**WAEE Meeting**

**January 25, 2017**

**Questions submitted by WAEE**

**Steve Taylor and Chris Henry provided the information to answer the questions.**

1. When was the museum constructed?

***The museum was constructed in the 1982 and opened in June of 1983.***

1. How many square feet does the museum occupy?

***Currently the Aviation Center occupies a total of 208,315 square feet. That incorporates 30,492 sq ft for our main office areas and 177,823 sq ft for museum space.***

1. What are the annual operational hours?

***Annual normal hours of operation are estimated at 3,249 hours.***

1. How many kilowatt-hours of energy does the museum use annually?

***2,066,822 kilo-watts annually***

1. How many Therms of natural gas does the museum use annually?

***54,940 Therms***

1. What is the museum’s peak kilo-watts of demand?

***803 Kilo-watts at peak***

1. What initiatives or energy efficiency projects has the museum undertaken to reduce energy usage?

***We have progressed in time with compact florescent bulbs and are now migrating to LED lights. Along with those we have been changing our HV/AC operation over to DDC systems.***

1. What is the museum’s annual combined energy (electricity and natural gas) usage per square foot per year?

**$ 1.06 per square foot**

1. What’s the greatest energy reduction challenge facing the museum?

***Lighting; the ability to balance between efficiency and the still look good appearance, as new lighting is to blue within the spectrum and to focused.***

1. How could the state Focus on Energy program best assist EAA with energy usage reduction?

**More rebate dollars to support new lighting efforts.**

1. What time of year does the museum have its greatest energy consumption?

***Summer time with July / August having the most consumption, which stems from our annual convention (July 24- 30) and the mass of people through the building and events held during that week.***

1. What actions does the museum implement to reduce water consumption?

***We have little water consumption, as most is related to restroom use.***

1. How could the Wisconsin Association of Energy Engineers (WAEE) assist EAA with energy conservation?

***Boilers shut off in summer months; Back in the mid 90’s Wisconsin had adapted standards related to occupancy and exchange of air. This basically meant that the system over cools the air and then reheats it for individual comfort which equates to an $800 a month gas bill in July and August.***

1. Has the museum considered utilizing solar photovoltaics to reduce electrical energy demand and energy?

***Yes, we have considered and have talked with a number of companies, however being a nonprofit and the capital out lay along with the life cycle of the equipment makes this a challenging investment.***

1. Museums have specific lighting quality requirements for both highlighting displays and preserving archival items. What are the most common lighting types (display and general lighting) does the museum use?

**Incandescent, LED’s and Metal - halide**

1. When was the last time the museum underwent an energy retro-commissioning project? What was the energy consumption savings in percent?

***Back in 2012 we switch from incandescent to LED which equated to a 70% savings.***

1. What building automation system controls the museum?

***We use DDC controls, low voltage switching for lighting and time clocks as part of the building automation systems.***

1. How many members does EAA have as of the end of 2016? What percentage are men and women?

***EAA has just over 200,000 members in more than 100 countries. The demographic makeup of the membership is about 95 percent male, closely mirroring the U.S. pilot population (and a number we would like to balance further).***

1. Describe the Young Eagles program? How successful has it been?

***The Young Eagles program was created in 1992 and allows EAA-member pilot to volunteer their time, airplanes and fuel to fly young people ages 8-17 free of charge. The program has been extremely successful; as more than 2 million young people have been flown since then. Young Eagle No. 2,000,000 (16-year-old Jodie Gawthrop of Westchester, Illinois) was flown at EAA AirVenture Oshkosh 2016 by pilot and actor (and EAA member) Harrison Ford.***

1. How many persons attended Air Venture 2016?

***Total attendance at EAA AirVenture Oshkosh 2016 was estimated at 563,000.***

1. How many aircraft are typically on display?

***At the EAA AirVenture Museum, there are typically about 100 aircraft on display year-round, with another 40 on display at the museum’s Pioneer Airport that is open from May until October. During AirVenture week in July, there are 10,000 aircraft that come to the region for the event, including more than 2,500 showplanes that include homebuilts, vintage airplanes, warbirds, ultralights and more.***