ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeals of --	)	
	)	
Sauer Inc.	)	ASBCA Nos. 39605, 39898
	)	
Under Contract No. N68248-84-C-4113	)	

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OPINION BY ADMINISTRATIVE JUDGE DICUS

These appeals were remanded to the Board from the United States Court of Appeals for the Federal Circuit (Federal Circuit) in *Sauer Inc. v. Danzig,* 224 F.3d 1340 (Fed. Cir. 2000) (hereinafter *Danzig*). Specifically, the Federal Circuit vacated in part our decision in *Sauer Inc.,* ASBCA Nos. 39605, 39898, 98-2 BCA ¶ 29,782 (hereinafter *Sauer*) because it did not specifically address, and thus effectively denied, Sauer's disruption claim. Familiarity with *Sauer*, and particularly the findings of fact therein, is presumed.

In *Sauer* we did not address disruption as an element of the claim standing on its own apart from delay. Although the claim sought a specific dollar amount for labor and equipment productivity losses which were based on inefficiency estimates, we understood from the trial presentation and arguments on brief that appellant had merged the inefficiency percentages into the process of computing the alleged delay. *See Sauer* at 147,581, finding 62; app. br. at 81-82. The Federal Circuit disagreed with our treatment:

> Focusing entirely on the issue of delay, the Board did not address the question whether, apart from any government-caused delay, Sauer suffered damages attributable to the presence of the crane contractors, and whether any such damages were compensable under the contract. We therefore vacate the Board's decision and remand for consideration of Sauer's entitlement to an equitable adjustment due to disruption.

Danzig at 1349. Accordingly, we here address the question of disruption and treat it as a separate issue. The parties have not supplemented the evidentiary record on remand. Briefs have been submitted.

As explained above, we erroneously understood appellant's presentation and argument to treat disruption as a causative element of delay, not as a separate claim element. We do not perceive that *Danzig* otherwise ascribed error to our decision. We proceed, therefore, to rely on *Sauer*, and particularly the findings of fact, as well as additional facts found below, in resolving the disruption issue.

In *Sauer* we found the contract at issue called for appellant to finish the interior of a refit building at a submarine base. The contract included clauses informing the contractor that work was to be performed during the performance period by other contractors, including installation of cranes. The contract contained a schedule for the crane work (1 July 1986 through 28 February 1987), which appellant used in preparing its bid, but that schedule was changed and the crane work was performed from 3-18 March 1987, and from 20 April 1987 through 30 September 1987. *Sauer* at 147,572-75. Thus, we understand the above-quoted statement in *Danzig* to refer not to the mere presence of crane contractors, but their presence at a time other than that originally set out in the contract. Our understanding is consistent with Sauer's presentation, which is based on the effects of changes in the crane installation schedule.

Other aspects of our decision are relevant here. We note that, *inter alia,* we held in *Sauer* that inefficiencies in performing the 3 August 1987 punchlist were the subject of ASBCA No. 39372 and thus not before us in these appeals; we denied the claim of Ready Electric; and we denied the acceleration claim (*id.* at 147,579, -82-83). We also found Mr. Wickersty's testimony lacked probative value on the inefficiency estimates, because, in addition to its lack of specificity, he was seldom at the work site, he conceded that he did not personally witness events, and much of his testimony was based on discovery documents (*Sauer* at 147,579, finding 51). Because of a similar lack of specificity, we also found problems with the testimony of Mr. Beattie and Mr. Rowland, who assisted Mr. Wickersty in compiling the inefficiency estimates[1] (*id.* at 147,580, finding 53). We found, further, that installation of crane rails and crane bridges caused a similar impact, and that spray painting cannot be safely performed if there is welding in the area (*id.* at 147,575, finding 18).

On remand, Sauer has argued to the Board "NAVY LIABILITY FOR THE IMPACT OF THE CRANE PROBLEMS . . ." for the periods 3-18 March 1987 and 20 April-30 September 1987 (app. remand br. at 12-17). As explained above, we understand *Danzig* to remand only that part of the claim arising from changes to the crane contractors' schedules, and we also understand Sauer's presentation on remand to be similarly limited. To the extent that Sauer's claim as submitted encompassed other changes, we consider that Sauer no longer seeks recovery for claim elements not arising from "the crane problems." Disruption is

argued on remand through the inefficiency estimates in Section L of its claim as testified to by Messrs. Wickersty, Rowland and Beattie. *Sauer* at 147,580, finding 53. We address that testimony and the Mechanical Contractors Association of America Bulletin No. 58, FACTORS AFFECTING PRODUCTIVITY (hereinafter MCA Bulletin) (ex. A-5, ex. H) in greater detail, *infra*.

ADDITIONAL FINDINGS

1. Sauer considered the original crane schedule in preparing its bid (tr. 1/39-40). Its first schedule, in the form of a CPM or "I-J" report, showed painting scheduled to start before commencement of some and before completion of all of the items to be painted (*see Sauer* at 147,573, findings 6, 7; exs. G-1 (9 July 1986 run date), G-10; tr. 4-190).[2] This was corrected in a subsequent report, which also had all paint activities scheduled during crane installation activities as originally set out in the contract (tr. 4/189-91; exs. G-1 (9 September 1986 run date), G-10). Sauer originally scheduled other finish activities during the original period for crane installation. It also scheduled some concrete and mechanical activities before installation of cranes. (Ex. G-10).

2. The MCA Bulletin was the starting point for Mr. Wickersty's inefficiency estimates (tr. 1-198). The MCA Bulletin is a two page document that contains the following commentary:

> The individual items and titles proposed, cover a description of conditions without necessarily including each detailed condition that may be involved. The values are a percentage *to add onto labor costs* of change and in some cases, original contract hours.
>
> These factors listed are intended to serve as a reference only. Individual cases could prove these to be too high or too low. The factors should be tested by your own work experience and modified accordingly in your own use of them, since percentages of increased costs due to the factors listed are necessarily arbitrary and may vary from contractor to contractor, crew to crew and job to job.
> (Emphasis in original)

The MCA Bulletin then lists 16 items that affect productivity, with sub-elements for each item and a "percent of loss condition" assigned for minor, average and severe conditions. The items are listed below without the sub-elements and with the percent of loss:

1. STACKING OF TRADES	10%	20%	30%
2. MORALE AND ATTITUDE	5%	15%	30%

3. REASSIGMENT OF MANPOWER		5%	10%	15%
4. CREW SIZE INEFFICIENCY		10%	20%	30%
5. CONCURRENT OPERATIONS		5%	15%	25%
6. DILUTION OF SUPERVISION	10%	15%	25%	
7. LEARNING CURVE		5%	15%	30%
8. ERRORS AND OMISSIONS		1%	3%	6%
9. BENEFICIAL OCCUPANCY		15%	25%	40%
10. JOINT OCCUPANCY		5%	12%	20%
11. SITE ACCESS		5%	12%	30%
12. LOGISTICS		10%	25%	50%
13. FATIGUE		8%	10%	12%
14. RIPPLE		10%	15%	20%
15. OVERTIME		10%	15%	20%
16. SEASON AND WEATHER CHANGE		10%	20%	30%

(Ex. A-5, ex. H)

3. Mr. Wickersty, appellant's vice president, consulted with Messrs. Beattie, Bishop and Rowland, and reviewed documents, photos and videos in conjunction with the MCA Bulletin's listing of inefficiencies in order to come up with his estimate of inefficiencies (tr. 1/198-99).[3] Mr. Wickersty testified that the MCA Bulletin items were applicable, except for crew size, inefficiency, learning curve, errors and omissions, site access, logistics, fatigue, and season and weather change (tr. 1/199-205). He tried to apply the MCA Bulletin percentages for minor, average and severe productivity loss, but the result was an "astronomical" percentage. He then took "a more practical approach based on what I perceived was a more reasonable analysis of the interferences we had faced." (Tr. 1/205) He took all the documents, facts he was aware of, videos and photos into account and "melded [them] into what I thought was a reasonable value for what we had experienced" (tr. 1/206). The only video placed in the record by appellant covers the post-punchlist period (ex. A-166). Although this appeal record contains daily construction logs (ex. G-6), manpower reports (ex. G-7, tab 17) and CPM reports (ex. A-172), how Mr. Wickersty used this information in his analysis, if at all, was not explained in his testimony (tr. 1/198-206).

4. The record contains 137 job site photos, of which 28 were taken prior to the 3 August 1987 punchlist. Mr. Beattie and Mr. Rowland gave testimony on some of the photographs taken. The testimony was generally non-specific as to the consequences of the scenes depicted vis-a-vis productivity. (Ex. A-5, exs. D, E; tr. 2/93-140, 2/161-69) Mr. Beattie, who started the job as the piping superintendent (tr. 2/88), gave two specific examples of disruption caused by the change in the crane contractors' schedules - that welding made spray painting unsafe and that, without the cranes in place at the time called for in the contract schedule, it was more difficult to establish the crane envelope for laying pipe before pouring the concrete slabs (tr. 2/90-92, 122). As to the latter point, Mr. Beattie states that Sauer made errors in measurements in establishing where the cranes

would be and that he placed pipe improperly within the crane "envelope" as a result. Mr. Beattie believes the errors would not have been made if the cranes had been in place. (Tr. 2/91). It is not clear which piping Mr. Beattie addressed. However, the original schedule shows all underground plumbing and mechanical piping laid out before installation of cranes was scheduled to begin. Layout of TR piping is shown with an early start of 2 May 1986 and early finish of 15 May 1986. Late start and late finish dates are 14 July 1986 and 25 July 1986, less than a month into the crane installation period. (Ex. G-1 (9 July 1986 run date)) There is no evidence that any of the layout of TR piping from 14 July through 25 July 1986 was originally scheduled to be performed in areas where cranes were installed. Accordingly, we give no probative weight to Mr. Beattie's testimony on the disruptive effects of the cranes not being in place as originally scheduled. Mr. Rowland did not offer testimony on inefficiency percentages prior to August 1987. He estimated that between 1 August and 1 October 1987 Sauer's work was 60 percent inefficient, but he "freely and readily" admitted he had no calculations to back up his estimate (tr. 2/275-76). The period described is the punchlist period. *Sauer* at 147,579

5. Ready Electric (Ready) prepared a joint claim with Sauer (tr. 3/28). The claim contained inefficiency estimates (*Sauer* at 147,577-78, finding 37). Jerry L. Campbell, a vice president of Ready, testified regarding the labor productivity losses "[t]hey were calculated upon our best effort, analyzing the confusion in the building and the number of people that we had on the project, and how it related to our work and how our work was being affected by the others." (Tr. 3/15) He provided no other direct testimony on how the estimates were formulated. His testimony on cross examination provided a similar dearth of information on inefficiency, as does the Ready claim (R4, tab 268; tr. 3/29-30).

DECISION

Appellant contends that we found in *Sauer* that the job was bid expecting there to be no impact from the presence of other contractors, that the type of work involved interfered with finish work, and that the work of other contractors took place during the periods argued by appellant. It acknowledges that we found the witness testimony non-specific, but contends that the estimates presented are adequate to establish entitlement. Appellant finds support for its estimates in the estimates of Ready Electric (*Sauer* at 147,577-78, finding 37). It then requests that, if we still find the estimates to be inadequate, we use our own judgment in applying the MCA Bulletin factors, citing *Clark Construction Group, Inc.*, VABCA No. 5674, 00-1 BCA ¶ 30,870. The Navy argues, in effect, the claim fails for lack of proof.

As *Danzig* points out, we did not explicitly find that a contract change occurred when the contract schedule for the crane contractors was not followed. We believe that a change occurred, but the Changes clause provides that a contractor is entitled to an equitable adjustment only where the change causes an increase or decrease in time or cost. Sauer argues that it is entitled to an equitable price adjustment for the change that resulted

from the Navy's failure to follow the crane installation schedule because the change made its work less efficient. (App. remand br. at 14) Sauer has the burden of proving that the change in the crane contractors' schedule caused a loss of productivity. That burden requires, *inter alia,* proof that the change proximately caused the claimed inefficiency. *Sante Fe Engineers, Inc.*, ASBCA Nos. 24578, 25939, 28687, 94-2 BCA ¶ 26,872 *aff'd*, 53 F.3d 347 (Fed. Cir. 1995) (table). The evidence offered by Sauer does not satisfy its burden:

> It is a rare case where loss of productivity can be proven by books and records; almost always it has to be proven by the opinions of expert witnesses. However, the mere expression of an estimate as to the amount of productivity loss by an expert witness with nothing to support it will not establish the fundamental fact of resultant injury nor provide a sufficient basis for making a reasonably correct approximation of damages.

Luria Brothers & Co. v. United States, 369 F.2d 701 (Ct. Cl. 1966).

As appellant argues, we did find that in its bid Sauer anticipated no impact on its work from the presence of other contractors (*Sauer* at 147,573, finding 6). However, we did not comment on whether that was a reasonable expectation given the provisions of the clause COOPERATON WITH OTHER CONTRACTORS (*Sauer* at 147,752-53, finding 3), which gave the contracting officer authority to resolve conflicts between contractors. In any event, Sauer was clearly entitled to rely on the original crane schedule. Sauer also points out that we found in finding 18 "Rigging, cutting and welding activities, which are involved in installing crane rails, interfere with finish work . . . Spray painting cannot be safely performed when there is welding in the same area." (*Sauer* at 147,575; app. remand br. at 4). The statement is incomplete, as finding 18 also states "However, the contemporaneous letters of complaint make no mention of difficulties encountered specific to crane rail work (citation omitted). Moreover, installation of crane bridges is similar in impact on other work in the area to installation of crane rails . . . ." Finding 18, read in total, does not support the claim.

We have reviewed the entire record and, particularly, the testimony of Messrs. Wickersty, Rodgers, Rowland and Beattie. Mr. Rodgers, the expert witness, did not independently develop estimates on inefficiency. Instead, he used the inefficiency estimates of Mr. Wickersty. *Sauer* at 147,581, finding 62. In that process even he found a flaw in those estimates. *Id.* We have found the testimony of Mr. Wickersty lacking in probative value (*id.* at 147,579, finding 51).[4] Mr. Rowland only offered his view with respect to the punchlist period, which is not before us (*id.* at 147,583; add. finding 4).

Only Mr. Beattie's testimony provides specific examples of the types of interferences arising from a change in the crane contractors' schedule (*id.*). While we have found that painting is unsafe when welding is being performed, we have also examined the record and found that Sauer's earliest corrected schedule proposed to paint while crane contractors were working (add. finding 1). Thus, the change in the crane installation schedule has not been shown to be the cause of the confluence of welding and spray painting. Mr. Beattie also testified that, because cranes were not in place, additional time was required to measure and layout the crane envelope while placing pipe prior to pouring concrete. According to him, errors occurred in placement of pipe because the cranes were not in place. (Add. finding 4) Sauer has not argued this point on brief, and we have found his testimony on this point to lack probative value.[5] In any event, pipe layout was originally scheduled to be performed prior to or early in the crane installation process (*id.*).

We noted above that we denied Ready Electric's claim, which contained estimates similar to Mr. Wickersty's estimates. Nonetheless, we have reviewed Ready Electric's claim and the testimony of Mr. Campbell. We find Mr. Campbell's explanation of the estimates to lack specificity and comparative information. Indeed, the testimony and the claim provide almost no information on how the estimates were formed. Moreover, he testified it was a joint claim with Sauer. (Add. finding 5) Neither Mr. Campbell's testimony nor the estimates are persuasive.

Finally, we decline to estimate inefficiency. The record contains too little evidence on the specifics of how and why productivity was lost. Had appellant wished to

do so, it could have presented an expert to analyze and render an opinion on productivity. On remand, the appeals are denied as to entitlement for a lack of proof.

Dated: 20 July 2001

CARROLL C. DICUS, JR.
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

MARK N. STEMPLER
Administrative Judge
Acting Chairman
Armed Services Board
of Contract Appeals

I concur

EUNICE W. THOMAS
Administrative Judge
Vice Chairman
Armed Services Board
of Contract Appeals

NOTES

[1] Mr. Bishop, who also assisted, was deceased at the time of the hearing.

[2] The table in finding 7 is inaccurately reproduced in 98-2 BCA at 147,573. The original slip opinion contains four columns with dates, "Early Start," "Early Finish," "Late Start," and "Late Finish." The dates in 98-2 BCA for "Late Finish" are the dates that appear in the slip opinion for "Early Finish." (Slip op. at 4)

[3] The estimates of inefficiencies stated in percentile form are listed in finding 53 of *Sauer*.

[4] We note also that Sauer's original schedule showed painting activities before commencement of some and completion of all items to be painted (add. finding 1).

The error significantly reduces our confidence in the care used in assembling Sauer's original schedule and, therefore, in its disruption claim.

[5] It strains credulity to assert that faulty measurements on the building floor were caused by the overhead cranes not being in place. Mr. Beattie, as piping superintendent, was responsible for the misplaced pipe (finding 4) and we cannot give weight to his testimony shifting the blame. Similarly, his uncorroborated testimony that measurements would not have been necessary if the cranes had been in place is unpersuasive and immaterial, given the original schedules.

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA Nos. 39605 and 39898, Appeals of Sauer, Inc., rendered in conformance with the Board's Charter.

Dated:

EDWARD S. ADAMKEWICZ
Recorder, Armed Services
Board of Contract Appeals