

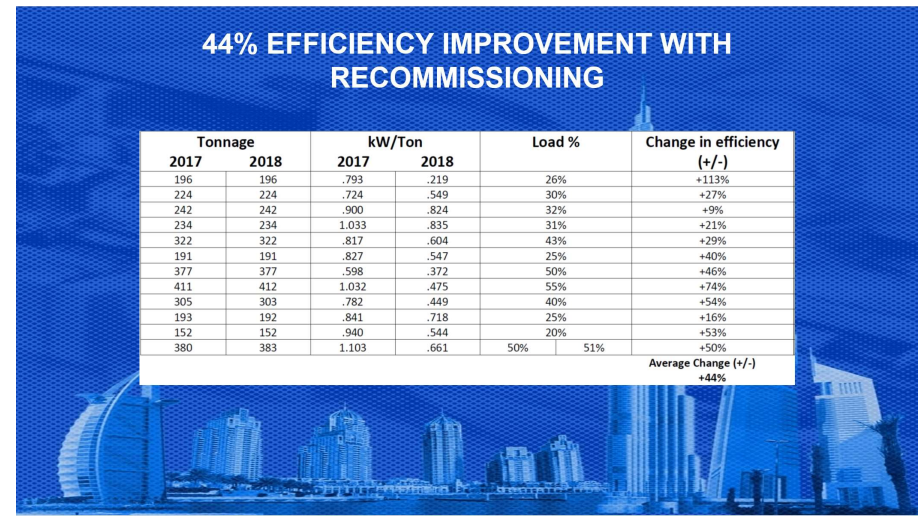
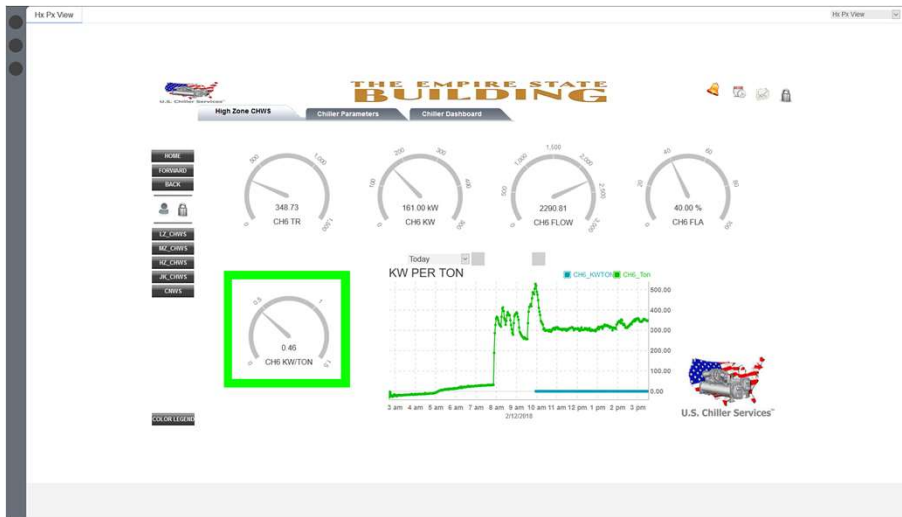


INDEPENDANT CONTRACTOR EXCHANGE GROUP
Innovative Chiller Plant Solutions

Innovative Project Awards 2018



U.S. Chiller Services Empire State Building



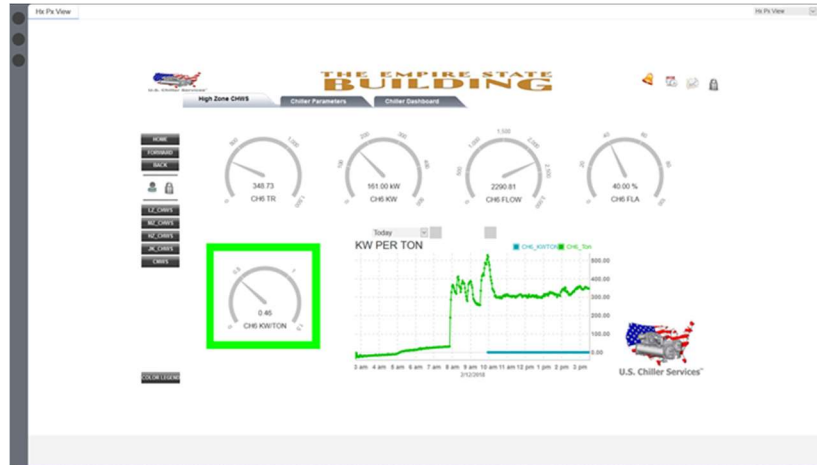


U.S. Chiller Services Empire State Building, New York, NY

- After an initial presentation to the owner, US Chiller was asked to perform a plant survey and participate in an RFQ for plant maintenance
- Upon award of the contract US retro-commissioned the plant and calibrated instrumentation.
- In spite of the incumbent contractor reporting proper operation US Chiller was able to show a documented 44% efficiency increase

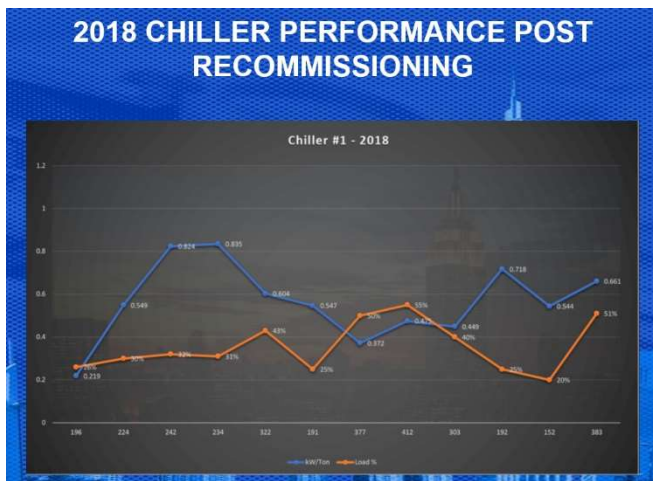
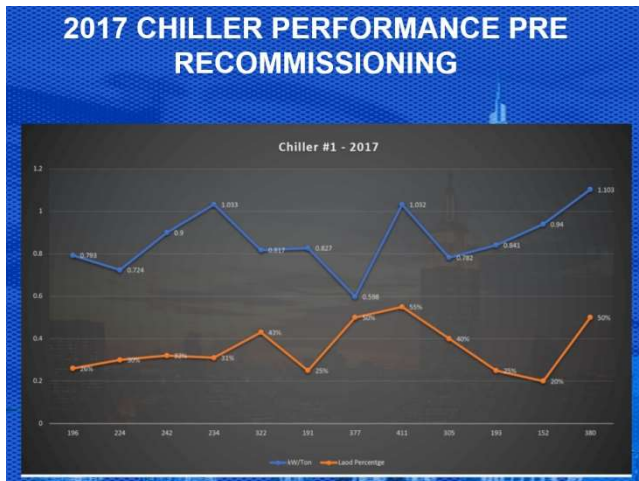
U.S. Chiller Services

Empire State Building New York, NY



44% EFFICIENCY IMPROVEMENT WITH RECOMMISSIONING

Tonnage		kW/Ton		Load %		Change in efficiency (+/-)
2017	2018	2017	2018	2017	2018	
196	196	.793	.219	26%		+113%
224	224	.724	.549	30%		+27%
242	242	.900	.824	32%		+9%
234	234	1.033	.835	31%		+21%
322	322	.817	.604	43%		+29%
191	191	.827	.547	25%		+40%
377	377	.598	.372	50%		+46%
411	412	1.032	.475	55%		+74%
305	303	.782	.449	40%		+54%
193	192	.841	.718	25%		+16%
152	152	.940	.544	20%		+53%
380	383	1.103	.661	50%	51%	+50%
Average Change (+/-)						+44%



The client was not aware that there was a problem until we met with them. After our meeting and presentation of our services and solutions, they understood the difference between our services and solutions vs. the OEM's and other Independent Service Providers. Subsequent to our initial meeting, we were requested to do a preliminary survey of the facility (chilled water plant) and requested to participate in an RFQ for Operation and Maintenance of the ESB Chilled Water Plant. After a full due diligence was performed by Empire State Realty Trust on U.S. Chiller Services, we were awarded the 5 year O & M agreement based on the savings we calculated that we could save them based on the existing conditions.

The main challenge was that, although U.S.C.S. was an established chiller service and solutions provider in Dubai and the Middle East, we were just starting our services in the New York City market so it was a major obstacle to convince Empire State Realty Trust management to give a relatively unknown a 5 year O & M contract on the most iconic building in the world and displace the OEM who was servicing and maintaining the site for over 35 years. However, our record of achievements in the UAE and Middle East, caring for some of the largest chiller plants in the world and our approach to chiller reliability and efficiency being equally important, allowed us to overcome their hesitation.

Immediately upon award of the agreement, we had all BTU meters and power meters re-calibrated to ensure accuracy and bench-marked the chiller's tonnage production and KW/ton performance. We found that the chillers were operating well above their design efficiencies. We immediately implemented retro commissioning services which included; refrigerant charge verification; oil, water and refrigerant analysis; pressurization and leak check of the chillers; evaporator and condenser rotary tube brushing and chemical cleaning. We also verified and set all chilled water and condenser water flows. We found chillers as much as 60% short of refrigerant, condenser tubes completely fouled with scale, biofilm, mud, sludge. We found refrigerant contaminated, pump and VFD strainers fouled, liquid level controllers disconnected/not in use, all chilled water and evaporator flows either over or under design, numerous chiller leaks; the fact is that we found so many issues that I can't even list them in this nomination form. I would also like to add to the Nomination that Utility Insight/Energy Print shows a total building savings year on year of \$392,949.90 of which \$328,455.00 was post our re-commissioning/retro-commissioning. This savings was achieved from January 2018 to May 2018. This savings is weather and Occupancy normalized.

The unique challenge was that an incumbent energy savings company, through modeling, was reporting to ESB Management that the chiller plant had been operating efficiently before we took over services. After we completed our retro/recommissioning we achieved as much as a 44% increase in chiller efficiency. This achievement was met with resistance from the incumbent energy company and with elation by the Empire State Building. We had to go through many meetings and M&V protocols to prove our savings and disprove the incumbent's past claims of savings. In order to do this, we implemented remote monitoring, live plant monitoring and Utility Insight. In addition, we were able to verify that a condenser make up water meter was not operating properly and the customer received a \$500,000 rebate from the water utility due to the defective meter that we discovered. All of this was achieved without a single penny investment by the Empire State Building. The savings were achieved solely through our service agreement.

The significance of being awarded the Empire State Building is immeasurable. It has led to us being requested to participate in an Empire State Realty Trust company wide RFP for all the chillers that they own. It has allowed us to use the Empire State Building as a reference with Empire State management providing recommendations and references. It has given us an opportunity to quote and provide additional energy savings solutions to the Empire State Building that are worth millions of dollars in revenue to our organization. This has opened up a huge opportunity to expand at lightening speed in New York. Getting the service agreement for the Empire State Building and proving we would do what we said that we would do, save them energy and provide them reliability, has opened up a world of opportunities for us in the New York market. This has been a game changer.