Black Hills Chapter - REGION IX

1995/96

ASHRAE GOLD RIBBON PROJECT:

"HISTORY OF A COMPANY"

DUNHAM ASSOCIATES

Submitted by: Gerald P. Austin, Chapter Historian
1996
The American Society of Heating Refrigerating and Air Conditioning Engineers

Black Hills Area Chapter of Region IX

Dunham Associates, A Company Significant to Black Hills Chapter

Dunham Associates has been a providing mechanical, electrical and structural design services for over 35 years to western South Dakota and other areas. From the time that Black Hills Area chapter was created, Dunham Associates has supported the Chapter. The first president of the Chapter Ron O'Connell worked for Dunham Associates. The Chapter has benefited from numerous other Dunham members.

George Dunham and his wife, Nancy worked for the architectural/engineering firm of Lucas, Craig and Witwam during the late 1950's. The firm was a small partnership with three principals. Two of the partners were growth oriented and one desired to keep the firm small. On July 1st, 1960 the entire engineering division of the firm split off to form their own independent company. They continued to do the work of Lucas, Craig and Witwam as well as other clients.

The early years as an independent organization were frustrating ones for the young engineers. They watched as most of the work went out of Rapid City to the larger, out of town firms. George decided to become, in effect, one of those out of town firms so he opened satellite offices. He had a good friend in Bismarck and opened a satellite office there in 1964. This was followed by the Sioux Falls office in 1967. In the early years the Bismarck office provided the most business. Soon, their engineering reputation spread and business began to arrive from Minneapolis.

George was approached by the large Minneapolis architect/engineering firm known as Czerny Associates who were having trouble managing their engineering section. George was asked to sell out his fledgling firm and assume the management of the Czerny engineering people. George countered with a proposal to set up a new company. The new company was set up in February of 1968 and called Intertec Inc. It started out fine but George soon discovered that Czerny was in rocky shape and not able to pay its bills. In 1970, George brought out the remaining interest in the firm and renamed it Dunham Associates. It should be noted that under George, there was no problems with the Czerny engineering staff. Soon after the departure of the engineering section, Czerny disintegrated into a group of independent architects and ten or so of the strongest Minneapolis firms were the result of the Czerny problems. In 1968, George had gotten involved with the Minneapolis Airport and continued to do their work exclusively. This is still true today. The Dunham firm had picked up some structural engineers during the split with Czerny and still offers structural. This means he can supply all the regular engineering disciplines.
Business was good and increasing but not in all the satellites. It became apparent that unless there was business enough for at least 10 to 12 engineers, the overhead and variability of cash flow became a problem. Often, these small offices would have a stupendous year flowed by several fair years but there was always a disastrous year in the mixture somewhere. Another very important factor was that with so many small offices, George got spread very thin. He could not supervise so many small offices and get the excellence he desired.

Still he continued to support the smaller offices. After he opened the Casper, Wyoming office in 1974 work continued to come in increasing amounts as the years rolled by. In the late seventies, George was approached by an old friend who had formerly lived in Bismarck, North Dakota. The old friend had moved from Bismarck to Reno, Nevada. He was working as the project manager for the Nevada Public Works Board. This is equivalent to South Dakota's State Architect. He complained about the poor quality of Reno engineering firms at the time. He asked George to consider opening an office in Reno. George decided to visit the Reno architects to gauge their interest and before leaving town had two jobs just from the visits. The Reno office was opened in 1981.

Reno was nice but they knew the real business was in Las Vegas. In 1982 they opened their Las Vegas office. This office immediately began to get the hotel/casino business. George was now trying to manage seven offices but he could not keep the quality he felt was necessary and closed Sioux Falls in 1983, Casper in 1984 and Bismarck in 1985. This left Rapid City, Minneapolis, Reno and Las Vegas. In 1984, construction took a nosedive in Reno. Reno had a city government that made a number of anti-development moves. The worst required any new development to pay for the equivalent water resource development or not build. The Reno crew as pulled out in 1988, the office closed and everyone transferred to Las Vegas. In short order the work volume tripled in the three remaining offices. George found this to be the ideal in order that he could keep his personal touch to the engineering work being turned out.

Although George was an active ASHRAE member for many years and an active ASHRAE member when the Black Hills Chapter was formed. As time has passed, business commitments have kept him from attending meetings. While he has not been able to provide the personal support, he has encouraged and supported the active design staff to be active ASHRAE members.

His firm has been doing many basic jobs and a number of specialized jobs. They have worked on many hospital jobs, being the exclusive engineering firm for the 20 Humana hospitals in the western United States until their sale. The Los Vegas office has resulted in many large hotel/casino jobs. In Vegas, the hotel/casino business is always on a very, very tight time frame.
The owners measure every passing day in dollars lost. One job George remembers was $170,000,000. The job was complete from design to finished product in 18 months. The $200,000,000 Stratosphere was finished in 24 months. This rush to design and build once the decision is made is the rule, not the exception. An engineering firm must often select mechanical equipment before the actual building information is complete. Many times final drawings become the as-builts.

Although casinos are often constructed of very durable materials, the philosophy of the owners is to consider the interiors as having a short life and constant remodeling and upgrading are the rule. Mechanical design of casinos requires that the atmosphere be fresh despite smoking. No casino would be a "no smoking" area because of the business it may drive away. On the other hand, the casinos don't want the non-smoking public to leave because of the smoke. In addition, the slot machines all have a power requirement of about 350 watts per machine. Therefore, buildings housing many slot machines are very heavy thermal buildings and this heat must be handled. In short, casino owners want nothing but fresh, cool, clean air for their patrons so they don't get prematurely tired and cranky. Casinos typically have 20 to 28 watt per square foot electrical loads. Design typically approaches 18 to 20 air changes per hour and about 4.5 cfm per square foot. When asked if the Mirage uses the volcano waterfall and lake in conjunction with their air conditioning, George indicated this was not done because it is too hard to keep the solids in the water under control. The large Soaring Eagle casino in Wisconsin uses its own well system. Unfortunately, the water is very hard. Dunham Associates is now working on how to minimize the water use. "This is one of the pleasures of working in so many geographical areas on so many types of projects - its not work its fun."

Each year for the past few years is bettered by the year to follow. There is always plenty of work to do.

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