



## REQUEST FOR BOARD ACTION

ITEM NO. 10.

**DATE OF REQUEST:** February 23, 2009

**REQUESTED BY:** Paul Parker, Assistant County Manager  
Erik Harvey, Information Technology Services Director

**SHORT TITLE:** Resolution authorizing a Purchase Order for replacement of HVAC units and air handlers for the ITS Data Center, Operations Center, and Switch Rooms to Tim's Heating and Air Conditioning, Inc. for \$51,483.

**BACKGROUND:** In April 2008, the Board authorized a HVAC study to be conducted for Building 805, along with a design of recommendations. This study was conducted in conjunction with the renovation design of Building 805 and DSS. However, during the budget process the HVAC upgrades were not funded, only the renovations which included an expanded ITS Data Center and Operations Center Rooms. Now that the renovations are near completion without any HVAC changes, the mechanical and electrical engineers have determined that the existing air conditioning system will not adequately keep the ITS Data Center, Operation Center, and Switch Rooms cool. They recommend that this part of the HVAC upgrades be completed to resolve cooling problems.

**SPECIFIC ACTION REQUESTED:** The Board of Commissioners is requested to approve a Purchase order to Tim's Heating and Air Inc. in the amount of \$51,483.

**COUNTY MANAGER'S RECOMMENDATION**

Respectfully recommend approval.

RTB  
Initial

**RESOLUTION**

**NOW, THEREFORE BE IT RESOLVED** by the Pender County Board of Commissioners that

a purchase order in the amount of \$51,483 for replacement of HVAC units and air handlers for the ITS Data Center, Operations, and Switch Rooms to Tim's Heating and Air Conditioning, Inc. The County Manager is authorized to execute any and all documents necessary to implement this resolution.

60 407409-6010 Industrial Infrastructure

**AMENDMENTS:**

MOVED \_\_\_\_\_ SECONDED \_\_\_\_\_

APPROVED \_\_\_\_\_ DENIED \_\_\_\_\_ UNANIMOUS

YEA VOTES: Tate \_\_\_ Brown \_\_\_ Blanchard \_\_\_ Rivenbark \_\_\_ Williams \_\_\_

\_\_\_\_\_  
Jimmy T. Tate, Chairman 3/2/09  
Date

\_\_\_\_\_  
ATTEST 3/2/09  
Date



## **Pender County Administration Building**

### Existing System Description

The building is conditioned by five air handlers located in two mechanical rooms. The total unit cooling capacity is 558 MBH. Two secondary pumps, located in mechanical room 179, circulate hot and chilled water to the air handlers. Equipment is as scheduled on the drawings. Return air from the building is un-ducted within the mechanical rooms. Exhaust fans, EF-8 and EF-9 are located in each of the two mechanical rooms. Controls are pneumatic. The coil arrangement in the air handlers does not permit dehumidification. There is a supplemental 5 ton split system air conditioner for the main meeting room and a two ton split unit for the IT equipment room.

### Existing System Operation as Observed

When inspected, the outside conditions were about 70 F and low humidity. In mechanical room 179 all three air handlers and both pumps were functioning. The return air dampers on the units were entirely open or nearly so. The exhaust fan was not operable, the inlet vanes were closed, the controller was missing and the breaker was closed. The mechanical room was overly negative compared to the conditioned space. In mechanical room 180 air handling unit 22 was operating but 21 was not (broken belts). Exhaust fan EF-9 was operating but the inlet guide vanes were closed. The return damper on AHU-22 was wide open. This room was slightly negative to the building. At this time it was requested that AHU-21 be repaired. After repair, mechanical room 180 became overly negative.

### Observed Building Conditions

The building was pressurized and became more so after the repair of AHU-21. The wing housing the finance officers and clerks was very much pressurized and this condition worsens with the corridor door closed. Air distribution within this wing is not even. The server room was hot and the IT equipment room was cold. It is understood that this equipment is moving to a single location. The air handling unit needs to be re-ducted to suit. Although not apparent during the inspection, there was evidence of high humidity in the building. Above the ceiling the insulation batts were not properly positioned after previous work. Some office spaces lacked both supply and return ducting, probably due to minor renovations.

### Recommendations (with Estimated Costs)

1. The building load analysis should reflect the new building configuration and current usage. (costs included in design fees)
2. The mechanical rooms must be reconfigured with air handlers that permit dehumidification. (~\$105,000)
3. Return air must be ducted to the air handlers and the equipment rooms should be equipped with new exhaust fans on thermostats. (~\$40,000)
4. The entire building system should be on digital control. (~\$50,000)
5. After some duct rework, the building should be rebalanced. (~\$5,000)