KITCHEN ENERGY SOLUTIONS

A Division of Air Solutions and Balancing, LLC

CASE STUDY
Hilton – Salt Lake City, UT

Background:

The Hilton in Salt Lake City, UT features three separate kitchen areas as part of their main kitchen: the Main Kitchen Hood, Spencer's Restaurant, and Trophy Kitchen. A total of 82 linear ft of hood is being served by four total exhaust fans and one air handling unit providing supply air to the kitchen spaces. Running all the time, these kitchens had a tremendous opportunity for energy savings by modulating the fan speeds based on the varying levels of cooking activity.

The Solution:

An ECOAZUR system was added with a single processor panel to take control of all exhaust fans and the air handling unit to modulate each fan based on temperature, smoke, steam, grease, and particulate changes in the space. Being mindful of existing standing pilots, the ECOAZUR system maintains a minimum speed percentage during idle times to ensure there is sufficient exhaust airflow instead of needing to maintain a 100% constant speed. These kitchen hoods can now operate independently and automatically to run the fans only on an as needed basis and for just the right amount of airflow needed for the cooking activity. KES also performed a full system balance inclusive of replacement sheaves, belts, etc. to ensure the fans are operating per original design.

The Data: 22,550 Controlled CFM, 37.5 Controlled HP

Estimated Preliminary Analysis:

Average New Fan Speed: 60%
Electrical Savings: 165,501 kWh / year
Electrical Savings: $13,240 / year
Heating Savings: $7,823 / year
Cooling Savings: $1,050 / year

Post Installation Analysis:

Average New Fan Speed: 43%
Electrical Savings: 203,577 kWh / year
Electrical Savings: $16,286 / year
Heating Savings: $10,953 / year
Cooling Savings: $1,470 / year

Strategic Partner:

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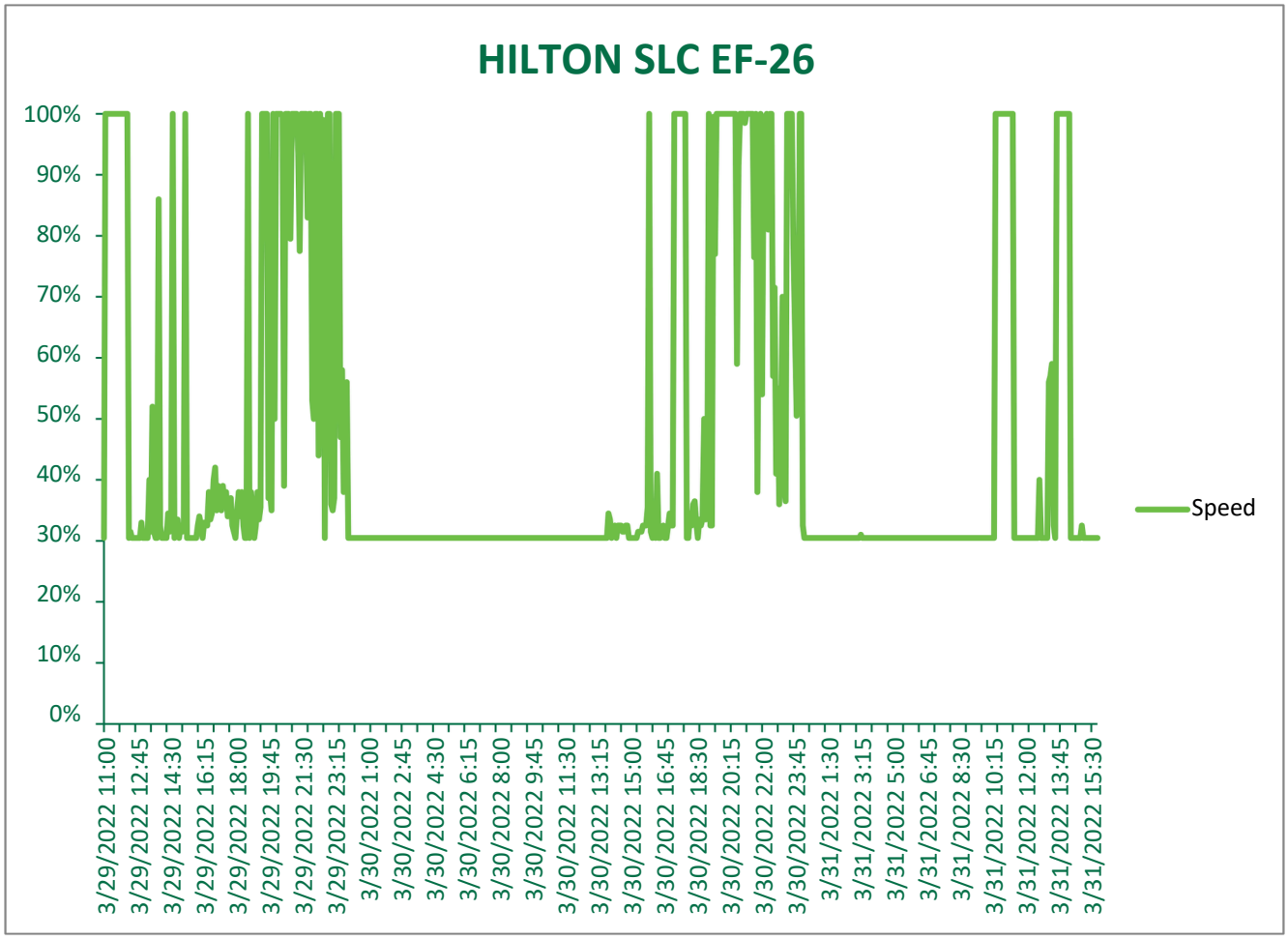
The Graphs:



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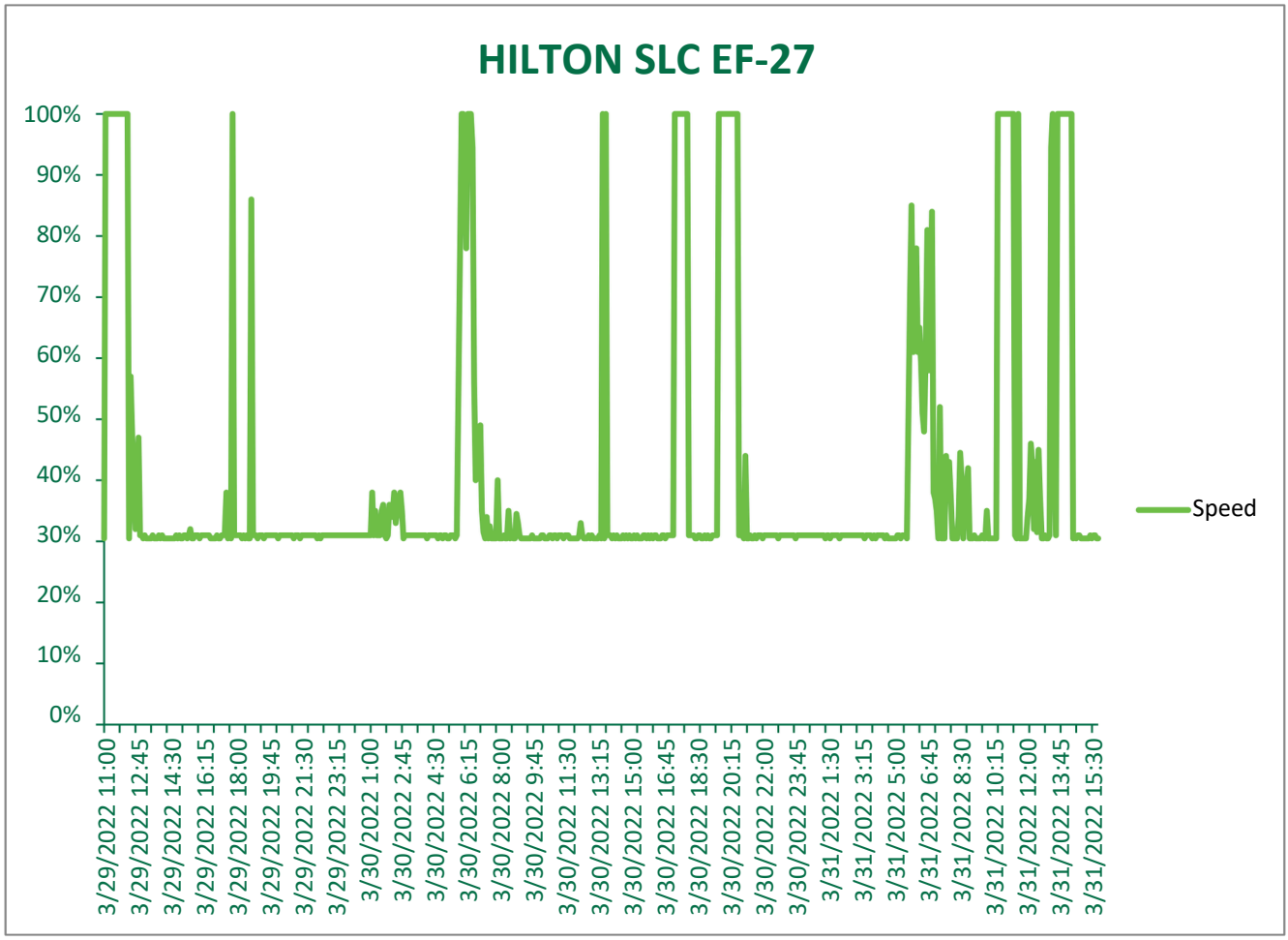

Strategic Partner:

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