COMMONWEALTH OF PENNSYLVANIA

AIRPORT INDUSTRIAL PARK, INC. d/b/a PEC CONTRACTING ENGINEERS, et al.	:	BEFORE THE BOARD OF CLAIMS
VS.	:	
COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF GENERAL SERVICES	:	
VS.	:	
AIRPORT INDUSTRIAL PARK, INC. d/b/a PEC CONTRACTING ENGINEERS, et al.	:	DOCKET NO. 3464

FINDINGS OF FACT

BACKGROUND

1. Airport Industrial Park, Inc., d/b/a PEC Contracting Engineers ("PEC"), is a Pennsylvania corporation with offices in Allegheny County, Pennsylvania, that is primarily engaged in construction. (Amended Complaint (Docket No. 3464) ¶ 4; Answer with New Matter and Counterclaim ("Answer") (Docket No. 3464) ¶ 4).

2. The Department of General Services ("DGS") is an agency of the Commonwealth of Pennsylvania with its principal business address at 515 North Office Building, Harrisburg, PA 17125. (Amended Complaint (Docket No. 3464) ¶ 2; Answer ¶ 2).

3. On August 23, 2000, PEC and DGS entered into Contract No. 570-27ST2.1 ("Foundations Contract" or "ST2.1 Contract") for the construction of foundations and other concrete work at Fayette State Correctional Institution ("Fayette SCI" or "Project"), a state correctional facility, being constructed in East Millsboro, PA, for a total bid price of $4,848,000. (Amended Complaint (Docket No. 3464) ¶¶ 2, 6; Answer (Docket No. 3464) ¶¶ 2, 6; N.T. 54; Ex. 429).

4. On January 3, 2001, PEC and DGS entered into a second agreement, Contract No. 570-27ST4.1 ("CUP Contract" or " ST4.1 CUP"), for the construction of the central utility plant ("CUP") for the Fayette SCI for a total bid price of $1,339,000. (Amended Complaint (Docket No. 3469) ¶¶ 8, 9; Answer (Docket No. 3469) ¶¶ 8, 9; N.T. 54; Ex. 430).

5. P.J. Dick, Inc. ("P.J. Dick") was DGS's agent and the construction manager for the Project. (Ex. 432 Vol. 1).

6. L. Robert Kimball, Inc. ("Kimball" or "Professional") was the professional architect/engineer who designed the Project and created the contract specifications and drawings. (Ex. 432 Vol. 1 p. 1).

7. Paul Chambers ("Mr. Chambers") was the president and owner of PEC. (N.T. 4, 858; Ex. 429 Contract p. 6 Bond p. 11).

8. John Wieland ("Mr. Wieland") was employed by PEC as an estimator and assistant project manager during this Project. (N.T. 1632-1634).

9. Michael Pacoe ("Mr. Pacoe") was employed by PEC as the field superintendent on the Project. (N.T. 189).

10. Daniel Bernardi ("Mr. Bernardi") was employed by P.J. Dick as the project director for the Project. (N.T. 2640).

11. Douglas Zaenger ("Mr. Zaenger") was employed by P.J. Dick as the full time project manager on the Project. (N.T. 2867).

12. Joseph Kopko ("Mr. Kopko") was employed by P.J. Dick as the senior project manager for the Project and he was Mr. Bernardi's and Mr. Zanger's superior. (N.T. 3617-3621).

13. Scott Eckrich ("Mr. Eckrich") was a quality control supervisor for a P.J. Dick subcontractor called Tri-Tech. (N.T. 423).

14. Elizabeth O'Reilly ("Ms. O'Reilly") was an attorney employed by DGS during the Project. (N.T. 6112).

15. Debra Yutko ("Ms. Yutko") was employed by DGS as the Public Works Fiscal Division Chief during the Project. (N.T. 4486).

16. Christopher Payne ("Mr. Payne"), from the firm of McDonough Bolyard and Peck, is a licensed civil engineer who testified as an expert witness in construction management, scheduling, cost estimating and delay analysis on behalf of DGS. (N.T. 1076-1079).

17. McCrory and McDowell was the accounting firm retained by P.J. Dick on behalf of DGS to review the books and cost records of PEC and affiliates in order to assist DGS in ascertaining the monies owed to creditors of PEC and its affiliates with regard to the Project. (N.T. 2257-2258; Ex. 489).

18. Michael Rollage ("Mr. Rollage") is a certified public accountant with the firm of McCrory and McDowell who testified regarding McCrory and McDowell's review of PEC's books and job cost records for the Project. (N.T. 2256-2257).

19. PESH was a sister corporation to PEC, owned by Mr. Chambers, that provided the equipment that PEC used for the Project. (N.T. 705, 844).

20. PNG was a sister corporation to PEC, owned by Mr. Chambers, that provided the labor that PEC used for the Project. (N.T. 57, 708, 843-844; Ex. 429 p. 8).

21. The Project site was on 248 acres of rolling hills in Fayette County, Pennsylvania, roughly 30 miles south of Pittsburgh. Approximately half the site was within a security perimeter with buildings in a campus arrangement that included eleven inmate housing units, eight support buildings, a vehicle sallyport building, two guard stations, two guard towers, two filed houses and several outdoor recreation fields. Outside of the security perimeter, the plans called for additional support buildings including an administration building, a warehouse, a vehicle maintenance building, three staff residences and the central utilities plant (CUP). (N.T. 58-59; Exs. Court #1, 001, 002, 8, 432 Vol. 1).

22. At the center of this high-security facility were eleven housing units containing 1,236 prison cells which were labeled on the Project's plans as Buildings A through L (I was omitted). (Exs. Court #1, 001, 002, 8, 432 Vol. 1).

23. These housing units were made of precast concrete cell units to be set on top of the concrete foundations and slabs that were to be installed by PEC. (Exs. 001, 002, 432 Vol. 1).

24. The remaining buildings (excluding staff residences) were assigned numerical designations 1 through 19 (13 and 18 omitted) and were either masonry block or metal pre-engineered structures that were to be built on top of concrete foundations and slabs that were to be installed by PEC. (Exs. Court #1, 001, 002, 432 Vol. 1).

25. The scope of the work PEC was to perform under the ST2.1 Contract included: 1) furnishing all necessary labor and materials to perform work; 2) constructing foundations for all buildings (except the three staff residences and the CUP) including excavation, subbase preparation, installing foundation drains and tying them into work of SW2.3 site utilities contractor, installing concrete footings, stem walls, grade beams and on grade slabs, caisson, underslab plastic vapor retarder, waterproofing, backfill and concrete-to-concrete joint sealants; 3) constructing and upon completion of all work removing the concrete washout pit shown on the logistics plan drawings; and 4) placing anchor bolts for pre-engineered metal buildings' foundations under the supervision of the SCI.1 Pre-Engineered Metal Buildings Contractor. (N.T. 574-580, 4427-4428; Ex. 432 Vol. 1; Board Finding).

26. The SC1.1 Pre-Engineered Metal Buildings Contractor, Amthor Steel, was ultimately responsible for furnishing and installing the anchor bolts for the pre-engineered building foundations. Proper positioning of these anchor bolts was not PEC's responsibility. (N.T. 4426-4428; Ex. 431A Bulletin #3 Item #5, Ex. 432 Vol. 1; Board Finding).

27. In March 2000, DGS advertised the major bid packages for the Project, including the building concrete work composed primarily of concrete foundations and slabs on grade. (Exs. 429, 432 Vol.1).

28. PEC submitted its bid for the ST2.1 Foundations Contract on May 17, 2000 and was awarded this contract on June 1, 2000. (N.T. 766, 1635; Exs. 150, 429).

29. Pursuant to the ST2.1 Contract bid documents, PEC expected to start work on June 23, 2000 by initiating its design submittal process and to commence actual work on the Project site by July 10, 2000. (N.T. 53, 1412, 1415, 2679; Exs. 429, 431B).

30. The ST2.1 Contract bid documents contained no project schedule, but it did have milestone dates for commencing and completing each building foundation and for completing each slab on grade. (N.T. 3977-3981; Ex. 431B).

31. DGS's original milestones for building concrete work on the Project set forth the ST2.1 Contract bid documents showed the following key work items and corresponding deadlines:

ST2.1 – Foundations

Begin Submittal Process	23-Jun-00
Mobilize On Site	10-Jul-00
<u>COMMENCE WORK:</u>	
L5 Housing Unit J	10-Jul-00
L5 Housing Unit L	10-Jul-00
Building 1	10-Jul-00
Building 14	10-Jul-00
Building 15	10-Jul-00
Building 17	10-Jul-00
Building 6 (Preengineered Portion Only)	5-Sep-00
Buildings 2-6	27-Sep-00
Housing Units A-D. Guard Station 10	5-Sep-00
Housing Units E-H. Guard Station 11	5-Sep-00
Buildings 7-9, 19a, 19b	31-Jan-00
Housing Unit K	23-May-01
Buildings 12	18-Jun-01
Building 16	4-Jun-01
<u>CONCRETE FOUNDATIONS COMPLETE</u>	
L5 Housing Unit J (Including Slabs Under Cells)	18-Aug-00
L5 Housing Unit L (Including Slabs Under Cells)	18-Aug-00
Building 1	22-Sep-00
Building 14	25-Aug-00
Building 15	25-Aug-00
Building 17	23-Oct-00
Building 6(Preengineered Portion Only)	6-Oct-00
Buildings 2-6	19-Feb-01
Housing Units A-D. Guard Station 10	13-Oct-00

Housing Units E-H. Guard Station 11	13-Oct-00
Buildings 7-9, 19a, 19b	22-May-01
Housing Unit K	19-Jun-01
Buildings 12	26-Jun-01
Building 16	29-Jun-01

COMPLETE SLABS ON GRADE

L5 Housing Unit J(Other Than Under Cells)	15-Nov-00
L5 Housing Unit L(Other Than Under Cells)	30-Nov-00
Building 1	15-Dec-00
Building 14	21-Sep-00
Building 15	20-Oct-00
Building 17	15-Dec-00
Building 6(Preengineered Portion Only)	6-Oct-00
Buildings 2-6	1-May-01
Housing Units A-D. Guard Station 10(@Cells)	17-Nov-00
Housing Units E-H. Guard Station 11(@Cells)	17-Nov-00
Housing Units A-D. Guard Station 10(Dayrooms)	1-Mar-01
Housing Units E-H. Guard Station 11(Dayrooms)	26-Apr-01
Buildings 7-9, 19a, 19b	9-Aug-01
Housing Unit K	29-Jun-01
Buildings 12	3-Jul-01
Building 16	11-Jul-01

COMPLETE TOPPINGS & SLABS ON DECK

L5 Housing Unit J	29-Dec-00
L5 Housing Unit L	29-Dec-00
Building 1	29-Dec-00
Building 14	None
Building 15	None
Building 17	29-Dec-00
Building 6(Preengineered Portion Only)	None
Buildings 2-6	29-Jan-01
Housing Units A-D. Guard Station 10	16-Jan-01
Housing Units E-H. Guard Station 11	28-Feb-01
Buildings 7-9, 19a, 19b	None
Housing Unit K	None
Buildings 12	None
Building 16	None

(Exs. 429, 431B).

32. The ST2.1 Contract and bid documents also provided that time was of the essence. (Exs. 429, 431).

33. The original plan called for the entire Project to be complete by June 1, 2002. This was never officially revised. (N.T. 1254, 3697; Ex. 549-25 (May 10, 2000 and Jan. 25, 2001); Board Finding).

34. The original milestones in the ST2.1 Contract bid documents required PEC to start work on site quickly and proceed at a rapid pace while performing foundation and/or slab work on multiple buildings at or about the same time. (N.T. 1116-1124, 1147-1148, 2891, 3979-3983; Exs. 429, 431, 431B; Board Finding).

35. Pursuant to the general design and sequence of construction expected on the Project and the original milestones in the ST2.1 Contract bid documents, it was clear from the beginning that PEC's timely completion of the foundation and slab work on the Project was necessary in order to allow the Project's "follow-on" contractors[1] to start their work on time and keep the overall Project work on schedule. On this Project, the precast cell contractor (New Enterprise Stone & Lime Company, Inc.), the masonry contractor (Harris Masonry, Inc.), the plumbing contractor (W.G. Tomko, Inc.), the electrical contractor (The Farfield Company), the HVAC contractor (Limbach Company, LLC), the structural steel erection contractor (Amthor Steel, Inc.), the pre-engineered metal building erection contractor (Merit Contracting, Inc.), and the fire protection contractor (Simplex Grinnell, L.P.), among others, were all "follow-on" contractors to PEC in that each of these eight contractors required PEC's foundation and/or slab work in a building to be performed (in at least substantial part) before any of them could effectively commence the majority of their work on the building. (N.T. 1089, 1095-1096, 1132-1135, 1146-1148, 1169, 2659-2660, 2891, 2903-2916, 3158-3200, 3979-3983; Exs. 429, 430, 431, 431B, 432, 436A, 445, 481-38R103; F.O.F. 21-34; Board Finding).

36. However, for the two months following PEC's ST2.1 Contract award on June 1, 2000, DGS made changes to the Project, rebid a number of tasks and delayed executing various contracts, including PEC's ST2.1 Contract and those of certain other prime contractors. (N.T. 1228, 1266-1268, 2896-2897; Exs. 429, 549-25 (May 10, 2000).

37. In July 2000, DGS had not yet executed PEC's ST2.1 Contract, but nonetheless proceeded to hold the initial job conference for PEC as well as the masonry, mechanical and electrical contractors on July 26, 2000. (N.T. 1233, 1408, 2649; Exs. 151A, 154, 429, 438A).

38. DGS did not fully execute the ST2.1 Contract until August 23, 2000. (N.T. 770-771; Exs. 153, 429).

39. On August 25, 2000, PEC received its Notice to Proceed from P.J. Dick. This notice directed PEC to commence its bid submittal process by August 28, 2000 and to mobilize and begin work on the Project site by September 14, 2000. (N.T. 1234; Exs. 153, 154; Board Finding).

40. Because DGS delayed PEC's initial start date from June 23, 2000 to August 28, 2000, DGS advised PEC that it would add the same 66 days to each of PEC's original ST2.1

[1] The term "follow-on" contractor refers to a contractor who must wait for some portion of the work of another to be performed on a project before it (the "follow-on" contractor) can effectively begin the bulk of its work.

Contract milestone dates to create revised contract milestones (hereinafter the "Revised Milestones"). (N.T. 192, 1102-1106, 2890-2892, 2895-2901; Exs. 154, 157, 157A, 160, 165, 429, 431B, 436A, 457).

41. DGS's revision to the original ST2.1 Contract milestones made at the start of PEC's work adjusted PEC's mobilization date and foundation and slab completion dates forward 66 days to account for DGS's delay in executing the PEC ST2.1 Contract, but maintained the original work durations for each task as well as the requirement that PEC proceed with this work at the same rapid pace while performing foundation and/or slab work on multiple buildings at or about the same time (as was called for by the original ST2.1 Contract milestones). (N.T. 1102-1106, 1116-1124, 1132-1135, 1144-1148, 2659-2660, 2890-2916, 3979-3983; Exs. 154, 157, 157A, 160, 165, 429, 431B, 432, 457; F.O.F. 30-40; Board Finding).

42. The Revised Milestones for PEC's building concrete work on the Project showed the following key work items and corresponding deadlines:

ST2.1 – Foundations

Begin Submittal Process	28-Aug-00
Mobilize On Site	14-Sep-00
<u>COMMENCE WORK:</u>	
L5 Housing Unit J	14-Sep-00
L5 Housing Unit L	14-Sep-00
Building 1	14-Sep-00
Building 14	14-Sep-00
Building 15	14-Sep-00
Building 17	14-Sep-00
Building 6 (Preengineered Portion Only)	10-Nov-00
Buildings 2-6	02-Dec-00
Housing Units A-D. Guard Station 10	10-Nov-00
Housing Units E-H. Guard Station 11	10-Nov-00
Buildings 7-9, 19a, 19b	6-Apr-00
Housing Unit K	28-Jul-01
Buildings 12	23-Aug-01
Building 16	09-Aug-01
<u>CONCRETE FOUNDATIONS COMPLETE</u>	
L5 Housing Unit J (Including Slabs Under Cells)	23-Oct-00
L5 Housing Unit L (Including Slabs Under Cells)	23-Oct-00
Building 1	27-Nov-00
Building 14	30-Oct-00
Building 15	30-Oct-00
Building 17	28-Dec-00
Building 6(Preengineered Portion Only)	11-Dec-00
Buildings 2-6	26-Apr-01

Housing Units A-D. Guard Station 10	18-Dec-00
Housing Units E-H. Guard Station 11	18-Dec-00
Buildings 7-9, 19a, 19b	27-July-01
Housing Unit K	24-Aug-01
Buildings 12	31-Aug-01
Building 16	03-Sep-01

<u>COMPLETE SLABS ON GRADE</u>

L5 Housing Unit J(Other Than Under Cells)	20-Jan-01
L5 Housing Unit L(Other Than Under Cells)	04-Feb-01
Building 1	19-Feb-01
Building 14	26-Nov-00
Building 15	25-Dec-00
Building 17	19-Feb-01
Building 6(Preengineered Portion Only)	11-Dec-00
Buildings 2-6	06-Jul-01
Housing Units A-D. Guard Station 10(@Cells)	22-Jan-01
Housing Units E-H. Guard Station 11(@Cells)	22-Jan-01
Housing Units A-D. Guard Station 10(Dayrooms)	06-May-01
Housing Units E-H. Guard Station 11(Dayrooms)	01-Jul-01
Buildings 7-9, 19a, 19b	14-Oct-01
Housing Unit K	03-Sep-01
Buildings 12	07-Sep-01
Building 16	15-Sep-01

<u>COMPLETE TOPPINGS & SLABS ON DECK</u>

L5 Housing Unit J	05-Mar-01
L5 Housing Unit L	05-Mar-01
Building 1	05-Mar-01
Building 14	
Building 15	
Building 17	05-Mar-01
Building 6 (Preengineered Portion Only)	
Buildings 2-6	05-Apr-01
Housing Units A-D. Guard Station 10	23-Mar-01
Housing Units E-H. Guard Station 11	05-May-01
Buildings 7-9, 19a, 19b	
Housing Unit K	
Buildings 12	
Building 16	

(N.T. 1102-1106, 1116-1124, 1132-1135, 1144-1148, 2659-2660, 2890-2916, 3979-3983; Exs. 154, 157, 157A, 160, 165, 429, 431B, 432, 457; F.O.F. 40-41; Board Finding).

43. DGS kept the original overall Project completion date of June 1, 2002, thereby making PEC's timely completion of the foundation and slab work on the Project even more

essential to allowing the Project's follow-on contractors (such as those installing the precast cells, masonry, plumbing, electrical, HVAC, structural steel, detention hardware and pre-engineered buildings) to start their work on time and keep the overall Project work timetable. (N.T. 1102-1106, 1116-1124, 1132-1135, 1144-1148, 2659-2660, 2890-2916, 3237, 3979-3983, 4583-4584; Exs. 154, 157, 157A, 160, 165, 429, 431B, 432, 457, 549-25 (Jan. 25, 2001, April 1, 2001); F.O.F. 30-42; Board Finding).

44. At the commencement of construction, PEC was required under both the ST2.1 original contract milestones and the Revised Milestones to start constructing the foundations (also sometimes referred to as footers) in five buildings at or about the same time, i.e., Buildings J, L, 1, 14 and 15. Under the Revised Milestones this work was to begin by September 14, 2000.[2] (N.T. 1102-1106, 1116-1124, 1132-1135, 1144-1148, 2659-2660, 2890-2916, 3058, 3979-3983; Exs. 154, 157, 157A, 160, 165, 429, 431B, 432, 436B, 436C, 436D, 436E, 457, 549-25 (Oct. 4, 2000); F.O.F. 30-43; Board Finding).

45. PEC did not begin construction of the five required buildings on site by mid-September 2000, but instead first began construction on the Project site in mid-October 2000 on only two buildings, J and L. (N.T. 1096, 1103, 1120, 1417, 2681-2682, 2910-2914, 3158-3171, 4628; Exs. 165, 225, 436B, 436C, 445; Board Finding).

46. In the Fall of 2000, PEC was slow to fully mobilize and begin work on all the tasks required by the Revised Milestones. Consequently, PEC immediately began to fall behind the Revised Milestone deadlines. (N.T. 433-434, 1096, 1103, 1120-1127, 1132-1139, 1144-1156, 1414-1420, 1436, 2653-2658, 2890-2893, 2910-2917, 3202-3206, 4628; Exs. 157, 165, 177, 225, 445, 457; F.O.F. 42-45; Board Finding).

47. As the Project progressed through the Winter of 2000 and into 2001, PEC repeatedly failed to commence and/or complete the foundation and slab work for the multiple buildings on the Project in the time required by the Revised Milestones. (N.T. 1096, 1103, 1120-1127, 1132-1156, 1342-1348, 2658-2668, 2750, 2910-2917, 2922-2928, 2933-2934, 3158-3200, 3202-3206, 3232-3233, 3241-3245, 3274-3282, 3663-3689, 3694-3702, 3704-3705, 3710-3715, 3718-3720, 4481-4483; Exs. 165, 177, 182, 183, 184, 186, 187, 188, 193, 225, 254, 255, 260, 278, 293, 377, 435A Nos. 9 to 13, 436E, 436F, 436I, 436J, 445, 549-25 (Nov. 29, 2000, Jan. 10, 2001); F.O.F. 42-46; Board Finding).

48. Although, at the time, P.J. Dick had not received sufficient scheduling input from various contractors on the Project (including PEC), P.J. Dick, in an effort to coordinate the contractors and keep the Project moving, issued a draft master project schedule which it referred to as the "Initial (Master) Project Schedule" on or about December 5, 2000. (N.T. 980-986, 1003-1005, 1047-1064, 1090-1121, 1322-1325, 3158-3177, 3240-3241, 3274-3282, 4378-4387, 4450-4451; Ex. 445).

[2] The Revised Milestones also showed Building 17 being started on September 14, 2000 at the same time as Buildings J, L, 1, 14 and 15. However, Building 17 (i.e. the central utilities plant) subsequently became the subject of its own separate contract and milestones (i.e. the ST4.1 or CUP Contract). (N.T. 1127, 1417; Exs. 165, 429, 430, 433A, 457).

49. Because it became apparent by the beginning of December 2000 that PEC was not commencing, and would not be completing, the majority of its foundation and/or slab on grade work in a timely manner in the Fall and Winter of 2000 (including the majority of its foundations and slabs on grade under cells for Housing Units A-H), as required by the Revised Milestones, P.J. Dick's Initial (Master) Project Schedule, although keeping the same multi-location, overlapping nature of the work, nonetheless relaxed (i.e. extended) some of PEC's Revised Milestone deadlines for its foundation and slab on grade work to reflect the reality of the situation at that time. (N.T. 3158-3177, 3232-3233; Ex. 445; F.O.F. 42-48; Board Finding).

50. By issuing the Initial (Master) Project Schedule on or about December 5, 2000 to all contractors, P.J. Dick was requesting that PEC do whatever was necessary to complete its foundation and slab work (particularly its slab on grade under cell work for Housing Units A-H) by these somewhat later dates and that the follow-on contractors provide scheduling input accepting a slightly later work start for several of their tasks while still completing the Project on time. (N.T. 3158-3177, 3232-3233; Ex. 445; F.O.F. 42-49; Board Finding).

51. The relaxed (extended) deadlines for PEC's foundations and slabs on grade set forth in the Initial (Master) Project Schedule included the following significant dates:

Commence Work*

Housing Unit	A	8-Nov-00 "A"**
	B	1-Dec-00
	C	11-Dec-00
	D	18-Dec-00
	E	26-Dec-00
	F	11-Jan-01
	G	18-Jan-01
	H	3-Jan-01

Concrete Foundations Complete

Housing Unit	A	19-Dec-00
	B	22-Dec-00
	C	3-Jan-01
	D	10-Jan-01
	E	17-Jan-01
	F	1-Feb-01
	G	8-Feb-01
	H	24-Jan-01

Complete Slabs on Grade @ Cells

Housing Unit	A	4-Jan-01
	B	9-Jan-01
	C	17-Jan-01
	D	24-Jan-01
	E	31-Jan-01
	F	14-Feb-01
	G	21-Feb-01
	H	7-Feb-01

* We use the start of excavation as the commence work date but acknowledge that the initial layout date preceded these dates by two days in each building.

** "A" after the date denotes that the identified task was actually accomplished by the indicated date at the time the schedule was actually produced (on or about Dec 1, 2000).

(N.T. 3158-3177, 3232-3233; Ex. 445; F.O.F. 42-50; Board Finding).

52. From the beginning of the Project onward, P.J. Dick repeatedly cited PEC for delays in its concrete work and urged PEC to add more manpower in order to get the foundations and slabs done in a timely manner so as not to delay the Project. (N.T. 1120-1127, 1132-1139, 1144-1156, 1342-1348, 2658-2668, 2750, 2910-2917, 2922-2928, 2933-2934, 3663-3689, 3694-3702, 3704-3705, 3710-3715, 3718-3720; Exs. 165, 177, 182, 183, 184, 186, 187, 188, 193, 198, 225, 254, 255, 260, 278, 293, 377, 435A Nos. 9 to 13, 436E, 436F, 549-25 (Oct. 1, 2000, Jan. 25, 2001, Feb. 14, 2000, May 18, 2001); F.O.F. 45-51).

53. PEC responded to P.J. Dick's complaints of slow progress by contending its delay was due to other contractors or that P.J. Dick and DGS were making additional work demands that required PEC to do extra work not within the original scope of the ST2.1 Contract and asserting that this extra work was causing its delays. (N.T. 137-142, 203-209, 2653, 2658, 2695, 2962-2965, 4356-4362; Exs. 162-164, 167, 170, 240, 241, 329, 549-25 (Feb. 7, 2001); F.O.F. 52).

54. PEC had also submitted a bid for a second contract on the Project in the Fall of 2000 to build the foundation and shell of Building 17, the central utility plant ("CUP"). Notwithstanding the early problems with its ST2.1 Contract work, PEC was awarded the ST4.1 CUP Contract on November 15, 2000 to construct the central utility plant building on the Project. (N.T. 53-54, 778-783, 1635; Ex. 430).

55. On January 3, 2001, DGS executed the ST4.1 Contract with PEC. PEC's Initial Job Conference for this task was held on January 11, 2001. (N.T. 53-54, 782-783, 817-824, 2712; Exs. 325, 327, 430, 435A No. 9, 436I).

56. In January 2001, PEC was again slow mobilizing and starting to perform its required work, this time under the ST4.1 Contract, and fell behind its milestones for this CUP

Contract, as well. (N.T. 2711-2730, 3038, 3680-3682, 3702-3705, 4421-4424; Exs. 198, 327, 329, 330, 337, 345, 346, 349, 359, 373, 430, 433A, 435A No. 9, 436I, 510D at Tab 7, 549-25 (Jan. 10, 2001, Feb. 15, 2001, April 12, 2001)).

57. On January 25, 2001, representatives of PEC, P.J. Dick and DGS met in DGS's offices in Harrisburg to discuss the delays to PEC's work and the problems P.J. Dick and PEC were having on the Project. All parties agreed to work together to try to get the Project back on schedule. (N.T. 727, 2945-2949, 2958-2959, 3669-3673, 6125-6126; Exs. 198, 214, 549-25 (Jan. 25, 2001)).

58. Following the January 25, 2001 meeting, P.J. Dick assigned Mr. Eckrich, a quality control supervisor, to monitor PEC's performance. During the period February 6 through 19, 2001, Mr. Eckrich issued 19 deficiency reports to PEC citing various work quality problems. (N.T. 424-430, 440, 451-452, 455-472, 500-502, 514, 2673, 2678-2679, 3219-3221; Exs. 216, 221, 286, 435A No. 9, 476).

59. Throughout February 2001, PEC's ST2.1 Contract work remained significantly behind its Revised Milestones and the extended deadlines set forth in the Initial (Master) Project Schedule. (N.T. 1132-1156, 2678, 3158-3200, 3241-3251, 3622-3629, 3648-3650, 4449-4455, 4471-4483; Exs. 182, 187, 188, 198, 211, 225, 254, 255, 436A thru 436J, 445, 549-25 (Feb. 7, 2001, Feb. 14, 2001, Feb. 15, 2001, Feb. 16, 2001); F.O.F. 42-58; Board Finding).

60. P.J. Dick Project meeting minutes for February 15, 2001 state: "PEC has received cure notice and responded. Response was inadequate and alternatives are being evaluated." (N.T. 475; Ex. 221, 549-25 (Feb. 15, 2001)).

61. On February 20, 2000, Mr. Eckrich wrote PEC a letter stating that PEC has still not responded to the 19 cited contract deficiencies. (N.T. 475-476; Ex. 221).

62. On February 21, 2001, DGS declared PEC in default on the ST2.1 Contract, and on February 22, 2001, DGS declared PEC in default on the ST4.1 Contract. Both default notices referenced, and were issued pursuant to, Paragraph 14.3 of the General Conditions. Both letters cited PEC for numerous work performance deficiencies, including delayed performance. Both default notices allowed a 7 day period in which PEC could cure these deficiencies before being removed from the Project for default.[3] (N.T. 1148, 1150, 2678-2679, 2683, 2711-2713, 3685-3686; Exs. 225, 330, 377, 429, 430, 431).

63. PEC responded to the foregoing default notices by taking steps to cure the cited deficiencies and sporadically increased its labor force and the resources it was committing to the Project. (N.T. 438, 479-488, 2689-2690, 3628, 3683-3686; Exs. 206, 216, 225, 227, 232, 235, 240, 259, 260, 435A No. 11, 436J).

[3] It is unclear from the notes of testimony whether or not Ex. 430, as admitted, included the General Conditions section of the ST4.1 Contract. However, we find, in fact, that the terms of the General Conditions applicable to both the ST2.1 and ST4.1 Contracts are identical and accurately represented by Exhibit 431. (N.T. 9-10, 54, 62-76, 174-183, 245, 253, 322-323, 355-356, 414-415, 575, 624-625, 731, 820, 825-826, 1034-1035, 1053-1054, 1230, 1241, 1481, 2053-2054, 2139, 2468, 2888, 2906, 5149, 5493, 6133; Exs. 429, 430, 431, 432; Board Finding).

64. DGS took no further action against PEC pursuant to these February 2001 default notices and did not remove PEC from the Project pursuant to same. (N.T. 3628, 3673-3674, 3910-3914; Exs. 225, 330, 435A Nos. 11 and 13, 436J to 436P, 549-25 (April 12, 2001, May 18, 2001, June 20, 2001); F.O.F. 62, 63, 65, 69-75).

65. PEC continued its ST2.1 Contract work from February into the Summer of 2001, even though this work continued to lag behind the timeframes set by the Revised Milestones and the Initial (Master) Project Schedule. (N.T. 492, 980-981, 1132-1156, 2697, 3158-3200, 3232-3265, 3628, 3648-3650, 3678, 3713-3724; Exs. 6, 244, 254, 260, 274, 278, 433A, 435A Nos. 11 to 14, 436I to 436P, 445, 457, 545G, 545J; F.O.F. 42-52, 57-62; Board Finding).

66. Subsequent to the issuance of the Initial (Master) Project Schedule, P.J. Dick issued the "Integrated Project Schedule" on or about March 5, 2001 and several additional schedules thereafter as the Project progressed. PEC considered this March 5, 2001 "Integrated Project Schedule" to be the first true master project schedule required by the ST2.1 Contract and complains that P.J. Dick was remiss in not issuing this master project schedule sooner. P.J. Dick acknowledges this "Integrated Project Schedule" was the first schedule issued which met the contract definition of a master project schedule because it incorporated scheduling input from the contractors on the Project but defends the timing of its issuance on the grounds that PEC and other contractors were late in providing proper scheduling input. We agree with P.J. Dick and find that the timing of its issuance of the "Integrated Project Schedule" was reasonable given the delay from PEC and other contractors on the Project in providing the proper scheduling information to P.J. Dick needed to create a master project schedule. (N.T. 492, 980-986, 1047-1064, 1088-1121, 1132-1136, 1146-1148, 1152-1156, 1276, 1280-1342-1344, 2697, 3158-3200, 3241-3251, 3718-3720; Exs. 6, 244, 254, 274, 278, 431, 433A, 435A Nos. 11 to 14, 436I to 436P, 445, 457, 481A, 481-38R103 thru 481-54R501,[4] 545G, 545J; F.O.F. 42-52, 56-59,65; Board Finding).

67. We also agree with DGS and its expert Mr. Payne that this "Integrated Project Schedule" of March 5, 2001, although most closely fitting the contract definition of a master project schedule, is not an appropriate schedule to use as a baseline schedule from which to assess Project delay caused by PEC because this schedule did not retain the initial completion dates for PEC's concrete work set forth in the Revised Milestones or the Initial (Master) Project Schedule, but once again acknowledged the reality that PEC had not timely completed many of its foundations and slabs on grade (including the slabs on grade under cells for the Housing Units B-H) which were on the Project's critical path as called for by these prior contract milestones and/or the Initial (Master) Project Schedule. Instead, this new March 2001 schedule identified

[4] The Board admitted into evidence (over objection of Plaintiff) several work schedules relating to the Project that were presented in electronic format (on compact disk) on the strength of testimony from Mr. Zaenger who testified that these schedules (Exhibits 481-38R103 thru 481-54R501) were duplicates of the various schedules as they were issued on the Project and on Mr. Payne's testimony that he accurately translated these schedules from P.J. Dick's electronic data storage (kept in Primavera scheduling software format) to PDF format for Board use. However, upon subsequent and careful review by the Board, we have concluded that these several schedules (as presented on compact disk) are not exact duplicates of the various Project schedules actually issued on the job as evidenced by the fact that they contain information (e.g. actual completion dates of several discrete activities) which post-dates the data date of these schedules. Accordingly, we do not rely on these exhibits for our fact findings. (N.T. 1108-1126, 1352-1355, 1389-1390, 3181-3200, 4472-4483; Exs. 481A, 481-38R103 thru 481-54R501; Board Finding).

the actual dates when these work items had been completed, and asked the remaining follow-on contractors to accept still later work starts than previously indicated. (N.T. 492, 980-986, 1047-1064, 1088-1121, 1132-1136, 1146-1148, 1152-1156, 1276, 1280-1281, 1342-1344, 2697, 3158-3200, 3241-3251, 3718-3720; Exs. 6, 244, 254, 274, 278, 431, 433A, 435A Nos. 11 to 14, 436I to 436P, 445, 457, 481A, 545G, 545J; F.O.F. 42-53; Board Finding).

68. PEC did not provide sufficient manpower on the Project to perform its foundation and slab work in a timely manner, failed to meet the Revised Milestones or the extended deadlines of the Initial (Master) Project Schedule and failed to accomplish the amount of rapid and contemporaneous foundation and slab work at multiple locations that was required by the ST2.1 Contract. This general failure on the part of PEC included the specific failure to meet the deadlines set forth in either the Revised Milestones or the Initial (Master) Project Schedule for completing the foundations and slabs on grade under cells for Housing Units B-H, which tasks were instead completed anywhere from 10 to 54 days late depending on the specific housing unit used for comparison. Several numbered buildings were completed even later or left unfinished by the time of PEC's termination from the Project. (N.T. 433, 442, 473, 1132-1156, 1346, 2658-2663, 2913, 3158-3200, 3241-3251, 3622-3629, 3648-3650, 3669-3678, 3685- 3688, 3901, 4584-4683; Exs. 165, 172, 177, 182, 187, 188, 198, 211, 225, 254, 255, 431B, 435A No. 9, 436A thru 436J, 445, 457; F.O.F. 34-67; Board Finding).

69. PEC continued to work under both the ST2.1 and ST4.1 Contracts into July 2001. (N.T. 3718, 3724; Exs. 433A, 435A No. 14, 436P, 457, 549-25 (May 18, 2001, June 21, 2001); F.O.F. 34-65, 70-77; Board Finding).

70. On June 7, 2001, the District Court of Lancaster County Nebraska declared PEC's surety for the Project, American West Casualty Company ("Amwest"), insolvent and entered an order of liquidation against Amwest. (Exs. 566A, 566B).

71. On or about June 8, 2001 the District Court of Lancaster County Nebraska and/or the appointed liquidator of Amwest issued a notice of legal rights and obligations to policy holders, principals, obligees and agents of Amwest (which groups included both PEC and DGS) notifying these parties, among other things, of the order of liquidation and the expiration of all policy coverages issued by Amwest on July 6, 2001. (Exs. 566A, 566B, 429, 430, 431; Board Finding).

72. Some time between the June 8, 2001 issuance of the notice of liquidation and July 6, 2001, DGS received notice of the Amwest liquidation and the July 6, 2001 expiration of PEC's surety bonds issued by Amwest for the Project. Accordingly, by letter of July 6, 2001, DGS notified PEC that PEC had to obtain replacement bonds for the Project, fax copies of same to DGS by July 9, 2001, and deliver originals of said replacement bonds by July 13, 2001. In this letter, DGS further stated that if it did not receive fax copies of these replacement bonds by July 9, 2001 it would take the necessary steps to declare PEC in default of both the ST2.1 and the ST4.1 Contracts. (Exs. 73, 566A, 566B).

73. Although PEC engaged in a search to replace its bonds for the Project, it was unsuccessful in procuring same by July 13, 2001. (N.T. 385-386, 833, 840, 6264-6265).

74. Contrary to DGS's assertion at hearing, DGS's letter to PEC of July 6, 2001 was not a notice of default and did not initiate the default procedure prescribed by Paragraph 14.3 of the General Conditions to the contracts here at issue. Instead, DGS's July 6, 2001 letter threatened that DGS would initiate default proceedings if PEC did not fax copies of replacement bonds to DGS within 3 days. (N.T. 6282-6287; Exs. 73, 429, 430, 431; Board Finding).

75. Despite DGS's threats in its July 6, 2001 letter, DGS never declared PEC in default and never initiated the default procedure prescribed in Paragraph 14.3 of the General Conditions of the contracts due to the surety bond problem. Instead, it did nothing further with respect to PEC's participation in the Project until July 27, 2001. (N.T. 3910-3914; F.O.F. 70-74, 76-81).

76. By letter of July 27, 2001, DGS terminated PEC's ST2.1 Contract effective that same day. This letter identified no cause for the termination but instead cited Paragraphs 14.1 and 14.2 of the General Conditions of that contract as the grounds for the termination. The letter also directed PEC to discontinue all work on the ST2.1 Contract immediately. (N.T. 384-385; Exs. 64, 308, 429, 431; Board Finding).

77. By letter of July 27, 2001, DGS terminated PEC's ST4.1 Contract effective that same day. This letter identified no cause for the termination but instead cited Paragraphs 14.1 and 14.2 of the General Conditions of that contract as the grounds for the termination. The letter also directed PEC to discontinue all work on the ST4.1 Contract immediately. (N.T. 384-385; Exs. 64, 308, 430, 431; Board Finding).

78. Although DGS clearly knew how to initiate default proceedings pursuant to Paragraph 14.3 (as evidenced by its letters of February 21 and February 22, 2001 to PEC initiating default proceedings on the ST2.1 and ST4.1 Contracts for delayed performance), it is apparent from the clear contrast between the February 2001 default letters and the July 27, 2001 termination letters sent to PEC that DGS chose to terminate PEC pursuant to the "no fault" provisions of Paragraphs 14.1 and 14.2 of the General Conditions rather than the default provisions at Paragraph 14.3 of the General Conditions of the two contracts. (N.T. 4421-4425, 6282-6287; Exs. 64, 225, 308, 330, 429, 430, 431; F.O.F. 62-64, 74-77; Board Finding).

79. By electing to terminate PEC under Paragraph 14.1 rather than Paragraph 14.3, DGS was able to remove PEC from the Project that very day rather than incur additional delay removing PEC and replacing it with other contractors already on site. (N.T. 6292-6294; Exs. 429, 430, 431, 435A Nos. 14 and 15, 549-25 (July 19, 2001); F.O.F. 76-78; Board Finding).

80. Ms. O'Reilly, counsel for DGS, participated in the termination discussions at DGS and stated that DGS deliberately decided to terminate PEC under Paragraph 14.1 of the General Conditions not under the default provision in Paragraph 14.3 (N.T. 6268-6269).

81. Contrary to DGS's assertions at hearing, PEC was never declared in default of its ST2.1 Contract or its ST4.1 Contract for failure to maintain adequate surety bonding for the Project. (N.T. 4421-4425, 6268-6269, 6282-6294; Exs. 64, 73, 308, 429-430, 431; F.O.F. 62-64, 74-80; Board Finding).

82. Accordingly, it was not PEC's default on its contract obligations to maintain surety bonds on the Project, but rather, DGS's termination of PEC pursuant to the "no fault" termination provisions of Paragraph 14.1 and immediate order to PEC to discontinue work and remove itself from the Project which caused DGS to incur additional costs to other contractors (in order to complete PEC's work on the Project as set forth in the ST2.1 Contract and the ST4.1 Contract). (F.O.F. 62-65, 74-81; Board Finding).

83. After PEC's termination, DGS immediately proceeded to hire Penn Transportation Services, Inc., and Amthor Steel, other prime contractors already on the Project site, to complete PEC's work under the ST2.1 Contract and/or the ST4.1 Contract. (N.T. 6292-6294; Ex. 92P, 435A Nos. 14 and 15, 549-25 (July 19, 2001)).

84. Although the original Project completion deadline remained at June 1, 2002, significant work on the Project continued well into the Winter of 2002-2003. (F.O.F. 33, 410, 411, 476, 528, 575; Board Finding).

85. At the time of its termination, PEC was approximately 80% complete with its ST2.1 Contract work and approximately 43% complete with its ST4.1 Contract work. (N.T. 213-214, 230; Ex. 502B pp. 000066-67; Board Finding).

86. From the beginning of the Project up to May 31, 2001, DGS had paid PEC $3,062,514.69 (or 63% of the total contract amount) for work completed under the ST2.1 Contract and $179,709.20 (or 13% of the total contract amount) for work completed under the ST4.1 Contract. (Exs. 1, 65, 429, 430, 442, 462B, 490, 503, 1000-1001).

87. DGS made no further payments to PEC after May 31, 2001, refusing to pay PEC any additional sums for work it had completed before its July 27, 2001 termination. (N.T. 3741, 4485-4493, 4505-4507, 4517-4522, 6245-6256; Exs. 490, 496, 503, 1000, 1001).

88. Following termination of PEC's contracts pursuant to Paragraph 14.1, DGS invoked its right under Paragraph 14.2 of the General Conditions to an "audit" of PEC's books and records regarding PEC's Project costs. (N.T. 6187-6188; Exs. 64, 308, 429, 430, 431).

89. In August 2001, DGS, through its Project Manager, P.J. Dick, hired the firm of McCrory & McDowell to perform the "audit" of PEC's books and records to determine, inter alia, who, among PEC's suppliers and subcontractors on the Project, had and had not been paid by PEC. (N.T. 2258, 2298, 6182-6186; Ex. 489A).

90. Although Paragraph 14.2 of the General Conditions and the parties in this case frequently refer to McCrory & McDowell's review of PEC's books and records as an "audit", the work performed by McCrory & McDowell for P.J. Dick/DGS in this case was not a formal "audit" as that term of art is used in the accounting profession. Rather, Mr. Rollage, a CPA with McCrory & McDowell, along with his assistant, Mr. Stephen Lorenz, performed certain agreed upon accounting procedures to inspect PEC's books and Project cost records primarily to determine who, among PEC's suppliers and subcontractors on the Project, had not been paid by PEC as well as the anticipated cost to complete PEC's contracts. They were then to report the

results of this inspection to DGS and P.J. Dick.[5] (N.T. 2259-2265, 2296, 2331-2335, 6187-6188; Exs. 429, 430, 431, 489, 489A, 490).

91. PEC submitted to the above-referenced "audit" in August 2001 and provided information to McCrory & McDowell personnel in this process. (N.T. 2267-2270, 2283, 2334, 2342, 2348, 2364).

92. Mr. Rollage authored a report on PEC's Project creditors dated September 7, 2001 to P.J. Dick and DGS which identified, among other things, certain costs incurred by PEC on the Project for both the ST2.1 Contract and the ST4.1 Contract up to the time of its termination, but not yet paid to its subcontractors, suppliers, laborers and laborers' unions on the Project. (N.T. 2258, 2364, 2372-2373, 6190; Ex. 489).

93. McCrory & McDowell's "audit" report for the Project showed, inter alia, that PEC still owed substantial monies to others for goods and/or services provided to it for the Project. (Ex. 489 (Exs. A and B), 2267-2269, 2338-2343, 2364, 2372-2373).

94. After the McCrory and McDowell "audit" of PEC's cost records and books, DGS still refused to make any further payment to PEC pursuant to Paragraph 14.2 for any of the outstanding pay applications for work completed on the contracts and/or for any of PEC's claimed extra work because, DGS asserted, its counterclaims and offsets were in excess of any amounts it owed PEC. (N.T. 105-106; Exs. 429, 430, 431).

BOARD JURISDICTION

95. On October 12, 2001, PEC filed an administrative claim with DGS for termination damages and extra work compensation in connection with the ST2.1 Contract. (N.T. 60; Ex. 1)

96. In October 2001, PEC filed a similar claim with DGS for termination damages under and extra work compensation in connection with the ST4.1 Contract. (N.T. 60; Ex. 65)

97. On December 11, 2001, DGS held a claims hearing on all of PEC's Project claims, but never issued any ruling. (N.T. 108).

98. On March 11, 2002, PEC filed this action with the Board on the ST2.1 Contract at Docket No. 3464, and on March 25, 2002, PEC filed an action with the Board on the ST4.1 Contract at Docket No. 3469. (B.O.C. Dockets 3464 and 3469).

99. Many of the other prime contractors whose work was to follow PEC's on the Project, including ten different prime contractors on this Project, filed administrative claims with DGS and subsequent claims with the Board alleging they had incurred, inter alia, substantial

[5] Although we recognize that the procedure and work done by McCrory & McDowell was not an "audit" as that term of art is used in the accounting profession, we will continue to refer to their inspection of PEC's books and records as an audit in the layman's sense since this term is used in Paragraph 14.2 and by the parties consistently throughout.

delay and delay-related damages in connection with their work on the Project. (Tri-City Steel, Inc. v. DGS, Docket No. 3466; Merit Contracting, Inc. v. DGS, Docket 3483; W.G. Tomko, Inc. v. DGS, Dockets 3493 and 3646; New Enterprise Stone & Lime Co., Inc., v. DGS, Docket 3494; Limbach Co, v. DGS, Dockets 3501, 3631 and 3762; Simplex Grinnell v. DGS, Docket 3554; Cast & Baker Corp. v. DGS, Docket 3568; DeGol Carpet v. DGS, Docket 3589; Amthor Steel v. DGS, Docket 3627; The Fairfield Company v. DGS, Dockets 3630 and 3642; ProSpec Painting v. DGS, Docket 3643; Harris Masonry, Inc. v. DGS, Docket 3653; L.C. Whitford Co., Inc. v. DGS, Docket 3686; N.T. 3717).

100. During pre-trial proceedings, the Board consolidated all but one of the cases filed with it regarding the SCI Fayette Project into a single action at Docket 3464. (Order of Consolidation dated June 28, 2007, B.O.C. Docket 3464).

101. The single exception to this consolidation of SCI Fayette Project cases was an action filed by Pro-Spec Painting Co., the painting contractor. Pro-Spec's case was heard as a separate matter because it was based on a set of factual allegations significantly different from the delay-related claims common to those of the other contractors. (Original filing at Docket 3643 severed to Docket 3910 by Board Opinion and Order issued on June 30, 2010).

102. Following Board hearings on this action during the period from March 6, 2008 to June 19, 2008, DGS filed a motion for directed verdict in this case on October 8, 2008 asserting that PEC's claims related to the ST4.1 Contract were filed late at the Board and seeking dismissal for lack of Board jurisdiction. (DGS Motion for Directed Verdict and Brief filed Oct. 8, 2008, B.O.C. Docket 3464).

103. On February 13, 2009, the Board entered an Opinion and Order denying the DGS motion for directed verdict in this case. (B.O.C. Docket 3464).

104. Findings of Fact, Paragraphs 1 through 40, of the Board of Claims' Opinion and Order dated February 13, 2009, disposing of the Department's motion for directed verdict, are hereby incorporated into this document as if fully set forth and adopted as findings of fact in this Opinion and Order. Additionally we find that the foregoing findings of fact in our Opinion of February 13, 2009, as well as those in Paragraphs 105-107 herein have been established by PEC through credible, clear and convincing evidence. (Opinion and Order of Feb. 13, 2009, B.O.C. Docket 3464; Board Finding).

105. PEC did not know, and the Board finds nothing in the circumstances of PEC's filing of its administrative claim against DGS based on the ST4.1 Contract, or in DGS's acknowledgement letter of that claim dated October 24, 2001, which would suggest that the date of DGS's letter acknowledging receipt of PEC's claim was not the date that DGS received the claim or give PEC reason to question or inquire further into DGS's receipt date. (F.O.F. 96-98, 102-104; Board Finding).

106. It was reasonable for PEC to rely on the October 24, 2001 date of the DGS acknowledgment letter to compute the 150 day time period in which to file its subsequent claim

on the ST4.1 Contract here at the Board on the premise that its ST4.1 Contract administrative claim had been received by DGS on October 24, 2001. (F.O.F. 96-98, 102-105; Board Finding).

107. DGS did not accurately disclose the date of actual receipt of PEC's administrative claim based on the ST4.1 Contract nor the actual commencement of the time period which PEC had to appeal its claims to this Board. The representations and actions of DGS in its issuance of the October 24, 2001 letter (in the form it did) was culpable negligence and/or constituted fraud or concealment as set forth in Price Chevrolet and/or Dep't of Pub. Welfare v. UEC;. (F.O.F. 96-98, 102-106; Board Finding).

PEC'S TERMINATION CLAIM

108. Paragraph 14.1 of the General Conditions applicable to both the ST2.1 Contract and the ST4.1 Contract provides, in relevant part:

> 14.1: Termination by the Department. The Department may, at any time and for any reason, terminate this Contract. In such case, the Contractor shall be paid (and shall accept payment) for the portion of the entire Contract actually performed satisfactorily to the date of termination, excluding, however, any loss of anticipated profits….

(Ex. 429, 430, 431 ¶ 14.1).

109. Paragraph 14.2 of the General Conditions applicable to both the ST2.1 Contract and the ST4.1 Contract describes the effect of termination by DGS under Paragraph 14.1, stating in relevant part:

> 14.2: Effect of Termination by Department. Such termination shall be effective in the manner and at the time specified in such notice and shall be without prejudice to any claims which the Department may have against the Contractor…. Upon termination of this Contract, as provided by this paragraph, full and complete adjustment and payment of all amounts due the Contractor arising out of this Contract as determined by an audit conducted by or for the Department, as soon as practicable after termination shall be made as follows:
> A. The Department shall reimburse the Contractor for all costs incurred to the date of termination, including reasonable overhead and expense for plant, made in the performance of this Contract, less amounts previously paid.
> B. The Department shall also reimburse the Contractor for all costs to which the Contractor has been subjected or is legally liable for by any reason of the termination of this Contract, including reasonable costs related to cancellation of orders, termination of subcontracts, etc.
> C. The Department shall also reimburse the Contractor for the reasonable cost of providing protection of the property of the Department as directed by the notice of termination.

D. The sum total of the payments made under this paragraph shall not exceed the total amount of the Contract, less payment previously made…

(Exs. 429, 430, 431 ¶ 14.2).

110. In contrast to the Paragraph 14.1 termination provision, the termination for default provisions at Paragraphs 14.3 and 14.4 in the General Conditions of both contracts provide, in relevant part, as follows:

> 14.3 Contractor's Default. If the Contractor persistently or repeatedly refuses or fails to supply enough properly skilled workmen or proper materials, or persistently disregards Laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or fails to proceed as directed by the Department, or performs the Work unsuitably, or neglects or refuses to remove materials or replace rejected Work, or discontinues the prosecution of the Work without approval of the Department, or otherwise is guilty of a substantial violation of a provision of the Contract Documents, then the Department may, without prejudice to any of its other rights or remedies, give the Contractor and its surety written notice that the Contractor has seven (7) days from the date of the Department's notice to cure the default set forth in the notice. Should the Contractor fail to cure the default within the specified time, the Department may terminate the Contract between the Department and the Contractor and may take possession of the site and all of the materials, equipment, tools, construction equipment and machinery, which is owned by the Contractor, located on the property and may finish the Work by whatever method it may deem expedient. In such case, the Contractor is not entitled to receive any further payment until the Work is finished, at which time the Contractor shall be paid any excess remaining, in accordance with paragraph 14.4 below. The discretion to declare the Contractor in default is solely the Department's, and no party, whether bound by Contract to the Department or attempting to raise a third party relationship, which this Contract specifically precludes, has standing to raise the failure of the department to exercise its discretion, if default is the basis of a claim against the Department.
>
> 14.4: Unpaid Balance. If the unpaid balance of the Contract sum exceeds the cost of finishing the Work, including compensation for the Construction Manager's and Professional's additional services and any other damages which the department has incurred in accordance with the Contract, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor or the surety or both shall pay the difference to the Department.

(Exs. 429, 430, 431 ¶¶ 14.3 and 14.4).

111. PEC claims damages in connection with the ST2.1 Contract in three categories: 1) damages resulting from DGS's termination of both contracts pursuant to General Conditions Paragraph 14.1; 2) damages for extra work done beyond the scope of the contracts completed at

the direction of DGS and presented as change order requests and 3) damages for bad faith, penalties and interest. (Complaint, B.O.C. Docket 3464).

112. PEC claims entitlement to termination payments under Paragraph 14.1 in the total amount of $3,189,126. This claim includes anticipated profits for the work already performed. (PEC Brief p. 9; Exs. 1000, 1001).

113. Paragraph 14.1 of the General Conditions of both contracts specifically states that "any loss of anticipated profits" are excluded from PEC's recovery of termination damages under Paragraph 14.1. (Exs. 429, 430, 431 ¶ 14.1; Board Finding).

114. Paragraph 14.2 of the General Conditions of both contracts gives a detailed explanation of how Paragraph 14.1 termination damages are to be calculated, and the calculation set forth in Paragraph 14.2 does not include a provision for payment of any profit. (Exs. 429, 430, 431 ¶ 14.2; Board Finding).

115. Mr. Chambers conceded at hearing that the contracts do not permit the recovery of lost profits as part of a Paragraph 14.1 termination claim. (N.T. 825-826; Exs. 429, 430, 431, 1000, 1001).

116. The PEC Job Cost Summary Report shows that the direct costs PEC incurred from the beginning of the Project through July 27, 2001 under the ST2.1 Contract were:

Total Equipment Costs	$ 719,651
Total Labor Costs	$ 1,949,352
Total Material Costs	$ 1,373,132
Total Subcontractors Costs	$ 388,336
Total	$ 4,430,472

(N.T. 2131, 4966-4967, 5005-5006, 5025-5029, 5037-5038, 5049-5050; Exs. 1 pp. 8-10, 40 pp. 490-00016 to 490-00022, 1000).

117. The PEC Job Cost Summary Report shows that the direct costs PEC incurred from the beginning of the Project through July 27, 2001 under the ST4.1 Contract were:

Total Equipment Costs	$ 16,100
Total Labor Costs	$ 108,302
Total Material Costs	$ 30,982
Total Subcontractors	$ 393,605
Total	$548,990

(N.T. 2309-2311, 2320-2324, 4966-4967, 5006- 5007; Exs. 40 pp. 490-00727 to 490-00731, 1001).

118. These Job Cost Summary Reports summarized, and were based upon, the PEC job cost reports which showed the full cost history of the job and included all direct costs PEC

incurred on the Project for the ST2.1 and ST4.1 Contracts. (N.T. 2132-2133, 4966-4967, 4989-4992; Exs. 40 pp. 490-00016 to 490-00022 and pp. 490-00727 to 490-00731, 1000, 1001; Board Finding).

119. Mr. Wieland testified that the foregoing PEC Job Cost Summary Reports are accurate, reliable summaries of the full job cost reports and PEC's direct costs incurred on the Project. (N.T. 4928-4969; Exs. 40 pp. 490-00016 to 490-00022 and pp. 490-00727 to 490-00731, 1000, 1001; Board Finding).

120. In August 2001, PEC gave copies of its job cost reports for the ST2.1 and ST4.1 Contracts to Mr. Rollage and/or his associate, Mr. Lorenz, who reviewed these cost documents in connection with their audit of PEC's unpaid costs on the Project. PEC also gave Mr. Rollage and/or Mr. Lorenz copies of PEC certified payrolls for the Project. (N.T. 178, 826-829, 1713-1714, 2158, 2311-2312, 2333-2335; Exs. 40, 489, 490, 491).

121. PEC also cooperated with DGS's review of PEC's Project cost records by giving copies of the invoices for the material costs, equipment costs, and subcontractor costs for the ST2.1 and ST4.1 Contracts to Mr. Rollage and/or his assistant, Mr. Lorenz, in August 2001. (N.T. 2334-2336, 2347-2348, 2365-2368, 4940, 4945-4946; Exs. 40, 489, 490, 491).

122. In August 2001, as part of his review of PEC's records, Mr. Rollage received and reviewed PEC's Job Cost Summary Reports for the ST2.1 and ST4.1 Contracts. (N.T. 2365-2366, 4946-4948; Exs. 40, 490).

123. Mr. Rollage's file memo of January 30, 2002 and letter dated March 2, 2002 to Mr. Kopko of P.J. Dick summarizing the work Mr. Rollage did analyzing PEC's claim for costs for the ST4.1 Contract confirms that PEC cost records report a total <u>direct</u> project cost thru PEC's date of termination of $548,990. Mr. Rollage also confirmed via comparison to certified payrolls that $108,302 of that total amount was direct labor cost (consisting of base rate plus burden). These amounts match exactly the amounts set forth in the PEC Job Cost Summary Report for the ST4.1 Contract submitted to the Board. (N.T. 2311-2312, 2259-2594, 4947-4948; Exs. 40 pp. 490-00727 to 490-00731, 490 p. 9, 491; Board Finding).

124. Mr. Rollage's file memo of January 30, 2002 confirms that PEC cost records report a total direct project cost for the ST2.1 Contract thru PEC's date of termination of $4,430,472. This amount matches exactly the amount set forth in the PEC Job Cost Summary Report for the ST2.1 Contract submitted to the Board. Mr. Rollage's letter dated March 2, 2002 to Mr. Kopko of P.J. Dick summarizing the work Mr. Rollage did analyzing PEC's claim for labor costs for the ST2.1 Contract also confirmed PEC's total labor cost reflected on its job cost report and summary matched PEC's certified payroll reports. (N.T. 2311-2312, 2259-2594, 4947-4948; Exs. 40 pp. 490-00016 to 490-00022, 490 p. 5, 491; Board Finding).

125. DGS and/or its agents (P.J. Dick or Mr. Rollage) have had the full PEC job cost reports, certified payrolls, and invoices, as requested, in their possession since August 2001. Despite having these full job cost reports and other backup materials for a substantial period of time prior to hearing, DGS has made no credible challenge to the accuracy of the job cost

numbers used by PEC, nor has DGS proposed any alternate job cost numbers for the Project that it believes are more accurate. (N.T. 4929-4969, 4987-4988; Exs. 40, 489, 490, 491; F.O.F. 116-124; Board Finding).

126. Based upon the testimony of Mr. Wieland, Mr. Chambers and Mr. Rollage regarding the production, use and reliance upon the Job Cost Summary Reports by the parties, Mr. Rollage's report and the other supporting documents in evidence, we find that the PEC Job Cost Summary Reports and the direct cost numbers included therein for both the ST2.1 and ST4.1 Contracts constitute credible and reliable evidence that establish PEC's direct Project costs with reasonable certainty and accuracy from the beginning of the Project through its termination on July 27, 2001. (F.O.F. 116-125; Board Finding).

127. For the ST2.1 Contract, PEC incurred total direct costs on the Project of $4,430,472 from the beginning of the Project through its termination on July 27, 2001. (N.T. 4946, 5005-5006; Exs.1 p. 8, 40 pp. 490-00016 to 490-00022, 1001; F.O.F. 116, 118-126; Board Finding).

128. For the ST4.1 Contract, PEC incurred total direct costs on the Project of $548,990 from the beginning of the Project through its termination on July 27, 2001. (N.T. 4947, 5006-5007; Exs. 40 pp. 490-00727 to 490-00731, 1000; F.O.F. 117-126; Board Finding).

129. Paragraph 14.2 expressly states that PEC is to be reimbursed by DGS "for all costs incurred to the date of termination, including reasonable overhead and expense for plant, made in the performance of this Contract…." (Exs. 429, 430, 431 ¶ 14.2A).

130. PEC proposed that its "overhead and expense for plant" be computed using a version of the Eichleay Formula which, generally speaking, compares the contractor's general and administrative expenses (appropriately adjusted) to the contractor's revenue for a defined period (typically on an annual basis) to determine the general overhead percentage incurred by the contractor and applies that to the direct costs incurred on a particular project at issue. However, PEC did not produce or enter into evidence any reliable financial statements or other financial information for the company from which the Board could verify, with reasonable certainty, the amounts used to calculate the general overhead markup percentage proposed for use by PEC in its calculations of plant and overhead costs for this Project. (N.T. 2148-2149, 2153-2154; Exs. 1 p. 11, 462B ex. 1; Board Finding).

131. Moreover, PEC did not provide the Board with its initial Project cost calculations and markup for the ST2.1 Contract work and/or the ST4.1 Contract work or with other evidence sufficient to estimate with reasonable certainty the actual overhead markup percentage utilized by PEC in its bid calculation for this Project. (F.O.F. 127-130; Board Finding).

132. For change order and force account work on the Project, Paragraphs 11.3 and 11.6 of the General Conditions to both the ST2.1 and ST4.1 Contracts prescribe a markup of 15% on direct labor costs for overhead and profit and a markup of 10% on all other direct costs (including materials, equipment and subcontractors) for overhead and profit. (Exs. 429, 430, 431 ¶¶ 11.3 and 11.6).

133. Absent adequate information in evidence to identify the actual overhead and/or profit markup originally anticipated and utilized for the Project by PEC for its bid on the original contract work, we find it appropriate and reasonable to utilize the generally accepted standard of 15 % as a reasonable markup for overhead and profit (combined) for PEC's work on the Project and the Manshul Method to estimate overhead for the contract work performed by PEC prior to its termination. This translates into a 7.25% markup for overhead only. (F.O.F. 129-132; Board Finding).

134. The "reasonable overhead and expense for plant" for all PEC's direct costs incurred on the Project under the ST2.1 and ST4.1 Contracts prior to termination is reasonably computed as 7.25% x $4,979,462 = $361,011. (Exs. 429, 430, 431 ¶ 14.2; F.O.F. 116-117, 129-133; Board Finding).

135. Paragraph 14.2 of the General Conditions also provides, in relevant part, that:

> …
> B. The Department shall also reimburse the Contractor for all costs to which the Contractor has been subjected or is legally liable by reason of the termination of this Contract, including reasonable costs related to cancellation of orders, termination of subcontracts, etc.
> C. The Department shall reimburse the Contractor for the reasonable cost of providing protection of the property of the Department as directed by the notice of termination.

(Exs. 429, 430, 431).

136. In the July 27, 2001 letters terminating PEC's ST2.1 and ST4.1 Contracts, DGS directed PEC "…to terminate work under all project subcontracts, and to take reasonable steps to properly protect the existing project work and any material that has been purchased with Department funds or billed to the Department." (N.T. 1698-1699; Exs. 64, 308).

137. Pursuant to Sub-Paragraph 14.2(C), PEC claims $6,355.15 for expenses it allegedly incurred for measures to protect the rebar material remaining on site after PEC was terminated on July 27, 2001. (N.T. 92, 95-98, 1539, 1691-1695, 1834; Exs. 1, 15, 64, 308, 429, 430, 431).

138. Before it departed from the site in July 2001, PEC purchased and installed rebar caps and wood rebar protectors as a safety precaution and to prevent the rebar from being bent as instructed by DGS. These actions were appropriate and reasonable. (N.T. 92, 96-97, 1539, 1695-1699, 5083; Exs. 1, 15, 64, 308, 429, 430, 431; Board Finding).

139. PEC attached invoices to Exhibit 15 showing that the actual cost of the caps and wood materials used for rebar protection was $6,355.15, and we find that this amount is reasonable and supported. (N.T. 1695-1699; Exs. 15, 40 p. 490-00012; Board Finding).

140. PEC incurred post-termination expenses of $6,355.15 for the caps and wood materials used for safety precautions and protection of rebar left on the Project as presented in

COR ST2.1-003. (N.T. 95-97, 1695-1699, 2114; Exs. 15, 40 p. 490-00012; F.O.F. 137-139; Board Finding).

141. Pursuant to Sub-Paragraph 14.2(C), PEC also claims $74,319.22 for costs it allegedly incurred after July 27, 2001 to demobilize from the site as a result of its termination from the Project. These costs are for labor, trucking, loss on sale of equipment and additional rental costs. (N.T. 87, 91, 98, 1691-1693; Exs. 1 p. 19, 64, 3087, 429, 430, 431).

142. PEC claims it incurred labor costs to demobilize from the site after its termination on July 27, 2001 totaling $15,943.75 for workers who were paid to perform various clean up tasks on the Project including reclaiming PEC's equipment from the job site and bringing it back to the PEC offices. (N.T. 1692-1693, 2135-2136).

143. PEC produced wage records which itemize the costs for each laborer performing these demobilization duties, including a record of the hours spent, days worked, and wages paid. These wages total $15,943.73, an amount of post-termination labor costs for demobilization from the Project that we find were reasonably incurred and adequately supported by PEC. (N.T. 1692-1693, 2135-2136; Ex. 1 pp. 13-17; Board Finding).

144. The second category of post-termination demobilization costs that PEC claims is $25,740.00 for trucking costs. (N.T. 1694-1695; Ex. 1 p. 19).

145. In support of this claimed amount for trucking costs, PEC offered only the testimony of Mr. Wieland who simply stated that these trucking costs were for 429 hours of trucking at $60 per hour because these were "the hours needed to remove various pieces of equipment" from the site. PEC provided no company logs, records or other documentation of truck usage during this period and no other testimony to support these claimed demobilization trucking costs. (N.T. 1694-1695; F.O.F. 144; Board Finding).

146. Because of the nature and paucity of testimony, and the complete absence of any PEC documentation produced regarding this aspect of PEC's claim, we find that the evidence is insufficient to provide any reasonable certainty as to what amount of trucking cost PEC incurred during its demobilization from the Project. (F.O.F. 144-145; Board Finding).

147. The third category of post-termination demobilization costs that PEC claims is $21,436.67 for loss on the sale of equipment. (Ex. 1 p. 19).

148. PEC had been renting the equipment at issue from PESH during the Project, and Mr. Wieland stated that this is a claim for the loss on some PESH-owned equipment that was sold at auction, not for PEC owned equipment. (N.T. 1611-1613, 2048-2049).

149. Paragraph 14.2 of the General Conditions nowhere expressly mentions loss on the sale of equipment as a reasonable, reimbursable termination cost, and PEC has offered no credible testimony to establish how or why PEC's early termination from the Project required or caused PESH to sell its equipment at a loss. (Exs. 429, 430, 431; Board Finding).

150. The last category of post-termination demobilization costs that PEC claims is $11,198.80 for additional equipment rental bills. (Ex. 1 p. 19).

151. PEC provided a Summary of Additional Rental Costs which shows the amounts of additional rental costs that PEC incurred from five different rental companies that supplied various construction items including concrete forms, hand rails, trailers, lasers and instruments, light plants, and buggies, as well as the amount PEC paid to each company. (N.T. 1693-1694, 2137-2138; Ex. 1 p. 18).

152. Mr. Wieland testified credibly that these additional rental costs were incurred on rental agreements that PEC was not able to terminate immediately on July 27, 2001 and that, although the equipment was returned by August 2 or 3, PEC was still charged an extra month's rent because these were monthly not daily rentals. (N.T. 1693-1694, 2137-2138).

153. Because the additional rental costs were reasonably documented and testified to credibly by Mr. Wieland, we find that PEC reasonably incurred additional post-termination costs of $11,198.80 for additional equipment rentals as a result of its early termination from the Project. (F.O.F. 150-152; Board Finding).

154. We find that PEC's incurred total costs for its work on the Project of $5,373,971, itemized as follows:

Direct Costs Incurred Prior to Termination

ST2.1 Contract	$4,430,472
ST4.1 Contract	$ 548,990
Subtotal	$4,979,462
Plus Reasonable Overhead & Expense for Plant at 7.25% markup:	$ 361,011
Plus Cost Incurred by Reason of Termination And/or Protection of Property	
Protection of Rebar	$ 6,355
Demobilization Labor	$ 15,944
Additional Equipment Rental	$ 11,199
Total Costs	$5,373,971

(F.O.F. 116-153; Board Finding).

155. During the course of both contracts, DGS made payments to PEC totaling $3,242,224, itemized as follows:

1) Under the ST2.1 Contract, PEC was paid $3,062,515 pursuant to Payment Applications 1 through 16 (ending on May 31, 2001).
2) Under the ST4.1 Contract, PEC was paid $179,709 pursuant to Payment Applications 1 through 4 (ending on May 31, 2001).

(N.T. 97-98, 105, 4485-4493, 4505-4507, 4517-4518; Exs. 442, 490, 496, 503, 1000, 1001; Board Finding).

156. The termination payment to PEC, calculated as instructed by Paragraphs 14.1 and 14.2, is as follows:

Total Costs incurred on Project by PEC (ST2.1 and ST4.1 Contracts)	$5,373,971
Less: Total Amounts Paid To PEC on the Project (ST2.1 and ST4.1 Contracts)	$3,242,224
Total 14.1/14.2 Termination Payment	$2,131,747

(Exs. 429, 430, 431; F.O.F. 108-155; Board Finding).

PEC'S EXTRA WORK CLAIMS

157. PEC claims it performed extra work outside the scope of the ST2.1 Contract in connection with its foundation and slab work. PEC also claims it performed work outside the scope of the ST4.1 Contract in connection with its CUP work. Each of these extra work claims were presented to the Board in the form of one or more change order requests which summarize the costs for equipment, labor, materials and/or subcontractors that PEC alleges it incurred performing the extra work. Each of these change order requests include some degree of backup documentation for the specific claim but vary in detail and extent. (Exs. 1, 4, 4A, 5, 5A, 7, 7A, 9, 9A, 10, 10A, 11, 11A, 12, 12A, 14, 14A, 16, 16A, 18, 18A, 67, 67A, 68, 68A, 69, 69A, 70, 70A, 71, 71A, 72, 72A, 462A).

158. At hearing, two sets of change order requests were presented: Exs. 4, 5, 7, 9, 10, 11, 12, 14, 16, 18 and 67 through 72 (being unsigned versions of these documents) and Exs. 4A, 5A, 7A, 9A, 10A, 11A, 12A, 14A, 16A, 18A and 67A through 72A (being signed versions of these documents). Both sets of documents were eventually admitted into evidence by the Board over multiple DGS objections which we will address below. (N.T. 175, 394-411, 545-557, 682-

683, 1502-1508, 1648-1669, 1700-1726, 1734-1746, 1762-1767, 1780-1794, 1812-1892, 1907-1908, 1926, 1936-1952, 1962-1967, 1971-1974, 1983-1984, 1988-1990, 2003-2008, 2089-2105, 2174, 2593-2623, 4449; Exs. 1, 4, 4A, 5, 5A, 7, 7A, 9, 9A, 10, 10A, 11, 11A, 12, 12A, 14, 14A, 16, 16A, 18, 18A, 67, 67A, 68, 68A, 69, 69A, 70, 70A, 71, 71A, 72, 72A, 462A).

159. DGS, at least initially, objected to use of the term "change order requests" to describe these documents (particularly with regard to the unsigned versions) on the basis that the term only properly describes such documents after they are fully signed, dated and submitted to DGS (which DGS contests). Whether or not this distinction is appropriate, neither party nor the Board observed this distinction as the hearing progressed and often referred to both the unsigned and signed version of these documents as "change order requests" and even "change orders" in some instances. Noting the foregoing, as well as the fact that each of these exhibits (containing cost information for PEC's alleged extra work) begins with DGS Form CM-06 entitled "CHANGE ORDER REQUEST," we will hereafter refer to these exhibits, both signed and unsigned, as "change order requests" or "COR's" for short. We do so to facilitate discussion and without any implication by mere use of the term that the document was properly submitted to DGS. (N.T. 175, 394-411, 545-557, 682-683, 1502-1508, 1648-1669, 1700-1726, 1734-1746, 1762-1767, 1780-1794, 1812-1892, 1907-1908, 1926, 1936-1952, 1962-1967, 1971-1974, 1983-1984, 1988-1990, 2003-2008, 2089-2105, 2174, 2593-2623, 4449; Exs. 1, 4, 4A, 5, 5A, 7, 7A, 9, 9A, 10, 10A, 11, 11A, 12, 12A, 14, 14A, 16, 16A, 18, 18A, 67, 67A, 68, 68A, 69, 69A, 70, 70A, 71, 71A, 72, 72A, 462A).

160. As to DGS's objection that these COR's constitute hearsay, both the signed and unsigned sets of change order requests ("COR's") were admitted into evidence upon the Board's assessment, at hearing, that PEC had offered sufficient testimony to establish that these COR's were made in the regular course of PEC's business as a regular practice where, as here, PEC believed it performed work outside the scope of its contract(s), at or reasonably near the happening of the event, and recorded from information provided by PEC personnel having firsthand knowledge of same. Upon subsequent review of the record we hereby confirm these same factual findings. In particular, we found that the period of time elapsing between Mr. Wieland's production of each COR and the events on site giving rise to same (which varied in length from nearly immediate to several months) was reasonably explained (given the ongoing nature of much of the claimed extra work and/or the need to acquire adequate data to quantify and/or document the amount of such work) and was not so long as to suggest the possibility of inaccuracy resulting from memory lapse or information loss. We further found no merit, in fact, to the suggestion by DGS in its cross-examination of Mr. Wieland (who created each COR) that any of the COR's developed by Mr. Wieland from mid-July 2001 and thereafter were not in the ordinary course of business because PEC had, by that time, been put on notice that it might be terminated from the Project. Specifically, we found Mr. Wieland's testimony as to how, why and when he created each of these COR's (both the signed and the unsigned versions) to be honest and wholly credible, and conclude therefrom that he produced these COR's as part of his normal responsibility as assistant manager on the Project in order to document what PEC believed was extra work on the Project according to his normal practice, unaffected by his minimal knowledge of an issue with PEC's bonding company. (N.T. 175, 394-411, 545-557, 682-683, 1502-1508, 1648-1669, 1700-1726, 1734-1746, 1762-1767, 1780-1794, 1812-1892, 1907-1908, 1926, 1936-1952, 1962-1967, 1971-1974, 1983-1984, 1988-1990, 2003-2008, 2089-

2105, 2174, 2593-2623, 4449; Exs. 1, 4, 4A, 5, 5A, 7, 7A, 9, 9A, 10, 10A, 11, 11A, 12, 12A, 14, 14A, 16, 16A, 18, 18A, 67, 67A, 68, 68A, 69, 69A, 70, 70A, 71, 71A, 72, 72A, 462A).

161. The Board also finds Mr. Wieland's testimony regarding his submission of both the unsigned and signed versions of the COR's to P.J. Dick (DGS's agent on the worksite) to be credible. We therefore conclude that both the unsigned and signed versions of these COR's were submitted to DGS. (N.T. 175, 394-411, 545-557, 682-683, 1502-1508, 1648-1669, 1700-1726, 1734-1746, 1762-1767, 1780-1794, 1812-1892, 1907-1908, 1926, 1936-1952, 1962-1967, 1971-1974, 1983-1984, 1988-1990, 2003-2008, 2089-2105, 2174, 2593-2623, 4449; Exs. 1, 4, 4A, 5, 5A, 7, 7A, 9, 9A, 10, 10A, 11, 11A, 12, 12A, 14, 14A, 16, 16A, 18, 18A, 67, 67A, 68, 68A, 69, 69A, 70, 70A, 71, 71A, 72, 72A, 462A).

162. Upon further review of the record as a whole, the Board also reaffirms its finding that both the signed and unsigned versions of the COR's submitted to the Board constitute summaries of voluminous written materials such as job cost reports, labor reports, daily forman's reports, certified payrolls, invoices and other documents containing relevant PEC cost data, the totality of which could not conveniently be reviewed in court; that the relevant underlying documents and data summarized in the COR's were admissible and available to DGS (and/or its agents) for examination in advance of hearing; and that Mr. Wieland, who prepared these summaries, and Mr. Chambers, who oversaw this work, were made available to DGS for cross-examination. (N.T. 1090-1091, 1124-1133, 1285, 1348, 1642-1648, 1705-1717, 1895-1896, 1905-1912, 1933-1953, 2132-2133, 2157, 2259-???, 2311-2312, 2365, 2515, 2526-2528, 2567-2583, 4929-4967, 4987-4990; Exs. 4, 4A, 5, 5A, 7, 7A, 9, 9A, 10, 10A, 11, 11A, 12, 12A, 14, 14A, 16, 16A, 18, 18A, 20A, 21A, 40, 67, 67A, 68, 68A, 69, 69A, 70, 70A, 71, 71A, 72, 72A, 491).

163. Except for the signature, the date of signing and the omission of numerical estimates at the top of the fourth page of each COR of the number of days PEC's concrete work was delayed on Buildings A, B, C, D and 14 due to winter work conditions (present in Ex. 18 and absent in Ex. 18A), the unsigned and signed COR's presented by PEC are substantially identical. (Exs. 4, 4A, 5, 5A, 7, 7A, 9, 9A, 10, 10A, 11, 11A, 12, 12A, 14, 14A, 16, 16A, 18, 18A, 67, 67A, 68, 68A, 69, 69A, 70, 70A, 71, 71A, 72, 72A).

164. PEC claims it performed extra work outside the scope of the ST2.1 Contract in connection with its foundation and slab work. These include claims for: adapting to changes in the concrete floor tolerances; review of the change of specifications from Bid Package 5 to those in Bid Package 6; P.J. Dick's failure to provide a master project schedule timely; additional excavation and grading; change in design of step footings; repairs of subgrade after disturbance by mechanical, electrical and plumbing contractors ("MEPs"); DGS's failure to provide temporary access roads on the construction site; provision of stone base for slabs; grouting for steel base plates; and additional winter work. (Exs. 4, 4A, 5, 5A, 7, 7A, 9, 9A, 10, 10A, 11, 11A, 12, 12A, 14, 14A, 16, 16A, 18, 18A; F.O.F. 157-163).

165. PEC claims it performed work outside the scope of the ST4.1 Contract in connection with its CUP work for: P.J. Dick's failure to provide a master project schedule timely; additional excavation and grading; change in design of step footings; revisions to steel

drawings; DGS's failure to provide temporary access roads on the construction site; and changes in the size of equipment pads. (Exs. 67, 67A, 68, 68A, 69, 69A, 70, 70A, 71, 71A, 72, 72A; F.O.F. 157-163).

1. Lack of Master Project Schedule

166. PEC claims $173,500.74 in a COR for extra work outside the scope of the ST2.1 Contract that PEC asserts it had to perform early in the Project because P.J. Dick did not issue a master project schedule until March 2001. (N.T. 1732-1734; Exs. 7, 7A).

167. Paragraphs 8.3 through 8.7 of the General Conditions to both the ST2.1 and the ST4.1 Contracts provided that the Construction Manager (i.e. P.J. Dick) was ultimately responsible for preparing and updating a master project schedule for the Project. However, these provisions also required the various contractors on the Project (including PEC) to provide specific scheduling information of their own to the Construction Manager in a timely fashion in order to allow the Construction Manager to create a master project schedule, and PEC has not established that it and/or other prime contractors on the Project provided P.J. Dick with all the scheduling information they were required to supply in a timely manner. (N.T. 980-986, 1003-1005, 1047-1064, 1090-1121, 1243, 1246; Exs. 429, 430, 431; Board Finding).

168. P.J. Dick issued several schedules to PEC and the other contractors for the Project starting with the first preliminary schedule issued on or about October 24, 2000. This was followed by other interim schedules including those issued on or about December 5, 2000 (the Initial (Master) Project Schedule and March 5, 2001 (the Integrated Project Schedule) as well as updates thereto and additional recovery schedules for the Project. (N.T. 1047-1064, 1090-1121, 1732; Exs. 6, 6A, 160, 173, 445, 481A; F.O.F. 48-51, 66-67; Board Finding).

169. PEC estimated in this claim for extra work outside the scope of its ST2.1 Contract that it incurred 281 days of additional home scheduling time in the early stages of construction at a unit price of $167.00 per day for a total of $48,597.00 because P.J. Dick did not issue a master project schedule until March 2001. However, PEC provided no documentation of any actual manhours and attached no company timesheets, labor rates or other labor cost records to support this claim amount or any other actual cost data for additional home scheduling. (N.T. 2210-2211, 2314-2315; Exs. 7, 7A, 490; Board Finding).

170. PEC also estimated in this claim that it incurred costs of $108,000 for lost productivity allegedly due to field directives from P.J. Dick to move to various different building locations because there was no master project schedule early in the Project. (N.T. 1734, 1745-1748; Exs. 7, 7A, 39; Board Finding).

171. To support this claim for lost productivity, PEC prepared a summary memo entitled, "Moves" (Ex. 39) which described nine moves PEC allegedly had to make from working in one building to another at P.J. Dick's direction. Mr. Wieland further stated that he calculated the claim at the rate of $12,000 per move by consulting with Mr. Chambers and jointly arriving at an estimated, average cost per move. However, PEC provided no job cost or labor reports, worker's timesheets, foreman's work logs, equipment usage records or other

reliable documentation of actual additional cost incurred for these moves. (N.T. 1734-1738, 1740-1745, 1747-1748; Ex. 39).

172. PEC's ST2.1 Contract included original milestones. However, before PEC's work began, it was issued Revised Milestones in August 2000 which, among other things, dictated the dates PEC was required to commence work in general, to commence each building foundation, to complete each building foundation, to complete the slabs on grade in each building and to complete toppings and slabs on deck for each building on the Project. (N.T. 1055-1056, 1106, 1112-1113, 1116-1117, 1241, 1248-1249; Exs. 157, 160, 165, 429, 431B, 432 p. 01310-11, 457).

173. Under PEC's original milestones and its Revised Milestones, PEC was generally required to work in several buildings concurrently. We find no material inconsistency between the "Moves" among buildings PEC alleges it was directed to make by P.J. Dick and the contract requirements (as set forth in the original and Revised Milestones) which contemplated concrete work in multiple buildings at or about the same time. (N.T. 987-992, 1090-1091, 1121-1126, 1248-1249; 1417; Exs. 165, 429, 431B, 457; Board Finding).

174. Although DGS did not issue the Integrated Project Schedule (the first Project schedule incorporating formal scheduling information from Project contractors) for the Project until March 2001, the Board does not find that PEC has shown by sufficient credible evidence that this fact had any material adverse effect on PEC's work or productivity because, among other things, PEC had Revised Milestones to follow from the time it started work on the Project as well as the Initial (Master) Project Schedule issued in December 2000 which provided substantial guidance as to the place and time PEC was to prosecute each phase of its work in each building under the ST2.1 Contract. (N.T. 1089-1099, 1112-1113, 1121-1127; Exs. 165, 457; F.O.F. 41-52; Board Finding).

175. PEC's claim for lost productivity for the allegedly late issuance of the master project schedule not only lacks any sort of backup documentation for the costs it claims but further lacks evidence that establishes a causal connection between these "Moves" and the lack of a master project schedule. (N.T. 1089-1099, 1112-1113, 1121-1127, 1747-1748; Ex. 39; F.O.F. 167, 170-174; Board Finding).

176. PEC also claims $37,930.37 for extra work outside the scope of the ST4.1 Contract which PEC asserts it was required to do because P.J. Dick did not include PEC's work on the central utility plant in the master project schedule issued in March 2001. (N.T. 1962-1966; Exs. 67, 67A).

177. PEC estimated in its claim for work outside the ST4.1 Contract that it incurred 205 days of additional home scheduling time at a unit price of $167.00 per hour for a total of $37,930.37 because P.J. Dick did not include PEC's work on the central utility plant in the master project schedule issued in March 2001. (N.T. 1966, 2314-2315; Exs. 67, 67A, 490; Board Finding).

178. PEC's ST4.1 Contract included original milestones. However, PEC was promptly issued revised milestones for Building 17 (the CUP) that dictated, inter alia, PEC's dates for commencing and completing work on the foundation, commencing and completing slabs on grade as well as commencing and completing various other activities for Building 17 relating to structural steel and roof deck, masonry, roofing, carpentry, drywall and ceilings, painting and flooring. (N.T. 3036-3037; Exs. 327, 430, 433A, 510D Tab 7).

179. Because PEC had revised milestones providing substantial guidance as to the place and time for it to do its ST4.1 Contract work for Building 17, and because PEC has provided no credible evidence that P.J. Dick's failure to include Building 17 in the March 2001 master project schedule actually caused PEC to incur any extra costs, the Board does not find any material adverse effect from this lack of inclusion of Building 17 in a master project schedule or find that it caused PEC to do extra work outside the scope of the ST4.1 Contract. (N.T. 3036-3037; Exs. 327, 430, 433A, 510D Tab 7; F.O.F. 177-178; Board Finding).

180. PEC has failed to prove by sufficient credible evidence that P.J. Dick's failure to issue the Integrated Project Schedule until March 2001 and/or the failure to include Building 17 in that master project schedule had any material adverse effect on its work, caused PEC any material inefficiencies or additional work, or caused PEC to actually incur any extra costs on its ST2.1 or ST4.1 Contract related work. (F.O.F. 177-179; Board Finding).

2. Stone Subbase Claim

181. PEC claims in COR #54 that it incurred $589,903.71 for the cost of purchasing and installing the stone that went on top of the subgrade and beneath the slabs on grade it was to pour on the Project which it alleges was work outside the scope of its ST2.1 Contract. (N.T. 1913-1927; Exs. 16, 16A).

182. The specifications and drawings for the ST2.1 Foundations Contract indicated that 6 inches of stone base was to be installed in each building under each floor slab to provide a smooth surface suitable for reception of the vapor barrier beneath the slabs on grade. (Ex. 432 Vol. 2 §§ 02200, 02221).

183. When PEC bid the ST2.1 Contract, it included the cost of materials and labor associated with the installation and compaction of approximately 1 inch of stone subbase in order to cure minor variations in the subgrade after the earthwork contractor had completed its work, but it did not include the cost of the labor and materials for the 6 inch stone base beneath the slabs because PEC personnel believed the installation of stone on top of the subgrade was work belonging to another contractor and intentionally left this item out of the PEC bid. (N.T. 228, 1914, 1922-1926, 2540-2541).

184. Mr. Wieland of PEC admitted that PEC "took a risk not asking" the Professional or submitting a request for information (sometimes referred to herein as an "RFI") to confirm whether or not the scope of PEC's ST2.1 Contract work included purchasing and installing 6 inches of stone for the subbase below its slabs. (N.T. 2042).

185. In November 2000, when PEC installed its first slab, it had to provide and install the 6 inch stone subbase. At or about this time, PEC personnel talked to P. J. Dick personnel and were told this work was within PEC's scope of work. (N.T. 169, 621-624).

186. PEC installed the 6 inch stone subbase under each building's floor slab on the Project. (N.T. 586; Ex. 001).

187. The Project manual describes the work for which each contractor is responsible in that contractor's scope of work. (N.T. 3532-3533; Ex. 432 Vol. 1).

188. The scope of the work PEC was to perform under the ST2.1 Contract included: 1) furnishing all necessary labor and materials to perform work; 2) constructing foundations for all buildings including excavation, subbase preparation, installing foundation drains and tieing them into work of SW2.3 site utilities contractor, installing concrete footings, stem walls, grade beams and on grade slabs, caisson, underslab plastic vapor retarder, waterproofing, backfill and concrete-to-concrete joint sealants; 3) constructing and upon completion of all work removing the concrete washout pit shown on the logistics plan drawings; and 4) placing anchor bolts for pre-engineered metal buildings' foundations under the supervision of the SC1.1 Pre-Engineered Metal Buildings Contractor. (N.T. 574-580; Ex. 432 Vol. 1 p. 01010-7).

189. The Project manual describes PEC's scope of work for the ST2.1 Contract as including:

> all work associated with constructing the foundations of all buildings. This work includes excavation, subbase preparation, installing foundation drains, and tying them into the work of the SW2.3 site utilities contractor, concrete footings, stem walls, grade beams and on-grade slabs, caissons, underslab plastic vapor retarder, waterproofing, backfilling, concrete to concrete joint sealant. (Emphasis added).

(N.T. 3466-3467; Ex. 432 Vol. 1 p. 01010-7, ¶ 2).

190. Bulletin 3 to BP5 which applies to specifications as well as drawings states, in part:

> Each prime contractor is responsible for the work identified in its scope of work, including directly related work, regardless of which group of drawing sheets this work is shown on.

(N.T. 3533-3534; Ex. 431A p. 5).

191. The technical specifications for the Project tell how the work is to be performed, but, in and of themselves, do not necessarily tell which contractor is to perform the work. (N.T. 3532; Ex. 432 Vol. 2).

192. Section 02200 of the technical specifications entitled, "Earthwork," contains a specification entitled "Stone Base Under Slab on Earth" that provides:

> Crushed Stone or crushed gravel base course shall be provided under all floor slabs or platforms on earth, around foundation drains and elsewhere as indicated on the drawings. Stone or gravel shall be AASHTO #57 coarse aggregate. Over the top of the subbase course, a fine stone tailing shall be spread to ease rolling and consolidating/compacting of base course and to provide a relatively smooth surface suitable for reception of the vapor barrier.

(Ex. 432 Vol. 2 Earthwork 02200-19 ¶ 3.18 A).

193. While PEC argues that Section 02200 (Earthwork) pertains to only the earthwork contractor and not to other contractors, like PEC, we find that the "Earthwork" designation does not identify which contractor is to do the work and that specifications for PEC's work responsibilities appear in both Sections 02515 and 02200, not just in Section 02515 of the technical specifications. (N.T. 1177-1178, 3531-3534; Ex. 432 Vol. 2; F.O.F. 187-192; Board Finding).

194. PEC does not make a claim for any stone subbase work in connection with the ST4.1 Contract for the central utilities plant because, in its bid for the ST4.1 Contract, PEC included the 6 inch stone subbase in its bid price and installed the stone subbase in accordance with the ST2.1/ST4.1 technical specifications. (N.T. 799, 2541-2542; Exs. 429, 430, 432).

195. For the ST2.1 Contract, PEC's scope of work included purchase and installation of the stone subbase under slab in each building. This work was not extra work outside the scope of the ST2.1 Contract. (Exs. 429, 431, 432; F.O.F. 182-194; Board Finding).

196. Because the 6 inch stone subbase work was not outside the work scope of PEC's ST2.1 Contract, this stone subbase was not extra work and did not affect a material change to PEC's original ST2.1 Contract work. (Exs. 429, 431, 432; F.O.F. 182-195; Board Finding).

3. Change in Concrete Floor Finish Tolerances

197. PEC claims in an unnumbered COR the amount of $87,467.97, allegedly for extra work outside the scope of the ST2.1 Contract that it performed as a result of a directive from the Professional to change the concrete floor tolerances from those stated in Bid Package 5 ("BP5") to those stated in Bid Package 6 ("BP6") after it based its bid on the former. (N.T. 1701-1721; Exs. 4, 4A).

198. PEC bid the ST2.1 Contract on May 17, 2000 using the specifications in Bid Package 5 (BP5) which applied to PEC's construction of concrete floors in every building. (N.T. 107, 191, 576; Exs. 429, 432 pp. 03300-25, 03300-26).

199. In August 2000, DGS told the contractors that Bid Package 6 ("BP6") would apply to their BP6 work, including the concrete floor tolerances. (N.T. 1403, 1453, 2969-2972, 2975-2977; Exs. 2, 434 p. 03300-26).

200. The crux of PEC's claim is that the floor tolerances in BP5 allowed a flatness variation equivalent to 1/4 inch in every 10 lineal feet while the floor tolerances in BP6 (which did not apply to its work when it bid the ST2.1 Contract) were equivalent to allowing only 1/8 inch of variation in every 10 lineal feet. Accordingly, PEC claims it is entitled to extra compensation because it was required to adhere to different and stricter tolerances in the new BP6 Bid Package. (N.T. 106-114, 197-200, 953-954, 1701-1702; Exs. 4, 4A).

201. Although PEC claims that it was required to expend additional labor and cost to comply with the change in the concrete tolerance specification from BP5 to BP6, it provides only a summary of manhours applied to labor rates but without further backup, such as job cost or labor reports, worker's timesheets, foreman's work logs, equipment usage records or other reliable documentation of actual costs typically provided to support a claim of this nature. (N.T. 2164-2165, 2313-2314; Exs. 4, 4A, 40; Board Finding).

202. In January 2002, Mr. Rollage reviewed the labor portion of this particular aspect of PEC's claim (regarding the change in concrete tolerance specifications), but stated that this was an estimate and that PEC was unable to provide him with backup detail, so he was unable to verify the amount. (N.T. 2314-2315; Ex. 490).

203. Additionally, we do not find that the change in concrete tolerances from BP5 to BP6 specifications resulted in a material increase in work for PEC. Contrary to PEC's characterization of same, the BP5 concrete tolerance requirements were not stated as "1/4 inch for every 10 feet" but instead required a much more complex tolerance measuring system based on multiple samplings from around a <u>two</u> dimensional grid system that not only did not readily equate to the simpler, more traditional linear tolerance measurement system adopted in BP6, but would have required PEC to expend monies to acquire the necessary equipment or enlist a subcontractor to perform the more complex tolerance testing originally contemplated in BP5. As a result, PEC has failed to establish that the change in concrete tolerance specifications and measuring systems from BP5 to BP6 caused PEC any material increase in time, effort or cost to perform its slab work on the Project. (N.T. 459-462, 1182-1186; Exs. 2, 432, 434; F.O.F. 197-202; Board Finding).

204. PEC's testimony as to how and why the changes in the concrete tolerance specifications from BP5 to BP6 caused it extra work, as well as its testimony as to the amount of extra cost, was not credible. (N.T. 978, 1006-1007; F.O.F. 197-203; Board Finding).

205. PEC failed to provide sufficient credible evidence of the actual costs it incurred or that the switch from BP5 to BP6 concrete tolerance specifications caused any adverse material change to the scope or difficulty of PEC's work. Consequently, the Board does not find that this switch from BP5 to BP6 concrete tolerance specifications encompasses any extra work beyond the original scope of PEC's ST2.1 Contract. (N.T. 910-911, 1183-1186; F.O.F. 197-204; Board Finding).

4. Extra Cut/Fill Excavation Claim

206. PEC claims in COR's #18 through #46 to the ST2.1 Contract that it incurred extra costs of $769,578.39 because it had to perform extra excavation at each building location to bring the final subgrade elevation to that called for in the plans and specifications before it could prosecute its foundation and/or slab on grade work for each building on the Project site. (N.T. 1757-1821; Exs. 9, 9A).

207. PEC claims in COR #8 for the ST4.1 Contract that it incurred extra costs of $31,417.48 because it had to perform extra excavation at Building 17 to bring the final subgrade elevation to that called for in the plans and specifications before it could prosecute its foundation and/or slab on grade work for Building 17. (N.T. 1966-1976; Exs. 68, 68A).

208. Mr. Zaenger from P.J. Dick acknowledged that PEC had to do some additional excavation work around the buildings because the site excavation prime contractor had not brought all these areas to the elevations shown in the Project's plans and drawings. (N.T. 3007-3023; Ex. 288).

209. Mr. Zaenger also testified that, in order for PEC to verify its actual costs of the extra excavation it performed, he had directed PEC to document these costs with daily reports for labor and equipment showing which personnel were doing the work, tickets showing the number of dump truck loads of material moved to determine the quantity of extra material, and/or time sheets showing the amount of time spent on the work. However, PEC supplied none of these to document the actual cost of this extra work but instead only estimated its costs as set forth below. (N.T. 3590-3591; F.O.F. 210-211; Board Finding).

210. In making its claim in COR's #8 and #18 through #46 on the ST2.1 and ST4.1 Contracts for payment for the extra excavation, PEC estimated the quantity of excavation and/or fill for each building using a previous site survey that had not been performed for this particular purpose and a software program. PEC then used unit prices from a schedule of values and applied these to its estimated quantity of excavation and/or fill for each building to calculate the dollar amounts it claimed. (N.T. 1516-1517, 1512-1522, 1765-1766, 1781; Exs. 9, 9A, 68, 68A).

211. Mr. Rollage stated that he reviewed the extra excavation COR's and noted each was based on a unit price. He further stated that PEC personnel told him they were in the process of revising this claim to convert it to an actual cost basis and would be supplying time sheets supporting actual labor. However, PEC never provided him nor this Board with any such actual cost data for this extra excavation claim. (N.T. 2315-2316; Ex. 490).

212. PEC computed the amount of compensation it claimed for this extra excavation work by using unit prices for the work on each building's foundation and did not provide the Board with sufficient credible evidence of the actual costs it incurred for this work. Because PEC has not provided sufficient credible evidence to show its actual costs for this extra work, PEC has failed to present evidence to distinguish the costs incurred for this work from overall construction costs. This precludes the Board's ability to calculate any award of profit on this

extra work claim for the extra excavation work claimed by PEC. (F.O.F. 116-128, 154, 206-211; Board Finding).

5. Design Changes for Step Footings

213. PEC claims a total of $51,696.29 in COR's #007 to #017 for extra work outside the scope of the ST2.1 Contract that it alleges it performed because of design changes that DGS made to the step footings of certain buildings and the depth of excavations required therefor. (N.T. 966-967, 1841-1843; Exs. 10, 10A, 56, 490).

214. PEC also claims $13,369.85 in COR #0000 for extra work outside the scope of the ST4.1 Contract that it alleges it performed because of design changes that DGS made to the step footings of Building 17 and the depth of excavations required therefore. (Exs. 69, 69A, 56, 490).

215. The original design for the building foundations on the Project contemplated that the various outside mechanical, electrical and plumbing ("MEP") connections needed for each building were going through the footers, so PEC planned to install sleeves for these connections when it poured the footers. However, after the commencement of the work, the Professional changed this design on several buildings, and P.J. Dick directed PEC to lower the depth of the foundations in certain places to resolve conflicts that occurred with these MEP connections that were to be performed by MEP contractors in conjunction with PEC's work. (N.T. 196-197, 966-967; Exs. 241, 266).

216. Because of these design changes to the step footings under both the ST2.1 and ST4.1 Contracts, the Project's original foundation design drawings did not accurately show PEC where and how deep the footings had to be dug to allow underground pipes and services installed by the MEP contractors to enter the buildings. (N.T. 1844-1845, 2962-2963).

217. DGS required PEC to lower the foundations in Buildings 1, 2, 7, 8, 9, 17, A, B, C, D, E, F, G. H, J, K, and L. This created extra work for PEC outside the scope of the ST2.1 and the ST4.1 Contracts. (N.T. 1376, 1844-1846, 4428; Board Finding).

218. PEC computed the amount of compensation it claimed for this extra work on the step footing excavations by using unit prices for the work in each building's foundation and did not provide the Board with sufficient credible evidence of the actual costs it incurred for this work. (N.T. 1847-1849, 1977-1978, 1285-1286, 1090, 1727-1729, 2492-2493; Exs. 10, 10A, 69, 69A).

219. Because PEC has not provided sufficient credible evidence to show its actual costs for this extra work, PEC has failed to present evidence to distinguish the costs incurred for this work from its overall construction costs. This precludes the Board's ability to calculate any award of profit on this extra work claim for the step footing design changes. (F.O.F. 116-128, 154, 213-218; Board Finding).

6. Claim for Repair of Disturbed Subgrade

220. PEC claims $14,064.57 in COR's #50 and #51 for extra work it performed outside the scope of the ST2.1 Contract to repair the subgrades in Buildings 2 and 5 after various MEP contractors had completed their work in those buildings. (N.T. 1875-1876; Exs. 11, 11A).

221. After PEC excavated and poured the footers for each building, certain MEP contractors installed their underground service connections and PEC returned to backfill the foundation and level and compact the subgrade inside the building. (N.T. 1875-1876).

222. PEC followed this sequence in every building and, after each MEP installation was completed, the subgrade was left in a disturbed condition to some degree. (N.T. 641, 671-672).

223. Except for Buildings 2 and 5, PEC acknowledges that each MEP contractor returned to repair the disturbed subgrade on its own, or the disturbance to the subgrade was minor and PEC made the repairs. (N.T. 1876).

224. However, PEC alleges, in both Buildings 2 and 5, the plumbing contractor, Tomko, left the subgrade substantially higher after it finished its work than it was before Tomko started its excavations. PEC also alleges that P.J. Dick told Tomko to restore the subgrade to its original elevation, but Tomko failed to do so, and P. J. Dick then directed PEC to do Tomko's work and repair the disturbed subgrade in Buildings 2 and 5. (N.T. 640-641, 757, 1875).

225. As a result of the foregoing, PEC alleges it had to remove 125 cubic yards of material that was left in Building 2 and 80 cubic yards of material from Building 5, and that it also had to remove Tomko's spoils piles to an area where the material could be picked up and hauled away. (N.T. 1875-1879, 1883; Exs. 11, 11A).

226. To repair the disturbed subgrade in Building 2, PEC claimed extra costs totaling $7,276.03. To support the foregoing cost claims PEC has provided only a summary of manhours, equipment hours and material quantities without further backup such as job cost or labor reports, worker's timesheets, foreman's work logs, equipment usage logs, or any other documentation typically provided to support a claim of this nature. (N.T. 2515-2516; Exs. 11, 11A, 490; Board Finding).

227. To repair the disturbed subgrade in Building 5, PEC claimed extra costs totaling $6,788.54. To support the foregoing cost claims PEC has provided only a summary of manhours, equipment hours and material quantities without further backup such as job cost or labor reports, workers' timesheets, foreman's work logs, equipment usage logs, or any other documentation typically provided to support a claim of this nature. (N.T. 973, 2515-2516; Exs. 11, 11A, 490; Board Finding).

228. Although PEC alleges (and Mr. Wieland testifies) that PEC had to remove 125 cubic yards of excess/waste material from Building 2 and 80 cubic yards of excess/waste material from Building 5 (as well as excess spoil piles), removal of these quantities are not supported by (and are inconsistent with) the drawings and elevation markings indicated thereon

by PEC to document this claim. These drawings show elevations in Buildings 2 and 5 to be predominantly low (thus contradicting PEC's assertions that it needed to remove excess waste material due to Tomko's disturbance to the subgrade). Additionally, the evidence suggests that if any material needed to be removed it was due to the weather creating mud not Tomko's activity. (N.T. 1877-1879, 1883, 2494-2503; Exs. 11, 11A; F.O.F. 223-227; Board Finding).

229. Because PEC provided conflicting evidence as to what, if any, amount of excess/waste material it had to remove from Buildings 2 and 5 after the MEP contractors performed their underslab installations, and because it failed to provide credible documentation for the actual cost for this alleged extra work, PEC has failed to establish by sufficient credible evidence that the MEP contractors disturbed the subgrade in Buildings 2 and 5 sufficiently to effect a material change to the scope of PEC's original tasks or to create a material amount of extra work for PEC. (F.O.F. 220-228; Board Finding).

7. Change in the Size of the Equipment Pads

230. PEC claims $3,384.26 in a COR for the costs of extra work it was directed to do by DGS to change the size of certain equipment pads inside Building 17, the central utility plant. (N.T. 2006-2008; Exs. 56, 72, 72A, 490).

231. Inside the central utility plant, prime contractor Limbach was to install hot water heaters, and PEC had the responsibility under the ST4.1 CUP Contract to construct the equipment pads that supported these heaters. (N.T. 224, 226, 378, 2005).

232. On or about June 20, 2001, DGS made a change to these heaters that increased the dimensions of the equipment pads needed inside the central utility plant, thereby requiring PEC to increase both the amount of excavation it had to do underneath these pads and the amount of concrete it had to use to construct them. (N.T. 379, 2005-2008; Exs. 72, 72A Drawing No. S1.13).

233. P. J. Dick ordered and authorized PEC to perform the work changing the size of the equipment pads and this work was a change to the scope of the work bid under the ST4.1 CUP Contract. (N.T. 378-379, 2005-2006).

234. PEC used unit prices to estimate the amount for extra excavation and equipment pad changes that it claimed that DGS owed it for the work and supplied no documentation of the actual labor costs it incurred. (N.T. 2322-2323; Exs. 21A, 72, 72A, 490).

235. Because PEC used unit prices rather than its actual costs to present its claim for this extra work, PEC failed to present sufficient credible evidence to distinguish the actual costs incurred for this work from its overall construction costs on the Project. This precludes the Board's ability to calculate any award of profit on this extra work claim for a change in the size of equipment pads. (F.O.F. 116-128, 154, 230-234; Board Finding).

8. Steel Tank Design Changes

236. PEC claims $42,858.29 in a COR for extra costs it incurred outside the scope of the ST4.1 CUP Contract because of design changes to the structural and miscellaneous steel on the central utility plant. (N.T. 374-376, 1986-1988; Exs. 70, 70A).

237. PEC describes its claim for this steel design change in its COR by stating:

> "Amthor Steel was required to re-detail structural drawings due to a lack of coordination from the Construction manager and slow response to the issues of the Water tank supports. Additional delay from initial approval of shop drawings to approval of revised drawings 83 Days. PEC was burdened with additional project Management Time, Coordination, and additional cost associated with acceleration."

(Exs. 70, 70A).

238. PEC makes a claim in this COR for $22,551 for home office/scheduling costs; $20,000 "for costs associated with accelerating material delivery" and $307.29 for additional bond cost. (Exs. 70, 70A).

239. However, PEC provided no documentation of any actual manhours and attached no company timesheets, labor rates or other labor cost records to support this claim amount or any other actual cost data for additional home scheduling. (Exs. 70, 70A; Board Finding).

240. PEC used a lump sum amount to estimate the costs listed as subcontractor work and submitted no subcontractor invoices, time records, job cost records or other documentation to show and verify the actual cost of this extra work claim. (N.T. 2322; Exs. 70, 70A, 21A, 490; Board Finding).

241. PEC claims that it took DGS 83 days to give PEC final approval of these revised shop drawings, but this claimed time is unsupported by any documentation and/or any explanation of how the alleged delay cost PEC an additional $167/day and/or its subcontractor an additional $80/day. (N.T. 374, 1987; Exs. 70, 70A; F.O.F. 236-237, 240; Board Finding).

242. PEC's post-hearing brief describes its claim for structural steel design changes on the ST4.1 Contract as entailing additional costs for generating new shop drawings and $20,000 to expedite fabrication and delivery of these steel supporters. This explanation of additional costs is clearly at odds with the COR calculation of 83 days multiplied by a daily rate of $167 for PEC and $80 for Amthor. (PEC's Post-Hearing Brief at p. 38; Exs. 70, 70A; Board Finding).

243. PEC witnesses, Mr. Chambers and Mr. Wieland, provided only brief, vague and contradictory testimony regarding the nature of this claim and cited no supporting records or documentation. As a result, we do not know the degree of acceleration required with regard to these steel items, if any; if there were actual changes to the drawings and what these were; or if the amounts claimed have any reasonable basis. (N.T. 374-376, 1985-1988; Board Finding).

244. Because there is inadequate documentation to verify or support the actual costs, delays and accelerations claimed in this COR for extra work, and because PEC's explanation of these costs claimed is vague and inconsistent, and because unit pricing and lump sum amounts was used to calculate these damages, the Board finds that PEC failed to present sufficient credible evidence to determine what costs, if any, PEC incurred for this alleged extra work. This lack of sufficient credible evidence as to costs also prevents the Board from differentiating these costs from PEC's overall construction costs on the Project. (F.O.F. 116-128, 154, 236-243; Board Finding).

9. Claim for Review of BP6

245. PEC claims in COR #114 that it incurred costs of $28,864.95 because it was required by DGS to review and compare BP5 with BP6 to find any changes in the specifications or drawings that pertained to PEC's work. (N.T. 1722-1732; Exs. 5, 5A).

246. PEC claims it spent 320 hours of clerk time and 320 hours of project manager time reviewing and comparing BP5 with BP6, but has provided no company time sheets, labor rates or other labor cost records to support this claim. (NT. 2314-2315; Exs. 5, 5A).

247. PEC's own expert witness, Mr. Hayes, opined that the 320 hours that PEC claimed for the review of BP6 were not reasonable and that he believed that 40 hours would be reasonable. (N.T. 1044; Board Finding).

248. Mr. Chambers of PEC admitted that the hours claimed for review of BP6 were not actual hours incurred, but an estimate. He further admitted that PEC did not log its clerical hours according to the task performed, so it did not have any record of the actual hours spent on this review. (N.T. 1510-1511, 1513-1514).

249. In January 2002, Mr. Rollage reviewed this claim and found no PEC records supporting the labor costs claimed for this review and comparison of the BP5 and BP6 specifications. (N.T. 2314; Ex. 490).

250. Because PEC has provided no reliable record of actual costs expended for the review and comparison of BP5 and BP6, and because the number of hours for the review claimed by PEC do not appear to be reasonable, the Board cannot find that any amount of actual costs for this task have been established with reasonable certainty. (F.O.F. 245-249; Board Finding).

251. Because of PEC's failure to provide substantial, credible evidence showing the actual costs PEC incurred in its review and comparison of BP5 with BP6, the Board cannot distinguish any such incurred costs from PEC's overall construction costs. This precludes the Board's ability to calculate any award of profit on this extra work claim for review of the BP6 specifications. (F.O.F 116-128, 154, 245-250; Board Finding).

10. Lack of Temporary Access Roads on the Project

252. PEC claims in COR #47 for the ST2.1 Contract that DGS failed to install and maintain adequate construction access roads as indicated in the Project's specifications and drawings, and that this failure caused PEC $222,069.04 in additional costs for extra work, including extra costs building and maintaining its own temporary construction access roads, inefficiency costs incurred trying to get to inaccessible building sites and extra costs moving concrete trucks around the site. (N.T. 307-317; Exs. 12, 12A).

253. Plans and drawings for the Project indicated that temporary roads, lots, parking areas and a construction entrance would be built on the Project by the site excavation prime contractor in addition to a crane pad road for the heavy duty cranes needed to set the precast cells in place. (N.T. 293-296, 300, 302; Exs. 90 C1.01 and C1.02; Board Finding).

254. The plans and specifications did not state when the temporary access roads or the crane pad road would be built. (N.T. 293-296, 300, 302; Exs. 90 C1.01 and C1.02, 432; Board Finding).

255. Given the general sequence of construction on the Project, it was not reasonable for PEC to assume that the heavy duty crane pad road designated on the plans and drawings would be built by the time PEC began its foundation and/or slab work. However, because of the nature, size and scope of the Project, and because of the aggressive, overlapping schedules for all the contractors which required substantial work to be performed through the winter in Western Pennsylvania, it was necessary to prosecution of the Project and reasonable for PEC to expect that DGS and the Professional would design and install adequate temporary access roads for all the contractors on the work site by the time PEC was to begin its foundation work on the Project. (N.T. 293-296, 300, 302; Exs. 90 C1.01 and C1.02, 432; Board Finding).

256. With the exception of the short entrance road of approximately 1100 feet at the very beginning of the work site, DGS did not build temporary access roads on the Project for use by the many contractors on the Project as reasonably required and expected. DGS only installed the crane pad road for the benefit of the precast cell contractor later in the Project after PEC's ST2.1 foundation and slab work was mostly complete. (N.T. 203-209, 294, 299, 304, 3561-3566; Exs. 90, 148A, 432; F.O.F. 252-255; Board Finding).

257. PEC complained about the lack of temporary access roads to P.J. Dick, and, when that produced no action, PEC then built temporary roads to assist its access to the site with some stone it had excavated from its footer excavations on the Project. (N.T. 2574, 2942).

258. PEC's work building its own temporary access roads was extra work beyond the scope of its ST2.1 Contract that it was forced to perform as a result of DGS's failure to provide adequate temporary access roads on the Project. (Exs. 429, 432; F.O.F. 252-257; Board Finding).

259. PEC estimates extra costs of $81,172.29 for on-site labor; $5,034.24 for off-site labor; $64,722.81 for owned equipment; $47,850.00 for rented equipment; $21,697.88 for

material and inefficiency; and $1,591.71 for bond costs in COR #47 for the extra work it performed due to lack of adequate temporary access roads on the Project in connection with its ST2.1 Contract work. (N.T. 1531, 135, 207, 209, 2517; Exs. 12, 12A; Board Finding).

260. To support the foregoing cost claims, PEC has provided only a summary of manhours, equipment hours and material quantities without further backup such as job cost or labor reports, workers' timesheets, foreman's work logs, equipment usage logs, invoices or any other documentation typically provided to support a claim of this nature. (N.T. 1531, 135, 207, 209, 2517; Exs. 12, 12A; Board Finding).

261. However, PEC's claim for man and equipment hours devoted on-site to temporary road construction comprised of direct costs of $41,668 for the operator and laborer claimed; $58,839 for owned equipment; the revised amount of $7975 for rented equipment; plus 7.25% markup for reasonable overhead (totaling $116,347) is supported not only by Mr. Weiland's testimony but by the testimony of Mr. Pacoe (PEC's site foreman). Mr. Pacoe testified credibly that PEC spent approximately two days per week with one to two men and one to two excavators building and maintaining temporary access roads while PEC was on the Project. However, the 956 manhours reflected in COR#47 for supervisor time; the 160 hours of off-site labor (explained as mechanics' time repairing equipment); the $18,000 of material costs (explained as parts for equipment) and the $1725.44 claimed for inefficiency, are pure estimates extrapolated by Mr. Weiland and/or Mr. Chambers. These estimates for supervisor time, off-site labor, material costs and inefficiency are completely unsupported by further testimony or documentation, and do not appear reasonable or credible to this Board. Accordingly, we hold that PEC has established with reasonable certainty that it incurred $116,347 in actual cost for the extra work it performed in connection with its ST2.1 Contract as a result of DGS's failure to provide adequate temporary access roads to the Project site. (N.T. 208-209, 307-315, 1531-1536, 1887-1906, 2507-2526, 2574; Exs. 12, 12A; Board Finding).

262. PEC also claims $38,024.82 in COR #047 for extra work performed in connection with its ST4.1 Contract because of DGS's failure to install adequate temporary access roads to the Project site. (N.T. 376-377; Exs. 71, 71A).

263. In this COR #47 to the ST4.1 Contract for lack of temporary access roads, PEC claims that, because of DGS's failure to install construction access roads to Building 17, it incurred extra on-site labor costs of $14,533.07, extra off-site labor costs of $629.28, extra owned equipment costs of $5,550.73 (dozer, cat hoe, bobcat and site truck), extra costs for rented equipment of $11,880.00, extra costs for materials and worker fatigue of $5,159.19 and bond costs of $292.55 in connection with its ST4.1 Contract. (N.T. 1991-2004; Exs. 71, 71A; F.O.F 262).

264. To support the foregoing cost claims, PEC has provided only a summary of manhours, equipment hours and material quantities without further backup such as job cost or labor reports, workers' timesheets, foreman's work logs, equipment usage logs, invoices or any other documentation typically provided to support a claim of this nature. (N.T. 1991-2004; Exs. 71, 71A; F.O.F. 262-263).

265. Building 17, the central utilities plant, is located near the entrance to the Project. Given the 1100 feet of general entrance road to the Project that was built by DGS and the close proximity of Building 17 thereto, PEC has not established that access to this building site was substantially impaired by the lack of additional temporary access roads. Therefore, we do not find the amounts claimed to be extra work due to lack of access roads on the ST4.1 Contract to be reasonable or credible. As a result, the estimated costs for this aspect of PEC's claim do not allow the Board to ascertain PEC's actual costs for this alleged extra work relating to the ST4.1 Contract with reasonable certainty nor to distinguish the costs for this discrete activity from the total costs incurred on the Project for PEC's original contract work. (N.T. 1997-1999, 2320, 2516, 2528, 2552-2553; Exs. 71, 71A, 90 (C1.01 and C1.02); Board Finding).

266. As a result of the foregoing, the Board finds that PEC incurred a total cost of $116,347 for extra work it had to perform resulting from DGS's failure to provide adequate temporary access roads on the work site and can distinguish the cost of this extra work from the other costs incurred on the Project for PEC's original contract work. However, no evidence of delay to its foundation and/or slab work was established by the evidence submitted. (N.T. 208-209, 307-315, 1531-1536, 1887-1906, 2507-2526, 2574; Exs. 12, 12A; F.O.F. 116-128, 154, 252-264; Board Finding).

267. We have already awarded PEC compensation for the cost (including reasonable overhead) of this extra work due to the lack of adequate temporary access roads as part of our overall award of costs incurred by PEC on the Project prior to its termination. However, consistent with the Manshul Method applied by this Board to determine a reasonable markup for overhead of 7.25% on all of PEC's direct costs for its work on this Project, we further find that an additional markup of 7.25% is a reasonable markup for profit to be applied to the actual cost (direct plus overhead) incurred by PEC for performing any extra work on the Project beyond the original scope of its ST2.1 and ST4.1 Contracts where (as in this instance) we can distinguish these actual costs of extra work from the other costs incurred on the Project for original contract work. (Exs. 12, 12A; F.O.F. 116-134, 154, 252-266; Board Finding).

268. Accordingly, a reasonable profit markup for PEC's extra work on the Project resulting from DGS's failure to provide adequate temporary access roads on the work site amounts to $8,435 ($116,347 x 7.25% = $8,435). (Exs. 12, 12A; F.O.F. 252-267; Board Finding).

11. Grouting Claim

269. On April 9, 2001, P. J. Dick sent PEC a letter directing PEC to grout all steel column base plates and asking that PEC "[p]lease submit a Change Order Request for this change within 14 calendar days." (N.T. 317-318, 2527, 3455; Exs. 13, 13A).

270. The steel column base plates were plates that needed to be leveled with grout to provide a level surface for the steel columns to sit on. Grouting the base plates was not within the original scope of PEC's ST2.1 Contract, but was instead within the scope of the steel erector's contract. (N.T. 318, 974, 1220; Board Finding).

271. From May 2001 to July 27, 2001, PEC performed and completed the grouting work as directed by P. J. Dick. (N.T. 320-321; Exs. 14, 14A).

272. COR #52 (with attachments) includes copies of invoices from Cassady Pierce documenting the purchase of the grout material for $2,426 (including tax) along with a detailed listing of PEC's actual direct labor costs of $9,998, including date of work, type of labor required, rate paid and hours expended to complete the work. (N.T. 318-322, 1908-1913, 2526-2527; Exs. 14, 14A).

273. The direct costs of grout material and labor incurred by PEC for this steel column base plate work plus a reasonable overhead markup of 7.25% totals $13,325. (N.T. 318-322, 1908-1913; Exs. 14, 14A).

274. DGS contends that it has already paid Cassady Pierce (the company which supplied the grouting material to PEC) for the grouting material used by PEC to grout the base plates as part of its payment of $17,539.45 on March 20, 2002 to Cassidy Pearce for some unpaid invoices on the Project. (DGS Proposed Conclusions of Law, ¶ 307; N.T . 5075-5077; Ex. 496).

275. DGS attached no invoices to the Settlement Agreement with Cassady Pierce so there is no evidence that the base plate grout used by PEC is one of the many "auxiliary materials" (i.e. various compounds, insulation, vapor barriers, etc.) that was covered by the Settlement Agreement. (N.T. 5075-5077; Ex. 496; Board Finding).

276. DGS paid Cassady Pierce $17,539.45 on March 20, 2002 pursuant to a Settlement Agreement and Release for "the supplying of any and all materials under the Contract." That Settlement Agreement further stated that Cassady Pierce released DGS from all claims including those for "any work performed, material supplies and/or services furnished during the performance of any approved change order issued under the contract." (Emphasis added.) (N.T. 5075-5077; Ex. 496; Board Finding).

277. DGS never approved PEC's Change Order Request #52 for grouting the base plates, so the grouting material used by PEC for this extra work was not furnished pursuant to the ST2.1 or ST4.1 Contracts or an "approved" change order, and therefore is not covered by the literal language of the Settlement Agreement with Cassady Pierce. (N.T. 5075-5077; Exs. 14, 14A, 496; Board Finding).

278. There is insufficient evidence that DGS has previously paid PEC for any portion of the costs included in PEC's claim for extra work grouting the steel column base plates on the Project. (F.O.F. 269-277; Board Finding).

279. PEC proved by substantial credible evidence, including detailed supporting documents, that it was ordered by DGS to perform extra grouting work; that it incurred actual costs (including overhead) of $13,325 performing extra work grouting the steel column base plates; that this work was outside the scope of the ST2.1 Contract and/or the ST4.1 Contract; and that DGS failed to pay PEC for this extra work. (Exs. 14, 14A; F.O.F. 269-278; Board Finding).

280. As a result of the foregoing, the Board finds that PEC incurred a total cost of $13,325 for extra work it had to perform resulting from DGS's direction (via P.J. Dick) to grout the steel column baseplates on the Project and can distinguish the cost of this extra work from the other costs incurred on the Project for PEC's original contract work. However, no evidence of delay to its foundation and/or slab work was established by the evidence submitted. (N.T. 318-322, 974, 1220, 1908-1913, 2526-2527, 3455; Exs. 13, 14, 14A; F.O.F. 269-279; Board Finding).

281. We have already awarded PEC compensation for the cost (including reasonable overhead) of this extra work due to DGS's direction to grout the steel column baseplates on the Project as part of our overall award of costs incurred by PEC on the Project prior to its termination. However, consistent with the Manshul Method applied by this Board to determine a reasonable markup for overhead of 7.25% on all of PEC's direct costs for its work on this Project, we further find that an additional markup of 7.25% is a reasonable markup for profit to be applied to the actual cost (direct plus overhead) incurred by PEC for performing any extra work on the Project beyond the original scope of its ST2.1 and ST4.1 Contracts where (as in this instance) we can distinguish these actual costs of extra work from the other costs incurred on the Project for original contract work. (Exs. 13, 14, 14A; F.O.F. 116-134, 154, 279-280; Board Finding).

282. Accordingly, a reasonable profit markup for PEC's extra work on the Project resulting from DGS's direction (via P.J. Dick) to grout the steel column baseplates on the Project amounts to $966 ($13,325 x 7.25% = $966). (Exs. 13, 14, 14A; F.O.F. 269-281; Board Finding).

12. Extra Winter Concrete Work

283. PEC claims $301,371.69 in COR's #55 to #59 to the ST2.1 Contract for costs it alleges it incurred to perform extra work pouring concrete foundations and/or slabs in winter conditions in Buildings A, B, C, D and 14. (N.T. 332-352, 1928-1929, 1935-3954; Exs. 18, 18A).

284. Although daily variations surely occurred, the Board holds Mr. Chambers' testimony regarding prevailing climatic conditions on the Project to be credible and finds that winter work conditions generally prevailed on the Project from November 15, 2000 through April 1, 2001 ("Winter Period"). (N.T. 334-339; Board Finding).

285. PEC based its bid for the ST2.1 Foundations Contract on the contract's terms including the General Conditions, General Requirements and other bid documents, as amended by Bulletins 1 through 5. (N.T. 332-339, 1241; Exs. 429, 431, 432).

286. The milestones and the sequence of construction for PEC were included in Bulletin 4, Section 01310 of the General Requirements for the ST2.1 Foundations Contract. (Exs. 431B, 432 pp. 01310-11 to 01310-15).

287. Pursuant to the ST2.1 Contract milestones included in the bid documents, PEC anticipated when it prepared its bid that a certain limited portion of its work would be performed

in winter conditions. However, according to the original milestones, PEC's work on the footers and slabs under cells for the housing units A, B, C, and D and the footers for Building 14 was scheduled to be substantially complete before the onset of winter conditions. (N.T. 332-339, 1928-1929, 1935-1936; Exs. 431B, 432 pp. 01310-11 to 01310-15; Board Finding).

288. Based on PEC's original contract milestones, PEC reasonably believed when it bid the work that it would not be required to install the footers or slabs under cells for housing units A, B, C and D or the footers for Building 14 during the Winter Period.[6] (N.T. 332-339, 1928-1929, 1935-1936; Exs. 431B, 432 pp. 01310-11 to 01310-15; F.O.F. 28-31, 283-287).

289. DGS failed to execute PEC's ST2.1 Foundations Contract and begin the Project in June 2000 as indicated in PEC's original milestones. Instead, DGS delayed 66 days in executing PEC's ST2.1 Foundations Contract and did not do so until late August 2000. (N.T. 332-333; F.O.F. 28-40).

290. As a result of this initial delay in executing PEC's ST2.1 Contract, DGS caused PEC to commence work 66 days later than originally anticipated, so DGS added 66 days to each PEC contract milestone, thereby creating PEC's Revised Milestones. (N.T. 332-333, 1103, 2896-2897, 2906-2907; F.O.F. 28-42).

291. DGS's scheduling adjustment of adding 66 days to each of PEC's original milestones to account for DGS's delay in contract execution was a reasonable attempt to coordinate work on this multi-prime contractor project. (F.O.F. 28-43; Board Finding).

292. When DGS added 66 days to the original start and finish dates of PEC's ST2.1 Foundations Contract milestones, it maintained PEC's original work durations for these tasks but moved additional concrete work that PEC had to perform into winter conditions, including the footers and slabs under cells for housing units A, B, C, and D and the footers for Building 14, thereby creating extra work for PEC. (N.T. 332-352, 1928-1929, 1935-1954; Exs. 432 pp. 01310-11 to 01310-15, 457; F.O.F. 28-44, 283-291; Board Finding).

293. Mr. Zaenger of P.J. Dick stated that if PEC felt that it was being forced to work into winter conditions that it did not contemplate under the original contract, then PEC needed to submit a change order request for more compensation, but that PEC was still obligated to proceed with the work. (N.T. 3061-3062).

294. The original milestones required no material amount of concrete work (i.e. foundations and/or slab on grade work) to be performed for any housing unit (Buildings A, B, C, D, E, F, G, H, J, K) during the Winter Period and required foundation and/or slab on grade work

[6] The original milestones identified November 17, 2000 as the last day by which slabs on grade for "Housing Units A-D" and "Guard Station 10 at Cells" were to be complete. While we acknowledge that this period overlaps by 2 days what the Board has identified as the Winter Period when winter work conditions generally prevailed on the Project, we do not consider this slight overlap to be of material significance. Among other things, PEC had a period of 35 days (from October 13, 2000 when it was to have completed its foundation work on these buildings) to pour these slabs so could reasonably have expected to conclude its slab work on these four buildings prior to November 15 in order to avoid entirely the beginning of winter conditions for work on these buildings.

to be done in only nine support buildings in that same Winter Period. (N.T. 332-352, 1928-1929, 1935-1954; F.O.F. 28-31, 287-288; Board Finding).

295. The Revised Milestones required that concrete work (either foundation and/or slab on grade under cells) be performed in at least some portion of 18 buildings during the Winter Period, including Housing Units A through H, which were on the Project's critical path (i.e. timely completion of the foundations and slabs under cells was essential to maintaining the Project's overall completion date) as well as Building 14. (N.T. 332-352, 1132-1139, 1928-1929, 1935-1954; F.O.F. 41-43, 289-293).

296. The 66 day shift in PEC's milestone dates moved the concrete work for several more buildings from Fall 2000 into the Winter Period, but because of the front-loading of concrete work in the beginning of the milestone schedule and the concurrent work required in many of these early buildings, the 66 day shift did not result in a corresponding relief from winter work in the Spring of 2001. (N.T. 192-193, 332-352, 1928-1929, 1935-1954; Exs. 18, 18A, 457; F.O.F. 31, 41-44, 292-295; Board Finding).

297. The Revised Milestones significantly increased the amount of concrete work PEC was required to perform in winter conditions, including the amount of winter work PEC was required to perform on Buildings A, B, C, D and 14. Similarly, the Initial (Master) Project Schedule, issued by P.J. Dick on or about December 5, 2000, while relaxing some deadlines for certain work activities among the Housing Units, retained the increase in the amount of concrete work PEC was required to perform in winter conditions. This caused PEC to perform substantial extra work in connection with construction of the foundations and/or slabs on grade for several buildings on the Project, including Buildings A, B, C, D and 14. Buildings A, B, C, D, and 14 are the only buildings for which PEC claims extra work due to winter conditions. (N.T. 192-193, 332-352, 1928-1929, 1935-1954; F.O.F. 31, 41-51, 283-296; Board Finding).

298. Although it remained behind schedule for completion of same, PEC worked on all 18 buildings required of it by the Revised Milestones and the Initial (Master) Project Schedule in the Winter Period, including Buildings A, B, C, D and 14. (N.T. 192-193, 332-352, 1928-1929, 1935-1954; Ex. 436A; F.O.F. 41-52, 57-64, 283-297; Board Finding).

299. The Project's job site meeting minutes, particularly those from November 2000 through March 2001, show that PEC constructed substantially all of the footers and slabs under cell for housing units A, B, C and D and the footers for Building 14 during winter conditions, and that PEC did concurrent work in these buildings. (N.T. 332-352, 1928-1929, 1935-1954; Ex. 436A; Board Finding).

300. Mr. Payne, DGS's own expert, analyzed the flow of PEC's work on the Project and admitted that there was a shift of PEC's work assignments from Fall 2000 to Winter 2000-01 when DGS changed from the initial milestones to the Revised Milestones and the Initial (Master) Project Schedule. This shift included moving concrete work for housing units A, B, C, D and Building 14 into winter conditions. (N.T. 1132-1141).

301. Because PEC had to perform its concrete work in housing units A, B, C, and D and Building 14 in winter conditions, PEC had to perform extra work on these buildings and incurred extra costs for labor, equipment and material above that which it reasonably anticipated for these buildings at the time of its bid. (N.T. 192-193, 332-352, 1928-1929, 1935-1954; Exs. 18, 18A; Board Finding).

302. PEC calculated the extra man hours and equipment hours consumed in performing extra work during the Winter Period in connection with PEC's work on Buildings A, B, C, D and 14 as well as the costs for extra materials and subcontract work including, for example, the protective plastic tents that PEC was forced to construct over the building sites, propane heaters to prevent the subgrade and concrete from freezing and the hydraulic hammers PEC needed to excavate frozen ground. It then attached the summaries of these extra work costs to its CORs #55 through #59 to the ST2.1 Contract. (N.T. 192-193, 332-352, 1928-1929, 1935-1954; Exs. 18, 18A).

303. Mr. Wieland testified that, in order to quantify the extra man hours and extra equipment hours taken to do the foundation work itself (for both exterior and interior foundations) and the extra carpenter, laborer and finisher hours taken to form and pour the under cell slabs solely because of the winter conditions, he compared the actual man and equipment hours to do this work on Buildings A, B, C, D and 14 (in winter conditions) with the same work done on Building E (because work on this building was not impacted by winter conditions). (N.T. 1937-1954; Exs. 18, 18A; F.O.F. 294-302; Board Finding).

304. Because the footprint and requirements for pouring the foundations and slabs on grade for Building E was substantially identical to those for Buildings A, B, C and D, we find that Mr. Wieland's method for quantifying the extra man hours and extra equipment hours taken to do the foundation work itself (for both exterior and interior foundations) and the extra carpenter, laborer and finisher hours taken to form and pour the under cell slabs on Buildings A, B, C and D that was solely attributable to winter conditions is appropriate and identifies these items of extra cost attributable to winter conditions with reasonable certainty. (N.T. 1937-1954; Exs. Court 1, 18, 18A, 90, 432; F.O.F. 294-303; Board Finding).

305. Because the footprint and requirements for pouring the foundations and slabs on grade for Building E was not substantially identical to those for Building 14 and Mr. Wieland did not identify the unaffected building he used for comparison to Building 14, we find that Mr. Wieland's method for quantifying the extra man hours and extra equipment hours taken to do the foundation work itself (for exterior foundations only in this instance) on Building 14 that was solely attributable to winter conditions does not identify this item of extra cost attributable to winter conditions with reasonable certainty. [7] (N.T. 1937-1954; Exs. Court 1, 18, 18A, 90, 432; F.O.F. 294-304; Board Finding).

306. In addition to the extra man hours and extra equipment hours taken to do the foundation work itself (for both exterior and interior foundations) and the extra carpenter, laborer

[7] Among other things, the lineal feet per day rate for pouring foundations in normal conditions utilized for Building 14 (120 LF/Day) varies from the normal lineal feet per day rates otherwise used consistently for comparison of Buildings A, B, C and D to Building E (80 LF/Day).

and finisher hours taken to form and pour the under cell slabs, Mr. Wieland did testify credibly that the additional items of extra cost claimed for winter work on Buildings A, B, C, D and Building 14 (i.e. the additional materials and labor to cover and heat footings/slabs and/or subgrade as well as subcontract work) as itemized in Exhibit 18, were actual costs taken from PEC's job cost reports and were attributable solely to working on these buildings in winter conditions.[8] (N.T. 192-193, 332-352, 1928-1929, 1935-1954; Exs. 18, 18A; Board Finding).

307. PEC's damage calculations for extra winter concrete work was presented to the Board substantially in summary form and without specific job cost records, worker timesheets, equipment usage logs, or any other documentation typically provided to support a claim of this nature. However, it is clear from the evidence that DGS caused PEC additional costs by increasing PEC's winter work on the buildings claimed by PEC and, with the exception of his attempt to quantify the extra man and equipment hours for Building 14 foundations, the Board finds Mr. Wieland's testimony on these damage calculations to be highly credible and the extra manhours and costs asserted to be wholly reasonable. Accordingly, we find that PEC's calculation of additional man and equipment hours and direct costs for performing its concrete work on Buildings A, B, C and D in winter conditions, as set forth in its Exhibit 18, are credible and accurate. Additionally, we find that PEC's calculation for direct costs of additional materials and manhours to cover and heat the footings, slab and/or subgrade for its concrete work on Building 14 in winter conditions, as set forth in Exhibit 18, are also credible and accurate. (N.T. 192-193, 332-352, 1928-1929, 1935-1954; Exs. 18, 18A; F.O.F. 283-306; Board Finding).

308. PEC incurred direct costs (without markup) for extra work due to winter conditions for installing the footers and slabs on grade in Housing Unit A of $59,118.18; in Housing Unit B of $54,214.16; in Housing Unit C of $54,214.16; in Housing Unit D of $50,056.50; and in Building 14 of $6,136.59. These costs were reasonable and adequately supported. Therefore, when adding a reasonable markup for overhead (of 7.25%), we find that PEC incurred total actual cost for this extra winter work of $239,961.71 ($223,739.59 x 1.0725). (N.T. 192-193, 332-352, 1928-1929, 1935-1954; Exs. 18, 18A; F.O.F. 283-307; Board Finding).

309. As a result of the foregoing, the Board finds that PEC incurred a total cost of $239,962 for extra work it had to perform resulting from additional winter work caused by DGS's delay in executing PEC's ST2.1 contract and resultant shift of 66 days in PEC's concrete milestones, and can distinguish the cost of this extra work from the other costs incurred on the Project for PEC's original contract work. (N.T. 192-193, 332-352, 1928-1929, 1935-1954; Exs. 18, 18A; F.O.F. 116-128, 154, 283-308; Board Finding).

310. We have already awarded PEC compensation for the cost (including overhead) of this extra work due to additional winter work on Buildings A, B, C, D and 14 as part of our overall award of costs incurred by PEC on the Project prior to its termination. However, consistent with the Manshul Method applied by this Board to determine a reasonable markup for

[8] Although PEC has given the Board no overtime rate to apply to these manhours in its worksheets for Building 14, we consider Mr. Wieland's assertion of extra labor costs for 22 manhours of overtime for tending the covering and heating of footers on Building 14 to be reasonable and consistent with the other buildings in this claim. Accordingly, we will utilize the Laborer OT rate of $35.52 used throughout for Buildings A, B, C and D and award this cost for Building 14 to PEC as well.

overhead of 7.25% on all of PEC's direct costs for its work on this Project, we further find that an additional markup of 7.25% is a reasonable markup for profit to be applied to the actual cost (direct plus overhead) incurred by PEC for performing any extra work on the Project beyond the original scope of its ST2.1 and ST4.1 Contracts where (as in this instance) we can distinguish these actual costs of extra work from the other costs incurred on the Project for original contract work. (F.O.F. 116-134, 154, 308, 309; Board Finding).

311. Accordingly, a reasonable profit markup for PEC's extra work on the Project for its additional winter work on Buildings A, B, C, D and 14 on the Project amounts to $17,397 ($239,962 x .0725 = $17,397). (Exs. 18, 18A; F.O.F. 308-310; Board Finding).

312. In March 2001, PEC notified P.J. Dick of the additional costs it was incurring as a result of being forced to perform this work under winter conditions and subsequently submitted COR's 55 through 59 seeking additional compensation, but DGS failed to pay PEC for this extra work. (N.T. 1945-1952, 3061-3062; Exs. 18, 18A).

313. The Board finds that the total profit mark-up on awards for the three extra work claims created by lack of access roads ($8,435), extra grouting ($966), and extra Winter work ($17,397) is $26,798, and we add this amount to PEC's award of costs from DGS. (F.O.F. 266-268, 280-282, 309-311; Board Finding).

314. The total of all costs awarded to PEC on the Project calculated per Paragraphs 14.1 and 14.2 of the ST2.1 and ST4.1 Contracts ($2,131,747) plus an additional markup for profit on those items of extra work which were identified and calculated by the Board ($26,798) amount to $2,158,545 before any adjustment is made for any DGS counterclaim and/or set-off. (F.O.F. 154-156, 313; Board Finding).

DGS CLAIMS

315. Paragraph 14.2 of the General Conditions, which describes the terms for payment by DGS to PEC under Paragraph 14.1, states: "Such termination [under 14.1]…shall be without prejudice to any claims which the Department may have against the Contractor." (Exs. 429, 430, 431 ¶¶ 14.1 and 14.2).

316. Despite PEC's substantial efforts to accomplish the construction requirements of the two contracts, the Board finds that PEC did: 1) fail to maintain adequate surety bonds for the ST2.1 and ST4.1 Contracts; 2) perform defective work in certain instances; 3) fail to pay certain material men, suppliers, subcontractors and labor costs in a timely fashion; and 4) fail to provide sufficient manpower for the Project and a failure to coordinate its work so as not to interfere with other contractors on the Project, resulting in a failure to perform its ST2.1 Contract work in a timely manner thereby causing material delay to several other prime contractors on the Project. (F.O.F. 34-68, 70-73, 320-325, 333-337, 350-358, 360-391, 394-399, 409-410, 427-433, 452-453, 473-474, 503-504, 521-522, 546-547, 568-569, 599-600, 628; Board Finding).

PEC's Failure to Maintain Adequate Surety Bonds

317. DGS claims $1,976,799.56 for its alleged costs to complete PEC's contract work under both contracts after it terminated PEC's participation in the Project on July 27, 2001. (DGS Brief at p. 48; DGS Proposed F.O.F. 525).

318. This claim amount includes $1,935,299.56 that DGS allegedly paid to Penn Transportation and $41,500 that DGS allegedly paid to Amthor Steel Company to complete the work on the ST2.1 and ST4.1 Contracts. (DGS Proposed F.O.F. 528, 529).

319. The premise for this DGS claim for costs to complete is that PEC's failure to maintain its surety bonds was a material default by PEC on its ST2.1 and ST4.1 Contracts and that this default caused DGS to have to get another contractor to complete PEC's work and incur additional costs for DGS. (DGS Proposed F.O.F. 526).

320. As a condition of each of its contracts, PEC was required to procure and maintain surety bonds in an amount that would cover the cost of the performance of its contract work and secure prompt payment for labor, materials and equipment. (Exs. 76, 429, 430, 431 ¶¶ 10.23, 17.5).

321. The General Conditions for both the ST2.1 and ST4.1 contracts provided:

> Should any surety on the Bonds or insurance company providing required coverage become unsatisfactory to the Department, the Contractor must promptly furnish such additional security or insurance coverage as may be required to protect the interest of the Department. The Contractor shall, from time to time, furnish the Department, when requested, satisfactory proof of each type of Bond and/or insurance required. Failure to comply with this provision shall result in the cessation of work, and shall be sufficient grounds to withhold all further payments due the Contractor and/or declare the Contractor in default."

(Exs. 76, 429, 430, 431 Gen Con. ¶¶ 10.23 and 17.5).

322. In May 2000, when PEC bid the ST2.1 Contract, PEC arranged for the required payment and performance surety bonds from American West Casualty Company (Amwest). Both the ST2.1 and ST4.1 Contracts stated that the Amwest surety bonds were incorporated as part of each contract's terms, were a condition of the award and were made part of the contracts. (Exs. 76, 429, 430, 431).

323. PEC's problems with its surety bonds began on June 7, 2001, when the District Court of Lancaster County, Nebraska declared Amwest insolvent and entered an order of liquidation against the surety company. (Ex. 566A; F.O.F. 70).

324. Notice of this liquidation action against Amwest began a series of events in which DGS threatened to declare PEC in default if it did not produce copies of replacement bonds to DGS by July 9, 2001 and deliver originals to DGS by July 13, 2001. (F.O.F. 70-72).

325. As noted in our prior Findings of Fact, PEC was unable to obtain such replacement bonds in the time period required. (F.O.F. 73).

326. As also noted in our prior Findings of Fact, the Board found that DGS, in fact, never did implement the default procedures set forth in Paragraph 14.3 of the ST2.1 or the ST4.1 Contracts as it earlier threatened because of the surety bond issue, but instead purposefully terminated PEC's participation in the Project under both contracts by way of the "no fault" termination procedure of Paragraph 14.1 pursuant to its letters of July 27, 2001. (Exs. 64, 308, 429, 430, 431; F.O.F. 70-82; Board Finding).

327. PEC obeyed DGS's instructions in these letters of July 27, 2001, and immediately ceased all ST2.1 and ST4.1 Contract work, took necessary post-termination actions and left the Project. (N.T. 64-66, 1683; Exs. 64, 308; F.O.F. 76-80, 324-326; Board Finding).

328. DGS took PEC off the Project on July 27, 2001 pursuant to Paragraph 14.1 without default notice, cure period or actual default by PEC. (F.O.F. 76-88, 324-327; Board Finding).

329. Because DGS deliberately elected to terminate PEC immediately under Paragraph 14.1 rather than follow the contract procedures to declare PEC in default under Paragraph 14.3 and endure a further formal cure period, we find, in fact, that it was DGS's decision and action to terminate PEC immediately pursuant to Paragraph 14.1 (not PEC's default on its contract obligations or failure to maintain its surety bonds) which removed PEC from the Project and thereby caused DGS to incur the additional cost to other contractors to complete PEC's Project work. (F.O.F. 70-88, 317-328; Board Finding).

PEC's Defective Concrete Work

330. DGS alleges PEC breached its ST2.1 and ST4.1 Contracts by performing its work in a defective manner which caused DGS to incur additional costs for repairs and corrections to PEC's work. (DGS Counterclaim, Count IV Docket 3464).

331. DGS claims damages for the cost of repairing PEC's defective work in three categories: $87,851.50 for repair of defective concrete slabs; $45,000 for clean up of cement splatter; and $44,551.19 to test and repair damage done by PEC to sewer lines in Buildings E, F, G and H. (DGS Counterclaim, Count IV Docket 3464; N.T. 6164-6168, 6178-6181; Exs. 499B, 499D, 499E, 499F, 502)

332. Provisions of both ST2.1 and ST4.1 Contracts between PEC and DGS set forth the procedures to address a contractor's defective work and the recover repair costs in Articles 11.13, 11.15 and 11.18 of the General Conditions. These provide:

> 11.13: **Correction of Work Rejected by the Department or Construction Manager**. The Contractor shall promptly correct all Work rejected by the Department or Construction Manager as defective or as failing to conform to the Contract Documents, whether observed before or after Substantial Completion

and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including the cost of the Construction Manager's additional services and any additional cost incurred by the Department and/or the Professional.

11.15: **Correction at No Cost to Department**. All defective or non-conforming Work under paragraphs 11.12 and 11.13 shall be promptly removed from the site, and the Work shall be corrected to comply with the Contract Documents without cost to the Department.

11.18: **Correction of the Work by the Department**. If the Contractor fails to correct such defective or non-conforming Work, the Department may order it corrected and charge the Contractor or its surety for the cost of correction.

(Exs. 429, 430, 431).

a. Concrete Slab Repair

333. Certain portions of the concrete slabs initially installed by PEC for Housing Units B and C[9] and for slab diamonds at columns at Buildings 2 and 17 (i.e. the CUP) were installed in a defective manner by PEC as exhibited, inter alia, by flatness deviations beyond allowable tolerances, incorrect elevations, unacceptable cracking and/or failure to obtain sufficient thickness of the slab pour during installation. (N.T. 2696, 3732-3734, 3766; Exs. 258, 261, 282; Board Finding).

334. PEC's defective concrete work on the slabs in Buildings B and C and the slab diamonds in Buildings 2 and 17 is further evidenced by the fact that DGS paid Penn Transportation for its sub-contractor, Mosites, to remove and replace these slabs and slab diamonds. (N.T. 6157-6160; Ex. 499F; Board Finding).

335. PEC had notice of all deficiencies discovered prior to its being removed from the Project, but did not correct same. (N.T. 2696, 3732-3734, 3766; Exs. 258, 261, 282, 476; Board Finding).

336. DGS paid Penn Transportation $87,851.50 for replacement and repair of the defective concrete slab work for those concrete slabs in Housing Units B and C and slab diamonds at columns in Buildings 2 and 7 as evidenced by Change Order Request No. 3 and No. 7 to Penn Transportation's SW6.1 Contract and DGS payment records identifying payments made to Penn Transportation on these two change orders. (N.T. 2696, 3732-3734, 3766, 4493-4494, 4497-4498, 4522-4536, 6157-6160, 6176-6181; Exs. 258, 261, 282, 499F, 502; Board Finding).

[9] The concrete slabs here at issue were not slabs on grade under cells, but slabs in other areas of the housing complex. (N.T. 2696).

337. The evidence supports DGS's claim that it paid $87,851.50 to Penn Transportation for repair or replacement of concrete slabs caused by PEC's original installation of these slabs in a defective manner. (F.O.F. 330-336; Board Finding).

b. Cement Splatter

338. DGS originally claimed it paid $45,000 to New Enterprise Stone & Lime Company, Inc. ("New Enterprise"), the precast cell contractor, to clean up cement splatter damage caused by PEC. (DGS Answer and Counterclaim ¶ 149 Docket 3464; N.T. 6170; Ex. 435A p. 1612).

339. Subsequent to making this claim in its Answer and Counterclaim (¶ 149 Docket No. 3464), DGS changed its position before the Board that PEC caused all the cement splatter and stated that multiple contractors, not just PEC, were responsible for the cement splattering problem. (N.T. 3737; Ex. 499B).

340. In accordance with its current allegation that multiple contractors were responsible, DGS reduced this claim for cement splatter damages and now alleges PEC is responsible for only a portion of the damages in this category totaling $16,030.38. (N.T. 6160-6172).

341. Ms. O'Reilly, DGS counsel, testified that DGS issued change orders, processed them and paid for cement splatter clean up work, but upon objection, the Board admitted her testimony for purposes only of establishing the issuance, payment and nominal reason for the change order and not for the purpose of establishing that PEC caused or created the cement splatter or any portion thereof because she had no firsthand knowledge of the latter issue. (N.T. 6160-6175, 6181; Exs. 499A, 499B; Board Finding).

342. Ms. O'Reilly testified that P.J. Dick could not determine who was responsible for the cement splatter so the charge was prorated to several contractors, including a portion to PEC. (N.T. 6167).

343. Mr. Chambers of PEC testified that prior to PEC's termination he was not apprised of any cement splattering problem or PEC's alleged responsibility therefore, and he further stated that PEC's practice was to clean up any splatters immediately after its concrete pours. (N.T. 6357-6358).

344. Mr. Kopko of P.J. Dick testified that while he assigned PEC some responsibility for the splatter, he did not say when the damage occurred, or on what basis DGS apportioned the responsibility. (N.T. 3737, 3760-3761).

345. No evidence was presented of any notice to PEC of a cement splatter problem prior to PEC's termination, and no Project document mentions this problem until months after PEC had left the site. (N.T. 6171; Exs. 499B; F.O.F 340-344; Board Finding).

346. DGS discussed in testimony and successfully moved for admission of all but the first five pages of Exhibit 499B. The portion of Exhibit 499B which was discussed and admitted into evidence established that DGS paid approximately $32,989.74 for the clean up of cement splatter and repair to the surfaces of precast concrete cells damaged by the work of four contractors on the Project, one of which was PEC. The portion of Exhibit 499B that was admitted was made up of New Enterprise worksheets which documented the total amount of work done by New Enterprise to accomplish the foregoing clean-up and the reasonable value thereof at $32,989.74. However, the first five pages of the exhibit, which set forth a basis for apportioning $16,030.38 of the value of the repair work to PEC, were not moved into evidence by DGS. Moreover, the handwritten apportionment notations on the work sheets that were admitted into evidence under 499B were not done by, nor could they be explained by, Mr. Malonoski, the witness for New Enterprise who created the worksheets. (N.T. 5462-5466, 5511-5512, 6160-6172; Ex. 499B).

347. DGS blames multiple contractors, including PEC for the splatter problem, but DGS's apportionment and assignment of some of these cement splatter cleaning costs to PEC are not explained and remain without substantial foundation or justification. (N.T. 3737, 5462-5466, 5511-5512, 6160-6172; Ex. 499B).

348. There is not sufficient evidence to show what proportion of the cement splatter was caused by PEC as no credible evidence to show how cement splatter damages should be properly apportioned among multiple contractors was provided. Therefore we cannot assess the damages for cement splatter cleanup attributable to PEC with reasonable certainty. (F.O.F. 338-347; Board Finding)

c. Sewer Damage Repair

349. DGS alleges that PEC caused damage to the sewers, and specifically that PEC punctured underground sewer pipes after W.G. Tomko, Inc. ("Tomko") had installed them in housing units E, F, G and H. DGS's claims it incurred costs of $44,551.19 that it paid to Tomko, the plumbing contractor on the Project, for repair work to these sewer pipes. (DGS Proposed F.O.F. 500, 501; N.T. 6174-6175; Ex. 499D).

350. Provisions of both Contracts between PEC and DGS set forth obligations on the part of one contractor not to interfere with or damage the work of another contractor on the Project. These provisions include:

6.30: Coordination with Other Trades and Other Contractors:

> A. As various areas or parts of the site and building are complete, or otherwise suitable for the subsequent Contractors to commence Work, those Contractors shall be allowed to deliver materials and start Work if applicable. . . .
>
> B. The Contractor is to coordinate all Work with the Work of other Contractors for proper function and sequence to avoid construction

delays. If the Construction Manager or the Department determine that the Contractor is failing to coordinate its Work with the Work of other Contractors as required or directed, they may upon written notice:

. . .

2. Direct others to perform portions of the Work and charge the cost of the Work to the Contract Amount; and/or

. . .

C. The Contractor shall coordinate the Work with all other Contractors as outlined in the Coordination Drawings Section of the General Requirements so that interference between mechanical, electrical, architectural and structural Work, including existing services, will be avoided. . . .

G. Contractors shall coordinate Work to determine exact locations of outlets, pipes, diffusers and pieces of equipment to avoid interference with properly installed Work.

. . .

K. Should any other Contractor having or who shall hereafter have a Contract with the Department for the performance of Work upon the site sustain any damage through any act or omission of the Contractor or a subcontractor of the Contractor, the Contractor agrees to reimburse such other Contractor for all such damages and to indemnify and hold the Department, the Construction Manager and the Professional harmless from all such claims.

L. The exercise of the right of the Construction Manager or the Department to permit or require others to perform Work in or about the construction site shall not relieve the Contractor from any liability for loss or damage or from any of its obligations under this Contract. . . .

(Exs. 429, 430, 431).

351. When PEC installed forms to hold concrete it was pouring for slabs to create the floor area under each housing cell, it used metal stakes to secure those forms. In so doing, PEC damaged the sewer piping that Tomko had already installed under Housing Units E, F, G and H during the period March 26, 2001 to May 3, 2001. (N.T. 3759-3760, 3783-3785, 3822-3823; Exs. 499D, 1004 pp. 64-69).

352. Tomko complained about PEC's damage to its sewer work to P.J. Dick and promptly asked to be reimbursed for the cost of the repair. P.J. Dick promptly notified PEC of this issue. (N.T. 3759-3760, 3783-3785, 3822-3823; Exs. 499D, 1004 pp. 64-69).

353. Mr. Chambers admitted that PEC had caused some damage to Tomko's sewer pipes in two of the four buildings in question. (N.T. 6358-6361).

354. On April 30, 2011, Mr. Zaenger from P.J. Dick directed Tomko to test all housing unit sewers on the Project to find out if any other sewers had been punctured by PEC's stakes and to insure that further leaks would not show up at a later date. Tomko performed the required testing. (N.T. 3759-3760, 3783-3785, 3822-3823; Exs. 499D, 1004 pp. 64-69).

355. We find that the evidence is quite sufficient to establish that PEC caused damage to Tomko's sewer pipes in Housing Units E, F, G and H; that PEC was notified of same while it was on the job in May 2001; that PEC did not repair these pipes; and that Tomko was then directed to repair this damage and to test these sewers lines to insure that no other damage went undetected. (N.T. 3759-3760, 3783-3785, 3822-3823; Exs. 499D, 1004 pp. 64-69).

356. On September 28, 2011, P.J. Dick issued a formal authorization to Tomko in the form of an approved Prime Contractor Change Order for $44,551 for the work of testing the underground sanitary lines in housing units E, F, G and H, then excavating the lines, repairing same as necessary and retesting the lines. (N.T. 3759-3760, 3783-3785, 3822-3823; Exs. 499D, 1004 pp. 64-69).

357. DGS paid Tomko $44,551 for repair and testing of the sewers in housing units E, F, G and H that had been damaged by PEC. We find that PEC's actions caused DGS to incur this additional cost and that this amount was reasonable and sufficiently supported. (N.T. 3759-3760, 3783-3785, 3822-3823; Exs. 499D, 1004 pp. 64-69; F.O.F. 349-356; Board Finding).

358. In summary, for DGS's three part claim against PEC for various repairs of defective work and/or damage to the work of other contractors on the Project, we find PEC caused DGS to incur damages of $87,851.50 for the costs of repair and replacement of slabs in housing units B and C and slabs in Buildings 2 and 17; that PEC caused DGS to incur damages of an additional $44,551.19 for the testing and repair of the sewer lines in housing units E, F, G and H; and that DGS has not provided us with sufficient evidence to ascertain what amount, if any, PEC cost DGS for the clean-up of cement splatter at various locations on the Project site. (F.O.F. 333-357, 338-348, 349-357; Board Finding).

PEC's Failure to Pay Subcontractors, Workers and Suppliers

359. DGS claims that at the time of its termination PEC had failed to pay some of its subcontractors, suppliers and laborers as required by the contracts. (DGS Supplement to Proposed F.O.F. 1).

360. The ST2.1 and ST4.1 Contracts in Paragraph 6.9 of the General Conditions provided that PEC "… shall provide and pay for all labor, materials, equipment, tools,

construction equipment and machinery, water, heat, utilities, transportation, and all other facilities and services necessary for the proper execution and completion of the work." (Emphasis added.) (Exs. 429, 430, 431 ¶ 6.9).

361. Under the ST2.1 and ST4.1 Contracts, which provided that PEC "shall provide and pay for all labor" and for all "services necessary" for the work, PEC's payments for labor on the Project included required payment to several unions for the cost of union benefits for workers on the Project. (Exs. 429, 430, 431 ¶ 6.9; Board Finding).

362. Paragraph 7.4 of the General Conditions of both contracts provides:

> **Payment to Subcontractors**. Performance by a Subcontractor in accordance with the provisions of the contract entitles the Subcontractor to payment from the party with which the Subcontractor has contracted. For purposes of this section, the Contractor and the Subcontractor is presumed to incorporate the terms of the contract between the Contractor and the Department.

(Exs. 429, 430, 431).

363. Paragraph 7.6 of the General Conditions of both contracts provides:

> **Time for Subcontractor Payment**. When a Subcontractor has performed in accordance with the time provisions of the contract, the Contractor shall pay the Subcontractor, the full or proportional amount received for each Subcontractor's work and material, based on work completed or services provided under the contract, within 14 days of receipt of a progress payment.

(Exs. 429, 430, 431).

364. Starting in January 2001, P.J. Dick received notices from third parties that PEC was not paying its bills in a timely fashion including a notice from PEC's surveyor subcontractor, McMillan Engineering Co., sent a notice indicating that PEC had failed to pay $42,000 for its services. On January 22, 2001, McMillan left the Project in protest of PEC's non-payment. (N.T. 2662-2665, 2938-2940; Exs. 180, 191).

365. During January and February 2001, PEC was in arrears and failing to pay the union benefit costs it owed for its cement masons. (N.T. 3101-3103, 3667-3668; Ex. 193).

366. In February P.J. Dick became aware that PEC was also not paying its workers' union fringe benefit costs to the Carpenters' Union and the Laborers Combined Funds Union. (N.T. 2667-2677; Exs. 224, 253).

367. Beginning in February 2001, several PEC subcontractors and suppliers also lodged complaints with DGS regarding lack of payment. From February through June 2001, P.J. Dick repeatedly told PEC to pay its labor, subcontractor and supplier bills, but PEC continued to

struggle and failed to pay some of these obligations. (N.T. 2667-2677, 2703-2707; Exs.180, 188, 218, 224, 253, 291, 297, 302).

368. In June 2001, P.J. Dick received a letter from PEC's steel supplier, Tri-City Steel, stating that it had not been paid $180,000 that PEC owed for reinforcing steel that PEC used for the footers and slabs. (N.T. 2703-2706; Exs. 291, 291A, 302).

369. In July 2007, after DGS was notified that PEC's surety was in liquidation, DGS had serious concerns about PEC's ability to pay its debts on the Project and decided to withhold approval of PEC's June and July 2001 payment applications. At that time, DGS feared that PEC owed substantial sums, was not financially able to pay its outstanding debts and would be without a surety to guarantee such payment. (N.T. 6188; Board Finding).

370. Paragraph 12.4(A)(7) of the General Conditions of both contracts provided:

> It is within the Department's discretion to withhold payment because of the Contractor's failure to pay subcontractors or suppliers. The failure to withhold payment for this reason does not give rise to a cause of action against the Department on the part of the subcontractor or supplier.

(Exs. 429, 430, 431; Board Finding).

371. Paragraph 12.9 of the General Conditions of both Contracts provided:

> **Final Payment Not Due Until Conditions Met**. Neither the final payment nor the remaining retained percentage becomes due until the Contractor submits to the Department:
>
> A. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Department or its property might in any way be responsible, have been paid or otherwise satisfied;
>
> B. Statements of surety and the contractor's certificate on forms satisfactory to the Department as to the contractor's payment of all claims for labor, materials, equipment rentals and public utility services; and
>
> C. If required by the Construction Manager or the Department, other date establishing payment or satisfaction of all other obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as is designated by the Department.
>
> If any subcontractor refuses to furnish a release or waiver, as required by the Department, the Contractor may furnish a Bond satisfactory to the Department to indemnify the Department against any such lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Department all moneys that the latter may be

compelled to pay in discharging such lien, including all costs and reasonable attorney's fees.

(Exs. 429, 430, 431, ¶12.9).

372. After DGS terminated PEC on July 27, 2001, P.J. Dick hired accountants, McCrory and McDowell, to conduct an audit of PEC's records on behalf of DGS pursuant to Paragraph 14.2 of the General Conditions of both contracts. McCrory and McDowell determined that PEC owed over $1,500,000 in connection with the Project to various third parties, including subcontractors, suppliers, laborers and unions. (N.T. 2303-2309, 6188-6191; Exs. 429, 430, 431, 489, Ex. A, 490, 491).

373. Although DGS claims damages of $1,592,090 resulting from PEC's failure to pay these third parties, DGS admits that it did not pay $1,592.090 to subcontractors, suppliers and laborers itself, and only claims this total amount because it contends these entities were owed this total amount by PEC as of September 2001, as determined by the audit of PEC's books. (DGS Proposed F.O.F. 43, 44, 46, 47; Ex. 489, Ex. A p. 14).

374. DGS only paid a portion of the $1,592,090 allegedly owed to PEC's subcontractors, suppliers, laborers and/or unions on the Project, and it is only the amounts actually paid by DGS which we find to be actual damages to DGS caused by PEC's failure to pay these subcontractors, suppliers, laborers and/or unions established with reasonable certainty. (F.O.F. 372-373, 376-377, 379-380, 382, 384-385, 390-391; Board Finding).

375. In his review of PEC's books and records, Mr. Rollage (McCrory and McDowell's accountant in charge of PEC's audit) estimated that PEC owed in excess of $240,000 to four labor unions at the time of its termination. (N.T. 6201-6210, 6305-6307; Ex. 489 ex. B).

376. DGS settled and actually paid claims in a total amount of $201,525.53 to unions that were owed money by PEC for the Project and which PEC had failed to pay at the time of its termination, in the following individual amounts:

Carpenter's Union	$ 41,123.43
Laborers Combined Funds	$120,202.78
Cement Mason's Union	$ 40,199.32
Total	$201,525.53

(N.T. 6201-6210; Ex. 497)

377. DGS has shown by substantial and credible evidence that it paid this $201,525.53 to these three labor unions on PEC's account, and PEC has acknowledged its liability for this amount. (N.T. 5041, 5156, 6201-6210; Exs. 1000, 1001; F.O.F. 359-361, 365, 366, 372, 375, 376; Board Finding).

378. In his review of PEC's books and records, Mr. Rollage estimated that PEC owed in excess of $29,000 to workers for wages for work performed under the ST2.1 and/or ST4.1 Contracts that PEC had not paid at the time of termination. (N.T. 6308-6309; Ex. 489 ex. A).

379. DGS settled and actually paid claims in a total amount of $23,887.84 to laborers for wages due from PEC for work performed and not paid for under the ST2.1 and/or ST4.1 Contracts. (N.T. 5040, 6117, 6128, 6197-6198-6200, 6224-6225; Exs. 500C, 505, 1000).

380. DGS has shown by substantial and credible evidence that it paid a total of $23,877.84 to laborers on the Project who had not been paid by PEC, and PEC has acknowledged liability for these payments. (Exs. 500C, 505, 1000, 1001; F.O.F. 359-361, 378, 379; Board Finding).

381. In his review of PEC books and records, Mr. Rollage estimated that PEC owed well in excess of $1,000,000 to subcontractors and suppliers for materials and services provided to PEC under the ST2.1 Contract which PEC had failed to pay for at the time of its termination. (N.T. 6114-6117; Ex. 489 ex. B).

382. Excluding Tri-City Steel, Inc. ("Tri-City"), DGS settled and actually paid claims in the total amount of $248,815.55 to PEC's subcontractors and suppliers under the ST2.1 Contract which PEC incurred on the Project but did not pay, including amounts due to Waco Scaffolding, Stone & Co., Construction Safety Experts, Cassady Pierce, Precision Laser & Instrument, Inc., Monarch Oil Company, Paul Lumber, Construction Tool Service, Knickerbocker, Patton Construction Systems, for work performed and materials supplied. (N.T. 4515-4516, 4538-4543, 6114-6117; Ex. 496).

383. In his review of PEC's books and records, Mr. Rollage estimated that PEC owed in excess of $400,000 to subcontractors and suppliers for materials and services provided to PEC under the ST4.1 Contract which PEC had failed to pay for at the time of its termination. (Ex. 489 ex. A).

384. DGS settled and actually paid claims in the total amount of $325,112.50 to PEC's suppliers and subcontractors under the ST4.1 Contract which PEC incurred on the Project but did not pay, including amounts due to Stone & Co., M.I. Friday and Amthor Steel Co., for work performed and materials supplied. (N.T. 4517-4519, 5045, 6240-6243; Ex. 503).

385. DGS showed by substantial and credible evidence that DGS paid, $248,815.55 to subcontractors and suppliers under the ST2.1 Contract; $325,112.50 to subcontractors and suppliers under the ST4.1 Contract; and PEC acknowledged that DGS paid these amounts on PEC's behalf to subcontractors and suppliers on the Project. (N.T. 5039, 5179-5181; Exs. 1000, 1001; F.O.F. 382, 384; Board Finding).

386. In his review of PEC's books and records, Mr. Rollage estimated that PEC owed Tri-City, a PEC subcontractor, $145,828.79 which PEC had not paid at the time of its termination. (N.T. 2703, 6127; Ex. 489 ex. A).

387. Tri-City filed a claim with the Board on March 13, 2002 against DGS and PEC for $159,628.79 at Docket 3642. (B.O.C. Docket 3642).

388. In 2007, DGS paid Tri-City $40,000 for steel PEC used performing the ST2.1 and/or ST4.1 Contracts, but had failed to pay for, and Tri-City executed a settlement agreement with DGS. (N.T. 5082-5083, 5169-5171, 6127-6129; Ex. 555).

389. On June 27, 2007, Tri-City filed a Praecipe seeking dismissal of its claim at Docket No. 3642. (B.O.C. Docket 3642).

390. DGS has shown by substantial and credible evidence that it paid Tri-City, a PEC steel supplier, $40,000 for materials PEC used on the Project, and PEC acknowledged DGS paid this amount on its behalf to Tri-City. (N.T. 1579; Exs. 1000, 1001; F.O.F. 386-389; Board Finding).

391. The Board finds that the total amount of damages actually incurred by DGS as a result of PEC's failure to pay its subcontractors, suppliers, laborers and laborers unions on the Project amounted to $839,341.42 for materials and services provided to the Project and not paid for by PEC. (F.O.F 359-390; Board Finding).

PEC's Failure to Provide Sufficient Labor and Coordination to Perform its ST2.1 Contract Work in a Timely Manner

392. DGS claims that PEC failed to supply sufficient manpower to accomplish the foundation and slab work in a timely fashion as required by the ST2.1 Contract. DGS also claims that PEC's failure to accomplish the construction of the foundations and slabs for various buildings on the Project in a timely manner also constitutes a PEC failure to properly coordinate with other contractors so as not to interfere with their work. DGS asserts both these failures resulted in material delay to these other contractors and to the Project and caused DGS and other contractors on the Project to incur delay-related damages (including damages to DGS by reason of settling delay claims from these other contractors). (DGS Answer with New Matter and Counterclaim in Original Docket 3464, ¶¶ 103-109, 129-133, 159; DGS Proposed F.O.F. ¶¶ 426-435, 437-478; DGS Brief pp. 35-44).

393. DGS also alleged a breach of the ST4.1 Contract by PEC for insufficient manpower, slow performance and/or lack of coordination efforts, but provided no credible evidence in the record regarding any amount of delay caused to other contractors on the Project by PEC's ST4.1 Contract work. (DGS Answer with New Matter and Counterclaim in Original Docket 3469 ¶¶ 86-89, 109-113, 127; Board Finding).

394. The ST2.1 Contract states that "time is of the essence." (Ex. 429, p. 2).

395. Paragraph 8.1 of the General Conditions of the ST2.1 Contract provides, in part, that:

> A. All time limits stated in the Contract Documents are of the essence of the Contract.
>
> …
>
> E. The Contractor shall carry the Work forward expeditiously with adequate forces and shall complete it no later than the Contract Completion Date.
>
> F. The Construction manager may direct the Contractor to supplement its crews to work additional shifts, or perform in other means required to maintain the Master Project Schedule.

(Ex. 431 ¶ 8.1).

396. Paragraph 8.7 of the General Conditions of the ST2.1 Contract provides, in part, as follows:

> A. Each prime Contractor shall furnish sufficient forces, plant and equipment and shall work such hours, including multiple shifts and overtime operations, as necessary to ensure the prosecution of the Work in accordance with the current monthly update of the Master Project Schedule. If, in the opinion of the Construction Manager, a Prime Contractor falls behind in meeting the schedule as presented in the current monthly update, the Prime Contractor shall take such steps as may be necessary to improve its progress, and the Construction Manager may require it to increase the hours of work, the number of shifts, overtime operations and/or the amount of construction plant and equipment without additional cost to the Department…
>
> B. All prime Contractors are to maintain their progress so as not to delay the progress of the project or other Prime Contractors…
>
> C. Each Prime Contractor is required by virtue of this Contract to cooperate in every way possible with all other Prime Contractors in order to maintain the Contract Completion Date in each and every Contract….

(Ex. 431 ¶ 8.7).

397. Paragraph 6.19 of the General Conditions of the ST2.1 Contract provides, in part, as follows:

> The Contractor shall afford other prime Contractors reasonable opportunity for the introduction and storage of their materials and

> equipment and the execution of their work, and shall properly connect and coordinate its work with the work awarded by the Department to other Contractors.

(Ex. 431 ¶ 6.19).

398. Paragraph 6.22 of the General Conditions of the ST2.1 Contract provides, in part, as follows:

> **Interface With Work of Other Contractors**. The work shall be conducted so as not to interfere with the work of other Prime Contractors….In the event that any Prime Contractor does not complete the various portions of the work in general harmony, and the other Prime Contractors are damaged or injured by the failure to act in harmony, the Prime Contractor damaged or injured may submit a request for the Department and Construction Manager to withhold funds, or settle by agreement or arbitration such claim…

(Ex. 431 ¶ 6.22).

399. Paragraph 6.30 of the General Conditions of the ST2.1 Contract provides, in part, as follows:

> …
> The Contractor is to coordinate all Work with the Work of other Contractors for proper function and sequence to avoid construction delays.
> …

(Ex. 431 ¶ 6.30).

a. The Settling Contractors

400. As noted above, DGS asserts that PEC's failure to timely complete its foundation and slab work caused damages to other contractors on the Project. DGS further asserts that these damages total $4,537,000, the amount that DGS alleges it paid, in toto, to settle the delay claims of eight other prime contractors on the Project. In support of this claim, DGS alleges that most, if not all, of the work of these eight other prime contractors followed PEC's work and was adversely impacted when PEC failed to complete its foundations and slabs on grade work in a timely manner. (DGS Answer with New Matter and Counterclaim ¶¶ 103-109, 129-133, 159; DGS Proposed F.O.F. ¶¶ 426-435, 437-478; DGS Brief pp. 35-43).

401. Excluding PEC, eight other contractors on the Project originally filed claims against DGS with the Board claiming delay and delay-related damages along with, in some instances, additional damage for unrelated claims. DGS resolved and reduced the claims of each of the eight contractors listed immediately below (and hereinafter referred to as the "Settling Contractors") by paying settlements in the following amounts:

New Enterprise Stone & Lime Company, Inc. ("New Enterprise")	$ 300,000
Merit Contracting, Inc. ("Merit")	$ 124,000
The Farfield Company ("Farfield")	$1,700,000
Simplex Grinnell LP ("Simplex Grinnell")	$ 124,000
Harris Masonry, Inc. ("Harris")	$ 825,000
Amthor Steel, Inc. ("Amthor")	$ 850,000
Limbach Company ("Limbach")	$ 825,000
W.G. Tomko, Inc. ("Tomko")	$ 36,363

(B.O.C. Docket 3464, 3483, 3493, 3494, 3554, 3627, 3631, 3642, 3653; Exs. 513, 516, 520, 527, 541, 548).

402. The settlement agreement between Farfield and DGS was executed in December 2006, earlier than any of the others. This agreement contained the following language regarding cooperation with DGS to pursue the claim against the additional defendant and the disposition of any funds recovered in the case to DGS. The agreement states:

> Farfield agrees to cooperate with DGS (at no cost to DGS), including preparation and testimony in any trial between DGS and the additional defendants in Docket 3642. Farfield agrees that DGS is entitled to any and all funds recovered against the additional defendant in Docket 3642.

(Ex. 541).

403. PEC was named as the additional defendant in the action in Docket No. 3642 brought by Farfield against DGS, which action was consolidated into the present case at Docket No. 3464. (B.O.C. Dockets 3464 and 3642; Ex. 541; Board Finding).

404. A few months after the execution of the Farfield settlement agreement, DGS and five other Settling Contractors (Merit, Simplex Grinnell, New Enterprise, Harris and Amthor) executed settlement agreements. Each of the settlement agreements in the actions of these parties contained the following provision regarding cooperation with DGS to pursue the claim against the additional defendant and the disposition of any funds recovered in the case to DGS:

> [The settling contractor] agrees to cooperate with DGS (at no cost to DGS), including preparation and testimony at any trial between DGS and any additional defendants in Docket No. [3483, 3554, 3494, 3493, 3627] and in other litigation arising out of the construction of Fayette SCI, including but not limited to claims raised by or against defendants, additional defendants and/or DGS counterclaims that remain in the Fayette SCI litigation after this settlement. [The settling contractor] agrees that DGS is solely entitled to any and all funds recovered

> against any additional defendants or pursuant to any counterclaims DGS has against any claimants.

(B.O.C. Dockets 3464, 3483, 3554, 3494, 3493, 3627, 3653; Exs. 513, 516, 520, 527, 548; Board Finding).

405. PEC was named as an additional defendant by DGS in the actions brought by settling contractors Merit, New Enterprise and Simplex Grinnell (Docket Nos. 3483, 3494 and 3554). Moveover, PEC was named as a counterclaim defendant to DGS (by which DGS sought to recover from PEC damages for delay and/or inefficiencies to other contractors on the Project caused by PEC) in original Docket No. 3469 as well as Docket No. 3464 which is the present consolidated action into which all these original cases have been combined. (B.O.C. Dockets 3464, 3469, 3483, 3494, 3554).

406. The settlement agreements between DGS (on the one hand) and Farfield, Merit, Simplex Grinnell, New Enterprise, Harris and Amthor (on the other) do not make explicit mention of an assignment to DGS of any litigation rights or claims these Settling Contractors may have had directly against PEC. (Exs. 513, 516, 520, 527, 541, 548; Board Finding).

407. However, Farfield, Merit, Simplex Grinnell, New Enterprise, Harris and Amthor executed settlement agreements with DGS which direct that DGS shall receive any and all funds which might be recovered against PEC pursuant to DGS's own contractual rights asserted in a counterclaim or joinder claim against PEC (as an additional defendant). (Exs. 513, 516, 520, 527, 541, 548; F.O.F. 401-406; Board Finding).

408. All prime contractors on the Project, including PEC, New Enterprise, Merit Farfield, Harris, Amthor, Simplex Grinnell, Limbach and Tomko, were subject to the terms of the General Conditions as set forth in Exhibit 431. (Exs. 429, 430, 432, 508, 512, 515, 519, 526, 540, 547; Board Finding).

409. Section 6.30, Paragraph K of the General Conditions to the ST2.1 Contract states, in whole, as follows:

> K. Should any other Contractor having or who shall hereafter have a Contract with the Department for the performance of Work upon the site sustain any damage through any act or omission of the Contractor or a subcontractor of the Contractor, the Contractor agrees to reimburse such other Contractor for all such damages and to indemnify and hold the Department, the Construction Manager and the Professional harmless from all such claims.

(Exs. 429, 430, 431).

410. Excluding the language respecting indemnification, Section 6.30, Paragraph K of the General Conditions to the ST2.1 Contract states, in relevant part, as follows:

> K. Should any other Contractor having or who shall hereafter have a Contract with the Department for the performance of Work upon the site sustain any damage through any act or omission of the Contractor or a subcontractor of the Contractor, the Contractor agrees to reimburse such other Contractor for all such damages . . .

(Exs. 429, 430, 431).

b. **Apportionment of Delay-Related Damages**

411. DGS appears to claim that 100% of the settlement amounts it paid to these eight other prime contractors are delay-related damages (a term used in these findings to include damages for extended time on the job as well as the costs of work acceleration and/or inefficiencies caused by delay) caused to these Settling Contractors entirely by PEC, and consequently seeks full reimbursement of these amounts from PEC. We do not agree that the facts in evidence support such an allocation. (DGS Answer with New Matter and Counterclaim in Original Docket 3464, ¶¶ 103-109, 129-133, 159; DGS Proposed F.O.F. ¶¶ 426-435, 437-478; DGS Brief pp. 35-44; F.O.F. 400-401, 412-434; Board Finding).

412. To begin with, Mr. Christopher Payne, DGS's expert witness, testified with regard to scheduling and delay on the Project, and the Board found his testimony on these issues to be generally credible. As a result, we find that: the Project, as a whole, was delayed a total of 156 days; the critical path of construction[10] ran through the installation of the Housing Units (Buildings J, K, A, B, C, D, E, F, G, H) and included the placement of the foundations and the slabs on grade under cells for these Housing Units; and PEC's failure to complete the foundations and slabs on grade under cells for the majority of Housing Units on a timely basis (i.e. later than required by either the Revised Milestones and/or the Initial (Master) Project Schedule) caused 54 of the total 156 days of delay experienced on the Project. Mr. Payne also testified, and we so find, that Harris (the masonry contractor) and Amthor (the steel erection contractor) were the material causes of the remaining 102 days of delay experienced on the Project as a whole. (N.T. 1075-1089, 1095-1096, 1123-1126, 1132-1136, 1145, 1158, 1325-1348; F.O.F. 42-53, 59-68; Board Finding).

413. Mr. Payne also testified that the three factors contributing to PEC's failure to complete the majority of the foundations and slabs on grade under cells for the Housing Units on a timely basis were: 1) insufficient manpower to staff its work; 2) deficient work; and 3) winter work conditions. Of these three factors identified by Mr. Payne, the Board finds insufficient manpower and winter work conditions to be the material causes of PEC's delay in failing to complete the foundations and slabs on grade under cells for the majority of Housing Units in a

[10] The "critical path" of work through a construction project is that series or sequence of individual tasks (often performed by different contractors) which must be performed timely in order for the overall project to complete on time. Stated another way, any delay to completion of a task on a project's critical path will delay completion of the overall project.

timely fashion.[11] (N.T. 1075-1089, 1095-1096, 1123-1126, 1133-1136, 1145, 1158, 1325-1348; F.O.F. 42-53, 59-68, 287-304, 412; Board Finding).

414. PEC claims that DGS delayed its performance because it demanded that PEC perform extra work that caused it delay and that Mr. Payne (DGS's expert witness) did not take this extra work into consideration when he gave his opinion as to the quantity and causes of delay. (PEC Brief at pp. 31-32).

415. PEC alleged twelve categories of extra work items which it claims caused delay to its foundation and slab work. However, with the exception of the winter work on Housing Units A, B, C and D, the Board finds that the categories complained of by PEC either were not extra work or that PEC failed to provide sufficient credible evidence to establish that any of these other alleged problems actually caused a material amount of delay to its foundation or slab on grade work on the Project. (F.O.F. 174, 180, 196, 203, 205, 209-212, 218-219, 229, 234-235, 243-244, 247-251, 265-267, 279-280, 287-307, 412-413; Board Finding).

416. Although the Board generally agrees with Mr. Payne that insufficient manpower and winter work caused PEC's delay in completing its foundation and slab on grade under cell work, the Board differs from Mr. Payne in that we attribute the winter work problem to the fault of DGS's initial delay in executing the ST2.1 Contract. Consequently, we do not attribute all 54 days of overall Project delay due to late completion of foundations and slabs on grade under cells in the Housing Units to PEC alone. (N.T. 4403-4404, 4468-4471; F.O.F. 28-53, 59-68, 287-307, 412-415, 417-427; Board Finding).

417. As we noted in prior Findings of Fact, DGS itself executed the ST2.1 Contract 66 days later than anticipated and, accordingly, revised PEC's milestones for its submittal process, mobilization on site, commencement and completion of foundation work for each building on the Project, completion of slabs on grade for each such building, and completion of toppings and slabs on deck for each building on the Project by adding 66 days to the original milestone dates to create the Revised Milestones for PEC's work on the Project. These Revised Milestones maintained the original work durations for each task as well as the requirement that PEC proceed with this work at the same rapid pace while performing foundation and/or slab work on multiple buildings at or about the same time. Because DGS kept the overall original Project completion date of June 1, 2002 (as also noted earlier), this made PEC's timely completion of the foundation and slab work on the Project essential to allowing the Project's "follow-on" contractors to start their work on time and keep the overall Project work timetable. (F.O.F. 30-44, 99; Board Finding).

418. As also noted in previous Findings of Fact, PEC was slow to fully mobilize and begin work on the Project; started its work onsite approximately a month later than required by

[11] Although PEC was cited in several deficiency reports, many were for "paperwork" problems as opposed to deficiency in actual work performed. We find that these problems and the actual instances of deficient work (including problems with slabs not under cells and damage to Tomko's sewer pipes in some of the Housing Units repaired by Tomko) did not contribute materially to overall delay in completing the foundations and slabs on grade under cells in the Housing Units. (N.T. 2696, 3732-3734, 3766, 3759-3760, 3783-3785, 6358-6361; Exs 258,. 476, 1004 pp. 64-69).

the Revised Milestones; did not work on multiple buildings at or about the same time to the extent required by the Revised Milestones; repeatedly failed to complete the foundation and/or slab on grade work for multiple buildings on the Project in the time required by the Revised Milestones, most importantly with regard to foundation and slabs on grade under cells for housing units B through H; and failed, for the most part, to provide sufficient manpower to pour the multiple foundations and slabs in the time required by the Revised Milestones despite early, repeated and ongoing requests from P.J. Dick (DGS's construction manager) to PEC for PEC to increase its manpower to accomplish these tasks on a timely basis. (F.O.F. 41-52, 59-68, 412; Board Finding).

419. Even when P.J. Dick issued its Initial (Master) Project Schedule in the beginning of December 2000, which relaxed (extended) some of the deadlines for PEC to complete its foundation and slab work (particularly with regard to its slab on grade under cells for Housing Units A-H), PEC still failed to complete much of this work in accordance with the extended Initial (Master) Project Schedule (including a failure to complete the foundations and slabs on grade under cells for individual Housing Units B, C, D, E, F, G and H by anywhere from 10 to 54 days). (F.O.F. 49-52, 59-68, 412; Board Finding).

420. The weight of the evidence shows that PEC's failure to provide adequate manpower for the ST2.1 Contract work throughout most of the Project was the most significant factor in its general failure to complete its foundation and/or slabs on grade work on the Project on a timely basis. However, it was not the only material factor. The winter work conditions were a second factor contributing materially to the delay in this work. (F.O.F. 41-52, 59-68, 287-307, 412-419, 421-427; Board Finding).

421. Specifically, and as noted in prior Findings of Facts, we find that DGS's 66 day delay in signing PEC's ST2.1 Contract; its resultant revision to the ST2.1 milestones pushing PEC's work back 66 days; and its corresponding issuance of the Initial (Master) Project Schedule (which incorporated the earlier 66 day extension and then some) significantly increased the overall amount of concrete work PEC was required to perform in winter conditions, including the amount of winter work PEC was required to perform on Buildings A, B, C, D and 14. (N.T. 4403-4404, 4468-4471; F.O.F. 41-52, 59-68, 287-307, 412-419; Board Finding).

422. As also noted in our prior Findings of Fact, the Board found PEC's quantification of extra manhours, equipment and costs for this additional work in adverse winter conditions for Buildings A, B, C and D to be credible and adequately established. As a result, we also find that PEC's corresponding estimate that it took them an average of 20 extra days to accomplish the extra work caused by the winter conditions which it did not expect to encounter on Housing Units A, B, C and D to be credible as well. (Ex. 18; F.O.F. 287-307; Board Finding).

423. Although PEC managed to complete the foundations and slabs on grade under cells for Housing Unit A within the deadline set by the Revised Milestones and/or the Initial (Master) Project Schedule despite the extra time it took them to complete this work in Unit A, PEC was not able to complete Housing Units B, C or D on time because, among other things, these unanticipated winter conditions caused an average of 20 days extra work time to complete

the foundations and Slab on Grade's under cells on each of these Housing Units. (Ex. 18; F.O.F. 41-52, 287-307, 412; Board Finding).

424. Because the Revised Milestones and/or the Initial (Master) Project Schedule dictated that the foundations and slabs on grade under cells for Housing Units A, B, C and D were to be constructed at or near the same time, and in an overlapping manner, we further find that the extra 20 days of work on each of these buildings constituted a concurrent and not a cumulative delay. Accordingly, we find that PEC's work on Housing Units A, B, C and D (as a group) was delayed approximately 20 days because it was required to perform the construction of foundations and slabs on grade under cells in these units in winter conditions as a result of DGS's earlier 66 day delay in executing the ST2.1 Contract. (Ex. 18; F.O.F. 41-52, 287-307, 412, 422-423, 411-422; Board Finding).

425. The Housing Units on the Project, including Housing Units A, B, C and D (and the completion of their foundations and slabs on grade under cells) were on the Project's critical path. Therefore any delay in completion of these tasks caused delay in the Project's final completion. Hence the 20 days of delay in PEC's foundation and slab on grade work on Housing Units A, B, C and D contributed to the total 54 days of delay caused to the Project because of the late completion of the foundations and slabs on grade under cells in the Housing Units as asserted by Mr. Payne. (Ex. 18; F.O.F. 412-413, 421-424; Board Finding).

426. Because we have found that DGS delayed PEC's work on the Housing Units for 20 days by causing it to do additional (winter) work in Buildings A, B, C and D that was unanticipated by the original terms of the ST2.1 Contract, we find that DGS was the cause of 20 of the 54 days of overall delay attributable to PEC's failure to complete its foundations and slabs on grade under cells for the Housing Units in a timely manner. (F.O.F. 412-413, 421-425; Board Finding).

427. Correspondingly, the Board finds PEC's failure to adequately staff and coordinate its work on the Project caused 34 of the 54 days of Project delay created by the late completion of the foundations and slabs on grade under cell work in the Housing Units on the Project. (F.O.F. 41-52, 59-68, 411-415, 417-419, 426; Board Finding).

428. Based on the evidence as a whole, including: Mr. Payne's assessment that the total delay experienced on the Project was 156 days; the 102 day portion he attributed to Harris and Amthor (without further attribution between the two); the 54 day portion he attributed to PEC's late completion of its foundation and slab on grade under cell work in the Housing Units; our attribution between PEC and DGS of responsibility for the late foundation and slab on grade under cell work in the Housing Units of 34 days and 20 days, respectively; and our agreement with Mr. Payne that the foundations and slabs on grade in the numbered buildings were delayed even further because of the need to do the lettered buildings sooner, we conclude that PEC's failure to provide sufficient manpower and coordination for its ST2.1 Contract work caused 34/54 or 63% of the delay to completion of the foundations and slabs on grade on the Project and 34/156 or 22% of the total delay experienced on the Project. (N.T. 1075-1089, 1095-1096, 1123-1126, 1132-1136, 1145, 1158, 1325-1348; F.O.F. 411-427; Board Finding).

429. Although we acknowledge that each individual Settling Contractor may have incurred a greater or lesser number of days delay to their work than the total 156 days of delay experienced on the Project as a whole, we find such differences in the absolute number of days both reasonable and appropriate because, among other things, the foundations and slabs on grade for the numbered buildings on the Project were delayed even more substantially than those for the lettered buildings (due, in part, to the need to do the concrete work for the lettered buildings sooner so as to least effect the critical path of construction) and because of where and when the particular Settling Contractor's work was to be performed in the full sequence of construction events on the Project (including what tasks and what specific contractors were key predecessors, how late in the Project the particular Settling Contractor's work was to be performed and how many additional contractors had to perform their work either before or at the same time as the particular Settling Contractor). (Ex. 432; F.O.F 33-35, 41-43, 412, 417, 428, 435-440, 454, 461, 472, 475, 480-481, 505, 511-513, 523, 526, 529-531, 548, 551, 554-556, 570, 574-576, 578-580, 606; Board Finding).

430. More specifically, because each of the Settling Contractors were "follow-on contractors" to PEC and dependent on PEC's timely completion of the foundations and slabs on grade on the Project, any delay experienced by these "follow-on contractors" was contributed to in some part by PEC's late completion of the foundation and slab on grade work. However, depending on how immediate or distant in the construction sequence each Settling Contractor's work was to the completion of the foundations and slabs on grade and/or how many other contractors (particularly Harris and/or Amthor) had to perform their work before the particular Settling Contractor could prosecute its own, PEC's late completion of its foundation and slab on grade work would have been a significantly greater or lesser factor in contributing to the delay experienced by the individual Settling Contractor. Accordingly, where we have found that the Settling Contractor's delay was immediate to, and substantially caused by, late foundation and/or slab on grade work alone (with minimal or nonmaterial contributing factors from others), we conclude that 63% (representing PEC's contribution to the late foundation and slab on grade work alone) is a reasonable and reliable estimate of how much of the delay-related damages experienced by that Settling Contractor is attributable to PEC's failure to provide sufficient manpower and coordination to complete its concrete work in a timely manner. However, where we have found that the Settling Contractor's work on the Project was such that it was substantially affected by the work of other contractors on the Project (particularly Harris and Amthor) as well as PEC's work (by a reason of there being several intervening contractors whose work was also integral to the Settling Contractor), we find that 22% (representing PEC's contribution to the total delay experienced on the Project) is a reasonable and reliable estimate of how much of the delay-related damages experienced by that particular Settling Contractor is attributable to PEC's failure to provide sufficient manpower and coordination to complete its concrete work in a timely manner. (Ex. 432; F.O.F. 33-35, 41-43, 412, 417, 428-429, 435-440, 454, 461, 472, 475, 480-481, 505, 511-513, 523, 526, 529-531, 548, 551, 554-556, 570, 574-576, 578-580, 606; Board Finding).

431. As explained more fully below, we find that the work of New Enterprise (the precast concrete cell contractor) and Merit (the pre-engineered metal building contractor for Buildings 6, 14 and 15) were delayed substantially by the late completion of foundations and slabs on grade for the lettered buildings and/or Buildings 6, 14 and 15 alone, and were not

otherwise materially delayed by Harris, Amthor or other intervening contractors. Accordingly, we find it appropriate to attribute 63% of any delay-related damages incurred by these two Settling Contractors to PEC's failure to provide sufficient manpower and coordination to complete its ST2.1 concrete work in a timely manner. (F.O.F. 428-430, 435-440, 454, 461; Board Finding).

432. Similarly, as more fully explained below, because we find that the work of each of the remaining Settling Contractors was substantially affected not only by the late completion of foundations and slabs on grade but by the intervening and/or overlapping work of other contractors (most particularly that of Harris and Amthor), we find that 22% is a reasonable and reliable estimate of how much of the delay-related damages experienced by each of these remaining Settling Contractors is attributable to PEC's failure to provide sufficient manpower and coordination to complete its ST2.1 concrete work in a timely manner. (F.O.F. 428-430, 475, 480-481, 505, 511-512, 523, 529-531, 548, 554-556, 570, 574-575, 578-580, 606).

433. Because we have found that PEC's failure to provide sufficient manpower and coordination to complete its ST2.1 Contract work with regard to foundations and slabs on grade in a timely manner was the cause of either 22% or 63% of the delay realized on the Project by each of the Settling Contractors; and because we have further found that one of these ratios constitutes a reasonable and reliable estimate of how much of the delay and delay-related damage experienced by the Settling Contractor is attributable to PEC's failure to provide sufficient manpower and complete its foundation and slab on grade work in a timely manner (because each of these Settling Contractors were "follow-on contractors" dependent, to a greater or lesser extent, on PEC's timely completion of its foundation and slab on grade work depending on how immediate or distant to the foundation and slab on grade work each contractor was and/or how many other intervening contractors there were), the Board finds that a reasonable and reliable estimate of the delay and delay-related damage experienced by each of the Settling Contractors attributable to PEC's actions and/or omissions on its ST2.1 Contract is reasonably calculated by: 1) removing all amounts from each Settling Contractor's claim that are not delay-related damages; 2) adjusting each Settling Contractor's claim to those delay-related amounts for which adequate support and reasonable costs are put forth; and 3) applying the appropriate allocation ratio (of 63% or 22%) to this amount to determine the amount of delay-related damages incurred by each Settling Contractor as a result of PEC's failure to provide sufficient manpower and complete its foundation and slab on grade work in a timely manner. We further find that amounts so calculated would constitute reasonable reimbursement for each Settling Contractor pursuant to Section 6.30, Paragraph K of the General Conditions to the ST2.1 Contract for damages caused them by PEC. (Exs. 408, 429, 430, 431, 432; F.O.F. 428-432; Board Finding).

434. One of the adjustments to which we refer in the immediately preceding paragraph recognizes the fact that there are significant variations among the Settling Contractors in the manner and percentages they used to calculate markups on their direct costs and/or how they addressed home office overhead for their extended work period in arriving at their various delay-related damage figures. Where there was credible evidence presented as to the original markup percentages (for overhead and/or profit) actually used by a Settling Contractor in forming its original bid on the Project, we have applied these original markups to the direct costs incurred by

the contractor as a result of its delay to calculate the most accurate and reasonable estimate of the total delay-related damage it experienced on the Project. Where these original markups have not been provided, we have used the generally accepted standard of 15% markup for overhead and profit with the assumption of equal apportionment between the two markup factors, finding it to be fair and reasonable in the absence of job specific markup information. Also, where a claim has been made for additional home office overhead costs and credible evidence has been provided to support such a claim, we find it reasonable and appropriate to make an additional award for this general home office overhead cost incurred during the extended period on the job (with appropriate markup for profit).[12] (F.O.F. 428-433; Board Finding).

c. Individual Damage Calculations

New Enterprise Stone & Lime Co., Inc.

435. New Enterprise Stone & Lime Co., Inc. ("New Enterprise") was the prime contractor for fabrication and erection of the precast inmate housing units/cells on the Project. These cells were to be set on top of the foundations and slabs on grade under cells that were to be installed by PEC. (N.T. 5389, 5393-5399).

436. On April 5, 2000, New Enterprise entered a contract with DGS in the amount of $9,458,730 for fabrication and installation of the precast inmate cells. (N.T. 5355; Ex. 519).

437. Rotundo Weirich Enterprises ("Rotundo") was the subcontractor to New Enterprise which performed the bulk of the fabrication and erection work of these precast inmate housing units/cells. (N.T. 5355, 5372).

438. Mr. John Malonoski, project manager for Rotundo, was knowledgeable about the scope and progress of the fabrication and erection of the precast cells on the Project and testified about the causes and amount of delay to the work of New Enterprise/Rotundo. (N.T. 5354-5466; Ex. 519; Board Finding).

439. Because New Enterprise's precast cells were to be installed immediately after PEC completed its slabs on grade for each housing unit, we find that the late completion of the foundation and slab on grade under cell work in the lettered buildings on the Project was the direct, substantial and exclusive material cause of the delays and accelerations that New Enterprise experienced on the Project. **(**N.T. 2699-2702, 3798, 3954-3956, 5354-5466, 5499-5501; Exs. 521G, 521I, 521M, 521N; Board Finding).

440. The Board finds that the delay to New Enterprise's work was approximately 11 weeks (from February 7, 2001 to April 26, 2001) and that this delay was caused by late

[12] We find that an award of unabsorbed home office overhead here does not duplicate the markup for overhead given on items of extra work done in the extended period as is sometimes asserted by contract litigants. The overhead portion of the specific markup given on items of extra work compensates the contractor for the home office and general support attributable to that extra-contractual work. In contrast, an award of home office overhead (calculated as here per the Manshul Method) compensates the contractor for the additional home office and general support attributable to having to perform original contract work in the extended period (overhead which was not accounted for in the original bid because the extra time to do original contract work was not anticipated).

foundation and slab on grade under cell work. There were no other material delays from other contractors contributing to New Enterprise's delay. (N.T. 3954, 5399, 5410-5417, 5365-5367, 5421-5422, 5457-5462, 5499-5501; Exs. 521G, 521H, 521I. 521M; F.O.F. 435-439; Board Finding).

441. On June 28, 2002, New Enterprise filed a claim at Docket 3494 with the Board against DGS for delay-related damages of $309,814.86 that New Enterprise alleges were caused by others on the Project. (N.T. 5355, 5458-5459; Ex. 521P).

442. Rotundo prosecuted New Enterprise's claims against DGS as it was authorized to do. (N.T. 5355).

443. On May 8, 2007, DGS and New Enterprise entered into a settlement agreement pursuant to which DGS paid $300,000 in full settlement of all of New Enterprise's claims and New Enterprise released DGS from further liability for its work on the Project. (N.T. 5208-5209, 5233, 5304-5305; Ex. 513).

444. New Enterprise identified delay-related damages that it incurred on the Project, as follows:

Off Site Labor	$ 14,429.06
Owned Equipment	$ 34,652.64
Rented Equipment	$ 10,697.40
Subcontractor Work	$246,968.29
Bond	$ 3,067.47
Total	$309,814.86

(N.T. 5421-5424, 5458-5459; Exs. 521P, 521M).

445. New Enterprise added 20% markup to its direct costs to arrive at each of the delay-related damage amounts indentified in the preceding paragraph. However, because it provided no credible evidence that this was the percentage markup actually used in its original bid for the precast cell contract, we instead apply the generally accepted standard 15% markup on New Enterprise's direct costs as a fair and reasonable estimate for overhead and profit. (Exs. 521P, 521M; F.O.F. 434; Board Finding).

446. The off-site labor direct costs of $12,024 were incurred because of the 11 week delay during which supervisory personnel were kept on the job waiting to finish their tasks. (N.T. 5374, 5423-5424; Ex. 521M).

447. The owned equipment direct costs of $28,877 were incurred because equipment (cranes and trucks) dedicated to the job had to remain on-site during the 11 week delay before resuming work. (N.T. 5375, 5424; Ex. 521M).

448. The $8,915 of direct cost was incurred for rentals during the 11 week delay period and includes costs for a forklift, office trailer, storage trailers, site toilets and railroad ties used

under the housing modules until they could be installed. (N.T. 5375-5376, 5424-5426; Ex. 521M).

449. The claimed additional bond costs of $3,067.47 were not supported by substantial evidence and are not allowed. (Board Finding).

450. The $205,807 of direct costs incurred by New Enterprise for subcontractors was for amounts paid to subcontractors Mike Strong, Inc., SJS Finishing Contractors, Somerset Steel Erectors, and Penn Transportation for additional costs charged to New Enterprise because of the 11 week delay period. (N.T. 5376-5377, 5326-5427; Ex. 521M).

451. Other than the claimed bond cost, each element of New Enterprise's total direct cost claim of $255,613 for delay-related damages is reasonable and adequately supported. When 15% markup, or $33,343, is added to these costs, the Board finds New Enterprise incurred total delay-related damages of $293,966. (N.T 5372-5378, 5399-5403, 5423-5442; Exs. 521I, 521H, 521P; F.O.F. 444-450; Board Finding).

452. Because, among other things: New Enterprise's work was comprised of fabricating and erecting precast prison cells on top of the foundations and slabs for the lettered buildings; this work was to start immediately upon completion of said foundations and slabs under cells; there was no other significant intervening or contemporaneous work required from contractors other than PEC for New Enterprise to prosecute its work, we find that substantially all of New Enterprise's delay from other contractors is attributable to late foundations and slabs on grade under cells. Accordingly, we find that 63% of New Enterprise's delay is attributable to PEC. (N.T. 4153-4156, 4168-4180, 4182-4223, 4214-4315, 4322-4329; Ex 517A; F.O.F. 428-434; Board Finding).

453. Because we have found PEC was responsible for 63% of the total delay to New Enterprise (as a direct and immediate follow-on contractor), the Board finds that 63% of $293,966 (New Enterprise's total delay-related damages) or $185,199, is the amount of delay-related damage incurred by New Enterprise as a result of PEC's failure to provide sufficient manpower and coordination to complete its foundation and slab on grade work under the ST2.1 Contract in a timely manner. (F.O.F. 428-434, 451-452; Board Finding).

Merit Contracting, Inc.

454. Merit Contracting, Inc. ("Merit") was the prime contractor that erected the pre-engineered buildings numbered 6, 14 and 15 on the Project. Merit was to commence its work in each building directly after PEC had installed the foundations and floor slabs for these buildings. (N.T. 3705, 4150-4155; Ex. 515).

455. Merit had a contract with DGS for the work described above dated June 9, 2000 for the contract sum of $855,188.00. (N.T. 4150; Ex. 515).

456. Merit expected to begin erection of its pre-engineered buildings on the Project site in late November through December 2000 immediately upon PEC's completion of the foundations and slabs for these three buildings pursuant to PEC's Revised Milestones. Instead, due to PEC's late completion of the foundations and slabs for these buildings, Merit could not begin onsite erection of these buildings until May 2001. Merit completed its work on November 15, 2001. (N.T. 4168-4180, 4185-4223; Ex. 517A).

457. Merit filed a claim on April 12, 2002 with the Board at Docket 3483 against DGS for an amount in excess of $350,000 for delay-related damages. (N.T. 4338; Ex. 30).

458. PEC was named as an additional defendant in Docket 3483. (Complaint to Join Additional Defendant filed June 12, 2002 in B.O.C. Docket 3483).

459. On March 20, 2007, DGS and Merit entered into a settlement agreement pursuant to which DGS paid $124,000 in full settlement of all of Merit's claims in original Docket 3483, and Merit released DGS from further liability relating to its work on the Project. (N.T. 4303, 4338, 6129; Exs. 31, 516).

460. Mr. Gary Lamm, Merit's project manager, testified and was knowledgeable about the scope and progress of Merit's work on the Project and the causes and amount of Merit's delay-related damages. (N.T. 4149-4184; Board Finding).

461. Mr. Lamm, Mr. Zaenger and Mr. Kopko each stated, and the Board finds, that the late completion of foundation and slabs on grade in Buildings 6, 14 and 15 was the exclusive material cause of the delays and accelerations that Merit experienced on the Project. (N.T. 3387-3389,3694-3705, 4163-4179, 4205-4207, 4222- 4223, 4241-4247, 4309-4311, 4327-4328, 4458-4471; Exs. 435A#9, 436I, 510A, 510C, 517A, 517B; Board Finding).

462. The Board finds that the delay to Merit's work was directly, substantially, and materially caused by late foundation and slab on grade work in Buildings 6, 14 and 15. In contrast, we find that three other minor factors, the late installation of prison ovens in Fall 2001, the several day delay in October 2001 by Overhead Door (an installer of door frames), and the late exterior masonry in Building 6 in October 2001, were <u>not</u> material contributing factors to the delay experienced by Merit on the Project. (Ex. 517A; F.O.F. 454-461; Board Finding).

463. Mr. Lamm identified the delay-related damages incurred by Merit on the Project. These were set forth in four revised claim order requests ('CLOR's") which Merit submitted to DGS during the course of the Project:

CLOR #1R	Acceleration	$21,778.57
CLOR #2R	Storage & Protection	$ 3,052.41
CLOR #3R	Double Handle Material	$ 27,280.53
CLOR #5	Extra Management Time	<u>$ 52,408.95</u>
	Total	$104,520.46

(N.T. 4304-4305, 4187-4191; Exs. 517C, 517E, 517G, 517J).

464. Merit added bond costs to the direct costs in each of its CLOR's above and added taxes and other burden to the direct costs in some of its CLOR's to arrive at the amounts claimed in the preceding paragraph. Because no substantial credible evidence was presented to support these bond costs, taxes and other burdens, we do not allow them. (Exs. 517C, 517E, 517G, 517J; Board Finding)

465. Merit also added 25% markup for overhead and profit to the direct costs in each of its CLOR's to arrive at the amounts claimed. Because there was no credible evidence presented that this 25% markup was the actual markup percentage used in Merit's original bid on its contract for the Project, we instead apply the generally accepted standard of a 15% markup to each of Merit's direct costs as a fair and reasonable estimate for overhead and profit. (Exs. 517C, 517E, 517G 517J; F.O.F. 434; Board Finding).

466. CLOR #1R dated February 19, 2002 establishes that Merit incurred $17,216.26 for direct costs and (applying 15% markup for overhead and profit) $19,799 in damages for acceleration to Merit's work (representing an increase in its workforce and hours worked) which was necessary in order to make up for lost time due to delays caused by the late completion of foundations and slabs for Buildings 6, 14 and 15. This CLOR itemizes Merit's costs for on-site labor, off-site labor and equipment, which costs were adequately supported by the daily reports and other documentation attached to the CLOR as well as by the credible and reliable testimony of Mr. Lamm. (N.T. 4184-4229; Ex. 517C; F.O.F. 463-465; Board Finding).

467. CLOR #2R dated February 19, 2002 establishes that Merit incurred $2,413.75 for direct costs and (applying 15% markup for overhead and profit) $2,776 in damages for storage and protection of pre-engineered building materials which was necessary due to the delays caused by the late completion of foundations and slabs for Buildings 6, 14 and 15. The CLOR itemizes Merit's costs for on-site labor, off-site labor, owned equipment and materials which were adequately supported by daily reports and invoices attached to the CLOR as well as by the credible and reliable testimony of Mr. Lamm. (N.T. 4191-4273; Ex. 517E; F.O.F. 463-465; Board Finding).

468. CLOR #3R dated February 21, 2002 establishes that Merit incurred $19,246.68 for direct costs and (applying 15% markup for overhead and profit) $22,134 in damages for the double handling of the pre-engineered building materials because the foundation and Slab on Grade work on Building 6 (storage building) was not completed in a timely manner. The CLOR itemizes costs for on-site labor, off-site labor, and owned equipment which costs were adequately supported by the time sheets of the project manager and other documentation attached to the CLOR as well as by the credible and reliable testimony of Mr. Lamm. (N.T. 3796, 3951-3953, 4207-4221; Ex. 517G; F.O.F. 463-465; Board Finding).

469. CLOR #5R dated February 21, 2002 establishes that Merit incurred $41,430 for direct costs and (applying 15% markup for overhead and profit) $47,645 in damages for extra project management time from January 12, 2001 to November 14, 2001 due to the delay caused by late completion of foundations and slabs for Buildings 6, 14 and 15. The CLOR itemizes the costs of the extra management labor costs which costs were adequately supported by the daily

reports and other documentation attached to the CLOR as well as by the credible and reliable testimony of Mr. Lamm. (N.T. 4221-4280; Ex. 517J; F.O.F. 463-465; Board Finding).

470. The Board finds that Merit incurred delay-related damages on the Project in the amounts of $19,799 (CLOR #1R); $2,776 (CLOR #2R); $22,134 (CLOR #3R); and $47,645 (CLOR #5). These individual amounts total $92,354. (N.T. 4184-4280; F.O.F. 463-469; Board Finding).

471. Merit incurred $92,354 in delay-related damages because it was delayed, extended and/or disrupted on the Project by late completion of foundations and slabs for Buildings 6, 14 and 15. (N.T. 4184-4280; F.O.F. 454-470; Board Finding).

472. Merit's claimed delay of approximately six months corresponds to the approximate six month delay in completion of the foundation and slabs on grade for Buildings 6, 14 and 15. (N.T. 4153-4156, 4168- 4179; 4182- 4223; 4314-4315, 4322-4329; Exs. 510C, 517B, 517G; Board Finding).

473. Because, among other things, Merit's work was comprised of erecting pre-engineered metal buildings upon foundations and slabs for Buildings 6, 14 and 15 only; this work was to start immediately upon completion of said foundations and slabs; there was no other significant intervening or contemporaneous work required from contractors other than PEC for Merit to prosecute its work, we find that substantially all of Merit's delay from other contractors is attributable to late foundations and slabs on grade in these buildings. Accordingly, we find that 63% of Merit's delay is attributable to PEC. (N.T. 4153-4156, 4168-4180, 4182-4223, 4214-4315, 4322-4329; Ex 517A. F.O.F. 428-434; Board Finding).

474. Because we have found that PEC was responsible for 63% of the total delay to Merit (as a direct and immediate follow-on contractor), the Board finds that 63% of $92,354 (Merit's total delay-related damages), or $58,183, is the amount of delay-related damage incurred by Merit as a result of PEC's failure to provide sufficient manpower and coordination to complete its foundation and slab on grade work under the ST2.1 Contract in a timely manner. (N.T. 4184-4280; Exs. 510A, 510C, 517A; F.O.F. 428-434, 454-473; Board Finding).

The Farfield Company

475. The Farfield Company ("Farfield") was the prime contractor for electrical and electronic security work on the Project. The majority of its work on the various buildings on the Project was to be performed after the foundation work on each was complete. Other portions of Farfield's work required that slab on grade work be complete before Farfield could began its work. Work by other contractors such as Harris and Amthor also had to be completed before Farfield could complete its installations. (N.T. 4563-4568, 4637-4640, 4729- 4731, 4734-4735; Ex. 540).

476. Farfield had a contract with DGS for the work described above dated August 18, 2000 for the contract sum of $19,449,000. (N.T. 4651; Ex. 540).

477. Farfield began work on this Project in October 2000 and was supposed to complete its work on June 1, 2002. However, it was extended on the Project an additional seven months to January 2003. (N.T. N.T. 4566-4570, 4643, 4669-4678; Ex. 545A).

478. Mr. Edward Nescot, manager for Farfield's Western Pennsylvania office, was in charge of the Farfield team on the Project and was knowledgeable about the scope and progress of Farfield's work on the Project. He testified about the causes and amount of delay of Farfield's work on the Project. (N.T. 4561-4689; Board Finding).

479. Farfield extensively documented the delays it experienced on the Project, beginning in October 2000, which eventually resulted in accelerations, inefficiencies, stacking of trades and an extension of seven months for Farfield to conclude its work on the Project. (N.T. 4566-4640; Exs. 542A, 545A-545L).

480. Mr. Nescot, Mr. Bernardi, Mr. Zaenger and Mr. Kopko each stated, and the Board finds, that PEC adversely affected Farfield's ability to perform its work. The late completion of foundations and/or slabs on grade for the many buildings on the Project delayed the start of much of Farfield's work on the Project. This, in turn, extended Farfield for some portion of an additional seven months on the Project and also compressed Farfield's time in which to complete its work in order to try and meet its Project deadlines. (N.T. 2699-2701, 2714, 2741, 3425, 3795-3803, 3960-3963, 4567, 4583-4683; Exs. 436S, 436T, 436U, 542B, 545A; Board Finding).

481. Mr. Nescot also stated, and the Board finds, that Harris and Amthor also adversely affected Farfield and contributed to its delay and compression of work. Harris impacted Farfield's electrical work by, among other things, failing to have sufficient masonry crews on site to progress the work ahead of the electricians. Amthor impacted Farfield by, among other things, failing to provide steel timely for Buildings 5 and 6 so that Farfield could not build its power center as planned which Amthor delay required Farfield to install temporary generators for a long period. (N.T. 4599-4600, 4603-4605, 4638-4640, 4645, 4670-4671, 4708-4710, 4730-4731, 4734-4738; Ex. 92L, 436S; F.O.F. 475; Board Finding).

482. On June 2, 2003, Farfield filed a claim with the Board at Docket 3642 against DGS for delay-related damages. PEC was eventually joined as an additional defendant by DGS in that action. (N.T. 4669; Ex. 38).

483. On December 13, 2006, DGS and Farfield entered into a settlement agreement pursuant to which DGS paid $1,700,000 in full settlement of all of Fairfield's claims in original Docket 3642, and Fairfield released DGS from further liability relating to its work on the Project. (N.T. 4684; Ex. 541).

484. Farfield identified the delay-related and other damages it experienced on the Project as follows:

Extended Jobsite Supervision	$479,289.03
Extended Jobsite Rental Expenses	$ 20,442.82
Extended Jobsite Overhead Expenses	$ 7,387.65

Tooling Expenses	$ 53,317.64
Excessive Handling Stored Material Expenses	$ 79,233.00
Extended Home Office Overhead Expenses	$ 109,178.05
Vehicle Repair @ Site Due to Conditions	$ 32,612.57
Prevailing Wage Increases	$ 77,696.28
Premium Wages	$ 62,855.49
Outside Agency Labor Expenses	$ 109,317.83
Inefficiencies/Acceleration Costs-Electric Prime	$ 868,617.76
Inefficiencies/Acceleration Costs-Security Sub	$ 187,693.55
Finance Project-Interest on Delay Release of Retainage	$ 16,594.00
Total	$2,104,235.29 (sic)

(N.T. 4587-4604, 4626-4627, 4640-4643; Exs. 38, 542A, 542C).

485. The damages Farfield identified in the preceding paragraph include a 15% markup for overhead and profit added on to its direct costs. (N.T. 4587-4604, 4626-4627, 4640-4643; Exs. 38, 542A, 542C; Board Finding).

486. Farfield has provided the Board with credible evidence that the actual markup on its original contract bid was 8.3524% for overhead and an additional 5% for profit. Accordingly, we find it to be most accurate and reasonable to apply markup on Farfield's extra-contractual work costs at the actual rate it intended for work on this Project rather than the 15% Farfield used in its damage calculations in order to arrive at the actual damages incurred by Farfield. Because overhead markup (8.3524%) is first applied to direct costs (i.e. direct costs plus 8.3524% overhead markup equals direct costs x 1.083524) and the markup for profit (5%) is then applied to the subtotal of the direct costs plus overhead, the total markup over direct costs using Farfield's actual individual percentages for overhead and profit equates to 13.77%. That is: Direct Costs plus 8.3524% overhead markup = Direct Costs x 1.083524; Direct Costs plus 8.3524% overhead markup plus 5% profit markup = (Direct Costs x 1.083524) x 1.05; and (Direct Costs x 1.083524) x 1.05 = Direct Costs x 1.1377. This equates to a total markup of 13.77% over these direct costs. (N.T. 4652-4653; Board Finding).

487. Farfield incurred $416,773 of direct costs for jobsite supervision expenses during the extended period (i.e. the additional period of time it was on the job due to delay), which costs include the salaries for the project manager, project superintendent for service building and safety, project superintendent for housing units and site distribution systems, electrical foreman, security project manager and security project superintendent as well as vehicle and lodging expenses for one of the superintendents. These costs are reasonable and adequately supported. Adding a 13.77% markup for overhead and profit, we find Farfield's total for this category of extended period damages is $474,163. (N.T. 4643-4646, 4686-4689, 4716-4718; Exs. 38, 542A, 542C; Board Finding).

488. Farfield incurred $17,776 of direct costs for extended jobsite rental expenses because it had to rent electrical construction trailers, lift equipment and platform scaffolds for seven months longer than planned to complete the job. These costs are reasonable and

adequately supported. Adding a 13.77% markup for overhead and profit, we find Farfield's total for this category of extended period damages is $20,224. (N.T. 4646, 4686-4689; Exs. 38, 542A, 542C; Board Finding).

489. Farfield incurred $6,424 of additional direct costs for other extended jobsite expenses, including telephone, internet, communications, water, and other minor office service expenses. These costs are reasonable and adequately supported. Adding a 13.77% markup for overhead and profit, we find Farfield's total for this category of extended period damages is $7,309. (N.T. 4646, 4686-4689; Exs. 38, 542A, 542C; Board Finding).

490. Farfield incurred $46,364 in direct costs for a tooling charge based on Farfield's corporate tooling cost system for the seven month extended period. These costs are reasonable and adequately supported. Adding a 13.77% markup for overhead and profit we find Farfield's total for this category of extended period damages is $52,748. (N.T. 4646; Exs. 38, 542A, 542C; Board Finding). (N.T. 4646, 4686-4689; Exs. 38, 542A, 542C; Board Finding).

491. Farfield incurred $68,899 in direct costs for extra handling and storage of material. Under the pre-bid documents for the Project, Buildings 6 and 14 were to be completed and used by the MEPs, including Farfield, to store their materials on the jobsite. As the Project progressed, the foundations were not completed according to the ST2.1 contract milestones and these buildings were not available for storage purposes. As a result, Farfield had to pay for off-site warehousing in order to have its equipment and material near the site and ready for installation. These extra costs were incurred throughout the Project and are reasonable and adequately supported. Adding a 13.77% markup for overhead and profit we find Farfield's total for this category of delay damages is $78,386. (N.T. 4646-4647, 4672-4681, 4686-4689, 4715-4716; Exs. 38, 542A, 542C, 545B, 545D, 545E, 545G, 545J; Board Finding).

492. Farfield incurred $67,562 in direct costs for prevailing wage increases. This amount covers two incremental pay increases that Farfield incurred because the bulk of its work (and therefore manpower needs) was not completed as planned but shifted to the latter part of the original contract performance period and into the extended period. This cost is reasonable and adequately supported. Adding a 13.77% markup for overhead and profit we find Farfield's total for this category of delay damages is $76,865 (approximately half of which we find incurred in the extended period). (N.T. 4653-4654; Exs. 38, 542A, 542C; Board Finding).

493. Farfield incurred $54,657 in direct costs for premium wage increases. This amount was for the premium portion of the overtime (not the hours portion, but the extra half-time portion) of the overtime expended by Farfield when it had to accelerate its work due to delay caused by the late completion of foundations and/or floor slabs for the buildings on the Project. These extra costs were incurred throughout the Project and are reasonable and adequately supported. Adding a 13.77% markup for overhead and profit we find Farfield's total for this category of delay damages is $62,183. (N.T. 4642, 4654-4655; Exs. 38, 542A, 542C; Board Finding).

494. Farfield incurred $95,059 in direct costs for outside agency labor expenses. When Farfield accelerated its work due to delay caused by the late completion of foundations and/or

slabs on grade, Farfield had to hire extra laborers through an outside agency to supplement its crews to accelerate its work. These extra costs were incurred throughout the Project and are reasonable and adequately supported. Adding a 13.77% markup for overhead and profit we find Farfield's total for this category of delay damages is $108,149. (N.T. 4642, 4654-4655; Exs. 38, 542A, 542C; Board Finding).

495. Farfield incurred $755,320 in direct costs for inefficiencies/acceleration costs as the electrical prime contractor. Mr. Nescot used a modified measured mile approach (comparing an average work rate at several of the buildings less affected by slow foundation/slab work to those impacted more) to calculate the foregoing inefficiency costs Farfield experienced. These extra costs were incurred throughout the Project and are reasonable and adequately supported. Adding a 13.77% markup for overhead and profit we find Farfield's total for this category of delay damages is $859,328. (N.T. 4642, 4656-4669; Exs. 38, 542A, 542C; Board Finding).

496. Farfield claims it incurred $187,693.55 for inefficiencies/acceleration experienced by its security subcontractor on the Project. However, the evidence provided by Farfield fails to establish that this inefficiency/acceleration cost was due in any way to PEC or the other prime contractors. (N.T. 4642, 4671; Exs. 38, 542A, 542C; Board Finding).

497. Farfield also claims it incurred $16,594.00 for "financing for interest on the retainage," but provides no further explanation. It also fails to show how this expense was in any way due to PEC or the other prime contractors. (N.T. 4642; Exs. 38, 542A, 542C; Board Finding).

498. Farfield claims it incurred $32,612.57 for "Vehicle Repair @ Site Due to Conditions", which amount appears to be for extricating and repairing vehicles from the muddy Project site. We find that this expense is not due to delays or inefficiencies caused in any way by PEC or the other prime contractors and is not properly considered delay-related damages in any event. (N.T. 4642; Exs. 38, 542A, 542C; Board Finding).

499. Farfield identified $109,178.05 for extended home office overhead expenses calculated by using 8.3524% markup for overhead expense and 5% markup for profit (which were the margin amounts used in Farfield's original bid). According to Mr. Nescot, he utilized the Manshul Method to arrive at this cost of extended home office overhead incurred by Farfield. (N.T. 4648-4653; Exs. 38, 542A, 542C; Board Finding).

500. We do, in fact, agree with Mr. Nescot that Farfield did incur additional costs for home office overhead during the extended period it had to spend on the Project. However, we further find that Mr. Nescot's attempted application of the Manshul Method to determine this home office overhead was flawed, because, among other things, it appears he removed only the overhead markup (8.3524%) from the contract amount remaining in the extended period rather than the total markup (8.3524% for overhead and 5% for profit or 13.77% combined). By doing so, Mr. Nescot did not arrive at the correct direct cost of original contract work remaining in the delay (extended) period. (N.T. 4648-4653; Exs. 38, 542A, 542C; Board Finding).

501. Mr. Nescot did, however, provide the Board with adequate credible evidence from which to calculate Farfield's additional home office overhead with reasonable certainty. Because Farfield's original contract amount was $19,449,000 and there was a 5% markup for profit on top of an 8.3524% markup for overhead, the direct cost on the original contract was $17,095,077 (Direct Cost on Original Contract of $17,095,077 x 1.083524 x 1.05 = $19,449,000 Original Contract Amount). Accordingly, the direct cost of the original contract work done in the extended period is reasonably estimated pursuant to the following equation: $1,358,352 (total value of work remaining on contract in extended period) = direct cost remaining on contract x 1.1377, which resolves to $1,358,352 ÷ 1.1377 = direct cost remaining on contract in extended period or $1,193,946. To this direct cost of work remaining on the contract in the extended period, we apply the original overhead percentage (8.3524%) to determine the unabsorbed home office overhead cost in the extended period, which equals $99,723. To this we add, as did the Manshul court, the profit markup (here 5%) to arrive at total additional home office overhead damages of $104,709 incurred by Farfield in the extended period. (N.T. 4648-4653; Exs. 38, 542A, 542C; Board Finding).

502. Farfield incurred total delay-related damages on the Project which we find to be reasonable and adequately supported as follows:

Extended Jobsite Supervision	$ 474,163
Extended Jobsite Rental	$ 20,224
Extended Jobsite Overhead (other)	$ 7,309
Tooling Expenses (extended period)	$ 52,748
Excessive Handling and Storage of Material	$ 78,386
Extended Home Office Overhead	$ 104,709
Prevailing Wage Increases	$ 76,865
Premium Wage Increases	$ 62,183
Outside Agency Labor Expenses	$ 108,149
Inefficiencies/Acceleration (Farfield)	$ 859,328
TOTAL	$1,844,064

(N.T. 4587- 4669, 4686-4688; Exs. 38, 542A, 542C; F.O.F. 475-501; Board Finding).

503. Because, among other things: Farfield's work was comprised of installing the electrical wiring and electronic security devices in each building; this work was to start not only after the foundations and slab on grade work was completed but also required significant masonry steel and related work to be done before and during its electrical work being installed and completed in the buildings, we find that Farfield's work was substantially affected by the work of other intervening contractors on the Project (particularly Harris and Amthor), as well as by PEC. Accordingly, we find that 22% of Farfield's delay and disruption is attributable to PEC. (N.T. 4184-4280; F.O.F. 428-434; Board Finding).

504. Farfield incurred $1,844,064 in delay-related damages because it was delayed, extended and/or disrupted on the Project by PEC and other parties. Because PEC was a cause of delay and disruption to Farfield's work (Harris and Amthor being the other contractors causing delay), and because we have found that PEC was responsible for 22% of the total delay to

Farfield (as a follow-on contractor), the Board finds that 22% of $1,844,064 (Farfield's total delay-related damages), or $405,694 is the amount of delay-related damage incurred by Farfield as a result of PEC's failure to provide sufficient manpower and coordination to complete its foundation and slab on grade work under the ST2.1 Contract in a timely manner. (N.T. 4184-4280; Exs. 510A, 510C, 517A; F.O.F. 428-434, 475-503; Board Finding).

Simplex Grinnell LP

505. Simplex Grinnell LP ("Simplex Grinnell") was the prime contractor for fire protection and it furnished the fire sprinkler systems throughout all the buildings on the Project, performing this work after the Project's foundation and floor slab work was completed by PEC. (N.T. 3796-3797, 5212, 5217; Exs. 514A, 514B).

506. Simplex Grinnell had a contract with DGS dated September 7, 2000 for the contract sum of $1,135,450. (N.T. 5207- 5208, 5216; Ex. 512)

507. Mr. Frank Monikowski ("Mr. Monikowski"), the sprinkler operations manager for Simplex Grinnell on the Project, was knowledgeable about the scope and progress of the work and testified about the causes and amount of delay to Simplex Grinnell's work on the Project. (N.T. 5206-5349).

508. Simplex Grinnell filed a claim in Docket 3554 on June 6, 2002 with the Board against DGS for delay-related damages incurred on the Project in the amount of $353,028. PEC was joined by DGS as an additional defendant in this action. (N.T. 5209, 5217-5218, 5293; Ex. 514C).

509. In its claim in Docket 3554, Simplex Grinnell alleges that throughout the Project it notified DGS that it "was being delayed by the failure of other contractors to timely complete their work" causing Simplex Grinnell delay-related damages. (N.T. 5210, 5217; Ex. 514A p. 12).

510. On June 26, 2007, DGS and Simplex Grinnell entered into a settlement agreement pursuant to which DGS paid $124,000 in full settlement of all of Simplex-Grinnell's claims and Simplex-Grinnell released DGS from further liability for its work on the Project. (N.T. 5208-5209, 5233, 5304-5305; Ex. 513).

511. Mr. Monikowski, Mr. Bernardi and Mr. Kopko each stated, and the Board finds, that Simplex Grinnell's work on the Project was adversely affected from the beginning because PEC had not completed its foundations and slab on grade work in a timely manner. We agree, and find that the failure to complete the concrete foundation and slab work for the many buildings on the Project in a timely manner delayed Simplex Grinnell's ability to get into the buildings and do its work as planned. (N.T. 2698-2702, 3953-3954, 3996-3997, 5211-5231, 5278-5279, 5296-5299).

512. Mr. Monikowski also stated, and the Board finds, that Harris and Amthor also adversely affected Simplex Grinnell and contributed to its delay and compression of work.

Harris impacted Simplex Grinnell by, among other things, failing to erect masonry walls on schedule so that Simplex Grinnell could install its piping. Amthor also delayed Simplex Grinnell by, among other things, late erection of steel in the buildings which delayed installation of Simplex Grinnell's overhead sprinkler piping attached to the ceiling. Therefore, when Project completion dates were not extended, delays in the concrete work as well as masonry and structural steel interfered with Simplex Grinnell's ability to do its work in a continuous way, causing it to bring in more manpower to do the work and preventing it from performing efficiently because of the stacking of trades in each building. (N.T. 3958, 5221-5223, 5278-5279, 5296-5298, 5307-5309; Board Finding).

513. Mr. Monikowski stated, and we find, that Simplex Grinnell's work was compressed from the original work duration of 13 months and 2 weeks to only 7 months and 3 weeks. (N.T. 5210-5213, 5249-5250, 5264, 5297-5299, 5346-5347; Exs. 514A, 514B).

514. As a result of its work start being delayed by late foundation and slab on grade work as well as the masonry and steel delays, Simplex Grinnell's anticipated working time was shortened significantly and its ability to start its work in the housing units and the flow of this work inside the buildings was disturbed. These occurrences caused Simplex Grinnell to experience inefficiencies and trade-stacking as it performed its work as well as the need to re-sequence its work and increase its labor force. As a result, Simplex Grinnell incurred cost overruns for overtime, additional tools and equipment, additional supervisor costs and increased material costs. (N.T. 3796-3797, 5211-5231, 5238-5256, 5278-5279; Exs. 514A, 514B; F.O.F. 505, 511-513; Board Finding).

515. Simplex Grinnell identified delay-related damages it incurred on the Project as set forth below:

Labor Overruns	$ 224,644
Additional Tools/Equipment	$ 9,520
Additional Supervisory Costs	$ 36,930
Escalation of Material Costs	$ 1,730
Total Claim Costs	$ 272,824
10% Overhead	$ 27,282
5% Profit	$ 15,005
Total Claim Amount	$ 315,111

(N.T. 5218-5238, 5349-5254; Exs. 514A, 514B).

516. Simplex Grinnell incurred $224,644 for the direct cost of extra labor hours that it was required to use to complete its work on the Project because of the delays and disruptions it experienced on the Project. This amount is reasonable and adequately supported. (N.T. 5235-5237, 5251-5255, 5271-5272, 5278-5279; Ex. 514B; F.O.F. 511-515; Board Finding).

517. Simplex Grinnell incurred $9,520 for the direct cost of additional tools and equipment costs, mainly lift equipment needed during the extended period because of the delays

and disruptions it experienced on the Project. This amount is reasonable and adequately supported. (N.T. 5237-5238, 5255; Ex. 514B ex. C; Board Finding).

518. Simplex Grinnell incurred additional supervisory costs of $36,930 for an on-site superintendent at $30 per hour for the extended period and $1,730 additional for escalation of material costs because of the delays and disruptions it experienced on the Project. These costs are reasonable and adequately supported. (N.T. 5255-5256; Ex. 514B; Board Finding).

519. Simplex Grinnell added a 10% markup for overhead to the foregoing direct costs and then a 5% markup for profit to the costs plus overhead subtotal in its calculation of its total delay-related costs (which equates to a 15.5% total markup). However, Simplex Grinnell provided no credible evidence that these percentage markups were the actual markup in Simplex Grinnell's original bid on its contract. Accordingly, we instead apply the generally accepted standard 15% markup to Simplex Grinnell's direct costs as a fair and reasonable estimate for overhead and profit. (F.O.F. 434; Board Finding).

520. The Board finds that Simplex Grinnell incurred total delay-related direct costs of $272,824, to which we add 15% markup (or $40,924) for overhead and profit resulting in a total delay-related damage amount of $313,748. (N.T. 5223, 5230, 5231, 5235-5238, 5252-5256; F.O.F. 515-518; Board Finding).

521. Because, among other things, Simplex Grinnell's work was to provide and install fire sprinkler/fire protection systems in each building; this work was to start after the foundations and slab on grade work was completed but also required significant masonry, steel and related work to be done before and during its sprinkler system work being installed and completed in the buildings, we find that Simplex Grinnell's work was substantially affected by the work of other intervening contractors on the Project (particularly Harris and Amthor) as well as by PEC. Accordingly, we find that 22% of Simplex Grinnell's delay and disruption is attributable to PEC. (N.T. 5221-5223**,** 5278-5279; F.O.F. 428-434; Board Finding).

522. Simplex Grinnell incurred $313,748 in delay-related damages because it was delayed, extended and/or disrupted on the Project by PEC and other parties. Because PEC was a cause of delay and disruption to Simplex Grinnell's work (Harris and Amthor being the other contractors causing delay), and because we have found that PEC was responsible for 22% of the delay to Simplex Grinnell (as a follow-on contractor), the Board finds that 22% of $313,748 (Simplex Grinnell's total delay-related damages), or $69,025, is the amount of delay-related damages incurred by Simplex Grinnell as a result of PEC's failure to provide sufficient manpower and coordination to complete its foundation and slab on grade work under the ST2.1 Contract in a timely manner. (F.O.F. 428-434, 505-521; Board Finding).

Claim of Harris Masonry, Inc.

523. Harris Masonry, Inc. ("Harris") entered into a contract with DGS on September 14, 2000 for $10,757,000 to perform the masonry work on the Project, which work both followed and ran concurrently with PEC's foundation and floor slab work. (N.T. 5518-5521; Ex. 547)

524. The sequence of construction for Harris was that once PEC had installed the footings, Harris would lay block (sometimes referred to as "stem walls") up to the slab level on a building, then PEC would pour the slab and Harris would run bearing walls up to support steel or precast concrete plank. After the steel or precast plank was installed, Harris would return and build the interior non-bearing walls. Finally, Harris would place the veneer or decorative block on the outside of the building. (N.T. 5520-5521; Ex. 432; Board Finding).

525. Mr. Russell Schoemer, project manager in charge of Harris' work on the Project, was knowledgeable about the scope and progress of the masonry work and testified about the causes and amount of delay to the masonry work and the direct costs of that delay to Harris on the Project. (N.T. 5542, 5517, 5651; Ex. 549-1; Board Finding).

526. Harris expected to start work on August 7, 2000, and to finish work on the Project by November 30, 2001. However, Harris actually started work on October 25, 2000 and continued to work until November 30, 2002, an extension of nine months beyond its planned duration. (N.T. 3627-3628, 5542-5547, 5565-5567, 5578; Exs. 547, 549-3, 549-23, 552A).

527. Mr. Schoemer stated that, starting in October 2000, PEC's work was not progressing on schedule and that in January 2001, as PEC continued to struggle, PEC's delay affected Harris' work and ability to maintain its crew size. Harris was ready to lay block as soon as the foundations were available but the foundations were often late. (N.T. 5548-5551; Ex. 549-25).

528. During the Winter of 2001, Harris notified DGS that it was going to pull forces off the job because there were no footers available to work on and that further delays were inevitable. (N.T. 5518-5525, 5547-5551, 5562-5563; Exs. 552A, 552B, 549-25).

529. Mr. Schoemer, Mr. Kopko and Mr. Bernardi each stated, and the Board finds, that PEC adversely affected Harris' ability to perform its work because of the late completion of foundations and/or slabs on grade. The late completion of the foundation and slabs on grade for the buildings on the Project delayed and disrupted Harris and caused Harris to be extended for some portion of the additional nine months on the Project and also caused it to work inefficiently. (N.T. 2697, 2750-2752, 3624-3627, 3710-3712, 3728, 5650-5651; Exs. 274, 432, 549-2 to 549-17, 549-25).

530. The Board also finds, pursuant to testimony from Mr. Payne and the evidence as a whole, that Harris was also a cause of delay to itself and other contractors on the Project. Among other things, Harris failed to consistently place enough masons on the site to progress its work constructing the exterior and interior block walls in a timely manner. (N.T. 1331-1332, 4603-4605, 4734-4735, 5726-5728, 6063-6068; Exs. 92L, 92P, 432, 436S, 452A; F.O.F. 412, 428, 481, 512, 578; Board Finding).

531. Additionally the Board finds that Amthor adversely impacted and delayed Harris' work based, inter alia, on late steel fabrications, late material deliveries, late installations of steel and concrete plank by Amthor as well as Amthor's problems with crane availability. After the foundations were completed in each building on the Project, the masonry contractor and the

structural steel contractor continued to work more or less simultaneously and caused work schedule delays and disruptions to each other. Based on the evidence as a whole, including the testimony of DGS expert Mr. Payne, we have found that Amthor and Harris were together responsible for 102 days of delay on the Project's critical path, and we conclude that the delay caused by each of these contractors also impacted one another as well as other contractors on the Project. (N.T. 1331-1332, 4736, 5829-5830, 5880-5881; Exs. 432, 435A #15, 436S; F.O.F. 412, 428, 524; Board Finding).

532. On July 31, 2003, Harris filed a claim with the Board at Docket 3653 against DGS for $1,027,063 for delay-related and other damages. This amount included an unpaid contract balance of $322,227. (N.T. 5577-5578; Ex. 548).

533. On May 17, 2007, DGS and Harris entered into a settlement agreement pursuant to which DGS paid $825,000 in full settlement of all of Harris' claims, and Harris released DGS from further liability for its work on the Project. (N.T. 5208-5209, 5233, 5304-5305; Ex. 513).

534. Harris identified the delay-related damages it experienced on the Project as follows:

Wage Escalation	$ 88,370.00
Extended Supervision	$ 37,703.00
Travel and Living Expenses	$ 10,231.00
Extended Home Office Overhead	$521,008.36
Rented Equipment, etc.	$ 22,569.00
Bond	$ 1,589.00
Total	$681,470.36

(N.T. 5533-5534, 5542-5545, 5555-5578, 5589-5651, 5673, 5677-5679, 6227).

535. Mr. Schoemer was knowledgeable about the bases for the amounts Harris claimed for wage escalation, extended supervision, travel and living expenses, extended home office overhead and rented equipment. (N.T. 5525-5679; Exs. 549-15, 549-16, 549-26, 549-27, 549-29, 549-30, 549-32 to 549-39).

536. Although Harris claims $88,370 for wage escalation, the documents supporting this claim show Harris expended $88,890 for wage escalation. When Harris was extended for nine months on the Project, to November 30, 2002, it experienced an unanticipated increase in the wage rates it had to pay laborers and bricklayers. This $88,890 amount is reasonable and adequately supported. (N.T. 5542-5543, 5589-5599, 5677-5678; Exs. 549-26, 549-27, 549-39; Board Finding).

537. Although Harris claims $37,703 for extended supervision for the period when Harris was extended on the Project, the documents supporting the claim show Harris made actual payments of $39,113. These costs were for payments to the foreman, superintendent and site safety representative. This $39,113 amount is reasonable and adequately supported. (N.T. 5596-5606, 5678; Exs. 549-27, 549-28; Board Finding).

538. Although Harris claims $10,231 for travel and living expenses for the extended period for several Harris employees, the supporting documents show actual expenses to Harris of $9,301. This $9,301 amount is reasonable and adequately supported. (N.T. 5606-5611, 5678; Ex. 549-29, 549-30; Board Finding).

539. Although Harris claims $22,569 for rented equipment for the extended period, the supporting documents show actual expenses to Harris of $17,837. The rented items included office trailer, forklifts, long distance phone service and internet. This $17,837 amount is reasonable and adequately supported. (N.T. 5637-5644, 5647-5650, 5678-5679; Exs. 549-33, 549-34, 549-39; Board Finding).

540. Harris claims $1,589 for bond costs, but this amount is not supported by sufficient evidence and is not allowed. (F.O.F. 534; Board Finding).

541. Credible evidence presented by Harris establishes that the original bid and contract award amount on Harris' masonry contract was $10,757,000; that Harris' estimated cost for this Project was $8,269,974; and, therefore, that Harris' actual markup on its original bid for this Project (for overhead and profit) was 30%. The evidence also establishes that, of this 30% total markup, 15% was for overhead. Accordingly Harris' original profit markup on this Project was 13% (i.e. direct cost x 1.15 markup for overhead x X markup for profit = direct cost x 1.30 resolved for X equals 1.13 or 13% markup for profit). (N.T. 5518-5521, 5615-5620, 5674-5676; Exs. 547, 549-31, 549-32; Board Finding).

542. Harris' total direct costs attributable to its delay were $155,141 ($88,890 + 39,113 + $9,301 + $17.837) and, after adding 30% (or $46,542) as its originally intended markup for overhead and profit on this Project, we find that Harris' total direct costs plus markup were $201,683. (F.O.F. 534-541; Board Finding).

543. The amount claimed by Harris for extended home office overhead was $521,008.36. This calculation of the home office overhead amount was done by Mr. Schoemer with assistance from others. However, we do not find Mr. Schoemer's calculation to be accurate. (N.T. 5621-5636, 5651, 5668, 5674-5676; Ex. 549-40; F.O.F. 534; Board Finding).

544. Mr. Schoemer did, however, provide the Board with adequate credible evidence from which to calculate Harris' additional home office overhead with reasonable certainty. Because Harris' original contract amount was $10,757,000 and the direct cost on the original contract was $8,269,944, there was a 30% markup for overhead and profit on the original contract work (direct cost on original contract of $8,269,944 x 1.30 = $10,757,000 the original contract amount). Accordingly, the direct cost of the original contract work done in the extended period is reasonably estimated pursuant to the following equation: $4,230,050 (total value of work remaining on contract in extended period = direct cost remaining on contract x 1.30, which resolves to $4,230,050 ÷ 1.30 = direct cost remaining on contract in extended period or $3,253,885. To this direct cost of work remaining on the contract in the extended period, we apply the original contract overhead percentage (stated by Mr. Schoemer to be 15%) to determine the unabsorbed home office overhead cost in the extended period, which equals $488,083. To this we add, as did the Manshul court, the profit markup (here calculated to be

13% on the original contract) to arrive at total additional home office overhead damages of $551,534 incurred by Harris in the extended period. (N.T. 5518-5521, 5615-5620, 5625-5626, 5674-5676; Exs. 547, 549-31, 549-32; Board Finding).

545. We find that Harris incurred total delay-related damages on this Project of $753,217 as itemized in the preceding paragraphs and that this amount is reasonable and adequately supported. (F.O.F. 534-544; Board Finding).

546. Because, among other things: Harris' work was to provide and install all the exterior and interior block walls in each building; this work was to start in steps after each foundation and then after each slab on grade was completed but also required steel and related work to be done contemporaneously in order to allow Harris to continue with its installation of various types of block work (while plumbing and electrical work was also being installed), we find that Harris' work was delayed due to its own failure to have enough masons to progress the work on schedule and was also substantially affected by the delayed work of other contractors including Amthor and PEC. Accordingly, we find that 22% of Harris' delay and disruption is attributable to PEC. (Ex. 542A; F.O.F. 428-434, 523-531; Board Finding).

547. Harris incurred $753,217 in delay-related damages because it was delayed, extended and/or disrupted on the Project by PEC, itself and others. Because PEC was a cause of delay and disruption to Harris' work, and because we have found that PEC was responsible for 22% of the total delay to Harris (as a follow-on contractor), the Board finds that 22% of $753,217 (Harris' total delay-related damages), or $165,708 is the amount of delay-related damage incurred by Harris as a result of PEC's failure to provide sufficient manpower and coordination to complete its foundation and slab on grade work under the ST2.1 Contract in a timely manner. (F.O.F. 428-434, 523-546; Board Finding).

Claim of Amthor Steel, Inc.

548. Amthor Steel, Inc. ("Amthor") was the prime contractor for erecting structural steel and precast planks for all buildings on the Project (except the pre-fab metal buildings and staff residences). Its work was to begin after the foundation work on each of these buildings. (N.T. 5687-5689; Ex. 526; Board Findings).

549. On August 16, 2000, Amthor entered a contract with DGS for the amount of $5,840,000 for its work on the Project. (N.T. 5687; Ex. 526).

550. Mr. Brian Iavarone, project manager in charge of Amthor's work on the Project, was knowledgeable about the scope and progress of Amthor's work and testified about the causes of, and amount of delay to, Amthor's work on the Project. (N.T. 5686-5807; Board Finding).

551. Due to delays in the Project, Amthor experienced approximately six to seven months of delay in completing its work. (N.T. 5693-5694, 5701, 5813-5814; Ex. 531K).

552. On December 23, 2002, Amthor filed a claim for $780,855 with the Board at Docket 3627 against DGS for delay-related and other damages. (B.O.C. Docket 3627).

553. On June 20, 2007, DGS and Amthor entered into a settlement agreement pursuant to which DGS paid $850,000 in full settlement of all of Amthor's claims and Amthor released DGS from further liability for its work on the Project. (N.T. 5208-5209, 5233, 5304-5305; Ex. 513).

554. Mr. Iavarone, Mr. Bernardi and Mr. Kopko each stated, and the Board finds, that PEC caused some portion of the delay to Amthor's work because of the late completion of foundations and slab work on the Project. Among other things, this late completion of foundations and slabs for many buildings on the Project delayed Amthor's start of work on the site and caused Amthor the unexpected need to store some of its fabricated steel off site while it waited to commence work. (N.T. 2699-2701, 3628-3630, 3639-3641, 3652-3656, 3799-3801, 5693-5701, 5813-5814; Board Finding).

555. The Board also finds, pursuant to testimony from Mr. Payne and the evidence as a whole, that Amthor was also a cause of delay to itself and other contractors on the Project. Among Amthor's problems which caused delay to itself and other contractors were its problems with crane availability, late steel fabrications, late arrival of material on-site, and late and inefficient setting of steel and plank for buildings on the Project. (N.T. 1331-1332, 4736, 5829-5830, 5880-5881; Exs. 432, 436S, 436T, 542A; F.O.F. 412, 428, 481, 512, 523, 531, 581; Board Finding).

556. Additionally, the Board finds that Harris was a cause of delay to Amthor and other contractors on the Project. Harris delayed Amthor because its block work generally needed to be done before and during Amthor's work, and Harris' failed to consistently commit enough masons to progress its work timely. (N.T. 1331-1332, 4603-4605, 4734-4735, 5726-5728, 6063-6068**;** Exs. 92L, 92P, 432, 436S, 452A; F.O.F. 412, 428, 481, 512, 523, 530, 581; Board Finding).

557. The delay-related damages claimed by Amthor on the Project are:

Ironworker Wages/Benefits Increase	$33,226
Storage Costs	$85,350
Crane Mobilization	$ 8,827
Concrete Work Expedite Costs	$ 6,532
Concrete Work-Premium Costs	$448,473
Steel/Erection Costs	$198,477
Total	$780,855

(N.T. 5711-5878; Exs. 528, 528A, 531K).

558. Amthor added a 10% markup for overhead to many of its delay-related, direct cost claims. There was no credible evidence presented that these percentage markups were in Amthor's original bid for the contract. (N.T. 5746-5748; F.O.F. 434; Board Finding).

559. Amthor incurred $30,205 of direct costs for ironworker wage rate increases because of the delays it experienced on the Project. The Board finds this amount is reasonable and adequately supported. (N.T. 5713-5714, 5739-5749; Exs. 528, 528A; Board Finding).

560. Amthor incurred $85,350 for direct costs for storage cost increases for various materials that had to be stored in February and March 2001 because of the delays it experienced on the Project. The Board finds this amount is reasonable and adequately supported. (N.T. 5713-5714, 5719, 5750-5751; Exs. 528, 528A; Board Finding).

561. Amthor incurred $8,025 of direct costs for additional crane mobilizations in December 2000 because of the delays it experienced on the Project. The Board finds this amount is reasonable and adequately supported. (N.T. 5713-5714, 5829-5830; Exs. 528, 528A; Board Finding).

562. In addition to providing and erecting structural steel for many of the buildings on the Project, Amthor's scope of work included providing and installing precast concrete plank (for additional floors) in several of these buildings. (N.T. 5704-5705).

563. Amthor claims it incurred $5,938 of direct costs for performing overtime and weekend work in connection with its installation of precast concrete planking after DGS instructed Amthor that PEC could not be used as Amthor's subcontractor for this task. Amthor also claims it incurred $407,703 of direct additional costs to hire other subcontractors to perform the concrete plank work Amthor intended for PEC after PEC's termination. (N.T. 5713-5714, 5766-5784, 5871; Ex. 528A; Board Finding). (N.T. 5713-5714, 5758-5765; Exs. 528, 528A; Board Finding).

564. Mr. Iavarone stated that the amounts identified in the preceding paragraph were claimed by Amthor because, in July 2001, Amthor intended to use PEC as its subcontractor to do precast plank cutting, plank topping and plank grouting, but in August 2001 DGS told Amthor PEC had been terminated from the Project and directed Amthor that PEC could no longer be used as a subcontractor on the Project. Mr. Iavarone also testified that PEC and Amthor had not executed any written subcontract for the work. Amthor claims it took 4 or 5 weeks for it to find another subcontractor for the plank work and that, in addition to the cost of this delay, it incurred extra costs to have the work performed. (N.T. 5711-5714, 5758-5759, 5766-5768, 5779, 5783-5784, 5862-5864; Exs. 528, 528A; F.O.F 76-82, 557, 563; Board Finding).

565. Based on the evidence presented, we are unable to find that Amthor had a contract, firm commitment or firm price from PEC to do the plank work described above for Amthor. In light of the foregoing, and because it was DGS who prevented Amthor from using PEC as a subcontractor, we cannot find sufficient causal connection between any of the actual or alleged failures on PEC's part as a prime contractor and the damages or extra costs Amthor alleges it incurred with regard to its installation of concrete planking on the Project. (NT. 5711-5714, 5758-5768, 5777-5780, 5859-5863; Exs. 528, 528A; F.O.F. 76-82, 557, 564; Board Finding).

566. Amthor claims it incurred $198,322 for additional steel erection costs in five sub-categories due to the delay it was caused by PEC and others on the Project. Included in this delay-related damage claim for steel erection costs is an expense for $74,688 which Amthor claims it incurred because it was working in adverse site conditions (i.e. mud). We find that the mud and adverse site conditions complained of were not caused by delay and are not part of delay-related damages. We therefore exclude this amount from our calculation of delay-related damages incurred on the Project by Amthor and conclude that Amthor incurred $123,634 for delay-related additional costs of steel erection on the Project. (N.T. 5713-5714, 5785-5791, 5800-5802; Exs. 528, 528A; F.O.F 433, 557; Board Finding).

567. The Board finds that Amthor's additional direct costs incurred on the Project due to delay caused by other contractors total $247,214, which amount is reasonable and adequately supported. Absent proof of actual markup utilized in its original contract, we add the generally accepted standard of a 15% markup (or $37,082) for overhead and profit for total delay-related damages of $284,296. (Ex. 528A; F.O.F. 433-434, 557-566; Board Finding).

568. Because, among other things: Amthor's work was to provide and install the structural steel frames in the majority of buildings on the Project; this work was to start after each foundation was completed but also required concrete block installation and related work to be done contemporaneously (while plumbing and electrical work was also installed), we find that Amthor's' work was substantially affected by the work of other contractors on the Project, particularly PEC and Harris, as well as by Amthor's own failures. Accordingly, we find that 22% of Amthor's delay and disruption is attributable to PEC. (Exs. 526, 528, 528A; F.O.F. 428-434, 548-557; Board Finding).

569. Amthor incurred $284,296 in delay-related damages because it was delayed, extended and/or disrupted on the Project by PEC, itself and others. Because PEC was a cause of delay and disruption to Amthor's work, and because we have found that PEC was responsible for 22% of the total delay to Amthor (as a follow-on contractor), the Board finds that 22% of $284,296 (Amthor's total delay-related damages), or $62,545 is the amount of delay-related damage incurred by Amthor as a result of PEC's failure to provide sufficient manpower and coordination to complete its foundation and slab on grade work under the ST2.1 Contract in a timely manner. (Exs. 528, 528A; F.O.F. 428-434, 548-568; Board Finding).

Claim of Limbach Company, LLC

570. On September 12, 2000 Limbach Company, LLC ("Limbach"), the prime contractor for HVAC work on the Project, entered into Contract No. DGS570-27 ME 1.2 Rebid with DGS for $10,182,146. (N.T. 5908; Ex. 508).

571. Mr. Barry Litman, the project manager in charge of Limbach's work on the Project, was knowledgeable about the scope and progress of the HVAC work and testified about the causes and amount of delay to Limbach's work on the Project and about the delay-related damages that Limbach incurred. (N.T. 5908-5988; Ex. 510D).

572. Limbach's contract had milestones and revised milestones. Under the revised milestones, Limbach was to begin work in the housing units on December 22, 2000 and complete its work by June 1, 2002. (N.T. 5912-5920; Ex. 510D Tabs 3, 4 and 6).

573. Limbach mobilized on the Project's site on November 1, 2000. (N.T. 5925-5927; Ex. 510D Tab 5).

574. Limbach performed two separate activities on the Project: first, it was responsible for the underground heating and chilled water piping from the central plant to every building on the site (other than residences); second, it was responsible for the heating and air conditioning system (including ductwork, exhaust and rooftop units) in each of these buildings. (N.T. 5911-5914; Ex. 432; Board Finding).

575. Limbach's underground piping work in each non-residence building was dependent upon the prompt performance and completion of the foundation work by PEC and the stem walls by Harris. Limbach was delayed when this work was not done and these buildings were not available to enter with its underground piping. Later on, Limbach's HVAC work (ductwork, exhausting and rooftops installations) was dependent on completion of slabs on grade, block work, and steel erection among other things. (N.T. 2698-2699, 5912-5913, 5922-5925, 5933, 5990, 6000-6005; Ex. 432; Board Finding).

576. Limbach's work on the Project was delayed and disrupted causing it to remain on the job for an additional five months as it could not complete its work on the Project until November 15, 2002. (N.T. 5930-5973, 5983-5984, 5989; Ex. 510D).

577. On numerous occasions during the course of the Project, Limbach submitted written notifications to P.J. Dick citing the numerous delays and disruptions it was experiencing on the Project. (N.T. 5930-5973; Ex. 510D Tabs 8, 9 10, 11, 14, 15, 16, 20 to 26, 30, 31, 36).

578. Mr. Litman, Mr. Kopko and Mr. Bernardi stated, and the Board finds, that Limbach's work was delayed and disrupted by preceding delays in completion of foundations, slabs, masonry and steel work in several buildings on the Project which, in turn, delayed and disrupted the installation of Limbach's HVAC work . (N.T. 2697-2701, 2712-2714, 3795-3803, 5988-5990, 6063-6068, 6084; Board Finding).

579. When Limbach's work was delayed by late work from preceding contractors, not only did it have to remain on the job longer, but it also had to hire extra crews and experienced the inefficiencies of a compacted schedule, including stacking of trades and compressed work. (N.T. 5913-5914, 5941-5942, 5989-6008, 6084; Ex. 510D).

580. Because the late foundation, slab, masonry and steel work delayed and disrupted Limbach's HVAC installation work, we find that Limbach was adversely affected by the work of others, including PEC, Harris and Amthor, and that this caused Limbach to incur delay-related damages on the Project. (N.T. 5989-5990, 6063-6068; F.O.F. 574-579; Board Finding).

581. On May 13, 2002, Limbach filed an administrative claim for delay and delay-related damages with DGS and then revised that claim on November 11, 2002. (N.T. 5910-5911, 5938-5939, 6028-6032; Ex. 510D).

582. On May 12, 2003, Limbach filed a claim for delay with the Board in Docket 3631. That is the claim we address here. (B.O.C. Docket 3631).

583. Limbach also filed two other claims with the Board regarding its HVAC contract for the Fayette SCI at Dockets 3501 and 3762. All three Limbach claims were consolidated into this action at Docket 3464 for hearing. (B.O.C. Dockets 3501, 3631, 3762; Board Finding).

584. Limbach filed the claim at Docket 3501 on May 25, 2002, in which Limbach sued DGS for $332,153, the cost of extra work resulting from alleged incorrect elevations on the site and undisclosed, unfractured rock. DGS joined Penn Transportation as an additional defendant in the action. Limbach received $300,000 from DGS in settlement of this claim and the case was ended between Limbach and DGS on February 7, 2007. (N.T. 6032-6036; Ex. 503; B.O.C. Docket 3501).

585. All extra man hours and costs relating to the removal of unfractured rock and/or any claims contained in Docket 3501 were removed by Limbach from its delay damage claim in Docket 3631 and are not a part of the claim we address here. (N.T. 5995-5996, 6032-6036; Ex. 510D; Board Finding).

586. Limbach also filed a claim at Docket 3762 on April 1, 2005, against DGS for $143,397 for the cost of repairing damage to underground piping. Limbach alleged DGS required it to repair piping that had been damaged by others and then refused to pay for the repairs. Limbach and DGS settled and ended this action in Docket 3762 on July 17, 2008. No claims for repairing piping are part of the claims remaining in this case at Docket 3631. (B.O.C. Docket 3762; Board Finding).

587. The Limbach claim for delay (that was originally at Docket 3631 and is now consolidated in Docket 3464) is documented in Exhibit 510D, which Mr. Litman presented at hearing. Using Exhibit 510D, Mr. Litman attempted to identify the economic impact to Limbach's work of the preceding delays in completing foundations, slabs, masonry and steel. (N.T. 5910-6022; Ex. 510D; Board Finding).

588. Limbach seeks delay-related damages in the total amount of $1,622,457, as follows:

Direct Labor	$1,018,396
Subcontract Labor	$ 68,868
Other Direct Costs	$ 230,753
Mark Ups	$ 186,145
Home office	$ 102,231
Bond (1%)	$ 16,064

Total $1,622,457

(N.T. 5910-5916, 5938-5939, 5977-5988, 6008-6022, 6029-6062, 6082-6105; Ex. 510D).[13]

589. The Board found Mr. Litman's testimony and the evidence provided in Exhibit 510D to be generally credible and reliable and to support Limbach's use of a modified total cost method to calculate its damages on the Project. Among other things, we agree with Limbach that use of a measured mile approach to estimate inefficiency and disruption cost here was impractical as there was no unimpacted period of comparable work for Limbach reasonably ascertainable on this Project. Additionally, we found that Limbach's use of the MCAA Labor Productivity Factors tended to confirm that its calculation of the actual total additional man hours which Limbach claims it incurred because of the delay and inefficiencies it experienced on the Project were reasonable. Thus we conclude that the total additional man hours Limbach claims for itself and its subcontractors on the Project due to delay are estimated with reasonable certainty as are the labor rates it applies to these manhours, the additional tooling costs for same and the additional equipment costs it incurred due to disruption and delay. (N.T. 5977-5984, 5990-5997, 6002-6022, 6082-6092; Ex. 510D; Board Finding).

590. Limbach incurred additional direct labor costs of $1,018,396 on the Project due to the delay and disruption it experienced on the Project caused by late completion of foundations, slabs, masonry and steel work in the several buildings on the Project. We further find this amount to be reasonable and adequately supported. (N.T. 5977-5980, 5991-6008; Ex. 510D pp. 22-26, 37, 40, Ex. 510D; Board Finding).

591. Limbach incurred additional subcontractor labor costs of $68,868 on the Project due to the delay and disruption it experienced on the Project caused by late completion of foundations, slabs, masonry and steel work in the several buildings on the Project. We further find this amount to be reasonable and adequately supported. (N.T. 5981-5982; Ex. 510D p. 40, Ex. 510D Tab 39; Board Finding).

592. Limbach also incurred additional direct costs totaling $230,753 due to the delay and disruption it experienced as a result of the late completion of foundation, slab, masonry and steel work on the Project comprised of $32,906 in labor support costs (e.g. tools and small equipment rentals); $6,747 in extended period site costs (e.g. phone service, trailers, etc); and $191,100 in additional rentals of major equipment including extra cranes necessary to support its increased manpower and accelerate its work).[14] We further find these amounts to be reasonable and adequately supported. (N.T. 5977-5984, 5990-5997, 6002-6022, 6082-6092; Ex. 510D; Board Finding).

[13] All references to Exhibit 510D exclude Tabs 37, 38 and 41. These tabs were not admitted into evidence. (N.T. 6093-6105).

[14] Although both the claim document and Mr. Litman acknowledge that some portion of the extra crane rental was due to muddy site conditions as well as the trade-stacking and inefficiencies created by the delays in foundations, slabs, masonry and steel work, we conclude from the evidence as a whole that the muddy site conditions did not contribute materially to this extra cost. (N.T. 5977-5984, 5990-5997, 6002-6022, 6082-6092; Ex. 510D; Board Finding.

593. The Board finds that Limbach's additional direct costs due to late completion of foundations, slabs, masonry and steel work in the several buildings on the Project total $1,317,990 ($1,018,369 + $68,868 + $230,753) and that this amount is reasonable and adequately supported. (F.O.F. 587-591; Board Finding).

594. Limbach did not present credible evidence of the original percentages it used in its contract bid for markup for overhead and profit. The Board instead applies the generally accepted standard markup for overhead and profit of 15% on all Limbach's adjusted direct costs, which amounts to $197,699. (F.O.F. 433, 587; Board Finding).

595. Limbach's direct delay-related damages total $1,515,689. (F.O.F. 587-593; Board Finding).

596. Limbach also included a claim for $102,231 for home office overhead expenses during the extended period, June 30, 2002 to November 30, 2002. However, Limbach's computation of this amount was not adequately explained and Limbach has not presented sufficient credible evidence for the Board to calculate same. Limbach's only witness, Mr. Litman, had insufficient knowledge of this calculation and was unable to explain it. (N.T. 5985-5986, 6048, 6083-6084, 6091; Ex. 510D Tab 41).

597. While Limbach claims $16,064 for bond costs, there was no credible evidence provided to support this portion of the claim. (F.O.F. 588; Board Finding).

598. Limbach incurred $1,515,689 in delay-related damages because it was delayed, extended and/or disrupted on the Project by PEC and others due to late completion of foundations, slabs, masonry and steel work in the several buildings on the Project. (N.T. 4184-4280; 6063, 6065, 6067-6068; F.O.F. 570-597; Board Finding).

599. Because, among other things: Limbach's work was comprised of installing the underground heating and chilling water piping from the CUP to each building (except staff residence) and the heating and air conditioning system (including ductwork, exhaust and rooftop units) in each of these building as well; the work in each building was to start not only after the foundations and slab on grade work was completed, but also required significant masonry steel and related work to be done before and during its HVAC work being installed and completed in the buildings, we find that Limbach's work was substantially affected by the work of other intervening contractors on the Project (particularly Harris and Amthor), as well as by PEC. Accordingly, we find that 22% of Limbach's delay and disruption is attributable to PEC. (N.T. 2697-2701, 2712-2714, 3795-3803, 5913-5914, 5941-5942, 5988-6008, 6063-6068, 6084; Ex. 510D; F.O.F. 428-434, 570-580; Board Finding).

600. Because PEC was a cause of delay and disruption to Limbach's work, and because we have found that PEC was responsible for 22% of the total delay to Limbach as a follow-on contractor, the Board finds that 22% of $1,515,689 (Limbach's total delay-related damages), or $333,452 is the amount of delay-related damage incurred by Limbach as a result of PEC's failure to provide sufficient manpower and coordination to complete its foundation and

slab on grade work under the ST2.1 Contract in a timely manner. (N.T. 4184-4280; Exs. 510A, 510C, 517A; F.O.F. 428-434, 570-599; Board Finding).

601. In his testimony on June 17, 2008, Mr. Litman stated that DGS and Limbach were in the process of completing a settlement agreement pursuant to which DGS would pay Limbach $825,000 for its delay claim relating to the Project. He stated that on that date the settlement agreement had not been completely signed and the money had not yet been paid. (N.T. 5909, 6077-6078).

602. In her testimony on June 18, 2008, Ms. O'Reilly confirmed that, as of that date, the settlement agreement between Limbach and DGS was in process, Limbach had signed it but the DGS Comptroller had not yet signed and the settlement amount had not yet been paid. (N.T. 6132-6133).

603. On June 19, 2008, the hearing concluded without the Limbach-DGS settlement agreement being introduced into evidence. (Board Finding).

604. On July 14, 2008, Limbach filed a Praecipe to Settle, Discontinue and End the action at Docket 3631/Docket 3464 advising that its settlement with DGS had been finalized. On July 17, 2008, the Board entered an Order that all claims in this action between Limbach and DGS be ended with prejudice. (B.O.C. Dockets 3631, 3464).

605. Because, among other things: there was a pending settlement agreement between Limbach and DGS to pay $825,000 with regard to Limbach's claims for this Project at the time of the hearing; DGS was only awaiting Comptroller approval to complete the process; all the previous settlement agreements between DGS and the other Settling Contractors regarding this Project alone contained provisions assigning the proceeds of litigation recoveries against PEC as a counterclaim and/or additional defendant to DGS as a condition of the settlement; and because one month after the end of the hearing Limbach advised that the settlement had been completed and dismissed its remaining claims on this Project against DGS, we find the evidence sufficient to establish (by reasonable inference) that the settlement agreement between DGS and Limbach was concluded between June 19, 2008 and July 14, 2008, that $825,000 was paid by DGS to Limbach, and that the settlement agreement contained a provision by which Limbach assigned the proceeds of any litigation recovery in this action against PEC (as a counterclaim and/or additional defendant) to DGS, as each of the other Settling Contractors discussed above had done in the consolidated action. (F.O.F. 400-407, 598-604; Board Finding).

Claim of W.G. Tomko, Inc.

606. W.G. Tomko, Inc. ("Tomko") was the prime contractor for plumbing work in all the buildings on the Project. Some of its initial piping work was performed following, and at times simultaneously with, the foundation and slab work on this Project. The largest part of Tomko's work was to be performed after slab on grade and contemporaneously with (and after) masonry walls and structural steel was installed for the buildings. (Complaint at B.O.C. Docket 3646; Exs. 432, 436, 1004 pp. 13-15, 42-46; Board Finding).

607. Tomko filed a claim on May 6, 2002 with the Board at Docket 3493 against DGS because of delays on the Project. This claim was for damages of $36,393.95 for costs associated storing plumbing fixtures and water heaters. (Complaint, B.O.C. Docket 3493).

608. Tomko also filed a second claim on September 1, 2003 at Docket 3646 against DGS for $104,525 for additional delay-related damages on the Project. (Complaint, B.O.C. Docket 3646).

609. In the action in Docket 3646, DGS filed an Answer and New Matter alleging that Tomko filed the claim beyond the Board's six month statute of limitations and asked that the claim be dismissed because the Board lacked jurisdiction to hear it. Tomko filed no response to any of the allegations in this new matter. (B.O.C. Docket 3646).

610. Because Tomko failed to deny the allegations of the new matter in Docket 3646, they are deemed judicial admissions. Tomko has admitted that the Board lacks jurisdiction to hear the claim filed in Docket 3646. (F.O.F. 608, 609; Board Finding).

611. Counsel for DGS stated during the trial deposition of Clyde Rombach, Jr. that DGS was "withdrawing" any claim it had against PEC based on Tomko's claim at Docket 3646. (Ex. 1004 pp. 84-85, 123-124).

612. On June 18, 2008, counsel for Tomko filed a Praecipe to Discontinue the claims between Tomko and DGS in Docket 3646. (B.O.C. Docket 3646).

613. For the reasons cited in Paragraphs 608 to 612 above, Tomko's initial claim against DGS at Docket 3646 (and any claims DGS may have against PEC based on same) are no longer before the Board. (F.O.F. 608-612; Board Finding).

614. In the first-filed Tomko action at Docket 3493, DGS joined PEC as an additional defendant. (B.O.C. Docket 3943).

615. On June 3, 2008, during a break in the hearing, the parties traveled to Pittsburgh and took the trial deposition of Clyde Rombach, Jr. (the "Rombach Deposition"). Mr. Rombach was the vice president at Tomko during the Project and was knowledgeable about Tomko's work on the Project. John Mox was Tomko's project manager for the SCI Fayette Project. Mr. Mox did not testify. (Ex. 1004 pp. 5-155).

616. In the hearing on June 16, 2008, the Board admitted the Rombach Deposition into evidence without objection. The official copy of the deposition was not yet available on that date and had not been signed. Counsel for DGS stated on the record that the deposition would be filed with the Board "as soon as it is final." (N.T. 5685).

617. On June 19, 2008, at the conclusion of the hearing, DGS counsel again indicated that the deposition was not yet ready to be filed with the Board. DGS then moved for the admission of the exhibits to the deposition and counsel for plaintiff objected, stating he had recorded his objections to the exhibits contemporaneously in the deposition record. The Board

stated on the record that when it received the full transcript of the deposition with exhibits and reviewed same, the Board would rule on evidence admissibility issues. (N.T. 6434-6441).

618. On July 17, 2008, Mr. Rombach signed the deposition. (Ex. 1004 p. 159).

619. On November 6, 2008, four months later, DGS filed the Rombach Deposition with the Board. However, DGS filed it without any exhibits. (Ex. 1004; Board Finding).

620. Because no deposition exhibits were filed with the Board, we are unable to utilize exhibits used in the Rombach Deposition except for Exhibit 499E and Exhibit 254 which were previously presented and admitted at the hearing through other witnesses. (N.T. 6327; Exs. 1004, 499E, 254; F.O.F. 615-619; Board Finding).

621. In his testimony about the basis of Tomko's claim in Docket 3493, Mr. Rombach stated that Tomko incurred extra expenses for: rental and delivery of sea cans to store its showers and fixtures on site; labor and equipment costs to move the showers from the storage units to the Housing Units; and extra expenses to store additional shower units and water heaters in Tomko's warehouse and move same to the job site when the building were ready. (Ex. 1004 including pp. 12-27).

622. Mr. Rombach stated that Tomko incurred expenses for these items because PEC had not finished the concrete slabs (floors) in the Housing Units as required by its schedule, thereby delaying Tomko's installation of the showers and heaters that already had been delivered. This situation required Tomko to pay for storage containers and warehousing in order to protect its materials and for double handling of these items. (Ex. 1004 including pp. 9-17, 25-28, 31-39).

623. Tomko claims damages of $36,393.90 (in original Docket 3493 and the present case) for storage and handling of plumbing equipment, including showers, heaters and shower cabinets. However, there is no documentation of any kind (including no change order requests, no invoices, no wage records, and no record of actual hours spent or other customary documentation) to support either the reasonableness or the actual amount of this claim. Although Mr. Rombach testified credibly as to the causes of Tomko's delay and the need for extra storage and handling, his testimony as to the actual dollar amounts incurred seemed, for the most part, to come from reading documents before him with which he did not demonstrate a significant degree of familiarity. As a result, we find that there is not sufficient evidence to support or determine with reasonable certainty the amount of Tomko's damages for this claim. (Ex. 1004; F.O.F. 619-622; Board Finding).

624. On June 18, 2008, Tomko filed a Praecipe to Discontinue the action in Docket 3493 as between Tomko and DGS only. On July 2, 2008, the Board entered an Order dismissing with prejudice the claims between Tomko and DGS only, not any claims between the parties and PEC. (B.O.C. Docket 3493).

625. Mr. Rombach was unable to provide testimony as to any details of any settlement agreement between Tomko and DGS. When asked on June 18, 2008, if a settlement amount of

$36,363 was paid by DGS to Tomko, Ms. O'Reilly, DGS counsel, responded that DGS has paid Tomko "in excess of a million dollars." No other testimony or documentation of this or any other settlement or settlement amount paid by DGS to Tomko is in evidence. (N.T. 6130, 6132, Ex. 1004 p. 143-144; Board Finding).

626. Since there is no Tomko claim filed in this litigation for such a large amount as referenced by Ms. O'Reilly, we must conclude that this "million dollar" settlement mentioned by Ms. O'Reilly was a settlement between the parties that must have included claims in cases other than the one currently before the Board. (F.O.F. 607-613, 623-625; Board Finding).

627. Because we have not been presented with the settlement agreement entered into between DGS and Tomko regarding Tomko's original claim at Docket 3493; because we have not been provided with any credible evidence as to the form or details of the settlement between DGS and Tomko; and because it does not appear that such settlement was limited to the claim here before the Board (as were all other settlements entered into by the Settling Contractors), the Board must conclude that it does not have sufficient evidence to reasonably infer that the settlement between DGS and Tomko alluded to by Ms. O'Reilly contained an assignment of litigation rights or proceeds from Tomko to DGS respecting the case at hand. (Ex. 1004 pp. 96, 413-146; F.O.F. 624-626; Board Finding).

Summary of Settling Contractors' Delay-Related Damages Recoverable by DGS from PEC

628. The total amount of delay-related damages incurred by the Settling Contractors caused by PECs' failure to provide sufficient manpower and coordination to complete its foundation and slab on grade work under the ST2.1 Contract in a timely manner is itemized as follows:

New Enterprise	$ 185,199
Merit	$ 58,183
Farfield	$405,694
Simplex Grinnell	$ 69,025
Harris	$165,708
Amthor	$ 62,545
Limbach	$333,452
Tomko	-0-
TOTAL	$1,279,806

(F.O.F. 428-627; Board Finding).

DGS Claim for Recovery of Professional and Accounting Fees

629. DGS claims additional costs from PEC in connection with its termination of PEC including $55,985.00 for reimbursement of fees paid by P.J. Dick to McCrory & McDowell and $34,430.00 that DGS paid to P.J. Dick for reviewing and investigating amounts owed by PEC. (DGS Proposed F.O.F. 509, 512; Ex. 500A).

630. After DGS terminated PEC pursuant to Paragraph 14.1 of the General Conditions, DGS authorized P.J. Dick to hire McCrory & McDowell to audit and review PEC's cost records, books and invoices to determine and report to DGS the amounts PEC still owed its workers, subcontractors and suppliers after July 27, 2001. (N.T. 3740-3742, 6187-6190).

631. After the McCrory & McDowell personnel completed their audit work, they submitted invoices for $55,985.00 for their services to P.J. Dick and DGS authorized P.J. Dick to pay those invoices. Thereafter, DGS reimbursed P.J. Dick for this amount. (N.T. 3740-3745; 6195-6196; Exs. 500A, 500B).

632. DGS also claims that it paid P.J. Dick $34,430.00 "for the cost incurred in reviewing and investigating PEC's documents in order to determine what amount of money was payable to the contractor subject to monies owed to vendors and suppliers." (DGS Proposed F.O.F. 511; N.T. 3747).

633. DGS's audit of PEC's books and records was conducted pursuant to the termination procedures spelled out in Paragraphs 14.2 of the General Conditions of both contracts which state:

> …
> Upon termination of this Contract, as provided by this paragraph, full and complete adjustment and payment of all amounts due the Contractor arising out of this Contract, as determined by an audit conducted by or for the Department, as soon as practicable after the termination as follows:
> …
> G. The Department or its representative shall be afforded full access to all books, correspondence, data and papers of the Contractor relating to this Contract in order to determine the amount due. (Emphasis added.)

(Ex. 431; Board Finding).

634. No where in Paragraph 14.2 or elsewhere in the General Conditions do the contracts state that it was PEC's responsibility to pay for this "audit conducted by or for the Department." (Ex. 431; F.O.F. 633; Board Finding).

635. Because PEC was terminated pursuant to the no-fault provision of Paragraphs 14.1 and 14.2 of the contracts, and those provisions of the contracts do not provide for any reimbursement to DGS for any audit related fees or expenses paid to McCrory & McDowell or to P.J. Dick, the Board finds no contractual provision to be used as the basis for payment to DGS of these amounts. (F.O.F. 630-634; Board Finding).

636. DGS originally made an additional damage claim for $1,000 paid to L. Robert Kimball, but there is no mention of this claim in DGS's post-trial brief and we find no contractual provision to be used as a basis for such reimbursement. (DGS Answer, New Matter and Counterclaim ¶ 152; DGS Proposed F.O.F. 819; F.O.F. 630-635; Board Finding).

PEC Claims for Penalties and Attorneys Fees Due To DGS's Bad Faith

637. PEC claims it is entitled to attorneys' fees, penalty and interest under Chapter 39 of the Procurement Code, 62 Pa. C.S.A. Sections 3901-3942 because DGS withheld payments to PEC at the end of the Project until the present time. (PEC Reply Brief pp. 9-10).

638. Because we have found that PEC failed to perform several of its contractual duties on the Project and has been determined to be liable for several of DGS's counterclaims, we find that DGS's withholding of payments on the Project was not arbitrary, capricious, or done in bad faith. (F.O.F. 316, 358, 370-372, 391, 428-434, 628, 649-650; Board Finding).

DGS Claims for Set-Offs Against PEC

639. DGS claims four set-offs against PEC:

A. $273,208.12 owed by PEC and PNG to the Pennsylvania Department of Labor & Industry for underpayment of prevailing wage rates and fringe benefits (Exs. 492, 492A);
B. $29,157.89 owed by PEC to the Pennsylvania Department of Revenue (Ex. 493);
C. $8,189.10 owed by PNG to the Pennsylvania Department of Revenue (Ex. 493); and
D. $317,391.83 owed by PEC to the Internal Revenue Service.

(DGS Proposed F.O.F. 479).

640. Shortly after PEC's termination from the Project, the Pennsylvania Department of Revenue notified DGS that PEC and PNG owed state taxes. (N.T. 6146-6149; Ex. 493).

641. Paragraph 6.14 of the General Conditions of both contracts states, in relevant part, as follows:

> Offset of Amounts Due to Commonwealth. The Contractor, by execution of the Contract certifies that it has no outstanding tax liability to Pennsylvania; authorizes the Department of Revenue to release information related to its tax liability to the Department of General Services; and, authorizes the Commonwealth to set-off any State and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount due to the Commonwealth from the Contractor, not being contested on appeal by the Contractor, against any payment due to the Contractor under a contract with the Commonwealth.

(Ex. 431 ¶ 6.14).

642. Under Paragraph 6.14 of the General Conditions, DGS is authorized to offset the amount of any current Pennsylvania tax liability owed to the Commonwealth by PEC (or any of its subsidiaries) from any award made by the Board to PEC. (F.O.F. 641; Board Finding).

643. As to DGS's claim for a $273,208.12 offset for amounts due to the Department of Labor & Industry pursuant to Pennsylvania's Prevailing Wage Act (43 P.S. Sections 165-1 through 165-17), we have already made an award to DGS for a portion ($225,413.36) of this amount when we credited DGS for amounts it actually paid to PEC's subcontractors, suppliers and labor providers, including $41,123.43 to the Carpenter's Union, $120,202.78 to the Laborers Combined Funds, $40,199.32 to the Cement Masons Union, and $23,887.83 to the carpenters, cement masons and laborers themselves. (Ex. 489, Ex. B, Ex. 1000; F.O.F. 376, 380, 381, 612; Board Finding).

644. The remaining amount of the offset claim due to the Department of Labor & Industry is $46,324.20, which Mr. Rollage's audit report indicates is due from PNG, not PEC, for the Project's operating engineers and their union. (Ex. 489, Ex. B).

645. DGS cites no authority in the ST2.1 or ST4.1 Contracts or any Commonwealth statute authorizing the Board to set-off any amount owed by PNG against any Board award to PEC because the unpaid amounts are owed by a different corporate entity. (F.O.F. 19, 20; Board Finding).

646. DGS received a notice of levy dated September 24, 2001 from the Internal Revenue Service stating that PEC owes $317,319.83 in federal taxes. (N.T. 6157; Ex. 494).

647. Neither Paragraph 6.14 nor any other provision of the General Conditions to the contracts provides for a set-off for federal taxes owed by PEC from any award by the Board, and DGS has cited no statutory basis for such a set-off. (Ex. 431; Board Finding).

648. Because the net result of the various claims made by the parties, and awards on same made by the Board, results in a net payment due from PEC to DGS, not vice versa, we find no factual basis to award a set-off for Pennsylvania taxes owed by PEC. (F.O.F. 639-647, 649-650; Board Finding).

Summary of Awards

649. The Board finds that the net effect of its awards to the parties on the various claims made in this case results in a net principal amount of $93,005 due to DGS from PEC. This amount is calculated as follows: $2,158,545 to PEC pursuant to its claims and $2,251,550 ($87,852 + $44,551 + $839,341 + $1,279,806) to DGS pursuant to its counterclaims. (F.O.F. 314, 358, 391, 627; Board Finding).

650. The time elapsed from October 12, 2001 (the date PEC's original claim was filed with DGS's contracting officer) to the date of this Order totals 10 years. Six percent per annum equates to an interest rate factor of 60%. Accordingly, prejudgment interest on the $93,005 principal amount awarded to DGS is $55,803 and the total award to DGS amounts to $148,808, plus post-judgment interest at 6% per annum until paid. (F.O.F. 95, 648; Board Finding).

CONCLUSIONS OF LAW

Jurisdiction

1. The Board has subject matter jurisdiction over all of PEC's claims asserted in this consolidated matter based on alleged damages due to it under the ST2.1 and ST4.1 Contracts (including its claims for additional work beyond the scope of these contracts) and over DGS's counterclaims and crossclaims (including those for costs to complete the contract work, defective work, amounts paid for subcontractor work, materials, and labor costs, amounts paid to settle other contractor claims, and various set-offs), all arising from contracts for work on the SCI Fayette Project. Subject matter jurisdiction obtains here because the Board is competent to hear such claims arising from contracts with a Commonwealth agency or claims sounding in contract brought by the Commonwealth, which are the general class and type of claims presented in this matter. 62 Pa. C.S. § 1724; DGS v. Limbach Company, et al., 862 A.2d 713, 716-720 (Pa. Cmwlth. 2004) aff'd per curiam 895 A.2d 527 (Pa. 2006); Employers Ins. of Wausau v. PennDOT, 865 A.2d 825, 833-834 (Pa. 2005); In re Melograne, 812 A.2d 1164, 1166-1167 (Pa. 2002); Dep't of Pub. Welfare v. UEC, Inc., 397 A.2d 779, 784-785 (Pa. 1979); Dep't of Health v. Data-Quest, Inc., 972 A.2d 74 (Pa. Cmwlth. 2009).

2. The Board has personal jurisdiction over the remaining parties in this consolidated action for claims arising from the ST2.1 Contract as there were no allegations made, or evidence provided, that PEC failed to exhaust administrative remedies, failed to file its claims timely or that either party otherwise failed to comply with 62 Pa.C.S. §1712.1 or §1724. 62 Pa. C.S. §§ 1712.1 and 1724; DGS v. Limbach Company, et al., 862 A.2d at 716-720; Employers Ins. of Wausau v. PennDOT, 865 A.2d at 833-834; In re Melograne, 812 A.2d at 1166-1167; Dep't of Pub. Welfare v. UEC, Inc., 397 A.2d at 784-785.

3. DGS filed a Motion for Directed Verdict challenging the Board's in personam jurisdiction to hear any claim arising from the ST4.1 Contract based on the allegation that PEC's filing of this claim with the Board was untimely. The Board issued an Opinion and Order on February 13, 2001 denying that motion and concluding that the Board has jurisdiction relating to all contract claims relating to the ST4.1 Contract. DGS Motion for Directed Verdict filed Oct. 8, 2008; BOC Opinion and Order entered Feb. 13, 2009, Docket No. 3464.

4. Conclusions of Law, Paragraphs 1 through 36, of the Board of Claims Opinion and Order dated February 13, 2009, disposing of DGS's motion for a directed verdict are hereby incorporated herein as if fully set forth and adopted as conclusions of law in this Opinion and Order. Opinion and Order dated Feb. 13, 2009, BOC Docket No. 3464.

5. The question of whether the Board has the authority to hear PEC's claim on the ST4.1 Contract because of an alleged failure to comply with the statutorily prescribed periods of limitations is one of personal jurisdiction. In re Melograne, 812 A.2d at 1166-1167; Dep't of Pub. Welfare v. UEC, Inc., 397 A.2d at 784-785.

6. Objections to jurisdiction over the person due to a failure to comply with statutorily prescribed periods of limitations can, in some circumstances, be waived or estopped

on equitable grounds by actions of the parties. In re Melograne, 812 A.2d at 1166-1167; Dep't of Pub. Welfare v. UEC, Inc., 397 A.2d at 784-785.

7. Whether the Board may exercise in personam jurisdiction over DGS for all or any part of PEC's claims here arising from the ST4.1 Contract depends on whether or not PEC submitted these claims to the Board in a timely manner or whether DGS is somehow estopped from asserting this defense. Dep't of Pub. Welfare v. UEC, Inc., 397 A.2d at 784-785.

8. Equitable estoppel is a doctrine of fundamental fairness which prevents one party from doing an act differently from the manner in which the other was induced by word or deed of the first party to expect. This doctrine of equitable estoppel may be applied to a governmental agency such as the Commonwealth. See e.g. Department of Commerce v. Casey, 624 A.2d 247, 254-55 (Pa. Cmwlth. 1993) citing, inter alia, Novelty Knitting Mills, Inc. v. Siskind, 457 A.2d 502 (Pa. 1983).

9. A defendant may be estopped from invoking the bar of limitation of action if the defendant has caused the plaintiff, through fraud or concealment, to relax his vigilance or deviate from his right of inquiry. Dep't of Pub. Welfare v. UEC, Inc., 397 A.2d at 784.

10. The "fraud or concealment" necessary to establish a case for application of estoppel principles to prevent defendant from asserting a statute of limitations does not mean fraud or concealment in "the strictest sense encompassing an intent to deceive, but rather fraud in the broadest sense which includes an unintentional deception…(citation omitted)." It is not the intention of the party estopped but the natural effect upon the other party which gives vitality to an estoppel. Id., citing Nesbitt v. Erie Coach Co., 204 A.2d 473, 476-77 (Pa. 1964); Storms ex rel. Storms v. O'Malley, 779 A.2d 548, 560 (Pa. Super. 2001).

11. The cases of Borkey v. Township of Centre and Price v. Chevrolet Motor Div. of GMC cited by DGS in its post-hearing brief do not alter our opinion. To begin with, neither Borkey nor Price addresses the issue of estoppel of a statute of limitations defense, nor do they overrule the long established equitable principles for estoppel of a statute of limitations defense as set forth in the line of cases based on Nesbitt v. Erie Coach Co., Dep't of Pub. Welfare v. UEC, Inc., and or Fine v. Checcio. Fine v. Checcio, 870 A.2d 850, 859 (Pa. 2005); Molineux v. Reed, 532 A.2d 792, 794 (Pa. 1987); Dep't of Pub. Welfare v. UEC, Inc., 397 A.2d at 784; Nesbitt v. Erie Coach Co., 204 A.2d at 475; Simmons v. Snider, 645 A.2d 400, 405 (Pa. Cmwlth. 1994) cf. Borkey v.Township of Centre, 847 A.2d 807 (Pa. Cmwlth. 2004); Price v. Chevrolet Motor Div. of GMC, 765 A.2d 800 (Pa. Super. 2000).

12. The Price case does use the term "culpable negligence" as a basis for invoking equitable estoppel and also indicates that, when circumstances put a plaintiff on notice of a potential misrepresentation by defendant, the plaintiff may be required to make further inquiry into same before relying on the misrepresentation and that there can be no equitable estoppel where the complainant's act is the result of his own will or judgment rather than the product of what the defendant did or represented. However, the Price court found that the plaintiff there had met her burden of showing the factual requisites for asserting the doctrine of equitable estoppel; was justified in relying on the negligent representations of the other parties; and did not

find any failure on the part of the plaintiff to make further inquiry after the misrepresentations were made. This holding in Price was based on facts far less compelling than here where DGS flatly misrepresented the date it received PEC's claim on the ST4.1 Contract (and thus the date the limitations period for filing its claim with the Board began to run). Price, 765 A.2d at 807-809.

13. The holding in Borkey is readily distinguishable from the case here at hand. In Borkey the Court found, as have other courts before it, that equitable estoppel could not be applied so as to allow a misrepresentation or error in interpreting a law, statute or regulation by a government employee to bind the government agency or modify said law. In the case at hand, it is a misrepresentation of fact (i.e. the date of DGS's receipt of PEC's ST4.1 Contract claim) not law which forms the basis of estoppel. Borkey, 847 A.2d at 809-813 cf. Price, 765 A.2d at 807-808; Dep't of Pub. Welfare v. UEC, Inc., 397 A.2d at 784-785.

14. In a case where the parties disputed the meaning of a letter sent by the Commonwealth which led a corporation to believe a settlement had been approved, the court found the factual requisites of equitable estoppel were met and estopped the Commonwealth from denying the validity of the settlement because nothing in the letter gave rise to any suspicion that the corporation's interpretation of the letter was inaccurate. Dep't of Revenue v. King Crown Corp., 415 A.2d 927, 930 (Pa. Cmwlth. 1980).

15. Because the Board has found, inter alia, that:

(a) PEC mailed its claim based on the ST4.1 Contract to DGS on October 18, 2001;
(b) this claim was actually received by DGS on October 22, 2001;
(c) two days later, DGS sent PEC a letter dated October 24, 2001 that stated "[r]eceipt is acknowledged…" of the PEC claim;
(d) this October 24, 2001 DGS letter failed to note that the claim was actually received by DGS two days earlier but instead had the natural and logical effect of indicating that DGS received the claim on October 24, 2001;
(e) the representations and actions of DGS in issuing the October 24, 2001 letter had the natural and logical effect of causing PEC to consider October 24, 2011 as the start of the applicable statute of limitations;
(f) PEC did not know the actual receipt date of the claim was October 22, 2001 and reasonably relied upon the October 24, 2001 date of the DGS acknowledgement letter to compute its 150 day period in which to file its claim with the Board;
(g) no other fact was present that gave PEC reason to question or inquire further about the date of receipt;
(h) the representations and actions of DGS in its issuance of the October 24, 2001 letter (in the form it did) was culpable negligence and/or constituted fraud or concealment as set forth in Price Chevrolet and/or Dep't of Pub. Welfare v. UEC; and
(i) PEC filed its claim arising from the ST4.1 Contract with the Board within 150 days from October 24, 2001 (as calculated pursuant to statute and the Pennsylvania Rules of Civil Procedure) as prescribed by 62 Pa.C.S. §1712 (1998), the administrative filing procedure then in effect; and

(j) PEC established the foregoing factual elements of estoppel in this case with credible, clear and convincing evidence,

the Board concludes that DGS is equitably estopped from asserting that the applicable statute of limitations period for filing with the Board began to run from any date other than October 24, 2001 and/or from using such statute of limitations as a defense to PEC's claims regarding the ST4.1 Contract. Fine v. Checcio, 870 A.2d at 859; Molineux v. Reed, 532 A.2d at 794; Dep't of Pub Welfare v. UEC, Inc., 397 A.2d at 784; Nesbitt v. Erie Coach Co., 204 A.2d at 475; Simmons v. Snider, 645 A.2d at 405; Dep't of Revenue v. King Crown Corp., 415 A.2d at 930.

16. Additionally, a separate line of Pennsylvania appellate court cases stands for the principle that, where a specific event triggers the commencement of a statute of limitations period, and the Commonwealth agency is the only party with knowledge of when this trigger event occurs, the Commonwealth agency has the duty to accurately inform the other party of the correct date of the triggering event in order to successfully commence the running of the limitations period and/or invoke the statute of limitations as a defense to the action. Accordingly, where, as here, the Commonwealth agency (DGS) has failed to accurately disclose to PEC the date of the event triggering the period PEC had to file its ST4.1 Contract claim with the Board, we conclude that DGS may not properly assert that the filing period has run nor invoke same as a defense to these claims. See, e.g. Schmidt v. Commonwealth, 433 A.2d 456, 457-458 (Pa. 1981); In re Appeal of the Borough of West View, 501 A.2d 706, 707-708 (Pa. Cmwlth. 1985).

17. Based on the foregoing legal principles and the circumstances of this case, we conclude that the Board has in personam as well as subject-matter jurisdiction over PEC's ST4.1 Contract claims as well as any DGS counterclaims or crossclaims filed in connection therewith. C.O.L. 1 to 16.

PEC's Termination Claim

18. The fundamental rule in interpreting the meaning of a contract is to ascertain and give effect to the intent of the contracting parties. Where the contract is free from ambiguity, the parties' intent is to be determined from the express language of the contract. Chester Upland School District v. Edward J. Meloney, Inc., 901 A.2d 1055, 1059 (Pa. Super. 2006).

19. When interpreting a contract, the trial court must determine the intention of the parties. Where an ambiguity exists, the courts are free to construe the terms against the drafter and to consider extrinsic evidence in so doing. Molag, Inc. v. Climax Molybdenum Co., 637 A.2d 322, 323 (Pa. Super. 1994), citing Raiken v. Mellon, 582 A.2d 11 (Pa. Super. 1990).

20. A written instrument is ambiguous if it is reasonably or fairly susceptible of more than one construction. When a contract is ambiguous, it is undisputed that the rule of contra proferentem requires the language to be construed against the drafter and in favor of the other party if the latter's interpretation is reasonable. Com., State Public School Building Authority v. Noble C. Quandel Co., 585 A.2d 1136, 1144 (Pa. Cmwlth. 1991); See also Dep't of Transp. v. Semanderes, 531 A.2d 815, 818 (Pa. Cmwlth. 1987).

21. Under the basic principles of contract interpretation, the entire contract should be read as a whole and in a manner to give effect to all its provisions. See, e.g., Harrity v. Continental-Equitable Title & Trust Co., 124 A. 493, 494-495 (Pa. 1924); Pritchard v. Wick, 178 A.2d 725, 727 (Pa. 1962); Capitol Bus Co. v. Blue Bird Coach Lines, Inc., 478 F.2d 556, 560 (3d Cir. 1973).

22. Paragraph 14.1 of the General Conditions of the ST2.1 Contract and the ST4.1 Contract (hereinafter referred to collectively as the "Contracts") between PEC and DGS, drafted by DGS, provides that DGS may terminate the Contracts "…at any time and for any reason. . . ." It states as follows:

> Termination by the Department. The Department may, at any time and for any reason, terminate this Contract. In such case, the Contractor shall be paid (and shall accept payment) for that portion of the entire Contract actually performed satisfactorily to the date of termination, excluding, however, any loss of anticipated profits. Disputes as to the sum payable to the Contractor shall be settled in accordance with the Provisions of Article 15 of these General Conditions of the Contract.

Ex. 431 ¶ 14.1.

23. Paragraph 14.2 of the General Conditions of the Contracts explicitly refers back to Paragraph 14.1 and provides further detail and direction as to how the payment calculation referred to in Paragraph 14.1 is to be performed. It states, in relevant part, as follows:

> Effect of Termination by Department. Such termination shall be effective in the manner and at the time specified in such notice and shall be without prejudice to any claims which the Department may have against the Contractor. Upon receipt of such notice from the Department or the Construction Manager, the Contractor Manager shall immediately discontinue all Work and the placing of orders for material and equipment, facilities and supplies in connection with the performance of this Contract. The Contractor shall promptly cancel all existing orders and terminate Work under all subcontracts so far as such orders and Work are chargeable to this Contract. The Contractor shall take such measures for the protection of property of the Department and the Using Agency, as may be directed by the Department or the Construction Manager. Upon termination of this Contract, as provided by this paragraph, full and complete adjustment and payment of all amounts due the Contractor arising out of the Contract as determined by an audit conducted by and for the Department, as soon as practicable after termination shall be made as follows:
>
> A. The Department shall reimburse the Contractor for all costs incurred to the date of termination, including reasonable overhead and expense for plant, made in the performance of the Contract, less amounts previously paid.
> B. The Department shall also reimburse the Contractor for all costs to which the Contractor has been subjected or is legally liable for by reason of the termination of this Contract, including reasonable costs related to cancellation of orders, termination of subcontractors, etc.

C. The Department shall also reimburse the Contractor for the reasonable cost of providing protection of the property of the Department as directed by the notice of termination.
D. The sum total of the payments made under this paragraph shall not exceed the total amount of the contract, less payments previously made.
…
G. The Department or its representative shall be afforded full access to all books, correspondence, data and papers of the Contractor relating to this Contract in order to determine the amount due.

Ex. 431 ¶14.2.

24. Paragraph 14.3 of the General Conditions of the Contracts gives DGS the right to terminate a contractor for default and prescribes what procedures must be followed in order for DGS to do so. It provides, in relevant part, as follows:

> Contractor's Default. If the Contractor persistently or repeatedly refuses to or fails to supply enough properly skilled workmen…, or fails to proceed as directed by the Department, or performs the work unsuitably,…or otherwise is guilty of a substantial violation of the provision of the Contract Documents, then the Department may, without prejudice to any of its other rights or remedies, give the Contractor and its surety written notice that the Contractor has seven (7) days from the date of the Department's notice to cure the default set forth in the notice. Should the Contractor fail to cure said default within the specified time, the Department may terminate the Contract between the Department and the Contractor and may take possession of the site and of al materials, equipment, tools, construction equipment and machinery, which is owned by the Contractor, located on the property and may finish the Work by whatever method it may deem expedient. In such a case, the Contractor is not entitled to receive any further payment until the Work is finished at which time the Contractor shall be paid any excess remaining in accordance with Paragraph 14.4 below. The discretion to declare the Contractor in default is solely the Department's. . . .

Ex. 431 ¶ 14.3.

25. Paragraph 14.4 of the General Conditions of the Contracts between PEC and DGS provides:

> Unpaid Balance. If the unpaid balance of the Contract sum exceeds the cost of finishing the Work, including compensation for the Construction Manager's and Professional's additional services and any other damages which the Department has incurred in accordance with the Contract, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor or the surety or both shall pay the difference to the Department.

Ex. 431 ¶ 14.4.

26. Pursuant to the plain terms of the Contracts, as drafted by DGS, a contractor terminated under Paragraph 14.1 of the General Conditions of the Contracts is to receive payment as set forth in Paragraphs 14.1 and 14.2, while a contractor terminated under Paragraph 14.3 is to receive payment as set forth in Paragraphs 14.3 and 14.4. Ex. 431 ¶¶ 14.1, 14.2, 14.3, 14.4.

27. In order to determine whether PEC's termination was done pursuant to Paragraph 14.1 of the Contracts' General Conditions or pursuant to the default provisions of Paragraph 14.3, the Board will look to the language of the termination letters. See Line Construction Co. v. U.S., 109 Ct. Cl. 154, 187-192 (U.S. Ct. Cl. 1947); Hoff Supply Co. v. Allen-Bradley Co., Inc., 768 F. Supp. 132, 133-135 (U.S.D. Md. 1991) (applying Pa. law and citing, inter alia, Amoco Oil Company v. Burns, 437 A.2d 381 (Pa. 1981)).

28. Because the termination letters sent by DGS to PEC on July 27, 2001 explicitly stated that the terminations of PEC's Contracts were made pursuant to Paragraph 14.1, and because DGS did not declare PEC in default and/or initiate the default procedures that were provided for under Paragraph 14.3 in June or July 2001 when PEC was terminated, the Board concludes that PEC was terminated pursuant to Paragraph 14.1 not Paragraph 14.3. Line Construction v. U.S., 109 Ct. Cl. at 187-192; Hoff Supply, 768 F. Supp. at 133-135, See also Shaw v. New Amsterdam Casualty Co., 164 A. 916, 917-918 (Pa. 1932) (affirming requirement to follow clear contractual notice provisions to attain default); Exs. 64, 308, 431 ¶¶ 14.1 and 14.2, 432.

29. Because DGS terminated PEC from both the ST2.1 and ST4.1 Contracts under Paragraph 14.1, DGS is liable to PEC for termination payments on both Contracts determined under Paragraphs 14.1 and 14.2. Ex. 64, 308, 431 ¶¶ 14.1 and 14.2; C.O.L. 17-28.

30. The termination payments due to PEC under Paragraphs 14.1 and 14.2 of both Contracts explicitly exclude any recovery of anticipated lost profits. Ex. 431 ¶¶ 14.1 and 14.2.

31. Contrary to PEC's assertion that the case of John B. Conomos, Inc. v. Sun Company, Inc. supports its claim for an award of profit on work completed here under the Contracts, the Board finds the Conomos case to be inapposite. In Conomos, the language of that contract precluded payment of anticipated profits in one sentence, then explicitly provided for the contractor to be paid "any earned profit" on work done. Here, the Contracts specifically provide that anticipated profits are not recoverable as part of the termination payment under Paragraph 14.1 and do not contain any additional language for payment of earned profit as did the contract in the Conomos case. John B. Conomos, Inc. v. Sun Company, Inc., 831 A.2d 696, 704-705 (Pa. Super. 2003); Ex. 431 ¶ 14.1.

32. The ST2.1 and ST4.1 Contracts provide no basis for multiple markups on PEC's direct costs as termination payments under Paragraphs 14.1 and 14.2. Ex. 431 ¶¶ 14.1 and 14.2.

33. For its termination payment under Paragraph 14.1 and 14.2 of the General Conditions for both Contracts, PEC is entitled to reimbursement for all costs incurred to date of

termination, including reasonable overhead and expense for plant incurred in performance of its Contracts, less amounts previously paid. Ex. 431 Sub. ¶ 14.2(A); C.O.L. 22, 23.

34. Because PEC did not provide the Board with evidence of its actual markup for overhead and profit on either of its Contracts, and because we have found that 7.25% is a reasonable markup for overhead and expense for plant in this instance, we conclude that a 7.25% markup for overhead and plant expense is authorized by Paragraphs 14.1 and 14.2. Manshul Construction Corp. v. Dormitory Authority of the State of New York, 436 N.Y.S.2d 724, 730-731 (1981); 1981 N.Y. App. Div. LEXIS 9718; Ex. 431 ¶¶ 14.1 and 14.2; C.O.L. 32, 33.

35. Sub-paragraph 14.2(B) of the General Conditions of both Contracts also provides that upon termination of each Contract "[t]he Department shall reimburse the Contractor for all costs to which the Contractor has been subjected or is legally liable for by reason of the termination of this Contract…." Sub-paragraph 14.2(C) of the General Conditions also provides that the Department shall reimburse the Contractor for the reasonable cost of providing protection for the property of the Department. Accordingly, we conclude that DGS is liable to PEC for post termination expenses it incurred totaling $33,944 itemized as follows for: protection of rebar ($6,355), demobilization expenses ($15,944) and additional rental expense for equipment ($11,199). Ex. 431 ¶ 14.2.

36. Because the Board has found in calculating PEC's termination payment damages recoverable under Paragraphs 14.1 and 14.2 of the General Conditions to the Contracts that, as matters of fact;

> (a) PEC has established its direct costs of work under both the ST2.1 and ST4.1 Contracts up to the time of its termination with reasonable certainty to be $4,979,462;
> (b) provisions of the Contracts state that PEC's termination payments specifically exclude recovery of anticipated lost profits;
> (c) PEC has no basis for inclusion of multiple markups for overhead and profit, but is entitled to a reasonable markup for overhead and expense for plant of $361,011 based on a 7.25% markup;
> (d) PEC incurred additional costs of $33,498 by reason of allowable expenses for post-termination costs and protection of property; and
> (e) PEC was previously paid the amount of $3,242,224 for its ST2.1 and ST4.1 Contract work (combined) which must be subtracted from PEC's termination payment,

the Board therefore concludes that DGS is liable to PEC for a total Termination Payment for both Contracts combined pursuant to Paragraphs 14.1 and 14.2 in the amount of $2,131,747. Ex. 431 ¶¶ 14.1 and 14.2; C.O.L. 18-36.

PEC's Extra Work Claims

37. To be entitled to compensation for extra work, a contractor must demonstrate that this work was performed, that it was requested by the owner and that it was not required by the terms of the contract as agreed to by the parties. A.G. Cullen Constr. Inc., 898 A.2d 1145, 1171 (Pa. Cmwlth. 2006) citing Dep't of Transp. v. Gramar Constr. Co., 454 A.2d 1205, 1207 (Pa.

Cmwlth. 1983); Dep't of Transp. v. Paoli Construction Co., 386 A.2d 173, 175 (Pa. Cmwlth. 1978).

38. Pennsylvania courts have required payment for extra work done at the behest of the owner even where there is no written change order that covers the work in question. Universal Builders, Inc. v. Moon Motor Lodge, Inc., 244 A.2d 10, 15 (Pa. 1968); James Corp. v. N. Allegheny Sch. Dist., 938 A.2d 474, 487 (Pa. Cmwlth. 2007); A.G. Cullen Constr. Inc., 898 A.2d at 1171.

39. A contractor must establish its damages for alleged extra work or breach of contract claim with reasonable certainty. A.G. Cullen Const. Inc., 898 A.2d at 1174; J.W.S. Delavau, Inc. v. Eastern America Transp. & Warehousing, 810 A.2d 672, 685 (Pa. Super. 2002).

40. The Uniform Business Records as Evidence Act, 42 Pa.C.S. Sec. 6108(b), provides:

> A record of an act condition or event shall, insofar as relevant, be competent evidence if the custodian or other qualified witness testifies to its identity and the mode of its preparation, and if it was made in the regular course of business at or near the time of the act, condition or event, and if, in the opinion of the tribunal, the sources of information, method and time of preparation were such as to justify its admission.

42 Pa. C.S. § 6108(b).

41. Under the business records exception to the hearsay rule, documents are admissible as competent evidence when shown, in the opinion of the tribunal, that they were made in the ordinary course of business at or near the time of the act or event and are identified by a qualified witness regarding their identity and their mode of preparation. 42 Pa. C.S. § 6108(b); Virgo v. W.C.A.B. (County of Lehigh-Cedarbrook), 890 A.2d 13, 17-18 (Pa. Cmwlth. 2005).

42. Rule 803(6) of the Pennsylvania Rules of Evidence provides that the following documents described under this rule are not excluded from evidence by the hearsay rule:

> A memorandum, report, record, or data compilation, in any form, of acts, events, or conditions, made at or near the time by, or from information transmitted by, a person with knowledge, if kept in the course of a regularly conducted business activity, and if it was the regular practice of that business activity to make the memorandum, report, record, or data compilation, all as shown by the testimony of the custodian or other qualified witness…

Pa. R. E. 803(6).

43. Rule 1006 of the Pennsylvania Rules of Evidence provides that a court may admit into evidence summaries of voluminous writings or records "…which cannot be conveniently

examined in court…" as long as the originals or underlying documents have been made available for inspection and/or copying to the other party. Pa. R. E. Rule 1006.

44. As the finder of fact, the Board determines the credibility of witnesses and resolves conflicts in the evidence. It may believe all, or part, or none of the testimony of any witness. A.G. Cullen Const. Co, Inc., 898 A.2d 1155; Com. v. Holtzapfel, 895 A.2d 1284, 1249 (Pa. Cmwlth. 2006); Miller v. C.P. Centers, Inc., 483 A.2d 912 (Pa. Super. 1984).

45. Because PEC failed to show by sufficient credible evidence that P.J. Dick's failure to issue a master project schedule compliant with Paragraphs 8.3 and 8.7 of the General Conditions before March 2001 had any material adverse effect on PEC's work or productivity (and therefore did not create any additional or extra work for PEC), the Board concludes that DGS is not liable to PEC on its claim for extra work outside the scope of the ST2.1 or the ST4.1 Contracts based upon the lack of a timely master project schedule. C.O.L. 22, 23, 26, 29, 37-47.

46. Because the Board has found that providing and installing stone base under the slabs on grade in each building was included in the original ST2.1 Contract work (and therefore did not create any additional or extra work for PEC), the Board concludes that DGS is not liable to PEC on its claim for extra work outside the scope of the ST2.1 or the ST4.1 Contracts based upon its providing and installing this stone base. C.O.L. 37-44.

47. Because PEC failed to show by sufficient credible evidence that the change in concrete floor tolerance specifications from those in BP5 to those in BP6 had any material adverse effect on PEC's work or productivity (and therefore did not create any additional or extra work for PEC), the Board concludes that DGS is not liable to PEC on its claim for extra work outside the scope of the ST2.1 or the ST4.1 Contracts based upon the change in concrete floor tolerance specifications from those in BP5 to those in BP6. C.O.L. 37-44.

48. Because the termination award made by the Board to PEC under Paragraphs 14.1 and 14.2 of the Contracts' General Conditions includes reimbursement for PEC's actual costs and a reasonable markup for overhead for all of the work PEC performed on the Project prior to termination; and because the prohibition in Paragraphs 14.1 and 14.2 precludes an award of profits only for contract work; where PEC can and has provided sufficient evidence to 1) establish the work item was extra work outside the scope of the Contracts and 2) distinguish the actual cost of this extra work item from its original contract work with reasonable certainty, the Board concludes that PEC is entitled to an additional award representing a profit mark-up on the actual cost of such extra work. A.G. Cullen Constr. Inc., 898 A.2d at 1171 citing Dep't of Transp. v. Gramar Constr. Co., 454 A.2d at 1207; Universal Builders, Inc. v. Moon Motor Lodge, Inc., 244 A.2d at 15; Company Image Knitwear, Ltd. v. Mothers Work, Inc., 909 A.2d 324, 326 (Pa. Super. 2006); Ex. 431 ¶¶ 14.1 and 14.2; C.O.L.22, 23, 26, 30, 38-48.

49. Although the Board considers PEC's claims for extra cut/fill excavation, design changes for step footings, repair of disturbed subgrade, change in the size of equipment pads, steel tank design changes and claim for review of BP6 to entail extra work, because PEC failed to provide sufficient credible evidence of the actual costs that it incurred for each of these extra work categories or to distinguish such costs from its general cost of work performed prior to

termination (for which it has already received an award), the Board concludes that PEC is not entitled to any additional recovery of lost profit for any of these claimed categories of extra work. C.O.L. 48.

50. Because PEC did establish that it performed extra work with regard to the lack of adequate temporary access roads, extra grouting around the steel column base plates, and the extra Winter concrete work PEC it did on the Project, and also provided adequate evidence to identify with reasonable certainty the actual costs it incurred in performing these items of extra work so as to distinguish such costs from its general cost of original contract work performed prior to termination, the Board concludes that we may award an additional markup for profit on these items of extra work and that DGS has liability for the extra amounts. C.O.L. 48.

51. Because the Board has found that the total costs (direct costs plus 7.25% markup for overhead) PEC incurred performing three categories of extra work (providing temporary access roads, extra grouting and extra Winter concrete work) is $369,634 ($116,347 + $13,325 + $239,962), the Board concludes that PEC can recover an additional profit markup of 7.25% on this amount, or $26,798. C.O.L. 48-50.

52. We conclude that DGS is liable to PEC for $26,798 over and above its Termination Payment for profit on the extra work created by lack of adequate temporary access roads, extra grouting and extra Winter work. C.O.L. 48 to 51.

53. We further conclude that DGS is liable to PEC for a total payment of $2,158,545 (Termination Payment plus profit on extra work) for all of PEC's claims in this case before any adjustment is made for any DGS counterclaim, crossclaim and/or set-off. Ex. 431 ¶¶ 14.1 and 14.2; C.O.L. 18 to 51.

DGS Claims Against PEC

54. Paragraph 14.2 of the Contracts' General Conditions provides, inter alia, that even though DGS terminated PEC pursuant to Paragraph 14.1, "[s]uch termination . . . shall be without prejudice to any claims which the Department may have against the Contractor." Therefore, DGS's termination of PEC from the Project does not preclude DGS from asserting claims against PEC for damages or breach under the Contracts. Ex. 431 ¶ 14.2.

55. Under Pennsylvania law, in order to recover on a breach of contract claim, the plaintiff must prove by a preponderance of the evidence: (1) the existence of a valid and binding contract to which plaintiff and defendant were parties; (2) the essential terms of the contract; (3) that plaintiff compiled with the contract's terms; (4) that the defendant breached a duty imposed by the contract; and (5) that damages resulted from the breach. Technology Based Solutions, Inc. v. Electronics College, Inc, 168 F. Supp. 2d 375, 381 (2001); A.G. Cullen Constr. Inc., 898 A.2d at 1161.

56. Because we have found that DGS did not materially breach its Contracts with PEC prior to PEC's termination, DGS may pursue its contract claims against PEC. Id.; Exs. 429, 430, 431.

57. An injured party in a breach of contract action is entitled to recover damages (1) that would naturally and ordinarily result from the breach or (2) were reasonably foreseeable by the parties at the time they made the contract and (3) can be proved with reasonable certainly. Adams v. Speckman, 122 A.2d 685, 687 (Pa. 1956) (cited cases omitted and emphasis added); James Corp. v. N. Allegheny Sch. Dist., 938 A.2d at 497.

58. The measure of damages for breach of contract is that the aggrieved party should be placed as nearly as possible in the same position as it would have occupied had there been no breach. Dep't of Transp. v. Brozzetti, 684 A.2d 658, 665 (Pa. Cmwlth. 1996); PennDOT v. James D. Morrissey, Inc., 682 A.2d 9, 14 (Pa. Cmwlth. 1996); Oelschlegel v. Mutual Real Estate Investment Trust, 633 A.2d 181, 184 (Pa. Super. 1993).

59. Damages need not be determined with mathematical certainty, but only with reasonable certainty; and the evidence of damages may consist of probabilities and inferences. Sufficient facts must be introduced to allow a court to arrive at an intelligent estimate without conjecture. Spang & Co. v. U.S. Steel Corp., 545 A.2d 861, 866-867 (Pa. 1988); A.G. Cullen Constr. Inc., 898 A.2d at 1174; J.W.S. Delavau, Inc. v. Eastern America Transp. & Warehousing, 810 A.2d at 685-686.

60. However, damages are not recoverable if they are too speculative, vague or contingent to be ascertained with reasonable certainty. Spang, 545 A.2d at 866 (citing Restatement (Second) of Contracts, § 352); See also Scobell, Inc. v. Schade, 688 A.2d 715, 719-721 (Pa. Super. 1997).

PEC's Failure to Replace Surety Bonds

61. The Contracts between the parties required PEC to provide and maintain adequate surety bonds, so that, in the event PEC could not complete the contract work and/or could not pay its subcontractors, suppliers, or labor costs, the surety would meet these obligations. Ex. 429 pp. 5, 7-11; Ex. 430 pp. 5, 7-11; Ex. 431 ¶¶ 10.23, 17.5; Ex. 432 Vol. 1 ¶¶ A.9 and A.33.

62. Under the terms of both the ST2.1 and ST4.1 Contracts with DGS, PEC had the express duty to obtain and maintain adequate surety bonding for its work on the Project, and when PEC's surety bonds for the Project became ineffective in June or July 2001, DGS had the right and sole discretion to declare PEC in default of its Contracts pursuant to Paragraph 14.3 of the General Conditions. Exs. 429, 430, 431; C.O.L. 62.

63. When a contractor breaches a construction contract by nonperformance or defective performance, the measure of the owner's damages is typically the cost of correcting the defect or completing the work minus the unpaid portion of the contract price. Oelschlegel v. Mutual Real Estate Investment Trust, 633 A.2d at 184-185; In re Cornell & Company, Inc. v. Seaway Painting, Inc., 229 B.R. at 39-41; See Kann v. Bennett, 72 A. 342 (Pa. 1909).

64. However, under Pennsylvania law, "a loss is not recoverable on the grounds of a contract breach where there is no causal relationship between the breach and the loss." (Emphasis added). Robinson Protective Alarm Co. v. Bolger & Picker, 516 A.2d 299, 303 (Pa. 1986); see also James Corp. v. N. Allegheny Sch. Dist., 938 A.2d at 498.

65. The non-breaching party, here DGS, must show a causal link between the breach it alleges and the damages it claims. Technology Based Solutions, Inc. v. Electronics College, Inc., 168 F. Supp. 2d 375, 381 (2001); A.G. Cullen Constr., Inc., 898 A.2d at 1161; James Corp. v. N. Allegheny Sch. Dist., 938 A.2d at 498.

66. Because DGS deliberately elected to terminate PEC immediately upon written notice pursuant to Paragraph 14.1 rather than follow the contract procedures to declare PEC in default on the surety bond issue pursuant to Paragraph 14.3 and endure a formal cure period before terminating PEC from the Project; and because it was DGS's decision and action to terminate PEC immediately pursuant to Paragraph 14.1 (not PEC's default on its contract obligations to maintain its surety bonds) that caused PEC to be removed from the Project and, in turn, caused DGS to incur additional cost to other contractors to complete PEC's Project work, we conclude that PEC is not liable to DGS for any damages for costs of completion based on PEC's failure to maintain its surety bonds. A.G. Cullen Constr., Inc., 898 A.2d at 1161; Robinson Protective Alarm Co. v. Bolger & Picker, 516 A.2d at 303; James Corp. v. N. Allegheny Sch. Dist., 938 A.2d at 497; Ex. 431; C.O.L. 18 to 28, 61 to 65.

67. DGS's argument that Paragraph 14.1 allowed it terminate the Contracts "for any reason" so that DGS can now assert that it used this paragraph rather than Paragraph 14.3 to terminate PEC's contract for default on its surety bond misconstrues the terms of the Contracts. DGS's suggestion that Paragraph 14.1 could be used to terminate PEC's contract for default would make Paragraphs 14.3 and 14.4 entirely unnecessary and superfluous. This would violate basic principles of contract interpretation that the entire contract should be read as a whole and in a manner that would give effect to all its provisions. Such a reading as DGS suggests would also violate the concept that Paragraph 14.3, as the specific provision relating to default, should control any termination for default rather than Paragraph 14.1 which DGS portrays as a general termination provision. See e.g. Harrity v. Continental-Equitable Title & Trust Co., 124 A. 493, 494-495 (Pa. 1924); Pritchard v. Wick, 178 A.2d at 727; Capitol Bus Co. v. Blue Bird Coach Lines, Inc., 478 F.2d at 560; Ex. 431 ¶¶14.1, 14.2, 14.3, 14.4.

68. At very least, DGS's reading of Paragraph 14.1 creates an ambiguity in the language of the Contracts as to whether or not Paragraph 14.3 is the exclusive means to terminate a contractor for default on the Project as well as creating conflicts with regard to what notice and payment procedures are to be used when defaulting a contractor. The principle that such ambiguity is to be resolved against DGS as drafter of the documents further reinforces our reading that Paragraph 14.3 prescribes the exclusive means to terminate PEC for default on the Contracts. See e.g. Semandares, 531 A.2d at 818; Noble C. Quandel, 585 A.2d at 1144.

PEC's Defective Work on the ST 2.1 Contract

69. Paragraph 11.13 of the Contracts' General Conditions requires the contractor to promptly correct all defective work and to bear all costs of correcting the work. Ex. 431 ¶ 11.13.

70. Paragraph 11.18 of the Contracts' General Conditions provides that "[i]f a contractor fails to correct defective or non-conforming Work, the Department may order it corrected and charge the Contractor or its surety for the costs of correction." Ex. 431 ¶ 11.18.

71. In order to recover damages for a contractor's defective work, the owner must show that the work was defective and required repairs, that the repair work was performed by another contractor and that the owner paid a reasonable amount for the repairs. Oelschlegel v. Mutual Real Estate Investment Trust, 633 A.2d at 184 ; Active Entertainment, Inc. v. Harris Miniature Golf Courses, Inc., 35 Phila. 176, 181-182 (1997); Wilkinson v. Becker, 39 A. 885, 886 (1898); In re Cornell & Co., 229 B.R. at 97; LBL Sky Systems (USA), Inc. v. APG-America, Inc., 2005 U.S. Dist. LEXIS 19065 (E.D. Pa. 2005).

72. The measure of an owner's damages for correcting a contractor's defective work is the reasonable cost of repairing or replacing the work. In re Cornell & Co., 229 B.R. at 39; Ecksel v. Orleans Construction Co., 519 A.2d 1021, 1028 (Pa. Super. 1987).

73. Because PEC performed defective work under the ST2.1 and ST4.1 Contracts work when it installed the concrete slabs in Housing Units B and C and when it installed slab work at Buildings 2 and 17, and then failed to repair the defective work in these locations; and because DGS established by credible evidence that it incurred $87,852 to repair this defective work, which amount the Board finds reasonable, PEC is liable to DGS for $87,852, the reasonable cost for these repairs. C.O.L. 69-72.

74. Because we have found that there is insufficient evidence in the record to show, inter alia, PEC's degree of responsibility for the concrete splatter problem on the Project, how the damages for the clean-up of same should be apportioned, and/or that the damages claimed were reasonable for the repair work, we conclude that PEC is not liable to DGS for any amount with respect to DGS's claim for clean-up of cement splatter on the Project. C.O.L. 69-72.

75. Paragraph 6.30 of the General Conditions of both Contracts required that each contractor on the Project refrain from interfering with, or damaging the work of any other contractor. Ex. 431 ¶ 6.30.

76. Because we have found sufficient evidence that PEC damaged sewer pipes previously installed by Tomko in four buildings; that PEC failed to repair this damage after being advised of same; and that DGS paid Tomko $44,551 to repair this damage and then test the pipes, which amount we find to be reasonable, we conclude that PEC is liable to DGS for $44,551.19, the reasonable cost for repair and testing of these damaged sewer lines. C.O.L. 69-75.

PEC's Failure to Pay Subcontractors, Suppliers, and Labor Costs

77. Under Paragraph 6.9 of the General Conditions of both Contracts, PEC had a duty to provide and pay for all labor, materials, equipment, machinery and other facilities and services necessary for proper execution and completion of the work. Ex. 431 ¶ 6.9.

78. We conclude that payment of amounts for "all labor" and for "services necessary for proper execution and completion of the work" under Paragraph 6.9 of the General Conditions

includes the payment by PEC of requisite union benefits for its workers. Ex. 431 ¶¶ 6.9 and 12.9.

79. Under Paragraphs 7.4 and 7.6 of the General Conditions of both Contracts, PEC had the obligation to promptly pay its subcontractor after it had performed. Ex. 431 ¶¶ 7.4 and 7.6.

80. Under Sec. 3933(c) of the Procurement Code, a contractor "shall pay the subcontractor…14 days after receipt of a progress payment." Procurement Code, 73 P.S. § 3933(c).

81. Under Paragraph 12.4(A)(7) of the General Conditions of both Contracts, DGS had the right to withhold approval of a contractor's payment applications in the event that the contractor, here PEC, failed to pay its subcontractors or suppliers. Ex. 431 ¶ 12.4(A)(7).

82. Under Paragraph 12.9 of the General Conditions of both Contracts, final payments were not due from DGS to the contractor until the contractor had paid all its outstanding bills for the Project. Ex. 431 ¶ 12.9.

83. Because PEC failed to pay its subcontractors, suppliers, laborers (including associated union benefits) in a timely manner, and because this failure persisted after PEC's termination, DGS has the contractual right to withhold all such monies as it has paid to such entities as a result of this failure and to deduct such amounts from any award of termination costs to PEC. Because DGS has established by credible evidence that it has paid $839,341 to such entities, PEC may withhold this amount from any termination payment found due to PEC pursuant to the terms of the Contract. Ex. 431 ¶¶ 6.9, 7.4, 7.6, 12.4, 12.9; C.O.L. 77-82.

84. Because PEC failed to pay its subcontractors, suppliers, and laborers (including union benefits) in a timely manner, and this failure persisted past its termination, we conclude that PEC has breached the provisions in Paragraphs 6.9, 7.4 and 7.6 of the General Conditions of the ST2.1 and ST4.1 Contracts. Ex. 431; C.O.L. 77-83.

85. Because PEC's subcontractors, suppliers and laborers contributed goods and/or services to the Project, and DGS accepted and benefitted from these goods and services, these parties had viable claims in quantum meruit and/or unjust enrichment against DGS for their value. Dep't of Health v. Data-Quest, Inc., 972 A.2d at 78-81; Employers' Ins. of Wausau v. PennDOT, 865 A.2d at 830-834; Armour Rentals, Inc. v. General State Authority, 287 A.2d 862, 866-868 (Pa. Cmwlth. 1972).

86. Because PEC failed to pay its subcontractors, suppliers, and laborers in a timely manner, and this failure persisted past its termination, we conclude that PEC has breached the provisions in Paragraphs 6.9, 7.4 and 7.6 of the General Conditions of the ST2.1 and ST4.1 Contracts; and because DGS was liable to PEC's subcontractors, suppliers, laborers (and associated union) who were owed money for material or work provided to the Project before PEC's termination because of PEC's failure to make timely payments to these parties; and because DGS has established with reasonable certainty that it has incurred actual damages in the

amount of $839,341 for payment to these parties as a result of these failures, PEC is liable to DGS for $839,341 that DGS paid to PEC's various subcontractors, suppliers, laborers and/ or unions as damages flowing from said breaches by PEC. Ex. 431 ¶ 14.2; C.O.L. 77-85.

87. DGS has not established a right to be reimbursed for any amount it has not yet paid out to any PEC subcontractor, supplier, laborer or union because such additional amounts are highly speculative and have not been established with reasonable certainty. Harman et ux. v. Chambers, 57 A.2d 842, 845 (Pa. 1948); Dep't of Transp. v. Brozzetti, 684 A.2d at 665; Spang, 545 A.2d at 866; Scobell, 688 A.2d at 719-721.

PEC's Failure to Perform its Work in a Timely Manner

88. The ST2.1 Contract provided that "time is of the essence" and the General Conditions to the ST2.1 Contract provided that "[a]ll time limits stated in the Contract Documents are the essence of the Contract. Ex. 429 p. 2; Ex. 431 ¶ 8.1.

89. It is long established in Pennsylvania case law that when "time is of the essence" in a contract, performance after the set time is not performance of the contract unless assented to by the other party. S.H. Benjamin Fuel & Supply Co. v. Bell Union Coal & Mining Co., 284 F. 227, 229 (3d Cir. Pa. 1922).

90. A party must meet the duration time specified for performance or be considered in breach and liable for damages for the delay, unless there is some acceptable excuse therefore. Lichter v. Mellon-Stuart Co., 193 F. Supp. 216, 220 (W.D. Pa. 1961).

91. The General Conditions of the ST2.1 Contract specified that PEC had a duty to perform its work on time, i.e. finish in accordance with the Project's schedule, meet all of its contract milestones, maintain a "satisfactory rate of progress," and provide "all labor, materials, equipment, tools construction equipment and machinery…necessary for the proper execution and completion of the work." Ex. 431 ¶¶ 6.9, 6.10, 6.27, 8.1F, 8.7.

92. The General Conditions of the ST2.1 Contract provided that PEC was required to coordinate its work with the work of the other prime contractors and perform its work in accordance with its contract schedule. Ex. 431 ¶¶ 6.3, 6.4, 6.5, 6.19, 6.22, 6.27, 6.30.

93. The General Conditions of the ST2.1 Contract also required that PEC maintain its "progress so as not to delay the progress of the Project or other prime contractors." See also, Ex. 431 ¶¶ 6.19, 6.20A, 6.22, 6.30B; Ex. 431, ¶ 8.7(B).

94. Paragraph 6.30(I) of the General Conditions of the ST2.1 Contract provides:

> Should the Contractor sustain any damage though any act or omission of any other Contractors having a Contract with the Department for the performance of the Work or any Work which may be necessary to be performed for the proper prosecution of the Work to be performed hereunder, or through an act or omission of a subcontractor of

such Contractor, the Contractor shall have no claim against the Department, the Professional or the Construction Manager for such damage, but shall have a right to recover such damage from the other Contractor.

Ex. 431 ¶ 6.30(I).

95. Paragraph 6.30(J) of the General Conditions of the ST2.1 Contract provides:

The Contractor shall indemnify and hold the Department, the Construction Manager and the Professional harmless from any and all claims or judgments from damages and from costs and expenses to which the Department may be subjected or which it may suffer or incur by reason of the Contractor's failure to comply with directions promptly.

Ex. 431 ¶ 6.30(J).

96. Paragraph 6.30(K) of the General Conditions of the ST2.1 Contract provides:

Should any other Contractor having or who shall hereafter have a Contract with the Department for the performance of Work upon the site sustain any damage through any act or omission of the Contractor or a subcontractor of the Contractor, the Contractor agrees to reimburse such other Contractor for all such damages and to indemnify and hold the Department, the Construction Manager and the Professional harmless from all such claims.

Ex. 431 ¶ 6.30(K).

97. Although the ST4.1 Contract contained the same provisions as noted above regarding timely performance, sufficiency of manpower and duty to coordinate, we are unable to conclude that PEC breached the ST4.1 Contract with regard to these obligations because sufficient credible evidence was not presented to establish that PEC failed to provide sufficient manpower to perform its ST4.1 Contract work timely; failed to coordinate with other prime contractors thereby causing other prime contractors delay; and/or caused any particular amount of delay to other contractors due to PEC's performance of its ST4.1 Contract work. Ex. 431 ¶¶ 6.3, 6.4, 6.5, 6.9, 6.10, 6.19, 6.22, 6.27, 6.30, 8.1, 8.7; C.O.L. 88 to 96.

98. Because PEC was slow to fully mobilize on the site for its ST2.1 Contract work; because PEC did not provide sufficient manpower to perform its ST2.1 Contract work and failed to pour the building foundations and slabs on the Project in a timely manner; and because PEC failed to coordinate its ST2.1 Contract work with other prime contractors so as not to interfere with their work, all of which caused material delay to several other prime contractors on the Project, PEC breached the ST2.1 Contract by reason of these acts/omissions and is liable for such damages as DGS can show were caused by these failures. Ex. 431 ¶¶ 6.3, 6.4, 6.5, 6.9, 6.10, 6.19, 6.22, 6.27, 6.30, 8.1, 8.7; C.O.L. 88 to 96.

99. Because the provision in Paragraph 6.30(I), which was applicable to all prime contractors on the Project (including PEC and each of the Settling Contractors),[15] explicitly precludes the possibility that DGS could be liable to any other prime contractor on the Project (including the Settling Contractors) due to the acts or omissions of another contractor (i.e. PEC), PEC's breaches for failure to provide sufficient manpower, failure to coordinate its work and/or failure to perform its foundation and slab work timely could not cause DGS to be liable to any of the Settling Contractors. Therefore these failures and breaches by PEC could not cause DGS to incur damages in the form of settlement payments to these Settling Contractors for delay caused by PEC. Ex. 431 ¶ 6.30(I), 432; C.O.L. 64, 65.

100. In order to establish a right to indemnification, an indemnitee must establish the scope of the indemnity agreement, the nature of the underlying claim, its coverage by the agreement, the reasonableness of the alleged expenses and, where the action has been settled, the validity of the underlying claim and the reasonableness of the settlement. (Emphasis added.) See e.g. McClure v. Deerland Corp., 585 A.2d 19, 22 (Pa. Super. 1991); Fox Park Corp. v. James Leasing Corp., et al., 641 A.2d 315, 317 (Pa. Super. 1994).

101. Although a right of indemnity may still exist whether the indemnitee pays the loss voluntarily or has a judgment recovered against him, where a settlement has been paid, Pennsylvania case law requires that the indemnitee must prove, among other things, that it was liable on the claim it settled in order to collect from the indemnitor. Id. See also, Tugboat Indian Company v. A/S Ivarans Rederi, 5 A.2d 153, 156 (Pa. 1939); Martinique Shoes, Inc., v. New York Progressive Wood Heel Co., 217 A.2d 781, 783-784 (Pa. Super. 1966).

102. A mere showing by the indemnitee that there was a reasonable possibility that it might have been held liable if it had not settled is not sufficient to recover indemnity; actual legal liability must be shown. Philadelphia Electric Co. v. Hercules, Inc., 762 F.2d 303, 317 (3d. Cir. 1985); Ridgeway Court, Inc. v. James J. Canavan Ins. Associates, Inc., 501 A.2d 684, 686-687 (Pa. Super. 1985); Besser Co. v. Paco Corp., 671 F. Supp. 1010, 1012-1014 (M.D. Pa. 1987).

103. This rule applies regardless of whether the indemnity claim is based on contract or based upon common law. Daily Express, Inc. v. Northern Neck Transfer Corp., 490 F. Supp. 1304, 1306-1397 (M.D. Pa. 1980); Casey v. Ryder Truck Rental Inc., 2005 U.S. Dist. LEXIS 45601,**25-26 (E.D.N.Y. 2005).

104. The general rule in Pennsylvania that a settling indemnitee must first prove its own liability in order to collect from the indemnitor may be altered only if the contract's indemnity clause includes clear and explicit terms that allow indemnification for settlement payments made without actual proof of liability. Volkswagen of America, Inc. v. Bob Montogomery, Inc., 1985 U.S. Dist. LEXIS 15629,**7-10 (E.D. Pa. 1985); Best Products Co., Inc. and CRS v. A.F. Callan and Co., Inc., 1997 U.S. Dist. LEXIS 1914, **3-4, 18-21 (E.D. Pa. 1997).

[15] The "Settling Contractors" as defined in our Findings of Fact and Opinion refers collectively to: New Enterprise Stone & Lime Company, Inc. ("New Enterprise"); Merit Contracting, Inc. ("Merit"); The Farfield Company ("Farfield"); Simplex Grinnell LP ("Simplex Grinnell"); Harris Masonry, Inc. ("Harris"); Amthor Steel, Inc. ("Amthor"); Limbach Company ("Limbach"); and W.G. Tomko, Inc. ("Tomko").

105. The court will strictly construe the scope of an indemnity contract against the party seeking indemnity. Jacobs Constructors, Inc., v. NPS Energy Services, Inc. 264 F.3d 365, 371 (3d Cir. 2001).

106. Although Paragraphs 6.30(J) and 6.30(K) of the General Conditions grant indemnification rights to DGS from PEC, they do not waive the requirement that DGS first establish its own liability before it can seek indemnification thereunder for settlement payments made. Therefore, no recovery based on these indemnification rights (or on common law indemnification) for settlement payments made is possible here for DGS because, under the liability shield in Paragraph 6.30(I), there can be no underlying legal liability of DGS to these Settling Contractors for any of PEC's acts or omissions that delayed them. Ex. 431 ¶¶ 6.30(J) and 630(K); C.O.L. 95 to 105.

107. PEC is not liable to DGS for any amounts DGS paid in settlement to the Settling Contractors for their delay claims on the Project through contractual or common law indemnification principles because such indemnification first requires DGS to show that DGS was liable to the Settling Contractors for PEC's breach, which it cannot do by virtue of Paragraph 6.30(I). See, e.g., Tugboat Indian Company v. A/S Ivarans Rederi, 5 A.2d at 156; Martinique Shoes, Inc. v. New York Progressive Wood Heel Co., 217 A.2d at 783-784; Philadelphia Electric Co., 762 F.2d at 317; C.O.L. 95 to 106.

108. However, reading the ST2.1 Contract as a whole, and giving effect to all its provisions, we conclude that, aside from any indemnification duties, PEC has a contractual obligation under Sub-Paragraphs 6.30(I) and 6.30(K) of the General Conditions of the ST2.1 Contract to reimburse directly each of the Settling Contractors for any delay-related damages PEC's acts or omissions caused them. See Pritchard v. Wick, 178 A.2d 725, 727 (Pa. 1962); Capitol Bus Co. v. Blue Bird Coach Lines, Inc., 478 F.2d at 560; Exs. 429, 431 ¶ ¶ 6.30(I) and (K); C.O.L. 88 to 94, 96, 98.

109. Pursuant to Sub-Paragraphs 6.30(I) and (K) of the ST2.1 Contract, PEC is directly liable to each of the Settling Contractors on this Project [i.e. New Enterprise, Merit, Farfield, Simplex Grinnell, Harris, Amthor, Limbach and Tomko] for any delay-related damages that contractor incurred due to the acts and omissions of PEC, including PEC's failure to supply sufficient manpower; its failure to pour the building foundations and slabs on the Project in a timely manner; and its failure to properly coordinate this work so as not to cause delay and delay-related damages to the Settling Contractors. Ex. 431 ¶¶ 6.30 (I) and (K).

110. DGS, as a principal party to the ST2.1 Contract, has its own right to enforce PEC's contractual obligation under Sub-Paragraph 6.30(K) to reimburse the Settling Contractors for their delay-related damages. Exs. 429, 431.

111. Because Paragraph 5 of the settlement agreement entered into between DGS and Farfield with regard to this Project provides, inter alia, that "…DGS is entitled to any and all funds recovered against the additional defendants in Docket 3642"; and because PEC was the additional defendant in Docket 3642 (now consolidated into the current case); and because the

foregoing language of Paragraph 5 of this settlement agreement is sufficient to assign any monies or proceeds to DGS which may be determined to be due to Farfield in this action pursuant to Paragraph 6.30(K), we find that PEC is liable to DGS for any and all delay-related damages PEC caused to Farfield on the Project. Exs. 431 ¶ 6.30(K) and 541 ¶ 5; C.O.L. 108 to 110.

112. Because Paragraph 5 of each of the settlement agreements entered into between DGS and New Enterprise, Merit, Simplex Grinnell, Harris, and Amthor with regard to this Project provides, inter alia, that "…DGS is solely entitled to any and all funds recovered against any additional defendants or pursuant to any counterclaims DGS has against any claimants; and because PEC is a claimant, an additional defendant and a counterclaim defendant to DGS in this consolidated case; and because the language of Paragraph 5 of these settlement agreements is sufficient to assign any monies or proceeds to DGS which may be determined to be due to New Enterprise, Merit, Simplex Grinnell, Harris, and/or Amthor in this action pursuant to Paragraph 6.30(K), we find that PEC is liable to DGS for any and all delay-related damages PEC caused to New Enterprise, Merit, Simplex Grinnell, Harris , and/or Amthor on the Project. Exs. 31, 431, 513, 516, 520, 527 and 548; C.O.L. 108 to 110.

113. Because we have found that there was sufficient evidence of record for the Board to reasonably infer that Paragraph 5 of the settlement agreement entered into between DGS and Limbach with regard to this Project provides, inter alia, that "…DGS is solely entitled to any and all funds recovered against any additional defendants or pursuant to any counterclaims DGS has against any claimants; and because PEC is a claimant, an additional defendant and a counterclaim defendant to DGS in this consolidated case; and because the language of Paragraph 5 of this settlement agreement is sufficient to assign any monies or proceeds to DGS which may be determined to be due to Limbach in this action pursuant to Paragraph 6.30(K), we find that PEC is liable to DGS for any and all delay-related damages PEC caused to Limbach on the Project. Exs. 31, 431, 513, 516, 520, 527 and 548; C.O.L. _____.

114. In order to award delay-related damages in a case where there are multiple causes and sources of delay, the Board must be able to apportion responsibility for said delay among the various sources and determine the amount of damages caused by the party or parties to be found liable for same with reasonable certainty. See Wayne Knorr, Inc. v. DOT, 973 A.2d 1061, 1081-1084 (Pa. Cmwlth. 2009); Glasgow, Inc. v. Dep't of Transportation, 529 A.2d 576, 579-580 (Pa. Cmwlth. 1987); A.G. Cullen Constr., Inc., 898 A.2d at 1161; Lichter v. Mellon-Stuart Corp., 305 F.2d at 223-223.

115. Because we have found with reasonable certainty that PEC's failure to provide sufficient manpower to pour the foundations and slabs on the Project in a timely manner and its failure to properly coordinate this work delayed and disrupted New Enterprise and caused New Enterprise to incur $185,199 in delay-related damages, we find PEC liable to DGS in this amount. C.O.L. 88 to 114.

116. Because we have found with reasonable certainty that PEC's failure to provide sufficient manpower to pour the foundations and slabs on the Project in a timely manner and its failure to properly coordinate this work delayed and disrupted Merit and caused Merit to incur $58,183 in delay-related damages, we find PEC liable to DGS in this amount. C.O.L. 88 to 114.

117. Because we have found with reasonable certainty that PEC's failure to provide sufficient manpower to pour the foundations and slabs on the Project in a timely manner and its failure to properly coordinate this work delayed and disrupted Farfield and caused Farfield to incur $405,694 in delay-related damages, we find PEC liable to DGS in this amount. C.O.L. 88 to 114.

118. Because we have found with reasonable certainty that PEC's failure to provide sufficient manpower to pour the foundations and slabs on the Project in a timely manner and its failure to properly coordinate this work delayed and disrupted Simplex Grinnell and caused Simplex Grinnell to incur $69,205 in delay-related damages, we find PEC liable to DGS in this amount. C.O.L. 88 to 114.

119. Because we have found with reasonable certainty that PEC's failure to provide sufficient manpower to pour the foundations and slabs on the Project in a timely manner and its failure to properly coordinate this work delayed and disrupted Harris and caused Harris to incur $165,708 in delay-related damages, we find PEC liable to DGS in this amount. C.O.L. 88 to 114.

120. Because we have found with reasonable certainty that PEC's failure to provide sufficient manpower to pour the foundations and slabs on the Project in a timely manner and its failure to properly coordinate this work delayed and disrupted Amthor and caused Amthor to incur $62,545 in delay-related damages, we find PEC liable to DGS in this amount. C.O.L. 88 to 114.

121. Because we have found with reasonable certainty that PEC's failure to provide sufficient manpower to pour the foundations and slabs on the Project in a timely manner and its failure to properly coordinate this work delayed and disrupted Limbach and caused Limbach to incur $333,452 in delay-related damages, we find PEC liable to DGS in this amount. C.O.L. 88 to 114.

122. Because Tomko failed to present sufficient evidence of its delay-related damages, if any, or to allow us to ascertain any terms of its settlement with DGS we cannot find PEC liable to DGS on account of any settlement with Tomko. C.O.L. 88 to 114.

DGS Claim for Professional and Accounting Fees

123. Under Paragraph 14.2 of the General Conditions, DGS is authorized to conduct an audit to determine how much to pay a contractor after that contractor has been terminated under Paragraph 14.1. Ex. 431 ¶¶ 14.1 and 14.2.

124. Because DGS has not cited (and we do not find) any provision in the ST2.1 and ST4.1 Contracts stating that DGS is entitled to shift the cost of conducting its audit conducted pursuant to termination under Paragraphs 14.1 and 14.2 to the contractor, we cannot conclude

that DGS is entitled to reimbursement of its audit fees or audit related fees from PEC. Ex. 431 ¶¶ 14.1 and 14.2.

DGS Claims for Setoffs Against PEC

125. Paragraph 6.14 of the General Conditions provides:

> Offset of Amounts Due to Commonwealth. The Contractor, by execution of the Contract certifies that it has no outstanding tax liability to Pennsylvania; authorizes the Department of Revenue to release information related to its tax liability to the Department of General Services; and, authorizes the Commonwealth to set-off any State and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount due the Commonwealth from the Contractor, not being contested on appeal by the Contractor, against any payment due to the Contractor under a contract with the Commonwealth.

Ex. 431 ¶ 6.14.

126. Paragraph 6.14 of the General Conditions of both Contracts specifically "…authorizes the Commonwealth to set-off any State and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount due to the Commonwealth from the Contractor, not being contested on appeal by the Contractor, against any payment due to the Contractor under a contract with the Commonwealth." Ex. 431 ¶ 6.14.

127. Pursuant to Pennsylvania's Prevailing Wage Act, 43 P.S. §§165-1 through 165-17, PEC had the obligation to pay all its workmen employed on this Project not less than the prevailing minimum wages, as determined under the Act. 43 P.S. §§165-1 through 165-17.

128. Paragraph 6.14 of the General Conditions of both Contracts gives DGS the right to set-off, against any Board award to PEC, all amounts due from PEC or its subsidiaries for state or local taxes and all amounts due from PEC to the Pennsylvania Department of Labor and Industry for PEC's failure to pay prevailing minimum wages to its workers on the Project as long as those amounts are not being contested on appeal. C.O.L.126 to 128.

129. DGS cites (and we find) no authority in the ST2.1 or ST4.1 Contracts or in the statutes of the Commonwealth that authorizes the Board to offset any amount against any Board award to PEC on account of unpaid amounts owed by PNG, which is a different corporate entity than (but not a subsidiary of) PEC. Exs. 429, 430, 431, 492, 492A, 493; C.O.L. 126 to 129.

130. Paragraph 6.14 of the General Conditions provides no contractual basis for DGS to offset federal taxes owed by PEC from any award by the Board to PEC and DGS has cited no statutory basis for such a set-off. Ex. 431 ¶ 6.14; C.O.L. 126.

131. Because there is no payment due to PEC from DGS pursuant to our award in this case, we find no basis for any set-offs pursuant to the Contracts or statutes cited. Ex. 431 ¶ 6.14; C.O.L. 138.

Attorney Fees and Penalties

132. A prevailing contractor in a contract claim to recover payment due from DGS pursuant to the Procurement may be awarded reasonable attorney fees if it is determined that DGS acted in bad faith in withholding payment to the contractor. 62 Pa.C.S. § 3935(b).

133. An amount shall be deemed to have been withheld in bad faith to the extent that the withholding was arbitrary or vexatious. 62 Pa.C.S. § 3935(b); A.G. Cullen Constr. Inc., 898 A.2d at 1164.

134. Arbitrary and vexatious are defined respectively as "based on random or convenient selection or choice rather than on reason or nature" or "without sufficient ground in either law or in fact and if the suit served the sole purpose of causing annoyance." A.G. Cullen Constr. Inc., 898 A.2d at 1164-1165 (citing Cummins v. Atlas R.R. Constr. Co., 814 A.2d 742, 747 (Pa. Super. 2002)).

135. Because PEC was not the prevailing party in this case, and because DGS did not act in bad faith in withholding payments to PEC, PEC's request for attorney fees and penalties is denied. 62 Pa.C.S. § 3935(b); A.G. Cullen Constr. Inc., 898 A.2d at 1164-1165; C.O.L. 133-135, 138.

136. The Board has determined that, under the circumstances of this case, each party shall bear its own costs. Pa.C.S. § 1725(e).

Summary of Damages

137. Based upon our conclusions that PEC is entitled to total Termination Payment and extra work damages of $2,158,545; and that DGS is entitled to total counterclaim damages of $2,251,550; we find that PEC is liable to DGS for the net principal amount of damages of $93,005 plus pre-judgment interest at the rate of 6% per annum on this principal sum from October 12, 2001(the date on which PEC's claim was first filed with the DGS contracting officer) until the date of this decision. The pre-judgment interest totals $55,803 and results in a total judgment against PEC and in favor of DGS of $148,808. 62 Pa.C.S. §1751, 41 P.S. § 202; C.O.L. 53, 73, 76, 86, 115-122.

138. PEC is also liable to DGS for post-judgment interest on the outstanding judgment at the rate of 6% per annum until paid. 62 Pa.C.S. § 1751, 41 P.S. § 202; James Corp., 983 A.2d at 493.

OPINION

Plaintiff, Airport Industrial Park, Inc., d/b/a/ PEC Contracting Engineers ("PEC"), brings this action against defendant, Department of General Services ("DGS"), for breach of contract and other damages it claims to have sustained during construction of the Western Pennsylvania State Correctional Institution ("SCI Fayette"), a maximum security prison in Fayette County (Luzerne Township), Pennsylvania ("Project" or "Fayette County Project"). DGS denies liability for all of PEC's claims and asserts that it was PEC that breached its contract obligations on the Project. DGS, therefore, asserts various damage claims against PEC as well.

PEC entered into two contracts with DGS for work on the Fayette County Project. The first was Contract No. DGS 570-27 ST2.1 ("ST2.1 Contract" or "Foundation Contract") for a bid price of $4,848,000 to build foundations and floor slabs for 29 buildings on the site (excluding staff residence). PEC's second contract was for construction of the foundation, slab and shell of the prison's central utility plant ("CUP") pursuant to Contract No. 570-27 ST4.1 ("ST 4.1 Contract" or "CUP Contract") for a bid price of $1,339,000.

PEC initially alleged that DGS breached both contracts and sought total damages of $4,749,911 for two major categories of claims: 1) damages resulting from DGS's termination of the two PEC contracts and 2) damages for extra work in twelve categories that PEC alleges it had to perform outside the scope of its contracts. PEC also sought damages, including interest and attorneys fees, for bad faith on DGS's part in withholding payments due to PEC. DGS's defenses to PEC's action include an assertion that the Board lacks jurisdiction over all PEC claims relating to the CUP Contract. DGS also alleges that PEC, not DGS, was the breaching party because PEC, among other things: a) failed to perform its work in a timely manner and/or to adequately coordinate its work with fellow contractors; b) failed to pay its suppliers, subcontractors and labor force obligations timely; c) failed to provide adequate surety bonding;

and d) submitted defective work. In addition to denying liability, DGS also questions PEC's damage calculations, asserting substantial double counting in the way PEC's claims are set forth as well as PEC's failure to meet its burden of proof to establish its damages with reasonable certainty. DGS asserts various counterclaims and set-offs against PEC in excess of $6,500,000.

This case is what remains from an outbreak of litigation that commenced at the conclusion of the Fayette County Project when 10 different prime contractors on the Project filed administrative claims with DGS alleging they had incurred substantial damages, and then filed 19 separate cases with the Board between March 2002 and April 2005. In each of the claims filed with the Board, the contractor blamed DGS for causing delay as well as for non-payment for various work items and other damages. Some of these prime contractors also blamed other prime contractors for causing delay. DGS raised various defenses in each of these cases, but one common defense to these actions was DGS's contention that PEC, as the building foundations contractor, caused the delay to these other prime contractors whose work was to be done subsequent to PEC's.

During pre-trial proceedings, the Board consolidated nearly all of the Fayette County Project cases into a single action (Docket No. 3464). [16] By the time of the hearing, all the claims in this consolidated case except those between PEC and DGS had been settled or were in the process of being settled and discontinued. As a result, only the PEC-DGS claims now remain for decision. However, DGS paid several settlements to these other prime contractors for their delay claims, which delay DGS asserts was caused by PEC. Consequently, DGS's counterclaims against PEC include reimbursement for those settlement payments.

[16] The single exception was an action filed by the painting contractor, Pro-Spec Painting Co., which has been heard and decided by the Board as a separate matter because Pro-Spec's claim was based on a separate set of factual allegations not relevant to the delay claims that overlapped those of the other contractors initially included in this consolidated action. Opinion and Order in Docket No. 3910 issued in Pro-Spec Painting, Inc. v. DGS on June 30, 2010.

PROJECT BACKGROUND

The Project site was located on 248 acres of rolling hills in Fayette County, Pennsylvania, roughly 30 miles south of Pittsburgh. Approximately half the site was within a security perimeter in a campus arrangement that included eleven inmate housing units, eight support buildings, a vehicle sallyport building, two guard stations, two guard towers, two fieldhouses and several outdoor recreation fields. Outside the security perimeter, the plans called for an administration building, a warehouse, a vehicle maintenance building, three staff residences and the central utilities plant. At the core of this high-security facility were the 1,236 prison cells in the eleven inmate housing units labeled on the Project's plans as Buildings A through L (I omitted). These housing units were made of precast concrete cell units to be set on top of the concrete foundation and slabs installed by PEC. The Project buildings (excluding staff residences) were assigned numerical designations 1 through 19 (13 and 18 omitted). These were either masonry block or metal pre-engineered structures that were also to be built on top of concrete foundations and slabs that were to be installed by PEC. L. Robert Kimball & Associates ("Professional") designed the Project and created the contract specifications and drawings for the Project. P.J. Dick, Inc. ("P.J. Dick") was DGS's agent and Construction Manager on the Project.

In March 2000, DGS advertised the major contract bid packages for the SCI Fayette County Project including the ST2.1 package for concrete work on the Project (primarily foundations and slabs on grade for multiple buildings on the site).

PEC submitted its bid timely for the ST2.1 Foundations Contract on May 17, 2000, and was awarded this contract on June 1, 2000. Pursuant to the original Project timetable and the specific milestones for its concrete work stated in the ST2.1 Contract bid documents, PEC

expected to start work within one month of this award (i.e. by June 23, 2000). However, for the next two months, DGS made changes to the Project, rebid a number of tasks and delayed executing various contracts, including PEC's and those of certain other prime contractors. Although DGS held the initial job conference for PEC and the masonry, mechanical and electrical contractors on July 26, 2000, DGS did not sign PEC's ST2.1 Foundations Contract until August 23, 2000. On August 25, 2000, PEC received its Notice to Proceed from P.J. Dick by which it was ordered to mobilize on the site by August 28, 2000 and to begin work by September 11, 2000. (N.T. 192).

PEC's ST2.1 Foundations Contract, as usual, provided that time was of the essence. It was also clear that prompt completion of the foundation and slab work was key to allowing the several "follow-on" contractors[17] on the Project, such as those installing precast cells, masonry, plumbing, electrical, hvac, fire protection, structural steel, detention hardware and pre-engineered buildings to start their work timely and keep the overall Project deadline of June 1, 2002. Accordingly, while the ST2.1 Foundations Contract contained no initial Project schedule, it did have milestone dates for commencing and completing each building foundation, and for completing each building's slab on grade (sometimes referred to herein as an "SOG"). (Ex. 432, Vol.1. Secs. 01310-11 to 01310-12). These original milestones (as set forth in the bid documents) required PEC to start quickly and proceed at a rapid pace while performing foundation and slab work on multiple buildings at the same time.

In recognition of this tight construction timetable, and because it had delayed PEC's construction start date so substantially (from June 23, 2000 to August 28, 2000), DGS advised

[17] The term "follow-on" contractor refers to a contractor who must wait for some portion of the work of another to be performed on a project before it (the "follow-on" contractor) can effectively begin the bulk of its work.

PEC at the beginning of its work that DGS would add 66 days to each of PEC's contract milestone dates to create revised contract milestones (hereinafter the "Revised Milestones"). By making this change at the start of work, DGS made a reasonable attempt to adjust PEC's foundation and slab on grade completion dates to account for DGS's delay in executing the Project's contracts but retained the same degree of intense and overlapping concrete work as called for by the original Foundation Contract milestones. DGS nonetheless kept the original Project completion date of June 1, 2002, thereby heightening the importance of PEC getting its work done timely per these Revised Milestones so as not to adversely affect the work of subsequent contractors.

Almost as soon as PEC started work on the Project site, however, it began falling behind the Revised Milestones. It was slow to mobilize and then did not commit sufficient manpower to the job to accomplish the amount of intense and simultaneous foundation work at multiple locations on the Project as was required by both the original and the Revised Milestones. Thus began a pattern that would recur throughout PEC's participation in the Project whereby, P.J. Dick/DGS would cite PEC for delays performing its concrete work and urge PEC to increase its manpower to get the job done on time, and PEC would respond by contending that DGS was making changes that required it to do additional work not within the original scope of its Foundations Contract.

Nothwithstanding the initial delays and difficulties with the performance of PEC's ST2.1 Foundations Contract, PEC bid, and was awarded, a second contract to build the foundation and shell of Building 17, the central utility plant (the "CUP") for the Project. On November 15, 2000, PEC was awarded the rebid ST4.1 CUP Contract. As with the Foundations Contract, PEC got off to a slow start performing the CUP Contract work.

By February 2001, PEC's work was behind schedule on both contracts even though P.J. Dick had, by this time, issued an "Initial (Master) Project Schedule" on December 5, 2000 which relaxed (i.e. extended) some of PEC's Revised Milestone deadlines for its foundation and slab on grade work. Frustrated by the ongoing delays, P.J. Dick, on February 21 and 22, 2001, respectively, declared PEC in default of the ST4.1 and the ST2.1 contracts pursuant to Paragraph 14.3 of the General Conditions, citing PEC for numerous work performance deficiencies, including delayed performance. (Exs. 225, 330). In accordance with the terms of each contract, these letters gave PEC seven (7) days to cure its deficiencies or face termination. (Id.). In response, PEC took steps to cure these deficiencies by sporadically increasing its labor force and resources committed to the Project. P.J. Dick/DGS did not thereafter take any further action based on these initial notices of default and PEC continued its work through the Spring and into the Summer of 2001.

Then, in June 2001, PEC and DGS were informed that PEC's bonding company had been placed into liquidation proceedings in Nebraska on June 7, 2001 and that PEC's surety bonds for the Project would be canceled as of July 6, 2001. (Exs. 566A, 566B). This left PEC suddenly without adequate payment and performance bonds for the Project as required by both its contracts.

Although PEC promptly engaged in a search for replacement bonds, it was unsuccessful. As a result, on July 6, 2001, DGS sent PEC a letter giving it one week to secure replacement bonds for both contracts. (Ex.73). Curiously, however, DGS did not declare PEC in default or initiate the default process over the bonding issue at this time pursuant to Paragraph 14.3 of the contracts' General Conditions as it had previously done in regard to PEC's slow performance issues. (Compare Exs. 73, 225, 330). Instead, DGS waited 20 days and then, on July 27, 2001,

by two separate letters of that same date (Exs. 64, 308), terminated both of PEC's contracts and ordered PEC to stop work immediately pursuant to Paragraph 14.1 of the General Conditions. Paragraph 14.1 provided for this immediate type of termination at the Department's discretion "for any reason" rather than for termination due to the contractor's default pursuant to Paragraph 14.3. DGS then proceeded without delay to hire Penn Transportation Services, Inc., another prime contractor already on the Project site, to complete PEC's work under both contracts.

At the time of its termination, PEC was approximately 80% complete with its Foundations Contract work but had been paid for only 63% of same. Similarly, PEC was approximately 43% complete with its CUP Contract work at the time of termination but had been paid for only 13% on this contract.

DGS made no payments to PEC after May 31, 2001, refusing payment for work even before termination. After termination and an accounting review of PEC's books and Project costs by DGS, DGS continued to refuse any further payment to PEC pursuant to Paragraph 14.2[18] or for any of the outstanding pay applications for work completed on the contracts and/or for any PEC claims for extra work. DGS instead asserted that its counterclaims and offsets were in excess of any amounts it owed to PEC.

On October 12, 2001, PEC filed an administrative claim with DGS for termination damages and extra work compensation under the ST2.1 Foundations Contract. On October 24, 2001, PEC filed a similar claim under the ST4.1 CUP Contract. On December 11, 2001, DGS held a claims hearing on all of PEC's claims, but never issued any ruling. On March 11, 2002, PEC filed this action with the Board on the ST2.1 Foundations Contract at Docket No. 3464. On March 25, 2002 PEC filed an action on the ST4.1 CUP Contract here at Docket No. 3469.

[18] Paragraph 14.2 details the effect of, and payment procedure for, termination by the Department pursuant to Paragraph 14.1.

Although the original Project completion date remained at June 1, 2002, significant work continued on the Project well into Winter 2002-03. In addition, many of the other prime contractors whose work had to follow PEC's suffered substantial delay-related damages in the performance of their work on the Project. As noted above, several of these follow-on contractors filed claims for delay-related damages with DGS and the Board, which claims were consolidated into this case and have now been settled by DGS.

Board hearings were held on PEC's action during the period from March 6, 2008 to June 19, 2008. Following those hearings, DGS filed a Motion for Directed Verdict on October 8, 2008. On February 13, 2009 the Board entered an Opinion and Order denying that motion. On May 15, 2009, PEC filed Proposed Findings of Fact, Conclusions of Law and a Post-Hearing Brief. On August 5, 2009, DGS filed Proposed Findings of Fact, Conclusions of Law and a Post-Hearing Brief. On September 22, 2009, PEC filed a Reply Brief.

JURISDICTION OVER CUP CONTRACT CLAIM

Prior to addressing the parties' substantive claims and counterclaims, we first address the issue that DGS raises regarding the Board's jurisdiction over claims made by PEC relating to the ST4.1 CUP Contract. In its post-hearing brief, DGS reiterates its challenge to the Board's in personam jurisdiction to hear any PEC claims relating to breach of the ST4.1 CUP Contract because, according to DGS, PEC failed to file its claims with the Board under the CUP Contract in a timely manner. Specifically, DGS contends that the date on which PEC filed its CUP Contract claim with the Board, March 25, 2002, was not within the 150 day filing period set forth in the applicable statute at 62 Pa.C.S. Sec. 1712.[19]

[19] Section 1712 of the 1998 Procurement Code was applicable to PEC's claims at the time they were filed. This section, in essence, provided that the contracting officer of the agency would issue a written decision on a claim

The Board has already considered this issue as submitted by DGS's Motion for Directed Verdict. On February 13, 2009, the Board issued an Opinion and Order that denied DGS's motion and concluded that the Board has jurisdiction over all claims relating to the CUP Contract. Specifically, we applied the doctrine of equitable estoppel to the facts of the case, and found that the start of the 150 day time period for filing the CUP Contract claim with the Board should be computed from October 24, 2001, the date on the letter that DGS issued to PEC confirming its receipt of PEC's CUP claim. (Ex. 462C).[20] We then concluded after a straightforward application of the rules for the calculation of time periods, that the CUP Contract claim was timely filed on March 25, 2002. Because DGS repeats the same arguments it made in its Motion for Directed Verdict on this issue, we incorporate herein the findings of fact, conclusions of law and narrative portions of our Order of February 13, 2009.

Now, in its post-hearing brief, DGS specifically challenges Conclusion of Law #28 from the Board's Directed Verdict ruling. In Conclusion of Law #28, the Board stated:

> Because DGS' October 24, 2001 letter acknowledging receipt of PEC's claim did not state that said claim was received on October 22, 2001, but instead functioned as an affirmative act by DGS with the natural and logical effect on PEC of representing October 24, 2001 as the date DGS received PEC's claim regarding the ST4.1 Contract, and PEC and/or its attorneys reasonably relied on this representation in filing its appeal to the Board, we hold that DGS is estopped from asserting that PEC's claim letter was received by DGS any earlier than October 24, 2001. See UEC, 397 A.2d at 785. (Emphasis in original.)

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within 120 days of receipt, but if he/she did not, the contractor "may" proceed as if an adverse decision was rendered. It further provided that the contractor "may" file its claim with the Board within 30 days of receipt of an adverse decision from the DGS contracting officer. Accordingly, where, as here, DGS issues no decision on a claim, we consider the contractor to have 150 days from filing its claim with the contracting officer to file its claim with the Board. By DGS's calculation, PEC was approximately three days late filing its claim at the Board for the ST4.1 Contract. 62 Pa.C.S. § 1712(a)-(f)(1998).

[20] Facts previously found by the Board in our Order of February 13, 2009 include: PEC mailed its CUP claim to DGS on October 18, 2001; this claim was actually received by DGS on October 22, 2001; two days later, DGS sent PEC a letter dated October 24, 2001 that stated "[r]eceipt is acknowledged…" of the PEC claim; this DGS letter failed to note that the claim was actually received by DGS two days earlier. PEC did not know that the actual receipt date of the claim was October 22, 2001 and reasonably relied on the October 24, 2001 date of the DGS acknowledgement letter to compute its 150 day period in which to file its claim with the Board.

Specifically, DGS now questions whether the Board properly applied the doctrine of equitable estoppel, and cites Borkey v. Township of Centre, 847 A.2d 807 (Pa. Cmwlth. 2004) and Price v. Chevrolet Motor Div. of GMC, 765 A.2d 800, 808 (Pa. Super. 2000) in support of this argument. DGS contends that, under Price, after PEC received DGS's letter, PEC had the burden to make further inquiry regarding the actual date of DGS's receipt of the claim and that PEC was not entitled to rely on the October 24, 2001 date that DGS placed on this letter that acknowledged receipt of the PEC's CUP claims.

Neither Price nor Borkey support the argument DGS makes in this case. To begin with, in each of those cases, the appellate court found the plaintiff had met its burden of showing the factual requisites for asserting the doctrine of equitable estoppel and was justified in relying on the negligent misrepresentation of the other. Although both cases acknowledge that a duty to inquire further on an issue may arise, in neither case cited by DGS did the court find any failure on the part of the party who was negligently misled to make further inquiry after the misrepresentation was made.[21] We find no error in judgment by PEC in relying on the date stated in the DGS acknowledgement letter as the actual claim receipt date and find no fact that would trigger any further duty for PEC to inquire about the accuracy of that date. It was reasonable for PEC to believe that DGS was acknowledging its receipt of the claim on the only date stated in the DGS letter. See Dep't of Revenue v. King Crown Corp., 415 A.2d 927, 930 (Pa. Cmwlth. 1980) (where parties disputed the meaning of a letter sent by the Commonwealth and the court found it was reasonable for a corporation to believe, from that letter, that a settlement had been approved and estopped the Commonwealth from denying validity of the

[21] With regard to this "duty to inquire" in the case at bar, only DGS had possession of the actual date of the receipt of the claim, and that information was in DGS's sole possession in its internal files where the date-stamped copy resided until this controversy arose. No fact is present here that would put PEC on notice that the October 24, 2001date on the DGS acknowledgment letter was not the date of DGS's receipt or indicate that PEC had any reason to question the accuracy of the date on DGS's acknowledgement letter.

compromise because nothing gave rise to any suspicion that the corporation's interpretation of the letter was not accurate.) We thus find, once again, that the factual requisites of equitable estoppel have been met with regard to PEC's claims at the Board on the ST4.1 Contract.

Additional Pennsylvania case law also rebuffs DGS's assertion of the statute of limitations in this instance. Because Section 1712 required computation of the limitations period from the actual date DGS received the initial claim, and DGS is the only party with knowledge of that actual receipt date, it is DGS that is reasonably charged with the duty of disclosing that date accurately to PEC in order to commence the limitations period. DGS's failure to do so precludes it from successfully invoking this time period limitation in defense of the claim. See e.g. Schmidt v. Commonwealth, 433 A.2d 456, 457-458 (Pa. 1981); In re Appeal of the Borough of West View, 501 A.2d 706, 707-708 (Pa. Cmwlth. 1985). Accordingly, the CUP Contract claims cannot be considered untimely and the Board has jurisdiction to decide all PEC's claims for breach and damages arising from the CUP Contract.

THE CLAIMS

PEC claims that DGS owes it damages for "costs" incurred up to the point of its termination as well as certain post-termination costs pursuant to Paragraph 14.1 the General Conditions of each contract. PEC also claims DGS breached these contracts and that it is owed additional payment for twelve categories of extra work that it was required to perform beyond the scope of the contracts. PEC has presented each of these extra work claims to the Board in the form of a request for change order. PEC further alleges (and DGS disputes) that PEC properly submitted each such request for change order to DGS either during the effective term of the contracts or immediately after PEC's termination in July 2001, and that P.J. Dick/DGS inappropriately failed to process these change order requests. These extra work claims are for:

extra concrete work in Winter; additional costs incurred due to lack of a timely master project schedule; costs incurred due to lack of temporary access roads; extra excavation; design changes for step footings; repair of disturbed subgrade; changes in concrete floor tolerances under Bid Package 6; installation of stone subbase; grouting steel column base plates; structural steel design changes in Building 17.

In its response to PEC, DGS denies that PEC is entitled to "costs" pursuant to Paragraph 14.1 of the General Conditions (and/or its companion provision at Paragraph 14.2) for either contract or that DGS breached either contract. It also denies liability for any of the extra work claims made by PEC. DGS instead asserts it was PEC who was the breaching party and includes counterclaims for recovery of its damages, which include: costs to complete PEC's work; costs to repair allegedly defective PEC work after contract termination; amounts paid for subcontractor work, supplies, materials and/or laborers' wage and benefit contributions left unpaid by PEC; and amounts that DGS paid to settle claims by eight other prime contractors allegedly delayed on the Project by PEC. DGS also claims set-offs for amounts PEC and/or its affiliates allegedly owe to other state and/or federal government agencies.

PEC denies it breached the contracts or that it owes any consequential damages for the breaches alleged by DGS. Among other things, PEC argues DGS has no legal or factual basis to establish a right to counterclaim against PEC for settlement amounts paid to other contractors on the Project and no factual basis to properly apportion responsibility to PEC for such claims. PEC also disputes some of the amounts DGS claims for payments made to subcontractors, suppliers, and laborers as well as some of the amounts and legal bases for DGS's set-off claims regarding alleged obligations to other state and federal government agencies.

PEC CLAIMS

As noted above, PEC made substantial claims for damages in two major categories: A) damages resulting from DGS's termination of both contracts pursuant to General Conditions Paragraph 14.1; and B) damages for "extra" work done beyond the scope of its contracts completed at the direction of DGS and presented as change order requests. Although these two categories of damage claims appear initially (and at other times throughout the hearing) to have been presented by PEC as cumulative (i.e. each claim to be separate and in addition to the other), DGS challenges the propriety of combining these claims. It asserts, instead, that these two different categories of claimed damages are duplicative. PEC itself, at still other points in the proceeding, seems to acknowledge the duplicative (or at least the overlapping) nature of these two approaches to damage calculation both in the testimony of Paul Chambers (PEC's president and owner) and John Wieland (Mr. Chambers' assistant) and in its post-trial briefings.[22] Because it directly affects the type of damage calculation applicable to PEC's claims, and because it is an issue of prime contention between the parties, we will first address PEC's claim for monies due from DGS after its termination on July 27, 2001 pursuant to Paragraph 14.1 of the General Conditions.

Because DGS invoked Paragraph 14.1 in its two termination letters of July 27, 2001, PEC demands payment pursuant to Paragraph 14.1. Paragraph 14.1 of the General Conditions provides, inter alia, that a contractor terminated pursuant to that provision "shall be paid (and shall accept payment) for that portion of the entire Contract actually performed satisfactorily to

[22] Mr. Chambers, in rebuttal testimony near the end of the hearing, presented a modified version of PEC's damage claim calculation for termination pursuant to Paragraph 14.1. In this testimony he acknowledged that this part of the claim based on PEC's total job costs, if awarded, would subsume its damages based on extra work (Compare PEC's Statements of Claim, Exhibits 1, 55, 56, 1000 and 1001. See also N.T. pp. 5046-5051). Mr. Wieland also notes overlapping elements of costs between the "termination for convenience" claim and the extra work claims. See N.T. pp. 2551-2559, 2579-2585, 2587-2591. PEC also appears to acknowledge at least substantial duplication of these two damage calculations (exclusive of markups) in its post-trial briefs as it argues the propriety of pleading these claims in the alternative. See Plaintiff's Post-Hearing Brief pp. 5-10 and Plaintiff's Reply Brief pp. 5-6).

the date of termination, excluding, however, any loss of anticipated profits." Paragraph 14.2 is a corollary provision in the General Conditions which further explains how payment is to be made to contractors for such terminations.

DGS disputes PEC's entitlement to a termination payment pursuant to Paragraph 14.1 by asserting that PEC had just defaulted on its ST2.1 and ST4.1 contracts by failing to maintain adequate surety bonds for these two contracts in July 2001. DGS argues instead that, under such circumstances, we should consider PEC's termination as being one for default and governed by Paragraphs 14.3 and 14.4 of the General Conditions despite DGS's own explicit reference to, and use of, Paragraph 14.1 as the basis for PEC's termination in its July 27, 2001 termination letters. Apparently, DGS believes the latter default provisions would eliminate most, if not all, damages due PEC as a result of its termination from the Project.[23]

The General Conditions for both contracts were the same and, pursuant thereto, DGS had two options for terminating a contractor: termination for default pursuant to Paragraph 14.3 or termination "for any reason" pursuant to Paragraph 14.1. Each type of termination had different consequences for the contractor. [24] Paragraph 14.1 of the general conditions applicable to both contracts provides, in relevant part:

[23] DGS miscalculates the effect of a termination for default in this case pursuant to Paragraphs 14.3 and 14.4 by significantly overstating its costs of completion and by incorrectly subtracting therefrom the amount PEC had earned on each contract rather than the much lower amounts DGS had actually paid to PEC on each contract, thereby convincing itself there would be a net payment due DGS when, in fact, the opposite would occur particularly when the value of extra work outside the contracts is also accounted for. See p. 7, supra; See also Exs. 431 and 433, Para. 14.4; Oelschlegel v. Mutual Real Estate Investment Trust, 633 A.2d 181, 184-185 (Pa. Super. 1993); In re Cornell & Company, Inc. v. Seaway Painting, Inc., 229 B.R. 47, *39-41 (U.S. Bankr. Ct., E.D. Pa. 1999); In accord see Kann v. Bennett, 72 A. 342 (Pa. 1909).

[24] Although such provisions as 14.3 and 14.1 are commonly referred to as "termination for cause" and "termination for convenience" clauses, respectively, we acknowledge DGS's objection to use of the latter phrase to describe Paragraph 14.1 since the clause does not literally include that term but rather utilizes the phrase "for any reason." Ultimately, however, and regardless of what one calls it, the use of Paragraph 14.1 to terminate the contracts explicitly directs payment to the contractor pursuant to Paragraph 14.2, while termination of the contractor pursuant to Paragraph 14.3 explicitly directs payment to the terminated contractor pursuant to Paragraph 14.4. (Exs. 431 and 433).

> 14.1: Termination by the Department. The Department may, at any time and for any reason, terminate this Contract. In such a case, the Contractor shall be paid (and shall accept payment) for that portion of the entire Contract actually performed satisfactorily to the date of termination, excluding, however, any loss of anticipated profits. . . .

(Exs. 431 and 433, Para 14.1).

Paragraph 14.2 then describes, in greater detail, the effect of termination by DGS under Paragraph 14.1, stating, in relevant part:

> 14.2: Effect of Termination by Department. Such termination shall be effective in the manner and at the time specified in such notice and shall be without prejudice to any claims which the Department may have against the Contractor… Upon termination of this Contract, as provided by this paragraph, full and complete adjustment and payment of all amounts due the Contractor arising out of this Contract as determined by an audit conducted by or for the Department, as soon as practicable after termination shall be made as follows:
>
> A. The Department shall reimburse the Contractor for all costs incurred to date of termination, including reasonable overhead and expense for plant, made in the performance of this Contract, less amounts previously paid.
> B. The Department shall also reimburse the Contractor for all costs to which the Contractor has been subjected or is legally liable for by any reason of the termination of this Contract, including reasonable costs related to cancellation of orders, termination of subcontracts, etc.
> C. The Department shall also reimburse the Contractor for the reasonable cost of providing protection of the property of the department as directed by the notice of termination.
> D. The sum total of the payments made under this paragraph shall not exceed the total amount of the Contract, less payment previously made….

(Exs. 431 and 433, Para. 14.2).

In contrast, the termination for default provisions at Paragraphs 14.3 and 14.4 in the general conditions for both contracts provide, in relevant part, as follows:

> 14.3: Contractor's Default. If the Contractor persistently or repeatedly refuses or fails to supply enough properly skilled workmen or proper materials, or persistently disregards Laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or fails to proceed as directed by the Department, or performs the Work unsuitably, or neglects or refuses to remove materials or replace rejected Work, or discontinues the prosecution of the Work without approval of the Department, or otherwise is guilty of a substantial violation of a provision of the Contract Documents, then the Department may, without prejudice to any of its other rights or remedies, give the Contractor and its surety written notice that the Contractor has seven (7) days from the date of the Department's notice to cure the default set forth in the notice. Should the Contractor fail to cure said default within the specified time, the Department may terminate the Contract between the

> Department and the Contractor and may take possession of the site and of all materials, equipment, tools, construction equipment and machinery, which is owned by the Contractor, located on the property and may finish the Work by whatever method it may deem expedient. In such case, the Contractor is not entitled to receive any further payment until the Work is finished, at which time the Contractor shall be paid any excess remaining, in accordance with paragraph 14.4 below. The discretion to declare the Contractor in default is solely the Department's, and, no party, whether bound by Contract to the Department or attempting to raise a third party relationship, which this Contract specifically precludes, has standing to raise the failure of the Department to exercise its discretion, if default is the basis of a claim against the Department.
>
> 14.4: Unpaid Balance. If the unpaid balance of the Contract sum exceeds the cost of finishing the Work, including compensation for the Construction Manager's and Professional's additional services and any other damages which the Department has incurred in accordance with the Contract, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor or the surety or both shall pay the difference to the Department.

(Exs. 431 and 433, Paras. 14.3 and 14.4).

PEC's Termination Claim

With respect to which provisions of the contracts are applicable to PEC's termination in the case at hand, we agree with PEC. That is to say, the evidence presented clearly establishes that, as a matter of fact, DGS elected to (and did) terminate both PEC's contracts on the Project pursuant to Paragraph 14.1 of the General Conditions rather than for default based on inadequate bonding pursuant to Paragraph 14.3. (Exs. 64, 308). Not only are DGS's two July 27, 2001 letters of termination explicit in their reference to (and reliance upon) Paragraph 14.1 for the termination and immediate removal of PEC from the Project, but DGS's words and actions here stand in sharp contrast to the default procedure of Paragraph 14.3 it had initiated in February 2001 against PEC for slow performance, but then abandoned.

Specifically, we note that PEC's problems regarding its surety bonds for the ST2.1 and ST4.1 Contracts began on June 7, 2001, when the District Court of Lancaster County, Nebraska

declared the American West Casualty Company ("Amwest") insolvent and ordered its liquidation. (Ex. 566A). Amwest then notified PEC and DGS that both of PEC's bonds for the Project would expire on July 6, 2001 (Ex. 566B). On July 6, 2001, when PEC had not secured new bonds, DGS then sent a letter requesting PEC to provide adequate replacement surety bonds for both the ST2.1 and ST4.1 Contracts. (Ex. 73). This letter also informed PEC that DGS would take steps to declare PEC in default if PEC did not supply DGS with fax copies of such replacement bonds by July 9, 2001 and originals of same by July 13, 2001. However, DGS never took this threatened action, never declared PEC in default and never initiated the default procedure (which included a formal cure period) described in Paragraph 14.3 with regard to the surety bond problem. Instead, it did nothing further until July 27, 2001, when it issued two letters of that same date terminating PEC from both contracts immediately under Paragraph 14.1. (Exs. 64, 308). These actions, and the July 27, 2001 letters, thus stand apart and distinct from a declaration of default and initiation of termination for default proceedings as prescribed by the contracts under Paragraph 14.3. (Compare Exs. 64, 225, 308, 330).

The July 27, 2001 termination letters and the series of actions taken by DGS after the initial notification of the problems with PEC's surety bonds beginning in June 2001 make it clear that DGS, in fact, elected to terminate PEC pursuant to the no fault termination provisions of Paragraph 14.1 rather than the default provisions of Paragraph 14.3. Accordingly, DGS may not now, after utilizing Paragraph 14.1 and enjoying the benefit of terminating PEC immediately upon issuance of its July 27, 2001 letters, claim that PEC was terminated under any other provision which would have allowed an additional cure period. See e.g. Line Construction Co. v. U.S., 109 Ct. Cl. 154, 187-191 (U.S. Ct. Cl. 1947); Hoff Supply Co. v. Allen-Bradley Co.,

Inc., 768 F. Supp. 132, 133-135 (U.S.D. Md. 1991) (applying Pa. law and citing, inter alia, Amoco Oil Company v. Burns, 437 A.2d 381 (Pa. 1981)).

Although we are in agreement with PEC that it was terminated from the Project pursuant to Paragraph 14.1 of the General Conditions, we do not agree with PEC's calculation of the damages or payments it is due thereunder. To begin with, we do not agree with PEC's position that the termination payments due it pursuant to Paragraph 14.1 include anticipated profits for the work it had already performed. Specifically, the language in the John B. Conomos, Inc. case cited by PEC for this proposition (i.e. that the exclusion of anticipated profits from Paragraph 14.1 damages did not mean the exclusion of profits for work completed but only for work not yet performed) is readily distinguishable from the present case. In Conomos, the operative language of the contract provided that the "canceled" contractor would waive any claim for damages including loss of anticipated profits. However, unlike here, the Conomos contract then expressly allowed for payment of costs plus any earned profits on such incurred costs.[25]

In addition to explicitly allowing "any earned profit on such incurred costs", despite eliminating "anticipated profits", the language in the Conomos contract contained no further explication of how these damages for termination were to be calculated. In further contrast to Conomos, PEC's contracts, at Paragraph 14.2 of the General Conditions, contain an additional,

[25] See John B. Conomos, Inc. v. Sun Company, Inc., 831 A.2d 696, 704-705 (Pa. Super. 2003) (The provision in relevant part states: "Owner, at its option, may cancel this Contract at any time, whether or not Contractor is in default of any of its obligations hereunder. Upon any such cancellation, Contractor waives any claim for damages, including loss of anticipated profits, on account thereof. However, provided that Contractor is not in default of any of its obligations hereunder, Owner agrees that Contractor shall be paid an amount which, when added to all previously paid installments, will equal the sum of all costs properly incurred by Contractor prior to the date of cancellation, plus any earned profit on such incurred costs, but in no event shall such amount be greater than the Contract price. Such earned profit shall bear the same relationship to such incurred costs as the profit increment of the Contract price bears to the cost increment of such Contact price. Owner shall have the right to verify the amounts of such costs and profit increments through an audit of Contractor's records.)

detailed explanation of exactly how Paragraph 14.1 termination damages are to be calculated. Thus, reading the contract here as a whole, and giving effect to all its provisions, we look to the specific explanation of Paragraph 14.2 in interpreting the damage calculation referenced in Paragraph 14.1. See e.g. Pritchard v. Wick, 178 A.2d 725, 727 (Pa. 1962); Capitol Bus Co. v. Blue Bird Coach Lines, Inc., 478 F.2d 556, 560 (3d. Cir. 1973). As a result, we find no basis for the inclusion of multiple markups for overhead and profit which PEC applies to the direct costs it incurred on the Project up to the point of termination (and to which it then adds an additional overhead cost calculation). (Exs. 55, 56, 429, 430, 431, 1000, 1001, N.T. 1954-1955, 2008-2009, 5036-5051). Moreover, we also find that some of the costs asserted by PEC in its Paragraph 14.1 damage calculation have not been established with reasonable certainty. Thus, making appropriate adjustments for the foregoing, and rounding to the nearest dollar, we find that the proper calculation for PEC's termination costs pursuant to Paragraphs 14.1 and 14.2 to be as follows:

PEC Termination Payment

PEC's Direct Project Costs		
ST2.1 Contract	$4,430,472	
ST4.1 Contract	548,990	
Sub total		$4,979,462
Plus: Reasonable Overhead & Expense for Plant calculated at 7.25% markup (4,979,462 x .0725)	361,011	
Plus: Cost Incurred by Reason of Termination and/or Protection of Property:		
Labor Cost to Demobilize	15,944	
Equipment Rental	11,199	
Protection for Rebars	6,355	

Total Costs		$5,373,971
Less: Amounts Previously Paid		
ST2.1 Contract	$3,062,515	
ST4.1 Contract	179,709	
	$3,242,224	
14.1/14.2 Termination Payment (Before DGS Counterclaims)		$2,131,747

Pec's Extra Work Claims

As indicated above, PEC has pled and presented its "extra work" claims as being cumulative or "in addition to" to its Paragraph 14.1 termination claim at certain times during this proceeding. At still other times, most notably in Mr. Chamber's rebuttal testimony, PEC has acknowledged that its Paragraph 14.1 termination claim, if granted, would subsume its "extra work" claims.[26] Although PEC's attorneys apparently concede now that the cost of this "extra work" would be included in an award of termination damages pursuant to Paragraphs 14.1 and 14.2, as PEC has presented it, they still appear to argue that PEC is further entitled to additional markup not only for overhead but also for profit on this "extra work" because it was outside the scope of PEC's original contract work and therefore not subject to the Paragraph 14.1/14.2 limitation to cost plus overhead alone. (Plaintiff's Post-Hearing Brief, pp. 8-10, 14-15; Plaintiff's Reply Brief, pp. 6-7).

Several problems exist with PEC's argument for an additional award based on its "extra work" claims. To begin with, PEC admits, and we find as a matter of fact, that all of PEC's costs (including a reasonable markup for overhead) for all these "extra work" activities are included in the total cost amount it submitted for its termination claim and in our award to PEC described above based on Paragraphs 14.1 and 14.2. Additionally, we agree with DGS that several of the

[26] See footnote 6.

tasks which PEC describes as "extra work" (and which DGS describes as "contract work"), either did not constitute "extra work" or did not effect a material change to the scope of PEC's original tasks. These items include PEC's claims for: lack of a master project schedule in the early stages of construction; provision of stone base; and the change in concrete tolerance specifications.

Moreover, with respect to items which we do consider to have caused PEC extra work beyond the original scope of its contracts (i.e. additional cut/fill excavation, changes to step footings, repair of disturbed subgrade, changes to equipment pads, changes to steel tank drawings, cost to review specification changes on ST2.1 Contract, lack of temporary construction access roads, grouting around steel pier assemblies and extra Winter work) PEC has, for the most part, failed to provide this Board with sufficient credible evidence to distinguish the costs it incurred for these tasks from its overall contract construction costs. That is to say, although we find PEC's evidence of total job cost adequate for purposes of Paragraphs 14.1 and 14.2, as a general rule, we do not find the majority of PEC's itemizations of manpower, equipment or costs for these "extra" work items (provided to the Board in the form of individual change order requests) to be sufficient to allow us to ascertain what portion of the total job cost was actually incurred for "extra" work versus original contract work. The three exceptions we note to this general rule are for PEC's grouting around steel pier baseplate assemblies, a portion of its claim for extra expense due to the lack of temporary access roads on the site, and its extra Winter work. Consequently, except for these three extra work claims, we have no reliable cost basis for any of PEC's remaining categories of alleged "extra work" to which we might apply a further mark-up for profit.[27]

[27] With respect to PEC's damage calculations for additional cut/fill excavation, changes to step footings, changes to equipment pads, changes to steel tank drawings, cost to review specification changes on ST2.1 Contract, and part of

With regard to PEC's claim for extra work grouting steel column baseplate assemblies, the evidence provided did establish that this task was not included in PEC's original Contract work and that PEC was subsequently required to perform this task by DGS. In this instance, PEC has also provided the Board with evidence of the costs it actually incurred in performing this extra work that we find both adequate and credible. (Exs. 14, 14A; N.T. pp. 317-322, 1908-1913, 5076).

With regard to PEC's claim for extra work incurred due to DGS's failure to construct adequate temporary access roads on the Project site, the evidence provided did establish that it was both necessary for prosecution of work on the Project and reasonable for PEC to expect DGS would construct such access roads; that DGS failed to provide same; and that PEC incurred additional cost and extra work on the site as a result of DGS's failure to do so. However, PEC has provided the Board with adequate and credible evidence for only a portion of the extra costs it claims as a result of the extra work incurred for this item (primarily for work constructing its own temporary access roads and moving equipment and cement trucks around the site).

Similarly, in the case of PEC's claim for "extra" Winter work, we have found that DGS's 66 day delay in signing PEC's ST2.1 Contract (and corresponding 66 day adjustment to PEC's foundation and slab milestones) did push more of PEC's foundation and slab work for Buildings A, B, C, D and 14 into Winter, thereby slowing progress on each by approximately 20 days and requiring PEC to perform significantly more work to accomplish these concrete pours in Winter conditions than it reasonably anticipated from the ST2.1 Contract bid documents. (Ex. 18; N.T. 332-352). We further find, after review of the evidence as a whole (including the testimony of Messrs. Chambers and Wieland) and the scope of the work to be performed on these five

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its lack of temporary access roads, claims PEC either utilized unit pricing (from which we could not ascertain actual costs incurred) or submitted cost estimates which we found unreasonable and lacking credibility based on the evidence presented.

buildings, that PEC's claimed costs for this extra Winter work was credible and the evidence provided adequate to establish these costs with reasonable certainty.[28]

As a result of the foregoing, we find that the cost for these three discrete items of extra work actually incurred by PEC (including reasonable overhead of 7.25%) totals $411,243, identified with reasonable certainty as follows:

Grouting of steel base plate assemblies	$ 13,325
Costs due to lack of adequate temporary access roads	116,347
Extra Winter work Buildings A, B, C, D and 14	239,962
Total Cost of Three Extra Work Items (including 7.25% markup for overhead)	$369,634

Because we can distinguish the discrete cost of these three items of extra work (i.e. grouting, temporary access road construction and additional Winter work) within the total costs awarded PEC pursuant to Paragraphs 14.1 and 14.2, we can award PEC a further markup for profit (of 7.25%) on these three items alone, which additional amount totals $26,798. Therefore, because we have awarded PEC termination payments pursuant to Paragraphs 14.1 and 14.2 for all the costs it incurred on the Project up to the date of its termination (including reasonable overhead); and because this award substantially subsumes all of the costs which form the basis

[28] Both parties complain at length about the basic lack of backup documentation provided by the other to support their respective costs and damage claim amounts. It is true, unfortunately, that neither party to this action has provided the Board with optimal backup documentation such as complete job cost reports, labor reports, daily logs identifying specific manhours and tasks, equipment usage logs, invoices identifying all material and/or equipment costs or similar documentation for the costs and/or damage amounts claimed in this action. However, because the Board has determined that both parties have legitimate claims against one another, and have suffered real damage as a result thereof, we have assessed the cost and damage estimates presented by both parties on an equal footing based not only on the documentation that has been provided but also on the credibility of the testimony of those presenting the damage calculations and the reasonableness of the individual estimates provided for each item of damage. Where we have found the testimony and documentation together to be credible, and the estimates reasonable, we have credited same. Where we have not, we have rejected the claimed amounts as inadequately established.

for PEC's alleged "extra work" claims presented to the Board in the form of change order requests; and because we find no reliable evidence to further ascertain any additional profit which might be due on any of this alleged "extra work" except for PEC's grouting, temporary access road construction and additional Winter work, we can make no separate award to PEC for these "extra work" claims except for an additional $26,798 representing the profit markup on said grouting, temporary access road construction and additional Winter work tasks performed outside its contractual scope of work at the direction of DGS. Accordingly, the total principal amount of damage to PEC on its claims (before adjustment for DGS counter and cross claims) is $2,158,545.

DGS CLAIMS

Having calculated PEC's cost claim pursuant to Paragraphs 14.1 and 14.2 of the contracts and additional profit due for extra work performed, we must nonetheless acknowledge that the language of Paragraph 14.2 also makes it explicit that termination of a contractor pursuant to Paragraph 14.1 "shall be without prejudice to any claims which the department may have against the contractor." Consequently, we must now turn our attention to the several and distinct counterclaims, crossclaims and set-offs alleged by DGS against PEC.

Here, we agree with DGS that, despite PEC's substantial efforts to accomplish the construction requirements of the two contracts, PEC: 1) failed to maintain adequate surety bonds for the ST2.1 and ST4.1 contracts; 2) performed defective work in certain instances; 3) failed to pay several materialmen, suppliers, subcontractors, and labor costs in a timely fashion; and 4) failed to provide sufficient manpower for the Project resulting in a failure to perform its ST2.1 Contract Work in a timely manner and a failure to coordinate its work so as not to interfere with other contractors on the Project thereby causing material delay to several other prime contractors

on the Project. We further find that DGS did not materially breach its contracts with PEC prior to PEC's termination.[29] These findings mean that DGS may properly seek such damages as it can establish were caused by PEC's various failures, which we explore below in more detail. We then total the damages PEC caused to DGS and subtract that total from the amount PEC may be awarded pursuant to Paragraphs 14.1/14.2 and for its extra work to determine the net amount of damages due PEC pursuant to the contracts.

PEC's Failure to Maintain Adequate Surety Bonds

DGS claims that it is entitled to recover $1,976,799.56 for its alleged costs to complete PEC's contract work under both contracts after it terminated PEC's participation in the Project on July 27, 2001. (DGS Brief p. 48; DGS FOF525) This claim includes $1,935,299.56 DGS allegedly paid to Penn Transportation and $41,500 allegedly paid to Amthor Steel Company to complete PEC's work on the ST2.1 and ST4.1 Contracts. (DGS FOF 528, 529). The claim itself appears to be based on DGS's premise that PEC's failure to maintain its surety bonds was a material default by PEC on its contracts which caused DGS to incur the cost of one or more substitute contractors to complete PEC's work on the Project.

Under Pennsylvania law, in order to recover on a breach of contract claim, the plaintiff must prove by a preponderance of the evidence: (1) the existence of a valid and binding contract to which plaintiff and defendant were parties; (2) the essential terms of the contract; (3) that

[29] We do not find DGS's 66 day delay in executing PEC's ST2.1 Contract (and its subsequent addition of 66 days to PEC's original milestones) to be a material breach of the contract. DGS as owner maintains the right to shift and adjust contractors' work schedules, within reason, as required to properly coordinate such multi-contractor projects as this one. Here, the 66 day rescheduling by DGS was a reasonable adjustment to maintain PEC's original milestone work durations and was not, in our view, excessive. Neither did we find DGS's failure to construct an adequate temporary access road system in this case to be a material breach justifying the elimination of PEC's contractual obligations on the Project. That said, PEC (as any other contractor) is entitled to proper compensation for any extra work or cost it can establish was caused by such rescheduling or lack of temporary access roads as a change to the work it originally contracted to perform (as reflected in our awards for extra work noted previously).

plaintiff complied with the contract's terms; (4) that the defendant breached a duty imposed by the contract; and (5) that damages were caused by the breach. Technology Based Solutions, Inc. v. Electronics College, Inc., 168 F. Supp. 2d 375 (2001); A.G. Cullen Constr, Inc. v. State System of Higher Education, 898 A.2d 1145, 1161 (Pa. Cmwlth. 2006) (the non-breaching party must show causal link between the breach alleged and the damages claimed). Thus DGS can only be successful on a breach of contract theory for the cost of completion if it can show that PEC's failure to maintain its surety bonds caused DGS to incur damages in the form of payments to Penn Transportation and Amthor to complete PEC's work on the Project. Id.; See also Robinson Protective Alarm Co. v. Bolger & Picker, 516 A.2d 299 (Pa. 1986) ("a loss is not recoverable on the ground of a contract breach where there is no causal relationship between the breach and the loss"); See also, James Corp. v. N Allegheny Sch Dist, 938 A.2d 474 (Pa. Cmwlth. 2007).

It is clear from the evidence presented that each contract required PEC to provide and maintain adequate surety bonds so that, in the event PEC could not complete the contract work and/or could not pay its subcontractors, suppliers or labor costs, the surety would meet these obligations and DGS would not be damaged by PEC's failure to perform or pay. (See e.g. Exs. 429, 430, 431). The General Conditions to each contract also confirmed the requirement that the contractor maintain adequate bonding throughout the performance of the contract. Paragraph 10.23, titled "Unacceptable Surety or Insurance Company," provided:

> Should any surety on the Bonds or insurance company providing required coverage become unsatisfactory to the Department, the Contractor must promptly furnish such additional security or insurance coverage as may be required to protect the interest of the Department. The Contractor shall, from time to time, furnish the department, when requested, satisfactory proof of each type of Bond and/or insurance required. Failure to comply with this provision shall result in the cessation of the work, and shall be

> sufficient grounds to withhold all further payments due the Contractor and/or to declare the Contractor in default.

(Ex. 431, Gen. Con., Para. 10.23. See also Gen. Con., Para. 17.5.)

In May 2000, when PEC bid the ST2.1 Foundations Contract, PEC arranged for the required contract bond from American West Casualty Co. ("Amwest"). [30] Following its award of the ST2.1 Contract on July 3, 2000 (Ex. 150), PEC executed that contract which had the Amwest surety bond incorporated as part of the contract's terms. (Ex. 429). PEC also entered into a second contract with DGS in January 2001, the ST4.1 CUP Contract, pursuant to which PEC agreed to construct the concrete foundation for the central utility plant and then use its subcontractors to complete the shell. (Exs. 76, 430). The ST4.1 Contract provisions included surety bond provisions and General Condition provisions that were identical to those we cited above for the ST2.1 Contract. (Exs. 429, 430, 431) Just as with the ST2.1 Contract, the ST4.1 Contract terms, including the General Conditions, required PEC to maintain acceptable payment and performance bonds and, if they became unsatisfactory, replace them promptly. (Id.).

Although it is abundantly clear from the foregoing that PEC had an express duty to obtain and maintain adequate surety bonding for its work under both contracts on the Project, and that it failed in this responsibility, it is also clear from the evidence presented in this case (and our earlier discussion of the circumstances of PEC's termination) that, in fact, it was DGS's termination of PEC's contracts and participation on the Project pursuant to the "no fault" provisions of Paragraph 14.1 and direction to PEC to immediately cease and move off the Project, not PEC's default on its contract obligation for failure to maintain its bonds, that actually caused DGS to incur the additional costs paid to Penn Transportation and Amthor to complete

[30] The "Contract Bond" document attached to the ST2.1 Contract provided for two types of coverage: 1) $4,848,000 for "faithful performance of the Contract" and 2) $4,484,000 for "payment for labor, material equipment rental and public utility services." Ex. 429.

PEC's work on the Project. That is to say, the evidence presented establishes that DGS did not default PEC on its contracts for a failure to maintain adequate surety bonding. DGS instead chose to terminate PEC and remove it from the Project under Paragraph 14.1 which allowed for immediate termination without fault or cure period.[31] Because, in fact, it was DGS's decision to terminate PEC pursuant to Paragraph 14.1 rather than a default by PEC on its surety bond obligation which took PEC off the Project and caused DGS to incur the additional costs to complete PEC's Project work, we do not find PEC liable to DGS on this aspect of DGS's counterclaim. See e.g. Line Construction, 109 Ct. Cl. at 154, 189-192; A.G. Cullen Constr, Inc. v. State System of Higher Education, 898 A.2d 1145, 1161 (Pa. Cmwlth. 2006); Robinson Protective Alarm Co. v. Bolger & Picker, 516 A.2d 299 (Pa. 1986); James Corp. v. N Allegheny Sch Dist, 938 A.2d 474 (Pa. Cmwlth. 2007).

PEC's Defective Work on the ST2.1 Contract

A second category of damages asserted by DGS results from certain work by PEC which DGS alleges to have been defective and to have required DGS to incur costs for repairs and corrections. DGS claims damages for the cost of repairing defective work in three categories:

[31] We do not find persuasive DGS's argument that, because Paragraph 14.1 allowed it terminate the contract "for any reason" DGS used this paragraph rather than Paragraph 14.3 to terminate PEC's contract for default on the surety bond issue. Provisions such as 14.1 allowing an owner to terminate a construction contract "for any reason", "without fault" or "for convenience" (particularly when accompanied in the contract by another provision outlining procedures for termination for fault) are typically understood in the construction industry to allow an owner to terminate a contractor at will and both parties to go their separate ways without the assignment of fault in exchange for payment of the contractor's cost of work performed up to the point of termination. Allowing an owner to collect costs of completion (i.e. for future work not performed) after it decides to remove a contractor without assignment of fault flies in the face of equity and common sense. See e.g. Line Construction, 109 Ct. Cl. at 154, 189-192; Hoff Supply, 768 F. Supp. at 133, 135; John B. Conomos, Inc., 831 A.2d at 704-705. Moreover, were we to agree with DGS that Paragraph 14.1 could be used to terminate PEC's contract for default, such interpretation would make Paragraphs 14.3 and 14.4 entirely unnecessary and superfluous. This would violate basic principles of contract interpretation that the entire contract should be read as a whole and in a manner that would give effect to all its provisions. Such a reading as DGS suggests would also violate the concept that Paragraph 14.3, as the specific provision relating to default, should control any termination for default. It would also create ambiguity and conflict as to which provision, procedures and payment calculations to use for defaulting contractors, which ambiguity must be resolved against DGS. See e.g. Harrity v. Continental-Equitable Title & Trust Co., 124 A. 493, 494-495 (Pa. 1924); Pritchard v. Wick, 178 A.2d 725, 727 (Pa. 1962); Capitol Bus Co. v. Blue Bird Coach Lines, Inc., 478 F.2d 556, 560 (3d Cir. 1973); Com., State Public School Building Authority v. Noble C. Quandel Co., 585 A.2d 1136, 1144 (Pa. Cmwlth. 1991); Dep't of Transp v. Semanderes, 531 A.2d 815, 818 (Pa. Cmwlth. 1987).

$87,851.50 for repair of defective concrete slabs; $45,000 for clean up of cement splatter; and $44,551.19 to test and repair sewer damage in Buildings E, F, G and H. PEC opposes DGS's recovery of these damages because it contends the evidence of any defects is sparse and insufficient and that DGS failed to give PEC notice and/or an opportunity to correct the alleged defects.

To support its right to recover repair costs, DGS relies on Paragraphs 11.13, 11.15 and 11.18 of the General Conditions, which provide:

> 11.13: Correction of Work Rejected by the Department or Construction Manager. The Contractor shall promptly correct all Work rejected by the Department or Construction Manager as defective or as failing to conform to the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including the cost of the Construction Manager's additional services and any additional cost incurred by the Department and/or the Professional.
>
> 11.15: Correction at No Cost to Department. All defective or non-conforming Work under paragraphs 11.12 and 11.13 shall be promptly removed from the site, and the Work shall be corrected to comply with the Contract Documents without cost to the Department.
>
> 11.18: Correction of the Work by the Department. If the Contractor fails to correct such defective or non-conforming Work, the Department may order it corrected and charge the Contractor or its surety for the cost of correction.

In order to recover on each of these repair claims, DGS must show, at a minimum, that PEC's work was defective and required repairs, that the repair work was performed by another contractor and that DGS paid a reasonable amount for the repairs. Oelschlegel v. Mutual Real Estate Investment Trust, 633 A.2d 181, 184 (Pa. Super.1993); Active Entertainment, Inc. v. Harris Miniature Golf Courses, Inc., 35 Phila. 176 (1997); Wilkinson v. Becker, 39 A. 885 (Pa. 1898); In re Cornell & Co. v. Seaway Painting, Inc., 229 B.R. 97 (Bankr. E.D. Pa. 1999); LBL Sky Systems (USA), Inc. v. APG-America, Inc., 2005 U.S. Dist. LEXIS 19065 (E.D. Pa. 2005).

Although we note that General Conditions Paragraphs 11.3, 11.5 and 11.18 contemplate that the contractor, PEC, and/or its surety would typically have an opportunity to correct all defective work before one or the other is charged with the cost of the corrections, we find no impropriety here since PEC was, in fact, notified and given opportunity while it was on the Project to correct all deficient work which was discovered prior to its termination. Thereafter PEC was properly terminated under the contracts and no surety was present to pay for repairs.

a. Concrete Slab Repair

DGS alleges that it paid Penn Transportation $87,851.50 for replacement and repairs of defective concrete slab work originally installed by PEC. DGS bases this claim on Change Order 3 for $59,500 and Change Order 7 for an amount not to exceed $30,000 posted to Penn Transportation's SW6.1 Contract (which was amended to include additional concrete work after PEC's termination). These documents and DGS payment records indicate that DGS paid Penn Transportation $87,851.50 on these change orders to "remove and replace defective concrete slabs in Housing Units B and C due to extensive cracking" and to "repair or remove and replace concrete slab diamonds at columns at Buildings 2 and 17." (Exs. 499F and 502).

In addition to DGS documentation that it paid Penn Transportation $87,851.50 for the foregoing concrete slab repairs credible testimony and documentation shows that this repair work was done because portions of the concrete slabs initially installed by PEC for Housing Units B and C and for slab diamonds at columns at Buildings 2 and 17 (i.e. the CUP) were installed in a defective manner by PEC as exhibited, inter alia, by flatness deviations beyond allowable tolerances, incorrect elevations, unacceptable cracking and/or failure to obtain sufficient thickness of the slab pour during installation and that PEC was notified of these problems as

soon as they were discovered. (N.T. 2696, 3732-3734, 3766; Exs. 258, 261, 282; Board Finding).

Accordingly, we find the evidence supports an award of $87,851.50 to DGS for repair/ replacement of defective concrete slabs in Housing Units B and C and slab diamonds in Buildings 2 and 17.

b. Cement Splatter

DGS's second element of repair damages is for $45,000 that DGS claims it paid to New Enterprise, the precast cell contractor, to clean up cement splatter caused by PEC. (Ex. 499B; N.T. 6170; Exs. 435A, 499B). However, we do not find sufficient evidence to support any assessment of damages against PEC on this claim.

Subsequent to making this claim in its Answer and Counterclaim (Para. 149, Docket No. 3464), DGS changed its position and decided that multiple contractors, not just PEC, were responsible for its cement splatter claim. (N.T. 3737). DGS has reduced this portion of its claim and now asks for $16,030.38 as a *pro rata* portion of the damages to be assessed against PEC. (N.T. 6160- 6171). Ms. O'Reilly, DGS counsel, testified that DGS got change orders, processed them and paid for cement splatter cleanup work. However, given her limited participation in this particular event, the Board admitted her testimony for "notice" purposes only and not as substantive evidence on the issue of "whether or not these particular issues actually happened." (N.T. 6161) Moreover, Mr. Kopko of P.J. Dick testified that, while he believed PEC bore some responsibility for the splatter, he could not say when the damage occurred or on what basis DGS apportioned the responsibility.

Mr. Chambers of PEC testified that prior to PEC's termination he was not apprised of any cement splattering problem or PEC's alleged responsibility therefore. He stated that PEC's

practice was to clean up any splatters immediately after its concrete pours. (N.T. 6357-6358) His testimony was not contradicted by any other witness. Moreover, there is no evidence of any cement splatter problem being raised prior to PEC's termination and no Project document mentions this problem until six months after PEC had left the site.

Clearly, DGS blames multiple contractors (three at one point and four at another) for the splatter. (N.T. 3737, 5464-5465, 6170). Its apportionment and assignment of some of the cleaning costs to PEC appears arbitrary and without sufficient foundation. (N.T. 6167, 6357-3658). Finally, the DGS total cleaning charge of $32,989.74 to remove splatters which seem to have escaped notice until after PEC left the Project, and for which DGS wishes to charge $250 per day for 132 man days, does not appear reasonable to us. We deny any recovery of these alleged damages because there is insufficient evidence in the record to show, inter alia, PEC's degree of responsibility for the splatter problem, how the damages should be properly apportioned, and/or that the damages claimed were reasonable for this cleanup work.

c. Sewer Damage

DGS's third category of damages for repair of defective work is for $44,551.19 that DGS paid to W.G. Tomko, Inc. ("Tomko"), the plumbing contractor, for testing and repair of punctured sewer pipes in buildings E, F, G and H. (Ex. 499E). DGS documented that it paid this amount to Tomko pursuant to Change Order 9 to the ME3.3 Contract dated August 16, 2001. (N.T. 6175).

Mr. Chambers acknowledged that PEC had caused some damage to pipes in two of the four buildings in question, but he asserted PEC made repairs in those two instances. He also argued that the testing by DGS was unnecessary. (N.T. 6358- 6361). We disagree.

DGS provided credible evidence that, when PEC installed its forms to hold the concrete it was pouring to create the floor area under each housing cell, it used metal stakes to secure those forms and, in doing so, punctured sewer lines already installed by Tomko in Housing Units E, F, G, and H. Tomko promptly reported the damage in these units to the Construction Manager. The Construction Manager then appropriately directed Tomko to repair the broken pipes it had found and to test the system to insure no other repairs were necessary. Tomko performed the required repairs and testing and DGS paid Tomko $44,551.19 for this remedial work as a result of PEC's actions. Because the contract provides that when one contractor damages the work of another contractor (Ex. 431 ¶ 6.30), the first contractor has the obligation to make or pay for any necessary repairs, we find that PEC caused this sewer pipe damage and is liable for this amount.

In summary, for this three part claim for repair of various defective work, we find PEC liable to DGS for $132,402.69 for repair of slabs in Buildings B, C, 2 and 17 as well as repair and testing of broken sewer pipes in Buildings E, F, G and H. We otherwise decline to award damages for the cement splatter cleanup asserted by DGS for the reasons stated above.

PEC's Failure to Pay Subcontractors, Suppliers and Labor Costs

PEC's third category of damages alleged by DGS stems from PEC's failure to pay several of its subcontractors, suppliers, laborers and laborers' union benefits on the Project in a timely manner. Starting as early as January 8, 2001, and continuing for the remaining duration of PEC's presence on the Project, P.J. Dick received notices from various third parties that PEC was not paying its bills in a timely fashion. For instance, PEC failed to pay $42,000 to its surveyor subcontractor, McMillan Engineering Co., who left the Project on January 22, 2001 in protest. (Ex. 198; N.T. 2663-2995). Also, in January 2001, P.J. Dick was informed that PEC

was in arrears on payment of union benefits it owed for its cement masons.[32] In February 2001, P.J. Dick became aware that PEC was not keeping up with payment of union fringe benefits to the Carpenters' Union and the Laborers Combined Funds Union. Shortly thereafter, several other subcontractors and suppliers also lodged complaints with P.J. Dick/DGS regarding lack of payment. From February through June 2001, DGS repeatedly requested PEC to pay up its outstanding obligations, but PEC continued to struggle and failed to do so. (Exs. 180, 188, 218, 224, 253, 291, 297, 302, 438; N.T. 2667, 2675, 2696, 2707). In June 2001, P.J. Dick also received a letter from PEC's steel supplier, Tri-City Steel, stating that it had not been paid $180,000 that PEC owed for reinforcing steel that PEC had used for the footers and slabs. (Ex. 291; N.T. 2703-2706).

After DGS was notified that PEC's surety was in liquidation, DGS withheld approval of PEC's June and July 2001 payment applications because it feared that PEC owed substantial sums to its various providers and was not sufficiently solvent to pay its Project debts, and because DGS could not rely on PEC's surety to pay these third parties. DGS had the right to withhold approval of these payment applications under Paragraph 12.4(A)(7) of the General Conditions to both contracts which provided:

> It is within the Department's discretion to withhold payment because of the Contractor's failure to pay subcontractors or suppliers. The failure to withhold payment for this reason does not give rise to a cause of action against the Department on the part of the subcontractor or supplier.

(Exs. 431, 433).

The contracts at Paragraph 12.9 of the General Conditions further provided that final payments were not due to PEC until it had paid all its outstanding bills on the Project.

[32] PEC's laborers on the Project were actually employed by PNG. PNG was a sister corporation to PEC (wholly owned and controlled by Mr. Chambers) through which PEC engaged the labor needed on the Project.

After DGS terminated PEC on July 27, 2001, DGS conducted an audit of PEC's records which revealed that PEC potentially owed in excess of $1,500,000 to various third parties.[33] The DGS audit conducted in August 2001 showed that, at the time of its termination, PEC had not yet paid a substantial amount to its subcontractors, suppliers, laborers and laborers' unions. (Ex. 489-McCrory and McDowell Report, Sept. 7, 2001-Ex. A).

PEC's failure to promptly pay its subcontractors, suppliers, and laborers breached key provisions of the ST2.1 and/or the ST4.1 contracts.[34] Both contracts required, inter alia, that PEC "… shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and all other facilities and services necessary for the proper execution and completion of the work." Paragraph 6.9, General Conditions. (Exs. 431, 433).[35] Other portions of the contracts, as well as Pennsylvania statutes, also imposed the obligation on PEC to promptly pay its subcontractors. Paragraphs 7.4 and 7.6 General Conditions; See also 62 Pa. C.S. §§ 3921-3934. [36] Given PEC's failure to perform this duty, the

[33] Although referred to herein and in the contracts as an "audit", the conduct of the parties at the time indicates that they understood this term to mean an investigation of PEC's books and records conducted according to agreed upon procedures rather than a formal audit as that term of art is used in the accounting profession. Consequently, we use the term here in the former sense as an investigation of PEC's books and records rather than a formal audit as defined by GAAP.

[34] Although the evidence presented shows that a substantial majority of the unpaid subcontractors, suppliers and/or labor costs relate to the ST2.1 Contract, the parties do not distinguish which contract was involved in certain amounts paid by DGS for some of the outstanding union obligations of PEC. Because the provisions of the General Conditions regarding prompt payment to these third parties were identical for the ST2.1 and ST4.1 contracts, and because both DGS and PEC have frequently presented their costs/damage calculations on a combined basis, where we find no harm in their failure to consistently separate their ST2.1 and ST4.1 claims (as we do here in the case of unpaid union obligations) we will follow the evidence presented and arrive at a combined damage amount.

[35] The contracts do not expressly speak to the payment of union benefits, but payment for these benefits was part of the payment PEC owed for "all labor" and is also a "service necessary for the proper execution and completion of the work." (Exs. 431, 433 at General Conditions ¶ 6.9).

[36] Paragraph 7.4 of the General Conditions provides:

> Payment to Subcontractors. Performance by a Subcontractor in accordance with the provisions of the contract entitles the Subcontractor to payment from the party with which the Subcontractor has contracted. For purposes of this section, the Contractor and the Subcontractor is presumed to incorporate the terms of the contract between the Contractor and the Department. (Ex. 431).

Paragraph 7.6 of the General Conditions provides:

> Time for Subcontractor Payment. When a Subcontractor has performed in accordance with the time provisions of the contract, the Contractor shall pay the Subcontractor, the full or proportional amount

large amounts owed, the length of time some of the money was owed (over seven months for some), the large numbers of parties who were not paid, and the reminders to pay from DGS that PEC failed to comply with, we must conclude that PEC breached its obligations under the ST2.1 and/or ST4.1 contracts by failure to timely pay its suppliers, subcontractors and labor costs. (Exs. 431 and 433- General Conditions ¶¶ 6.9, 7.4, 7.6).

DGS claims damages of $1,592,090 for this breach, but we do not find that this amount is recoverable. First, DGS admits that it did not actually pay this total amount to subcontractors, suppliers and laborers itself, but claims it because DGS believes these others entities were owed this amount by PEC as of September 2001. With respect to amounts for potential claims it has not yet paid out, we find that DGS has clearly failed to establish it has actually incurred these "damages" with reasonable certainty. Among other things, DGS has not established that any such claims by subcontractors, suppliers and/or labor providers which DGS has not yet paid have even been filed against it. Moreover, if no rights to these payments had been asserted against DGS by these third parties by the time of hearing, any rights to recover such amounts have likely long expired. Therefore, allowing DGS to recover amounts it did not actually pay under the circumstances here are simply too speculative and could expose PEC to double payment as we do not know if these third parties have since been paid voluntarily by PEC or if they ever sued PEC in another venue and recovered. Accordingly, we find that DGS has only established its claim here with reasonable certainty for the amounts it has shown it actually paid to PEC's subcontractors, suppliers and laborers for material or work they provided to the Project. See e.g.

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received for each Subcontractor's work and material, based on work completed or services provided under the contract, within 14 days of receipt of a progress payment.

(Ex. 431).

Spang & Co. v. U.S. Steel Corp., 545 A.2d 861, 866-867 (Pa. 1988); Scobell, Inc. v. Schade, 688 A.2d 715, 719-721 (Pa. Super. 1997).

DGS has shown, however, that it has paid the following amounts to PEC's subcontractors, suppliers, laborers and/or unions who were owed money for material or work provided to the Project before PEC's termination on July 27, 2001:

Subcontractors and Suppliers (ST2.1 Contract)	$248,815.55
Worker's Wages (ST2.1 Contract)	23,887.84
Subcontractors and Suppliers (ST4.1 Contract)	325,112.50
Carpenter's Union	41,123.43
Laborers Combined Funds	120,202.78
Cement Mason's Union	40,199.32
Tri-City Steel (amount reduced by settlement)	40,000.00
TOTAL	$839,341.42

(N.T. 4511, 4518, 5140-5045; Exs. 489, 496, 497, 500C, 503, 505, 555, 1000, 1001).

Each party listed above contributed goods or services to the Project and thereby benefited DGS, thus giving rise to liability on DGS's part for same by way of claims based on quantum meruit and/or unjust enrichment.[37] Accordingly, these sums paid by DGS to the parties listed for amounts PEC (or its affiliates) owed and failed to pay on the Project are damages which flow both from PEC's failure to make timely payments to these parties as well as PEC's failure to maintain a surety which would have paid these parties if PEC could not. For the most part, PEC

[37] Unlike the prime contractors on the Project, there has been no evidence presented that these subcontractors, suppliers and/or laborers had any contract(s) with DGS defining or modifying their rights or obligations with respect to the goods or services supplied to the Project which ultimately benefitted DGS. Therefore these parties would appear to have had a viable claim in quantum meruit and/or unjust enrichment against DGS for the benefit provided. Employers Ins. of Wausau v. PennDOT, 865 A.2d 825 (Pa. 2005); Dep't of Health v. Data-Quest, Inc., 972 A.2d 74 (Pa. Cmwlth. 2009); Armour Rentals, Inc. v. General State Authority, 287 A.2d 862 (Pa. Cmwlth. 1972).

does not seriously contest these specific amounts listed above or DGS's right to deduct same from any payment due and owing to PEC. (Exs. 1000, 1001; N.T. 5039-5045; Plaintiff's Post-Hearing Brief pp. 92-93). Thus, under the ST2.1 and ST4.1 Contract provisions which allow DGS to withhold funds from PEC in the light of PEC's failure to pay its suppliers, laborers and/or sub-contractors and/or pursuant to applicable case law respecting consequential damages flowing from this failure, we find that DGS may properly deduct the $840,341 that DGS paid on behalf of PEC to PEC's various suppliers, laborers and/or subcontractors from any award of termination costs to PEC.

PEC's Failure to Perform its Work in a Timely Manner

DGS's fourth category of damages arises from PEC's alleged failure to provide sufficient manpower to accomplish the foundation and slab work on the ST2.1 Contract in a timely manner and its related failure to coordinate its work with other contractors so as not to interfere with their work.[38] DGS alleges that these failures of PEC resulted in material delay to several other contractors and to the Project. Specifically, DGS claims the damages to it that flowed from PEC's failure to timely complete its foundation and slab work on the Project total $4,537,000, the amount DGS paid to settle the delay claims of eight other prime contractors on the Project whose work followed PEC's and who DGS asserts were adversely impacted by PEC's late completion of foundations and slabs.

These eight contractors noted above originally filed claims against DGS at this Board claiming delay-related damages and some damages for other issues. It appears that DGS

[38] Although DGS also alleged a breach of the ST4.1 Contract by PEC for insufficient manpower, slow performance and/or lack of coordination efforts, it provided no credible evidence in the record regarding any specific amount of delay caused to other contractors on the Project by PEC's ST4.1 Contract work. (DGS Answer with New Matter and Counterclaim in Original Docket 3469 ¶¶ 86-89, 109-113, 127; Board Finding).

thereafter entered into settlement agreements with these eight contractors listed below (sometimes referred to herein as the "Settling Contractors") for the following amounts:

New Enterprise Stone & Lime Company, Inc.	$300,000
Merit Contracting, Inc.	$124,000
The Farfield Company	$1,700,000
Simplex Grinnell, LP f/k/a Grinnell Fire Protection, a division of Grinnell Corporation	$124,000
Harris Masonry, Inc.	$825,000
Amthor Steel, Inc.	$850,000
Limbach Company	$825,000
W.G. Tomko Incorporated Contractors[39]	$unknown

Although it appears that DGS settled the claims of each of these Settling Contractors for a single lump sum payment, it did not identify any particular portion of the settlement amounts as being paid to cover the contractor's delay or any other element of the contractor's claims.

DGS, having settled the above claims, now seeks to recover each of these settlement amounts from PEC through its counterclaim. DGS appears to base this counterclaim for reimbursement of these settlement amounts on PEC's failure to prosecute its foundation and slab work in a timely manner and failure to coordinate its work and comply with the multiple obligations imposed on PEC pursuant to Article 6 of the General Conditions, arguing PEC's liability under theories of indemnification, breach of contract and/or assignment of rights. (Defendant's Brief pp. 35-36).

PEC denies it has any liability for these settlement amounts. It relies, inter alia, on both its factual arguments (e.g. that DGS, not PEC, caused the delay and/or that the Board cannot

[39] DGS claims $36,364 for its settlement with Tomko but did not provide sufficient evidence to establish any amount for this settlement.

properly apportion any such delay to PEC) and on its argument that the combination of Paragraph 6.30(I) of the General Conditions and Pennsylvania case law serves to bar DGS recovery on any of these settlement amounts. We will first address the parties' legal arguments.

Legal Basis for Liability on Counterclaim Delay Damages

To begin with we note that the terms of the ST2.1 Contract stated in several places that "time is of the essence." (Ex. 429, p. 2; Ex. 431, General Conditions ¶ 8.1). The General Conditions of the ST2.1 Contract also specified that PEC had a duty to perform its work on time, i.e finish its work in accordance with the Project's schedule (¶¶ 8.1F, 6.27); meet all of its contract milestones (¶ 8.7A); maintain a "satisfactory rate of progress" (¶ 6.10); and provide "all labor, materials, equipment, tools, construction equipment and machinery…necessary for the proper execution and completion of the work." (¶ 6.9) Several paragraphs of the General Conditions also provided that PEC was required to maintain its "progress so as not to delay the progress of the Project or other prime contractors." (¶ 8.7B; see also ¶¶ 6.19, 6.20A, 6.22, 6.30B). Further, if PEC fell behind schedule and was not properly prosecuting the work, this would be grounds for termination by DGS. (¶¶ 14.3, 6.30B and 8.7A).

In addition to the ST2.1 Contract's terms, long-established Pennsylvania case law also sets forth the principle that when time is of the essence in a contract, performance after such time is not performance of the contract unless assented to by the other party, and a failure to meet the duration time specified for performance will be considered a breach and make the breaching party liable for damages for the delay, unless there is some acceptable excuse therefore. Lichter v. Mellon-Stuart Co., 193 F. Supp. 216 (W.D. Pa. 1961); S. H. Benjamin Fuel & Supply Co. v. Bell Union Coal & Mining Co., 284 F. 227 (3d Cir. Pa. 1922). Accordingly, as a prime

contractor responsible for every building's foundation and SOG on this large Project, PEC knew from the outset that it had clear and substantial contractual obligations to perform its work in a timely manner and that any PEC delay would adversely impact follow-on contractors and expose PEC to substantial damages.

In asserting and defending DGS's counterclaim for reimbursement of these settlement amounts, both parties note, inter alia, Paragraph 6.30(I) for support. Paragraph 6.30(I) of the General Conditions states as follows:

> Should the Contractor sustain any damage through any act or omission of any other Contractors having a Contract with the Department for the performance of the Work or any Work which may be necessary to be performed for the proper prosecution of the Work to be performed hereunder, or through an act or omission of a subcontractor of such Contractor, the Contractor shall have no claim against the Department, the Professional or the Construction Manager for such damage, but shall have a right to recover such damage from the other Contractor.

DGS cites this provision as confirmation that PEC may be held directly liable to the Settling Contractors and should therefore be held liable to reimburse DGS for these settlements. PEC argues that, because this provision explicitly precludes the possibility that DGS could be liable to any contractor on the Project (e.g. the Settling Contractors) due to the acts or omissions of another contractor (e.g. PEC), PEC's breaches (even if they did occur) could not cause DGS to be liable to any of the eight Settling Contractors in this matter. Therefore, because DGS cannot be held liable to the Settling Contractors for PEC's failings, PEC asserts that it cannot be liable for these settlement amounts under a breach of contract theory because its alleged breaches could not have caused these damages to DGS. (Plaintiff's Post-Hearing Brief pp. 59-61; Plaintiff's Reply Brief pp. 17-18).

Similarly, PEC argues it could not be liable through contractual or common law indemnification principles because such indemnification would first require DGS to show that

DGS was liable to these Settling Contractors for PEC's breach, which it cannot do by virtue of Paragraph 6.30(I). See e.g. Tugboat Indian Company v. A/S Ivarans Rederi, 5 A.2d 153, 156 (Pa. 1939); Martinique Shoes, Inc. v. New York Progressive Wood Heel Co., 217 A.2d 781, 783-784 (Pa. Super. 1966). (Plaintiff's Post-Hearing Brief pp. 78-81; Plaintiff's Reply Brief pp. 17-18). PEC also challenges DGS's assertion that it can be liable to DGS by way of any assignment of rights DGS received from the Settling Contractors as well as DGS's method of apportioning these settlement amounts to PEC. (Plaintiff's Post-Hearing Brief p. 61 at footnote 35, pp. 63-78; Plaintiff's Reply Brief pp. 18-24).

No Damage Recovery Under Indemnity Theory

We agree with PEC that DGS's attempt to recover from PEC the settlement amounts it paid to the Settling Contractors under a theory of indemnification is fatally flawed. In order to establish a right to indemnification, an indemnitee must establish the scope of the indemnity agreement, the nature of the underlying claim, its coverage by the agreement, the reasonableness of alleged expenses and, where the action has been settled, the validity of the underlying claim and the reasonableness of the settlement. See e.g. McClure v. Deerland Corp., 585 A.2d 19, 22 (Pa. Super. 1991); Fox Park Corp v. James Leasing Corp. et al., 641 A.2d 315, 317 (Pa. Super. 1994). Although a right of indemnity may still exist whether the indemnitee pays the loss voluntarily or has a judgment recovered against him, where a settlement had been paid, as is the case here, Pennsylvania case law requires that the indemnitee must prove, among other things, that it was liable on the claim it settled in order to collect from its indemnitor. Id. See also Tugboat Indian Company v. A/S Ivarans Rederi, 5 A.2d 153, 156 (Pa. 1939) (To recover indemnity where there has been such a voluntary payment, it must appear that the party paying

was himself legally liable and could have been compelled to satisfy the claim); Martinique Shoes, Inc. v. New York Progressive Wood Heel Co., 217 A.2d 781, 783-784 (Pa. Super. 1966) (When a cause is settled, the record of the action is not sufficient to establish an indemnitee's claim against the indemnitor and the indemnitor is entitled to a trial by jury and a determination by it as to whether or not liability did, in fact, exist and then, whether or not it follows that the contract of indemnity had been breached); Ridgeway Court, Inc. v. James J . Canavan Ins. Associates, Inc., 501 A.2d 684, 686-687 (Pa. Super. 1985); Philadelphia Electric Co. v. Hercules, Inc., 762 F.2d 303, 317 (3d. Cir. 1985) (A mere showing by the indemnitee that there was a reasonable possibility that it might have been held liable if it had not settled is not sufficient to recover indemnity: actual legal liability must be shown); Besser Co v. Paco Corp, 671 F. Supp. 1010, 1012-1014 (M.D. Pa. 1987). This rule applies generally regardless of whether the indemnity claim is contractually based or based upon common law. Daily Express, Inc. v. Northern Neck Transfer Corp., 490 F. Supp. 1304, 1306-1307 (M.D. Pa. 1980); Casey v. Ryder Truck Rental, Inc., 2005 U.S. Dist. LEXIS 45601, **25-26 (E.D.N.Y. 2005).

Although some case law indicates that Pennsylvania's general rule requiring a settling indemnitee to first prove its own liability in order to collect from its indemnitor may be altered or waived by the clear and explicit terms of a contractual indemnification clause (e.g. to allow for indemnification of settlement payments without proof of liability), the indemnification provisions of the ST2.1 Contract fall well short of such a clear and explicit announcement. Compare Volkswagen of America, Inc. v. Bob Montgomery, Inc., 1985 U.S. Dist. LEXIS 15629, **7-10 (E.D. Pa. 1985) and Best Products Co, Inc and CRS v. A.F. Callan and Co, Inc., 1997 U.S. Dist. LEXIS 1914, **3-4, 18-21 (E.D. Pa. 1997). Specifically, the two clauses in the ST2.1

Contract's General Conditions noted by DGS, Sub-Paragraphs 6.30(J) and 6.30(K), provide, in relevant part, as follows:

> The Contractor shall indemnify and hold the Department, the Construction Manager and the Professional harmless from any and all claims or judgements for damages and from costs and expenses to which the Department may be subjected or which it may suffer or incur by reason of the Contractor's failure to comply with directions promptly.

(Ex. 431 ¶ 6.30(J)).

> Should any other Contractor having or who shall hereafter have a Contract with the Department for the performance of Work upon the site sustain any damage through any act or omission of the Contractor or a subcontractor of the Contractor, the Contractor agrees (1) to reimburse such other Contractor for all such damages and (2) to indemnify and hold the Department, the Construction Manager and the Professional harmless from all such claims.

(Ex. 431 ¶ 6.30(K)).

We find nothing in the indemnity language of these provisions, nor any language in the ST2.1 Contract sufficient to alter the general principles stated in Tugboat and Martinique.

Although both Sub-Paragraphs 6.30(J) and (K) grant indemnification rights to DGS from PEC, no DGS recovery based on these indemnification rights (or on common law indemnification) is possible because there has been no showing of an underlying legal liability of DGS to these Settling Contractors for PEC's acts or omissions that delayed these other contractors. As expressly stated in Sub-Paragraph 6.30(I) of the General Conditions utilized by DGS in its contracts with PEC and the Settling Contractors, no contractor on the Project shall have a claim against the Department for the acts or omissions of any other contractor. Accordingly, we must conclude that DGS has not, and cannot, meet the requirement of Tugboat, Martinique and their progeny to show it was liable to the Settling Contractors for PEC's acts or omissions on the Project or that this requirement was altered or waived by clear and explicit terms of a contractual indemnification clause in this instance. Thus, under Pennsylvania law,

DGS is not entitled to recover from PEC for the settlements paid to the Settling Contractors on the basis of indemnification. See e.g. Tugboat, 5 A.2d at 156; Philadelphia Electric Co., 762 F.2d at 317.

Recovery Under Breach of Contract and Assignment Theory

We, of course, agree with PEC that in order to recover on a breach of contract claim under Pennsylvania law, the plaintiff must prove by a preponderance of the evidence: (1) the existence of a valid and binding contract to which plaintiff and defendant were parties; (2) the essential terms of the contract; (3) that plaintiff complied with the contract's terms; (4) that the defendant breached a duty imposed by the contract; and (5) that damages resulted from the breach. Technology Based Solutions, Inc. v. Electronics College, Inc., 168 F. Supp. 2d 375 (2001); Robinson Protective Alarm Co. v. Bolger & Picker, 516 A.2d 299 (Pa. 1986) ("a loss is not recoverable on the ground of a contract breach where there is no causal relationship between the breach and the loss"); See also, James Corp. v. N Allegheny Sch Dist, 938 A.2d 474 (Pa. Cmwlth. 2007); A.G. Cullen Constr, Inc. v. State System of Higher Education, 898 A.2d 1145, 1161 (Pa. Cmwlth. 2006)(the non-breaching party must show causal link between breach and the damages claimed). Although we agree with PEC that DGS is not entitled to reimbursement of the settlement amounts it paid out based on a theory of indemnification, we must ultimately agree with DGS that PEC is liable to DGS for a portion of the settlement amounts paid to the Settling Contractors based on a breach of contract theory.

Specifically, we agree with DGS that PEC failed to perform its ST2.1 Contract duties in a timely manner; that these failures caused delay-related damages to the Settling Contractors; that PEC has a contractual obligation under the various paragraphs of Section 6.30 to reimburse these

Settling Contractors for such delay damages; that DGS has a right, as signatory to the ST2.1 Contract, to enforce PEC's contractual obligation to reimburse these Settling Contractors for their delay damages; and that PEC's failure to do so has caused DGS itself to incur damages. To begin, we note that the evidence presented clearly establishes the existence of a valid and binding ST2.1 Contract between PEC and DGS as well as the essential terms of same set forth in several places, including the Contract's General Conditions. As explained above, these terms provided that time was of the essence and that PEC was required, inter alia, to accomplish its work timely, to provide sufficient labor, materials and equipment necessary to do so; and to progress its work so as not to delay other contractors on the Project. Additionally, we have found that DGS complied materially with the ST2.1 Contract's terms and that PEC's failure to supply sufficient manpower and coordination to complete its foundation and slab on grade work under the ST2.1 Contract in a timely manner caused delay and delay-related damages to the Settling Contractors.

We also find, as asserted by DGS, that PEC is directly liable to the Settling Contractors for the amount of delay-related damages that PEC's failures have caused these Settling Contractors pursuant to the provisions of Section 6.30 of the ST2.1 Contract. Specifically, we agree with DGS that Paragraph 6.30(I) states that PEC is directly liable to the Settling Contractors for such delay damages as PEC has caused them. Moreover, reading Section 6.30 and the ST2.1 Contract here as a whole, and giving affect to all its provisions, we find that Paragraph 6.30(K) further clarifies PEC's contractual obligation to reimburse these Settling Contractors for any such delay-related damages as it has caused them. See e.g. Pritchard v. Wick, 178 A.2d 725, 727 (Pa. 1962); Capitol Bus Co. v. Blue Bird Coach Lines, Inc., 478 F.2d 556, 560 (3d Cir. 1973). Paragraph 6.30(K) states as follows:

> Should any other Contractor having or who shall hereafter have a Contract with the Department for the performance of Work upon the site sustain any damage through any act or omission of the Contractor or a subcontractor of the Contractor, the Contractor agrees to reimburse such other Contractor for all such damages and to indemnify and hold the Department, the Construction Manager and the Professional harmless from all such claims. (Emphasis added).

(Ex. 431).

This language clearly imposes on PEC the obligation to reimburse each of the Settling Contractors for any delay-related damages it has caused them, and, insofar the ST2.1 Contract is between DGS and PEC, gives DGS itself a contractual right to enforce such reimbursement payments.

Furthermore, when the foregoing provisions of the ST2.1 Contract are viewed in conjunction with the pertinent terms of the settlement agreements entered into by DGS and seven of the eight Settling Contractors, this establishes the contractual basis for DGS's counterclaim against PEC for these delay damages.[40] In this regard, we have found that the settlement agreements entered into by DGS and each of the Settling Contractors (other than Tomko) provides for an assignment of any and all funds recovered against any additional defendant in the case and/or pursuant to any counterclaim DGS has against any claimants.

Specifically, the settlement agreements with New Enterprise, Merit, Simplex Grinnell, Harris, Amthor and Limbach state, in pertinent part, as follows:

> [Settling Contractor] agrees to cooperate with DGS (at no cost to DGS), including preparation and testimony in any trial between DGS and the additional defendants in Docket No. 3494 and in other litigation arising out of the construction of Fayette SCI, including but not limited to claims raised by or against other defendants, additional defendants and/or DGS counterclaims that remain in the Fayette SCI litigation after this settlement. [Settling Contractor] agrees that DGS is solely entitled to any and all funds recovered against any additional defendants

[40] As discussed more fully in our Findings of Fact, DGS presented sufficient evidence for the Board to determine the delay-related damages incurred by, and the terms of settlement relevant to the Project with, each of the Settling Contractors except Tomko. See F.O.F. 400 to 628.

> or pursuant to any counterclaim DGS has against any claimants. (Emphasis added.)

(Exs. 31, 513, 520, 527, 541, 548).

Paragraph 5 of the settlement agreement between DGS and Farfield (predecessor in time to the other six) was essentially the same but referenced only funds recovered against any additional defendants named in Docket No. 3642 (i.e. PEC). [41]

Although not an assignment of each Settling Contractors litigation rights, we find the foregoing language sufficient to assign any monies or proceeds which may be found due to any of these seven Settling Contractors under the ST2.1 Contract pursuant to any counterclaim or crossclaim in this consolidated action. PEC was and is both an additional defendant and a counterclaim defendant in this action. Accordingly, DGS is now entitled to any reimbursement we find due from PEC to New Enterprise, Merit, Farfield, Simplex Grinnell, Harris, Amthor and/or Limbach. It is also apparent that any failure on PEC's part to provide this reimbursement would damage DGS by depriving it of the benefit of these monies in resolving or reducing the claims of these Settling Contractors and/or as an assignee of these reimbursement funds.

Factual Basis for Liability and Apportionment of Counterclaim Delay Damages

Although we agree with DGS that PEC can and should be held liable to DGS for reimbursement of such delay damages to the seven Settling Contractors as PEC has caused, we do not agree that PEC has caused 100% of the damages claimed by DGS. We also disagree with PEC that these damages cannot be fairly apportioned because we have found that the evidence

[41] The Board was provided the actual settlement agreements between DGS and New Enterprise, Merit, Farfield, Simplex Grinnell, Harris and Amthor. We were also presented with sufficient testimony and other evidence to find that Limbach's settlement agreement contained a term similar to Paragraph 5 noted above. Tomko failed to do either. See our Findings of Fact at ¶¶ 400 to 408, 601 to 605 and 624 to 627 with regard to the settlements between DGS and the Settling Contactors.

presented does provide us with a sufficient basis to make a reasonable estimation of the delay-related damages which are attributable to PEC on these counterclaims.

Soon after PEC's Foundations Contract was executed in late August 2000 (66 days later than anticipated), DGS sought to adjust PEC's work schedule for the 66 day late start by substituting Revised Milestones for the original milestones in that contract. (Ex. 431B). Accordingly, when DGS changed the ST2.1 Contract start date from June 23, 2000 to August 28, 2000, DGS added 66 days to each original milestone to compensate PEC for the 66 day lag in executing PEC's contract. (Exs. 154, 457).

Although DGS advanced PEC's milestone dates for work completion, it did not change the order or sequencing of this work. PEC still had the same obligation as before to pour the foundations and slabs on the Project in an intense and overlapping manner and to work on as many as five buildings at or about the same time under these Revised Milestones.

Unfortunately, PEC delayed its own performance from the start. First, it was slow to mobilize on the site. From the beginning of September 2000 forward, DGS prompted PEC to complete its submittals, get its equipment and men on site, and commence work. Notwithstanding, these events occurred nearly a month later than scheduled. PEC's first Revised Milestone called for it to commence work on the footers for Buildings 1, 14, 15, J and L by September 14, 2000. However, PEC did not start any of this work until October 10, 2000, and then failed to proceed with the simultaneous construction of these five buildings as required by both the original and Revised Milestones. Ignoring the contract's requirements, PEC only started two buildings in October 2000, leaving the others until later. At the same time, P.J. Dick personnel were already expressing their concern to PEC about its capacity to keep up with the Project's foundation and SOG milestones so as not to delay other contractors. (Ex. 436A, Oct. 4

Project Mtg. Min.). This early concern proved to be well-founded. Not only was PEC slow to mobilize and commence work, but in the ensuing months it fell further and further behind in the number of foundations and SOG's constructed and, in most cases, exceeded the length of time allotted by its contract milestones to finish each building.

The principal reason for PEC's persistent lateness in starting and completing its foundation and slab on grade work was its insufficient staffing of this work. From the outset, P.J. Dick recognized PEC's manpower shortage and urged PEC to increase its crews to construct the foundations and SOG's on schedule and not delay the follow-on contractors, particularly the precast cell contractor.[42] Throughout the fall, P.J. Dick urged PEC to step up the pace and meet the Revised Milestones, and PEC indicated it would. For example, the November 11, 2000 Project meeting minutes state, "PEC work progressing and being expedited but contractor's capacity to keep up is a concern." In December 2000, P.J. Dick noted that PEC had lost one of its managers and was having what P.J. Dick considered to be a large turnover in personnel. (N.T. 2658-2659).

Also in December 2000, P.J. Dick, in an effort to push the Project forward, issued a draft master project schedule referred to as the "Initial (Master) Project Schedule." Because it was apparent, even by this time, that PEC was not commencing, and would not be completing the majority of its foundation and slab work as required by the Revised Milestones, this draft schedule relaxed (i.e. extended) some of PEC's foundation and slab on grade deadlines in recognition of the reality of the situation. Although the Initial (Master) Project Schedule, in essence, asked PEC's follow-on contractors to work with less time, it retained the requirement

[42] The precast cell contractor, New Enterprise, was building the cells in an adjacent off site location and DGS wanted to be able to install the cells on top of the foundation slabs in the housing units, A through L as soon as the cell units were ready because, among other things, these housing units were on the Project's critical path (i.e. that series or sequence of individual tasks, often performed by different contractors, which must be performed timely in order for the overall project to complete on time).

that PEC perform its work in the same multiple location, overlapping nature as originally planned.

PEC did increase its manpower later in 2001, but still not to the level required to meet the timing or perform concurrent multiple building constructions required by the Revised Milestones or the Initial (Master) Project Schedule. On December 28, 2000, P.J. Dick showed its frustration in a letter to PEC that documented PEC still falling behind in its work. (Ex. 177). During the same time period, Mr. Bernardi of P.J. Dick told Mr. Chambers that PEC was going to delay the entire job if PEC did not get its work done more quickly. (N.T. 2659-2660). For example, a P.J. Dick entry in the January 10, 2001 Project meeting minutes states:

> PEC continues to struggle. Even though they are being pressured to complete housing unit work to permit erection of cells, they are not expediting follow-up at day rooms and building exterior footings. This is affecting Harris Masonry's ability to maintain crew size on the project. As a result masonry is falling behind at the housing units.

(Ex. 488A p. 2).

On January 25, 2001, representatives from PEC, DGS and P.J. Dick met in Harrisburg to discuss the problems on the job, and all sides aired their complaints. (Ex. 198). Although PEC sporadically increased its manpower after the January 2001 Harrisburg meeting, it still had too few workers on the site to meet its deadlines. On January 30, 2001, P.J. Dick again sent PEC a letter directing it to increase overall production and to increase its manpower on the job. P.J. Dick also assigned a specific individual, Scott Eckrich, one of its quality control engineers, to track PEC's progress and oversee the quality of PEC's work. (N.T. 424-430; Ex. 488A -Minutes 3/15/01).

During the February 2001 period, Mr. Eckrich noted several problems caused by PEC's failure to commit enough men to the job. Among other things, he noted: 1) PEC had staffing problems which adversely affected its ability to prepare and file the daily paperwork the Project

required; 2) PEC had a "just phenomenal" amount of staffing changes because PEC rotated its supervisory personnel on and off the Project to cover work it was doing at other non-DGS job sites; and 3) PEC had communication and compliance failures because PEC did not have enough personnel to provide a site superintendent, a quality control officer and a safety officer on the Project, but instead PEC had only one person perform all these functions. Mr. Eckrich also cited PEC for numerous quality control deficiencies because various construction specifications (often the submission compliance documents) were not being met, another symptom of PEC's manpower insufficiencies. (Ex. 476; N.T. 428-432, 438, 442, 451-468).

Ultimately, on February 22, 2001, P.J. Dick sent PEC a notice of default letter on the ST2.1 Contract because of these deficiencies. This letter was accompanied with a schedule showing how far behind PEC was in its work and once again warned that PEC's delay was impacting other contractors. (Ex. 225; N.T. 2679, 2683). DGS did not, however, take any further action on this notice of default.

From March 2001 through July 2001, PEC continued to work, but could not catch up to its deadlines in the Revised Milestones or the Initial (Master) Project Schedule, and increasingly delayed the work of other contractors. During this period, P.J. Dick continued to monitor PEC's progress and to express concern about the lack of adequate PEC staffing on the Project. DGS sent letters to PEC on April 6, 2001 and May 3, 2001 directing PEC to increase its work forces. (Exs. 260, 278). Project Meeting minutes dated April 12, 2001 and May 18, 2001 also note PEC's continuing "trouble maintaining progress on all fronts." (Exs. 357, 359, 360, 488A).

In sum, the weight of evidence provided shows that PEC's manpower shortage throughout most of the Project, exacerbated by its delay mobilizing and its failure thereafter to coordinate its work, were significant factors in its failure to timely perform its work with regard

to pouring foundations and slabs for the vast-majority of the Housing Units. This was followed by further delay building the foundations and slabs for the other support buildings on the Project.

PEC does not deny that DGS consistently warned it that the foundation and slab work was being performed late on the Project. PEC does, however, contend it was DGS who was responsible for PEC's late performance. (PEC Brief at pp. 31-32) According to PEC, it was the extra work demanded by DGS that caused its delay. Specifically, PEC asserts that Mr. Payne (DGS's delay/damage expert) mistakenly failed to take this extra work into consideration when he gave his opinion as to the quantity and causes of delay on the Project and offered no opinion "… regarding the schedule impact of the additional work PEC was forced to perform, the design changes to the footings, the lack of access to work areas, the additional Winter work, and/or the piecemeal and out-of-sequence manner in which PEC was required to perform work, among other things." (PEC Brief at p. 32). PEC also asserts that all of the extra work that PEC was directed to perform "had a significant impact on its ability to adhere to the milestones established at the time PEC submitted its bid." (PEC Brief at p. 32). We agree with some of PEC's complaints.

To begin our analysis of this argument by PEC, we note that several of the twelve categories of "extra work" which PEC asserts caused delay to its foundation and slab work are work items which we consider: 1) not to be extra work or responsible for a material change to PEC's original scope of work, and/or 2) not to have contributed materially to any work delay on the Project. Those work items we consider to be in Category 1 are: the alleged change in concrete tolerance specifications; the lack of a master project schedule in the early stages of the Project and the placement of stone sub-base. Those work items which we consider to be in Category 2 include: minor repairs of disturbed subgrade; the relatively few changes in step

footing depths/dimensions; changes to equipment pads in the CUP; changes to steel tank drawings in the CUP; the need to review specification changes for the ST2.1 Contract; grouting under steel piers; additional excavation to bring grades around the Project site to appropriate levels for construction of foundation and/or SOG's; and the lack of appropriate temporary construction roads on the Project. With regard to these latter eight items under Category 2, we would specifically point out that, although we do consider these items to have been extra work, PEC failed to provide us with sufficient credible evidence to establish that these problems actually caused a material amount of delay to its foundation and SOG work or to give us any way to reasonably estimate such delay.

In contrast, the activity complained of by PEC which we do consider to be "extra work" above and beyond that originally contemplated under PEC's ST2.1 Foundations Contract and which we are able to find, on the evidence presented, to have contributed materially to PEC's delay in completing its foundation and slab work, is the increased amount of Winter concrete work on the Project (particularly in buildings A, B, C, and D which were on the Project's critical path). We are further able to attribute this extra Winter work to DGS's 66 day delay in executing PEC's ST2.1 Contract and, based on both the testimony of Mr. Payne (DGS's delay/damage expert) and PEC's own estimate of the delay to its work on these buildings, to arrive at a reasonable estimate of the delay impact from the extra "Winter work" complained of by PEC.

Specifically, the evidence establishes that DGS's 66 day delay in signing PEC's ST2.1 Contract forced PEC to start its foundation and slab work 66 days later than originally planned and described in the bid documents. This pushed more of PEC's early (and critical) foundation and slab work for inmate housing units into the 2000-2001 Winter season. This, in turn, slowed

PEC's work on these critical buildings because it had to perform concrete pours in five buildings in Winter that, under the original milestones, would have been finished before Winter started.

The buildings here at issue were Housing Units A, B, C, D and Building 14 which were scheduled to be constructed at or about the same time as one another and which were on the Project's critical path. Under the original milestones, these building foundations and slabs under cells would have been completed by November 17, 2000. Under the Revised Milestones (original + 66 days), DGS pushed PEC's work on these five buildings into the Winter period without allowing any increase in the scheduled work durations to complete them despite the need to do this work in more time-consuming Winter weather conditions.[43] P.J. Dick's Initial (Master) Project Schedule, published on December 5, 2000, did not materially alter this problem. Accordingly, we find ourselves in partial agreement with both parties on the reasons for PEC's failure to meet its deadlines for foundations and slabs on grade on the Project. More specifically, we agree with DGS that the primary reason for PEC's failure to timely perform its foundation and slab work was its inability to provide sufficient manpower and to adequately coordinate its work on the Project. However, we also find that the increase in Winter work on several of the foundations and slabs for the critical inmate housing units, which increase was caused by DGS, was also a factor in delaying completion of this work. We therefore find it appropriate to hold PEC responsible for only a portion of any delay to the work of other contractors caused the failure to complete the foundation and slab work on the Project in a timely manner.

With regard to quantifying the amount of delay PEC's failure to perform timely caused to the Project and to its fellow contractors, and what portion of this delay is fairly attributed to PEC alone, we found the testimony of DGS's expert, Christopher Payne, and PEC's own estimate of

[43] In addition to contending with cold adverse conditions for its workers and frozen ground, pouring concrete foundations and slabs in Winter generally require relatively elaborate structures surrounding pours to protect and heat the concrete and allow appropriate curing times.

Winter work delay to be both credible and helpful. Mr. Payne opined, and we so find, that the delay in completing construction of the foundations and slabs on grade, particularly with regard to the housing units on the Project's critical path, caused 54 of a total 156 days of critical delay experienced on the Project. (N.T. 1086). We also find general agreement with that portion of Mr. Payne's testimony attributing PEC's delay in prosecuting its foundation and slab on grade work to a combination of PEC's own failure to provide sufficient manpower to complete its tasks as scheduled, its failure to adequately coordinate its work so as not to interfere with other contractors, and to the Winter work conditions. However, for the reasons discussed above, we find that the Winter work problems which slowed PEC's foundation and slab work are attributable to DGS's initial delay in signing its ST2.1 Contract rather than to PEC, while the remaining problems of insufficient manpower and failure to coordinate its work are attributable solely to PEC. As addressed earlier, we also find PEC's own quantification of manhours, equipment and costs for this "extra" Winter work, as well as its accompanying estimate of approximately 20 days delay for each inmate housing slab under cell (A, B, C and D), to be adequate and credible. (Ex. 18). Further, because each of these slabs on grade under cells was to be constructed more or less at the same time, we also conclude that the 20 days average delay for each building was a concurrent, not a cumulative, delay. As a result of the foregoing, and based, inter alia, on Mr. Payne's testimony, PEC's own assessment of the delay to its foundation and slab work due to Winter conditions and the evidence as a whole, we find PEC alone responsible for only 34 of the 54 days of Project delay caused by the late foundations and SOG work and thus, 34 of the total 156 days of critical delay experienced on the Project. These 34 days attributable to PEC, in turn, round to 63% of the delay caused by the late foundation and slab work alone and 22% of the total delay experienced on the Project.

Based on these findings that PEC's failure to provide sufficient manpower and adequate coordination to complete the foundation and SOG work timely caused 63% of the delay attributable solely to late foundation and slab work and 22% of the total delay experienced on the Project, we further conclude that, depending upon the proximity of a Settling Contractor's work to PEC's, one of these two percentages (63% or 22%) constitutes a reasonable and reliable estimate of how much of the delay-related damages experienced by that particular Settling Contractor is attributable to PEC. Specifically, because PEC was one of the first contractors on the Project and its foundation and SOG work was a necessary precursor to the work of all the Settling Contractors; and because each of the Settling Contractors was a "follow-on contractor" to PEC and dependent on PEC's timely completion of the foundations and slabs on grade on the Project such that the delay experienced by these Settling Contractors was contributed to in some part by PEC's late completion of the foundation and slab on grade work; and because, depending on how immediate or distant the Settling Contractor's work was to the completion of the foundations and slabs on grade in the construction sequence, and/or how many other contractors (including Harris and/or Amthor) had to perform their work before the particular Settling Contractor could prosecute its own, PEC's late completion of the foundation and slab on grade work would have been a significantly greater or lesser factor in the delay experienced by the individual Settling Contractor.

Accordingly, we have first made an assessment for each Settling Contractor whether its delay was substantially caused by late foundation and/or slab on grade work alone (with minimal or nonmaterial contributing factors from others) or its delay was caused not only by the late foundation and/or slab on grade work but by several other intervening contractors and factors. Where we have found the former circumstance, as with New Enterprise (the precast cell

contractor) and Merit (the pre-fab metal building contractor) whose work followed PEC's immediately and was not substantially dependent upon other contractors, we find that 63% (representing PEC's contribution to the late foundation and slab on grade work alone) is a reasonable and reliable estimate of how much of the delay-related damages experienced by those two Settling Contractors is attributable to PEC's failure to provide sufficient manpower and coordination to complete its concrete work in a timely manner. However, where we have found that the Settling Contractor's work on the Project was such that it was substantially affected by the work of other contractors on the Project (particularly Harris and Amthor) as well as PEC's work (by a reason of there being several intervening contractors whose work was also integral to the Settling Contractor), we find that 22% (representing PEC's contribution to the total delay experienced on the Project) is a reasonable and reliable estimate of how much of the delay-related damages experienced by those remaining Settling Contractors is attributable to PEC's failure to provide sufficient manpower and coordination to complete its concrete work in a timely manner.

Therefore, after removing amounts not related to delay from each Settling Contractor's claim and reviewing all components of the damage calculations in each claim for accuracy, adequate support and reasonableness, the Board has applied 63% to the adjusted claims of New Enterprise and Merit and 22% to the adjusted claims of the remaining Settling Contractors to determine the amount of PEC's liability on each such claim. These amounts are as follows:

1. New Enterprise - the total amount of delay-related damages incurred is $293,966, and 63% of that amount attributable to PEC's acts/omissions is $185,199;

2. Merit - the total amount of delay-related damages incurred is $92,354, and 63% of that amount attributable to PEC's acts/omissions is $58,183;

3. Farfield - the total amount of delay-related damages incurred is $1,844,064, and 22% of that amount attributable to PEC's acts/omissions is $405,694;

4. Simplex-Grinnell - the total amount of delay-related damages incurred is $313,748, and 22% of that amount attributable to PEC's acts/omissions is $69,025;

5. Harris Masonry - the total amount of delay-related damages incurred is $753,217, and 22% of that amount attributable to PEC's acts/omissions is $165,708;

6. Amthor Steel - the total amount of delay-related damages incurred is $284,296, and 22% of that amount attributable to PEC's acts/omissions is $62,545;

7. Limbach - the total amount of delay-related damages incurred is $1,515,689, and 22% of that amount attributable to PEC's acts/omission is $333,452.

8. Tomko - claim made by DGS for total amount of $36,364, but no amount is awarded because of a lack of evidence.

Adding these damages together, the Board finds PEC liable to DGS on DGS's counterclaim for damages based on delay to the Settling Contractors in the total amount of $1,279,806.

DGS Claim for Recovery of Professional and Accounting Fees

DGS also claims damages for costs it incurred as a consequence of PEC's failure to secure new surety bonds. When DGS terminated PEC on July 27, 2001, DGS was aware that PEC owed money to various parties, including unions, subcontractors and suppliers. Before paying PEC any amounts remaining on the contracts, DGS's counsel recommended that DGS hire an accounting firm to review PEC's records to determine what unpaid invoices were outstanding.

In August 2001, DGS hired the firm of McCrory & McDowell to review PEC's records. McCrory & McDowell personnel visited PEC's offices, reviewed its financial records and reported the results to P.J. Dick and DGS. DGS states it paid $55,985.00 to McCrory & McDowell for investigation services and an audit report, and an additional $34,430.00 to P.J. Dick for its services in reviewing and determining what outstanding bills PEC owed on the

Project. DGS asserts that it did this because it needed to determine the amount of final termination payments due under Paragraphs 14.1 and 14.2 from DGS. [44]

Paragraph 14.2 of the General Conditions provides that after termination pursuant to Paragraph 14.1, DGS will settle its account with PEC by making:

> "…full and complete adjustment and payment of all amounts due to the Contractor arising out of this Contract as determined by an audit conducted by or for the Department, as soon as practicable after such termination shall be made as follows:
>
> ….
>
> G. The Department or its representative shall be afforded full access to all books, correspondence, data and papers of the Contractor relating to this Contract in order to determine the amount due."

(Ex. 431).

These contract provisions give DGS the right and duty to settle its accounts promptly with the terminated contractor. However, DGS cites no such contract provision or other legal authority that makes it PEC's responsibility to pay either for DGS's review of PEC's books upon PEC's termination pursuant to Paragraphs 14.1 and 14.2 or for any reports or recommendations to DGS regarding amounts it might owe to PEC or amounts PEC might owe to others. We see nothing in these contract provisions to indicate that the contractor must pay for any of the required accounting or record review services. Accordingly, we make no award to DGS for this claim.

PEC Claim for Penalties and Attorneys Fees Due to DGS Bad Faith

As noted initially, PEC has also alleged a claim for attorneys fees, penalty and interest against DGS pursuant to Chapter 39 of the Procurement Code. 62 Pa.C.S.A. §§ 3901-3942. In light of the foregoing discussions in this Opinion, including our finding of PEC's liability on several of DGS's counterclaims, we do not find DGS's withholding of payments to PEC with

[44] DGS originally made an additional damage claim for $1,000 it paid to L. Robert Kimball, but there is no mention of this claim in DGS's post-trial submissions. Had that claim been raised, it would be denied for the same reasons as other claims in this section.

regard to the Project to have been arbitrary, vexatious or done in bad faith. Moreover, we do not consider PEC to be a prevailing party in this matter. Accordingly, the Board will make no award of attorneys' fees, penalty or interest to PEC pursuant to Chapter 39 of the Procurement Code.

DGS Claims for Set-offs Against PEC

In addition to the counterclaims noted above, DGS separately claims a number of set-offs against PEC. The set-offs, which it separately indentifies in its pleadings and/or post hearing brief, are as follows:

1. $273,208.12 to the Pennsylvania Department of Labor and Industry for underpayment of prevailing wage rate and fringe benefits owed by PEC and PNG (its subcontractor and wholly owned subsidiary);

2. $29,157.89 to the Pennsylvania Department of Revenue for state taxes owed by PEC;

3. $8,189.10 to the Pennsylvania Department of Revenue for state taxes owed by PNG (PEC's subcontractor and sister corporation);

4. $317,391.83 to the U.S. Internal Revenue Service for federal taxes owed by PEC pursuant to a lien notice filed with DGS and the Board of Claims.

DGS cites Paragraph 6.14 of the General Conditions of the Project's contracts as authorization for these set-off claims. In addition, DGS cites to the Pennsylvania Prevailing Wage Act (43 P.S. §§ 165-1 through 165-17) as authority for offsetting the prevailing wage underpayments reflected in the Pennsylvania Department of Labor and Industry preliminary audit. DGS cites no authority for a set-off of the Internal Revenue Service tax amount noted above.

Paragraph 6.14 of the General Conditions to the ST2.1 Contract and the ST4.1 Contract states, in relevant part, as follows:

> Offset of Amounts Due to Commonwealth. The Contractor, by execution of the Contract certifies that it has no outstanding tax liability to Pennsylvania; authorizes the Department of Revenue to release information related to its tax liability to the Department of General Services; and, authorizes the Commonwealth to set-off any State

> and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount due to the Commonwealth from the Contractor, not being contested on appeal by the Contractor, against any payment due to the Contractor under a contract with the Commonwealth.

Exs. 431 and 433, Paragraph 6.14 General Conditions.

As explicitly authorized in Paragraph 6.14 of the General Conditions to the contracts, the Board acknowledges that DGS would have a contractual right to offset (i.e. deduct) current state and local tax liability (appropriately adjusted for interest accumulation) owed by PEC or any of its subsidiaries[45] from the net amount of any award hereby made to PEC. However, because the Board's judgment in this case results in a net award to DGS from PEC, there is no payment due to PEC from which to offset any state taxes owed. Accordingly, we find DGS's request for an offset of these amounts to be moot.

With regard to DGS's claim for set-off of the $273,208.12 sum allegedly due to from PEC and/or PNG to the Pennsylvania Department of Labor and Industry for underpayment of wages and fringe benefits on the Project pursuant to Pennsylvania's Prevailing Wage Act (43 P.S. §§ 165-1 though 165-17), we have already made a compensatory award to DGS for most, if not all, of this amount when we credited DGS for amounts it paid to PEC's subcontractors, suppliers and labor providers. See Pages 34-39 of this Opinion, supra. Specifically, we have already credited DGS for the payments of wages and fringe benefits made to the Carpenters Union in the amount of $41,123.43; to the Laborers Combined Funds in the amount of $120,202.78; to the Cement Masons Union in the amount of $40,199.32; and to the carpenters, cement masons and laborers themselves in the amount of $23,887.83. These amounts constitute a substantial portion of the $273,208.12 claimed again here by DGS as a set-off amount due to

[45] The specific set-off requested by DGS against PEC, which included amounts allegedly owed by PNG, would need to be reduced as the evidence established that PNG is not a subsidiary of PEC but rather a "sister" corporation (both owned by Mr. Chambers).

the Department of Labor and Industry.[46] Thus it appears that this Board has already credited DGS for $225,413.36 which represents all amounts due (and actually paid by DGS) to the Project's labor unions and/or workers identified in the Department of Labor and Industry preliminary audit and excludes only the $46,324.50 allegedly still due to the Department of Labor and Industry from PNG for the Project's Operating Engineers and their union. In addition to the absence of a net payment due from DGS to PEC (which moots this offset request as well), we also find with regard to this latter unpaid amount that there is no authority either in Paragraph 6.14 or the statutory provisions cited by DGS which would authorize a further set-off against PEC for any unpaid amounts owed by its affiliate PNG.[47] Accordingly, we decline to authorize any set-off against PEC for this aspect of DGS's claim.

With respect to DGS's claim to offset the amount of $317,391.83 in federal taxes from any payment due PEC pursuant to this Board's damage award, we find no contractual basis for same in Paragraph 6.14 of the General Conditions or otherwise. Similarly, DGS has cited no

[46] Exhibit B to Mr. Rollage's report of outstanding amounts owed by PEC and/or PNG (its subsidiary) upon termination of PEC from the Project provides an itemization of this $273,208.12 figure which comes from the Department of Labor and Industry's preliminary audit for underpaid wages and/or benefits on this Project. This amount is comprised of sums due to the following eight entities: Operating Engineers Local 666 Combined Funds, Inc.; Cement Mason Local 526; Laborers Combined Funds; Carpenters Combined Funds; Wages Due Carpenters; Wages Due Cement Masons; Wages Due Laborers; Wages Due Operating Engineers. In Mr. Chamber's testimony and by way of PEC Exhibit 1000, PEC concedes that DGS may properly deduct from any amount ultimately due PEC these unpaid union benefits and/or underpaid wages in an amount up to $273,208.12, but questions whether or not this total amount was paid. Based on our review of the evidence, we have credited DGS for actual payment made to the Carpenters Union in the amount of $41,123.43; to the Laborers Combined Funds in the amount of $120,202.78; to the Cement Masons Union in the amount of $40,199.32; and for unpaid workers wages for carpenters, cement masons and laborers in the total amount of $23,887.83. These amounts actually paid by DGS differ slightly from Mr. Rollage's figures. In addition, Mr. Rollage's report also identified $40,191.56 due to the Operating Engineer Local 666 Combined Funds, Inc. and $6,132.94 for underpaid wages due said operating engineers which does not appear to have been paid by DGS. Accordingly with respect to DGS's claim for $273,208.12 additional set-off, we conclude that DGS has actually paid (and we have already credited DGS for) a total of $225,413.36 with respect to all components of this claim except for amounts allegedly due the Project's operating engineers and their union.

[47] Compare language in General Conditions Paragraph 6.14 which allows set-offs of state and local taxes owed by "the Contractor or any of its subsidiaries" to set-offs for "any other amount due to the Commonwealth from the Contractor."

statutory provisions in support of such set-off. This, combined with the absence of a payment due from DGS to PEC, is further reason to deny this set-off.

Summary of Damages

With regard to PEC's claims against DGS in this matter, we have found that PEC is entitled to $2,131,747 as a result of DGS's termination of PEC's participation in the Project pursuant to Paragraphs 14.1 and 14.2 of its contracts. Additionally, we have determined that PEC is also entitled to an additional sum of $26,798 which represents the profit markup on those items of extra work for which it adequately identified and distinguished its costs from those awarded pursuant to Paragraph 14.1 and 14.2 above. This brings the total principal amount due to PEC on its claims against DGS to $2,158,545.

In addition to the foregoing, we have also determined that DGS is entitled to the foregoing amount of damages based on its counterclaims:

PEC's Defective Concrete Work	
Concrete Slab Repair	$ 87,852
Sewer Damage Repair	$ 44,551
PEC's failure to pay subcontractors, suppliers and labor costs	$ 839,341
PEC's failure to supply sufficient labor and coordination to timely pour foundations/slabs on grade (reimbursement for delay to Settling Contractors)	$1,279,806
TOTAL	$2,251,550

Combining the total amount of damages due to PEC on its claims of $2,158,545 with the total amount of damages due DGS on its counterclaims of $2,251,550, we find that DGS is

entitled to a net principal award of damages in this case of $93,005. To this amount due and owing to DGS, we then add interest at the statutory rate of 6% per annum from October 12, 2001 (the date upon which PEC first initiated an administrative claim with DGS) to the date of this Order, which interest amount totals 60% on $93,005 or $55,803. Accordingly, we hereby enter judgment for DGS in this case in the amount of $148,808 plus post-judgment interest accruing at the rate of 6% per annum until satisfied. Each party shall bear its own costs.

ORDER

AND NOW, this 12th day October, 2011, **IT IS ORDERED** and **DECREED** that judgment be entered in favor of the Commonwealth of Pennsylvania, Department of General Services ("DGS") against Airport Industrial Park, Inc., d/b/a PEC Contracting Engineers ("PEC"), in the sum of $148,808. This sum consists of $93,005, the net principal amount owed to DGS for damages after resolution of the multiple claims between the parties, and $55,803 in prejudgment interest on that amount. In addition, DGS is awarded post-judgment interest on the total outstanding judgment at the statutory rate for judgments (6% per annum) beginning on the date of this Order and continuing until the judgment is paid in full. Each party herein will bear its own costs and attorney fees.

BOARD OF CLAIMS

_____
Jeffrey F. Smith
Chief Administrative Judge

_____
Harry G. Gamble, P.E.
Engineer Member

_____
Andrew Sislo
Citizen Member