COMMONWEALTH OF PENNSYLVANIA

AXXON CORP. d/b/a INTERNATIONAL WASTE INDUSTRIES	:	BEFORE THE BOARD OF CLAIMS
VS.	:	
COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF GENERAL SERVICES	:	DOCKET NO. 2700

FINDINGS OF FACT

Parties and Procedural History

1. Plaintiff Axxon Corp. d/b/a International Waste Industries is a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, with a principal place of business at 8500 Leesburg Pike, Suite 412, Vienna, Virginia 22182. (Complaint at ¶ 1 and Answer and New Matter at ¶ 1)

2. Mehran Etemad, an engineer, was the founder and is the majority shareholder and president of Axxon Corporation d/b/a International Waste Industries ("Axxon"). Mr. Etemad was present at the hearing in this matter and testified on Axxon's behalf. (Notes of Testimony ("N.T.") p. 34-35, 338-339)

3. Defendant Commonwealth of Pennsylvania, Department of General Services ("DGS") is an executive agency of the Commonwealth of Pennsylvania, created by the Administrative Code of 1929, as amended, 71 P.S. § 631 et seq., having its principal place of business at North Office Building, Harrisburg, Pennsylvania 17120. (Complaint at ¶ 2 and Answer and New Matter at ¶ 2)

4. On July 7, 1998, Axxon filed its instant claim against DGS with the Board of Claims ("Board"). (BOC Docket; Complaint)

5. On June 17, 1999, DGS filed a counterclaim. (BOC Docket; Answer with New Matter and Counterclaim)

6. Upon the close of pleadings, the Board directed the parties to proceed with discovery. Thereafter, a long period of dormancy ensued. (BOC Docket)

7. Activity resumed in the case in 2010 after DGS filed a motion for judgment of non pros, which was eventually withdrawn when Axxon indicated it would contest the motion. (Defendant's Motion for Judgment of Non Pros; BOC Docket)

8. On December 6, 2010, upon being granted permission to amend its claim, DGS filed an amended counterclaim. (Amended Counterclaim; BOC Docket)

9. A hearing on the merits was conducted before the Board at which both parties appeared, had representation of counsel, and presented testimony and documentary evidence. (Notes of Testimony ("N.T."); BOC Docket)

General Chronology of Events

10. By letter dated May 10, 1995, DGS awarded Axxon Contract No. DGS700-32.6—Incinerator System Construction ("Contract"), for "provision of an integrated incineration system" ("Incinerator") to burn infectious animal remains and lab waste in a new laboratory wing at the Commonwealth of Pennsylvania, Department of Agriculture's ("PDA") building on North Cameron Street in Susquehanna Township, Pennsylvania, at a price of $642,000. (Stipulation for Trial at ¶ 1; N.T. p.43, 362-365, 762-764; Exs. 1 (Project Manual) at Section 11170, 2 (Incinerator Specifications) at Section 1.03, 5 and 569)

11. The Incinerator Contract was one of five prime contracts awarded for the new lab wing and Incinerator project, the specifications for which are set forth in the Project Manual. (Ex. 1 at DGS700-32.1 (General Construction), 32.2 (Heating, Ventilation, Air Conditioning), 32.3 (Plumbing and Fire Protection), 32.4 (Electrical) and 32.6 (Incinerator System Construction))

12. Axxon and DGS executed the Incinerator Contract in June 1995. The precise date is uncertain because the signature sheet of the Standard Form of Agreement indicates the Contract was executed on June 2, 1995, but several signatures are undated and the signature of the Secretary of General Services is dated June 16, 1995. (Stipulation for Trial at ¶ 3; Complaint at ¶ 6 and attached Ex. A ("Standard Form of Agreement") and Answer and New Matter at ¶ 6; Exs. 1 at Standard Form of Agreement and 797)

13. The executed Standard Form of Agreement for the Contract was appended to Axxon's claim, and its authenticity was admitted by DGS in its answer. An unsigned version of the Standard Form of Agreement is also included as part of the Project Manual at Instructions to Bidders. (Standard Form of Agreement and Ex. 1 at Standard Form of Agreement)

14. The Contract incorporated as "contract documents," inter alia, the Notice to Contractors, Instructions to Bidders, General Conditions of Contract, and the Incinerator Specifications, all of which were included in the Project Manual. (Standard Form of Agreement at Article 1; Exs. 1 at Standard Form of Agreement at Article 1 and Chapter 63 and 1A at Section 63.1)

15. The Contract period for all prime contracts related to the laboratory wing and Incinerator project was 420 days, running from receipt of the award notice letter, May 13, 1995. This made the original contract completion date July 6, 1996. (Standard Form of Agreement at

Article 4; N.T. p. 44, 360-361, 647-649; Exs. 1 at Instructions to Bidders and Ex. 1 at Standard Form of Agreement and Ch. 63 and 1A at Sections 63.91(A) and 63.92(B) and (E), 5, 6, and 335)

16. For reasons unrelated to this dispute, the Contract completion date for all contractors on the laboratory wing and Incinerator project was ultimately extended 71 days, to September 15, 1996 ("extended date of completion"). (N.T. p.64, 386, 400-401, 403-405, 408-409; Exs. 20, 341, and 353; see, Exs. 1 at Standard Form of Agreement and Ch. 63 and 1A at Section 63.93)

17. Off-site work was to commence on the date of receipt of the award letter, which was presumed to be May 13, 1995. (N.T. p.364-365, 649; Exs. 1 at Ch. 63 and 1A at Sections 63.91(A) and 63.92(B) and (E), and 5)

18. On June 7, 1995, DGS sent a letter giving Axxon notice to commence on-site operations for the project. (N.T. p.43-44; Ex. 6)

19. In the Fall and Winter of 1995, soon after notice to proceed was issued, problems began to arise on the Incinerator project as evidenced by Axxon's failure to send a representative to bi-weekly job conferences and delay in submitting documents and shop drawings necessary for coordination among the prime contractors and in obtaining necessary permits. (N.T. p.370-371, 373-379, 381-385, 387, 391-392; Ex. 316, 319, 323, 329, 330, 334, 336, 343, 344, and 880)

20. By September 13, 1996, all other prime contractors on the new laboratory wing project had completed their work on the new PDA laboratory wing project. (N.T. p.410-411, 413-414; Ex. 360)

21. As of September 15, 1996, the extended date of completion, there was no incinerator on the project site and Axxon had not yet begun to erect one. (N.T. p.764; see, Exs. 366 and 752-757)

22. From February 1997 through the Summer of 1997, Axxon was on the PDA site assembling the Incinerator. (Exs. 752-757)

23. By September 1997, work on the Incinerator had progressed to the point where Axxon was performing a "shake down" or initial "debugging" of the Incinerator system and running through a series of checks and tests of the Incinerator's components and systems. (N.T. p.112-113)

24. In late October 1997, during the course of this testing, a component in the Incinerator's scrubber system malfunctioned and parts of the scrubber melted. This delayed further testing and "debugging" while Axxon ordered and waited for replacement parts for the scrubber. (N.T. p.113-117; Ex. 146)

25. On November 21, 1997, more than a year after the September 15, 1996 extended date of completion, DGS notified Axxon that if Axxon did not complete a list of items,

including, inter alia, making the Incinerator fully functional within seven days, then DGS would declare Axxon to be in default of the Contract. (N.T. p.118-119, 432-433, 544-547; Ex. 55)

26. On December 17, 1997, approximately 15 months past the extended date of completion, DGS determined that the Incinerator was not fully functional and that the other items listed in the November 21, 1997 notice letter were not all completed. Therefore, DGS declared Axxon to be in default and terminated the Contract. Axxon was thereafter barred from accessing the Incinerator site. (Stipulation for Trial at ¶ 4; N.T. p.119, 121, 127-128; 270-276, 434-435; Exs. 56, 57, 59, 63)

27. In January 1998, Axxon's surety on the Incinerator project, United States Fire Insurance Company ("Surety"), agreed to complete the Contract. However, a formal takeover agreement was not executed until April 1, 1998. (Stipulation for Trial at ¶ 5; N.T. p.128, 442, 589-592; Ex. 75)

28. In January 1998, with DGS's concurrence, the Surety contracted with Axxon to complete work on the Incinerator. Axxon acted as subcontractor for the Surety at that time. (N.T. p.129-131, 440-441; Exs. 64, 65, 75, and 434)

29. The Surety also contracted with a consultant, Guardian Group, to supervise completion of the Incinerator Contract. (N.T. p.444, 464)

30. On March 30, 1998, a substantial completion inspection of the Incinerator was conducted. Representatives of DGS, Urban Consultants, Inc. ("Urban Consultants") (the design professional for the entire laboratory wing and Incinerator project), Guardian Group, and Axxon were present. (N.T. p.132-136, 228-229, 276, 446-447; Exs. 71, 72, and 444)

31. At the March 30, 1998 substantial completion inspection, the Incinerator was fired up. However, the degree to which the Incinerator was put through its paces and/or whether or not its full range of operations was checked at this time in order to discover all unfinished work is unclear from the evidence. DGS's representative, Dan Weinzierl, testified that he did not "see what it [i.e., the Incinerator] took to be fired up." (N.T. p.447, 449, 554; Board Finding)

32. After the substantial completion inspection was performed, a certificate of substantial completion was issued along with a punch list of items yet to be completed on the Incinerator. A notation was made on the certificate that the substantial completion inspection was being deemed a final inspection as well. (N.T. p.134-136, 138, 229-230, 446-449; Exs. 72 and 444; see also, N.T. p.412-413 and Exs. 1 at Ch. 63 and 1A at Section 63.109)

33. Despite the notation of final completion inspection, the documents are themselves inconsistent with a conclusion that the Contract work was complete. The weight of the evidence submitted, including the creation of the punch list and evidence of continued problems with the Incinerator's functioning and the subsequent actions of the parties, lead to the conclusion that, in fact, the Contract work was not fully complete on March 30, 1998. (N.T. 135; Ex. 72, 73; Exs. 80, 81; and 83; Board Finding)

34. The substantial completion certificate required that items on the punch list be completed within 30 days and contained a caption stating that it was "a summary of the visual observations made during a site visit. This review is not intended to be exhaustive and does not relieve the Contractor of any of the requirements set forth in the Contract Documents." (N.T. p.412-413, 449, 661; Exs. 72, 83, and 444)

35. The punch list of items yet to be completed at the time of the substantial/final completion inspection was as follows:

General: The following is a summary of the visual observations made during a site visit. This review is not intended to be exhaustive and does not relieve the Contractor of any of the requirements set forth in the Contract Documents.

General

0.1 One year maintenance service contract is required for the project close out, as specified.
0.2 The Contractor shall be responsible for sending a notification letter to the Pennsylvania Department of Environmental Protection, Bureau of Solid Waste in order to procure the solid waste permit required for this project. The procurement of that permit is the responsibility of the Contractor.
0.3 The stack sampling test, by an independent subcontractor, must still be performed.
0.4 The Contractor is to guarantee that the system's performance meets the most stringent requirements of the U.S. Environmental Protection Agency New Source Performance Standards for Medical Waste Incinerators, as specified..[sic]
0.5 The Record drawings and Operations and Maintenance Manuals are required.
0.6 The Contractor shall be responsible for making the necessary arrangements to allow the Department of Agriculture procure [sic] the final operating permit from the Pennsylvania Department of Environmental Protection for burning medical waste at 500 pounds per hour, as specified.
0.7 The Contractor shall complete the specified requirements for training the Department of Agriculture personnel in the operation and routine maintenance of the incineration system equipment, as specified.
0.8 The Contractor is to complete the start-up and de-bugging of the system.
0.9 The Contractor is to guarantee that the system is to be free from defects in material and construction for a period of two (2) years from start-up, as specified.
0.10 The Contractor is to guarantee the performance of the incineration system to destroy the waste feed, according to the most stringent requirements of the U.S. E.P.A. and the PA D.E.P., as specified, for a period of two (2) years from the start-up, as specified.
0.11 All equipment identification must be completed, as specified.
0.12 All piping identification must be completed.
0.13 All specified electrical identification must be completed.

Incinerator Equipment

1.1 Touch-up painting is required at all locations where paint has been damaged.

1.2 All exposed galvanized metals that have been abraded or otherwise damaged shall receive galvanized repair paint. This shall include, but not be limited do, the ladder and service platform.

1.3 The drain for the scrubber system shall be properly adjusted so as to not spill water onto the Incinerator Enclosure floor.

1.4 The C.E.M.S. cabling supports shall be adjusted to hang the cable bundle parallel to the adjacent cable tray; slack in that cable shall be organized neatly.

1.5 All sharp edges on the toe guards shall be at the maintenance platform shall be ground smooth. [sic]

1.6 The I.D. fan shall be checked for proper operation.

1.7 All gauges and monitors shall be checked for proper operation, including, but not limited to, the timing gauge that informs the operator that the system is ready to receive additional waste.

1.8 All debris and construction equipment is to be removed from the Incinerator Enclosure.

(Exs. 72, 83, and 444)

36. With regard to the substantial completion inspection punch list, the Contract provided, inter alia, as follows:

> The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents.

(Exs. 1 at Ch. 63 and 1A at Section 63.108)

37. With regard to the final inspection, the Contract provided, inter alia, as follows:

> The Contractor shall complete all punch list items (items be corrected and/or completed) within thirty (30) days after the date of Final Inspection or show just cause to the satisfaction of the Professional and the Department why they cannot be completed. If the Contractor does not complete the punch list items within thirty (30) days, or show just cause to the satisfaction of the Professional and the Department why they cannot be completed, the Department may correct those items.

(Exs. 1 at Ch. 63 and 1A at Section 63.109)

38. In a May 6, 1998 letter to the Surety, Axxon claimed that it received the March 30, 1998 punch list on April 15, 1998 and stated that all punch list items were complete. (Ex. 80 at Axxon letter)

39. There is no evidence showing that Axxon was on site within the thirty day deadline for completing the punch list. Axxon did not set forth in the record when it was on site after the punch list was issued. Internal correspondence at DGS indicates that Axxon was on site April 30, May 1, and May 5, 1998. However, neither Axxon nor DGS identified what, if anything, Axxon did on those three days to complete the punch list. (Ex. 80 at DGS memo)

40. In a May 13, 1998 letter to the Surety, DGS stated, inter alia that work on the punch list was not complete, noting that the caustic system was not complete and functional; that the scrubber was still tripping out when the Incinerator was run on or around May 5, 1998; that the work area had not been cleared; that wiring in the control panel had not been tied into place; that training had not been completed; that the operations and maintenance manuals were given to the Department of Agriculture, rather than the project professional, as required by contract; and that the CEMS operational and maintenance manuals appeared to be missing from the operations and maintenance manuals for the Incinerator. (Ex. 81 at DGS letter)

41. DGS's May 13, 1998 letter further stated that there were additional items that had problems, beyond those noted, and that DGS was working on a more defined listing. According to DGS's letter, "[s]ome of these items are operational and can't be verified until the unit is functioning and running more frequently." (Ex. 81 at DGS letter)

42. In a May 13, 1998 fax, Axxon responded to the Surety that all systems were functional, denying the problems identified by DGS in its May 13, 1998 letter. (Ex. 81 at Axxon fax)

43. On May 28, 1998, PDA staff stopped an Incinerator operator training session being conducted by Axxon staff partway through when alarms kept going off and smoke escaped into the room housing the Incinerator. (N.T. p.769-774, 786-787; Ex. 653)

44. Other than the aborted May 28, 1998 training session, the record does not contain evidence of further work done toward completing the punch list after May 13, 1998. Mr. Etemad himself testified that he and an Axxon staff member had gone to Russia around May 20, 1998 and were there through early June 1998. (N.T. p.141-142, 144; Board Finding)

45. In late May 1998, the Surety terminated its contract with Axxon. Mr. Etemad testified that the termination was done on 48 hours' notice while he was in Russia. (N.T. p.141-142, 144, 456)

46. In June 1998, the Surety hired Loikits, Inc. ("Loikits") to complete work on the Incinerator. From June 1998 to early 2001, the Surety, through Loikits, attempted to complete punch list items, address ongoing problems and make the Incinerator fully operational. (N.T. p.142, 148-152, 456-458, 685-687, 688-690, 692-714, 717-726, 729-742, 749-755; Exs. 8384, 459, 462, 580-581, 586, 629)

47. In late 1999, PDA began to use the Incinerator once a week to burn infectious animal waste. (N.T. p.775; Exs. 496 and 695)

48. Around January 18, 2001, or shortly thereafter, the Surety stopped responding to correspondence and phone calls from DGS and Loikits regarding further work on the Incinerator, in effect abandoning the project. (N.T. p.498-502; Exs. 125 and 543-545)

49. On April 12, 2001, the Incinerator became non-operational once again. (Exs. 566 and 695)

50. After the Surety abandoned the Incinerator, DGS assumed control of the Incinerator project and, on August 31, 2001, requested Urban Consultants to develop performance specifications to "develop a scope of work, with the objective of correcting all operational, control and emissions problems and concerns" to be utilized by the Department in developing a separate emergency contract for repairs with Loikits. (N.T. p.503-504, 619-620, 664-665, 780; Exs. 130, 548, 566, and 957)

51. Urban Consultants delivered its final specifications for remedial work on November 26, 2001. (Ex. 130; see also, Ex. 566)

52. In 2002, DGS awarded Loikits a contract for emergency service and systems repairs to the Incinerator ("emergency service contract"). (N.T. p.623-624, 626; Exs. 131-134)

53. PDA was not issued a permanent operating permit for the Incinerator until April 1, 2007. (N.T. p.728, 768-769, 774, 793)

54. At the time of the hearing, PDA had not yet obtained a permit for the CEMS. (N.T. p.728, 775)

Nature of Claims and Position of the Parties

55. Axxon contends that its performance was timely and asserts that DGS breached the Contract by wrongfully terminating it. It further asserts that DGS is liable to Axxon for the unpaid sum of the Contract, extra work, and damages flowing from the wrongful termination, pre-judgment interest, and attorneys' fees. (Complaint; Axxon's Post-trial Brief)

56. At hearing, it was stipulated that the unpaid sum of the Contract was $112,896. (N.T. p.176-177)

57. Axxon also asserts that it is entitled to payment for extra work performed prior to termination (evidenced by three change order requests submitted after it had filed its claim) and repayment of a $50,000 loss resulting from its forfeiture of a letter of credit held by its Surety as security for its performance bond. (Axxon's Post-trial Brief at 18)

58. Axxon argues that DGS is not entitled to liquidated damages because of the allegedly wrongful nature of the termination, and alternatively, because the delays were beyond Axxon's control. (Axxon's Post-trial Brief at 20-21)

59. Axxon argues that DGS is not entitled to costs of completion (which Axxon terms "consequential damages") both because DGS wrongfully terminated it and because the Contract contained a clause providing for liquidated damages for delay, which provision would preclude an award of actual damages. (Axxon's Post-trial Brief at 21-23)

60. With regard to the measure of DGS's costs of completion, Axxon asserts that the costs claimed by DGS are wildly excessive because the Incinerator was complete or nearly complete at the time the Contract was terminated; because the costs were unnecessary and resulted from DGS and Loikits' unfamiliarity with Axxon's Incinerator design; and because DGS's execution of a no-bid, time-and-materials contract with Loikits amounted to a blank check that permitted Loikits to run up unreasonable expenses. (Axxon's Post-trial Brief at 21-22)

61. DGS's position is that it did not breach the Contract by terminating Axxon for default because Axxon materially breached the Contract by failing to perform (i.e., deliver a completed, fully functional Incinerator) and because Axxon's performance was untimely. (DGS's Brief at 5-6)

62. In its amended counterclaim, DGS sought liquidated damages for delay from the extended date of completion (September 15, 1996) until November 15, 2007 (the date the project professional submitted its final pay application for work on the Incinerator project) at a rate of $160 per day (4,078 days × $160/day = $652,480). (Amended Counterclaim at ¶¶ 63-71)

63. In its post-hearing brief, DGS scaled back its request for liquidated damages, seeking them only for the period from the extended date of completion, September 15, 1996, until the certificate of substantial completion for the Contract was issued to the Surety on March 30, 1998 (561 days × $160/day = $89,760). (DGS's Brief at 9-11)

64. DGS also seeks as costs of completion the amounts paid to Urban Consultants for remedial specifications ($112,384) and to Loikits for its work on the Incinerator after the Surety abandoned the project ($268,287), less the unpaid sum of the Contract. (DGS's Brief at 10-11)

65. DGS also asserts that the Board lacks jurisdiction to hear Axxon's claims for extra work because the change orders for which Axxon requests payment were filed with DGS after the filing of the Claim before the Board. (DGS's Brief at 4-5)

66. DGS likewise asserts that the Board lacks jurisdiction to hear Axxon's claim for repayment of the letter of credit exercised by Axxon's Surety because that claim did not accrue until after the filing of the Claim before the Board. (DGS's Brief at 4-5)

Propriety of Termination

67. Section 63.152(A) of the General Conditions to the Contract provides as follows with regard to default by contractor:

> 63.152 CONTRACTOR'S DEFAULT
>
> (A) If the Contractor persistently or repeatedly refuses of 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 or 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 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…

(Exs. 1 at Ch. 63 and 1A at Section 63.152(A)).

68. Article 2 of the Standard Form of Agreement portion of the Contract provides as follows with regard to the work of the Contract:

> ARTICLE 2—THE WORK
>
> The Contractor shall perform all the work required by the Contract Documents for the construction of Contract No. DGS 700-32.6, Construction of New Laboratory Wing and Incinerator, Agriculture Building, Harrisburg, Dauphin County, Pennsylvania[.]

(Standard Form of Agreement at Article 2 and Ex. 1 at Standard Form of Agreement)

69. Section 63.1(D) of the General Conditions defines "the work" as follows:

> The term Work includes all services and labor necessary to produce the construction required by the Contract Documents. It also includes all material and equipment incorporated or to be incorporated into such construction.

(Exs. 1 at Ch. 63 and 1A at Section 63.1(D))

70. Section 63.92(A) and (F) of the General Conditions provides as follows with regard to progress and completion:

63.92 PROGRESS AND COMPLETION

(A) All time limits stated in the Contract Documents are of the essence of the Contract.

* * *

(F) The Contractor shall carry the Work forward expeditiously with adequate forces and shall complete it no later than the Contract Completion Date.

(Exs. 1 at Ch. 63 and 1A at Section 63.92(A) and (F))

71. The substance of the work is set forth in the document titled "Contract No. DGS700-32.6—Incineration System Construction" ("Incinerator Specifications"), part of the Project Manual, and Section 1.03 therein set forth the following description of work:

a. DESCRIPTION OF WORK:

A. PROJECT BACKGROUND: The Pennsylvania Department of General Services is administering the construction of a new animal health laboratory for the Department of Agriculture in Harrisburg, Pennsylvania. Laboratory operations in the new facility will generate contaminated animal carcasses, animal bedding, and other laboratory waste including contaminated sharps, plastics, and glassware. The Contractor shall be responsible for the provision of an integrated incineration system to include engineering, manufacturing, permitting and dispersion modeling, fabricating shipment and installation, preparation of operation and maintenance manuals, operator training, start-up, debug, compliance testing, and a one year maintenance service contract.

B. The infectious waste incineration system shall include, but is not limited to, the following major components:

1. Weigh scale.
2. Incinerator including waste feed system, primary and secondary combustion chambers and related burners and combustion air blowers
3. Flue gas temperature reduction system.
4. Air pollution control system
5. Induced draft fan with associated electric motor
6. Stacks, interconnecting ductwork, breaching, stands and platforms
7. Controls, monitors and instrumentation to operate the Contractor's system.
8. Continuous emission monitors (CEM's)

C. The contractor will also be responsible for providing the following items and services:

1. System documentation requirements, including drawings specifications, operating and maintenance manuals
2. Air quality plan approval/operating permit application including Best Available Technology (BAT) analysis and atmospheric dispersion modeling analyses
3. Necessary documentation to be filed with the Bureau of Solid Waste to obtain the permit
4. System delivery and off loading
5. Incineration system installation and start-up
6. Compliance emissions testing
7. Operator training by EPA-certified trainer
8. Performance guarantee

(Exs. 1 at Section 11170 and 2 at Section 1.03 (emphasis supplied))

72. Article 4 of the Standard Form of Agreement provides as follows:

ARTICLE 4—TIME OF COMMENCEMENT AND COMPLETION

The work to be performed under this Contract shall be commenced with all of the off site work required by the Contract immediately after receipt of Notice of Award of Contract. The Contractor shall commence operations on site no later than ten (10) days after the Initial Job Conference and shall complete all Contract work to the satisfaction and approval of the Department, on or before 420 Calendar Days from Date of Receipt of Award of Contract….

(Standard Form of Agreement at Article 4 and Ex. 1 at Standard Form of Agreement (emphasis supplied))

73. Section 63.41(A) of the General Conditions required Axxon, as a prime contractor, to submit a schedule of the proposed prosecution of work under its Contract and Urban Consulting, as lead contractor, to submit to DGS a progress chart of Axxon's work. (Exs. 1 at Ch. 63 and 1A at Section 63.41(A))

74. Section 63.41(B) of the General Conditions provides as follows:

The Contractor shall complete parts of the work in the order stated in the specifications or as indicated in the Progress Charts. The Department may require the Contractor to supply, at no additional cost to the Department, additional forces, equipment, tools and materials and/or provide for an increase in working hours; and or increase the number of working days per week in order to keep up with the Progress Chart. If the Contractor

refuses or fails to proceed as directed by the Department, the Department may find the Contractor in breach of its Contract and/or declare the Contractor in default.

(Exs. 1 at Ch. 63 and 1A at Section 63.41(B) (emphasis supplied))

75. As set forth above, there was no Incinerator on the project site by September 15, 1996, the extended date of completion. (N.T. p.764; see, Exs. 366 and 752-757)

76. After Axxon had installed the Incinerator on site in early- to mid 1997, and begun the shake down and de-bugging in September 1997, parts of the Incinerator scrubber melted, further delaying work until replacements could be obtained. (N.T. p.112-115; Ex. 146 and 752-757)

77. On November 21, 1997, approximately 14 months after the extended date of completion, DGS sent Axxon a written notice threatening a declaration of default under the Contract in seven business days, unless Axxon completed a number of items required in order to close out the Contract, including, but not limited to, the following:

1) Replace damaged components in the scrubber.
2) Tie the weight scales into the CEMS system.
3) Furnish and install a printer for the CEMS system.
4) Complete housekeeping pads.
5) Complete roof penetrations.
6) Install platform for Opacity monitors.
7) Complete painting and other clean-up items.
8) Provide O&M Manuals.
9) Complete all other work required by contract to make the System completely functional.

(Ex. 55 (emphasis supplied))

78. On December 17, 1997, when DGS terminated the Contract for material breach, the Incinerator was not completely functional and it is clear that several other specific items listed in the November 21, 1997 notice of default letter were not completed. (N.T. p.119, 270-276, 434-435; Exs. 56, 57, and 60)

79. In addition to the specific items listed as incomplete in the November 21, 1997 notice of default letter, additional items of Contract work were incomplete at the time of termination, as evidenced by their inclusion in the March 30, 1998 substantial completion punch list. These work items yet to be done included a full start-up and de-bugging of the Incinerator, as well as training PDA personnel in the operation and routine maintenance of the Incinerator. (N.T. p.242-243, 277; Exs. 72, 80, 81, 83 and 444; Board Finding)

80. In addition to the incomplete work known to DGS at the time of Axxon's termination, and specifically set forth on the punch list, the Incinerator also had numerous additional problems that would manifest repeatedly once the Incinerator was used further and

would require extensive start-up and debugging work: e.g., the tripping of sensors and system faults (alarms going off during operation); the repeated melting of the scrubber; the opening of the bypass damper due to draft problems; the releasing of smoke into the room housing the Incinerator; various leaks, including leakage of animal fluids from the Incinerator platform; a bowed stack; and incomplete/incorrect operation and maintenance manuals. (N.T. p.686, 688-689, 692-693, 772-773, 775-777, 791-793; Exs. 84, 462, 496, 510, 511, 514, 516-518, 521, 529, 531, 533, 609, 612, 616, 891-894, and 917-955)

81. Axxon does not assert and the Board does not find that DGS made a written or implied waiver of the "time of the essence" provision. To the contrary, DGS time and again expressed frustration with the pace of Axxon's work, both before and after the extended date of completion. To the extent DGS tolerated Axxon's delinquent performance, it was in reliance upon repeated false assurances by Axxon that the work was closer to completion than it actually was. N.T. 383-394, 399-400, 406-408, 414-416, 431-432; Exs. 20, 330, 334, 336, 341, 343, 345-348, 357-359, 366, 385, 416.

82. At the time Axxon was declared to be in default of the Contract and terminated from work on the Incinerator project on December 17, 1997, we find, inter alia, that:

1. Axxon's Incinerator work specified in the Contract was unsuitable and materially incomplete; and
2. Axxon's Incinerator work specified in the Contract was substantially and materially late as it was more than 15 months (approximately 458 days) beyond the extended Contract completion date of September 15, 1996 (i.e., 458 days late beyond an extended contract period of 491 days).

(N.T. p.242-243, 270-277, 432-435, 544-547, 686, 688-689, 692-693, 772-773, 775-777, 791-793; Exs. 55, 56, 57, 60, 80, 81, 83, 84, 444, 462, 496, 510, 511, 514, 516-518, 521, 529, 531, 533, 609, 612, 616, 891-894, and 917-95; Findings of Fact 75-81; Board Finding)

83. Axxon posits that DGS's primary complaint, that Axxon was substantially and materially late in completing work on the Incinerator, in incorrect. Axxon instead contends that its performance was timely. It arrives at this conclusion by asserting (1) that the Incinerator work was complete when Axxon was terminated on December 17, 1997 and (2) that beginning to count the time for completion of the project—491 days (the original 420 day Contract period plus the 71 day extension)—from after the date DEP issued a construction permit (August 16, 1996)—would yield a date of completion of December 20, 1997, a few days after the notice of termination was sent on December 17, 1997. (Axxon's Post-trial Brief at 11-13)

84. The Board finds that the premise set forth by Axxon, that the Incinerator was at or close to completion at the time of termination on December 17, 1997, is factually untrue. Among other things, this is evidenced by the additional work done by the Surety (through Axxon) after Axxon's termination that was necessary to obtain a certificate of substantial/final completion; the punch list of work items remaining after DGS issued the certificate; the work Loikits needed to perform to complete the punch list work after the Surety terminated Axxon;

and the unfitness of the Incinerator for obtaining an operating permit at the time of termination. Furthermore, this evidence also establishes that Axxon failed to complete the work items identified in DGS's notice of default letter of November 17, 1997, including the requirement that the Incinerator be made completely functional as well as several other specific items of work. (N.T. p. 242-243, 270-277, 432-435, 544-547, 686, 688-689, 692-693, 772-773, 775-777, 791-793; Exs. 55, 56, 57, 60, 80, 81, 83, 84, 444, 462, 496, 510, 511, 514, 516-518, 521, 529, 531, 533, 609, 612, 616, 891-894, and 917-95; Findings of Fact 77-80; Board Finding)

85. Additionally, performing all of the work needed to prepare an application for, and obtain the pre-construction approval of, a new air contamination source (referred to in the notes of testimony as a "construction permit") from the Pennsylvania Department of Environmental Resources ("PADER") for the Incinerator was part of Axxon's Contract work. This included performing and presenting the necessary air dispersion modeling needed to obtain this permit. This is clear from the Contract, which states, inter alia, as follows:

> The Contractor shall be responsible for the work needed to obtain necessary permits for the installation and operating of the total integrated incinerator system as specified in this section. The contractor shall be responsible for preparing an air quality plan approval allocation for the installation and operation of the incineration system according to the provisions of 25 PA. Code, Chapter 127. The application shall be submitted to the Pennsylvania Department of Environmental Resources (PADER) Bureau of Air Quality Control in Harrisburg, Pennsylvania. The application shall be administratively and technically complete when submitted to PADER. The plan approval application shall include an ambient air dispersion modeling analysis and Best Available Technology (BAT) assessment that meet the requirements presented in these specifications.

(Exs. 1 at Section 11170 and 2 at Section 1.06.A; see also, Section 1.03(a); N.T. p.256-257, 650-651)

86. PADER was renamed as the Pennsylvania Department of Environmental Protection ("DEP") on June 1, 1995. See, Section 1 of the Conservation and Natural Resources Act, P.L. 89, No. 18 (June 28, 1995), 71 P.S. § 1340.501.

87. There was no provision in the Contract providing that the time frame for completion of all Contract work excluded time necessary to prepare or obtain the pre-construction approval or permit for the Incinerator from DEP. (See, Standard Form of Agreement at Articles 2 and 4; Exs. 1 at Standard Form of Agreement, Ch. 63, and Section 11170, 1A at Sections 63.41(B), 63.92(A) and (F), and 2 at Sections 1.03 and 1.06)

88. Section 63.93(A) of the General Conditions is the only provision of the Contract providing for extensions for delay, and does not provide for an extension of time in order to obtain a permit. (See, Exs. 1 at Ch. 63 and 1A at Section 63.93(A))

89. Prior to submitting its bid, Axxon understood both that permitting was part of the contract work and that permitting was a lengthy process which could take several months. (N.T. p.41-42, 44, 253-254; Ex. 4)

90. Both because the Contract work was not at, or close to, completion on the date of termination; because the Contract work included performing and presenting to DEP the necessary dispersion modeling and obtaining DEP's pre-construction approval permit; and because the Contract contains no provision either excluding permitting work from the time frame for completion or allowing extensions of time for associated delay, the Board rejects Axxon's assertion that it had timely completed its Contract work at the time of its termination. (Findings of Fact 77-80, 82-89)

91. The primary cause of delay to construction of the Incinerator was delay in preparation and completion of an application for a permit from the DEP, which was needed before fabrication and installation of the Incinerator could begin. (N.T. p.45; Board Finding)

92. As noted above, at the time Axxon was terminated for breach on December 17, 1997, work on the Incinerator was late by over 15 months from the extended date of completion, September 15, 1996. That is essentially the same amount of time that Axxon took from receiving notice that DGS had awarded it the Incinerator Contract on May 13, 1995, until it provided DEP with the information and data needed to obtain DEP's pre-construction approval for the Incinerator on August 14, 1996. DEP itself took only two days beyond final submission of compliant dispersion modeling data to issue the construction permit on August 16, 1996. (Exs. 5, 20, 24, 56, and 353; Board Finding)

93. Axxon and Mr. Etemad proffered several arguments and excuses attempting to deflect blame away from Axxon and onto DGS, PDA, and DEP for the delay experienced in the permitting process. (N.T. p. 47, 52-53, 55, 61-64, 70-71, 73-75; Plaintiff's Post-Trial Brief at 13-15)

94. One of the items required to obtain DEP's pre-construction approval permit for the Incinerator was a dispersion model showing that the Incinerator, when built, would comply with applicable DEP and EPA air quality requirements. (N.T. p.45; Exs. 1 at Section 11170 and 2 at Section 1.03; 40 C.F.R. Part 51, Appx. W).

95. In layman's terms, dispersion modeling, a requirement for a construction permit application, utilizes a computer program ("modeling program") to determine whether air pollutants from a proposed air contamination source will dilute in the air to levels acceptable under regulatory standards. (N.T. p.46-47, 293; 40 C.F.R. Part 51, Appx. W; Board Finding).

96. On December 1, 1995, DGS notified Axxon that according to Axxon's progress schedule, the permit preparation, engineering, application, and submittals for DEP should have been completed by no later than November 15, 1995, but were still incomplete as of December 1, 1995. This memorandum also stated that the Incinerator equipment manufacturing was supposed to have started by December 1, 1995, but had not because the regulatory submittals were late. (N.T. p.378-379 and Ex. 330)

97. To the knowledge of DGS, Axxon had not performed any permit preparation, including dispersion modeling, until after December 1, 1995. (N.T. p.379)

98. Whether a pollution source is to be put in an urban or rural area is a key factor in selecting which dispersion modeling program to use. 40 C.F.R. Part 51, Appx. W, Section 8.2.8; (Board Finding)

99. At an informal pre-application meeting with DEP in January 1996, Axxon presented a rural dispersion model for the Incinerator. DEP rejected the rural model and told Axxon that an urban dispersion model was required at the location selected for the Incinerator. Axxon submitted to DEP a construction permit application on March 7, 1996 using an urban dispersion model but the documentation Axxon submitted failed to show compliance with emission standards for an urban area apparently because Axxon utilized a 75' instead of a 90' main exhaust stack. Axxon did not submit revised dispersion modeling data utilizing a 90' stack height until August 14, 1996. This latest modeling data showed compliance with applicable urban area air quality emission standards. DEP instantly issued its pre-construction approval permit two days later on August 16, 1996. (N.T. p.46-48, 52-53, 55-56, 60, 62-63, 70; Exs. 13, 20, 24).

100. Mr. Etemad testified that Axxon began dispersion modeling shortly after the notice to proceed with on-site work was issued in June 1995, but that PDA delayed the dispersion modeling by failing to give Axxon a "drawing" or "drawings." (N.T. p.64, 71)

101. Mr. Etemad did not identify which "drawings" PDA did not give to Axxon on a timely basis; did not explain how not having the "drawing" hindered the commencement of dispersion modeling; and did not specify when the "drawing" was ultimately given to Axxon. Accordingly, Axxon did not establish that this alleged lack of one or more "drawings" delayed Axxon from commencing dispersion modeling from June 1995 onward. (N.T. p.64, 71; Board Finding)

102. Because Axxon failed to show that it commenced its dispersion modeling in a timely manner in June 1995; because the first time Axxon produced any dispersion modeling to DEP was at a January 1996 meeting; because Axxon did not establish that the alleged "lack of a drawing" from DGS and/or PDA caused any material delay in commencing dispersion modeling for the Incinerator; and because Axxon has offered no other credible reason why it took until sometime in January 1996 to produce any dispersion modeling for submission to DEP, the Board does not credit Mr. Etemad's testimony that DGS and/or PDA hindered the commencement of dispersion modeling. (See, Findings of Fact 94-101)

103. Axxon also suggests that DEP standards for dispersion modeling changed with regard to determinations of whether a site was urban or rural between Axxon's bid on the Contract and January 1996, when Axxon presented its dispersion modeling using an unidentified rural program and DEP informed Axxon that a different, urban modeling program, also not identified, needed to be used. (N.T. p.47, 52-53, 55, 62-63, 70-71, 289-290, 292-293)

104. Mr. Etemad asserted, and we agree, that the need to re-do dispersion modeling delayed the submission of the application to March 7, 1996. (N.T. p.55, 289, 292; Ex. 13; Board Finding)

105. The air quality standards utilized by DEP and applicable to the Incinerator were those established by the Environmental Protection Agency ("EPA") under the federal Clean Air Act. See, 42 U.S.C. § 7401 et seq.; 40 C.F.R. Parts 50 and 51; 40 C.F.R. §§ 52.2020-52-2062; 25 Pa.Code Chap. 127, Subchaps. B and D; (Board Finding)

106. The standards for air dispersion modeling, including which modeling program could be used for a specific site and project, were and are set forth in federal Environmental Protection Agency's Guidelines for Air Quality Models ("EPA Guidelines"). See, 40 C.F.R. Part 51, Appx. W (1995 ed.).

107. The EPA Guidelines specified several factors for selecting which of several modeling programs could be used in what circumstances, including the location of a proposed air contamination source (e.g., whether it is urban or rural). See, 40 C.F.R. Part 51, Appx. W (1995 ed.); (Board Finding)

108. The EPA Guidelines set forth the standard for determining whether a location is urban or rural, and that standard did not change from the initial bid period throughout the Contract period. Compare, 40 C.F.R. Part 51, Appx. W, Section 8.2.8 (1995 ed.) and 40 C.F.R. Part 51, Appx. W, Section 8.2.8 (1996 ed.).

109. Because the site was urban, the use of any rural dispersion modeling would have been incorrect, as the criteria to determine whether the site was rural or urban were the same throughout the project period. (Findings of Fact 103-108; Board Finding)

110. Mr. Etemad also testified that the specific urban modeling program DEP required to be used, which he did not identify, did not exist at the time the Contract was awarded. (N.T. p.61)

111. By final regulation issued August 9, 1995, and effective September 8, 1995, the EPA Guidelines were changed to add two new alternative modeling programs, modify elements of three existing modeling programs, and delete none. 60 F.R. 40465.

112. As of September 8, 1995, the EPA Guidelines prescribed the use of specified criteria for determining whether a site would be considered urban or rural, and then required a permit applicant to employ one of 11 preferred (or 31 alternative) modeling programs. 40 C.F.R. Part 51, Appx. W at Appxs. A and B.

113. The additions and modifications to the list of acceptable modeling programs were proposed in November 1994; thus, contrary to Mr. Etemad's testimony, the modeling program ultimately used necessarily had to have existed prior to the award of the Contract. See, 59 F.R. 60740.

114. Axxon and its consultant would have been aware of the proposed changes prior to the award of the Contract and, in any event, aware of the final changes prior to the initial selection of a rural modeling program in or around December 1995. (Findings of Fact 110-112)

115. Because standards governing whether the site was rural or urban did not change during the project period; because any rural modeling program was improper; and because all possible modeling programs that could be used for a permit application were in existence and identified as far back as November 1994, and certainly no later than August 1995, the Board rejects Axxon's contention that a change in standards required the use of a different modeling program than that first presented to DEP in January 1996. (Findings of Fact 105-114)

116. Mr. Etemad also testified that procurement of DEP's pre-construction approval permit was delayed due to an erroneous DGS specification, which required the use of a rural modeling program. Specifically, Mr. Etemad asserted that the DGS specifications for the Incinerator required a 75 foot exhaust stack height and that the only way to show compliance with emissions criteria with a 75 foot high stack was by using a rural modeling program. Mr. Etemad therefore argued that the DGS specifications required the use of a rural modeling program. (N.T. p.47, 73-75, 288-292)

117. The Incinerator specifications did not require the main stack to be 75 feet in height, but instead required that "the [main exhaust] stack shall…extend at least 75 feet above incinerator room finish floor level." (emphasis added). (Exs. 1 at Section 11170 and 2 at Section 2.02.I.1; Board Finding).

118. The Incinerator specifications required that Axxon do dispersion modeling, but did not identify which modeling program was to be used or whether an urban or rural modeling program was appropriate. The responsibility for selection of an appropriate modeling program to present to DEP was left to Axxon. (N.T. 48, 66-67, 296; Exs. 1 at Section 11170 and 2 at Section 1.06.A; Board Finding)

119. The dispersion modeling would establish, among other things, the necessary main stack height for the Incinerator, not vice versa, as Mr. Etemad appeared to suggest at points of his testimony. (N.T. p.47, 70, 287-288, 290; Exs. 20 and 343); see also, 40 C.F.R. Part 51, Appx. W.

120. The EPA Guidelines do not indicate that the selection of a modeling program may be based on a predetermined stack height for the pollution source. See, 40 C.F.R., Part 51, Appx. W.

121. In order to arrive at its bid price, Axxon had mistakenly assumed that 75 feet would, in fact, be the main stack height. (N.T. p.73-75, 288-292; Board Finding)

122. Although Mr. Etemad himself testified that the DEP-prescribed urban modeling program purportedly used to perform the dispersion modeling for the March 7, 1996 submission to DEP showed the Incinerator's main exhaust stack would need to be 90 feet in height, the

application submitted on March 7, 1996 listed only a 75 foot stack height, (N.T. p.62-63, 70, 289-290; Exs. 13 and 91)

123. On August 8, 1996, Axxon and DGS held a meeting—at which both DEP and the dispersion modeling consultant were present—to discuss completion of the Incinerator Contract, including the permit application. (N.T. p.60; Ex. 20)

124. During the August 8, 1996 meeting, it was discussed that DEP required an additional resubmission of dispersion modeling. (N.T. p.392; Exs. 20 and 347; see also, Exs. 22 and 24)

125. Axxon's August 13, 1996 letter indicates that Axxon would resubmit the necessary dispersion modeling information on August 14, 1996, and that a construction permit would be issued on August 16, 1996, suggesting that it was known at the meeting that the resubmitted dispersion modeling would be acceptable to DEP and would result in issuance of a permit. (Ex. 20; see also, Exs. 22, 24, and 347)

126. An account of the August 8, 1996 meeting submitted by Axxon in a change order request two years later further undercuts Mr. Etemad's assertion that the March 7, 1996 application demonstrated compliance with applicable EPA Guidelines. It stated, inter alia, that; included the necessary increase in the stack height: "[a]fter considerable debate between the modelling [sic] consultant (Axxon's subcontractor) and PADEP, it was agreed that a 15' taller stack would satisfy all requirements with the minimum extra cost to the owner. This was agreed to in a meeting, on [sic] August 1996, with DGS, DOA [PDA], DEP, Axxon, Doucet & Mainka [the dispersion modeling consultant], and Urban Consultants personnel present"). (Ex. 91).

127. It was only the final dispersion modeling submitted on August 14, 1996 that showed compliance with applicable emission air quality standards. (Exs. 20, 91)

128. Axxon was mistaken to believe that a 75' high stack was required by the Contract specification. This was exposed as faulty by the use of the urban modeling program prescribed by DEP in January 1996. Axxon was responsible for delay resulting from its attempt to use a 75' stack height in its March 7, 1996 application, and refusal to use a 90' stack height until August 8, 1996, when it finally agreed to a higher stack and submission of compliant dispersion modeling data. (Findings of Fact 99, 103-104, and 123-127; Board Finding)

129. Because Axxon misconstrued the Contract to require a 75 foot main stack height; and because Axxon, despite the clear direction of DEP to use an urban modeling program which showed the stack would need to be 90 feet high, attempted to use a 75 foot stack height in its March 7, 1996 application to DEP, the Board rejects Axxon's contention that an erroneous specification caused the use of an improper modeling program. The mistaken use of a rural dispersion modeling program was the fault of Axxon. (Findings of Fact 116-128)

130. Axxon contends that it is not responsible for "administrative delay" on the part of DEP from submission of the application on March 7, 1996 until issuance of the permit on August 16, 1996, because, Axxon insists, there was no evidence of a defect in the March 7 permit application. (Axxon's Post-trial Brief at 15)

131. Axxon failed to establish that the March 7 application was free of errors. To the contrary, Mr. Etemad's own testimony and the evidence submitted demonstrates that the stack height in the March 7, 1996 application was too short (75 feet, as opposed to the 90 feet necessary) and dispersion modeling submitted at that time failed to show compliance with applicable air emissions quality standards. The need to resubmit dispersion modeling data using a 90 foot stack height on August 14, 1996 demonstrates that the March 7, 1996 application did contain unacceptable dispersion modeling data. (N.T. p.62-63, 70, 289-290; Exs. 13, 20, and 91; Board Finding)

132. Once Axxon had submitted dispersion modeling data showing compliance with applicable emission air quality standards on August 14, 1996, it took DEP two days to issue a construction pre-approval permit. (N.T. p.55-56; Ex. 20 and 24)

133. The Board finds that DEP did not take an inordinate or unwarranted amount of time to review the permit application once Axxon submitted dispersion modeling data showing compliance on August 14, 1996. (Finding of Fact 132; Board Finding)

134. Because Axxon's own evidence demonstrates that its March 7, 1996 application to DEP contained error in the form of a stack height which was insufficient using an appropriate modeling program as Axxon had been directed to use in January 1996; because Axxon took until August 14, 1996 to remedy the application by submitting dispersion modeling using a 90 foot stack height; and because DEP acted expeditiously once Axxon had provided compliant data, the Board rejects Axxon's assertion that DEP caused any delay in issuing a construction permit for the Incinerator. (Findings of Fact 130-133)

CEMS Unit Dispute

135. The Contract required that the Incinerator be equipped with a continuous emissions monitoring system (CEMS). (Exs. 1 at Section 11170 and 2 at Section 1.03.B.8)

136. The CEMS is a system that monitors contaminants released by an incinerator and was a required component pursuant to the Incinerator Specifications. (N.T. p.83; Exs. 1 at Section 11170 and 2 at Section 1.03.B.8)

137. By purchase order dated December 30, 1996, Axxon subcontracted with Pace to provide the CEMS. (N.T. p.79; Ex. 147)

138. Pace delivered the CEMS on April 21, 1997, but Axxon did not make payment to Pace at this time despite invoicing DGS for the CEMS and receiving payment on May 22, 1997. By letter dated June 13, 1997, Pace sought DGS's assistance in obtaining payment. (Ex. 29)

139. Axxon claimed that Pace had not met all the conditions for payment of the CEMS contained in its purchase order. Axxon asserted that these conditions also required installation and start-up of the Incinerator before payment was due to Pace. (Ex. 30; see also, Ex. 147)

140. On June 26, 1997, Pace took the CEMS from the Incinerator site. (N.T. p.88; Ex. 32)

141. On June 27, 1997, DGS became involved in the dispute, reminding Axxon of its responsibility to promptly pay subcontractors. On July 28, 1997, DGS directed Axxon to retrieve or replace the CEMS immediately and indicated to Pace that no equipment should be removed from the site. On August 21, 1997, by letter to Pace's attorney and copied to Axxon, DGS again directed Axxon to immediately make certain that the CEMS was returned. Axxon construed this as a directive to pay Pace, which Axxon did at that time. (N.T. p.87-94; Exs. 31, 33, 47, 382, and 383)

142. Although the precise date that the CEMS was returned is not in the record, Pace did return the CEMS to the project site at some time after the August 21, 1997 letter from DGS and before October 8, 1997, when Mr. Etemad faxed a note to Pace demanding that Pace send representatives to a training, presumably to include the CEMS, and provide manuals. (Exs. 47 and 54)

143. Axxon contends that DGS contributed to the delay in fabricating the incinerator by failing to assert criminal charges against Axxon's subcontractor, Pace Environmental Products ("Pace," a sister company of Loikits), for Pace's removal of the CEMS from the Incinerator site. (Axxon's Post-trial brief at 15; N.T. p.81-82; Ex. 45)

144. The CEMS is not a control system for an incinerator; an incinerator may be operated without having a CEMS system installed. (N.T. 808; contra, N.T. 771, 775)

145. Because Axxon failed to identify a requirement in any Contract document that DGS assert criminal charges against a subcontractor for removal of equipment provided by the subcontractor or that it otherwise intervene in any dispute between Axxon and one of its subcontractors; because the CEMS was only a monitoring system and not necessary for the operation of the Incinerator; because Axxon was able to continue work on the Incinerator installation without any identifiable interruption in its fabrication; because the absence of the CEMS was not shown to have caused any material delay to the fabrication of the Incinerator; and because the Board finds that the circumstances surrounding the CEMS did not cause any material delay to Axxon's performance of the Contract, Axxon has failed to establish that that DGS's action and/or failure to take action with regard to the CEMS delayed the Incinerator project. (Findings of Fact 135-144)

Conclusions Regarding Termination

146. Because Mr. Etemad's testimony, Axxon's other evidence, and Axxon's explanations of the evidence were frequently evasive, confusing, incomplete, and/or contradictory, the Board does not credit Mr. Etemad's testimony and Axxon's arguments insofar

as they impute the delay in completion of the Incinerator to DGS, PDA, or DEP. (Findings of Fact 83-145)

147. Because Axxon did not provide credible evidence of application preparation and dispersion modeling on a timely basis; provided no adequate justification for its initial use of an improper rural modeling program; and failed to submit a compliant dispersion model until August 14, 1996, the Board finds that Axxon itself caused the delay in obtaining the construction permit. (Findings of Fact 83-134)

148. Because there was no identifiable work that was delayed because of the absence of the CEMS, the Board finds that DGS's actions and/or inactions with regard to the dispute between Axxon and Pace did not cause delay in the completion of the Incinerator. (Finding of Fact 135-145)

149. Because, on the date of termination, the extended date of completion had passed and Axxon had not delivered a completely functional Incinerator and had not performed other required work, and as performance of the Contract was substantially and materially late at the time of its term inaction, the Board finds that Axxon failed to carry forward the Contract work in a timely manner and did not complete it all by the extended date of completion. (Findings of Fact 19-26, 75-82)

150. Because Axxon failed to deliver a completely functional Incinerator and perform other required Contract work, and because the work that Axxon did perform had numerous problems which required extensive completion work and debugging, the Board finds that Axxon materially failed to perform all of the Contract work at the time of its termination. (Findings of Fact 19-26, 75-82)

Damages
Costs of Completion

151. DGS seeks as costs of completion the amounts paid to Urban Consultants for remedial specifications ($112,384) and to Loikits for its work on the Incinerator after the Surety abandoned the project ($268,287), less the unpaid sum of the Contract. (DGS's Brief at 10-11)

152. Axxon argues that DGS is not entitled to costs of completion (what Axxon terms "consequential damages") because DGS wrongfully terminated it and because the Contract contained a clause providing for liquidated damages for delay, which provision would preclude an award of actual damages in any event. (Axxon's Post-trial Brief at 21-23)

153. Axxon also argues that many of the expenses incurred by DGS after Axxon's termination are excessive and/or are not actually costs of completion, arguing that: the Incinerator was complete or nearly complete at the time the Contract was terminated and that many of the expenses incurred were after a certificate of substantial and final completion was issued by DGS on April 30, 1998; the costs were unnecessary and resulted from DGS and Loikits' unfamiliarity with Axxon's Incinerator design; and DGS's execution of a no-bid, time-

and-materials contract with Loikits amounted to a blank check that permitted Loikits to run up unreasonable expenses. (Axxon's Post-trial Brief at 21-22)

154. Section 63.152(A) of the General Conditions provided that if the contractor defaulted, DGS had the following remedy:

> [DGS] may take possession of the site and 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 Section 63.152(B).

(Exs. 1 at Ch. 63 and 1A at Section 63.152(A) (emphasis supplied))

155. Section 63.152(B) of the General Conditions provided as follows with respect to unpaid contract sums after a termination for default of contractor:

> If the unpaid balance of the Contract sum exceeds the cost of completing the unfinished work, including compensation for the 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.

(Exs. 1 at Ch. 63 and 1A at Section 63.152(B))

156. The Contract defined the term "work" as follows:

> The term Work includes all services and labor necessary to produce the construction required by the Contract Documents. It also includes all material and equipment incorporated or to be incorporated into such construction.

(Exs. 1 at Ch. 63 and 1A at Section 63.1(D))

157. As of the date of termination, work on the Incinerator Contract was materially incomplete. (Findings of Fact 75-82)

158. The substantial completion certificate required that incomplete items be completed within 30 days; the incomplete items were listed on a punch list prepared at that time and issued with the certificate of substantial completion. (N.T. p.135, 138, 412-413, 449; Exs. 72, 83, and 444; see also, Exs. 1 at Ch. 63 and 1A at Section 63.109)

159. The March 30, 1998 certificate of substantial completion was issued subject to a concurrently issued punch list and continuing contractor obligations, which were listed as "extended maintenance & warrenty [sic] as defined in specifications. DEP CEM certification & stack/emissions certification (up through obtaining operating permit." (N.T. p.446; Exs. 72, 83, 444)

160. The punch list issued on March 30, 1998, contained a caption stating that it was "a summary of the visual observations made during a site visit. This review is not intended to be exhaustive and does not relieve the Contractor of any of the requirements set forth in the Contract Documents." (N.T. p.661; Exs. 83 and 444)

161. Among the more significant items of remaining work identified on the punch list needed to complete the Contract work were:

> General
>
> * * *
>
> 0.5 The Record drawings and Operations and Maintenance Manuals are required.
> 0.6 The Contractor shall be responsible for making the necessary arrangements to allow the Department of Agriculture procure [sic] the final operating permit from the Pennsylvania Department of Environmental Protection for burning medical waste at 500 pounds per hour, as specified.
> 0.7 The Contractor shall complete the specified requirements for training the Department of Agriculture personnel in the operation and routine maintenance of the incineration system equipment, as specified.
> 0.8 The Contractor is to complete the start-up and de-bugging of the system.

(Exs. 83 and 444; N.T. p.135-137, 139, 242-243, 277)

162. The items on the punch list had not been completed earlier when DGS terminated its Contract with Axxon. (Board Finding; see, Finding of Fact 35, 79)

163. Axxon, seeking payment for work it claimed to have completed prior to its termination, claimed that it received the punch list on April 15, 1998. On May 6, 1998, Axxon sent DGS a letter stating that the punch list work was complete, with the exception of item 1.1, touch-up paint. (N.T. p.138; Ex. 80)

164. On May 13, 1998, DGS sent the Surety a letter stating, in relevant part, as follows:

> I am writing to confirm our May 13, 1998 conversation regarding the status of the punchlist [sic] on the above referenced contract [i.e., the Incinerator Contract]. As we discussed, the work is not 100% complete as of the date of this letter.
>
> All systems are not complete and functional. The caustic system is not complete and functional. The Agency [PDA] has informed us that IWI appeared to still be having trouble with the scrubber tripping out periodically when they ran the incinerator last week. (on or around May 5, 1998). The entire work area has not been cleared yet. Wiring in the control panel has not been tied into place. Training has not been completed. We haven't received anything yet that clearly defines the warranty and maintenance agreements. The painter showed up on May 12, 1998; no one knew he was coming, nor was he given a defined scope of work by IWI.

These are the obvious items that we have noted. We are currently working on coming up with a more defined listing of items and will advise you accordingly. Some of these items are operational and can't be verified until the unit is functioning and running more frequently.

Also, Mr. Mann of IWI dropped off Manuals to Mr. Lew Newpher/Department of Agriculture. These manuals should have been submitted to the Design Professional, Urban Consultants, for review and approval prior to giving them to the Department of Agriculture. Could you please make the necessary arrangements to have these items picked up and distributed to the proper entity. It would also appear, from talking to Mr. Newpher, that the CEMS Manuals may not be included in these manuals; please verify and resolve.

It is the Department of General Services [sic] desire that all items, including the CEMS work and training be completed no later than May 18, 1998.

(Ex. 81)

165. On May 13, 1998, Axxon faxed to the surety a response to DGS's letter of May 13, 1998. Axxon's letter stated, in relevant part, as follows:

We have the following comments regarding DGS's letter:

A. All systems are functional.
B. The caustic system is functional. The suction tube and level switch have not been installed into the barrel because the Department of Agriculture has not provided safety gear, an emergency eye wash, or a safety shower. These items have been discussed with them on numerous occasions over the past 3 months.
C. The scrubber did not trip out during operations on or about May 5, 1998. The scrubber did have an alarm occur (low draft) and the automatic control system operated accordingly. IWI personnel did shut the system off shortly after that time.
D. The work area has had all construction material removed and entire floor vacuumed. IWI intentionally left a table, chair, and ladder at the site for use during training (which was expected to occur shortly after that visit). IWI also left some extra packing for the packed tower, which would be used as spare parts for the system. If the Department of Agriculture does not want the spare packing, IWI will remove it. (IWI did this as good will)
E. The wiring in the control panel was tied into place. Note that spare wires have been run between the control panel and the scrubber and CEM system. IWI will review this during the training and will adjust the spare wires if required.
F. Training has not been completed because the Department of Agriculture has not yet identified the new contractor that will supply the operators. In addition, DGS has determined that the CEM printer and training are to

take place at some later time after the punch list was completed. IWI has been ready to train the operators for some time now.

G. DGS has not yet responded to IWI's letter asking for clarification of the "Certificates and Guarantee". IWI will provide what the contract requires but we are unclear as to what is now being asked for.

H. The painter is done.

I. IWI has already completed the punch list except for the items that are not under our control, as noted above. DGS is now saying in paragraph 3 that they are working on another list. We expect that we will have a reasonable amount of time to complete these new items (30 days from receipt).

J. The system is operational. It just doesn't have any operators yet.

K. The IWI manuals were delivered to the job site, the same way as the CEM manual were by PACE and was acceptable by DGS. As the CEM manual was already delivered by PACE, we are not sure what needs to be resolved.

L. Please be advised that Jim Mann will be performing the training of the operators and he is not available on May 14 and May 26 through June 12 due to prior commitments. Please let us know when the contractor and/or the operators are available at the site.

To conclude, IWI is done [sic] the punch list items, we are ready to train the operators but they are not ready, and we are ready to perform the stack test but there are no operators.

(Ex. 81)

166. From June 1998, when Loikits began working on the Incinerator for the Surety, until early 2001, when the Surety abandoned the Incinerator project, the Incinerator's problems included a number of system faults (alarms going off during operation), a bowed stack (a problem not noted in the March 30, 1998 punch list), incomplete/incorrect operation and maintenance manuals, a host of problems causing smoke to escape the Incinerator, and another set of problems which caused the scrubber to melt repeatedly. (N.T. p.688-689, 692-694, 772-773; Exs. 84 and 462)

167. In late 1999, PDA began to use the Incinerator once a week to burn infectious animal waste. (N.T. p.775; Exs. 496; see also, 695)

168. Because of the ongoing problems with the incinerator, PDA wished to have an operator who could communicate problems to DGS for resolution and has relied upon outside vendors to provide operators for the Incinerator. (N.T. p.775-777, 791-793)

169. Dave Brenneman of Bremmco, who was the Incinerator operator from 1998 to 2007, prepared reports of problems encountered during the operation of the Incinerator. (N.T. p.775-777, 786; Exs. 496, 510, 511, 514, 516-18, 521, 529, 531, 533, 609, 612, 616, and 891-955).

170. In 2000 and 2001, Brenneman noted, inter alia, problems with smoke escaping during operation; the opening of the bypass damper due to draft problems; various leaks, including leakage of animal fluids from the Incinerator; errors in the manual; and severe cracking in the refractory on the rear wall of the secondary chamber. (Exs. 496, 510, 511, 514, 516-518, 521, 529, 531, 533, 609, 612, 616, 891-894, and 917-955)

171. While the Surety was working on the Incinerator, the bowed stack was replaced; the problems causing the scrubber to melt were fixed; and some, but not all, of the problems which led to smoke escaping into the surrounding building (the tripping of the induced draft ("ID") fan) were remedied. (N.T. p.692-697, 700-703, 750-752; Ex. 629)

172. Around January 18, 2001, the Surety stopped responding to correspondence and phone calls from DGS and/or Loikits and abandoned the Incinerator project. (N.T. p.498-502; Exs. 125 and 543-545)

173. DGS never paid the Surety the unpaid contract sum of Axxon's Contract. (Stipulation for trial at ¶ 6; N.T. p.591).

174. In April 2001, the Incinerator became non-operational for want of repairs. (Exs. 566 and 695)

175. After the Surety abandoned the Incinerator in early 2001, DGS assumed control of the project. (N.T. 502-503; Ex. 545)

176. On March 21, 2002, DGS awarded Loikits the emergency service contract on a time-and-materials basis, initially not to exceed $160,000. On July 26, 2002, at the suggestion of Loikits, the amount of the emergency service contract was increased to $300,000. (N.T. p.623-624, 626; Exs. 131-134)

177. DGS contracted with Loikits on a no-bid, emergency basis because DGS believed that another contractor, unfamiliar with the project, would have a "learning curve," which would result in greater expense, and because DGS did not know of another contractor who could do the work on the Incinerator. (N.T. p.629)

178. On September 11, 2002, Loikits began work for which it invoiced DGS. (Ex. 958 at Invoice No. 21072)

179. While under contract with DGS, Loikits completed the following items which were listed in the March 30, 1998 punch list: an operations and maintenance manual, training, and start-up and debugging. (N.T. p.688-689, 703-706, 738-739, 751-756; Ex. 83; Ex. 958 at Invoice Nos. 21972, 22630, 22771, 23524, 23671, 24088, and 24089).

180. The release of smoke—the result of over-pressurization within the Incinerator—was a continual problem that was present before the Surety dismissed Axxon from the project; through the takeover and abandonment of the project by the Surety; and for some time after DGS contracted with Loikits. (N.T. p.688-690, 692, 756, 769-774, 786-787).

181. The following work Loikits performed for DGS to remedy the smoking problem constituted start-up and debugging work as set forth in the punch list: replacement of the venturis, relocation of the thermal couple, re-sequencing the burners, and installation of the bypass damper. (N.T. p.688-689, 703-706, 751-756; Ex. 958 at Invoice Nos. 21972, 22630, 22771, 23524, and 23671)

182. The Board finds that the work performed by Loikits that is described in Findings of Fact 180 and 182 was necessary to finish the Contract work as set forth in the punch list. (Findings of Fact 179-181; Board Finding)

183. Loikits' work included a great deal of inspection, calibration and adjustment, repairs, parts replacement and fitting, and cleaning that did not address deficiencies in the Incinerator work identified in the punch list. (Ex. 958 at Invoice Nos. 21072, 21158, 21369, 21397, 21507, 21748, 21582, 21884, 21904, 21972, 21981, 22036, 22037, 22156, 22120, 22199, 22206, 22272, 22372, 22328, 22364, 22454, 22484, 22630, 22771, 22835, 22864, 22924, 22024, 22986, 23018, 23136, 23304, 23523, 23518, 23522, 23524, 23525, 23593, 23671, 23785, 24132, 24362, 24413, 24431, 24446, 24819, and 25516)

184. In March 2003, Loikits subcontracted to replace the back wall of the refractory in the Incinerator's secondary chamber for $12,288, which DGS paid. (Ex. 958 at Invoice No. 21884)

185. The refractory—a concrete lining inside the Incinerator chambers—was cracked because of the normal thermal expansion and contraction occasioned by, respectively, the firing and cooling of the incinerator. (N.T. p.154-157, 213, 325-326, 754; Exs. 84, 95, 106, 107, 126, 142, and 143)

186. The Board finds credible the expert testimony of John Hellman, Ph.D., a professor of material science and engineering specializing in ceramic science at the Pennsylvania State University. Pursuant to his inspection on March 16, 2001, Dr. Hellman found the refractory design was appropriate for the purpose of the Incinerator, that the selected refractory type was appropriate, that the refractory was appropriately installed and cured, and that the refractory generally did not need to be replaced. (N.T. p.327; Ex. 126; see also, Exs. 106-107; contra, Ex. 472)

187. In addition to work performed to finish the Contract work as set forth in the punch list, Loikits charged for work whose relevance to completing the Incinerator was not explained; work constituting routine maintenance; and work that was repetition or repair of work that was already completed. (N.T. p.752-753; Ex. 958 at Invoice Nos. 21072, 21158, 21369, 21397, 21507, 21748, 21582, 21884, 21904, 21972, 21981, 22036, 22037, 22156, 22120, 22199, 22206, 22272, 22372, 22328, 22364, 22454, 22484, 22630, 22771, 22835, 22864, 22924, 22024, 22986, 23018, 23136, 23304, 23523, 23518, 23522, 23524, 23525, 23593, 23671, 23785, 24132, 24362, 24413, 24431, 24446, 24819, and 25516)

188. The Board distinguishes between, on the one hand, work necessary to complete the Contract work on the Incinerator, and, on the other hand, work that was either unnecessary or done for maintenance, normal repair, or improvement of the Incinerator, but not related to completing the Contract. Upon review of the full gamut of additional work on the Incinerator and costs incurred for work by Loikits and Urban Consulting, we agree with Axxon that much of this additional work was either unnecessary (e.g., the refractory) and/or constituted ongoing maintenance and repair in the normal course, or improvements over the original Contract work. In order to identify work done by Loikits (and paid for by DGS) necessary for completion of the Contract work, the Board looks to the April 30, 1998 punch list prepared pursuant to the substantial and final completion inspections as the best evidence of what work remained to be completed. It best identifies what remained to be done on the original Contract after a final inspection in which DGS, Urban Consulting (in its role as design professional for the original project), and Axxon participated. (N.T. p. 154-157, 213, 325-327, 688-690, 692, 703-706, 738-739, 751-756, 769-774, 786-787; Exs. 72, 83, 84, 95, 106-107, 126, 142-143, 444, and 958; N.T. p.135-137, 139, 242-243, 277; Findings of Fact 35, 79, 161, 179-187; Board Finding)

189. The total value of the work performed by Loikits and paid by DGS to complete the Contract work as set forth in the punch list was $46,532. (Ex. 958 at Invoice Nos. 21972, 22630, 22771, 23524, 23671, 24088, and 24089; Findings of Fact 178-188; Board Finding)

190. By letter dated August 31, 2001, DGS requested Urban Consulting to develop scope of work "with the objective of correcting all operation, control, and emissions problems and concerns," including addressing "all of the deficiencies outlined in Loikits' April 30, 2001 memo."(N.T. p.503-504, 619-620, 664-665, 780; Exs. 130, 548, 566, and 957)

191. The copy of DGS's August 31, 2001 letter to Urban Consulting presented at the hearing did not include the attachment of Loikits' memo, but the Board takes notice that an April 30, 2001 letter from Loikits to the Surety is included in the record. Loikits April 30, 2001 letter to the Surety, which primarily deals with Loikits problems obtaining payment after the Surety's abandonment of the project, lists numerous problems which it felt needed to be rectified before the Incinerator could be used. (Ex. 544)

192. Some of the issues documented in Loikits' April 30, 2001 letter to the Surety are listed as "Pending Contract Completion Items" and some others as "Pending Maintenance/Warranty Service Issues." Having reviewed the items carefully, the Board's own assessment is that issues related to ongoing smoke release problems constituted completion work. Other work items identified constituted work beyond that needed to complete the Contract, including maintenance repair, and/or unnecessary work. (Ex. 544; Findings of Fact 154-171, 189; Board Finding)

193. On November 26, 2001, nearly three years after Axxon was terminated, Urban Consultants delivered a document entitled "Performance Specification for Animal Health Laboratory Incinerator, Department of Agriculture, Repair, Re-Commissioning, and Permitting: DGS 700-32 Remedial Work" ("Remedial Specifications"). The Remedial Specifications are dated November 14, 2001. (N.T. 503-504; Exs. 130, 548, and 566)

194. Some of the Remedial Specifications appear to deal with items the Board considers to be completion work, such as start-up and debugging work to address smoke release problems. However, much of the remainder of the Remedial Specifications deal with issues which were not identified in the punch list or which cannot be tied directly to Axxon's work (for instance, correcting emissions problems revealed by new dispersion modeling and stack testing after Loikits had performed extensive modifications on the Incinerator; a broken weigh scale and loader; inspection and repair of cracks in the primary chamber). The Board finds other problems identified did not need remediation (i.e., replacement of the refractory lining). (Exs. 83, 444, and 566; Findings of Fact 190-193; Board Finding)

195. In its post-hearing brief, DGS seeks $112,384, which it paid Urban Consulting "to determine what the problems were with the incinerator." DGS does not explain how it arrived at that figure, and provided no copies of the contract with Urban Consulting or the amendments thereto, and no invoices for work performed, or testimony explaining the work done. (DGS's Brief at 10; Board Finding)

196. DGS did put into evidence a spreadsheet summarizing all of its costs paid to Urban Consulting. The only way to arrive at the figure claimed by DGS for Urban Consulting's work, $112,384, is to total the entries in the "Payments" column for Amendments 11 through 19. DGS provided no evidence with respect to the work in those items other than Amendment 12, "Tasks Related to Development of a Scope of Work," which reflects a payment of $29,781. (N.T. 664-666; Ex. 957)

197. Contrary to DGS's assertion that it expended $112,384 to "determine what the problems were with the incinerator," the only entry in the spread sheet of that nature is the $29,781 paid for "Tasks Related to Development of a Scope of Work" (i.e, the Remedial Specifications). (Ex. 957; Board Finding)

198. The record is totally bereft of other evidence explaining how the other $82,603 claimed by DGS for Urban Consulting's work constituted completion work necessitated by Axxon's failure to complete the Incinerator. In the absence of such evidence, the Board is unwilling to surmise what, if any, portion of that cost went toward Contract completion work. (Findings of Fact 190-197; Board Finding)

199. A large portion of the Remedial Specifications that addresses work other than that listed in the March 30, 1998 punch list is not Contract work. DGS has provided us with no way to determine what portion of the cost of the Remedial Specifications is attributable to completing Contract work items unfinished at the time of Axxon's termination. (Exs. 1 at Ch. 63 and 1A at Section 63.1(D), 83, 444, and 566; Findings of Fact 190-198; Board Finding)

200. Because there is insufficient evidence generally supporting DGS's claim of $112,384 for Urban Consulting's Work and specifically a lack of evidence permitting a finding with reasonable certainty as to what portion of the claim $112,384 or the $29,781 spent on the preparation of the Remedial Specifications was necessitated by Axxon's failure to complete the Incinerator and what portion was necessitated by modifications made after Axxon was terminated, repair of items broken or worn out during operation, and work that was unnecessary;

and because the Contract only entitles DGS to costs of completion of the Contract work and DGS has not provided us with a way to reasonably estimate this amount, the Board finds that DGS is not entitled to payment of the amounts claimed for Urban Consulting's work. (Findings of Fact 190-199; Board Finding)

201. Because DGS expended funds to complete items on the punch list, and the amount of those funds was $46,532, the Board concludes that the additional cost of completing the Contract work incurred by DGS was $46,532. (Findings of Fact 179-182, 189)

Liquidated Damages

202. In addition to Section 63.52 of the General Conditions, which provides for cost of completion damages in the event the Contract is terminated, Article 4 of the Standard Form of Contract also provided for delay damages, in relevant part, as follows:

> Contractor further agrees that time is of the essence of this Contract, and that, if it fails to complete the work within the time specified above, the Contractor will pay the Department, as liquidated damages and not as a penalty for such failure, the sum of One Hundred Sixty and----00/100 Dollars ($160.00) per day for each and every calendar day after the completion date until the work is completed and accepted. The Department may extend the completion date of the Contract for causes set forth in Section 63.93 of the General Terms of Contract and, which, in fact, delay the completion of said work. In such case, Contractor is liable for said Liquidated Damages only after the expiration of the extended period.

(Standard Form of Contract at Article 4 and Ex. 1 at Standard Form of Contract at Section 63.52)

203. Delay damages and cost-of-completion damages address two different types of damages which may occur on a construction project like the one in the instant case, and are addressed separately by different provisions of the Contract. (Standard Form of Contract at Article 4 and Ex. 1 at Standard Form of Contract at Section 63.52; Board Finding)

204. The date DGS terminated the Contract, December 17, 1997, was 458 days after the extended date of completion, September 15, 1996. (Findings of Fact 16 and 26; Board Finding)

205. Axxon was solely responsible for the delay in the completion of the Contract work prior to its termination on December 17, 1997. (Findings of Fact 83-150)

206. After the Contract was terminated by DGS, Axxon was barred from accessing the Incinerator site and no longer had the opportunity to perform work towards completion as contractor. Although the Surety did contract with Axxon to do work for five months from January to May 1998, Axxon was no longer able to control the work as contractor. Accordingly, we find that assessment of the daily liquidated damages after Axxon was removed from the Incinerator Project would constitute an unreasonable penalty assessment against Axxon. (N.T. 127-128; Ex. 63; Findings of Fact 26-29, 45-46; Board Finding)

207. Because Axxon failed to complete the Incinerator by the extended date of completion, September 15, 1996, and could no longer work on the project after it was terminated on December 17, 1997, the Board finds that Axxon itself caused 458 days of delay in completion of the project. (Findings of Fact 26-29, 45-46, 204-206)

Axxon's Claim

208. In the event of a termination for default, the Contract provided for payment of the unpaid sum of the Contract to Axxon only to the extent it exceeded the costs of completing the unfinished Contract work including compensation for the project professional's additional services and any other damages incurred by DGS in accordance with the Contract. (Findings of Fact 154-155)

209. In addition to the unpaid sum of the Contract, Axxon seeks payment for extra work—as evidenced by change order requests for work done prior to Axxon's termination but after the filing of the instant claim—and repayment for a $50,000 letter of credit exercised by the surety after the commencement of its claim. (Axxon's Post-trial Brief; Ex. 91)

210. The first item of extra work for which Axxon seeks payment is the "[a]dditional labor and material cost due to delay in receiving 'Plan Approval'" from DEP, "15 months after the contract date and 41 days after the original contract end date," which delay "was caused by PADER with regard to the dispersion model and stack height, which was incorrectly provided as 75 feet in the specifications." (Ex. 91)

211. Axxon was responsible for all the delay in performance of the Contract prior to the termination. (Findings of Fact 83-150 and 205)

212. The second item of extra work for which Axxon seeks payment is the increase in cost associated with making the Incinerator's main exhaust stack 90' high, instead of 75' high, which Axxon claims was specified in the Contract. (Ex. 91)

213. Axxon is mistaken in its assertion that the Contract required a stack 75' high. The Contract set 75' as the minimum height for the stack, with the final height to be set by through the permit approval process, including dispersion modeling. (Exs. 1 at Section 11170 and 2 at Section 2.02.I.1; Findings of Fact 116-129)

214. The third item of extra work for which Axxon seeks payment is the need to do dispersion modeling a second time. (Ex. 91)

215. The Contract specified only that Axxon perform dispersion modeling, and did not specify what modeling program be used, leaving that to the professional judgment of Axxon. Axxon's conduct indicates that selection of an appropriate modeling program was Axxon's responsibility as contractor, subject to the approval of DEP. Axxon alone was responsible for its mistaken decision to perform a rural dispersion model in the first instance. (N.T. p.46-48, 52-53, 55-56, 60, 62-63, 70; Exs. 1 at Section 11170 and 2 at Section 1.03(a), 13, 20; Findings of Fact 118-129)

216. The Board has found that there is no change in regulation which supports Axxon's contention that the standards for selecting a dispersion model changed. (Findings of Fact 105-115)

217. On April 5, 2000, the Surety drew upon a $50,000 irrevocable letter of credit executed on its behalf by Axxon. (Exs. 117-118)

218. Because we have found that DGS did not breach the Contract in terminating Axxon, the Board finds that DGS is not responsible for the forfeiture of the $50,000 to the Surety. (Findings of Fact 149-150)

CONCLUSIONS OF LAW

Jurisdiction

1. Prior to its repeal by Act 142 of 2002, Section 4 of the Board of Claims Act provided that the Board had exclusive jurisdiction to hear and determine all claims against the Commonwealth arising from contracts entered into with the Commonwealth, where the amount in controversy was $300 or more. Section 4 of the Board of Claims Act, P.L. 728, No. 193 (May 20, 1937), former 72 P.S. § 4651-4 (repealed by Section 21 of the Act of December 3, 2002, P.L. 1147, No. 142 ("Act 142 of 2002")).

2. Any claim filed and not finally resolved under the Board of Claims Act prior to the effective date of Act 142 of 2002 must be disposed of in accordance with the Board of Claims Act. Section 21.2 of Act 142 of 2002.

3. The effective date of the repeal of the Board of Claims Act was July 1, 2003, the date of publication of a final standing practice order of the Department of Public Welfare in the Pennsylvania Bulletin. Section 22(1) of Act 142 of 2002; 33 Pa.B. 3053.

4. Section 1 of the Act of May 15, 1998, P.L. 358, No. 57, former 62 Pa.C.S. § 1712 (repealed by Section 11.2 of Act 142 of 2002) ("Section 1712 of the 1998 Procurement Code"), applies only to claims arising from contracts entered into after the effective date of the Act (i.e. 180 days after May 15, 1998). Accordingly, the Board concludes that Section 1712's pre-claim procedures are irrelevant to this matter. Sections 7 and 8 of the Act of May 15, 1998, P.L. 358, No. 57.

5. Because Axxon filed its claim on July 7, 1998, prior to the effective date of the repeal of the Board of Claims Act on July 1, 2003, and while Section 4 of the Board of Claims Act was in effect; because the claim arises from the Contract entered into between Axxon and DGS, an executive agency of the Commonwealth; because the amount in controversy exceeds $300; and because the Complaint constitutes a claim against a Commonwealth agency, the Board has both subject matter and personal jurisdiction in this action. (Findings of Fact 1-4, 55-57; Conclusions of Law 1-4)[1]

[1] The Board previously overruled DGS's preliminary objection to the Board's jurisdiction over Axxon's claim, and concluded that the Board did have jurisdiction. (Board's Opinion and Order of April 22, 1999). In its preliminary objections, DGS asserted that the Board lacked jurisdiction because Axxon had failed to exhaust its administrative remedies under the Contract, i.e., submission of the claim to a construction conference and pre-claim hearing. See, Exs. 1 at Chapter 63 and 1A at Sections 63.82 and 63.83. The Board is satisfied that Axxon made sufficient request for pre-claim relief specifically in a letter to the project professional submitted on January 30, 1998 and subsequently received by DGS (Exs. 66 and 67) and more generally in December 31, 1997, January 7, 1998, and January 14, 1998 correspondences from Axxon seeking relief from the termination (Exs. 59, 61, and 63). DGS's response was a general refusal to reconsider (Ex. 60) and subsequent silence. Clearly, DGS was aware of Axxon's

6. Under the Board of Claims Act, where the Board held jurisdiction over a claim, it also held jurisdiction over counterclaims at law which arose from the same underlying transaction. Tower Assocs. v. Pennsylvania Dep't of Gen. Servs., 687 A.2d 1225, 1229 (Pa.Cmwlth. 1997).

7. Because DGS filed its original counterclaim on June 17, 1999, prior to the effective date of the repeal of the Board of Claims Act on July 1, 2003 and while Section 4 of the Board of Claims Act was in effect, and because the claim arises from the same underlying Contract as Axxon's claim, the Board has both subject matter and personal jurisdiction in this matter. (Findings of Fact 5, 8, 61-64; Conclusion of Law 5-6)

8. The material facts on which a cause of action is based shall be stated in a concise and summary form. See, Pa.R.Civ.P. 1019(a).

9. Because, in its Complaint, Axxon sought recovery for "change orders," "extra work," and "wrongful termination"; because Axxon alleged that defective specifications caused delay and additional expense; because the three change order requests for work performed during the Contract (for additional cost due to delay in receiving the construction permit; increasing the height of the main exhaust stack; and re-doing the dispersion modeling) that were placed into evidence at the hearing merely constitute detailed evidence of these allegations; because the forfeiture of Axxon's letter of credit to the Surety is an item of damages flowing from the alleged wrongful termination alleged in Axxon's Complaint; and because 62 Pa.C.S. § 1712 is inapplicable to this case because the contract was entered into prior to its effective date, the Board concludes that it has jurisdiction to consider Axxon's demands for payment for the extra work detailed in the change orders and the forfeiture of the letter of credit.[2] (Findings of Fact 55-57; Conclusions of Law 4-5, 8)

Breach of Contract by Axxon

10. To succeed in an action for breach of contract, a plaintiff must establish: (1) the existence of a contract, including its essential terms, (2) a breach of duty imposed by the contract, and (3) resultant damages. Clairton Slag v. Dept. of Gen. Servs., 2 A.3d 765, 776 (Pa.Cmwlth. 2010); Hart v. Arnold, 884 A.2d 316, 332 (Pa.Super. 2005). In asserting a claim for recovery on a breach of contract, it is the asserting party's burden to show that the facts exist to

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claim through multiple correspondences and had the opportunity to follow its own pre-claim procedure had it chosen to do so.

[2] The Board previously denied DGS's second motion in limine seeking to exclude evidence related to evidence of Axxon's so-called "Cashed Bond Claim" and "Delay Caused by DEP Claim," deeming those asserted damages to have a potential causal nexus with the claim of breach of contract asserted by Axxon in its complaint. (Board's Opinion and Order of March 28, 2011) Based upon the evidence submitted, the Board believes the sufficient causal nexus between the asserted damages and the claim of breach against DGS exists to consider such evidence.

support the requested recovery. Paliotta v. Dep't of Transp., 750 A.2d 388, 390 n.2 (Pa.Cmwlth. 1999).

11. A material breach of contract relieves the non-breaching party from any continuing performance thereunder. LJL Transp., Inc. v. Pilot Air Freight Corp., 962 A.2d 639, 648 (Pa. 2009); Widmer Eng'g, Inc. v. Dufalla, 837 A.2d 459, 467 (Pa.Super. 2003) Whether a breach of contract is so substantial as to justify an injured party's regarding the whole transaction as at an end is a question of degree and custom in regard to the type of contract at issue in the case. Lane Ents., Inc. v. L.B. Foster Co., 700 A.2d 456, 471 (Pa.Super. 1997), rev'd on other grounds, 710 A.2d 54 (Pa. 1998).

12. Factors to consider in determining materiality include the following:

a) The extent to which the injured party will be deprived of the benefit which he reasonably expected;
b) The extent to which the injured party can be adequately compensated for that part of the benefit of which he will be deprived;
c) The extent to which the party failing to perform or to offer to perform will suffer forfeiture;
d) The likelihood that the party failing to perform or offer to perform will cure his failure taking account of all the circumstances including any reasonable assurances;
e) The extent to which the behavior of the party failing to perform or offer to perform comports with standards of good faith and fair dealing.

International Diamond Importers, Ltd. v. Singularity Clark, L.P., 40 A.3d 1261, 1271 (Pa.Super. 2012); see also, Gray v. Gray, 671 A.2d 1166, 1172 (Pa.Super. 1996); Jennings v. League of Civic Orgs. of Erie County, 119 A.2d 608, 611 (Pa.Super. 1956).

13. When it is stated in a contract that "time is of the essence," 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. 1922); Lichter v. Mellon-Stuart Co., 193 F.Supp 216, 220 (W.D.Pa. 1961). Parties may waive a "time of the essence" clause by writing or conduct. Warner Co. v. MacMullen, 112 A.2d 74, 78 (Pa. 1955); DiGiuseppe v. DiGiuseppe, 96 A.2d 874, 875 (Pa. 1953). The Board finds that DGS did not waive the time of the essence clause by writing or by conduct. (Finding of Fact 81)

14. Where a contract's performance requires a party to obtain a governmental permit, and the party's own delay in seeking that permit caused a delay in obtaining it, the courts will not -permit a party's own nonfeasance to defeat his contractual obligations. Gorzelsky v. Leckey, 586 A.2d 952, 956 (Pa.Super. 1991) (relating to delay in obtaining subdivision plan approval);

Messina v. Silberstein, 528 A.2d 959, 961 (Pa.Super. 1987), alloc. denied, 541 A.2d 746 (Pa. 1988) (also relating to delay in obtaining subdivision plan approval); see, accord Restatement (2d) of Contracts at § 264, comment A and Illustration 3.

15. Because DGS and Axxon entered into a Contract for Axxon to do all work to construct a completely functional Incinerator by the extended date of completion, September 15, 1996; because Axxon failed to complete the work suitably and on a timely basis; and because DGS has shown that it suffered damages, DGS has established the elements of breach of contract by Axxon. (Findings of Fact 10-16, 67-82, 154-164, 179-182; Conclusion of Law 10)

16. Because the Contract required all work to be completed by the extended date of completion; because time was of the essence of the Contract; because of the extreme degree of lateness of performance, and the degree to which performance was incomplete; because DGS had been deprived of the benefit of a working incinerator for approximately 15 months after it had contracted to get one; because of the continuing problems DGS experienced in obtaining performance from Axxon, including delays caused by Axxon; because Axxon was not close to completing performance at the time it was terminated; and because DGS has established that it has suffered damages, the Board concludes that Axxon's breach of the Contract was material, entitling DGS to terminate the Contract on December 17, 1997. (Findings of Fact 10-16, 67-82, 154-164, 179-182; Conclusions of Law 11-13)

17. Because the Board finds that Axxon was responsible for the delay in completion of the project up to the date of termination, the delay to completion of the Incinerator was not excusable. (Findings of Fact 83-150; Conclusion of Law 14)

Costs of Completion

18. Section 63.152 of the General Conditions provided that if the contractor defaulted, DGS had the following remedy:

> (A) * * * [DGS] may take possession of the site and 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 Section 63.152(B)…
>
> (B) If the unpaid balance of the Contract sum exceeds the cost of completing the unfinished work, including compensation for the 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.

(Exs. 1 at Ch. 63 and 1A at Section 63.152 (emphasis supplied))

19. The rule that "a party that retains legally enforceable liquidated damages will be barred for seeking actual damages" (as stated in Blue Mountain Mushroom Co., Inc. v. Monterey Mushroom, Inc., 246 F.Supp.2d 394, 400 (E.D. Pa. 2002) and Carlos R. Leffler, Inc. v. Hutter, 696 A.2d 157, 162 (Pa.Super. 1997)), is inapposite to this case. That rule is concerned with the award of duplicative liquidated damages and actual damages for the same injury—delay—where the specific contract in that case provided for only liquidated damages. This case involves separate, non-duplicative contractual provisions for different categories of damage, i.e., liquidated damages for delay and actual costs of completion for termination under the Contract. See, J. E. Hathaway & Co. v. United States, 249 U.S. 460, 464 (U.S. 1919) (Brandeis, J.) ("There is no reason why parties competent to contract may not agree that certain elements of damage difficult to estimate shall be covered by a provision for liquidated damages and that other elements shall be ascertained in the usual manner"); In accord see, 11-58 Corbin on Contracts § 58.9 and n.5.

20. In construing a contract, each and every part must be taken into consideration and given full force and effect if reasonably possible. Cerco v. DeMarco, 137 A.2d 296 (Pa. 1958) ("An interpretation will not be given to one part of a contract which will annul another part of it…."); See also, Capek v. Devito, 767 A.2d 1047, 1050 (Pa. 2001).

21. Damages need not be determined with mathematical certainty, but only with reasonable certainty. 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. A.G. Cullen Constr., Inc. v. State Syst. of Higher Ed., 898 A.2d 1145, 1174 (Pa.Cmwlth. 2006); J.W.S. Delavau, Inc. v. Eastern America Transp. & Warehousing, Inc., 810 A.2d 672, 685 (Pa.Super. 2002). However, damages are not recoverable if they are too speculative, vague, or contingent to be ascertained with reasonable certainty. Spang & Co. v. U.S. Steel Corp., 545 A.2d 861, 866 (Pa. 1988) (citing Restatement (2d) of Contracts, § 352); see also, Scobell, Inc. v. Schade, 688 A.2d 715, 719-721 (Pa.Super 1997)

22. "When there has been a breach of contract, damages are awarded in order to place the aggrieved party in the same position he would have been in had the contract been performed. The theory behind this philosophy is based on an attempt to make the non-breaching party whole again, not to provide him with a windfall." Northeastern Vending Co. v. P.D.O., Inc., 606 A.2d 936, 938-939 (Pa.Super. 1992) (quoting Bellefonte Area Sch. Dist. V. Lipner, 473 A.2d 741, 744 (Pa.Cmwlth. 1984)

23. "The measure of damages for breach of contract is compensation for the loss sustained. The aggrieved party can recover nothing more than will compensate him." Helphin v. Trustees of the University of Pennsylvania, 10 A.3d 267, 270 (Pa. 2010) (quoting Lambert v. Durallium Products Corp., 72 A.2d 66, 67 (Pa. 1950) (emphasis original)).

24. A claimant seeking damages under a contractual provision is limited to the reasonable cost of completion of the work "in accordance with the contract." Magar v. Lifetime, Inc., 144 A.2d 747, 748 (Pa.Super. 1958). The defaulting contractor should be compelled only "to pay what it would reasonably cost [to do the work] at the time of the breach, less contract

price." Gaylord Builders, Inc. v. Richmond Metal Mfg. Corp., 140 A.2d 358, 360 (Pa. 1958) (emphasis original) (quoting Taber v. Porter-Gildersleeve Co., 114 A. 773, 774 (Pa. 1921)).

25. The Board acknowledges considerable disagreement between the parties as to what counts as necessary costs of completion and whether the Department failed to mitigate its damages. Nevertheless, the Board has found that the best evidence of the actual Contract work remaining to be completed by DGS after Axxon's termination was the work prescribed to be finished in the April 30, 2008 punch list that was issued by the project professional pursuant to the substantial completion/final inspection (as supplemented by testimony and documentation concerning specific problems which existed at that time). (Findings of Fact 60, 64, 151, 153, 188; Conclusion of Law 21-24)

26. Because delay damages and cost-of-completion damages address two different types of damages which may occur on a construction project like the one in the instant case, and are addressed separately by different provisions of the Contract, the award of liquidated damages for delay does not prevent the award of actual damages for costs of completion. (Finding of Fact 154-155, 202-203; Conclusions of Law 19-20)

27. Because Loikits' work on preparing operation and maintenance manuals, operator training, and start-up and debugging, constituted completion of Axxon's responsibilities under the Contract, as identified by the April 30, 2008 punchlist, the Board concludes that payment for that work in the amount of $46,352 constituted reasonable costs of completion. (Findings of Fact 179-182; Conclusions of Law 18, 21-24)

28. Because Loikits' other work for DGS is comprised of costs unrelated to completion of the Contract work, such as remediation of problems that did not exist at the time of termination; work whose relevance to Contract completion was not explained; maintenance work; repetition or repair of work done by Loikits itself; and repairs to work that was already completed, and/or other work that was unnecessary to complete the Contract, the Board concludes that that work does not constitute costs of completion. (Findings of Fact 184-188; Conclusions of Law 18, 21-24)

29. Because there is insufficient evidence to ascertain with reasonable certainty what, if any, portion of Urban Consulting's costs of developing the Remedial Specifications was professional services necessary to complete the original Contract, the Board concludes that costs expended for the preparation of those specifications are not recoverable as costs of completion. (Findings of Fact 190-200; Conclusions of Law 18, 21-24)

30. DGS's cost of completion of the Contract work was $46,532, which it is entitled to deduct from the unpaid sum of the Contract, $112,896. (Findings of Fact 179-182, 201; Conclusion of Law 18, 27)

Liquidated Damages

31. In a liquidated damages claim, the government has "the ultimate burden of persuasion as well the initial burden of going forward to show that the contract was not completed by the agreed contract completion date and that liquidated damages were due and owing." The government meets its initial burden by showing "the contract performance requirements were not substantially completed by the contract completion date and that the period for which the assessment was made was proper." Once the government satisfies its initial burden, the burden shifts to the contractor to show "any delays were excusable and that it should be relieved of all or part of the assessment." A party asserting liquidated damages were improperly assessed bears the burden of showing the extent of the excusable delay to which it is entitled. Wayne Knorr, Inc. v. Dep't of Transp., 973 A.2d 1061, 1091 (Pa.Cmwlth. 2009); A.G. Cullen Constr., Inc. v. State Sys. of Higher Educ., 898 A.2d 1145, 1162 (Pa.Cmwlth. 2006); see also, PCL Constr. Servs., Inc. v. United States, 53 Fed. Cl. 479, 484 (2002), aff'd, 96 Fed. Appx. 672 (Fed. Cir. 2004)).

32. Damages for breach may be liquidated in the agreement only at an amount that is reasonable in the light of the anticipated or actual loss caused by the breach and the difficulties of proof of loss. A term fixing unreasonably large liquidated damages is unenforceable on grounds of public policy as a penalty. Cullen, 898 A.2d at 1162 (quoting Restatement (Second) of Contracts, § 356(1) (1981)).

33. Because DGS has established that the Contract work was not completed by the extended date of completion, September 15, 1996, and that the Contract was not completed before the date of termination, December 17, 1997; because the Contract provided that time was of the essence and that Axxon would pay liquidated damages of $160 per day for delay past the date of completion until the work was completed; because the assessment of liquidated damages in the amount of $160 per day for the period between the extended date of completion and the date of termination does not constitute a penalty; and because Axxon has not established either that the delay was excusable so that it should be relieved of the assessment of liquidated damages for that period, DGS has met its burden to show that it is entitled to liquidated damages of $160 per day for the period between September 15, 1996 and December 17, 1997. (Findings of Fact 75, 81-82, 147-148, 202, 204-205; Conclusions of Law 31-32)

34. Because the Board finds Axxon to be responsible for the delay in completion up to the time DGS terminated the contract, the Board finds that Axxon has not provided any excuse as to why it is not liable for liquidated damages. (Findings of Fact 147-148, 205; Conclusion of Law 17, 31)

35. Because after Axxon's termination it is impossible to determine the degree to which DGS's actions and refusal to allow Axxon to continue work contributed to delay, the Board deems it unreasonable to assess Axxon with liquidated damages past December 17, 1997, the date of Axxon was terminated. Liquidated damages beyond the period when Axxon had the ability to mitigate those damages are unenforceable as a penalty. (Finding of Fact 206; Conclusions of Law 32)

36. Because the Board has found that Axxon had overrun the extended date of completion September 15, 1996, by 458 days on the date it was terminated, December 17, 1997, the Board concludes that Axxon owes DGS liquidated damages in the amount of $73,280 (458 days × $160.00/day = $73,280). (Finding of Fact 207; Conclusion of Law 31, 33-34)

Axxon's Claim

37. In asserting a claim for recovery on a breach of contract, it is the asserting party's burden to show that the facts exist to support the requested recovery. Paliotta v. Department of Transportation, 750 A.2d 388, 390 n.2 (Pa.Cmwlth. 1999).

38. To be entitled to compensation for extra work, a contractor must demonstrate that the 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.. v. State Syst. of Higher Ed., 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) and Dep't of Transp. v. Paoli Construction Co., 386 A.2d 173, 175 (Pa.Cmwlth. 1978)).

39. Because DGS had grounds to find Axxon in material breach of contract, the Board concludes Axxon has failed to show that DGS breached the Contract by declaring Axxon to be in default and terminating the Contract. (Finding of Fact 82; Conclusions of Law 15-16, 37)

40. Although Axxon was properly terminated for material breach of contract, it is entitled to credit for the unpaid sum of the contract of $112,896 pursuant to Contract provisions as an offset against DGS's damages. (Findings of Fact 56, 154-155, 208; Conclusion of Law 18)

41. Because Axxon was responsible for the delay it is not entitled to damages resulting from that delay. (Findings of Fact 147-148, 205, 211)

42. Because the Incinerator Specifications set 75 feet as only a minimum for stack height, and left open the possibility that the stack might need to be higher without provision for extra payment, the Board concludes that the work necessary to build the stack 90 feet in height was required by the terms of the Contract. (Finding of Fact 117, 213; Conclusion of Law 38)

43. Because the Contract required Axxon to conduct dispersion modeling, and the need to do so twice arose solely because Axxon was at fault in incorrectly performing the dispersion modeling the first time, Axxon is not entitled to payment for performing the dispersion modeling a second time as this was not extra-Contractual work. (Findings of Fact 71, 118, 129, 215-216; Conclusion of Law 38)

44. Because DGS did not breach its Contract with Axxon by terminating it, and Axxon's ground for why DGS was liable to repay the amount of the letter of credit was that it was an item of damages flowing from a breach by DGS, Axxon is not entitled to recover for the

Surety's redemption of the irrevocable letter of credit. (Finding of Fact 217-218; Conclusions of Law 15-16, 37)

Calculation of Damages

45. Because the Contract provided that, in the event of default by Axxon, Axxon was only entitled to the unpaid sum of the Contract to the extent it exceeded the costs of completion and any other damages incurred by DGS, Axxon is entitled to credit for the amount by which the unpaid sum of the Contract exceeded the costs of completion. Because the sum of the costs of the completion and liquidated damages for delay ($73,280) exceeds the unpaid sum of the Contract ($112,896), the excess amount must be paid by Axxon to DGS. (Findings of Fact 56, 154-155, 201, 207-208; Conclusions of Law 18, 30, 36, 40)

46. DGS is entitled to payment from Axxon of $6,916 ($46,532 costs of completion + $73,280 liquidated damages - $112,896 unpaid sum of Contract = $6,916), plus pre-judgment interest of $6,306 (calculated at the rate of 6% per annum for the period from December 17, 1997 to date) for a total award of $13,222, and post judgment interest on this award until paid in full. (Findings of Fact 56, 154-155, 201, 207-208; Conclusions of Law 18, 30, 36, 40, 46)

OPINION

Introduction

Axxon Corp. d/b/a International Waste Industries ("Axxon") initiated this proceeding by complaint filed July 7, 1998 against the Commonwealth of Pennsylvania, Department of General Services ("DGS"). DGS filed its original counterclaim on June 17, 1999. Upon the close of pleadings, the Board directed the parties to proceed with discovery. Thereafter, a long period of dormancy ensued. Activity resumed in the case in 2010, after DGS filed a motion for judgment of non pros. After Axxon contested this motion and DGS withdrew same, DGS moved for, and was granted, permission to amend its counterclaim. DGS did so on December 6, 2010. A hearing on the merits ensued.

The case itself consists of claims by both Axxon and DGS against one another concerning a dispute arising from a contract to build an animal waste incinerator ("Incinerator") at the Pennsylvania Department of Agriculture ("PDA") building on North Cameron Street in Susquehanna Township, Dauphin County, Pennsylvania. Fabrication and installation of this Incinerator was delayed well past the contract completion date, and the parties dispute, inter alia, who was responsible for the delay, whether or not the declaration of default against Axxon was proper, and the extent of damages incurred by one another.

Relevant history of the Incinerator project began on or about May 10, 1995, when DGS notified Axxon's president and principal shareholder, Mehran Etemad, that Axxon was the winning bidder for a contract to design and build an animal waste incinerator for a new laboratory wing at PDA's building on North Cameron Street in Harrisburg, Pennsylvania. The Incinerator was to be used to dispose of diseased animal carcasses and other lab waste. A

contract to fabricate and install this Incinerator at the PDA site, No. DGS700-32.6, in the amount of $642,000, was executed by DGS and Axxon sometime in June of 1995 (hereinafter the "Contract").[3] Off-site prep work for the Incinerator was to begin with Axxon's receipt of the May 10, 1996 award letter (which receipt was presumed by Contract provision to be May 13, 1996). A notice to proceed with on-site work was issued on June 7, 1995. Per the Contract, Axxon's original completion date for the Incinerator was July 6, 1996, 420 days after presumed receipt of the award letter. For reasons unrelated to the instant dispute, the completion date for all prime contractors on the new PDA laboratory wing project (including the Incinerator) was eventually extended another 71 days, to September 15, 1996. [4]

Soon after the notice to proceed was issued to Axxon, problems began to arise in its performance. These problems included a failure on Axxon's part to send a representative to required bi-weekly job conferences as well as late submissions of shop drawings and work schedules. Axxon performed little or no on-site work in 1995 or 1996.

Based on the evidence presented, it appears that the most significant problem encountered in fabricating and installing the Incinerator at the PDA site in a timely manner was the time taken to obtain pre-construction approval of the Incinerator from the Pennsylvania Department of Environmental Resources ("PADER").[5] This pre-construction approval from PADER (hereinafter referred to for convenience as a "construction permit" or "permit") was

[3] The standard form of agreement executed by the parties states that the contract was executed on June 2, 1995, but the signature page includes a signature of the Secretary of DGS indicating that it was signed on June 16, 1995, and other undated signatures.

[4] Despite the fact that DGS expected off-site and on-site work (as well as the running of the 420 day Contract period) to commence on the Incinerator before the Contract was fully executed, a questionable practice at best, Axxon has not taken issue with DGS's assertion that the original Contract completion date was July 6, 1996. Moreover, the 71 day extension--which moved the Contract completion date to September 15, 1996 (for reasons unrelated to the Incinerator)--was more than sufficient to offset any discrepancies in the execution of Axxon's Contract. Accordingly, we find September 15, 1996 to be a legitimate Contract completion date for the Incinerator.

[5] PADER became the Pennsylvania Department of Environmental Protection ("DEP") on June 1, 1995 and was referred to at hearing, as it will be herein, interchangeably as PADER or DEP.

needed before substantial fabrication and on-site work could begin on the Incinerator. To obtain this permit, various documentation first needed to be submitted to DEP, including an acceptable dispersion model for the Incinerator. A dispersion model, in layman's terms, is a computer program used to determine beforehand whether various pollutants from a contamination source of a particular design will be dispersed in the air at levels low enough to meet state and federal clean air standards. Accordingly, DEP approval of the dispersion modeling results was needed before final design of the Incinerator could be determined.

At all times relevant hereto, the air quality standards utilized by DEP and applicable to the Incinerator and permit were primarily those established by the federal Environmental Protection Agency ("EPA") which had published extensive regulations and criteria respecting air quality as well as construction of new emission sources. [6] Among other things, these regulations identified the need for pre-construction approval of any new air contamination source and set forth both the information to be provided in the application for such approval and the criteria to be used in evaluating such application. See, 25 Pa.Code, Chapter 127, Subchapters B and D. Among the information required in the application for pre-approval of the Incinerator was an acceptable dispersion model showing compliance with air quality standards. See, e.g. 25 Pa. Code, § 127.12 (incorporating EPA requirements); 40 C.F.R. § 52.2020(c)(73)(ii)(A) (confirming new source review by DEP would utilize standards set forth in 40 C.F.R. Part 51).

Part of the EPA's requirements included its Guidelines for Air Quality Models (hereinafter the "EPA Guidelines"). These EPA Guidelines identified several different

[6] See 42 U.S.C. §§ 7401 et seq. and 40 C.F.R. Chapter 1, Sub Chapter C (Parts 50-86). In particular, we note Parts 50, 51 and 52 as most relevant to the instant case and 40 C.F.R. §§ 52.2020-52.2062 (regarding the EPA's approval of Pennsylvania's implementation of the EPA's regulations). See also 25 Pa. Code, Article III (Chapters 121-145) with regard to Pennsylvania's adoption of the EPA's clean air standards. Chapter 127 is most relevant to the instant case.

dispersion modeling programs for potential use in the initial permit approval process and specified several factors for selecting which of the different dispersion modeling programs could be used under what circumstances. See, 40 C.F.R. Part 51, Appendix W (1995 and 1996 eds.). One of the more significant factors to be considered in selecting an acceptable dispersion model was whether the pollution source was in a rural or urban location. See, EPA Guidelines, §8.2.8. These guidelines also set out factors for determining if the location of the pollution source was to be considered urban or rural. Id.

Pursuant to the Contract terms, Axxon was responsible not only for designing the Incinerator, but also for preparing the documentation (including the dispersion modeling) needed for the Incinerator's construction permit application. (Exhibits 1 and 2 at Incinerator Specifications at Sections 1.03 and 1.06) Although evidence as to Axxon's activities with regard to preparation of the necessary documentation for the permit application from the beginning of its Contract in May/June of 1995 is sparse, it appears that some time thereafter Axxon retained a consultant to perform the dispersion modeling needed to obtain the DEP permit. The evidence also indicates that Axxon had not yet completed compilation of the necessary materials for the permit application as of December 1, 1995. (Ex. 330). It further appears from the evidence that, by the time of a January 1996 pre-submittal meeting with DEP, Axxon's consultant had produced a rural dispersion model to be submitted for the permit application. This much is clear because, at this January 1996 meeting with DEP, Axxon was told that a different dispersion model, one appropriate for urban areas, needed to be used instead of the rural model proffered by Axxon and its consultant at this meeting.

According to Mr. Etemad, Axxon's principal, the need to re-do the dispersion model pushed off still further the actual submission of a permit application until March 7, 1996.

Thereafter, it appears that further modifications to the Incinerator design were needed before the dispersion modeling showed necessary compliance with the permit requirements on August 14, 1996. DEP then issued the pre-construction approval permit on August 16, 1996. Since the Incinerator design could not be finalized until this approval was issued, the delay in obtaining this permit approval delayed fabrication and delivery of the Incinerator considerably. In fact, by September 15, 1996, the extended date of Contract completion, there was no Incinerator on the PDA site.

Sometime in late Spring or early Summer of 1997, the basic Incinerator was finally manufactured and delivered to the site. However, around that time, a dispute arose between Axxon and one of its subcontractors, Pace Environmental Products ("Pace"),[7] about whether or not a progress payment from Axxon was due Pace. As a result of this dispute, Pace retrieved an Incinerator component it had previously delivered to the site, the Continuous Emissions Monitoring System ("CEMS").[8] Although Pace eventually returned the CEMS after DGS intervened and Axxon made the disputed progress payment, Axxon asserts that additional delay to completion of the Incinerator was incurred and blames DGS for this delay.

In September 1997, work on the Incinerator had finally progressed to the point where Axxon performed an initial "shake down" run of the Incinerator with DGS staff and Urban Consultants, the design professional for the new PDA laboratory wing. However, rather than signaling the commencement of normal operation of the Incinerator, this initial "shake down" began an ongoing series of checks and tests of the Incinerator's components and systems, which themselves created problems and further delay. For instance, in late October 1997, during the

[7] Pace is the sister company of Loikits Technologies, Inc. ("Loikits"), a company later engaged to do work on the Incinerator. Although Diane Loikits was president of Pace, the exact nature of the relationship between the companies remains unclear, and witnesses for both Axxon and DGS used the names almost interchangeably.

[8] The CEMS is a computerized system that monitors contaminants released by the Incinerator.

course of further testing, a component of the Incinerator's scrubber system malfunctioned and the mist eliminator melted. This latter item took several months to replace.

On November 21, 2007, with its work unfinished and all components of the Incinerator not yet functioning properly more than a year after the extended date of completion, Axxon received a written default notice from DGS. This notice stated that if Axxon did not complete a list of unfinished items within seven days —including a requirement that the Incinerator be made fully functional—DGS would declare Axxon to be in default. On December 17, 1997, having determined that Axxon had not completed the Incinerator, DGS declared Axxon to be in default and ordered Axxon off the jobsite.

After the declaration of default, DGS requested Axxon's surety, United States Fire Insurance Company ("Surety"), to finish the Incinerator. With the consent of DGS, the Surety hired Axxon, as its subcontractor, to complete work on the Incinerator. The Surety also hired a consultant, Guardian Group, to oversee this work. Work on the Incinerator continued, and a substantial completion inspection was eventually conducted on March 30, 1998, with representatives of Axxon, DGS, and Urban Consultants (the overall project design professional) present. At this time, the Incinerator was fired-up and a certificate of substantial completion (along with a notation of final completion) and a punch list of outstanding work yet to be completed were issued.

Although we acknowledge that the simultaneous issuance of the certificate of substantial completion, a punch list of work items yet to be done and an apparent declaration of final completion gives Axxon a reason to assert that work on the Incinerator should be considered complete at that point in time, we found these documents themselves to be inconsistent with such

a conclusion and to raise a question as to the intent of the parties. We also found that the weight of evidence submitted, including evidence of continued problems with the Incinerator's functioning and the subsequent actions of the parties, leads to the conclusion that, in fact, the Incinerator was not fully complete on March 30, 1998. To the contrary, we have found that the additional work identified in the punch list still had to be performed before the Incinerator could be considered actually complete. In fact, significant problems with basic operation of the Incinerator continued, and punch list items remained incomplete, well after March 30, 1998. This is exemplified by instances such as that occurring on May 22, 1998, when Axxon attempted to conduct a training session for the PDA's Incinerator operators, but had to stop when alarms kept tripping and smoke from the Incinerator filled the control room.

Not long after this "smoke alarm" incident in late May 1998, the Surety terminated its contract with Axxon but continued work on the Incinerator by engaging Pace's sister-company, Loikits Technologies, Inc. ("Loikits"), in June 1998 to complete the aforementioned punch list work. Loikits proceeded to work on the outstanding Incinerator punch list items, performed repairs and provided ongoing service for the Incinerator. In late 1999, the PDA, with the assistance of a contracted operator, began to use the Incinerator once a week to burn infectious animal waste.

Nearly two years passed from the Surety's termination of Axxon when, on April 5, 2000, the Surety drew upon a $50,000 irrevocable letter of credit that Axxon had executed as security for its Contract performance bond. However, problems continued to plague the Incinerator's operation and, by mid-April 2001, the Surety became unresponsive to attempts at communications and correspondence from DGS and Loikits. Thereafter, PDA stopped using the Incinerator.

After the Surety, in effect, abandoned the project in the Spring of 2001, DGS assumed control of work on the Incinerator and contracted with Urban Consulting to develop specifications for remedial work to be performed on the Incinerator. On June 26, 2002, DGS contracted with Loikits to complete still outstanding punch list items and to perform service and systems repair on the Incinerator on a time and materials basis. This contract with Loikits, for an amount up to $300,000, was not bid competitively but was instead entered into by DGS as an "emergency" contract. DGS apparently justified this "emergency" contract on the basis that it was needed to avoid the unnecessary expense of bringing in a new contractor who was unfamiliar with the Incinerator and its operations and problems. Subsequent contracts were executed with Loikits to fix, maintain, and operate the Incinerator.

Despite DGS's assertions of ongoing, seemingly permanent problems, it appears that the Incinerator has been functioning on some level, albeit with interruptions, with the assistance of Loikits staff, since late 1999. However, it was not until April 1, 2007, when DEP issued a final operating permit for the Incinerator. At the time of hearing, the Incinerator was being operated by PDA staff and Loikits.

Basis of Claims

Axxon asserts that DGS breached the Contract by wrongfully declaring Axxon to be in default at a time when the Incinerator was at or near completion on a timely basis (if one discounts the time required to obtain the pre-construction approval from DEP, as Axxon asserts should be done in this case). From Axxon's perspective, the primary source of delay, and hence its inability to complete the Incinerator by the extended Contract completion date of September 15, 1996, was the time taken up by the pre-construction DEP approval process. This

is time for which Axxon believes it should not be responsible because, according to Axxon, this delay was due to actions of DGS and/or DEP which were beyond Axxon's control.

To begin with, Axxon points to the extra time attributable to DEP's requirement, expressed to Axxon in January 1996, that the initial dispersion modeling proffered by Axxon and its consultant had to be re-done. For this, Axxon blames a change to the EPA Guidelines for dispersion modeling that it claims occurred subsequent to Axxon's Contract award and faulty Contract specifications from DGS. With regard to this last assertion, Axxon claims that the Contract specifications specified that the Incinerator have a 75 foot stack and thereby required Axxon to use a rural dispersion model for the pre-construction approval process (which rural model proved unacceptable to DEP). Axxon also blames DGS for any and all time lost attributable to Axxon's payment dispute with Pace because DGS did not intervene on Axxon's behalf in this dispute by bringing criminal charges for theft against Pace, as urged by Axxon.

Axxon seeks the unpaid balance of the Contract at the time of termination (which was stipulated by the parties to be $112,896) and compensation for the loss of its $50,000 letter of credit that was drawn down by the Surety. It also seeks payment for extra work as well as interest, attorney's fees and costs.

DGS asserts that it acted properly when it declared Axxon to be in default because Axxon failed to deliver a fully functional Incinerator that operated properly by the extended Contract completion date. Among other things, it asserts that, pursuant to the Contract terms, Axxon's time frame for completion of the Incinerator included the time needed for DEP pre-construction approval; that Axxon was responsible for providing the information needed to obtain this approval; and that Axxon has provided no credible basis for exclusion of the time taken by

Axxon to obtain this approval. DGS also asserts it acted properly with regard to the dispute between Axxon and Pace and, in any event, that Axxon, not DGS, was at all times responsible to resolve any problems between Axxon and Axxon's subcontractors and/or suppliers. Pursuant to provisions of the Contract, DGS seeks both liquidated damages for delay and costs of completion in excess of the unpaid balance of the Contract.

Declaration of Default Against Axxon

We first address the propriety of the Department's declaration of default against Axxon because it bears substantially on the merits of both parties' claims. The General Conditions of the Contract provide the terms under which DGS could declare Axxon to be in default. It states, in relevant part:

> 63.152 CONTRACTOR'S DEFAULT
>
> (A) If the Contractor persistently or repeatedly refuses of 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 or 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 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….

(Exhibit 1 - General Conditions § 63.152).

Other relevant provisions in the Contract state:

> (A) All time limits stated in the Contract Documents are of the essence of the Contract. . . .
>
> (F) The Contractor shall carry the Work forward expeditiously with adequate forces and shall complete it no later than the Contract Completion Date.

(Exhibit 1 – General Conditions § 63.92).

Plainly put, the Contract obligated Axxon to design and deliver a completed Incinerator by the Contract completion date (i.e., a fully functioning incinerator which performed its required functions in a proper manner). The Contract completion date, as extended, was September 15, 1996. However, by November 21, 1997, more than a year after the extended date of completion, DGS had determined that Axxon had not completed several specific items of work on the Incinerator and had not delivered a fully functional incinerator to the PDA site. As a result, DGS sent a written notice to Axxon threatening a declaration of default under the Contract in seven business days, unless Axxon completed a number of items required in order to close out the Contract, including, but not limited to, the following:

1) Replace damaged components in the scrubber.
2) Tie the weight scales in the CEMS System
3) Furnish and install a printer for the CEMS System.
4) Complete housekeeping pads.
5) Complete roof penetrations.
6) Install platform for Opacity monitors.
7) Complete painting and other clean-up items.
8) Provide O & M Manuals.
9) Complete all other work required by contract to make the System completely functional.

(Exhibit 55).

On December 17, 1997, DGS sent a letter to Axxon noting that the items specified in the November 21, 1997 letter had not been completed and declared Axxon to be in default. (Exhibit 56).

As to whether or not Axxon was properly declared to be in default, we agree with DGS. To begin with, it is beyond dispute that the Incinerator was not installed on-site and complete by

the September 15, 1996 Contract completion date. Additionally, the evidence of record leads the Board to find that Axxon failed to address all the items identified in the default letter and, in particular, failed to produce a completed Incinerator which performed its functions in a proper manner either by the extended Contract completion date or by the date Axxon was defaulted. Moreover, because we find these failures to be significant and material in nature, we conclude that Axxon did not perform its work in a suitable manner and failed materially and substantially to comply with the provisions of the Contract. These failures by Axxon constituted a material breach of the Contract, permitting DGS to terminate the Contract. Therefore, DGS properly declared Axxon to be in default.

In concluding that Axxon was properly declared to be in default, we have found Axxon's arguments and excuses for its failure to perform timely and suitably to be without merit. To begin with, the plain terms of the bid materials and the Contract make it clear that the DEP pre-construction approval was to be accomplished within the original 420 day time frame of the Contract and provides no hiatus in the running of this time for the DEP construction permit process. In fact, the Contract is also clear that it was Axxon's responsibility to provide DEP with all the information needed for the PDA to obtain the construction permit for the Incinerator. Accordingly, we find no basis in the Contract for Axxon's assertion that the time to obtain DEP's pre-construction approval for the Incinerator should be discounted or removed from its Contract construction period.

Most damaging to Axxon, however, is its failure to adequately and credibly explain why it took from mid-May of 1995 (when it received its notice of Contract award and was told to start off-site work) until January 1996 to discover the proper type of dispersion model required for DEP's pre-construction approval and until August 14, 1996—just a bit under one month from the

extended Contract completion date—in order to complete an application that included a compliant incinerator design. Specifically, the Board finds Mr. Etemad's testimony and explanation(s) as to why it took Axxon approximately 15 months to produce and submit an acceptable application to DEP to be wholly lacking in credibility.

DGS testimony indicates that Axxon had not produced any permit application documents until late December 1995. Axxon does not provide us with evidence to the contrary and offers little explanation for why it took so long to do so. Mr. Etemad testified only that Axxon experienced some unspecified amount of delay in compiling materials for the DEP permit application because of some initial difficulty in obtaining unidentified "drawings" for the PDA project. Given that Axxon's case rests upon shifting blame for the delay in obtaining a construction permit to someone other than Axxon itself, the scantiness of this explanation—with none other offered—leads the Board to reject it as not credible.

Mr. Etemad's testimony laid blame for the bulk of the delay on problems encountered in producing a dispersion model for the Incinerator acceptable to DEP. Specifically, Mr. Etemad asserted that Axxon and its consultant were initially led to believe that they could use a rural dispersion model for the Incinerator; that they did so; but were then told in January 1996 that this type of dispersion model was unacceptable and that they had to use a dispersion model for an urban setting instead.

Mr. Etemad offers two explanations for his belief that a rural model could be used, neither of which the Board finds credible: first, that the standard for selecting a rural versus an urban model changed and, second, that mistaken specifications had led him to believe that a rural modeling program could be used. However, a close review of the evidence and relevant

regulations proves both excuses and explanations proffered by Mr. Etemad to be wholly without merit.

The selection of a dispersion modeling program is governed by EPA Guidelines. 40 C.F.R. Part 51, Appx. W ("EPA Guidelines"). The Board has reviewed applicable EPA Guidelines, as they stood between the time Axxon was awarded the Contract in May 1995 and the January 1996 meeting where Axxon was informed that an urban model needed to be used. While there were some changes made to the EPA Guidelines in September 1995, there were no changes whatsoever made to the provision for determining whether to use an urban or rural dispersion modeling program during this period.[9] Both before and after the amendments made to the EPA Guidelines in September 1995, the standard—which looks to where the pollution source is to be located, such as the zoning for that site and/or population counts at various distances around the site of the pollution source—was totally unchanged. EPA Guidelines § 8.2.8.

Mr. Etemad also blamed the initial selection by Axxon of a rural dispersion model on "mistaken" Incinerator specifications provided by DGS. Specifically, Mr. Etemad asserted that DGS's specifications required the main exhaust stack height for the Incinerator to be 75 feet. Mr. Etemad went on to testify that the only way a 75 foot stack height for the Incinerator could be shown to comply with EPA's emissions criteria in the pre-construction approval application was by using a rural dispersion model for presentation to DEP, which Axxon did. He therefore attributed Axxon's initial selection of a rural dispersion model for submission to DEP to be the fault of DGS.

[9] 40 C.F.R. Part 51, Appendix W § 8.2.8 (1995 ed.); 60 Fed. Reg. 40465-40474 (pub'd. Aug. 9, 1995) (changes effective Sept. 8, 1995); 40 C.F.R. Part 51, Appendix W § 8.2.8 (1996 ed.).

However, this argument by Axxon also fails because it relies upon a misreading of the Incinerator specifications. In fact, the DGS specifications regarding the main exhaust stack height did not require the Incinerator to have a specific stack height of 75 feet. Instead the specifications required that the Incinerator's main exhaust stack "shall be provided with all necessary support bracing and guy wire attachments and extend at least 75 feet above incinerator room finish floor level." (Emphasis added). (See Exhibit 2 - Division II of Project Manual, Section 11170, Part 2 at 2.02I(1)). Furthermore, in no event did the EPA Guidelines indicate that the choice of a dispersion modeling program type should be based on a predetermined stack height for the pollution source. To the contrary, the process described in the EPA Guidelines was to first utilize the specified criteria for determining whether the site was urban or rural and then employ one of the 11 preferred (or 31 alternative) dispersion models identified for potential use by the EPA Guidelines to determine, among other things, the stack height for the pollution source.[10] Accordingly, Mr. Etemad's argument that he needed to use a rural dispersion model

[10] We would be remiss not to acknowledge that the amendments made to the EPA Guidelines in September 1995 (See, 60 Fed. Reg. 40465, 40468) did modify the listing of acceptable dispersion models for rural and/or urban locations. The changes made in September 1995 actually added two alternative dispersion models (raising the total number from 31 to 33) for potential use and modified certain elements of three existing dispersion models but did not delete any models at that time. Of course, the EPA Guidelines both before and after this amendment also allowed for a new dispersion model created by the applicant if it could be shown to be comparable to the accepted programs. Because neither Axxon nor DGS identified (on record) the specific rural dispersion model initially used by Axxon, we cannot determine if it was modified in any way by the September 1995 amendment. However, Axxon's choice of using any rural dispersion model was wrong because an urban dispersion model was required. Just as importantly, the proposed changes to the EPA Guidelines (including the proposed additions and/or modifications to the acceptable urban and rural dispersion models) was published in November 1994, well before Axxon's Contract award and its initial decision as to what dispersion modeling program to use for the Incinerator's pre-construction approval application. We would expect Axxon and/or its consultant to have been aware of these proposed changes and would therefore consider Axxon to have assumed the risk of rejection and delay if it chose to use a dispersion model that was proposed for modification (and eventually modified) by the September 1995 amendments before its permit application was complete. We also note that further changes were made to the EPA Guidelines for dispersion models in 1996. These 1996 amendments eliminated two preferred models (reducing the total to 9) while adding 2 new alternative models and eliminating 16 to bring the total to 19 possible alternative models. However, these changes did not go into effect until October 11, 1996, 36 days after Axxon received pre-construction approval for the Incinerator on August 16, 1996, making these changes irrelevant to the case at hand. See 61 Fed. Reg. 41838-41894 (pub'd. Aug. 12, 1996) (changes effective Oct. 11, 1996); 40 C.F.R. Part 51, Appendix W (1997 ed.).

instead of an urban dispersion model because DGS specified a 75 foot stack height for the Incinerator is simply mistaken.

Finally, Axxon's own evidence undercuts its suggestion that there was no defect in the actual March 7, 1996 permit application, which Axxon relies upon in contending that it should not be found responsible for "administrative delay" on the part of DEP from submission of the application on March 7, 1996 until issuance of the permit on August 16, 1996. To the contrary, the evidence instead indicates that, although the March 7, 1996 application finally utilized the correct type of model, the submitted design did not show compliance with all applicable air quality emissions standards. Instead, Axxon submitted an application utilizing a design with a 75 foot stack height on March 7, 1996—not the 90 feet Mr. Etemad testified was eventually necessary. That is why Axxon finally agreed on or about August 8, 1996 to increase the Incinerator stack height from 75 feet to 90 feet and to re-submit its new dispersion modeling information with the 90 foot stack to DEP on or about August 14, 1996. (See Ex. 20) Once this was done, DEP issued its approval in two days, showing prompt rather than lax turnaround once Axxon had demonstrated that Incinerator emissions would be compliant. Thus, Axxon has failed to provide the Board with credible evidence that DEP's review of the construction permit application for the Incinerator after the March 7, 1996 submission took an inordinate or unusual amount of time due to DEP delay.

We are not sure whether Mr. Etemad's testimony was intended to mislead the Board or was simply mistaken in his various explanations. However, in sum, Mr. Etemad's explanations for Axxon's initial selection of an unacceptable rural dispersion model for the Incinerator construction permit are without merit, and the choice of utilizing an incorrect rural dispersion model for DEP's pre-construction approval lies solely with Axxon. Moreover, Axxon has

provided the Board with precious little evidence of record as to precisely when Axxon and/or its consultant began to perform the necessary dispersion modeling and related work to obtain the DEP construction permit or as to its efforts to compile the necessary materials for the application prior to January 1996. As a result of the foregoing, Mr. Etemad and Axxon have failed to shift the blame to some party other than Axxon for any material portion of the nine months it took for Axxon to present an application for the Incinerator to DEP on March 7, 1996. Moreover, it is also clear from the evidence that the reason for the additional six month hiatus before issuance of the DEP permit on August 16, 1996 was that Axxon's dispersion modeling did not show compliance with applicable air quality emission standards until it agreed to provide a 90 foot stack on the Incinerator and resubmitted its revised modeling data utilizing the higher stack to DEP on August 14, 1996. Thus, we find Axxon to be fully responsible for the entire delay experienced in obtaining DEP's pre-construction approval permit for the Incinerator.

We also find no merit in Axxon's assertion that DGS also contributed to delay in fabrication of the Incinerator by reason of its failure to assert criminal charges against Pace (Axxon's subcontractor) for Pace's removal of the CEMS system on the Incinerator and/or by reason of DGS's alleged insistence that Axxon pay Pace for this component prematurely. To begin with, Axxon points us to no contractual provision or legal principle which would obligate DGS to resolve disputes between its contractor and the contractor's subcontractor. Additionally, Mr. Etemad himself testified to the fact that the CEMS system merely monitored CO2 and certain other emissions from the Incinerator and had no part in controlling or adjusting the operations of the Incinerator. As such, we do not see how the temporary lack of the CEMS system materially impeded or delayed fabrication of the Incinerator itself. Finally, Axxon failed to provide us with any evidence as to the measure or extent of delay to fabrication of the

Incinerator occasioned by the absence of the CEMS system on the PDA site from approximately July until some time prior to October 1996. In sum, we find no duty on the part of DGS to file criminal charges against Pace as a result of the subcontract dispute between Axxon and Pace, nor do we have sufficient evidence to assess if (or how much) delay was caused to fabrication of the Incinerator by Pace's temporary repossession of the CEMS unit.

DGS's Claim

Having determined that Axxon was properly defaulted, the Board next considers the damages to which DGS is properly entitled. DGS seeks what it claims to be its costs of completion paid after the Surety abandoned the Incinerator project as well as liquidated damages for the delay incurred before completion of the Incinerator (minus the unpaid amount of the Contract).

With regard to costs of completion, DGS seeks the amounts it paid to Urban Consultants ($112,384) and to Loikits ($268,287), less the $112,896 contract balance left unpaid to Axxon at the time of the declaration of default. Axxon responds that the Contract was very close to substantial completion at the time it was declared to be in default on December 17, 1997; that the extent of work done after its termination was the result of Loikits unfamiliarity with the incinerator, which resulted in trial and error adjustments; and that much of this work was unnecessary and even counterproductive. Thus, Axxon argues, the claimed costs of completion by DGS are far in excess of any reasonable completion cost and exemplify a wholesale failure by DGS to reasonably mitigate these costs (which, Axxon points out, included a no bid time and materials contract issued to Loikits).

The General Conditions of Contract provide for the availability and measure of costs of completion in the event of a contractor default. They state, in relevant part:

> 63.152 CONTRACTOR'S DEFAULT
>
> * * *
>
> (B) If the unpaid balance of the Contract sum exceeds the cost of finishing the work, including compensation for the 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.

(Exhibit 1).

In this case, default by the contractor occurred on December 17, 1997, prior to completion of the Incinerator, so DGS is entitled to the costs of completion. Thus, the Board needs to calculate how much DGS is entitled to for finishing the work on the Contract.

To begin here, the Board finds no credibility to Axxon's assertion that the Incinerator Project was essentially complete and properly functioning at the time of its termination or the implied suggestion that the "specific items of work" listed in the notice of default sent on November 21, 1997 constituted the full extent of work remaining. Even several months later, after the Surety had brought Axxon back as subcontractor, and a certificate declaring substantial completion and final inspection was issued, there remained a punch list of items which needed to be performed before the Contract could be considered finished.

The Board also rejects DGS's demand for the entirety of what it paid to Urban Consultants and Loikits. Much of the work paid for was, in our assessment, well beyond any credible interpretation of the work specified in the original Incinerator Contract. For instance, the Board considers much of the work for which Loikits was paid not to be costs of completion,

but ongoing service, maintenance, normal repair and/or a repeat of work that was already completed before DGS took over from the Surety (for instance, bowing of the stack was repaired initially by the Surety rather than Loikits under DGS direct payment). In other instances, the Board finds work performed by Loikits to have been unnecessary—one prominent example of this is the replacement of the refractory linings. Likewise, Urban Consulting was engaged in 2001 to create performance specifications for remedial work on the incinerator, which specifications were not submitted until December 12, 2001. DGS seeks recovery of $112,384, but there is little evidence given to demonstrate what work supports that figure and how it relates to completing original work items Axxon failed to complete. The Remedial Specifications themselves cost only $29,781, and encompassed work both to complete the Incinerator and to remediate problems that had arisen in the Incinerator in the nearly four years after Axxon was terminated and other work having to do with issues such as emissions. Given a lack of evidence regarding how much of the sum paid to Urban Consulting was for work necessary to complete the original Contract work left unfinished by Axxon, the Board is unable to speculate as to what value to assign Urban Consulting's completion work.

Based on the evidence as a whole, the Board believes the punch list prepared at the time of the substantial completion inspection on March 30, 1998 to be the best evidence of what specific work remained in order to fully complete the original Incinerator Contract.[11] This punch

[11] Among the more significant terms of remaining work identified on the March 30, 1998 punch list were:

General

0.5 The Record Drawings and Operations and Maintenance Manuals are required.

0.6 The Contractor shall be responsible for making the necessary arrangements to allow the Department of Agriculture to procure the final operating permit from the Pennsylvania Department of Environmental Protection for burning medical waste at 500 pounds per hour, as specified.

list represents the last steps to be taken between the substantial/final completion inspection and the Contract being finished. It best identifies what remained to be done on the original Contract after the last inspection in which DGS, Urban Consulting (in its role as design professional for the original project) and Axxon participated.

We thus conclude that DGS is entitled to the cost of work performed to complete punch list items still open after DGS took over the project, including work needed to complete the O & M manual, training, start-up and debugging. Here, for example, the Board considers work done to mitigate the smoke emission problems to constitute "start-up and de-bugging." Such work includes proper burner sequencing, replacement of the venturis, relocation of the thermal couple, and installation of the bypass damper. Having carefully reviewed the invoices submitted by Loikits to DGS and the work descriptions provided, the Board determines that DGS is entitled to $46,532 for the work needed to bring the Incinerator to actual completion (excluding additional work that was either unnecessary or beyond the scope of completing the original Contract).

In its post-hearing brief, DGS also requests liquidated damages for delay from the extended date of completion, September 15, 1996, until the date the Contract was declared substantially complete, March 30, 1998. This represents a significant scaling-back of its initial claim of more than ten years of liquidated damages that DGS sought in its amended counterclaim.

0.7 The Contractor shall complete the specified requirements for training the Department of Agriculture personnel in the operation and routine maintenance of the incineration system equipment, as specified.

0.8 The Contractor is to complete the start-up and de-bugging of the system.

See Exs. 83 and 444.

Axxon's arguments in opposition to the award of liquidated damages seem to have been made mostly with an eye to the dollar figure asked for in DGS's amended counterclaim, which the Board had previously noted strained credulity (BOC Opinion of February 9, 2011 disposing of Axxon's preliminary objections to DGS's amended counterclaim). Nevertheless, we note that Axxon's arguments essentially follow three lines: first, Axxon asserts that DGS is not entitled both to costs of completion (what Axxon refers to as "consequential damages") and liquidated damages; second, that the ten-year period of liquidated damages claimed by DGS in its amended counterclaim is unreasonable; and third, that even delay damages until the date of the declaration of default are unreasonable, because of the delay that Axxon ascribes to DGS and/or DEP.

The Board notes that Axxon's second argument above is mooted by the fact that DGS now seeks delay damages only for the period from the extended date of completion until the issuance of the certificate of substantial completion, March 30, 1998. With regard to Axxon's remaining objections, we note that The Contract between DGS and Axxon provided for liquidated damages for delay as follows:

ARTICLE 4—TIME OF COMMENCEMENT AND COMPLETION

> The work to be performed under this Contract shall be commenced with all off site work required by the Contract immediately after receipt of Notice of Award of Contract. The Contractor shall commence operations on site no later than ten (10) days after the Initial Job Conference and shall complete all Contract work to the satisfaction and approval of the Department, on or before 420 Calendar Days from Date of Receipt of Award of Contract. Contractor further agrees that time is of the essence of this Contract, and that, if it fails to complete the work within the time specified above, the Contractor will pay the Department, as liquidated damages and not as a penalty for such failure, the sum of One Hundred Sixty and----00/100 Dollars ($160.00) per day for each and every calendar day after the completion date until the work is completed and accepted. The Department may extend the completion date of the Contract for causes set forth in Section 63.93 of the General Conditions of the Contract and, which, in fact, delay the completion

> of said work. In such case, Contractor is liable for said Liquidated Damages only after the expiration of the extended period.

(Complaint at ¶ 6 and Exhibit 1 at Article 4; Answer with New Matter and Counterclaim at ¶ 6).

The Board concludes that DGS is entitled to damages for delay because the Incinerator was not completed on time.

The Board considers Axxon's legal arguments concerning the unenforceability of the liquidated damages clause to be unavailing. In contending that DGS is not entitled to both costs of completion and liquidated damages, Axxon cites Blue Mountain Mushroom Co., Inc. v. Monterey Mushroom, Inc., 246 F.Supp.2d 394 (E.D. Pa. 2002) and Carlos R. Leffler, Inc. v. Hutter, 696 A.2d 157 (Pa.Super. 1997). The Board does not believe that either the rule set forth in those cases or the fact scenarios in those cases are sufficiently similar to the present case to apply the rule as Axxon suggests. To begin with, the rule in both cases cited by Axxon is that a liquidated damage for delay clause in a contract precludes the award of actual delay damages. Blue Mountain, 246 F.Supp.2d at 400; Leffler, 696 A.2d at 162. Moreover, the cases cited are based on the principle that the agreed upon contact provision controls over general common law principles of contract damages. The cases do not address the enforceability of separate contractual remedy provisions in the same contract addressing different types of damage. Id.

Unlike the cases cited by Axxon, the liquidated damages for delay and the cost of completion provisions relied upon by DGS in this case each address a different type of injury. Neither provision, therefore, conflicts with or overrules the other or prevents DGS from pursuing the other remedy for a different injury. Section 63.152 of the General Conditions of Contract, which provides for costs of completion, also permits DGS to offset "other damages" against the

unpaid sum of the contract.[12] (Exhibits 1 and 1A at Section 63.152(B)); see also, J. E. Hathaway & Co. v. United States, 249 U.S. 460, 464 (U.S. 1919) (Brandeis, J.) ("There is no reason why parties competent to contract may not agree that certain elements of damage difficult to estimate shall be covered by a provision for liquidated damages and that other elements shall be ascertained in the usual manner") and 11-58 Corbin on Contracts § 58.9 and n.5 (citing Blue Mountain, but cautioning, per Hathaway, that "[c]are should be taken, however, to make sure just what is the injury, or element of injury, that the parties have liquidated and made certain…Frequently contracts need more careful interpretation in these respects than they have received.")

Finally, the Board does not agree with Axxon's contention that the delay in this case is the fault of DGS and/or DEP, rendering Axxon blameless. As discussed above, the fault for failing to obtain a permit on a timely basis and the resultant material delay to the completion of the Incinerator rests squarely with Axxon.

Because we agree with DGS that Axxon is responsible for delay in completing the Incinerator, the sole question remaining is how many days of delay is Axxon liable for liquidated damages. The Board believes the proper measurement is from the extended date of completion until the date Axxon was declared to be in default and removed as Incinerator contractor from the project. After the date Axxon was declared to be in default and removed from the project by DGS, Axxon was no longer in control of the work on the Incinerator but was under the direction

[12] Section 63.152 of the General Conditions of Contract provides as follows:

> If the unpaid balance of the Contract sum exceeds the cost of completing the unfinished work, including compensation for the 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.

(Exhibits 1 and 1A at General Conditions of Contract at Section 63.152(B)) (Emphasis added).

of the Surety and could not make its own decisions on how best to mitigate further delay. As a result, holding Axxon responsible for liquidated damages for the period beyond which Axxon could, as contractor, bring an end to those damages would, in our view, constitute an unreasonable penalty on Axxon. Wayne Knorr, Inc. v. Dep't of Transp., 973 A.2d 1061, 1092 (Pa.Cmwlth. 2009) (Upholding the Board's imposition of liquidated damages on a contractor only for delay within the control of the contractor). See also Dep't of Transp. v. W.P. Dickerson & Son, Inc., 400 A.2d 930, 933 (Pa. Cmwlth. 1979) Thus, the Board determines that DGS is entitled to liquidated delay damages for the period from September 15, 1996 to December 17, 1997 (the date Axxon was removed as contractor) in the amount of $73,280 (458 days x $160/day).

Axxon's Claim

Axxon seeks the amount of the Contract unpaid at default; recovery of the amount of a letter of credit held by the Surety and drawn after it had taken over the Contract; and costs for extra work. Because the Board has found that DGS properly terminated Axxon for default, the Board must consider the merits of Axxon's claim in light of this determination.

With regard to Axxon's claim for the unpaid Contract balance, we note first that the parties stipulated at hearing that the amount remaining unpaid was $112,896. We also note that, because Axxon was properly terminated from the Incinerator project for default, this unpaid Contract balance will be properly credited to Axxon in this Opinion and Order. However, because this unpaid Contract balance is less than DGS's costs to complete the Incinerator and the liquidated damages for delay owed to DGS, the unpaid Contract balance, when applied, serves only to offset the award due to DGS. This results in a net principal award on the Contract to

DGS of $6,916 ($46,532 costs of completion + $73,280 liquidated damages - $112,896 unpaid sum of Contract = $6,916).

Further, we conclude that Axxon is not entitled to reimbursement from DGS of the $50,000 letter of credit it posted for its Surety as security for the performance bond issued on the Incinerator project. Axxon's basis for this demand is that the loss of this letter of credit was a cost flowing from what it asserts was its wrongful termination by DGS. Because the Board has found that DGS was entitled to declare Axxon to be in breach and terminate it from the Incinerator project, this portion of Axxon's claim lacks merit.

Finally, Axxon asserts that it is entitled to payment for extra work performed for DGS outside the scope of the original Contract. It presented three change orders requests as evidence of same. With respect to the first change order request, Axxon is not entitled to damages for delay because, as discussed above, Axxon was responsible for the delay in completion of the Incinerator up until the date of its termination. With respect to the second change order request, Axxon is not entitled to costs involved with increasing the height of the Incinerator stack from 75 feet to 90 feet, because the 75 feet was only a minimum height according to the Contract specification. With respect to the third change order request, Axxon is not entitled to costs for the extra work performed in re-doing the dispersion modeling because selecting and producing the proper dispersion model were part of Axxon's responsibilities under the Contract and because the Board did not find credible Axxon's assertion that DGS's specifications caused Axxon to select an incorrect dispersion model in the first place.

Conclusion

DGS is entitled to its legitimate extra costs to complete the Incinerator of $46,532 and to liquidated damages of $73,280. Offsetting this amount is $112,896 left unpaid to Axxon on the Contract at the time of the declaration of default and Axxon's termination. Thus, the principal amount owed to DGS by Axxon is $6,916, plus interest at the legal rate of six percent per annum running from December 17, 1997 (the date Axxon filed its claim in this matter with the DGS contracting officer). The prejudgment interest to date of this Order totals $6,306. Thus, the Board enters the following Order:

ORDER

AND NOW, this 27th day of February, 2013, it is **ORDERED** and **DECREED** that judgment is entered against Axxon Corp. d/b/a International Waste Industries and in favor of the Commonwealth of Pennsylvania, Department of General Services in the amount of $13,222, comprised of the principal amount of $6,916 plus prejudgment interest of $6,306. DGS is further awarded post-judgment interest at the legal rate of 6% per annum on the outstanding amount of this judgment until paid.

BOARD OF CLAIMS

OPINION SIGNED

_____
Jeffrey F. Smith
Chief Administrative Judge

_____
Harry G. Gamble, P.E.
Engineer Member

_____
Andrew Sislo
Citizen Member