



USS Kidd Veterans Museum

The Louisiana State University Industrial Assessment Center (LSU-IAC) is committed to helping our local industrial and commercial partners take the next steps towards energy efficiency and sustainability. The USS Kidd Veterans Museum has recently partnered with our team for an assessment of their facility.



USS Kidd Veterans Museum rooftop – Baton Rouge, Louisiana. *Photo taken during assessment by IAC Team. Pictured from left to right: Todd Maulding (USS Kidd), Suede Willoughby (LSU IAC), Sam Kelley (USS Kidd), Vansh Vyas (LSU IAC), and Dr. Chao Wang (LSU IAC).*

Assessment Benefits

- The report identified a total cost saving of \$64,359 per year.
- The total implementation cost is \$695 which leads to an average payback period of 0.01 years.
- The implementations of our team’s recommendations would reduce USS Kidd’s carbon dioxide emissions by 361 tons/year.

Summary

Through the Industrial Assessment Center at Louisiana State University, the USS Kidd Veterans Museum has saved a significant amount of money by implementing some of the recommendations found by our team. The three assessment recommendations together represented a total cost savings of \$64,359/yr. The total implementation cost was estimated to be \$695, yielding a payback of 0.01 years. All ARs were implemented and resulted in an annual reduction of 361 tons/yr. in carbon dioxide emissions, which is 73.67% of their current emissions.

USS Kidd Veterans Museum

USS Kidd Veterans Museum is located in South Louisiana in the city of Baton Rouge. It is a 2-story building that finished construction and opened in 1980. They operate 7 days a week catering to the public with a total of 11 employees. A few best practices already in use at this facility to note are: partial implementation of LED retrofits, the use of building automation systems for the cooling units, and the use of occupancy sensors to control lighting in areas where foot traffic is low.

Evaluation Approach

The LSU-IAC team consisted of two engineering students and three assistant directors. Once at the Baton Rouge, LA site, the team worked with museum personnel to tour the facility and identify areas of possible recommendations. After a brief meet, students revisited potential recommendations to collect data for the final report process. The assistant directors worked with museum personnel on identifying areas of concern for additional recommendations. The museum was pleased to have the LSU team work with them to offer energy efficiency

Facility Highlights

- This site is 60,000 ft² and consists of a museum and an adjoining ship that is in its original WWII configuration.
- Their mission is to support the preservation of historic naval vessels and to honor those who have served at sea in defense of their nation.
- The USS Kidd (DD-661) is the only Fletcher-class destroyer restored to her WWII (1945) configuration and open to the public for tours.

recommendations. The LSU team finalized and submitted the report on February 6th, 2022 and has since coordinated with the museum on the implementations of the recommendations.

Large kWh Savings with HVAC adjustments

The USS Kidd saw almost immediate savings on their energy bills the month after they implemented our ARs. A reduction of ~40% was noted by our partner! The personnel here were unaware of the issues our team found regarding their cooling systems. Not only were the chill water temperature points set very low, but they also had their systems running conflicting schedules so they were heating/cooling to compensate for each other which put a huge strain on the system and caused the huge, unexplainable kWh

usage/energy cost they were seeing on their bills. This is a non-profit museum so these monetary savings will go a long way in helping them continue to serve the public and make necessary fixes as they arise.

per year. AR-3 was to utilize higher efficiency lamps and/or ballasts. Once implemented throughout the museum, along with the occupancy sensors already in use, the savings really started adding up quickly!

Other Recommendations

While the adjustment of the chiller temperature set point, and the removal of the old VAV boxes that were not working in tandem provided a quick and easy payback for the USS Kidd, the LSU-IAC team provided the facility with one additional recommendation whose payback period was only 1.5 years, but would save them roughly 1,500 kWh

IAC Recommendations that were Implemented at the Facility

Assessment Recommendations	Annual Resource Savings	Total Annual Savings	Capital Costs	Simple Payback
Adjust the Chill Water Temperature to the Highest Value Reduction	506,574 kWh	\$34,447	\$250	0.01 yrs.
Remove old VAV boxes	438,000 kWh	\$29,784	\$250	0.01 yrs.
Utilize Higher Efficiency Lamps and/or Ballasts	1,497.55 kWh	\$128	\$195	1.52 yrs.
Total	946,071.55 kWh	\$64,359	\$695	0.01 yrs.

