his grandfather had been one of the original settlers of the town of Windermere. In fact, Harry recently told me that his grandfather and one other man had purchased all of the property from the town of Gotha and Windermere around the turn-of-the-century. His mother had become rather wealthy upon the death of her father, Harry's grandfather. Since Harry was one of only two boys, his inheritance from his mother was rather substantial. Additionally, Harry had owned considerable property, including a grove, in Windermere. With all of these financial resources, he decided that he would no longer be the political scapegoat at OUC. He resigned his position after having served approximately two years.

The Commission was now faced with the dilemma of selecting a new general manager. They recognize that Ted Pope possessed all the qualities they were looking for, with the exception of experience. One of the commissioners, Jim Pugh, recognized this and stated that he would only support Ted Pope's nomination if I was made the assistant general manager. This was accomplished after some perfunctory searches. I will always be grateful to Jim Pugh for his recognition of my ability and tenure. As an aside, Jim is now leading the community in an effort to construct a new performing arts center in downtown Orlando. It is expected that construction will begin later this year in 2010.

With my promotion to assistant general manager, I was now confronted with the problem of designating my replacement as manager of the EOD. My position as manager of the EOD had become almost institutionalized, since I had been manager for almost twenty years. My dilemma was that I had an assistant for many years, but I knew within my heart that another individual would be the better choice. This choice was Bill Herrington, whom I designated as the individual to replace me. I will say candidly right here that Bill Herrington was the smartest individual I ever came in contact during my more than forty years of service to OUC. This fact has now been verified by his remarkable service to OUC and his huge success as a consultant after his retirement.

After having been manager of EOD for so many years, I could now involve myself in all of the activities of OUC. There was one thing, however, which I wanted to have no part in, and that was the political arena. This worked out very

well, since Ted Pope was very content in handling that aspect of our business. As time progressed, I became more active in all aspects of OUC's operations. In retrospect, I now consider that for the past few years of my career, I was running all the OUC operations. Ted Pope remained content with the political environment, which consumed all of his time and energy. One of my major responsibilities became that of wage and salary administrator. This was invaluable to me personally, due to the fact that it made extensive use of the new kid on the block, the personal computer.

I had won a TRS-80 as a door prize at a mechanical engineers' convention earlier. After it sat in my closet for almost a year, I enrolled in a computer class at the Seminole Community College. Fortunately for me, the class was also using the TRS-80 for its instruction. Shortly thereafter, the personal computer was introduced into our culture. My earlier training with the TRS-80 was a significant advantage to me in making the transition to the personal computer. As my responsibilities as wage and salary administrator progressed, so did my knowledge of using the personal computer. I am very grateful for this background, because so many of those in my generation are not computer knowledgeable, and its use has been a significant part of my retirement years.

Another one of my undertakings was that of developing the first offering of OUC mini-bonds. This afforded me the opportunity to become intimately involved in the financial operations of OUC. I made trips to both Boston and New York as part of my research for this project and became OUC's mini-bond expert. As I became more knowledgeable about the aspects of issuing mini-bonds, it became apparent to me that these would only be issued for residents of the state of Florida. Employees were our true focal point. It was during this period that I learned about the "rule of seventy". This rule states that the principle investment will double when the product of the time period times the interest rate equals seventy. This was invaluable to me, since I knew that these mini-bonds would be for ten years. This immediately told me that they should have an interest rate of 7%. In addition to this appealing interest rate, another appealing aspect was that these mini-bonds would be issued for a minimum of $100, rather then the minimum of $1,000 utilized in the structure of the corporate bonds. This was particularly appealing to the employees. The sale was very successful, yielding several million dollars for OUC's use in the expansion of its infrastructure. This was the only sale of mini-bonds that OUC conducted. I am not familiar with any of the details as to why this has not continued, but I suspect that no one wanted to give it the time it needs and deserves to be researched and implemented.

The position of assistant general manager was very rewarding and enjoyable to me. Many department managers, and others, would come to me and solicit my advice on all matters pertaining to their respective operations. It allowed me to become more involved and knowledgeable in the total electric and water services for which OUC was noted. As my fortieth year of employment was drawing to a close, I was approaching sixty-five years of age, and I considered the fact that

there was life after OUC. I submitted my resignation to be effective August 1, 1989. This would mean that I was sixty-five years of age and had served OUC for forty years.

In my letter of resignation, I informed Ted Pope that I intended to continue working until it stopped being fun, but that day seemed to never come; therefore, I was retiring.

My letter of resignation set the wheels in motion for a grandiose retirement celebration at OUC's Lake Downs facility. Since I had spent the previous sixteen years with flying as my primary recreation, my secretary, Sylvia Waldo, chose flying as the motif for my retirement and its attendant functions. Unknown to me, she made arrangements with a local used aircraft parts dealer to borrow an aircraft wing, which was appropriately decorated and fashioned as a head table at my retirement party. The retirement party at Lake Downs was open to all OUC employees and invited guests. In order to make the cost of the party partially self-supporting, tickets for all attendees were priced at a nominal level, with OUC picking up the balance of the costs for the party.

Lou and Helen arriving at retirement party

It was a dazzling retirement party. My first surprise of the evening was my transportation to the party. Unknown to many, and certainly a surprise to me, a Lake amphibian airplane had been chartered to take me from Orlando to the Lake Downs Camp. As we left our home on Sweetbriar, it became obvious to me that our route was not taking us to Lake Downs. Instead, Helen and I were taken to Herndon Airport. I then began to realize that I was being transported to the party for a grand entrance in an amphibious airplane. The trip and the arrival were breathtaking. As I disembarked from the airplane, the site of old-time friends, family and coworkers, all cheering, was almost more than I could take without breaking down.

I regained my composure and thoroughly enjoyed all of the events for the rest of the evening. I then spent considerable time walking throughout the crowd, visiting with all who were there. One of my great thrills was that my son Les had been retained to record the festivities in still photography. The album of the pictures taken at that party are a memento I will treasure for the rest of my life. The aircraft wing served beautifully as the head table. A speaker's platform was provided at the head table where all the accolades from my many peers and

associates were presented. It was really a very heartwarming and touching ceremony.
It became time for me to address the large crowd. I acknowledged all the accolades after specifically addressing the many members of my family who were in attendance. I can remember only making the statement that I had been rather stable in my adult life: I had only one job, one secretary, and one wife. In my judgment, that said it all. After the head table ceremony, the dancing began. I remember dancing with my wife Helen and with many, many others. It was a night to remember. My retirement party was wonderful, even more than I ever expected. My forty years with OUC had finally come to an end.

After retirement, I have maintained a relationship with OUC. For a while, I provided consultation to OUC in those areas in which I had been intimately involved. In retrospect, this provided a transitional phase. After that, I became a usual retiree. I have, however maintained a close liaison with OUC and many of my associates. One of the primary functions that allows such an association is the semi-annual retiree's barbecue at Lake Downs. I have attended that function whenever possible, and it is an opportunity to get together and discuss" the good ole days". In addition, I regularly have lunch with Curt Stanton as part of our weekly luncheon with a group of Orlando's old-timer community leaders. We named ourselves the ROMEO's, an acronym for Retired Old Men Eating Out. In addition to that, I regularly have lunch with many of the executive groups from our generation of management. My former personal assistant, Sylvia Waldo, has retired to North Carolina, so we are no longer able to get together. However, I maintain other contacts and have lunch with a large cadre of secretarial personnel from OUC. Of particular interest is my continuing lunch date with Linda Schwab, who served as the personal assistant to Ray Boyd for many years during my tenure. Last, but not least, I have attended some retirement functions in OUC's new office building. It is located directly across the lake from where I now reside. Since OUC was such a large part of my life for forty years, the ties that bind remain a part of my life.

Head table at Lou's retirement party

Alice and Jimmy Poole

Les and Lou

Sylvia at Lou's retirement party

Herrington and Dixon
talking at head table

Family

And MoreFamily

Family