Board of Contract Appeals

General Services Administration
Washington, D.C. 20405

DENIED: September 5, 2003

GSBCA 15336

SMITH & OBY COMPANY,

Appellant,

v.

GENERAL SERVICES ADMINISTRATION,

Respondent.

Jeffrey R. Appelbaum, Daniel M. Haymond, and John D. Myer of Thompson Hine LLP, Cleveland, OH, counsel for Appellant.

Jeremy Becker-Welts and David M. Smith, Office of General Counsel, General Services Administration, Washington, DC, counsel for Respondent.

Before Board Judges **DANIELS** (Chairman), **PARKER**, and **DeGRAFF**.[1]

DeGRAFF, Board Judge.

Smith & Oby Company entered into a construction contract with the General Services Administration (GSA) for the installation of a heating, ventilating, and air conditioning system in a new courthouse. With regard to one component of the system, Smith & Oby alleges GSA constructively changed the contract by requiring Smith & Oby to use the product of a specific manufacturer, even though the contract contained no such requirement. Smith & Oby says GSA ordered the change by refusing to approve the use of a product that complied with the contract's requirements and by directing Smith & Oby to use the product of one manufacturer. Because Smith & Oby has not established GSA constructively changed the contract, we deny the appeal.

Findings of Fact

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[1] The hearing in this case was conducted by Board Judge Mary Ellen Coster Williams. Judge Williams subsequently resigned from the Board, and the case was reassigned to Judge DeGraff.

On July 14, 1999, GSA awarded a contract to Smith & Oby in the amount of $18,370,000 for the plumbing and heating, ventilating, and air conditioning (HVAC) work needed for the construction of a United States courthouse in Cleveland, Ohio. Exhibit 11. The plumbing portion of the contract is not at issue in this appeal. The courthouse was being built in three phases, and Smith & Oby's work was part of the third phase. The first phase had consisted of activities such as demolition and earth work. During the second phase, concrete work was performed, along with structural steel work, roofing, and other work needed to complete the building's shell. The third phase was divided into waves and the work was to be divided among several contractors. The first wave of phase three consisted of plumbing, electrical, and HVAC work. The second and third waves included items such as the installation of drywall, ceilings, millwork, interior finishes, fire protection, and carpeting. Exhibit 1 (Vol. 1) at 9-14; Exhibit 5 at 39.

The Contract's Provisions

The HVAC system incorporated approximately 750 fan powered terminal boxes to provide temperature control within a space by supplying heated or cooled air to that space. Exhibit 1 (Vol. 2) at 309-11; Transcript at 26-27. The specifications for the terminal boxes were written by Korda/Nemeth Engineering, based upon design criteria provided by GSA. Transcript at 253-54.

Section 15000-1.13 of the specifications explained the drawings and specifications were based upon the requirements and layouts of the equipment of one manufacturer, referred to as the design base manufacturer, and the coordination with other equipment was designed according to specific models of the design base manufacturer. If the contractor intended to install equipment other than that of the design base manufacturer, the contractor had to make sure the "dimensions" of its equipment were acceptable. Exhibit 1 (Vol. 2) at 10. The design base manufacturer for the terminal boxes was identified in the contract as Titus. Exhibit 3.

Contract drawing 10-3-H5.02 shows twenty categories of boxes, identified by "tag numbers" TB-1 through TB-20. Each tag number had a different air flow capacity range. Where the contract drawings showed to install a terminal box, the drawings specified the tag number of the box to be installed. Exhibit 3; Transcript at 46-47.

Section 15841-1.1.A of the specifications states the boxes were to be equipped to provide "quiet operation." Exhibit 1 (Vol. 2) at 310. Section 15841-3.1.B says, "All boxes shall deliver the air quantities shown on the Drawings at acceptable sound levels," and section 15841-1.3.A says to refer to the drawings for "capacities, noise criteria and other design requirements." Id. at 309-10. A maximum noise criteria level of twenty-five (NC-25) was established by GSA for all 750 boxes, tag numbers TB-1 through TB-20. Exhibit 3; Transcript at 263.

According to drawing 10-3-H5.02, fifteen of the twenty categories of terminal boxes were to contain heaters. Of the fifteen categories of boxes with heaters, nine categories required 227 volt, single-phase power and the remaining six categories required 480 volt, three-phase power. Exhibit 3.

Section 15841-2.2.F.1 of the specifications states the fan motor in each box was to be designed for use with a silicon controlled rectifier (SCR) for fan speed adjustment, and section 15841-2.2.F.2 says the boxes were to "utilize a manual SCR, which allows continuously adjustable fan speed from maximum to minimum, as a means of setting fan air flow." Exhibit 1 (Vol. 2) at 311.

Section 15841-2.2.F.1 of the specifications requires the fan assembly to "include an anti-backward rotation device." Exhibit 1 (Vol. 2) at 311.

All of the boxes were to be controlled by the building's direct digital control (DDC) system and the installation of controls into the boxes was to be coordinated with the building automation system contractor. Exhibit 1 (Vol. 2) at 309-11, 661; Exhibit 3. The DDC system consists of sensors, indicating devices, actuators, computer hardware and software, wiring, and other connected items that monitor and control the mechanical systems in the building. Exhibit 1 (Vol. 2) at 661-62. All of the terminal box controls were to be compatible with the Echelon LonMark open communication protocol, and a LonMark chip had to be installed in each monitored piece of equipment. Exhibit 1 (Vol. 2) at 310, 662; Exhibit 9 at 3; Exhibit 10 at 2.

Section 15841-3.1.B required Smith & Oby to "[p]rovide access as required for maintenance and repair" of the terminal boxes. Exhibit 1 (Vol. 2) at 309. It was required to install its equipment "to facilitate service, maintenance, and repair or replacement of components." Exhibit 1 (Vol. 2) at 29.

Section 15841-1.2.A imposed the National Fire Protection Association's standards as one of the quality assurance standards for the terminal boxes. One such standard, the National Electrical Code, requires specific clearances to be maintained between the electrical components in the terminal boxes and the adjacent structure and other building components. For example, three feet of clearance is needed around the heaters in the boxes. One purpose of the National Electrical Code requirements is to limit potential hazards to personnel who will service the equipment once it is in place. Exhibit 60; Appellant's Supplemental Exhibit 1 (S-3).

Drawing 10-3-H5.02 identified a model number and "size" of a box made by Titus for each of the twenty categories of terminal boxes shown on the drawing. The model number was the same for all 750 boxes in all twenty categories of boxes. The drawing listed five box sizes, 02 through 06, and divided the twenty categories of boxes equally among these five sizes. Exhibit 3. Although the drawing does not state the dimensions of the Titus boxes, available Titus product literature showed the smaller Titus boxes (sizes 02, 03, and 04) were 17 inches high, 36 inches wide, and 41 inches long, and the larger Titus boxes (sizes 05 and 06) were 20 inches high, 48 inches wide, and 47 inches long. Appellant's Supplemental Exhibit 1 (S-1).

Section 15841-2.1.A of the specifications provides, "Manufacturers that offer products which may comply with the requirements of this contract include, but are not limited to, the following: Titus, Anemostat, or Trane." Exhibit 1 (Vol. 2) at 310. The three named manufacturers were not the only ones capable of supplying terminal boxes for the courthouse project. Transcript at 58. Because the specification did not restrict Smith & Oby to using

terminal boxes manufactured only by the three named companies, Smith & Oby could propose any available product that complied with the contract's requirements. If it did so, however, it had to comply with contract provisions concerning substitutions in order to obtain approval for the unnamed product. Exhibit 1 (Vol. 1) at 149.

The contract required a request for a substitution to include product data and a "detailed comparison" of "significant qualities" between the specified product and the proposed product. Significant qualities could include things such as size and performance. The request had to contain coordination information, including a list of changes or modifications that would be needed to other parts of the work in order to accommodate the proposed product. It also had to show a substituted product with dimensions or service requirements different from the specified product would fit into the space available, taking into account adjacent equipment and clearances required by applicable codes. If Smith & Oby proposed to use a substitute product, it was required to investigate the proposed product and to certify the product was equal to or better than the specified product in every significant respect. Exhibit 1 (Vol. 1) at 151-52, 154; Exhibit 1 (Vol. 2) at 10.

Smith & Oby was required to provide GSA with submittals, consisting of standard printed information from the manufacturer of its selected products, including catalog data, performance data, rating, capacity, dimensional data, and catalog numbers. Before providing GSA with a submittal, Smith & Oby was required to confirm that the products it intended to use complied with the contract's requirements. Each such submittal had to be marked as having been reviewed and approved by Smith & Oby before being submitted to GSA, or GSA would not take any action with regard to the submittal. Exhibit 1 (Vol. 1) at 94-96, Exhibit 1 (Vol. 2) at 15, 17, 19. At a preconstruction meeting held July 21, 1999, GSA told Smith and Oby to send all submittals to 3D/International + TurnerCM, GSA's construction manager (CM), who would forward them to GSA and GSA's architect. GSA and its architect would return the submittals to the CM, who would return them to Smith & Oby. Exhibit 15 at 13-14, 21. If any submittals were returned to Smith & Oby marked "resubmit," Smith & Oby was not to proceed with the work. Instead, it was supposed to revise the submittal and resubmit it "without delay." Exhibit 1 (Vol. 1) at 98; Exhibit 1 (Vol. 2) at 16. The contract cautioned Smith & Oby not to order any equipment until submittals were reviewed and approved, and said Smith & Oby was responsible for any changes required as a result of performing work in the absence of an approved submittal. Exhibit 1 (Vol. 2) at 15. In addition, the contract required Smith & Oby to coordinate the preparation and submission of submittals with performance of the work, so work would not be delayed by the submittals. Exhibit 1 (Vol. 1) at 95.

Smith & Oby was required to coordinate its work with the work of other contractors. Exhibit 1 (Vol. 1) at 15; Exhibit 1 (Vol. 2) at 9.

The Beginning of Performance

On July 28, 1999, GSA sent Smith & Oby a notice to proceed with its work. Exhibit 12. On August 16, Smith & Oby awarded a $531,000 subcontract to Hammond Corporation to furnish and install terminal boxes and other HVAC equipment for the project. The subcontract did not say who would manufacture the boxes. Appellant's Supplemental Exhibit 1 (A-6). On August 18, Hammond placed a purchase order with Jacco & Associates in the

amount of $245,000 to supply approximately 756 terminal boxes manufactured by Environmental Technologies Inc. (ETI). Appellant's Supplemental Exhibit 1 (A-7). Also in August, Smith & Oby entered into a "handshake deal" with T. H. Martin Duct Systems, a sheet metal contractor, to install the terminal boxes and the duct work for the HVAC system. Transcript at 167-68, 225.

A weekly progress meeting was held on September 1. Although Smith & Oby had not provided its submittal for terminal boxes as of that date, there was a discussion at the meeting about the boxes Smith & Oby proposed to use. The CM noted the proposed boxes might not meet the contract's noise criteria, and Smith & Oby was to verify the boxes complied with that requirement. Exhibit 18 at 2.

The HVAC and plumbing work performed by Smith & Oby had to be coordinated with the work of other contractors, such as those performing electrical work, installing the sprinkler system, and installing interior walls and ceilings. Smith & Oby, along with the other contractors, participated in a coordination group to determine where each of their systems would be installed relative to one another, and to develop coordination drawings. Because the duct work takes up the most space, T.H. Martin prepared its shop drawings first and other contractors added to those drawings, coordinating the layout of their work with one another so the items they installed would fit in the space available. T.H. Martin started its shop drawings in September and assumed ETI boxes would be installed. T.H. Martin sent its shop drawings to Korda/Nemeth, and Korda/Nemeth reviewed the drawings without approving or rejecting them. Transcript at 30-35, 172-73, 184.

Terminal boxes take from six to twelve weeks to be delivered to a project. Appellant's Supplemental Exhibit 1 (G-1); Transcript at 134, 225. As of August 25, Smith & Oby planned to provide its terminal box submittal on August 30. Exhibit 17 at 2. On September 8, Smith & Oby said it planned to provide its terminal box submittal on September 10. Exhibits 19, 20. On September 15, Smith & Oby said it planned to provide its terminal box submittal on September 16. Exhibit 21. On September 22, Smith & Oby said it would deliver the submittal on September 24. Exhibit 22.

The September 27, 1999 Submittal

On September 27, the CM received Smith & Oby's terminal box submittal, which contained information regarding ETI's model CFR terminal box. The CM forwarded the submittal to Korda/Nemeth for review. The submittal contained a chart that identified the size number (e.g., 806, 811, 1011, 1018) of each of the approximately 750 ETI model CFR terminal boxes to be installed in each room of the courthouse. The chart showed 277 volt, single-phase power for all of the heaters in the proposed boxes, instead of the 480 volt, three-phase power required by the contract for some of the heaters. In addition, the chart showed all of the boxes in all of the rooms had discharge and radiated noise criteria levels within the maximum level of NC-25 allowed by the contract. However, the submittal contained catalog material from ETI which showed the boxes listed for use in the courthouse had projected noise criteria levels in excess of NC-25, calculated in accordance with a specified industry standard. The submittal included catalog material from ETI showing radiated and discharge sound power levels of the ETI boxes, although this information was not required by the contract. The submittal did not say whether the proposed ETI boxes contained a silicon

controlled rectifier to allow for adjustable fan speed, as required by the contract. Exhibit 1 (Vol. 2) at 311; Exhibits 3, 23; Appellant's Supplemental Exhibit 1 (S-3).

On November 1, the CM sent Smith & Oby the results of the review by Korda/Nemeth, and marked the submittal "revise and resubmit." Korda/Nemeth noted three contract requirements the proposed boxes did not meet. First, Korda/Nemeth pointed out the submittal did not meet the contract's requirement for 480 volt, three-phase power for some of the boxes. Second, Korda/Nemeth pointed out the noise criteria levels of the proposed boxes did not meet the contract's noise criteria level requirement. Third, Korda/Nemeth said the submittal was missing a silicon controlled rectifier to allow for adjustable fan speed. Exhibits 23, 25.

T.H. Martin started installing duct work in November using its shop drawings that showed duct work configured to suit ETI boxes, and using what Smith & Oby called a "preliminary submittal" for ETI boxes. Transcript at 36, 172-73, 184, 223.

On December 3, the CM wrote to Smith & Oby regarding the terminal boxes. In the letter, the CM said unless Smith & Oby delivered a complete and accurate terminal box submittal by December 10, the September 27 submittal would be rejected. The CM also said it was becoming critical that Smith & Oby obtain approval for its terminal boxes, because the boxes needed to be installed within a few weeks and because Smith & Oby was using the ETI box sizes in coordinating its work with other contractors. Exhibit 27.

On December 6, the contracting officer sent Smith & Oby a letter in which she said the approval and delivery of terminal boxes was becoming critical to the project's schedule. She pointed out that Smith & Oby's initial submittal had not been approved due to noncompliance with the specification for noise criteria. Although GSA thought Smith & Oby intended to provide added information regarding the ETI boxes and noise criteria, GSA had received nothing. She directed Smith & Oby to deliver its terminal box submittal to the CM by December 10. She said if Korda/Nemeth rejected the resubmittal of the ETI boxes, Smith & Oby would have to supply another terminal box and fully comply with the contract's specifications. If Korda/Nemeth approved the resubmittal of the ETI boxes, GSA would require random field testing of boxes as they came from ETI's manufacturing plant, due to ongoing concerns about noise transmission. Exhibit 28. The contracting officer asked for testing because that is typically what her office does when a question is raised about whether a product will function as promised. Transcript at 411.

The December 10, 1999 Resubmittal

On December 10, the CM received Smith & Oby's terminal box resubmittal and forwarded it to Korda/Nemeth for review. Korda/Nemeth determined the resubmittal showed the proposed ETI boxes satisfied the requirement for 480 volt, three-phase power. The resubmittal, like the original submittal, was missing a silicon controlled rectifier to allow for adjustable fan speed. Exhibit 31; Appellant's Supplemental Exhibit 1 (S-4).

The December 10 resubmittal did not show whether ETI's boxes would include controls compatible with LonMark, so Korda/Nemeth could not tell whether the controls to be supplied with the ETI boxes would allow the boxes to communicate with the building's direct digital control system. Exhibit 31; Appellant's Supplemental Exhibit 1 (S-4); Transcript at 278.

The resubmittal did not show a removable bottom access panel. Although the contract did not specifically require a removable panel, Korda/Nemeth was concerned that a hinged access door might not have room to open due to space constraints above the ceilings. Transcript at 277-78. Korda/Nemeth considered the use of removable panels, instead of hinged panels, to be a matter of common sense. Id. at 331.

Also, the December 10 resubmittal did not show whether an anti-backward rotation device would be included in the proposed ETI boxes. Exhibit 31; Appellant's Supplemental Exhibit 1 (S-4). In order to conserve energy, the courthouse contains occupancy sensors so the fans in the terminal boxes will be turned off while an area is unoccupied. When a fan is turned off, however, air coming from the primary air handler can cause the fan to rotate backwards. The device specified in the contract will prevent the fan from rotating backwards and sending "junk" electrical signals into the electrical system and ruining the fan motor. Transcript at 274-75.

Although Smith & Oby's initial September 27 submittal did not mention whether ETI's boxes were compatible with LonMark, did not show a removable bottom access panel, and did not refer to an anti-backward rotation feature, Korda/Nemeth did not point out these omissions after its review of the initial submittal because it did not wish to continue that review after it found what it considered to be the three "major errors" it noted when it returned the initial submittal. Transcript at 276-79.

The December 10 resubmittal showed Smith & Oby planned to install ETI model CFRQ terminal boxes in addition to the model CFR boxes proposed in the initial submittal. The resubmittal did not contain any ETI catalog material regarding the noise criteria levels of the CFRQ model terminal boxes. Neither did it contain the ETI catalog material that had been included in the initial submittal to show the noise criteria levels of the CFR model boxes. The December 10 resubmittal contained a chart that identified the size number of each terminal box to be installed in each room in the courthouse. In many of the rooms, the chart showed Smith & Oby planned to install boxes different from those shown on the chart that was a part of its initial submittal. Exhibit 31; Appellant's Supplemental Exhibit 1 (S-3, S-4).

The chart contained in the December 10 resubmittal listed discharge and radiated noise criteria levels of exactly NC-25 for each box in each room. The chart also showed raw sound power levels for each box. The sound power levels shown for the CFR model boxes were the same as were shown in the ETI catalog material contained in the initial submittal. The December 10 resubmittal's chart also listed the required reduction (attenuation) in the sound power levels for the CFR and CFRQ model boxes that was needed in order to achieve a noise criteria level of NC-25 for each box. The resubmittal did not explain, however, how the required attenuation would be accomplished. The resubmittal contained a letter to Smith & Oby from Jacco, which said the ETI boxes provided acoustical performance "similar to the scheduled product." The resubmittal also contained a memorandum from ETI to Jacco, stating the boxes proposed had "sound power levels similar to the [Titus boxes] irrespective of project acoustical criteria." Jacco's letter and ETI's memorandum also said ETI could provide a list of buildings containing ETI boxes so GSA could see how the boxes performed. Exhibit 31; Appellant's Supplemental Exhibit 1 (S-4); Transcript at 364-65.

The president of Smith & Oby believed the ETI boxes satisfied the contract's requirement for a noise criteria level not greater than NC-25. He said the December 10 resubmittal "got away from just showing noise criteria" and provided sound power information which he considered to be a "higher standard" or "higher-level data" than provided by noise criteria numbers. Transcript at 70-72. Smith & Oby's president did not demonstrate a thorough understanding of the information provided in the December 10 resubmittal, however. He thought the sound power levels shown on the chart contained in the resubmittal were not measured in decibels and were, instead, stated in "an entirely different unit of measure." Id. at 537-38. According to the information contained in ETI's catalog, however, the sound power levels were measured in decibels. Id. at 550; Appellant's Supplemental Exhibit 1 (S-3).

Korda/Nemeth did not accept the chart that accompanied the December 10 resubmittal at face value when it showed each box in each room would have a noise criteria level of precisely NC-25, because a noise criteria level is derived from a measure of sound power, and some of the raw sound power levels shown on the chart for each box were far higher than they would have been if the boxes could have achieved a noise criteria level of NC-25. Transcript at 332, 336-43. Also, even though the chart showed attenuation would be needed in order to achieve a noise criteria level of NC-25, the submittal did not show any attenuators would be used and the design did not include any attenuation features. Id. at 363-65.

Because Korda/Nemeth was concerned about whether the ETI boxes could meet the contract's noise criteria requirement, and because the December 10 resubmittal did not contain a complete description of the ETI terminal boxes, Korda/Nemeth obtained two ETI catalogs from an ETI supplier. The catalog for the CFR model boxes showed the same projected noise criteria levels, which were in excess of NC-25, as had been shown in Smith & Oby's initial submittal. The catalog for the CFRQ model boxes listed for use in the courthouse also showed projected noise criteria levels in excess of the maximum level of NC-25 allowed by the contract. Respondent's Hearing Exhibit 1; Transcript at 268-69, 385-86.

The engineer for Korda/Nemeth who reviewed the resubmittal identified 116 boxes Smith & Oby should "reselect." The engineer identified these boxes by circling their raw

sound power levels on the chart that was part of the resubmittal. According to the engineer, he selected these boxes because the decibel level in a mechanical room where heavy equipment is running would be in the eighties or nineties, and the 116 boxes he selected for replacement had unattenuated discharge and/or unattenuated radiated sound power levels in excess of seventy. The engineer did not mark all of the boxes, however, with either unattenuated discharge or unattenuated radiated sound power levels in excess of seventy as being among the boxes Smith & Oby should "reselect." Exhibit 31; Appellant's Supplemental Exhibit 1 (S-4); Transcript at 340.

On December 23, the CM sent Smith & Oby the results of the review by Korda/Nemeth, and marked the submittal "revise and resubmit." After the engineer for Korda/Nemeth completed his review of the December 10 resubmittal, Jacco provided him with material to show ETI's fans had a silicon controlled rectifier for controlling fan speed. Exhibit 31; Appellant's Supplemental Exhibit 1 (S-4).

Smith & Oby told GSA it was willing to cooperate with the contracting officer's request for testing the ETI boxes. Transcript at 81, 412. On January 12, 2000, the CM talked to a representative of ETI about visiting ETI's factory and conducting a sound test. The ETI representative was "hesitant" and said a visit might not be possible. In addition, he said any sound test could not take place at ETI's facility because it was very busy. He did offer, however, to send his boxes to a test facility of his choice. Exhibit 33. ETI's statements gave the CM "a lot of concern." Transcript at 475. In order to determine how other manufacturers would respond to a request to visit their facilities and to perform sound testing, the CM's representative contacted Titus and Trane, and both companies told the CM's representative he could visit the next day. Id. at 476-77. The contracting officer's representative contacted Trane in order to find out for himself how a manufacturer would respond to a request to visit a plant and test a box, and Trane said he could come the next day. Id. at 494-96. The contracting officer's representative recommended to the contracting officer not to accept the ETI boxes unless GSA was allowed to test them. Id. at 497.

The January 13, 2000 Resubmittal

On January 13, the CM received Smith & Oby's terminal box resubmittal, which showed it planned to install ETI model CFRQ and model CFR boxes. The resubmittal did not contain any ETI catalog data regarding the noise criteria levels of either the CFRQ or the CFR model terminal boxes. The resubmittal contained a chart that listed the model of each ETI terminal box to be installed in each room in the courthouse. The chart listed discharge and radiated noise criteria levels of exactly NC-25 for each box. However, the chart also showed raw sound power levels for each box and the required reduction (attenuation) in those levels that was needed in order to achieve a noise criteria level of NC-25 in each room. The resubmittal did not explain how the attenuation would be accomplished. Exhibit 34; Appellant's Supplemental Exhibit 1 (S-5).

In most rooms, the January 13 resubmittal's chart showed the same boxes as were shown on the chart that was part of the December 10 resubmittal. The January 13 resubmittal included 115 boxes, however, that were larger than the largest box proposed in the December 10 resubmittal. Of these 115 boxes, forty-four were in mechanical rooms. The ETI boxes proposed by Smith & Oby in its January 13 resubmittal came in several sizes. The

smallest were 12 inches high, 18 inches wide, and 28 inches long. Others were 14 inches high, 24 inches wide, and 35 inches long. Some were 17 inches high, 30 inches wide, and 40 inches long. Others were 17 inches high, 36 inches wide, and 40 inches long. Still others were 19 inches high, 48 inches wide, and 50 inches long. The largest were 19 inches high, 52 inches wide, and 62 inches long. Appellant's Supplemental Exhibits 1 (S-3, S-4, S-5); Respondent's Hearing Exhibit 1.

The January 13 resubmittal said the required anti-backward rotation feature would be "provided through [direct digital control (DDC)] building management sequencing." The resubmittal said the boxes would have factory-mounted DDC controls, the DDC controller and the damper actuator would be supplied by others, and the temperature control supplier was responsible for supplying control devices compatible with the Echelon LonMark open protocol. It did not say whether the boxes would have removable bottom access panels. The CM forwarded the resubmittal to Korda/Nemeth for review. Exhibit 34; Appellant's Supplemental Exhibit 1 (S-5).

In a letter to GSA dated January 20, Korda/Nemeth said it could not approve the ETI boxes until GSA and the CM were completely satisfied the boxes would meet the contract's requirements. Korda/Nemeth explained that in order to achieve the noise criteria levels of the boxes that had been used as the basis for the design, the ETI boxes were larger than the "specified units." Exhibit 35. Korda/Nemeth knew one way to solve a noise problem was to make a box bigger. However, Korda/Nemeth was concerned about whether making the boxes bigger would cause other problems, because they were being installed in areas with limited space as shown in some of the contract drawings, which were drawn to scale, depicting the terminal boxes in relation to other components of the building. Transcript at 281, 291-93. Although Smith & Oby could prepare coordination drawings showing boxes larger than the boxes that had been used as the basis for the design, Korda/Nemeth was worried the use of larger boxes would change the intent of the design, which took into account how the space would be used as well as the structure itself. The design placed the terminal boxes where noise inside a space would be minimized, where servicing could be done outside occupied spaces and without having to move furniture, and where there would be adequate clearances for servicing. The coordination drawings were not supposed to change the intent of the design. Id. at 29, 319-24. At the hearing, the Korda/Nemeth engineer who reviewed the Smith & Oby terminal box submittals said Smith & Oby's January 13 resubmittal "addressed" or "solved" or "corrected" the noise problem by proposing larger boxes. Id. at 280-81, 291, 298-99, 315, 351-52.

In its January 20 letter to GSA, Korda/Nemeth also mentioned the contract's requirement for the boxes to include an anti-backward rotation device. Korda/Nemeth was not convinced that an anti-backward rotation device was built into the ETI boxes. Korda/Nemeth interpreted the resubmittal, which said the anti-backward rotation feature would be provided through direct digital control building management sequencing, to mean the overall sequence of operations of the direct digital control system would have to be modified in order to prevent backward rotation of the terminal box fans. That sequencing is not a device included in a terminal box. Exhibit 35; Transcript at 294-95. The ETI catalogs do not mention backward rotation. Respondent's Hearing Exhibit 1.

In addition, in its January 20 letter, Korda/Nemeth said it understood ETI did not want to provide any boxes for independent sound testing. Exhibit 35. This surprised Korda/Nemeth because most manufacturers make samples of their products available or allow visits to their factories. In Korda/Nemeth's experience, ninety percent of the time when a manufacturer is asked by an owner to see a sample or to visit the factory, the manufacturer offers to let the owner visit within the next few days. Transcript at 300-01.

On January 21, the contracting officer wrote to Smith & Oby regarding the terminal boxes. She began by referring to her December 6 letter asking Smith & Oby to provide a proper submittal for the terminal boxes. She pointed out Smith & Oby had not been able to meet the criteria set out in the contract and had not satisfied the product substitution requirements contained in the contract. She went on to say two previous submittals had been "reviewed and rejected," and mentioned GSA's request to test the ETI boxes. Then she denied Smith & Oby's request for a substitution. She concluded, "With this in mind and the risks associated with this critical point in the project schedule, I am directing you to proceed immediately to comply with the specifications by providing the specified [terminal] boxes to mitigate further delays." Exhibit 36. Although Smith & Oby had not formally asked to substitute ETI boxes for the boxes required by the contract, the contracting officer treated Smith & Oby's request to use ETI boxes as a request for a substitution. Transcript at 416-17. In her view, Smith & Oby was proposing to use a product that did not conform to the specifications, which meant it was proposing to substitute the ETI boxes for the specified boxes. Id. at 444.

The contracting officer considered her letter to be a directive to find another terminal box. She decided to reject the ETI boxes because the submittals did not contain the information to allow her to accept the boxes, because GSA was not going to be allowed to test the boxes, and because maintaining the project's schedule was becoming a critical issue. Based upon the information available at that time, the contracting officer felt she could not be assured the ETI boxes would function as needed in "the very highly critical courtrooms." The contracting officer expected Smith & Oby would find another box, whether manufactured by Titus or Trane or someone else, that could meet the specifications so the project could move forward. Transcript at 401-04, 407-08, 415, 418.

According to Smith & Oby's president, when he received the contracting officer's January 21 letter, he started to think for the first time that the ETI boxes might not be approved. Despite the wording of the letter, the ETI boxes had never been rejected, and Smith & Oby's president testified he thought GSA was still "on track for approving ETI." He did not read the letter as requiring Smith & Oby to provide Titus terminal boxes. Transcript at 85-86, 93.

On January 25, the GSA contracting officer's representative and representatives from ETI, the CM, Jacco, and Smith & Oby discussed the terminal boxes. The purpose of the meeting, which was requested by Smith & Oby, was to see whether there was a way to make the ETI boxes acceptable to the contracting officer. At the meeting, the ETI representative said testing the ETI boxes would have to be arranged with the owner of ETI. Transcript at 91, 482-84, 501-02. No such arrangements were ever made. Id. at 412, 484, 502-03. Smith & Oby came away from the meeting with the understanding that if it provided test reports for the ETI boxes and asked to substitute the ETI boxes for the boxes named in the

specifications, the ETI boxes could be approved. Exhibit 42. By this time, T.H. Martin had "a lot of money wrapped around the configuration of the ETI boxes." Transcript at 88. During the January 25 discussion, someone suggested contacting other facilities where ETI terminal boxes had been installed. Id. at 96.

Smith & Oby did not consider ETI boxes to be substitutes for Titus boxes, because it considered the two boxes to be the same product. Transcript at 86. Nonetheless, on January 26, Smith & Oby proposed substituting ETI terminal boxes for the boxes specified in the contract. In a letter to the contracting officer, Smith & Oby represented it would supply ETI models CFR and CFRQ, and said the heating, cooling, and ventilating properties of those boxes were equal to the Titus boxes that were the basis for the contract's requirements. The letter said, "The significant qualities such as size and weight are on average the same as the specified product." Smith & Oby's letter said the ETI box was "superior to or equal to the specified box in all respects." Smith & Oby did not say the ETI boxes met the contract's requirement for a maximum noise criteria level of NC-25. Exhibit 38.

Also on January 26, Smith & Oby sent the CM copies of test results conducted in 1998 on two ETI terminal boxes. The CM returned these test results to Smith & Oby on January 28, marked "not reviewed." Exhibit 41.

The contracting officer, the CM, and the contracting officer's representative discussed Smith & Oby's request for a substitution. Nothing in Smith & Oby's January 26 letter addressed the reasons the ETI boxes had been rejected, and Smith & Oby had not certified anything regarding the noise criteria levels of the ETI boxes. Transcript at 419-20. In a letter dated January 26, the contracting officer told Smith & Oby she would not accept the ETI boxes as "substitutions for the criteria detailed in the contract specifications." She said she was directing Smith & Oby, once again, to provide the specified terminal boxes in order to avoid delays. Exhibit 39.

On January 27, GSA received a copy of a January 24 memorandum from ETI to Jacco, stating ETI understood the most recent submittal fulfilled the contract requirements. ETI said it provided "similar product" for the federal courthouses in Boston, Massachusetts, and in Hammond, Indiana, as well as a number of other buildings. ETI invited "all interested parties" to visit its manufacturing plant. Exhibits 37, 47.

The contracting officer's representative had contacted personnel at the Boston courthouse on January 26 and asked about the ETI boxes. He learned the ETI boxes had been accepted as a substitute for the specified boxes. In order for the ETI boxes to meet the noise criteria contained in the Boston courthouse's contract, the boxes had to become larger in size and this caused numerous problems with ceiling heights. Exhibit 40; Transcript at 505. The record does not establish whether the ceiling height constraints imposed by the design of the Boston courthouse were comparable to those imposed by the design of the Cleveland courthouse.

The contracting officer for Smith & Oby's contract contacted the contracting officer and the contractor for the Hammond courthouse contract and learned the ETI boxes had to be upgraded in order to meet the noise criteria requirement. Based upon discussions with the

CM and the architect, the contracting officer understood the information gathered from a field visit would not replicate the results of a factory test, because boxes can be modified when they are installed. The contracting officer believed on-site factory testing of the ETI boxes was needed in order to guarantee those boxes would function at the appropriate noise criteria levels. Transcript at 403-07.

Near the end of January, T.H. Martin had installed duct work on six floors of the twenty-six-floor courthouse, leaving gaps in the ducting where the terminal boxes would be installed. Usually, T.H. Martin installs terminal boxes and ductwork at the same time, without leaving any gaps. Here, however, there were no terminal boxes available for T.H. Martin to install, which is why it left the gaps. Transcript at 123, 129-30, 174, 176-77, 222-25. At the end of January, T.H. Martin stopped using the ETI boxes as the basis for its work and continued to work assuming Titus boxes would be installed. T.H. Martin did this based upon its superintendent's view that the ETI boxes were not going to be approved. Id. at 222-24.

On February 1, Smith & Oby responded to the contracting officer's January 26 letter. Smith & Oby said after it received the contracting officer's January 21 letter, which it read as having "formally rejected" the ETI boxes, it tried to supply information that would have resulted in GSA approving those boxes. Smith & Oby characterized the contracting officer's January 26 letter as a "final directive" to procure something other than an ETI box, and said it was negotiating with Titus to provide the terminal boxes. Smith & Oby said the project would experience delays if GSA did not allow Smith & Oby to install the ETI boxes, because it had been proceeding with its work assuming it would be able to install those boxes. Smith & Oby contended the ETI boxes had "not been rejected on the basis of technical data." According to Smith & Oby, the "unspecified issue" of sound power levels had taken four months to resolve. Smith & Oby said any submittal for Titus boxes would not contain information regarding sound power levels, because there was nothing in the specifications regarding sound power levels. Smith & Oby also said the Titus boxes were "significantly larger" than the ETI boxes, which could cause problems. In particular, Smith & Oby pointed out, the height of the Titus boxes was greater than the height of the ETI boxes and Smith & Oby predicted this would cause problems due to ceiling height requirements. Exhibit 42.

On February 4, Smith & Oby forwarded to GSA a letter from ETI. ETI said if any concerns remained regarding its boxes, it could arrange a sound test at its factory in about four weeks. Exhibits 45, 46.

In a letter dated February 7, the contracting officer responded to Smith & Oby's February 1 letter. She said Smith & Oby had not followed the proper procedure for using ETI boxes as a substitute product, and the boxes were rejected as substitutions after a thorough review of the data submitted by Smith & Oby, after ETI refused to allow any sound testing, and after consulting with other facilities where the ETI boxes had been installed. She said the initial submittal and the first resubmittal for the ETI boxes were rejected because the boxes did not meet the contract's noise criteria and for lack of sufficient data. She said the most recent submittal was still being reviewed. She told Smith & Oby if it had proceeded with its work before obtaining approval of the ETI boxes as a substitute product, it had done so at its own risk. She explained that because Titus boxes were used as the basis for the design, there would be no issue regarding the sound power levels of those boxes. Finally,

the contracting officer told Smith & Oby to proceed in accordance with the contract's specifications. Exhibit 47.

In her February 7 letter, the contracting officer also commented on the issue regarding the size of the boxes. She said the height of the boxes should not pose a problem, because the boxes could fit between beams in the ceilings. It was the sheet metal passing under the beams that might cause a problem, considering the ceiling height requirements. She said the important issue regarding size was the width of the boxes due to code clearance constraints and the need to install other mechanical, electrical, and plumbing items above the ceiling. She said Titus or another acceptable box that met the requirements of the specifications would have to be able to fit in the available space. Exhibit 47. Smith & Oby's president testified the critical dimension of the boxes was their height. He said width and clearance requirements should not have posed any problem because "there's plenty of floor space." Transcript at 97-98.

On February 16, the CM told Smith & Oby its January 13 resubmittal was rejected. The handwritten notes attached to the rejection notice said providing the anti-backward rotation feature through the direct digital control building management sequencing was not acceptable, and also said some of the ETI boxes were "bigger in width and length." Exhibits 48, 49; Appellant's Supplemental Exhibit 1 (S-5).

On February 17, Smith & Oby obtained information from a supplier regarding Anemostat terminal boxes. In response to Smith & Oby's inquiry, the supplier said it would take approximately twelve weeks to supply the boxes, largely due to the time it would take to obtain the required heaters. Also, the supplier said the Anemostat boxes had an anti-backward rotation feature that utilized a capacitor at the motor, controlled through the building's direct digital control system. Appellant's Supplemental Exhibit 1 (G-1).

In a letter dated February 18, Smith & Oby told the contracting officer the anti-backward rotation feature was the same on the Titus terminal boxes as on the ETI boxes, and that feature was a capacitor on the motor that was energized through the direct digital control system. Smith & Oby asked for a waiver of the contract requirement for an anti-backward rotation feature for the Titus boxes. Smith & Oby said GSA had rejected the ETI boxes due to their sizes, although the contract did not contain any requirements for the length and width of the terminal boxes. Finally, Smith & Oby withdrew its request to provide ETI boxes as a substitute for the boxes specified in the contract and concluded by asking the contracting officer to send a "notification of your final decision." Exhibit 50.

The contracting officer responded on February 25, again telling Smith & Oby to proceed in accordance with the contract's specifications and to do so in a timely manner, so as to avoid delays. She asked Smith & Oby to send her whatever information it had to show it would need a waiver of the requirement for an anti-backward rotation device in order to use the Titus boxes. Exhibit 52. Smith & Oby responded on February 29, saying it was waiting for a final decision regarding the terminal boxes and also saying its February 18 letter provided information regarding the problem with the anti-backward rotation feature. Exhibit 53.

On March 2, GSA sent two letters to Smith & Oby. The first letter said the anti-backward rotation feature of the Titus boxes would be evaluated when Smith & Oby sent in its submittal for those boxes. Appellant's Supplemental Exhibit 1 (F-2). The second letter responded to Smith & Oby's request for a final decision regarding the terminal boxes. As the letter pointed out, Smith & Oby's February 18 letter did not say what issue Smith & Oby wanted the contracting officer to decide, and the contracting officer's January 21 letter to Smith & Oby had already directed it to provide an "alternate" box that met the requirements of the specifications. Nonetheless, the March 2 letter said the ETI boxes were not acceptable. In response to Smith & Oby's statement that GSA had rejected the boxes due to their sizes even though the contract did not contain any size requirements, the letter pointed out that drawing 10-3-H5.02 contained requirements for size, as well as pressure and noise. It also noted size was an important element in coordinating the various elements of the building. Exhibit 54.

The March 8, 2000 Submittal

On March 8, the CM received Smith & Oby's submittal for Titus terminal boxes and forwarded it to Korda/Nemeth for review. The submittal contained information from the supplier of the Titus boxes stating the fan motors were designed with "a special feature to prevent backward rotation at start-up, as controlled by the [direct digital control (DDC)] system." The submittal also said the building automation systems contractor, Slawson Equipment, was providing the DDC controller/actuator and sending it directly to the Titus factory for mounting by Titus. The submittal identified the controller/actuator by brand name and model number, and said Slawson would provide wiring diagrams to Titus for review and approval prior to production. The submittal also said the Titus boxes were equipped with an "adjustable [silicon controlled rectifier (SCR)] fan speed control." The submittal showed 227 volt, single-phase power for the heaters in some of the proposed boxes and 480 volt, three-phase power for heaters in other boxes, as required by the contract. The submittal contained a page from a Titus catalog showing the noise criteria levels of the proposed boxes, which were all within the contract's maximum level of NC-25. Titus used the same industry standard to calculate its NC levels as did ETI. The submittal said the boxes had removable access panels. Appellant's Supplemental Exhibit 1 (S-1).

Included in the submittal was a letter from Smith & Oby regarding the requirement for an anti-backward rotation device. The letter said both Titus and ETI used "fan wiring devices" controlled by the building's direct digital control system to prevent the fan from running backwards, and asked for a waiver of the contract requirement, because it assumed the Titus boxes would be rejected for the same reason the ETI boxes had been rejected. Appellant's Supplemental Exhibit 1 (S-1).

On March 9, ETI told Jacco its boxes included an anti-backward rotation device. First, ETI said, the fan motor/capacitor was designed to start the fan in the correct direction. Second, ETI said it had coordinated with the control vendor to sequence the terminals so the fans would always start in the correct direction. Appellant's Supplemental Exhibit 1 (G-5).

Korda/Nemeth marked the submittal "approved as noted" on March 24, and on March 28, the CM returned the submittal to Smith & Oby. The notations said Smith & Oby should provide a fan relay, said the primary air valve was to close when the boxes were off

to prevent backward rotation, and said the heaters for two categories of boxes were to be sixteen kilowatts, instead of the seventeen and eighteen kilowatts shown in the submittal material. Appellant's Supplemental Exhibit 1 (S-1).

On April 4, Smith & Oby wrote the contracting officer and told her it assumed the requirement for an anti-backward rotation device had been waived for the Titus boxes, because the Titus boxes had been approved, while the ETI boxes had been rejected even though they contained "essentially the same scheme for an anti-backward rotation device" as did the Titus boxes. Exhibit 55. In response, the contracting officer told Smith & Oby there were problems with size and sound with the ETI boxes. Exhibit 56; Appellant's Supplemental Exhibit 1 (F-7); Transcript at 113.

On floors where it had not yet begun work, T.H. Martin was able to install the Titus boxes when it installed the duct work. When T.H. Martin returned to the floors where it had begun work by installing ducts and leaving gaps for the terminal boxes, it had to install the terminal boxes by working around other tradesmen, by coordinating the ducts and terminal boxes with work that was already in place, and by using equipment other than the equipment it wanted to use. In addition, T.H. Martin had to make adjustments because the dimensions of the Titus boxes were different from the dimensions of the ETI boxes. Transcript at 178-83.

The Appeal

On May 26, 2000, Smith & Oby filed its notice of appeal, which was docketed as GSBCA 15336. Smith & Oby said it wished to appeal the March 2 decision stating the ETI boxes were not acceptable. According to Smith & Oby, the ETI boxes complied in all material respects with the specifications, GSA erroneously rejected the ETI boxes, and GSA issued an unreasonable directive to change from ETI boxes to Titus boxes. Smith & Oby's notice of appeal contained a request for money damages, although it had never submitted a money claim to the contracting officer. Exhibit 59.

T.H. Martin installed approximately 700 terminal boxes in the courthouse. Transcript at 26. The majority of the Titus boxes installed in the courthouse had heights equal to or greater than the ETI boxes proposed by Smith & Oby in its January 13 resubmittal. The majority of the Titus boxes installed had widths greater than the ETI boxes proposed by Smith & Oby on January 13, except 115 of the proposed ETI boxes were four inches wider than the widest Titus box. The majority of the Titus boxes installed had lengths equal to or greater than the ETI boxes proposed by Smith & Oby on January 13, except 115 of the proposed ETI boxes were fifteen inches longer than the longest Titus box and four of the proposed ETI boxes were three inches longer than the longest Titus box. Appellant's Supplemental Exhibits 1 (S-1, S-3, S-5); Respondent's Hearing Exhibit 1.[2]

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[2] Smith & Oby prepared an exhibit that compares the sizes of the Titus boxes to the sizes of the ETI boxes. Based upon the information contained in the exhibit, Smith & Oby concluded 93% of the Titus boxes installed in the courthouse were larger than the proposed ETI boxes. Appellant's Supplemental Exhibit 3; Transcript at 544. We find the exhibit unreliable for several reasons. It does not mention all of the models of ETI boxes Smith &

After the appeal was filed, the CM inspected the Titus boxes as they were installed on the first lower level of the courthouse. If the boxes had been any wider, it would have been impossible to maintain the clearances required by the National Electrical Code. Exhibit 60. Of the twenty-seven boxes installed on that level, Smith & Oby's January 13 resubmittal proposed to install four of the 115 ETI boxes that were four inches wider than the widest Titus box. Appellant's Supplemental Exhibit 1 (S-5); Respondent's Hearing Exhibit 1.

The Board held a hearing in this appeal on November 28 and 29, 2001. Smith & Oby's president testified that Smith & Oby could have complied with the request for a removable access panel, and that "ETI is LonMark compatible." Transcript at 60, 73. He also testified the ETI boxes and the Titus boxes both use a controller, supplied by the building automation services contractor, to prevent backward rotation of the fans inside the boxes by closing an air valve before the fans start. Id. at 79. He said although the ETI boxes and the Titus boxes inhibit backward rotation of the fans by means of a capacitor, this is not how the boxes control backward rotation. Id. at 531-32. In addition, Smith & Oby's president testified the contract's specifications did not contain any dimensional requirements for the terminal boxes. He suggested when the word "size" is used in connection with terminal boxes, it could mean a model number or a capacity, such as air flow capacity, which could be achieved with boxes of various dimensions. Id. at 77.

Discussion

According to Smith & Oby, even though the terminal boxes manufactured by ETI satisfied the contract's requirements, GSA rejected the boxes and required Smith & Oby to supply terminal boxes manufactured by Titus. GSA's actions, argues Smith & Oby, constructively changed the contract from one that allowed Smith & Oby to choose from among terminal boxes made by several manufacturers to one that restricted its choice of boxes to those of a single manufacturer. In order to prevail in this appeal, Smith & Oby has the burden of proving its contract changed and proving the change was ordered by GSA. Smith & Oby can prove the existence of such an order by showing either a rejection by GSA of terminal boxes that complied with the contract's requirements or a direction by GSA to provide terminal boxes from only one particular manufacturer. Teledyne McCormick-Selph v. United States, 588 F.2d 808, 809 (Ct. Cl. 1978); Jet Construction Co. v. United States, 531 F.2d 538 (Ct. Cl. 1976); SAE/Americon-Mid-Atlantic, Inc. v. General Services Administration, GSBCA 12295, 97-1 BCA ¶ 28,912, aff'd, 178 F.3d 1312 (Fed. Cir. 1998) (table); Chaney & James Construction Co., GSBCA 1307, 68-2 BCA ¶ 7339.[3]

Oby proposed in its resubmittal of January 13. Also, the largest boxes shown on the chart are not the largest boxes proposed in the resubmittal. In addition, the numbers of boxes shown on the chart are not the numbers of boxes proposed in the resubmittal. Appellant's Supplemental Exhibit 1 (S-5). For these reasons, we base none of our findings upon the exhibit.

[3] Smith & Oby also argues it was not required to make a request for a substitution in order to use ETI terminal boxes. Appellant's Post-Hearing Brief at 5. In addition, Smith & Oby argues the ETI boxes were not standard, off-the-shelf items. Id. at 7-10. Both of these issues are irrelevant, however, to a disposition of this appeal. If Smith & Oby can prove the

GSA's Rejection of the ETI Terminal Boxes

Smith & Oby says the terminal box specifications were not proprietary, which means it was not obligated to furnish a specific brand name product. Appellant's Post-Hearing Brief at 3, 6-7. We agree. As the contract explained, Titus was the design base manufacturer, which meant the specifications were based upon Titus boxes and which also meant the design, including coordination of the boxes with other equipment, was based upon specified models of Titus boxes. The contract, however, did not limit Smith & Oby to using Titus terminal boxes. The contract said manufacturers offering boxes which might comply with the contract's requirements included, but were not limited to, Titus, Trane, and Anemosat. The contract allowed Smith & Oby to propose any available product that complied with the contract's requirements.

Smith & Oby does not disagree with the general principle that the Government "generally has the right to insist on performance in strict compliance with the contract specifications." Granite Construction Co. v. United States, 962 F.2d 998, 1006-07 (Fed. Cir. 1992), cert. denied, 506 U.S. 1048 (1993); S. S. Silberblatt, Inc. v. United States, 433 F.2d 1314, 1323 (Ct. Cl. 1970); Amtech Reliable Elevator Co. v. General Services Administration, GSBCA 13184, 95-2 BCA ¶ 27,821. It contends the ETI terminal boxes complied with the contract's requirements and "none" of GSA's objections to the ETI boxes "were properly founded on the specifications." Appellant's Post-Hearing Brief at 2-4, 11-24. Smith & Oby must prove its contention by a preponderance of evidence. That is, Smith & Oby must put forward evidence "which is more convincing than evidence which is offered in opposition to it." Hale v. Department of Transportation, 772 F.2d 882, 885 (Fed. Cir. 1985).

Smith & Oby established the ETI boxes met some of the contract's requirements. For example, the December 10 resubmittal shows six categories of ETI boxes with 480 volt, three-phase power, as required by the contract. Information provided to Korda/Nemeth by the supplier of the ETI boxes after Korda/Nemeth completed its review of the December 10 resubmittal shows the ETI boxes met the requirement for incorporating a silicon controlled rectifier as a means of adjusting fan speed. Assuming a removable bottom access panel was required for proper maintenance and repair of the boxes, the only evidence in the record regarding this requirement is the uncontradicted testimony of Smith & Oby's president, who said the ETI boxes could comply. Regarding LonMark compatibility, Smith & Oby's president testified, without contradiction, the ETI boxes are LonMark compatible. In addition, the January 13 resubmittal said the ETI boxes would have factory-mounted DDC controls and the temperature control supplier was responsible for supplying control devices compatible with the Echelon LonMark open protocol. Based upon the information contained in the December 10 and January 13 resubmittals and the testimony given at the hearing, none

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contract changed and can prove the change was ordered by GSA, Smith & Oby will prevail regardless of whether it was required to ask to substitute ETI boxes for Titus boxes and regardless of whether the ETI boxes were standard, off-the-shelf items. Smith & Oby argues it is entitled to money damages. We lack jurisdiction to address this issue, because Smith & Oby did not submit a claim for money to the contracting officer and obtain a decision regarding that claim before filing its appeal here at the Board. Alliant Techsystems, Inc. v. United States, 178 F.3d 1260, 1264-65 (Fed. Cir. 1999).

of which is countered by other evidence contained in the record, we conclude Smith & Oby has established, by a preponderance of the evidence, that the ETI boxes met the contract's requirements for 480 volt, three-phase power, for incorporating a silicon controlled rectifier, for having a removable bottom access panel, and for being compatible with the LonMark open communications protocol.

Anti-Backward Rotation Device

The contract required the terminal boxes to include an anti-backward rotation device. On January 13, Smith & Oby said the anti-backward rotation feature would be provided through DDC building sequencing, which is consistent with ETI's March 9 statement that it had coordinated with the DDC vendor to sequence the terminals so the fans would start in the right direction. These representations sound as if the ETI boxes would rely upon the building's DDC system to prevent backward rotation, instead of including a device in the boxes themselves to prevent the fans from rotating backwards. Other evidence in the record tends to show the boxes did have a device to prevent backward rotation, although the evidence is conflicting as to the nature of the device. Smith & Oby's February 18 letter says the anti-backward device was a capacitor on the fan motor, and ETI's March 9 memorandum says a capacitor is designed to start the fan in the right direction. Smith & Oby's president testified, however, the capacitor is meant to inhibit, not control, backward rotation. Smith & Oby's March 8 submittal says the ETI boxes used an unidentified fan wiring device, controlled by the DDC system, to prevent the fans from running backwards. Smith & Oby's president testified the boxes use a controller to close an air valve before the fans start in order to prevent backward rotation. The ETI catalogs do not mention backward rotation.

The evidence presented regarding the anti-backward rotation device leads to more than one conclusion, and no one conclusion is more likely than any other. There is evidence to show the boxes would rely upon the sequencing of the building's DDC system to control backward rotation instead of including an anti-backward rotation device. There is other evidence to show the boxes would include an anti-backward rotation device, although the evidence is inconsistent as to whether that device would consist of a capacitor, some kind of fan wiring device, or a controller that would close an air valve. As was the case in Metalstand Co., GSBCA 4682, 77-1 BCA ¶ 12,418, we have been presented with "conflicting evidence on a critical point by the party who has the burden of proving the existence of a [fact] by a preponderance of the evidence." As we said there, instead of helping a party prove its case, conflicting proof weakens the position of the party that puts it forward. The evidence of whether the ETI terminal boxes included an anti-backward rotation device is conflicting and inconsistent, and it all originated with either Smith & Oby or ETI. Smith & Oby has not established by a preponderance of the evidence that the ETI boxes met the requirements of the contract.

Smith & Oby says the ETI boxes and the Titus boxes have anti-backward rotation devices that are "practically identical." Therefore, Smith & Oby concludes, if the Titus boxes meet this requirement, so do the ETI boxes. Appellant's Post-Hearing Brief at 16-18. Smith & Oby has not established, however, that the ETI boxes and the Titus boxes prevent backward rotation in the same manner. Smith & Oby said the anti-backward rotation feature of the ETI boxes would be "provided through DDC building management sequencing." It said the fan motors of the Titus boxes were designed with "a special feature to prevent

backward rotation at start-up, as controlled by the DDC system." These two descriptions are not the same. Unlike the description of the ETI boxes, which seem to rely upon the DDC system to provide an anti-backward rotation feature, the description of the Titus boxes clearly states their fan motors were designed with a special feature to prevent backward rotation when the DDC system started the fans.

Perhaps the ETI boxes and the Titus boxes prevent backward rotation in precisely the same manner, and perhaps both boxes were equally compliant with the requirements of the contract. However, a preponderance of the evidence in our record does not establish the ETI boxes met this requirement.

Size

Smith & Oby contends the contract did not establish any dimensional requirements for the terminal boxes. Appellant's Post-Hearing Brief at 21. According to the uncontradicted evidence in the record, however, the contract contained scaled drawings that depicted the terminal boxes. Scaled drawings would have shown at least two dimensions of the terminal boxes. Also, contract drawing 10-3-H5.02 identified the "size" of the boxes as 02 through 06, identified Titus as the design base manufacturer, and said if Smith & Oby did not use Titus boxes, it would have to ensure the dimensions of its boxes were acceptable. Titus's product literature shows the dimensions of its box sizes 02 through 06. Smith & Oby's president suggested the word "size" as used in contract drawing 10-3-H5.02 does not invariably refer to dimensions, and could be read as referring to air flow capacity or model number. To read the drawing's reference to "size" as meaning air flow capacity or model number would create a redundancy, however, because the drawing explicitly spelled out requirements for air flow capacity and specified a model number for each of the twenty categories of boxes, as well as establishing a requirement for size. "Size" commonly refers to dimensions. Webster's Third New International Dictionary 2130 (1986). In addition, there is no evidence to establish that, during performance, Smith & Oby understood "size" to refer to anything other than dimensions. The words of a contract should not be read so as to create a redundancy and are construed to have their ordinary meaning, unless the parties understood otherwise. Lockheed Martin Imaging Systems, Inc. v. West, 108 F.3d 319, 322 (Fed. Cir. 1997). Taking into account the scaled contract drawings, the common meaning of the word "size," the lack of any understanding by the parties that the word meant anything out of the ordinary when used in this contract, and our aversion to creating a redundancy, we conclude the contract's requirement for "size" imposed a dimensional requirement and the dimensions were those of the Titus terminal boxes.

Although most of the proposed ETI boxes fulfilled the contract's size requirement because they were smaller than the Titus boxes, 115 of the proposed ETI boxes were four inches wider and fifteen inches longer than the widest, longest Titus box, and four of the proposed ETI boxes were three inches longer than the longest Titus box. According to Smith & Oby, we should decide the largest ETI boxes met the contract's size requirements even though their dimensions exceeded the dimensions of the Titus boxes, because T.H. Martin's drawings showed the ETI boxes could be incorporated into the building and because some of the largest ETI boxes would have been installed in mechanical rooms where, Smith & Oby says, no one should have cared how big the boxes were. Appellant's Post-Hearing Brief at 22-24. The evidence does not lead to the conclusion Smith & Oby asks us to reach.

The evidence does not establish the T.H. Martin shop drawings and the coordination drawings incorporated the largest ETI boxes Smith & Oby proposed to install in the courthouse. The contract required Smith & Oby to coordinate its work with the work of other contractors. This coordination began in September 1999, with T.H. Martin preparing shop drawings showing its duct work, and continued with other contractors adding to those drawings in order to develop coordination drawings. The information used by T.H. Martin when it began preparing its shop drawings in September 1999, could not have taken into account the largest of the ETI boxes, because these boxes were not proposed until the January 13, 2000 resubmittal. The evidence does not establish that any of T.H. Martin's shop drawings or any coordination drawings incorporated the largest ETI boxes proposed by Smith & Oby.

Even if the T.H. Martin shop drawings and the coordination drawings incorporated the largest ETI boxes Smith & Oby proposed to install, we would not be persuaded the boxes met the contract's size requirements. The contract required Smith & Oby to coordinate the installation of components to ensure maximum accessibility for required maintenance, service, and repair. It also required Smith & Oby to install the terminal boxes in compliance with the National Electrical Code, which requires specific clearances to be maintained between the electrical components in the terminal boxes and the adjacent structure and other building components in order to minimize risks to those who will service the equipment once it is in place. As the inspection of the Titus boxes installed on the first lower level revealed, if boxes wider than the Titus boxes had been installed, it would have been impossible to maintain the clearances required by the National Electrical Code. The largest ETI boxes Smith & Oby proposed to install in its January 13 resubmittal were four inches wider than the widest Titus box, and some of those boxes would have been installed on the first lower level. If any shop drawings or coordination drawings incorporated the largest ETI boxes included in Smith & Oby's January 13 resubmittal, the drawings would not fulfill the contract's requirement for maintaining proper clearances, and thus would not establish that the largest ETI boxes met the contract's size requirements.

In addition, the evidence does not establish the 115 largest ETI boxes met the contract's size requirements simply because forty-four of those boxes would have been installed in mechanical rooms where, Smith & Oby says, no one should have been concerned about their size. Smith & Oby does not say whether anyone should have been concerned about the size of the seventy-one boxes that would have been installed in rooms other than the mechanical rooms. Regardless of whether Smith & Oby believes anyone should have been concerned with the size of the terminal boxes in the mechanical rooms or in any other rooms, those responsible for the design of the courthouse were concerned with more than the space restrictions imposed by the structure of the building. The design also took into account how space within the courthouse would be used. For example, the design placed the terminal boxes where noise inside a space would be minimized, where servicing could be done without disturbing the occupants or furniture, and where there would be adequate clearances for servicing. Smith & Oby's view that no one should have been concerned about the size of the forty-four boxes in the mechanical rooms does not amount to proof that the largest ETI boxes met the contract's size requirements.

In summary, a preponderance of the evidence does not support a conclusion that all the proposed ETI boxes met the contract's size requirements. The contract specified the sizes

of the boxes by referring to the Titus boxes, and the sizes of many of the ETI boxes exceeded the sizes of the Titus boxes. Neither the coordination drawings nor the placement of some of the largest boxes in mechanical rooms establishes the proposed ETI boxes met the requirements of the contract.

Noise Criteria

The contract imposed a maximum noise criteria level of NC-25 for all of the terminal boxes. The importance of this requirement was made clear to Smith & Oby before it sent in its initial submittal, when the CM noted the boxes Smith & Oby intended to propose might not meet the contract's noise criteria and asked Smith & Oby to verify the boxes met the requirement.

GSA continued to emphasize the importance of the noise criteria requirement after it received Smith & Oby's initial submittal, which was not approved in part because it did not meet the specified noise criteria. The contracting officer's December 6 letter regarding the terminal boxes focused on the need to fulfill the contract's noise criteria requirement. She was sufficiently concerned about whether the boxes would actually meet this requirement, even if a submittal were to represent they did, to tell Smith & Oby the ETI boxes would have to be tested to be sure they would perform as promised. Her demand is understandable, considering the ETI catalog material contained in the initial submittal contradicted the submittal's chart that showed all of the ETI boxes had noise criteria levels within the maximum level of NC-25. After Smith & Oby sent in its December 10 resubmittal, the discussions about testing continued.

When Smith & Oby sent in its January 13 resubmittal, the contracting officer did not feel she could be sure the ETI boxes would function as needed in what she called "the very highly critical courtrooms." Although discussions continued regarding testing, ETI had not agreed to allow any tests to take place. Only after the contracting officer sent her January 21 letter, which Smith & Oby characterized as "formally rejecting" the ETI boxes, did ETI offer to allow any tests to occur. Smith & Oby suggests testing would not have established whether the boxes to be installed in the courthouse would have met the requirements of the contract, because the boxes as manufactured might not have been exactly the same as the boxes that would have been installed by Smith & Oby. Appellant's Post-Hearing Brief at 7-10. The boxes proposed by Smith & Oby, however, have the same model number and size number as the boxes listed in ETI's catalogs, and the noise criteria levels set out in those catalogs were calculated in accordance with an industry standard. When the discussions regarding testing were taking place, neither ETI nor Smith & Oby suggested the tests would have been pointless because the boxes to be provided were somehow different from those shown in ETI's catalogs, and Smith & Oby was willing to cooperate with the request for testing. Regardless of what the test results would have established, GSA's continued requests for testing demonstrated the importance it placed upon the noise criteria level requirement contained in the contract, and its desire to be sure the ETI boxes would meet the requirement.

Despite the obvious importance GSA placed upon the noise criteria requirement, it received no assurances that the ETI boxes would meet the requirement. When Smith & Oby's initial submittal of September 27 was not approved, in part because the ETI catalog material included in the submittal showed ETI's boxes did not meet the noise criteria levels

imposed by the contract, Smith & Oby stopped including in its submittals any ETI catalog material that showed the noise criteria levels of the ETI boxes.

The ETI catalogs are part of the record in this appeal, however, and they show the terminal boxes proposed by Smith & Oby exceed the maximum noise criteria level of NC-25. There is no reason to suppose ETI's catalogs misrepresent the performance of its boxes. Neither ETI nor the supplier of the ETI boxes represented the boxes to be installed in the courthouse would meet the contract's requirement for a maximum noise criteria level of NC-25. The December 10 resubmittal contained information from ETI and from the supplier, stating the ETI boxes provided acoustical performance "similar to the scheduled product" and had "sound power levels similar to the [Titus boxes] irrespective of project acoustical criteria." Neither of Smith & Oby's resubmittals represented the boxes would meet the contract's requirement unless their sound power levels were somehow attenuated.

In order to counter the evidence contained in the ETI catalogs and in its submittals, Smith & Oby relies upon the testimony of the GSA contracting officer's representative who said a "particular page" in Smith & Oby's January 13 resubmittal showed noise was not a problem, and upon the testimony of the Korda/Nemeth engineer who said the noise problem was solved by the January 13 resubmittal. Appellant's Post-Hearing Brief at 11-14. Neither piece of testimony is persuasive.

The particular page to which the contracting officer's representative referred in his testimony said the size of the boxes posed a problem. The page did not mention noise. Although the testimony of the contracting officer's representative is accurate, it does not establish that the ETI boxes met the contract's requirement.

The Korda/Nemeth engineer did not approve the September 27 submittal after he reviewed the ETI catalog information included in the submittal which showed the terminal boxes had projected noise criteria levels in excess of NC-25. During his review of the December 10 resubmittal, he reviewed ETI catalog information which again showed the boxes had projected noise criteria levels in excess of NC-25. However, instead of concluding the boxes did not meet the NC-25 requirement imposed by the contract, the Korda/Nemeth engineer inexplicably shifted his review to the sound power level information provided by Smith & Oby in its resubmittal. When he finished his review, he circled the sound power level information contained in the resubmittal for 116 boxes, and said Smith & Oby should replace those boxes. He did this because, in his judgment, the sound power levels of those boxes were too high. The contract, however, did not use sound power levels to gauge whether the boxes were too noisy to function properly in the courthouse. When he reviewed the January 13 resubmittal, in which Smith & Oby proposed replacing 115 of the 116 boxes he had previously identified, the engineer concluded the ETI boxes solved the noise problem. The Korda/Nemeth engineer never decided the ETI boxes met the requirement imposed by the contract, which was a maximum noise criteria level of NC-25. Instead, he decided the ETI terminal boxes were acceptable in a courthouse environment, even though they exceeded the noise criterial level established by GSA in the contract. His conclusions do not establish the ETI boxes met the contract requirement.

In summary, the most persuasive evidence contained in our record concerning the noise issue is ETI's own catalogs. Charts prepared by Smith & Oby as part of its resubmittals

showed a hypothetically achievable goal of NC-25 if the sound power levels of the boxes could be attenuated, and Korda/Nemeth concluded the boxes met a standard other than the one contained in the contract. A preponderance of the evidence does not establish the ETI terminal boxes met the contract's noise criteria requirement.

Direction by GSA

Even though the ETI boxes did not meet all of the contract requirements, Smith & Oby can establish GSA ordered a change to the contract if it can show GSA directed it to use only Titus boxes. We find no evidence of any such direction.

In its post-hearing brief, Smith & Oby refers to GSA's "continual insistence that Titus [terminal] boxes be used" and says it was "instructed to supply a Titus [terminal] box in lieu of the ETI [terminal] box." Appellant's Post-Hearing Brief at 3. It also refers to the contracting officer's "direction" or "directive" to require Titus terminal boxes. Id. at 4, 27. In addition, Smith & Oby says GSA"predetermined that they would insist upon the use of Titus [terminal] boxes." Id. at 2. Smith & Oby says GSA "favored" the Titus boxes and GSA's "bias" in favor of the Titus box is shown by the testimony of one GSA witness who referred to "the original" boxes and the testimony of one Smith & Oby witness who heard from the CM that ETI boxes would not be permitted in the building, although the Smith & Oby witness did not believe this to be true. Id. at 1-2, 7. Smith & Oby also says GSA's bias in favor of the Titus boxes is evidenced by the Korda/Nemeth correspondence of January 20 which referred to "specified units." Appellant's Post-Hearing Reply Brief at 2.

Smith & Oby points to nothing, and we find nothing, in the record to support its contention that GSA instructed or directed it to supply Titus terminal boxes. Because Titus was the design base manufacturer, which was clearly stated in the contract, the references to Titus boxes as "the original" or the "specified" boxes is hardly surprising. A preference, if there was one, for the Titus terminal boxes does not prove GSA directed Smith & Oby to use those boxes. SAE/Americon-Mid-Atlantic, Inc.

So far as the record shows, Smith & Oby could have proposed to use terminal boxes manufactured by anyone, so long as the boxes fulfilled the requirements of the contract. The contracting officer repeatedly and consistently directed Smith & Oby to provide a product that complied with the requirements of the contract. Smith & Oby does not say when, exactly, GSA directed it to provide Titus boxes, and there is no evidence to show any such direction by GSA. Smith & Oby's argument that GSA directed it to use only Titus terminal boxes fails for lack of proof.

Summary

Smith & Oby has not established the contract changed so as to restrict its choice of terminal boxes to a single manufacturer. In addition, it has not established GSA ordered a change to the contract either by rejecting terminal boxes that complied with the contract's requirements or by directing Smith & Oby to provide terminal boxes from one particular manufacturer.

Decision

The appeal is **DENIED**.

_____
MARTHA H. DeGRAFF
Board Judge

We concur:

_____
STEPHEN M. DANIELS
Board Judge

_____
ROBERT W. PARKER
Board Judge