The BYU Broadcasting Building (BYUB) is one of the most complex and technical buildings ever built on the BYU campus. Construction began in the spring of 2009 and was completed only 20 months later in December 2010. This new state-of-the-art broadcast facility offers the latest in acoustical design providing a distortion and noise-free broadcasting environment. Rooms in the radio and HD TV production studios have been structurally isolated from the rest of the building using a dual wall system to eliminate sound transmission. Each room features acoustical Styrofoam insulation sandwiched between a double floor. All this is necessary to produce high quality radio and television programs that compete with any broadcast studio worldwide.

When a television production is underway, another challenging condition needs to be overcome. The high-powered HD TV lighting generates a significant amount of heat in the studio. To combat this, a stand-alone mechanical air conditioning system circulates massive amounts of air without a sound. This is accomplished using large diameter, high-volume, low-velocity ducts and diffusers that are specifically designed to move air without any hint of mechanical noise. Even in the unlikely event of a power failure, two large locomotive-size, emergency power generators are located outside of the building and are on stand-by 24/7 to ensure continued broadcasting for more than a week, if necessary.

At the northeast corner of the building a large truck storage bay houses BYU HD TV Broadcast trucks. A below-grade snow-melting grid is installed under the north-facing driveway. Warm air is moved through multiple large diameter plastic pipes located just below the concrete. This parking/storage area is isolated from the adjoining building and its studios by a five-foot thick multiple wall separation, ensuring that no truck or construction noise enters the studios during a broadcast. Even the roof structure is designed to minimize sound transmission and guarantee uninterrupted broadcast capability. The satellite dish farm on the building’s top west side is supported by an elevated steel framework allowing roof maintenance to occur without affecting transmission or other use of the dishes.

Finally, in order to facilitate the laying, replacement, repair and maintenance of broadcast and other cables throughout the BYUB, thousands of square feet of raised flooring cover more than 85 miles of cable. With the completion of this newest addition to the BYU campus, BYU Broadcasting has now been able to consolidate their production studios into a single location. It is an amazing new home for BYU Broadcasting that now allows them to broadcast in HD TV to a worldwide audience.
At the end of December, 2010, the Physical Facilities Division implemented some key management changes in an effort to better serve campus. In a simplified form, the changes are:

- Scott Briggs was given a new assignment as Assistant to the Vice President for Physical Facilities and is coordinating our new Liaison program, this newsletter and other assignments.
- Ray Bernier received the Engineering, Utilities, A/C, Heating Plant and Construction operations. The new, larger organization is now called Planning & Construction.
- Jim Dain was named Managing Director over Building Services, Grounds and Transportation. As part of the change, he also received the Electrical and Mechanical shop operations.
- JB Ostlund received the LMS Training Module development (computer-assisted learning) and Compliance operations.
- Recently a number of the “Supervisors” that manage our shops and other operations were given a job title change to “Manager.”

We are excited about these changes and believe they will result in improved service and response time to campus Service Requests, Work Orders and projects of all types. If you have any feedback that will help us as we move forward in our commitment to provide “Service with Excellence”, please contact me directly at ole_smith@byu.edu or 801-422-5500.

One hundred years ago, in 1911, our Central Heating Plant started its service to campus in a small wood structure on the south hillside. It had a hand-fired coal boiler supplying steam for the three upper campus buildings. In 1935, the original wood structure was replaced with a concrete facility equipped with an automated coal feeder. Campus growth necessitated construction of the Central Heating Plant in its present location in 1946. In 1956, the plant converted from steam to high temperature hot water (HTHW), a technology that takes the 400,000 gallons of circulating water needed for campus, heats it to 400° F at a pressure of 300 psi, then pumps it through our eight miles of campus pipes.

During the next 35 years, three 50-million Btu coal-fired boilers, two 100-million Btu coal-fired boilers, the BYU chimney, and a “bag house” were added, plus two of the coal-fired boilers were removed and replaced with 150-million Btu natural gas boilers. Currently, natural gas is our fuel source for a four-month winter period and coal is the source for the remaining eight months of each year.

**Shop Spotlight**

**“Electrical Systems Shop”**

Electrical systems on campus are wide, varied and complicated. Electricity is delivered to BYU’s two campus substations at 47,000 volts and our four substation transformers lower the voltage to approximately 15,000 volts. Upon reaching each campus destination, the electricity is again reduced, lowering it to 480v, 208v and/or 120v as it supplies power to mechanical equipment, appliances, computers, lighting and other electrical devices. The Electrical Systems (ES) Shop also provides temporary power for departmental functions and events sponsored by student activity associations and other campus organizations. The BYU campus has 40 emergency generators and 14 large UPS systems which supply power for critical needs and emergencies. Other systems supported by the ES Shop are scoreboards, clocks, bells and timers, in addition to the 102+ campus elevators. Certified elevator technicians in our ES Shop ensure each elevator continues to run efficiently and safely. Some additional responsibilities of the shop staff are fire and security alarm systems in every building including thousands of smoke detectors, horns and strobes, access control card readers, motion detectors, duress alarms, agent release alarms, medical alarms and more. The shop also maintains all outside lighting across campus such as sidewalk area lighting, parking lot lights, traffic control lights and field lighting for sporting activities. The ES Shop has 20 full-time employees and 25 to 30 student employees.