

COMMONWEALTH OF PENNSYLVANIA

G.M. McCROSSIN, INC. : BEFORE THE BOARD OF CLAIMS
: :
VS. : :
: :
COMMONWEALTH OF PENNSYLVANIA, :
DEPARTMENT OF GENERAL SERVICES : DOCKET NO. 2962

FINDINGS OF FACT

A. Parties Project Description and Bids

1. Plaintiff, G.M. McCrossin Incorporated (hereinafter McCrossin), is a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, with its principal place of business located at Benner Pike, Bellefonte, Pennsylvania 16823. McCrossin is engaged in the business of providing general construction services. (Complaint and Answer Paras. 1 and 2)

2. The Defendant is the Commonwealth of Pennsylvania, Department of General Services (hereinafter DGS), an agency of the Commonwealth of Pennsylvania having its principal office located at 515 North Office Building, Harrisburg, Pennsylvania. (Complaint and Answer Para. 3).

3. The architect for the Project was W.G. Eckles Company (hereinafter Eckles), an architectural firm with offices at 301 North Mercer Street, New Castle, Pennsylvania 16101. (Ex. P-1, D-2)

4. DGS hired Gaudet Associates, Inc. (hereinafter Gaudet), of Philadelphia, Pennsylvania to serve as the scheduling consultant for the Project. (Complaint and Answer Para.8)

5. On February 16, 1994, DGS advertised for multi-prime bids for a project at Mansfield University of Pennsylvania, Mansfield, Tioga County, Pennsylvania for the renovation and repair of North Hall. The work for the General Construction bids included, *inter alia*, demolition, concrete, masonry walls, structural steel, wood and metal framing, roof repair and new roofing, architectural woodwork, sheet metal, hollow metal doors and frames, aluminum windows, floor covering,

masonry pointing, new dry wall and interior finish, (hereinafter the "Project"). (N.T. 190-191; Ex. P-1,¹ D-2 pg 1)

6. The bid documents provided by DGS for the purposes of bidding on the Project consisted of the plans and specifications, instructions to bidders, general conditions of contract, including proposed standard form of agreement and special requirements. (Ex. P-1)

7. A pre-bid conference was held on March 2, 1994 at 10:30 a.m. in room 204 of Memorial Hall, Mansfield University. A representative of McCrossin, Nicole Estep, attended the pre-bid conference. (N.T. 43; Ex. P-5)

8. McCrossin submitted its bid for the Project after reviewing the plans, specifications and bid documents, twice examining the site of the Project and attending the pre-bid conference. (N.T. 35)

9. Bids were submitted on March 23, 1994. McCrossin was not the low bidder. (N.T. 43-44; Ex. D-2, pg. 2)

10. DGS rejected all bids, made certain changes to the Project, which included the addition of elevators, and again invited bids. (N.T. 44)

11. DGS rebid the Project on June 15, 1994 and McCrossin submitted the lowest bid at \$5,285,145.00 for general construction. (N.T. 44-45; Ex.. P-7)

12. Notice of Award for the Project was issued on Tuesday, July 19, 1994 and on Monday, July 25, 1994 McCrossin and DGS entered into an agreement for the Project. The contract documents included the Standard Form Agreement between the Department and contractor, the Notice to Bidders, the Instructions to Bidders, the Bid Form, the Contract Bonds, the Conditions of the Contract (general, special, supplementary and other conditions), the Administrative Procedures of the Bureau of Construction, the drawings of all contracts, the specifications of all contracts, all Bulletins and Addenda issued prior to the Agreement, and all modifications issued subsequent to the execution of the Agreement. (Ex. P-1)

13. The period of performance for the Project was specified for 540 calendar days from the date of the award of the contract, Friday, July 29, 1994, with a completion date for the Project of January 10, 1996. (Ex. P-1, P-136; Admission 4; Ex. D-2, pg. 1)

14. In accordance with the contract, McCrossin was to commence on-site operations no later than 10 days after the initial job conference. However, because of delays in DGS signing the contract,

¹Plaintiff marks the contract and related documents as various numbered exhibits, although the standard form of agreement between the Department and contractor is numbered Exhibit 1.

McCrossin began on-site operations on Thursday, August 11, 1994, the date of the Initial Job Conference. McCrossin completed their work on March 21, 1996. (Ex. P-136, Admissions 6 and 7, D-2, pg. 1)

15. Thomas Markowski, McCrossin's general superintendent, was involved in the bidding and developed the plan of McCrossin's performance of the work. (N.T. 34, 187-188)

16. During cross-examination, Mr. Markowski admitted that the work plan he came up with as to how McCrossin was going to proceed with its work was not in writing. (N.T. 146)

17. Mr. Markowski did not know how old North Hall was prior to bidding on the Project for McCrossin, but he knew it was an old building. (N.T. 144)

18. McCrossin selected Gary Robinson as its project superintendent in the field who had prior experience on renovation projects but did not visit the project site prior to McCrossin bidding the work. (N.T. 38, 297-298)

19. Mr. Robinson did not prepare the progress schedule bar chart that McCrossin submitted to the scheduling consultant. This schedule was prepared by Mr. Markowski. (N.T. 84-85, 297-298; Ex. P-49)

20. For this Project, McCrossin employed a carpenter foreman who had a two-year Associate Degree in project planning. The labor foreman and iron work foreman both had worked for McCrossin prior to this Project. All of McCrossin's workers were employed from the Union Hiring Hall. (N.T. 188-190)

B. Project Design and Scheduling

21. North Hall was originally built about 1874 and Mr. Vincent Lamorella, the lead architect for Eckles, established that neither the University nor DGS had a complete set of as-built drawings for North Hall. DGS did provide Eckles with a set of blue prints that might have been original construction plans. (N.T. 595, 634-635; Ex. D-2, pg. 1)

22. North Hall is approximately the size of a football field in length; with five full floors, a partial sixth floor and a smaller area in the seventh. It had a basement. (N.T. 299)

23. The design professional did not perform a detailed predesign survey prior to preparing the design documents (N.T. 630)

24. Eckles did hire Morris Morgan to do some investigation of the as-built conditions and provide little sketches of beam connections and measured actual dimensions of structural building components to determine if the building was made out of cast iron and verify the structural elements of the

old drawings. Mr. Morgan was not a structural engineer and had no knowledge of hazardous conditions, nor was he looking for hazardous conditions. (N.T. 633-634)

25. The design professional was not personally familiar with OSHA requirements relating to lead abatement. (N.T. 633)

26. Under cross-examination, Mr. Lamorella admitted that on a renovation project without a set of as-built drawings the architect is operating to some extent “in the blind” and there is a higher likelihood of unforeseen conditions that may require change orders. (N.T. 635)

27. The design professional worked with McCrossin on other projects on which there was little or no criticisms of McCrossin nor were there an unusual number of change order requests. (N.T. 638-639)

28. At the first job conference, a number of issues were addressed by DGS. Each contractor was advised: “. . . no change order work shall commence prior to receiving written approval from the Department” (DGS). (Initial Job Conference Report, Plaintiff Brief as Exhibit A)²

29. The specification required all contractors to use a Critical Path Method (CPM) scheduling system on this Project. The contract required that the scheduling consultant and lead contractor (McCrossin) and other primes shall meet to establish a timetable for developing the CPM schedule. The CPM specification required McCrossin to submit information needed to prepare the interim schedule within 20 days of award and cooperate with the scheduling consultant to complete the preparation of the interim schedule within 30 days of award. McCrossin was also required to cooperate with the scheduling consultant to complete the Final CPM Schedule within 75 days. (Ex. P-2)

30. McCrossin provided Gaudet no scheduling information until its September 16, 1994 Bar Chart Schedule, which was received on September 19, 1994, day 62, which indicated only the proposed work through December 1994. (Ex.P-49, P-136, Admission 18; D-2, pg. 10)

31. The final baseline schedule was approved by DGS on January 26, 1995, signed by all prime contractors and was distributed to prime contractors on March 13, 1995. (N.T. 98, Ex. P- 57, P-64)

32. Mr. Fred Maxeiner, DGS’s expert witness, indicated in his report that “on the baseline schedule, many of McCrossin’s activities have more than 100 days of float, which is unusual. For instance, the upper floor demolition activities all have more than 200 days of float.” Float is the difference between

²DGS stipulated that job conference reports and contract documents could be attached to the briefs. (NT 748-749)

early finish and late finish for an activity. Zero float or negative float define a critical path activity.
(N.T. 730-731; Ex. D-2, pg. 10 and 11)

C. Unforeseen Conditions

(I) Lead in Paint

33. On March 12, 1992, a study was prepared by the Maguire Group for the Project. In part 5 (Technical Narrative) the study identified the presence of asbestos in the roof over the kitchen and noted that “lead was found in the paint in all of the areas tested.” (P-136, Admission 13; P-23)

34. The Maguire Group report states “Fortunately, the ‘Toxicity Characteristic Leaching Procedure’ (TCLP) test indicated that any demolition debris containing lead painted surfaces does not require special handling. It may be disposed of like any other bulky waste material at an approved landfill site.” (Ex. P-23)

35. The Maguire Group report was silent regarding the likely hazardous conditions that could occur during demolition. (Ex. P-23)

36. Nicole Estep attended the pre-bid conference for McCrossin. At the conference she asked whether there was any asbestos or lead paint on the Project. There was no response to her question. (N.T. 51)

37. On September 12, 1994, McCrossin notified DGS in writing of the presence of lead-based paint. (N.T. 102; Ex. P-10, P-59, P-136, Admission 11)

38. DGS has admitted that the presence of lead was an unforeseen condition for which McCrossin is entitled to compensation. (Ex. D-2, pg. 6)

39. On September 15, 1994, all demolition was stopped until a final determination was made as to how DGS intended to handle the removal of the lead paint. McCrossin set up air monitoring equipment. (N.T. 57-58, 673)

40. McCrossin notified DGS on September 14, 1994, that it would require a change order for the extra work that would have to be performed to deal with lead abatement. (N.T. 52; Ex. P-11)

41. A special meeting was held on September 22, 1994, to deal with the lead paint issue. At that meeting, McCrossin advised DGS that its productivity would drop 50% if its workers had to wear protective clothing to deal with the removal of lead. (N.T. 53-55; Ex. P-12)

42. McCrossin notified DGS that it would be requesting an extension of time because of the time it was taking DGS to make a decision as to how the asbestos and lead was going to be handled. Shortly thereafter McCrossin notified DGS by letter dated October 4, 1994, that the Project was

essentially shut down due to the failure of DGS to respond to the issue of hazardous material, i.e. lead and asbestos. (N.T. 57, 60; Ex. P-15, P-18)

43. According to Mr. Robinson, McCrossin could not perform its wall demolition work until it was determined whether or not lead in the paint was an issue. (N.T. 200)

44. McCrossin continued to work in those areas that were not affected by lead such as ceiling tile removal while it awaited DGS's instructions with respect to the areas containing lead. (N.T. 60, 454; Ex. P-19; D-2, pg. 6)

45. Contract specifications required McCrossin to comply with applicable regulations, laws and ordinances concerning removal, handling and protection against exposure or environmental pollution. (N.T. 63-64, 162-163; Ex. D-2, pg. 5)

46. McCrossin's unilateral suspension of demolition precipitated by the lead paint problem lasted for over a month while they investigated the problem and set up safety procedures. On October 11, 1994, McCrossin resumed demolition of lead based materials. (N.T. 169, 672-674; Ex. D-2, pg. 6)

47. The lead abatement performed by McCrossin required a lead control program that met Occupational Safety and Health Administration (OSHA) requirements which included monitoring and protective clothing for people working in the affected areas. Monitoring included attaching dosimeters to those persons who would be exposed to the lead. (N.T. 63-64, 201; Ex. P-136 Admission 15)

48. Special washrooms and dressing areas had to be set up in the basement for decontamination when an exposed employee left the hazardous area. Workers had to wear Tyvek suits, respirators, and gloves; McCrossin had to test to make sure the respirators fit properly. According to Mr. Robinson, it took lead abatement workers 45 minutes per day to put on and remove the protective Tyvek suits. (N.T. 64, 201-204, 317)

49. Employees needed to be rotated in and out of the exposed hazardous areas because exposure must be limited to certain dose levels. If exposure reaches that level, then the employee has to be removed to another area. (N.T. 66)

50. Update No. 1, prepared by Gaudet, noted that during the month of October, 1994, McCrossin was required to reduce its work force due to safety concerns associated with the lead and that only limited construction proceeded in areas which were not affected by the lead. (N.T. 91; Ex. P-53)

51. The lead paint and demolition issues were resolved in February or early March 1995, prior to the last of the structural steel being erected. (N.T. 323-324)

II. Asbestos

52. Prior to the start of demolition on August 24, 1994, McCrossin notified DGS of the belief that the existing roof contained asbestos in an area adjacent to stairway D which was an area to be used to pick up demolition material for all floors. (N.T. 670; Ex. P-136, Admission 10, D-2, pg. 4)

53. The project specifications, SECTION 01550 - GENERAL REQUIREMENTS, included a subsection entitled UNIDENTIFIED ASBESTOS:

There is a possibility that asbestos may be discovered on this project. Should it be determined that some or all of the asbestos must be removed, the Contractor shall obtain an estimate for said removal from a Subcontractor who is experienced in the field, has insurance and is knowledgeable of the regulations listed below. The Contractor may provide the estimate itself if it is qualified in the asbestos abatement field. The Department shall consider authorizing a Change Order for the removal of asbestos.

(Ex. D-2, pg. 4)

54. Mansfield University had its own asbestos abatement people remove the suspected asbestos material in the stairway area about a week after McCrossin's notification. (N.T. 670)

55. McCrossin removed samples of floor tile for testing. The initial lab results were submitted to DGS on September 12, 1994 and indicated no hazardous asbestos. Additional test samples established that asbestos was present in some of the tile on the first floor. (N.T. 671-672; Ex. P-10, P-13; D-2, pg. 4)

56. On October 18, 1994 DGS indicated it would "consider" authorizing a change order for asbestos removal and directed McCrossin to proceed with its contract work without delay. (Ex. P-21)

57. On November 21, 1994 Eckles reported that the first floor contained approximately 7447 square feet (SF) of asbestos floor tile and only 119 SF of mastic containing asbestos. They recommended removal as soon as possible. (N.T. 68; Ex. P-26, P-27)

58. The majority of the asbestos tile was confined to the North Wing of the first floor of the Project which restricted McCrossin's work in that area. (N.T. 194)

59. On December 13, 1994, DGS directed McCrossin to remove the contaminated floor tile, McCrossin finished the removal December 27, 1994, and was issued change orders by DGS for almost \$23,000. (Ex. P-27; D-2, pg. 4)

60. The asbestos bearing mastic was removed over a weekend during the Christmas holidays. (N.T. 196, 672)

61. In the west wing of the first floor where the asbestos tile and mastic existed McCrossin was delayed in its demolition and cutting of holes for structural steel. (N.T. 195-198)

62. In order to mitigate the impact of the asbestos and lead paint issues, McCrossin moved crews from one area to another throughout the Project to perform work in areas that were not impacted. (N.T. 61; 212-213)

63. Since the area impacted by the presence of asbestos was limited to 7447 SF in the floor and 119 SF in mastic, and considering the size of the building, Mr. Maxeiner opined the discovery of asbestos had very little impact on McCrossin's work. (N.T. 670; Ex. D-2, pgs. 4, 5)

D. Structural Steel

64. On November 10, 1994 McCrossin wrote to Eckles questioning the "weldability" of the existing structural steel. This memo formalized oral notification of the problem approximately one month earlier. (N.T. 76; Ex. P-40)

65. On November 17, 1994 Eckles responded to McCrossin and directed them to select an appropriate welding rod which was their welder's responsibility. (N.T. 77; Ex. P-41)

66. McCrossin had Dr. Barnoff, Dean of Engineering at Penn State, inspect the test welds of existing steel columns. He concluded that the test weld at J 5-4 "was not adequate" but at column N-37 weld tests gave more positive results. (N.T. 77-79; Ex. P-42)

67. By letter dated January 6, 1995, Eckles admits that "neither the north columns or (*sic*) the south columns are weldable" and "the existing steel in the original wing of the building must have bolted connections." (N.T. 79-80; Ex. P-136 Admission 46)

68. During cross-examination Gary Robinson acknowledged that McCrossin did not encounter any unweldable steel on floors two through five at the north wing of North Hall because there were heavy studs in that area. The contract required McCrossin to install all new steel on floors two through five at the north wing of North Hall. (N.T. 306-308)

69. The first sketch revision received by McCrossin from the architect implementing the change

from welded to bolted connections was dated January 18, 1995. (N.T. 80; Ex. P-46)

70. It was more costly for McCrossin to bolt the steel rather than weld it and McCrossin submitted a change order for the additional direct costs associated with the change to the structural steel. (N.T. 81-83; Ex. P-48)

71. McCrossin received the last structural steel sketch revision for the unweldable steel on March 30, 1995. (N.T. 81-82; Ex. P-136, Admission 49)

72. DGS approved Change Order No. 17 for the structural steel on May 10, 1995. (N.T. 83; Ex. P-136, Admission 50)

73. Gaudet Scheduling Update No. 1 notes that the Project was impacted by the fact that unweldable existing structural steel could not be welded to the proposed new steel. (N.T. 92; Ex. P-53)

74. The approved baseline CPM indicated McCrossin's deadline (late finish date) for activity "G239 4 Structural Steel" was July 11, 1995 and it had a total float of 213 days. (Ex. D-2, pg. 7; Baseline CPM 1/26/95 pg. 14)

75. Structural steel could not be ordered, detailed and delivered until McCrossin received revised sketches from the architect. (N.T. 338)

76. The structural steel changes impacted column lines K and N in the South and North Wings on the first through fifth floors, and impacted by Change Order No.17 which is identified in blue clouds on Exhibit 133A. (N.T. 233-236; Ex. P-133A)

77. According to Gary Robinson, McCrossin could not complete anything in the South or North Wings while awaiting resolution of the structural steel change order and none of the load bearing walls could be removed without the structural steel revisions and the installation of the structural steel. (N.T. 214, 237; Ex. P-134, photo 28)

78. According to Mr. Lamorella, North Hall was completely nonload bearing, as far as walls go, and in the South Wing, McCrossin could remove any of the partitions, cross walls and corridor walls and have a large one-room configuration with walls and beams exposed. (N.T. 617)

79. Mr. Lamorella testified that the North Wing room partitions could have been demolished because they were nonload bearing walls, while the steel issue was being resolved. (N.T. 624)

80. The North Wing had to have steel go through a change order process of changing from welded connections to bolted steel in order to install it. (N.T. 622)

81. In the area of the North Wing, McCrossin could not remove any of the load-bearing walls until the steel was installed; however, McCrossin demolished plaster and lathe on the load bearing walls prior to the installation of the structural steel because of the lead abatement. (N.T. 210-211; Ex. P-134, photo 28)

82. After the lathe and plaster was removed, McCrossin left the stud walls in place for the load bearing walls while waiting for the steel issue to be resolved. (N.T. 212; Ex. P-134, photo 18)

83. The East Wing contained modern-type steel which was weldable. (N.T. 304-305; 619)

84. The majority of the structural steel was placed in the corridor area, designated by yellow areas on Exhibit 133B, C, D and E. (N.T. 305; Ex. P-133B, P-133C, P-133D, P-133E)

85. Mr. Robinson testified that in order to keep the Project moving forward McCrossin removed the studs in the South Wing and moved floor-to-floor removing non-load bearing walls. McCrossin then returned to areas to remove load bearing stud walls after the installation of structural steel. (N.T. 73-74, 212, 214; Ex. P-39)

86. Because of the change to the structural steel, McCrossin did not receive the first delivery of steel until February 15, 1995 and began erection of structural steel in the basement on February 16, 1995. (Ex. P-133A, P-135; Chart SS1)

87. The structural steel had an impact on the way McCrossin planned to do its work. (N.T. 212, 213, 660)

88. Some of the structural steel delay was concurrent with delays associated with the lead paint and asbestos issues. (N.T. 323-324; Ex.P-135)

89. According to the Plaintiff, the structural steel impacted McCrossin's subcontractor Larson who was performing the metal studding, drywall and ceiling fire-proofing because the drywaller had to leave space for structural steel. (N.T. 83, 237-238; Ex. P-134, photos 20, 21, 22, 28, 38)

90. Gary Robinson testified during cross-examination that he thought that the last of the structural steel was installed in August or September, 1995. (N.T. 321)

91. McCrossin was paid additional compensation for all direct costs associated with the changes to the structural steel, but was not paid any compensation for all alleged increased costs due to the delays, changed sequencing and inefficiencies caused by unweldable old steel and the time it took DGS and the professional to implement a change order. (N.T. 82-83)

E. Temporary Heat

92. Specifications Section 1500-1 states: “The institution shall pay all costs for water, electric power, steam and natural gas fuel required for the operation of temporary services.” (EXH. P-135, Section VI)

93. On August 15, 1994, McCrossin requested that the owner provide temporary heat because “all openings and doors are now closed with permanent enclosures....” (EXH. P-33)

94. Eckles advised DGS that it essentially concurred with McCrossin’s request that the owner provide temporary heat due to the contract documents and language. (EXH. P-34, P-35)

95. DGS has acknowledged, through its own expert, Frederick Maxeiner, that it is responsible for the temporary heat for 1994-1995. (N.T. 677; EXH. D-2)

96. McCrossin worked in November and December, 1994 and January, 1995 without temporary heat because DGS had not resolved the issue. (N.T. 71)

97. In order to provide temporary heat, McCrossin had to obtain fuel, energy for the heaters, the heaters, the energy had to be piped into the building, all of which took time and money. (N.T. 72-73)

98. Gaudet Update No. 1 indicates that McCrossin’s work was impacted in December because of the lack of temporary heat. (N.T. 92; Ex. P-53)

99. McCrossin has made a claim for the costs of temporary heat for the Winter of 1994-95. (N.T. 407; Ex. P-38)

100. DGS has agreed that McCrossin is entitled to be paid its costs for temporary heat during the Winter of 1994-95 in the amount of \$55,339.00. (N.T. 677; Ex. D-2, pg. 17)

101. McCrossin is also making a claim of \$6,603.10 for temporary heat that it provided during the Winter 1995-96. According to Robert Leahey, Vice President of McCrossin and General Superintendent, the permanent heating system was not yet operating for the Winter of 1995-96. (N.T. 407, 408; EXH. P-38)

102. According to Mr. Maxeiner, by the Winter of 1995-96 the building was fully enclosed with permanent doors and windows. (N.T. 677; Ex. D-2, pg. 17)

103. On February 8, 1996, the HVAC prime contractor advised DGS that it expected to finish the work on the heating system on the sixth floor that week and start up the air handling unit the week of February 15, 1996. (Job Conference Report 39, attached to McCrossin’s Suggested Findings of Fact as

Exhibit "H", pg. 2, item 143)

104. McCrossin claims \$6,603.10 for temporary heating cost during the Winter of 1995-96. (N.T. 407; EXH. P-38)

105. The minutes of Job Conference Report No. 32 (JCR) dated 11/2/95 indicated that McCrossin was inquiring when temporary heat would be available from the HVAC prime contractor. The HVAC responded that temporary heat would be available in three weeks and operational, when directed by DGS. (JCR No.32, pg. 1)

106. Permanent heat was not operational until after JCR No. 39 dated February 8, 1996. (JCR No. 39, Ex. H, pg. 2 Item 143 attached to McCrossin's Suggested Findings of Fact)

107. McCrossin's Job Status Report indicates on page 0022, Item 5100, Temp Heat that McCrossin only spent \$82.55 after October 31, 1995. (EXH. P-139)

F. Change Order No. 38

108. Change Order No. 38 involved filling floor depressions, caused by the removal of partition, with 3/4 inch plywood approximately 6 inches wide. This was done to eliminate the use of additional gypcrete for floor leveling. (N.T. 95; 136-137; EXH. P-86, P-88, P-89)

109. The failure of DGS to timely approve Change Order No. 38 delayed McCrossin's work in that it could not install new partitions or the gypcrete. (N.T. 135, 136)

110. On August 3, 1995, DGS authorized the change on a time and materials basis which was not to exceed \$16,827.32 without prior approval. (N.T. 138; Ex. P-93)

111. At trial, McCrossin has stipulated that Change Order No. 38 was resolved and McCrossin agreed that the amount for this was \$13,553.90 which was paid during 1998. (N.T. 229, 408; EXH. D-2, pg. 17)

G. Extended Equipment Costs

112. McCrossin had a forklift on the Project to facilitate the removal of demolition materials and to stock the building with structural steel. (N.T. 29, 219, 415)

113. On June 20, 1995, McCrossin notified DGS that it was seeking additional compensation because delays and impacts on the Project had extended the time the forklift was needed to remain on the Project. (EXH. P-109)

114. In its bid, McCrossin included \$27,000.00 for a large forklift to assist with demolition. (N.T. 464; Ex. P-108, P-135, Vol. 2 Ex. F-1)

115. DGS rejected McCrossin's request for additional compensation and requested a construction conference on July 12, 1995. The DGS construction committee ruled that McCrossin was due only \$6,400.00 for the extended forklift claim which the contractor rejected. (N.T. 416, 417; EXH. P-108; Complaint/Answer para. 61)

116. McCrossin admitted that the forklift was charged to DGS on many change orders and while it was idle McCrossin rented to it other trade contractors. In fact, McCrossin's Bob Leahey established the forklift was used by the drywall subcontractor, electrical prime contractor and several other contractors to stock materials in the building and that McCrossin was paid by these contractors for the use of the idle forklift. (N.T. 417)

117. McCrossin is claiming \$77,973.41 for the extended use of the forklift. McCrossin claims it gave the Commonwealth a credit for all change orders for which the forklift was used and for reimbursement that McCrossin received from other trade contractors who utilized the forklift. (N.T. 417-418; EXH. P-108, P-109)

118. At trial, Mr. Maxeiner expressed the opinion that McCrossin is not entitled to extended equipment costs in part because ". . . McCrossin was storing the forklift on-site, not because of any delay, of their own free will." (EXH. D-2, pg. 18)

119. Mr. Leahey acknowledged that there were long periods of idle time but McCrossin did not remove the forklift from the job and return it when it was needed because there were substantial costs involved in removing the equipment from the project and then returning it multiple times. It was less expensive to have it sit idle at times rather than incur these costs, according to Mr. Leahey. (N.T. 419)

120. McCrossin alleges that it kept a forklift on the Project because of the sporadic nature of the work and the fact that once the steel change order was approved, the steel came in pieces instead of as-planned, i.e. a single sequence. (N.T. 418)

121. McCrossin claims the forklift cost \$40,068. (14 months x \$2,862.00) and operator costs of \$84,342.72. (14 months x 176 hrs/month x \$34.23 per hr) McCrossin's operator costs assumed full operation at 176 hours per month for 14 months while the testimony documents idle time and non-working time irrespective of any credits which McCrossin may have given for change orders and payments from other trade contractors. (EXH. P-108; Record)

H. Change Orders

122. According to McCrossin, the DGS change order process took anywhere from two (2) weeks to four (4) months for change orders to be authorized. (N.T. 47, 233; EXH. P-86)

123. McCrossin submitted 106 change orders having a total value of \$916,557.51 and DGS approved change orders valued at \$447,677.14. (EXH. P-86)

124. There were 37 change orders classified by DGS as unforeseen conditions and 31 change orders due to errors or omissions. (EXH. D-2, pg. 8)

125. Mr. Lamorella, the project's professional, had over 42 years experience with building renovations and other projects. He was on the Project from 1989, when the feasibility study was given to DGS, until near his retirement in October 1995. During construction, he visited the Project every two weeks. (N.T. 596-600)

126. Mr. Lamorella reviewed all change orders for the Project. (N.T. 601-602)

127. The Means Manual contains industry standard and factors to estimate construction costs. Mr. Lamorella used the Means Manual and his experience as a basis for his cost analysis of change orders. (N.T. 602)

128. Mr. Lamorella's calculations of change order costs did not always agree with McCrossin's costs. (N.T. 604)

129. Mr. Lamorella opined that the unforeseen conditions and the number of change orders were not unusual for a building this old. (N.T. 627)

130. The value of the contract was increased to \$5,732,822.14 which is a \$447,677.14 increase of the initial bid of \$5,285,145, which reflects the net increase to the contract by change orders. (Ex. P-136 Admission 3)

131. McCrossin requested and submitted debit or credit amounts for 106 change orders having a total value of \$916,557.51. (EXH. P-86)

132. For example, Change Order No. 33 involved installing a pillow beam as an additional second floor support for the third floor. It also involved infusing concrete to fill in the open area where terra cotta tile had been used as a ventilating system. McCrossin notified DGS of this changed condition on March 30, 1995. However, DGS did not issue a scope of work for the change order until June 7, 1995 and it was not approved by DGS until November 27, 1995. While McCrossin was waiting for the work scope for Change Order No. 33, it was unable to complete any work in the SW step out on the first and second floors and basement. (N.T. 239-241; EXH. P-86; P-133, 133A, 133B)

133. Change Order 18 No. related to insulation for non-load bearing walls. The plans and specifications omitted insulation for load bearing walls. McCrossin notified DGS of this omission on January 31, 1995, and received a revised scope for this change on March 9, 1995. Eckles recommended approval on April 4, 1995, and DGS approved the change order on June 22, 1995. McCrossin could not perform any work in the areas affected by this change until it received the revised scope and could not stud nor fur out the new walls of first through fifth floor at the south end of the building. (N.T. 244-245; Ex. P-86; P-133; 133B, 133C, 133D)

134. Change Order No. 29 required McCrossin to place gypsum wall board filler under the stud partitions and affected the entire perimeter of the building from the second to the top floor where studding was going to be installed. It took over 5 months for DGS to approve Change Order No. 29. (N.T. 245-247; Ex. P-86, P-133B, 133C, 133D, 133E)

135. Change Order No. 21 involved the replacement of the existing floor slab in mechanical room B-1 because it was badly deteriorated. The change required McCrossin to remove the existing concrete slab and various concrete platforms, excavate down four (4) inches, install four (4) inches of gravel, a 6 mil. vapor barrier and a new four (4) inch reinforced concrete slab. (N.T. 251; Ex. P-86)

136. The failure of DGS to process change orders in a timely manner did create a scheduling and sequencing of work problem for McCrossin. (N.T. 47, 260-261)

137. In order to keep the Project on schedule, McCrossin did work at times before receiving formal change order approval. (N.T. 49)

I. Miscellaneous Change Orders

138. Change Order No. 52 involved replacing and repointing 153 bricks at various locations of the seven-story structure the size of a football field. (N.T. 423-424)

139. The higher McCrossin had to reach to repoint and replace the brick, the more costly it became. Included in these costs are the costs of a man getting into the lift, removal and replacement of the brick, the costs of a tender to assist, and mixing the mortar. Few of the bricks needed replaced and repointed in the same set-up area. Some bricks were out over the roof tops where they could not be reached by man lifts. (N.T. 423-424)

140. McCrossin incurred actual costs of \$7,283.41 to perform the Change Order No. 52 work required by DGS. DGS has only approved \$2,639.25 for the work they required under Change Order No. 52 leaving a balance of \$4,644.16. (N.T. 421; Ex. P-110)

141. Change Order No. 70 was issued to install walls and columns due to revised sketches for the mechanical Room 141. McCrossin incurred actual costs of \$4,305.01 to perform the work under

Change Order, No. 70. (N.T. 424; Ex. P-111)

142. DGS has offered only \$3,254.86 because it improperly deleted the portion of McCrossin's labor costs representing fringe benefits McCrossin was required to pay to the union pursuant to its collective bargaining agreement. (N.T. 425-426; Ex. P-111)

143. DGS has paid McCrossin \$3,254.86 leaving a balance due McCrossin of \$1,050.15. (Ex. P-111)

144. Change Order No. 72 was a force account change order required because walls and footings had to be redesigned by Eckles. McCrossin submitted its actual cost invoices and records which totaled \$16,095.38. (N.T. 426; Ex. P-112)

145. DGS valued the work at \$11,983.92 because it improperly deleted the portion of McCrossin's labor costs representing fringe benefits McCrossin was required to pay to the union pursuant to its collective bargaining agreement. (N.T. 427; Ex. P-112)

146. DGS has paid McCrossin \$11,983.92 leaving a balance due of \$4,111.46. (Ex. P-112)

147. Change Order No. 73 was to install a steel bracket support to fortify a wood beam and was done on a force account basis pursuant to directions issued by DGS. McCrossin incurred actual costs of \$2,096.58 to perform the work under Change Order No. 73. (Ex. P-113)

148. DGS has valued the work performed by McCrossin under Change Order No. 73 at \$1,226.47 because it improperly deleted the portion of McCrossin's labor costs representing fringe benefits. McCrossin was required pay the union pursuant to its collective bargaining agreement. (N.T. 428; Ex. P-113)

149. DGS has paid McCrossin \$1,226.47 leaving a balance due of \$870.11. (Ex. P-113)

150. Change Order No. 88 was to provide and install a safety rail around a transformer pit. (Ex. P-114)

151. McCrossin submitted a change order proposal for Change Order No.88 in the amount of \$5,008.69. DGS authorized the work at a price of \$3,060.00. (Ex. P-114)

152. McCrossin performed the work and incurred actual costs of \$6,136.08. (EXH. P-114)

153. After a construction conference, DGS valued the work performed by McCrossin under Change Order No. 88 at \$2,091.33 above the authorized amount because it improperly deleted the portion of McCrossin's labor costs representing fringe benefits McCrossin was required to pay to the union pursuant

to its collective bargaining agreement. (N.T. 428; Ex. P-114)

154. DGS has paid McCrossin \$5,151.33 leaving a balance due of \$984.75. (Ex. P-114)

J. Repointing Masonry

155. Section 04500 “Masonry Restoration and Cleaning” under description of work states: “Masonry restoration work includes the following: Removal of plant growth. Repairing damaged masonry. Cleaning all exposed masonry surfaces. Repointing mortar joints.” (Ex. P-4, Section 04500, pg. 1)

156. Specification Section 04500, page 1, line 26 states that the contractor shall repoint an estimated quantity of 45,000 lineal feet of mortar. (EXH. P-4)

157. An addendum issued by DGS, under Item 12 Sheets A-23 and A-24, states: “The square foot areas of brick repointing noted on these sheets shall be included in the 45,000 lineal feet of repointing required by Specification Section 04500-1 Line 26. (Ex. P-4, P-115)

158. The Specification Section 04500, Part 2, clearly identifies four different types of masonry to be restored; face brick and accessories; building brick, stone and terra cotta. This specification clearly includes brick, stone and terra cotta to be repointed. (N.T. 606; Ex. P-4, Section 04500-4)

159. Mr. Lamorella considered the pointing of the brick, stone and terra cotta as contract items. Mr. Lamorella felt that the specifications covered the work involved with this repointing and it was not extra work. (N.T. 606, 607)

160. The addendum referencing the masonry section of the Specifications does not indicate the 45,000 LF is brick only but the “brick repointing noted...” shall be included in the 45,000 LF of masonry repointing. It is obvious that the 45,000 LF is not just brick repointing. (Ex. P-4, Section 04500 and Addendum, EXH. P-115)

K. Ice Damage

161. McCrossin was in control of the North Hall building when the ice damage claim arose. (N.T. 560)

162. McCrossin notified the University and DGS that ice was accumulating on the roof of the building and could present a major damage issue to personnel and a liability issue. (N.T. 431)

163. Eckles responded to McCrossin’s concern by saying that it was not concerned with the ice building up and that the installation of ice hooks, which had been suggested by McCrossin was unnecessary. (N.T. 432)

164. Eventually ice built up on the roof, broke loose and fell seven (7) stories and damaged the railing of the building and shattered a window. (N.T. 432)

165. McCrossin was directed to repair the damage to the railing and the window. (N.T. 432; Ex. P-119)

166. McCrossin incurred direct cost of \$3,034.66 to perform the directed repairs and asked DGS to pay these costs. (N.T. 433; Ex. P-120)

167. DGS believed the ice damage issue was an insurance issue between McCrossin and its insurance carrier. (N.T. 559)

168. DGS denied McCrossin's request to pay for ice damage and advised them to submit the claim to its insurance company. (N.T. 433)

L. Ice Damage to Downspouts

169. Ice and water built up in the down spouts, froze and split the copper, rendering them useless. (N.T. 434)

170. DGS directed McCrossin to repair the copper down spouts. (N.T. 434)

171. McCrossin incurred \$26,136.59 to repair the split down spouts. (Ex. P-122)

172. DGS told McCrossin that it should recover the money from its insurance carrier. (N.T. 434)

M. The Claim of Larson Contracting

173. Larson Contracting was McCrossin's subcontractor for drywall, acoustic ceilings, metal studs, insulation and miscellaneous patching. (N.T. 344)

174. Larson's final contract price to perform the aforementioned scope of work was \$785,004.25. (N.T. 345)

175. Larson has made a claim against McCrossin for additional costs it experienced due to inefficiencies and overrun on time it suffered due to changes and unforeseen conditions. (N.T. 345-346)

176. Under cross-examination Mr. Markowski was asked for a specific location where Larson was impacted by delays and he stated: "[a]ll through the building". (N.T. 174)

177. Mr. Markowski admitted, on cross, that Larson never suspended work but had to move from floor to floor to keep going. (N.T. 175)

178. Larson could not perform its work as it planned because of the structural steel revisions and associated delays. (N.T. 351)

179. According to Larson's schedule, Exhibit P-138, all of Larson's work items had to be performed in multiple time-frames rather than in one time-frame as it had planned. (Ex. P-138)

180. John Larson is the President of Larson Contracting. Under cross-examination Mr. Larson alleged the structural steel delay forced them to make 26 additional crew moves from floor to floor. (N.T. 353)

181. Larson employed eight (8) carpenters on its crew and notified McCrossin that each move cost eight (8) man hours at \$26.47 per hour for 26 moves, totaling \$5,505.76. (N.T. 352-354; Ex. P-130, memo of 9/17/2000)

182. Larson claims that the cost of materials because of the delay increased 3% or \$3,090.00. (N.T. 354-355; Ex. P-130, memo of 6/20/1995)

183. Mr. Larson had contemplated a six-month time-frame to complete their work. Mr. Larson stated that they planned to work from the bottom up floor-by-floor. They had planned to first install the metal stud framing, then the mechanicals, electrical and others could do their work and then Larson could start their board work and finishing work and the operation would be more or less continuous. Therefore, Larson had to move out of an area to allow others to do their work. (N.T. 352, 359-360)

184. Mr. Larson admitted during cross-examination that they prepared their schedule and calculated their bid based on information from another general contractor who bid the job, and not McCrossin. (N.T. 361-362)

185. Larson prepared a "pretty fast schedule" for the size of the job. (N.T. 361)

186. Mr. Larson acknowledged under cross-examination that he had never seen North Hall prior to working on it. (N.T. 364)

187. Mr. Larson also acknowledged he never saw McCrossin's schedule until his company arrived on the Project after a five-month period from the start of McCrossin's work. (N.T. 362-363)

188. Mr. Larson admitted that he erred in the calculation of Larson's unabsorbed home office overhead which states the work was to be done in 39 weeks or nine (9) months plus. Larson's work schedule, as presented at trial, was for a six-month work schedule. (N.T. 365; Ex. D-130)

189. None of the other contractors on the Project interfered with Larson's work at all. (N.T. 367)

190. Larson alleged that they were on the Project longer than they planned although it is unclear whether they planned to be on the job six (6) months or nine (9) months. Larson claimed a gross unabsorbed overhead of \$64,655.00 and a net of \$52,055.00, as adjusted by the Board. Mr. Larson had difficulty explaining precisely how his claim for unabsorbed overhead was calculated. (N.T. 357, 365, 376-379; Ex. P-130)

191. During trial, Mr. Larson was never able to explain the conflict between the six (6) months and the nine (9) months planned time on the job. Also, substantial completion was documented to be March 21, 1996, yet Larson claims completion of its scope of work on April 2, 1996. (N.T. 365, 377, EXH. D-2)

N. Extension of Time

192. DGS, McCrossin and the other prime contractors on the Project had a meeting in July 1995 to, among other things, establish a completion date for the Project. (N.T. 181)

193. McCrossin requested that DGS issue five (5) extensions of time. (Ex. P-68-P-72)

194. On July 10, 1995, McCrossin requested 171 days for extension of time No. 1 and identified the delays caused by the presence of lead and asbestos as the reason it was seeking the extension of time. (Ex. P-73)

195. Also on July 10, 1995, McCrossin requested two hundred sixty four (264) days for extension of time No. 2 and identified the reason for the delay as the revisions and changes to the structural steel. (EXH. P-73)

196. McCrossin had previously sent an extension of time request No. 2 for an "undetermined" extension of time, which was submitted on June 7, 1995. (Ex. P-69)

197. Extension of time request No. 3 for five (5) days was submitted by McCrossin on April 10, 1996. The reason for the request was weather conditions which restricted travel of employees and delivery of materials. (Ex. P-70)

198. Extension of time request No. 4 for forty-five (45) days was submitted by McCrossin also on April 10, 1996. The reason for the request was the lack of timely installation of heating duct by the HVAC prime contractor, which prevented the installation of ceiling tile. (Ex. P-71)

199. Extension of time request No. 5 for fifty-six (56) days was submitted on or about April 16, 1996. The reason for the request was delays by DGS in processing Change Order No. 74 for the fabrication and installation of a ladder. (Ex. P-72)

200. Dan Weinzierl is the Construction Regional Director for the Central Region at DGS and was responsible for the North Hall project after July 1995. Mr. Weinzierl attended a meeting on the Project in August, 1995 which was attended by the professional, scheduler and all of the prime contractors, except the plumber. The purpose of the meeting was to discuss a recovery schedule for the Project. (N.T. 552-553)

201. As a result of the August 22, 1995 meeting all the contractors were given extensions of time and a new completion date was established for the Project of February 11, 1996, a time extension of twenty-nine (29) days because of DGS' delay in signing the contracts at the beginning of the Project. (N.T. 131, 555, 657; Ex. D-2, memo of August 22, 1995)

202. Although the scheduler's report, dated July 31, 1995, indicated the Project was 159 days behind schedule, by memo dated August 14, 1995 McCrossin notified DGS that the revised schedule "appears to be a workable schedule that will complete this project in a timely manner." McCrossin further went on record stating they were not giving up \$661,084.87 claimed for delays and inefficiency of work. (Ex. P-132)

203. DGS agreed to consider claims and costs prior to August, 1995. (N.T. 553-556; Ex. D-1)

204. Substantial completion of the Project was achieved on March 21, 1996. (Ex. P-136 Admissions 30, 33)

205. DGS continued to issue change orders after February 11, 1996 to McCrossin. (N.T. 123; 128-131; Ex. P-86)

206. All prime contractors, except McCrossin, received extensions of time extending the completion date of the Project until March 21, 1996. (Ex. P-136 Admissions 34, 35, 36, 37; P-81 to P-84)

207. Gaudet concluded that McCrossin was entitled to 44 days of excusable time which from Sunday, February 11, 1996, would have extended completion to Wednesday, March 27, 1996 six (6) days beyond the date of substantial completion. (Ex. D-2, pg. 12)

208. According to Robert Leahey, McCrossin's Vice President, McCrossin should not be charged any liquidated damages which DGS has assessed at \$48,750.00. (N.T. 412-413)

O. Delays and Performance of work

209. As of January 31, 1995, the Project was behind schedule by 111 days. (N.T. 87; Ex. P-51)

210. As of April 3, 1995 McCrossin's demolition, structural steel and metal stud/drywall work on the basement and first floor of the Project showed a negative float of 171 days. (Ex. P-58)

211. The Gaudet updates showed, at times, a negative float of 177 days. (N.T. 731-732)

212. Under cross-examination, Mr. Maxeiner established if Gaudet's CPM schedule was correct, with McCrossin's 177 days negative float and McCrossin finishing 71 days past the original completion date, that it made up 100 days and that could be considered acceleration if it shows up in the labor. (N.T. 734-735)

213. Accounting for the concurrent delays caused by asbestos abatement, lead abatement and structural steel revisions, the calendar day delay caused by these unforeseen conditions totals 141 days. (Ex. P-135, pg. 34)

214. On March 15, 1995 McCrossin notified DGS that it was experiencing inefficiencies as a result of the delays and disruptions on the Project. (N.T. 132, 133; Ex. P-137)

215. At a meeting held by DGS on July 27, 1995, Gaudet advised DGS that "[d]ue to job conditions crews worked in an out of sequence manner in available areas rather than following the established sequence of work as outlined in the baseline schedule." (N.T. 105-107; Ex. P-61)

216. McCrossin's original sequence of work, which was from basement to the 6th floor could not be followed. McCrossin was required to perform work out of sequence. (N.T. 104, 107; Ex. P-61, P-135)

217. McCrossin anticipated starting out the Project with ten (10) to twelve (12) laborers at the beginning of the Project. (N.T. 299)

218. Thomas Markowski stated that he always thought that the optimum crew size for any craft, such as laborers or carpenters, would be about eight to ten men. He felt that you lost production when you had more than the optimum number. (N.T. 218)

219. Gary Robinson testified that if structural steel had been in place and had there been no lead issue, McCrossin would have removed the stud walls along with the lathe and plaster in one operation. Mr. Robinson also stated that when various trades are all working in the same area there is a loss in the amount of time and efficiency drops. (N.T. 272, 275)

220. On cross, Mr. Robinson testified as to two instances of interference by other trades with McCrossin's work; one by Larson, its drywall subcontractor, and the other by the placement of a pipe vice in an area where they were working. (N.T. 334-335; Ex. P-134 photo 21)

221. Mr. Robinson could not recall any other examples of what caused the inefficiencies to McCrossin's work. (N.T. 335)

222. The cumulative impact of the asbestos, lead abatement and structural steel delays, as well as DGS' failure to timely act on a substantial number of the change orders, resulted in delays some disruptions and the performance of out-of-sequence work by McCrossin. (N.T. 107; Ex. P-61; P-135)

223. At the peak time for demolition, McCrossin had seventeen to eighteen laborers working. (N.T. 300)

224. McCrossin planned to use three or four iron workers plus a foremen to do the structural steel and they used around three or four iron workers. (N.T. 300-301)

225. McCrossin planned to use eight carpenters on the Project. (N.T. 301)

226. McCrossin employed sixteen or seventeen carpenters at one point when they were doing the framing. (N.T. 301)

227. McCrossin planned to use six or seven masons on the Project. (N.T. 302)

228. McCrossin started out with one mason and eventually utilized up to six or seven masons. (N.T. 302)

229. Except for the suspension of demolition associated with the lead paint abatement McCrossin did not suspend any other work on the Project. (N.T. 337, 454)

230. Mr. Robinson testified that McCrossin had a total of thirty to thirty-five workers on the Project inside North Hall on five floors, each the length of a football field. He did not know how many workers each of the other trade contractors had on the Project working inside North Hall at the same time. (N.T. 299, 331)

231. McCrossin did not increase their crew on site after August 1995 through the completion of the Project, but maintained their crews on the job longer than they planned. (N.T. 325, Ex. D-3)

232. Mr. Maxeiner agreed with Mr. Markowski's contention that if a contractor increases its crew size beyond an optimum size in order to meet a scheduled completion, a loss of efficiency is possible. (N.T. 218, 732-733)

P. Unabsorbed Home Office Overhead

233. Mr. Leahey described unabsorbed home office overhead as basically cost of keeping the doors open, or the support staff for all of the field operations. He indicated that there is an allocation to every job for absorbing the overhead and that when the company does not receive money during a period of time, other jobs are burdened with absorbing that overhead during those time periods. (N.T. 436)

234. Mr. Leahey prepared a cash flow analysis which purports to establish a "0" cash flow for the Mansfield Project, which according to Mr. Leahey, was a function of the delays and disruptions associated with the Project. (N.T. 437)

235. McCrossin's claim for unabsorbed office overhead is \$115,887.36. Mr. Leahey calculated this figure based upon guidelines set up by the Corps of Engineers. (N.T. 438-439)

236. Under cross-examination, Mr. Leahey acknowledged that no change order was submitted requesting an absorbed home office overhead. (N.T. 475)

237. Mr. Leahey explained that on all Corps of Engineers' change orders the cost of home office overhead is recognized. On all Corps of Engineers' change orders they utilize several years' financial statements, excluding some certain costs, to determine a home office component of what it costs a contractor to do work, and then all change orders in addition to profit are marked up by that home office component. (N.T. 476)

238. Mr. Leahey acknowledged that he utilized the Corps of Engineers' general conditions for calculating the unabsorbed home office portion of McCrossin's claim and did not use the Eichley formula. Mr. Leahey further acknowledged under cross-examination that this was the first instance in which McCrossin utilized the Corps of Engineers' method to calculate their unabsorbed office overhead expense. In previous claims, the company used the Eichley formula. (N.T. 476, 477)

239. McCrossin's expert, Mr. Miller, testified that McCrossin's unabsorbed home office overhead not covered by the Project during the delay period is that period of 128 days of extended performance. (N.T. 509-510)

240. Mr. Miller explained that the Corps of Engineers' have a component for direct job site overhead, which is around 3%. This would be the general conditions and supervisory costs and then there is an allowance based upon gross receipts with the home office overhead as a ratio over an extended time period, in other words, a mark-up for home office overhead. Once you apply these two factors, you get a mark-up which varies depending upon the size of the change order. (N.T. 511)

241. Mr. Miller indicated that McCrossin's total cost of the Project, including mark-up, was \$6,580,890.00, which came from McCrossin's cost report. He also explained that the 9.19% came from the formula Mr. Leahey identified in the gross receipts of all McCrossin's home office costs to the time period of seven or so years identified by Mr. Leahey. The financial reports utilized in the analysis were also

identified by Mr. Leahey. (N.T. 512)

242. Mr. Miller testified that he came up with an overhead allocation of \$604,783.79 and a per diem, based upon an overall contract performance of 668 days, of \$905.37. Mr. Miller indicated that to establish the unabsorbed portion he simply took the extended period of performance of 128 calendar days and calculated the unabsorbed overhead component at \$115,887.36. Mr. Miller acknowledged that the Corps of Engineers does not provide a credit for change order mark-up, as with the Eichley calculations, but rather it is based strictly on gross receipts. (N.T. 513, 514)

243. Mr. Maxeiner, the Commonwealth's expert, testified that he had done a lot of business with the Corps of Engineers and prepared a lot of claims for contractors against the Corps of Engineers. Mr. Maxeiner stated that he had never heard of unabsorbed overhead utilized as claimed by McCrossin. (N.T. 689)

244. Mr. Maxeiner testified that he found no fault with the way that McCrossin calculated the 9.19% with regard to overhead costs; however, McCrossin took their entire claim and marked it up by that percent. Mr. Maxeiner opined that this calculation is not unabsorbed overhead. (N.T. 689, 690)

245. Mr. Maxeiner testified that the Corps of Engineers does not allow certain things such as interest, advertising or promotions, entertainment, and management perks. In addition, all of the change orders that were paid should have been deducted as well. Mr. Maxeiner testified that "[w]hen you get down to -- really when you get down to the end of it, it is almost a wash on the amount that they have claimed." (N.T. 690)

Q. Damages

a. Extended General Conditions

246. General conditions' costs are costs associated with keeping the Project functioning that are not directly related to individual cost items. General conditions' costs include such items as superintendents, storage trailers, office trailers, temporary toilets, utility bills, office supplies, clerks and office support. (N.T. 411; 507)

247. McCrossin included 540 calendar days in its bid estimate for general conditions up until January 10, 1996, the original completion date. (N.T.453-454; Ex. P-136, Adm. 4; D-2)

248. McCrossin completed their contract work and reached substantial completion on March 21, 1996 a duration of 611 calendar days. (Ex. P-136, Admissions 30, 33, D-2 pg 1)

249. Mr. Leahey established that McCrossin was claiming 71 calendar days of extended general conditions. (N.T. 412)

250. Mr. Thomas Miller, McCrossin's Expert computed extended general conditions using an end date of May 17, 1996, 93 calendar days, in his computations for a claimed cost of \$76,837.96 which is \$826.21 per day. (N.T. 491-493, 507, 535, Ex. P-135 Tab XII)

251. Mr. Miller included Foremen and Project Clerk costs in his computation of extended general conditions. (Ex. P-135, Tab XII)

252. McCrossin's actual bid sheet titled "General Requirements" for 540 calendar days lists costs totaling \$357,402.20 (Mat'l \$67,855.00 + labor \$289,547.20). (Ex. P-135 Vol 2 (F1))

253. The "General Requirements" labor include L.S. \$27,000 for fork lift, L.S. \$4,800.10 Construction Cleaning, one (1) each Project sign \$200 totaling \$32,000.10 for non-time related items. (Ex. P-135 Vol 2 (F1))

254. Under cross-examination, Mr. Leahey established that equipment costs were included in the unit labor costs and when estimating a job McCrossin used a single figure to include labor and equipment. (N.T. 460)

255. McCrossin's extended general conditions computations included \$8,826.96 for compressors, pick-up trucks and flat-bed trucks not detailed on their bid sheet for general requirements. (Ex. P-106, P-135 Vol 2 (F1))

256. The Bid Cost Recap of McCrossin shows General Requirements of \$214,241.00 (\$67,855.00 materials + \$146,386.00 labor) which is \$396.74 per day for 540 days. (N.T. 409; EXH. P-103)

b. Liquidated Damages

257. DGS has assessed 39 days of liquidated damages against McCrossin at the rate of \$1,250.00 per calendar day for a total of \$48,750.00. (N.T. 413)

258. DGS admits that 12 days of liquidated damages were improperly withheld. (Ex. P-2, pg. 12)

259. Pursuant to the DGS general conditions Sec. 63.93 of the contract, if the delays experienced by McCrossin were beyond its control, liquidated damages should not be assessed. (Ex. P-1, pg. 2)

260. Eckles, the Project Architect, recommended that DGS approve McCrossin's requests for

extension of time numbers 3 and 4, which were in excess of 43 days for which liquidated damages have been assessed. (Ex. P-136, Admissions 31, 32, P-76, P-77, P-78, P-80)

c. Unforeseen Conditions

(I.) Lead In Paint

261. According to DGS' expert, Mr. Fred Maxeiner, McCrossin is entitled to be compensated for the reasonable cost of lead paint abatement and special demolition cost of disposal into a dump. (N.T. 720; Ex. D-2, pg.16)

262. DGS concedes that McCrossin is entitled to \$146,931 for the lead paint. (N.T. 720; Ex. D-2, pg. 16)

263. McCrossin's Bid Cost Recap lists an item described as Selective Demolition which totals \$365,170. (\$281,170 labor + \$84,000 materials). (Ex. P-103)

264. Not all wall demolition was related to lead abatement. McCrossin had item "Remove Stud Partition" (which didn't contain any lead) with associated labor costs of \$158,637.47. (Ex. P-29)

265. McCrossin's cost in the contract breakdown as bid for the removal of plaster partitions and ceilings for estimate labor, material and equipment as per GSC-30 "Contract Breakdown Sheets" was \$109,613.60. (N.T. 403-404; Ex.. P-28, Appendix E; P-29)

266. McCrossin had assigned several cost codes to track these demolition costs on the daily time sheets. (N.T. 399)

267. McCrossin had a clerk go through all the time sheets for the Project to assemble the total hours expended on lead demolition. (N.T. 399-400)

268. McCrossin spent \$137,945.63 for labor to demolish plaster ceilings and walls. (Ex. P-28, Appendix A)

269. In calculating its equipment rates, McCrossin used the AED Green Book which is a book of equipment rental rates used throughout the United States. (N.T. 401)

270. McCrossin is claiming \$80,728.00 for equipment in connection with the demolition of plaster walls and ceilings. (Ex. P-28, Appendix B)

271. Mr. Leahey established that the Green Book had two rates; one an operating rate and the other an ownership rate taking into consideration costs such as fuel, tires and everything it takes to own and/or operate a vehicle. (N.T. 401-402)

272. McCrossin equipment Claim lists costs for a forklift of \$25.00 per hour with 104 hours or \$2,600.00 for idle time, and 552 hours or \$13,800.00 for demolition time. The total being \$16,400.00. The total forklift time was 656 hours or 82 days. (Ex. P-28, Appendix B)

273. McCrossin's labor costs listed an Operator for only 235.5 hours at \$27.94 per hour. (Ex. P-28, Appendix A)

274. It was established that McCrossin rented the forklift at \$2,862.00 per month at 176 hours per month for an actual hourly rate of \$16.26 per hour. ($\$2,862.00 \div 176$ hours) (Ex. P-108)

275. McCrossin expended \$22,191.53 for materials and testing associated with the demolition of plaster walls and ceilings and \$61,594.40 for costs associated with the disposal of lead contaminated material. (Ex. P-28, P-30)

276. According to DGS's own expert, McCrossin is entitled to be paid the reasonable costs associated with the lead paint abatement and disposal. (N.T. 720; Ex. D-2)

277. Mr. Maxeiner agreed that McCrossin's lead paint disposal cost are reasonable but challenged the one (1) hour per day employee personal protection for suiting up and clean-up. (N.T. 720; Ex. D-2, pg. 16)

278. On cross Mr. Maxeiner admitted he never worked in lead abatement and he was not present on the Project at the time lead abatement was ongoing but relied on some photos of the abatement work. (N.T. 721-722; Ex. D-2, pg. 16)

279. The DGS contract allows McCrossin a mark-up on change order work of 15% on labor and 10% on materials, sub-contractor or equipment. (General Conditions Sec. 63.131)

280. McCrossin's 15% mark-up on its labor costs associated with its removal of the lead is \$20,691.84. (Ex. P-28)

281. McCrossin's 10% mark-up on the adjusted equipment costs of \$77,050.33 in connection with the removal of the lead is \$7,705.03, on its material and testing is \$2,219.15 and on its disposal costs is \$6,159.44. (Ex. P-28)

(II.) Asbestos (See Conclusions of Law)

d. Extended Equipment Cost

282. McCrossin's initial computation for extended equipment cost for a forklift was \$141,068.93

prior to a requested construction conference. (EXH. P-108)

283. DGS's Mr. Maxeiner expressed the opinion that McCrossin has already been paid for the forklift as part of the change orders. (Ex. D-2, pg. 18 B.2)

284. McCrossin has credited DGS \$21,572.39 for Change Order work, \$14,520.20 (\$185.20 + \$235.00 + \$14,100.00) Back Charges to Other Contractors and \$27,000 in the form of a credit in the bid for a total credit of \$63,092.59. McCrossin's revised equipment cost at trial was \$77,976.41. (N.T. 418; Ex. P-106; P-108)

285. McCrossin received a credit memo for early return of \$1,431.00 from Forklifts, Inc. dated April 24, 1996 which should also be credited to DGS. (Ex. P-108)

286. McCrossin computed operator cost for extended equipment at 176 hours/month x 14 months x \$34.24 per hour for a total cost of \$84,342.72. (Ex. P-108)

287. For the reasons set forth above, the Board can not determine what portion of the alleged labor cost of \$84,342.72 is due McCrossin. (Complaint/Answer, para. 61)

e. Outstanding Change Orders Nos. 52, 70, 72, 73, 88

288. McCrossin performed some of the change order work on a cost basis and expected to be reimbursed for all its cost plus specified mark-ups and not on some other basis. (N.T. 425; Complaint)

289. DGS deleted some of the labor costs representing fringe benefits McCrossin was required to pay to the unions pursuant to its collective bargaining agreement which cost did not appear on its certified payroll. DGS failed to reimburse on an actual cost basis but on what the professional felt was fair. (N.T. 425-426)

f. Increased Labor Cost Due to Acceleration and Inefficiencies

290. McCrossin did not provide its bid estimate during the discovery process and Mr. Maxeiner opined that it was not possible to determine how many man hours were planned for the Project. (N.T. 708)

291. On rebuttal, Mr. Leahey stated that McCrossin's bid labor was \$1,370,297.00 based on the combination of two figures, ". . .the actual labor and then adjustment for masonry which we self-performed. It shows on the bid recap as a subcontract cost. . . ." (N.T. 753-754; Ex. P-103)

292. McCrossin's Bid Cost Recap (P-103) shows a total Labor Cost Bid as \$1,082,063.00 and the subcontractors price for Unit Masonry as \$378,700 for a total of \$1,460,763, not \$1,370,297.00. (Ex.

P-103)

293. During cross-examination Mr. Leahey testified that the bid labor was \$2,036,826.00 which included 10% for overhead and profit, which when multiplied by .9 equals \$1,833,143.40. That figure represented the total labor for the Project including equipment. The only bid equipment component produced at trial was \$27,000 listed as labor on Exhibit P-135 Vol. II. There is zero (0) dollar listed for equipment bid on job status. (P-139 pg 0024) Based on the evidence at trial the bid for labor appears to be \$1,806,143.40. (1,833,143.40 - 27,000) . (N.T. 463; EXH. P-135, Vol. II; EXH. P-139, pg. 0024)

294. According to Mr. Leahey, the total actual labor expense on the Project was reported to be \$2,165,001.42; however, the total actual labor expense was also indicated to be \$2,160,460.75 (\$1,499,654.99 + \$660,805.76) on McCrossin Exhibit 139. (N.T. 753, 754; Ex. P-139, pg. 0024)

295. Subtracting the labor costs associated with specific claim items included in the change orders that were issued by DGS, McCrossin's net labor overrun, as testified to by Mr. Leahey, was said to be \$426,687.02. (N.T. 752)

296. During cross-examination Mr. Leahey computed the lost labor costs on the total job to be \$155,135 which "... does include change orders" but does not include overhead and profit. (N.T. 460-462)

297. Mr. Leahey established that there is no one line item in the Job Status (Ex. P-139) cost report for overhead and profit and you cannot use the cost report to compute McCrossin's actual loss because it requires other variables. (N.T. 462; Ex. P-139)

298. McCrossin seeks compensation for the claimed inefficiencies because of the delays and disruptions on the Project. These delays and disruptions included crews having to jump from floor to floor, waiting for DGS to approve change orders and moving men and materials from floor to floor. (N.T. 439)

299. Mr. Thomas Miller, McCrossin's expert, testified that McCrossin expended 85,593 hours on the Project of which 14,586.5 hours were change-order related. Change-order hours included approved change orders and hours that are being requested as part of the claim. He computed the base contract hours to be 71,006.5 hours (85,593 - 14,586.5) based on the testimony at trial. (N.T. 519-520; Ex. P-139, pg. 0024)

300. The ratio of change order hours to total contract hours is computed to be 17% (14,586.5 ÷ 85,593) and the ratio change order hours to base contract hours is 20.5 percent. (14,586.5 ÷ 71,006.5) (N.T. 519-520)

301. Mr. Miller considered the 107 change orders on the Project to be excessive. (N.T. 536)

302. Mr. Miller did not believe that the amount of the Project change order totaling \$447,000, less than 10% of the total Project cost, was an excessive amount of money given the type of change orders. (N.T. 538)

303. During the time while McCrossin waited for a decision from DGS as to how the unforeseen changed conditions were to be addressed, the McCrossin foremen had to find unaffected areas in which to reassign crews. This required McCrossin to re-lay and re-establish grades and line, move materials from stocking areas to the new work areas and relocate tools and equipment. (N.T. 443- 445)

304. At a special meeting with DGS on July 18, 1995, McCrossin advised DGS that as of the end of June 1995, it had experienced an estimated loss of efficiency of 64%. McCrossin also advised DGS that since it had not received an extension of time, its work had been accelerated. (Ex. P-131)

305. A review by McCrossin of the revised schedule prepared by Gaudet dated July 31, 1995, showed the Project 159 days behind schedule. By letter dated August 14, 1995, McCrossin advised DGS that it had accelerated its performance and would continue to do so to maintain the schedule. (Ex. P-132)

306. McCrossin cannot derive an hour-by-hour calculation of its increased labor cost due to any loss in productivity. (N.T. 440)

307. Mr. Leahey testified that the only way for McCrossin to value its loss of productivity was to evaluate the total costs after the Project was complete and adjust it for other factors. (N.T. 441)

308. Some of the change orders affected all the floors of the building. (Ex. P-133)

309. Mr. Miller opined that by failing to grant timely and necessary extensions of time, McCrossin experienced constructive acceleration. (N.T. 518)

310. McCrossin's expert could not perform a measured mile analysis, or tried to find a period of performance in the Project where there was not a great deal of disruption, in order to determine its loss of efficiency. Mr. Miller claims there was no portion of the Project that was not impacted. (N.T. 523; Ex. P-135)

311. Mr. Miller used the Leonard Productivity Study to determine the level of inefficiency. Using the Leonard Productivity Study Chart, an increase of 20.5% in labor hours would result in an expected inefficiency to be about 22% for a type 2 civil/architectural contract. (N.T. 524; Ex. P-135, Vol. 2, LPI)

312. Mr. Miller took the total base hours, which he computed at trial to be 71,006.5 hours

(85,593 - 14,586.5), multiplied by the 22% loss factor, to compute the 15,621 hours of lost productivity. (N.T. 524-525)

313. Mr. Miller divided the actual labor cost by the total labor hours to establish the composite hourly rate applicable to the increased number of labor hours caused by the inefficiencies as \$25.23 ($\$2,160,460.75 \div 85,593$). (N.T. 525)

314. Based upon 15,621, the computed increased hours, at a rate of \$25.23 per hour, McCrossin's alleged increased costs due to inefficiencies, disruptions, change orders, delays and associated impacts were computed by Mr. Miller's formula to be \$394,117.83. Mr. Miller acknowledged that "some of the numbers" in his report were incorrect. (N.T. 525; Ex. P-135 Vol 1 pg 38)

315. By applying the Leonard Study, Mr. Miller assumed that all the change orders affected McCrossin's inefficiency on the project. (N.T. 528)

316. DGS classified thirty-seven (37) change orders were classified by DGS as unforeseen conditions with nine of these valued at \$,1000 or less. Thirty-one change orders were due to errors or omissions of which eight of them were valued at \$1,000 or less. There were nine credit change orders issued for a credit of \$135,650.00. (Ex. P-38; D-2 pg. 8)

317. Mr. Miller was not able to produce the complete Leonard Study dated April, 1987, but only an excerpt. (N.T. 528-529, 534; Ex. P-135, Vol. 2, Ex. LPI)

318. Mr. Miller does not know the title of the book from which the Leonard Study excerpt was drawn. (N.T. 529)

319. The Leonard Study relied on by McCrossin's expert used two types of projects, electrical and mechanical, and developed a formula for them and general construction. (N.T. 530)

320. Mr. Miller thought there were 57 general construction projects but did not know the specifics of the projects Leonard used for his study. Although he did not know the specifics of the projects Leonard used for his study as to the size and type, he did recall it was ninety (90) case studies on 57 projects. (N.T. 530-533)

321. The chart relied on by Mr. Miller has levels or types of curves with loss of productivity at zero for all types with 0% to 10% change orders and a jump to 12%, 20% and 26%, depending on the type of project for percent of change orders over 10%. (N.T. 530; Ex. P-135, Vol. 2, Ex. LPI)

322. According to the chart referenced by Mr. Miller, if the only impact to productivity is numerous change orders, the "type - 1 curve" is used. If there is another impact, such as acceleration, then "type 2" is used. (Ex. P-135, Vol. 1, Sec. XVI)

323. Mr. Miller used the "type 2" curve to apply the 20.5% ratio to get the 22% factor which assumes both numerous change orders and acceleration. (Ex. P-135, Vol, 1, Sec. XVI)

324. Mr. Miller also did not know if the Leonard Study took into account inefficiencies caused by the contractor. (N.T. 532)

325. Mr. Miller, on cross, in the answer to the question: "What's a composite of various projects?" stated: "I'm sure it is a cross-section of new construction, renovation, probably heavy highway. I guess I'm going to have to say I'm sure of that. I guess if you were doing statistical analysis, that you would try to get a cross-section of projects." But Mr. Miller admitted "I don't have a definition of the 57 projects, no" (N.T. 533-534)

326. Of the 85,593 man-hours expended on the Project, 6,972 man hours were for supervision which are viewed by the Board to be extended general condition issues. (Ex. P-139, pg. 0001, Item 20)

327. Included in the 85,593 hours used by Mr. Miller were 5,709 man hours used for lead paint demolition, yet Mr. Leahey testified that there was no inefficiency in the lead paint abatement claim. (N.T. 406)

328. Lead paint abatement included only 21 man hours at premium time on this allegedly accelerated project. (Ex. P-28, Appendix A)

329. Mr. Maxeiner computed McCrossin's utilization of labor using certified payrolls which indicated that 1,524 man hours were used after March 24, 1996. The date of substantial completion was March 21, 1996. There was no evidence of delays or disruptions beyond this date. (Ex. D-2)

330. A study of McCrossin's certified payroll indicates only 682.5 hours of overtime for the entire Project which is less than 1%. (Ex. D-2, pg. 15)

331. McCrossin's total equipment expense on the Project was reported to be \$181,838.36. (Ex. P-139, pg. 0024)

332. McCrossin acknowledged they did not have an appreciable amount of overtime or weekend work. (N.T. 469)

333. Based on a Corp of Engineers' study and his experience, Mr. Maxeiner stated that he has never seen a claim for acceleration, delay or disruption without, extending shifts, working week ends and overtime. (N.T. 682-684; Ex. P-141)

334. Mr. Maxeiner established that McCrossin used less than 1% overtime, the workforce did not increase and in fact they dropped their work force by 25% for 4 months after the recovery schedule meeting in August, 1995 when claiming to be accelerating the Project. (N.T. 684-685; Ex. D-2)

g. Claim of Larson Drywall

335. The Larson subcontract price was based on a bid to another contractor and there was contradicting evidence as to how long Larson planned to be on the Project. (N.T. 360, 365-369)

336. Larson did not produce evidence as to what its original bid was for material costs, invoices for alleged increased material costs or what it actually paid to suppliers. (N.T. 343-382)

h. Unabsorbed Home Office Overhead

337. McCrossin's expert, Mr. Miller, acknowledged no credit was given the Commonwealth for additional overhead and mark-up covered by change orders with regard to McCrossin's claim for unabsorbed home office overhead. (N.T. 510)

338. Mr. Miller also acknowledged that he had never previously submitted such a claim based upon the Corps of Engineer's calculations, for McCrossin. (N.T. 511)

339. Mr. Miller also acknowledged under cross-examination that the 9.19% was calculated utilizing McCrossin's gross receipts and all home office costs over a period of approximately seven years, whereas the Eichley method you deduct mark-up applied to change orders during the course of a given project. (N.T. 512, 513)

340. Mr. Maxeiner concluded that McCrossin's calculations, based upon the Corps of Engineer's analysis, was not "unabsorbed overhead" and that had the proper deductions been credited to the Commonwealth it is almost a "wash". (N.T. 689, 690)

CONCLUSIONS OF LAW

1. The value of the contract was increased to \$5,732,822.14 which was a \$447,677.14 increase of the initial bid of \$5,285,145.00. This amount reflects the net increase to the contract by Change Orders.

2. McCrossin incurred actual cost of \$7,283.41 to perform the Change Order 52 work required by DGS. DGS has only approved \$2,639.25 for the work they required under Change Order 52 leaving a balance of \$4,644.16.

3. Similarly, as to change order number 70, DGS has paid McCrossin \$3,254.86 leaving a balance due McCrossin of \$1,050.15.
4. As to change order number 72, DGS has paid McCrossin \$11,983.92 leaving a balance due of \$4,111.48.
5. As to change order number 73, DGS has paid McCrossin \$1,226.40 leaving a balance due of \$870.11.
6. As to change order number 88, DGS has paid McCrossin \$2,091.33 leaving a balance due of \$984.75. The total due McCrossin on change orders 52, 70, 72, 73 and 88 is \$11,660.65, based upon the credible evidence presented.
7. The forklift operating time for lead abatement should equate to the hours paid to the operator (235.5 hours) and idle time is then calculated at 420.5 hours. (656 hours - 235.5 hours)
8. It was established that McCrossin rented the forklift at \$2862.00 per month at 176 hours per month for an actual hourly rate of \$16.26 per hour. ($\$2,862.00 \div 176 \text{ hours}$)
9. The lead abatement equipment costs for the forklift recomputed based on the evidence at trial is as follows: operating cost \$5885.00 (235.5 hours x \$25.00 per hour) and idle rental time of \$6837.33 (420.5 x \$16.26 per hour) for a revised forklift cost of \$12,722.33 which is \$3,677.67 (\$16,400.00 - \$12,722.33) less than McCrossin is claiming for lead abatement.
10. Equipment costs for lead paint demolition totals only \$77,050.33 (\$80,728.00 - \$3677.67). McCrossin's total direct cost for lead paint demolition was \$298,781.89 (\$137,945.63 + \$77,050.33+\$22,191.53+\$66,594.40)
11. McCrossin's total mark-up of cost for lead paint demolition is \$36,775.46 (\$20,691.84 +\$7,705.03+\$2,219.15+\$6,159.44).
12. With mark-up, McCrossin incurred a total adjusted costs of \$335,557.35 (\$278,781.89+\$36,775.46) to remove plaster walls and ceilings as a result of the unforeseen presence of lead.
13. McCrossin is entitled, based upon the credible evidence presented, to the additional costs of \$225,943.75 for lead paint abatement. ($\$335,557.35 - \$109,613.60$)
14. McCrossin claims the forklift cost \$40,068.00 (14 months x \$2,862.00) and operator costs of \$84,342.72. (14 month x 176 hrs/month x \$34.23 per hr). McCrossin's operator costs assumed full operation at 176 hours per month for 14 months while the testimony documents idle time, and non- working

time, irrespective of any credits which McCrossin may have given for change orders and payments from other trade contractors.

15. The record documents that the forklift was idle some long periods of the time, was returned early and there were no documents produced at trial which would verify that McCrossin actually paid a forklift operator for 176 hours per month including all the idle time. How much of the \$84,342.72 was reimbursed by change orders and back charges over the 14 months is not documented.

16. The Board has determined that McCrossin is entitled to Equipment cost for lead paint demolition totaling \$12,722.33 and operator costs of \$6,767.75 (\$5885.00 x 115%) for a total of \$19,490.08.

17. McCrossin's claim of \$77,976.34 should be credited by the Board's award of \$19,490.08 for forklift costs for lead paint demolition and \$1,431.00 early return credit for a revised alleged extended equipment claim of \$57,055.26.

18. The Plaintiff did not prove by credible evidence and therefore, the Board can not determine what portion of the alleged labor cost of \$84,342.72 is due McCrossin; however, DGS construction conference committee admitted that McCrossin was due only \$6,400 which should be paid.

19. The failure of DGS to process Change Orders in a timely manner did create a scheduling and sequencing of work problem for McCrossin.

20. To maintain the schedule, it is apparent McCrossin did have to increase some of its planned crew sizes, but not all; however there is no evidence that McCrossin actually accelerated its work when they used less than 1% overtime and little if any weekend work. There was also no evidence of delay or disruptions beyond the substantial completion date of March 21, 1996. The Board finds no basis whatsoever to compute an award for inefficiency, disruptions and delay damages based on the evidence presented at trial, other than those mentioned herein.

21. Although there was no evidence that the Leonard Study was applicable to renovation projects the size of North Hall, nor was the Leonard Study proven to be a completely reliable source for the Claimant's expert's opinion, the Board gave Mr. Miller the benefit of the doubt with regard to the use of the Leonard Study, but re-calculated Mr. Miller's estimations as to damages.

22. Although, Mr. Miller stated that the 14,586.5 hours for change orders included hours that are being requested as part of the claim, the Board found that 2,464 hours (14 months x 176 hours) for extended equipment could not be correct since the equipment was idle for long periods of time.

23. Change order hours must necessarily include the 2,464 hours which has not been supported by the facts at trial. The change order hours estimated should be calculated at 12,122.5 hours (14,586.5

hours - 2,464 hours). This changes the Leonard Study percentage of Change orders from 20.5 to 14.2% in Mr. Miller's computations.

24. McCrossin requested and submitted debit or credit amounts for 107 change orders valued at \$916,557.51 with a net increase to the contract of \$447,677.14 which is only 8.4% of the original bid.

25. Of the 85,593 man-hours expended on the project, 6,972 man hours were for supervision which are viewed by the Board to be extended general condition issues.

26. Included in the 85,593 hours used by Mr. Miller were 5,709 man hours used for lead paint demolition, yet Mr. Leahey testified that there was no inefficiency in the lead paint abatement claim. These hours could not have been impacted by 22%.

27. The extended time-related labor items bid equals \$257,547.10 (\$289,547.20 - \$32,000.10) which divided by 540 calendar days equals \$479.94 per day for the time-related labor component of extended general conditions as bid.

28. The "General Requirements" material included \$1800 for 900 L.F. of construction fence, \$350 for one (1) each project sign and L.S. \$1200 for photos totaling \$3,350 for non-time related items. The total time-related materials estimate is \$64,505 (\$67,855.00 - \$3,350.00).

29. The bid "General Requirements" adjusting out non-time items equals \$322,052.10 (\$257,547.10 + \$64,505.00) for 540 days or \$596.40 per day.

30. Based on the Board's adjusted estimate of the actual bid sheet data for general requirements of \$596.40 per day for the seventy-one (71) days the project was extended, McCrossin damages for Extended General Conditions is computed to be \$42,344.40.

31. McCrossin's labor and equipment expense on the project was \$2,342,299.11 (\$2,160,460.75 + \$181,838.36) which when divided by 85,593.5 hours yields a Composite Labor/Equipment hourly rate of \$27.35 per hour. Mr. Miller had computed a composite labor rate without equipment of \$ 25.23.

32. Since McCrossin included equipment costs in with its bid labor costs the Board finds that the bid labor/equipment based on data presented by McCrossin at trial was \$1,833,143.40 which when divided by the composite Labor/equipment rate of \$27.36 yields an estimated bid man hours of 67,000 hours.

33. The Board finds the total non-supervisory and corrected non-work order hours worked by McCrossin is 66,449.00 [85,593.5 - 19094.5(6972 supervision + 12,122.5 C.O.)] which is basically equal to the Board's estimate of bid man hours.

34. The addendum referencing the masonry section of the Specifications does not indicate the 45,000 LF is brick only but the “brick repointing noted....” shall be included in the 45,000 LF of masonry repointing. It is obvious that the 45,000 LF is not just brick repointing, and no award is warranted.

35. It is clear that McCrossin was in control of the project at the time the ice damage occurred and the Board finds DGS’ response to this issue is reasonable; therefore, no award is warranted.

36. During trial Mr. Larson was never able to explain the conflict between the six (6) months and the nine (9) months planned time on the job. Also, substantial completion was documented to be March 21, 1996 , yet Larson claims completion of its scope on April 2, 1996. Mr. Larson could also not substantiate his claim for unabsorbed overhead. No award will be made to the Claimant based upon the Larson portion of the claim, as we find Mr. Larson’s testimony less than credible.

37. McCrossin requested time extension totaling 541 days. DGS agreed to twenty-nine (29) days for extensions of time.

38. Gaudet concluded that McCrossin was entitled to 44 days of excusable time which from Sunday, February 11, 1996, would have extended completion to Wednesday, March 27, 1996 six (6) days beyond the date of substantial completion.

39. Accounting for the concurrent delays caused by asbestos abatement, lead abatement and structural steel revisions, the calendar day delay caused by these unforeseen conditions totals 141 days.

40. We concur with Mr. Leahey’s contention that McCrossin should not be charged any liquidated damages which DGS assessed at \$48,750.00. In addition to the plethora of reasons why the project could not be completed on time, it is clear poor scheduling was one of the most obvious problems, and DGS’ own expert describes the problem as one in which “everybody was at fault.” McCrossin is entitled to be reimbursed for the deduction of \$48,750.00 for liquidated damages assessed by DGS.

41. We concur with Mr. Maxeiner and find his testimony to be more credible than Mr. Miller’s regarding McCrossin’s claims related to asbestos, which were either compensated for by Change Order or of very little impact given the localized nature of where it was found.

42. The Board concurs with Mr. Maxeiner and finds his testimony to be more credible than Mr. Miller’s with regard to McCrossin’s calculation of unabsorbed home office overhead. Mr. Leahey and Mr. Miller’s utilization of the Corps of Engineers formula and gross receipts, without any consideration to mark-ups inherent and the change order process or deductions normally applied by the Corp of Engineers, made the Claimant’s calculation inherently flawed. Accordingly, no award for unabsorbed home office overhead will be made.

43. **The Summary of Damages is as follows:**

Lead Abatement	\$ 225,943.75
Asbestos	\$ 0.00
Temporary Heat 1994-1995	\$ 55,339.00
1995-1996	\$ 0.00
Change Order 38	\$ 0.00
Extended Equipment (forklift)	\$ 6,400.00
Extended General Condition	\$ 42,344.40
Inefficiency, disruption and delay	\$ 0.00
Unabsorbed Home Office Overhead	\$ 0.00
Improperly withheld liquidated damages	\$ 48,750.00
Claim of Larson Drywall	\$ 0.00
Misc. Change Orders	\$ 11,660.65
	<hr/>
	\$ 390,437.80

An appropriate Order shall be entered.

OPINION

This action was initiated by the Plaintiff, G.M. McCrossin, Inc., (“McCrossin”) on or about August 25, 1999, with the filing of a claim in the amount of One Million Four Hundred Fifty-Two Thousand Nine Hundred and Two Dollars (\$1,452,902.00). The Defendant, Commonwealth of Pennsylvania, Department of General Services (“DGS” or “the Commonwealth”) filed an Answer and New Matter on October 8, 1999. McCrossin filed a Reply to New Matter on or about November 4, 1999, and the parties proceeded with discovery. Included in the discovery was a Request for Admissions filed by Plaintiff and a Response

filed by the Commonwealth. Beginning October 30, 2000, a hearing was held before this Board in Court Room No. 1, in Harrisburg, Pennsylvania. The case was completed November 2, 2000. Suggested Findings of Fact and Conclusions of Law were filed by both parties.

This Project involved multi-prime bids related to the renovation and repair of the North Hall at Mansfield University of Pennsylvania. Multi-prime bids were advertised originally on February 16, 1994 for work that included, among other things, demolition, concrete, masonry walls, structural steel, wood and metal framing, roof repair and new roofing, architectural wood work, sheet metal, hollow metal doors and frames, aluminum windows, floor covering, masonry pointing, new drywall and interior finishes. A representative of McCrossin attended a pre-bid conference which was held on March 2, 1994, at Mansfield University. DGS rejected all bids, made certain changes to the Project and again invited bids on June 15, 1994. McCrossin submitted the lowest bid at Five Million Two Hundred Eighty-Five Thousand One Hundred Forty-Five Dollars (\$5,285,145.00) for general construction. Notice of Award for the Project was issued on Tuesday, July 19, 1994. On July 25, 1994, McCrossin and DGS entered into an agreement for the Project. Contract documents included the Standard Form Agreement between the Commonwealth and the contractor, the Notice to Bidders, the Bid Form, Contract Bonds, Conditions of Contract (general, special, supplementary and other conditions), the Administrative Procedures of the Bureau of Construction, the drawings of all contracts, the specifications of all contracts, all Bulletins and agenda issued prior to the agreement, and all modifications issued subsequent to the execution of the agreement. The period of performance for the Project was specified for 540 calendar days from the date of the award of the contract with a completion date for the Project originally set at January 10, 1996. McCrossin was originally to commence on-site operations no later than 10 days after the initial job conference; however, because of

delays in DGS signing the contract, McCrossin began on-site operations on August 11, 1994, the date of the initial job conference. McCrossin completed their work on March 21, 1996.

McCrossin's General Superintendent, Thomas Markowski, was involved in the bidding and developed the plan of McCrossin's performance of work. Mr. Markowski admitted that the work plan he came up with as to how McCrossin was going to proceed with the work was not in writing and that he did not know how old North Hall was prior to bidding the Project for McCrossin. McCrossin's Project Superintendent, Gary Robinson, had prior experience on renovation projects but did not visit the Project site prior to McCrossin bidding the work. Mr. Robinson did not prepare the progress schedule bar chart that McCrossin submitted to the scheduling consultant. Rather, Markowski prepared it the way the Department wanted it done. DGS hired Gaudet Associates, Inc. ("Gaudet") to serve as the scheduling consultant for the Project. The architect for the Project was W. G. Eckles Company ("Eckles") out of New Castle, Pennsylvania.

Mansfield's North Hall was originally built about 1874. The lead architect for Eckles, Mr. Vincent Lamorella, established that neither the University nor DGS had a complete set of as-built drawings for North Hall. North Hall is approximately the size of a football field in length with a basement, five full floors, a partial sixth floor and a smaller area in the seventh. The design professional did not perform a detailed pre-design survey prior to preparing the design documents. Eckles hired Morris Morgan to do some investigation of the as-built conditions and provide sketches of beam connections and major actual dimensions of structural building components to determine if the building was made out of cast iron. Mr. Morgan also verified the structural elements of the old

drawings although he was not a structural engineer and was not looking for hazardous conditions. The design professional was not personally familiar with OSHA requirements relating to lead abatement and Mr. Lamorella admitted that on a renovation project, without a set of as-built drawings, the architect is operating to some extent “in the blind.” The design professional worked with McCrossin on other projects on which there were little or no criticisms of McCrossin’s work nor were there an unusual number of change order requests. At the first job conference, each contractor was advised “. . .no change order work shall commence prior to receiving written approval from the Department.” All contractors were required to use a Critical Path Method (“CPM”) scheduling system for the Project. The contract required the scheduling consultant and lead contractor and other primes to meet and establish a time table for developing the CPM schedule. McCrossin was required to cooperate with the scheduling consultant to complete the final CPM schedule, although the Plaintiff provided Gaudet no scheduling information until its September 16, 1994 bar chart schedule, which indicated only the proposed work through December of 1994. Final baseline schedule was approved by DGS on January 26, 1995, and signed by all prime contractors and distributed to prime contractors on March 13, 1995. Mr. Fred Maxeiner, DGS’ expert witness, explained that “float” is the difference between early finish and late finish for an activity and that zero float or negative float define a critical path activity. Mr. Maxeiner noted that on the baseline schedule, many of McCrossin’s activities had more than 100 days of float, which he thought was unusual. He also noted that McCrossin, by way of example, had more than 200 days of float on the upper floor demolition activities.

Neither McCrossin nor DGS dispute the fact that unforeseen conditions were encountered on this Project. At the original pre-bid conference a representative for McCrossin inquired whether there was any asbestos or lead paint on the Project. There was no response to her question. Unfortunately, the question

tendered by McCrossin's Nicole Estep proved to be prophetic. Certainly the Commonwealth had knowledge of a potential problem since a study prepared by the Maguire Group for the Project, dated March 12, 1992, identified the presence of asbestos in the roof over the kitchen and noted that "lead was found in the paint in all of the areas tested." Although the Maguire Group report stated that the Toxicities Characteristic Leaching Procedure test indicated that any demolition debris containing lead painted surfaces did not require special handling, the report was silent regarding the likely hazardous conditions that could occur during demolition. McCrossin notified DGS in writing of the presence of lead-based paint and DGS admitted that the presence of lead was an unforeseen condition for which McCrossin is entitled to compensation. Obviously, the parties do not agree on the amount of compensation due.

On September 15, 1994, all demolition was stopped until a final determination was made as to how DGS intended to handle the removal of the lead paint. McCrossin set up air monitoring equipment and notified DGS that it would require a change order for the extra work that would have to be performed to deal with the lead abatement. A special meeting was held on September 22, 1994, to deal with the lead paint issue and at that meeting, McCrossin advised DGS that productivity would drop fifty percent (50%) if its workers had to wear protective clothing to deal with removal of lead paint. McCrossin also notified DGS that it would be requesting an extension of time because of the time it was taking DGS to make a decision as to how the lead and asbestos, which was also discovered in limited areas, was going to be handled. In a letter dated October 4, 1994, McCrossin notified DGS that the Project was essentially "shut down" due to the failure of DGS to respond to the issue of hazardous materials. McCrossin's Mr. Robinson testified that McCrossin could not perform its wall demolition work until it was determined whether or not lead paint was an issue. In the interim, McCrossin continued to work in those areas not affected by lead,

such as ceiling tile removal, while it awaited DGS' instructions with regard to the areas containing lead. McCrossin's unilateral suspension of demolition precipitated by the lead paint problem lasted for over a month. On October 11, 1994, McCrossin resumed demolition of lead-based materials. While there is no debate that the contract specifications required McCrossin to comply with applicable regulations, laws and ordinances concerning removal, handling and protection against exposure and or environmental pollution, certainly those provisions were vague at best and did not give McCrossin much guidance as to what was expected of them by DGS. Although any contract can be modified with the assent of the parties by altering, excising or adding provisions, Bonczek v. Pascoe Equipment Co., 304 Pa. Super. 11, 450 A.2d 75 (1982), in the instant case McCrossin chose to wait out the receipt of a change order with regard to the lead contamination issue.

The lead abatement performed by McCrossin required a lead control program that met OSHA requirements which included monitoring and protective clothing for people working in the affected areas. Monitoring included attaching dosimeters to those persons who would be exposed to the lead. Special washrooms and dressing areas had to be set up in the basement for decontamination when an exposed employee left the hazardous area. Workers had to wear tyvek suits, respirators, and gloves and McCrossin had to test to make sure the respirators fit properly. Mr. Robinson estimated that it took lead abatement workers forty-five (45) minutes per day to put on and remove protective tyvek suits. DGS questioned that estimate and viewed it as excessive. Employees needed to be rotated in and out of exposed hazardous areas because exposure must be limited to certain dose levels. If exposure reached certain levels, then the employee had to be removed to another area.

Update Number 1, prepared by Gaudet, noted that during the month of October, 1994, McCrossin was required to reduce its work force due to safety concerns associated with lead and that only limited construction proceeded in areas which were not affected by the lead. The lead paint and demolition issues were resolved in February or early March, 1995, prior to the last of the structural steel being erected.

The Project Specifications, Section 10550, General Requirements, included a subsection entitled “Unidentified Asbestos”. The language contained in Section 10550 indicates as follows:

“There is a possibility that asbestos may be discovered on this project. Should it be determined that some or all of the asbestos must be removed, the Contractor shall obtain an estimate for said removal from a Subcontractor who is experienced in the field, has insurance and is knowledgeable of the regulations listed below. The Contractor may provide the estimate itself if it is qualified in the asbestos abatement field. The Department shall consider authorizing a Change Order for the removal of asbestos.”

Prior to the start of demolition on August 24, 1994, McCrossin notified DGS of their belief that the existing roof contained asbestos in an area adjacent to stairway D which was an area to be used to pick up demolition material for all floors. Mansfield University had its own asbestos abatement people remove the suspected asbestos material in the stairway area a week after McCrossin’s notification. McCrossin also removed samples of floor tile for testing and although initial lab results indicated no hazardous asbestos, additional test samples did establish that asbestos was present in some of the tile on the first floor. On October 18, 1994, DGS indicated it would “consider” authorizing a change order for asbestos removal and directed McCrossin to proceed with its contract work without delay. On November 21, 1994, Eckles reported that the first floor contained approximately 7,447 square feet of asbestos floor tile and only 119 square feet of mastic containing asbestos. They recommended removal as soon as possible. It is undisputed

that the majority of the asbestos tile was confined to the north wing of the first floor of the Project which restricted McCrossin's work in that area. On December 13, 1994, DGS directed McCrossin to remove the contaminated floor tile and McCrossin finished the removal on December 27, 1994 and was issued a change order by DGS for approximately Twenty-Three Thousand Dollars (\$23,000.00). The asbestos baring mastic was removed over a weekend during the Christmas holidays. DGS' expert, Mr. Maxeiner opined that the discovery of asbestos had very little impact on McCrossin's work and we agree.

On November 10, 1994, McCrossin wrote to Eckles questioning the "weldability" of the existing structural steel. This memo formalized oral notification of the problem approximately one month earlier. On November 17, 1994, Eckles responded to McCrossin and directed them to select an appropriate welding rod which was their welder's responsibility. McCrossin had Dr. Barnoff, Dean of Engineering at Penn State, inspect the test welds of existing steel columns. He concluded the test welds were not adequate and Eckles, by letter dated January 6, 1995, admitted that neither the north columns nor the south columns were weldable and that the existing steel in the original wing of the building must have bolted connections. Mr. Robinson acknowledged that McCrossin did not encounter any unweldable steel on floors two through five at the north wing of North Hall. The contract required McCrossin to install all new steel on floors two through five at the north wing of North Hall. It was undoubtedly more costly for McCrossin to bolt the steel rather than weld it and McCrossin submitted a change order for the additional direct costs associated with the change to structural steel. DGS approved change order 17 for the structural steel on May 10, 1995. The approved baseline CPM indicated McCrossin's deadline (late finish date) for activity "G239 4 Structural Steel" was July 11, 1995, and it had a total float of 213 days. Structural steel could not be ordered, detailed and delivered until McCrossin received the revised sketches from the architect. While

these facts are not in dispute, the “impact” the structural steel issue had on the Project is disputed.

According to Mr. Robinson, McCrossin could not complete anything in the south or north wings while awaiting resolution of the structural steel change order and none of the load bearing walls could be removed without the structural steel revisions and the installation of the structural steel. According to Mr. Lamorella, North Hall was completely nonload-bearing, as far as walls go, and in the south wing, McCrossin could remove any of the partitions, cross walls and corridor walls and have a large one-room configuration with walls and beams exposed. Mr. Lamorella testified that the North Wing partitions could have been demolished because they were nonload-bearing walls while the steel issue was being resolved. McCrossin clearly could not remove any of the load-bearing walls until the steel was installed; however, McCrossin demolished plaster and lathe on the load-bearing walls prior to the installation of the structural steel. After the lathe and plaster was removed, McCrossin left the stud walls in place for the load-bearing walls while waiting for the steel issue to be resolved. The east wing contained modern-type steel which was weldable. Mr. Robinson testified that in order to keep the Project moving, McCrossin removed the studs in the south wing and moved floor to floor removing nonload-bearing walls. McCrossin then returned to areas to remove load-bearing stud walls after the installation of the structural steel. Because of the change to the structural steel, McCrossin did not receive the first delivery of steel until February 15, 1995, and began erection of the structural steel in the basement on February 16, 1995. Although it is apparent that the structural steel issue may have had an impact on the way McCrossin planned to do its work, it is also apparent the delay was concurrent with other delays associated with the lead paint and perhaps asbestos issues. McCrossin felt that the structural steel issue impacted McCrossin’s subcontractor, Larson, who was performing the metal studding, drywall and ceiling fireproofing. Mr. Robinson testified that he thought the last of the

structural steel was installed in August or September of 1995. McCrossin does not dispute the fact that it was paid additional compensation for all direct costs associated with the changes to the structural steel; however, the Plaintiff seeks additional compensation for alleged increased costs due to alleged delays, changed sequencing and inefficiencies caused by the unweldable old steel and the time it took DGS and the professional to implement a change order. We recognize the fact that implicit in every contract is a covenant from the owner that it will not interfere with the ability of the contractor to perform its work and it will not fail to act in some essential matter necessary to enable the contractor to efficiently and timely complete its work. See Gasparini Excavating Co. v. Pennsylvania Turnpike Commission, 409 Pa. 465, 187 A.2d 157 (1963). However, as indicated in the Findings of Fact and Conclusions of Law, this Board does not believe McCrossin established a claim for inefficiency, disruption and delay to warrant an award.

This Board must examine the contract documents and afford them a reasonable interpretation. Percy A. Brown & Co. v. Raub, 357 Pa. 271, 54 A.2d 35 (1947). In the instant case the contract documents clearly provide that DGS was to provide temporary heat for the project and with regard to that issue, DGS acknowledged, through its own expert, Mr. Maxeiner, that the Commonwealth was responsible for temporary heat for 1994-1995. McCrossin worked in November and December 1994 and January 1995 without temporary heat because DGS had not resolved the issue. An award in the amount of Fifty-Five Thousand Three Hundred Thirty-Nine Dollars (\$55,339.00), as indicated in the Conclusions of Law, will be made to McCrossin for its temporary heat claim. This Board is at a loss as to why the Commonwealth refused to pay McCrossin for the temporary heat claim when it was abundantly apparent to even their own expert, the Commonwealth was responsible for providing temporary heat for the 1994-1995 period.

In its bid, McCrossin included Twenty-Seven Thousand Dollars (\$27,000.00) for a large forklift to assist with demolition. McCrossin had a forklift on the Project to facilitate the removal of demolition materials and to stock the building with structural steel. On June 20, 1995, McCrossin notified DGS that it was seeking additional compensation because of delays and impacts on the Project which purportedly extended the time the forklift was needed to remain on the Project. McCrossin admitted that the forklift was charged to DGS on many change orders and while it was idle McCrossin rented the forklift to other trade contractors. In fact, McCrossin's Bob Leahey established that the forklift was used by the drywall subcontractor, electrical prime contractor and several other contractors to stock materials in the building and that McCrossin was paid by these contractors for use of the idle forklift. McCrossin is claiming Seventy-Seven Thousand Nine Hundred Seventy-Three Dollars and Forty-One Cents (\$77,973.41) for the extended use of the forklift and claims it gave the Commonwealth a credit for all change orders for which the forklift was used for reimbursement and monies that McCrossin received from other trade contractors who utilized the forklift. Mr. Maxeiner expressed the opinion that McCrossin is not entitled to extended equipment costs because McCrossin was storing the forklift on-site and not because of any delay, but rather of their own free will. McCrossin's Mr. Leahey acknowledged that there were long periods of idle time; however, he felt it was less expensive to have the forklift sit idle at times rather than incur the costs of removing and then returning the forklift multiple times. DGS rejected McCrossin's request for additional compensation; however, on July 12, 1995, a DGS construction committee ruled that McCrossin was due Sixty-Four Hundred Dollars (\$6,400.00) for the extended forklift claim, although McCrossin rejected that amount. For the reasons set forth in the Findings of Fact and Conclusions of Law, it is precisely that amount which we have chosen to award.

According to McCrossin, the DGS change order process took anywhere from two weeks to four months for change orders to be authorized. McCrossin submitted 106 change orders having a total value of Nine Hundred Sixteen Thousand Five Hundred Fifty-Seven Dollars and Fifty-One Cents (\$916,557.51) and DGS approved change orders valued at Four Hundred Forty-Seven Thousand Six Hundred Seventy-Seven Dollars and Fourteen Cents (\$447,677.14). There were 37 change orders classified by DGS as unforeseen conditions and 31 change orders due to errors and omissions. The Project Professional, Mr. Lamorella, reviewed all change orders for the Project and opined that unforeseen conditions and the number of change orders issued on the Project were not unusual for a building this old. The value of the contract was increased to Five Million Seven Hundred Thirty-Two Thousand Eight Hundred Twenty-Two Dollars and Fourteen Cents (\$5,732,822.14), an increase of Four Hundred Forty-Seven Thousand Six Hundred Seventy-Seven Dollars and Fourteen Cents (\$447,677.14) over the original bid amount. The failure of DGS to process change orders in a timely matter no doubt did create a scheduling and sequencing work problem for McCrossin. McCrossin did work at times before receiving formal change order approval. However, the record simply does not bare out the “all-encompassing- inefficiency” disruption and delay claim tendered by McCrossin irrespective of the change order issue.

There were a number of miscellaneous change orders, such as, change order 52 which involved replacing and repointing 153 bricks at various locations of North Hall. Change order 70 was to install walls and columns due to revised sketches for mechanical room 141. Change order 72 was a force account change order required because walls and footings had to be redesigned by Eckles. Change order 73 was to install a steel bracket support to fortify a wood beam and was done on a force account basis pursuant to directions issued by DGS. Change order 88 was to install and provide a safety rail around a transformer

pit. DGS, for some inexplicable reason, refused to acknowledge the fact that McCrossin was obligated to pay costs associated with fringe benefits pursuant to a collective bargaining agreement and the Board has awarded a total of Eleven Thousand Six Hundred Sixty Dollars and Sixty-Five Cents (\$11,660.65) related to the miscellaneous change orders.

Section 04500 “Masonry Restoration and Cleaning” under description of work states as follows: “Masonry restoration work includes the following: Removal of plant growth. Repairing damaged masonry. Cleaning all exposed masonry surfaces. Repointing mortar joints.” Specification Section 04500, page 1, line 26 states that the contractor shall repoint an estimated quantity of 45,000 lineal feet of mortar. Specification Section 04500 part 2 clearly identified four different types of masonry to be restored, including face brick and accessories, building brick, stone and terra cotta. Although McCrossin submitted a claim related to the above-mentioned sections and specifications, Mr. Lamorella considered the pointing of brick, stone and terra cotta as contract items. We agree. The addendum referencing the masonry section of the specifications does not indicate 45,000 lineal feet of brick only, but rather “brick repointing noted. . . .”

McCrossin was in control of North Hall building when ice damage arose. Although McCrossin notified DGS that ice was accumulating, and DGS responded to those concerns, the Commonwealth can not be held responsible for the fact that McCrossin ultimately chose not to take precautionary measures. In truth, even if precautionary measures had been taken, ice may have accumulated and caused damage to the building. DGS believed the ice damage was an issue between McCrossin and its insurance carrier and we agree.

Larson Contracting was McCrossin’s subcontractor for drywall, acoustic ceilings, metal studs, installation and miscellaneous patching. Larson has made a claim against McCrossin for additional costs it

experienced due to inefficiencies and overrun on the time it suffered due to changes and unforeseen conditions. When asked for a specific location where Larson was impacted by delays, McCrossin's Mr. Markowski stated simply "all through the building". Larson never suspended work but did have to move from floor to floor to keep going. Mr. Larson, who testified on behalf of the Plaintiff, indicated that the structural steel delay forced his company to make 26 additional crew moves from floor to floor. However, Mr. Larson acknowledged he never saw McCrossin's schedule until his company arrived on the Project after a five month period from the start of McCrossin's work. He also acknowledged he never saw North Hall prior to working on it and that his bid was based on information from another general contractor who bid the job, and not McCrossin. Although Mr. Larson acknowledged that Larson prepared a "pretty fast schedule" for the size of the job, he was completely confused as to whether they planned to be on the job six months or nine months. Mr. Larson had difficulty explaining precisely how his claim for unabsorbed overhead was calculated and we view his testimony and claim as speculative at best. Accordingly, the Larson claim was rejected by this Board.

McCrossin and other prime contractors on the Project attempted in July of 1995 to establish a completion date for the Project. McCrossin throughout the Project requested that DGS issue five extensions of time. The reasons for extensions of time included delays allegedly caused by the presence of lead and asbestos, the delays associated with the revisions and changes to structural steel, weather conditions, lack of timely installation of heating ducts by the HVAC (prime contractor) and delays in processing change orders. Mr. Weinzierl, the Construction Regional Director for the Central Region at DGS was responsible for the North Hall Project after July 1995. Mr. Weinzierl attended the meeting on the Project in August 1995 which was attended by the professional, the scheduler and all of the prime contractors (except the

plumber) for the purpose of discussing a recovery schedule for the Project. At this meeting all contractors were given extensions of time and a new completion date was established for the Project of February 11, 1996, a time extension of 29 days because of DGS' delay in signing the contracts at the beginning of the Project. Although the scheduler's report, dated July 31, 1995 indicated the Project was 159 days behind schedule, by memo dated August 14, 1995, McCrossin notified DGS that the revised schedule appeared to be a workable schedule that would result in the Project being completed in a timely manner. Substantial completion was achieved on March 21, 1996. All prime contractors, except McCrossin received extensions of time extending the completion date of the Project until March 21, 1996. Gaudet concluded that McCrossin was entitled to 44 days of excusable time which from February 11, 1996 would have extended the completion date to March 27, 1996 i.e. six days beyond the date of substantial completion. Mr. Leahey, McCrossin's Vice President, stated that McCrossin should not be charged any liquidated damages which DGS assessed at Forty-Eight Thousand Seven Hundred Fifty Dollars (\$48,750.00). We agree with Mr. Leahey and have made an award of \$48,750.00 for liquidated damages which were improperly withheld.

On March 15, 1995, McCrossin notified DGS that it was experiencing inefficiencies as a result of the delays and disruptions on the Project. McCrossin anticipated starting out the Project with 10 to 12 laborers at the beginning of the Project and Thomas Markowski stated that he thought the optimum crew size for any craft, such as laborers or carpenters would be about 8 to 10 men. Mr. Robinson testified that if structural steel had been in place and there had been no lead issue, McCrossin would have removed the stud walls along with the lathe and plaster in one operation. Mr. McCrossin also stated that when various trades are all working in the same area there is a loss in the amount of time and efficiency drops. However, under cross-examination, Mr. Robinson testified as to only two instances of interferences by other trades and could not recall any other examples of what caused inefficiencies to McCrossin's work. Except for suspension of demolition associated with the lead paint abatement, McCrossin did not suspend any other work on the Project. Similarly, McCrossin did not increase their crew size on the site after August 1995 through the completion of the Project, but rather maintained their crews on the job longer than they had planned. Given the fact that the Board has awarded improperly withheld liquidated damages, we did not feel McCrossin, under the circumstances, established by credible evidence the alleged delays in the performance of the work.

Mr. Leahey described unabsorbed office overhead as basically the cost of keeping the doors open, or the support staff for all the field operations. He indicated that there is an allocation to every job for absorbing the overhead and when the company does not receive money during a period of time, other jobs are burdened with absorbing that overhead during those time periods. McCrossin's claim for unabsorbed office overhead is One Hundred Fifteen Thousand Eight Hundred Eighty-Seven Dollars and Thirty-Six Cents (\$115,887.36). Mr. Leahey calculated this figure based upon guidelines set up by the Corps of Engineers.

Mr. Leahey acknowledged that he utilized the Corps of Engineers' general conditions for calculating the unabsorbed home office portion of McCrossin's claim and did not use the Eichley formula. Mr. Leahey further acknowledged under cross-examination that this was the first instance in which McCrossin utilized the Corps of Engineers' method to calculate their unabsorbed office overhead expense. McCrossin's expert, Mr. Miller, testified that McCrossin's unabsorbed office overhead not covered by the Project during the delay period totaled 128 days of extended performance. He calculated the unabsorbed overhead component at \$115,887.36. Mr. Maxeiner, the Commonwealth's expert, testified that he had done a lot of business with the Corps of Engineers and had prepared a lot of claims for contractors against the Corps of Engineers. Mr. Maxeiner stated that he had never heard of unabsorbed overhead utilized as claimed by McCrossin. Mr. Maxeiner opined that McCrossin improperly calculated their unabsorbed overhead and that the Corps of Engineers does not allow things such as interest, advertising or promotions, entertainment, and management perks. Mr. Maxeiner felt that in reality the amount claimed by McCrossin as to unabsorbed office overhead was "a wash". As the fact finder, this Board has to judge the credibility of the witnesses and weigh their testimony. Miller v. C. P. Centers, Inc., 334 Pa. Super. 623, 483 A.2d 912 (1984); Kaplan v. Redevelopment Authority of Philadelphia, 44 Pa. Cmwlth. 149, 403 A.2d 201 (1979). We believe Mr. Maxeiner's testimony in this regard to be more credible than either Mr. Leahey or Mr. Miller and choose to make no award with respect to McCrossin's unabsorbed office overhead. We do not believe Plaintiff proved its damages, if any, with reasonable certainty as to this portion of their claim. While we are cognizant of the fact that McCrossin did not have to prove damages with mathematical certainty, the loss claimed has to be substantiated by reliable evidence. Acchinone & Canuso, Inc. v. Pa. Department of Transportation, 501 Pa. 337, 461 A.2d 765 (1983); Standard Pipe Line Coating Company, Inc. v.

Soloman & Teslovich, Inc., 334 Pa. Super. 367, 496 A.2d 840 (1985); Larry Armbruster and Sons, Inc. v. Public School Building Authority, 95 Pa. Cmwlth. 310, 505 A.2d 395 (1986).

The Board's calculation of damages, for the foregoing reasons, is outlined in section Q of the Findings of Fact. Our decisions relating thereto are outlined in the Conclusions of Law and we will not, due to the brevity of life, reiterate those Findings of Fact and Conclusions of Law in this opinion. Paragraph 43 of the Conclusions of Law succinctly lists the break down of our award totaling Three Hundred Ninety Thousand Four Hundred Thirty-Seven Dollars and Eighty Cents (\$390,437.80). An appropriate order follows this opinion.

ORDER

AND NOW, this 5th day of February, 2002, an award is hereby entered in favor of the Plaintiff, G.M. McCrossin, Inc., and against the Defendant, Commonwealth of Pennsylvania, Department of General Services, in the amount of Three Hundred Ninety Thousand Four Hundred Thirty-Seven Dollars and Eighty Cents (\$390,437.80), with six percent (6%) interest from August 25, 1999, the date Plaintiff filed its claim with this Board.

Upon receipt of said award by Plaintiff, Plaintiff shall forthwith file with the Board a Praecipe to mark the case settled and ended with prejudice.

Each party to bear its own costs and attorneys fees.

BOARD OF CLAIMS

David C. Clipper
Chief Administrative Judge

Louis G. O'Brien
Engineer Member

Opinion Signed

2/5/02

John R. McCarty
Citizen Member

Opinion Signed