Mechanical Systems Information

The mechanical system at Duncanville High School is comprised entirely of DX/Gas rooftop units (RTUs) and DX split systems. A vast majority of the RTUs are Trane units that were installed in 2003 and 2004. They are nearing the end of a recommended 15 year useful life and may need to be replaced in the near future. Six of the building’s rooftop units were manufactured by Trane in 2000. These units are at the end of their useful life and are being recommended for replacement. There are two Lennox RTUs that were installed in 1992 and serve the band hall. These units have surpassed the end of their useful life and should be replaced in the near future. There is one Mitsubishi DX split system that was installed in 2005. This unit is in moderate condition.

The mechanical system at the Natatorium consists of two Trane DX split systems that were installed in 2004. These units are in moderate to poor condition and may need to be replaced in the near future. The pool area is served by a DX / hot water Dectron air handling unit that was installed in 2003. It is in good condition and should have many years of useful life left.

The mechanical system at the baseball field house consists of five Trane DX/Gas rooftop units that were installed in 2004. These units are in moderate condition and may need to be replaced in the near future.

Electrical Systems Information

The electrical system at Duncanville HS has undergone several renovations since the building first opened in 1965. Electrical distribution equipment typically has a 20 to 30 year useful life, after which, retrofitting, refurbishing, or replacement is necessary to maintain a reliable electrical system. The most recent renovations occurred between 2002 and 2006, when additions to the building were constructed and new Square D equipment installed throughout the facility.

There are five 480/277 volt service entries for the facility, with main switchgears located in rooms B114, J121, N118, and M103. MSBs 1, 2, 3, and 5 are 4000 amp Square D switchgears that are in good condition. MSB 4 is a 2000 amp Square D switchgear that is also in good condition. The building’s numerous 480/277v panels, 280/120v panels, and electrical transformers are in good condition and should have several years of useful life left. Computer panels throughout the facility have been equipped with TVSS and isolated ground protection.

The electrical system at the Natatorium consists of ITE distribution equipment that was installed in 2003. Three 480/277v panels provide high voltage power to the facility. These panels are in moderate condition and should have some useful life left. There is a single 208/120v panel providing low voltage power to the facility. This panel is currently being fed from the high voltage equipment by way of a Jefferson Electric transformer. This transformer is in poor condition and may need to be replaced in the near future. The housing for all electrical equipment in the Natatorium is beginning to rust.

The electrical system at the baseball field house is comprised of Square D equipment that was installed in 2004. This system is fed power through the high school’s electrical distribution system. All equipment in the baseball field house is in good condition and should have several years of useful life left.

Plumbing Systems Information

The plumbing system at Duncanville HS consists of wall mounted water closets, urinals, lavatories, and electric water coolers. Flush valves throughout the building are manufactured by Sloan and are in good condition. Most of the facility’s lavatory faucets are metered, and 3 and 4 person wash stations are utilized in many gang restrooms. The building’s electric water coolers are manufactured by Halsey Taylor and Elkay and are in good
condition. All plumbing fixtures meet the current water conservation standards. Located in the shop area is a sink that has been damaged and is in poor condition. It is being recommended that it be replaced in the near future.

The building is provided domestic hot water by numerous Lochinvar and Bradford-White water heaters located throughout the facility. These units were installed between 2002 and 2006 and are in good to moderate condition.

The plumbing system at the Natatorium is comprised of wall mounted water closets, urinals, lavatories, and water coolers. Flush valves throughout the building are manufactured by Sloan and are in good condition. Several of these flush valves are sensor-activated. A majority of the facility’s lavatory faucets are manual. The Natatorium’s electric water coolers are manufactured by Halsey Taylor and are in good condition. The building’s plumbing fixtures meet current water conservation standards.

The plumbing system at the baseball field house is very similar to that of neighboring Duncanville High School. Flush valves on all water closets and urinals are manufactured by Sloan and are in good condition. Lavatory faucets are manufactured by Symmons and are metered. The building’s electric water coolers are manufactured by Oasis and are in good to moderate condition. There is a 2004 Lochinvar E-Pac providing domestic hot water to the facility. This 100 gallon gas-fired boiler is in good condition and should have several years of useful life left.

**Lighting Information**

Ballasts throughout the main building are electronic and the standard fluorescent bulb size is T8. Occupancy sensors are utilized throughout the facility. The building’s gymnasiums and auto shop areas are currently being served by metal halide fixtures. It is being recommended that these be replaced with more energy efficient fixtures in the near future. Exterior lighting is sufficient.

The Natatorium has metal halide fixtures in the swimming area. It is being recommended that the lighting in this building be replaced with more energy efficient fixtures.

Ballasts throughout the baseball field house are electronic and the standard fluorescent bulb size is T8. Lighting is in good condition throughout the building.

**Fire Alarm Information**

The fire alarm panel at Duncanville High School is a Harrington HS 3030 model that was installed in 2003. The recommended useful life for fire alarm panels is 12 years. It is being recommended that this fire alarm panel be replaced in the near future.

The fire alarm systems at the Natatorium and the baseball field house are tied into Duncanville High School’s fire alarm system.

Smoke detectors, strobes, and horns are present throughout the campus.
Fire Sprinkler System Information

There are fire protection systems in place at Duncanville High School and the baseball field house. These buildings are up to code.

There is no fire protection system in place at the Natatorium.

Energy Management System Information

The main building’s EMCS is an Alerton control system that was installed during the 2002 through 2006 HVAC renovations. It is in good to moderate condition and should have some useful life left.

The Natatorium’s EMCS is an Alerton control system that was installed in 2004 and is in good to moderate condition.

The baseball field house’s EMCS is an Alerton control system that was installed in 2005 and is in good to moderate condition.

The recommended useful life for DDC controls is 12 to 15 years.

Deficiencies List

- 1992, 2000, and 2002-2004 DX HVAC equipment nearing the end of its useful life
- Metal halide fixtures in gymnasiums, shop areas, and the Natatorium
- Broken lavatory in shop area
- Fire Alarm system nearing the end of its useful life
Facility Assessment Report, Duncanville Independent School District

1. Harrington HS 3644 Annuncuator Panel
2. Typical 2003/2004 Trane DX/Gas RTU
3. 1992 Lennox DX/Gas RTU
4. Alerton Controls Panel in Electrical Room C114
5. Poor condition lavatory in shop area
6. MSB 1 in Electrical Room C102
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