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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-Q

(Mark One)

x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2008

or

o TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number: 001-32587

PHARMATHENE, INC.

(Exact name of registrant as specified in its charter)

Delaware	**20-2726770**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Park Place, Suite 450, Annapolis, MD	**21401**
(Address of principal executive offices)	(Zip Code)

(410) 269-2600
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of ''large accelerated filer,'' ''accelerated filer'' and ''smaller reporting company'' in Rule 12b–2 of the Exchange Act. (Check one):

o Large Accelerated Filer o Accelerated Filer o Non-Accelerated Filer x Smaller Reporting Company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes o No x

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date:
The number of shares of the registrant's Common Stock, par value $0.0001 per share, outstanding as of August 13, 2008 was 22,087,121.

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PHARMATHENE, INC.

CONSOLIDATED BALANCE SHEETS

	June 30, 2008 (unaudited)	December 31, 2007
ASSETS		
Current assets:		
Cash and cash equivalents	$ 14,152,390	$ 40,582,643
Restricted cash	5,000,000	—
Short-term investments	4,813,365	12,153,945
Accounts receivable	8,162,565	5,245,763
Prepaid expenses	733,564	476,511
Other current assets	15,783	15,783
Total current assets	32,877,667	58,474,645
Long-term restricted cash	10,750,302	—
Property and equipment, net	6,386,079	6,571,024
Patents, net	1,197,659	1,312,991
Other long-term assets	183,588	183,588
Deferred costs	52,988	68,884
Goodwill	2,308,106	—
Total assets	$ 53,756,389	$ 66,611,132
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 3,721,012	$ 1,393,664
Accrued expenses and other liabilities	7,696,786	3,602,886
Current portion of long-term debt	4,000,000	4,000,000
Total current liabilities	15,417,798	8,996,550
Other long-term liabilities	8,216,073	374,040
Long-term debt	15,397,575	16,668,458
Total liabilities	39,031,446	26,039,048
Stockholders' equity:		
Common stock, $0.0001 par value; 100,000,000 shares authorized; 22,138,723 and 22,087,121 shares issued and outstanding; respectively, at June 30, 2008 and December 31, 2007	2,209	2,209
Additional paid-in capital	127,797,490	126,490,647
Accumulated other comprehensive income	1,198,580	1,481,779
Accumulated deficit	(114,273,336)	(87,402,551)
Total stockholders' equity	14,724,943	40,572,084
Total liabilities and stockholders' equity	$ 53,756,389	$ 66,611,132

See the accompanying notes to the consolidated financial statements.

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PHARMATHENE, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

	Three months ended June 30,	Six months ended June 30,

	2008 (unaudited)	2007	2008 (unaudited)	2007
Contract revenue	$ 10,914,448	$ 2,339,427	$ 16,733,502	$ 5,301,186
Other revenue	—	—	21,151	7,000
	10,914,448	2,339,427	16,754,653	5,308,186
Operating expenses:				
Research and development	11,184,288	3,995,359	17,061,343	7,086,963
General and administrative	5,174,056	2,974,426	9,852,780	5,454,251
Acquired in-process research and development	15,906,002	—	15,906,002	—
Depreciation and amortization	239,914	162,160	436,017	309,293
Total operating expenses	32,504,260	7,131,945	43,256,141	12,850,507
Loss from operations	(21,589,812)	(4,792,518)	(26,501,488)	(7,542,321)
Other income (expense):				
Interest income	362,170	93,597	833, 935	149,213
Interest expense	(651,778)	(529,492)	(1,318,775)	(771,273)
Change in market value of derivative instruments	26,263	(14,455)	115,543	(6,829)
Total other expense	(263,345)	(450,350)	(369,297)	(628,889)
Net loss	(21,853,157)	(5,242,868)	(26,870,785)	(8,171,210)
Accretion of redeemable convertible preferred stock to redemptive value	—	(1,748,261)	—	(3,480,536)
Net loss attributable to common shareholders	$ (21,853,157)	$ (6,991,129)	$ (26,870,785)	$ (11,651,746)
Basic and diluted net loss per share	$ (0.99)	$ (11.25)	$ (1.22)	$ (18.75)
Weighted average shares used in calculation of basic and diluted net loss per share	22,087,121	621,343	22,087,121	621,321

See the accompanying notes to the consolidated financial statements.

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PHARMATHENE, INC.

CONSOLIDATED STATEMENTS OF CASHFLOWS

	Six months ended June 30, 2008 (unaudited)	2007 (unaudited)
Operating activities		
Net loss	$ (26,870,785)	$ (8,171,210)
Adjustments to reconcile net loss to net cash used in operating activities:		
Acquired in-process research and development	15,906,002	—
Change in market value of derivative instruments	(115,543)	5,717
Depreciation and amortization	436,017	309,293
Compensatory option expense	1,068,429	181,477
Non cash interest expense on debt	844,660	—
Changes in operating assets and liabilities:		
Accounts receivable	2,369,057	(1,017,290)
Prepaid expenses and other assets	(21,122)	580,122
Accounts payable	(1,127,361)	(76,489)
Accrued expenses	3,421,616	1,965,589
Net cash used in operating activities	(4,089,030)	(6,222,791)
Investing activities		
Purchase of property and equipment	(339,162)	(491,434)
Purchase of Avecia, net of cash acquired	(11,556,117)	—
Increase of restricted cash and letter of credit	(15,750,302)	
Purchase of available-for-sale investments	(2,937,299)	—
Sales of available-for-sale investments	10,277,880	—
Net cash used in investing activities	(20,305,000)	(491,434)
Financing activities		
Proceeds from stock options exercised	—	1,250
Proceeds from issuance of debt	—	9,904,622
Payments of debt obligations	(2,000,000)	—
Financing costs	—	(1,289,608)
Net cash (used in) provided by financing activities	(2,000,000)	8,616,264
Effects of exchange rates on cash	(36,223)	47,107
(Decrease) increase in cash and cash equivalents	(26,430,253)	1,949,146
Cash and cash equivalents, at beginning of year	40,582,643	5,112,212
Cash and cash equivalents, at end of the quarter	$ 14,152,390	$ 7,061,358
Supplemental disclosure of cash flow information		
Cash paid for interest	$ 490,161	$ 297,858
Cash paid for income taxes	$ —	$ —

See the accompanying notes to the consolidated financial statements.

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PHARMATHENE, INC.
Notes to Consolidated Financial Statements
June 30, 2008
(unaudited)

Note 1 - Organization and Business

PharmAthene, Inc. ("PharmAthene" or the "Company") was incorporated under the laws of the State of Delaware as Healthcare Acquisition Corp. ("HAQ") on April 25, 2005, a special purchase acquisition corporation formed to serve as a vehicle for the acquisition of a then unidentified business. HAQ became a public company on August 3, 2005. On August 3, 2007, HAQ consummated a merger (the "Merger") with PharmAthene, Inc., a Delaware corporation ("Former PharmAthene"), pursuant to an Agreement and Plan of Merger, dated as of January 19, 2007, by and among HAQ, PAI Acquisition Corp., a Delaware corporation and a wholly-owned subsidiary of HAQ, and Former PharmAthene, whereby Former PharmAthene became a wholly-owned subsidiary of HAQ. Effective upon the consummation of the Merger, HAQ changed its name from "Healthcare Acquisition Corp." to "PharmAthene, Inc." and Former PharmAthene changed its name to "PharmAthene US Corporation." Our operations are conducted by our wholly-owned subsidiary, PharmAthene US Corporation.

Upon completion of the Merger, approximately 12.2 million shares of common stock were issued to the stockholders of Former PharmAthene and the Company assumed all of Former PharmAthene's stock options and warrants that were not cancelled as part of the Merger and 587,249 shares of common stock have been reserved for issuance upon the exercise of such options and warrants. Also, Former PharmAthene's $12.8 million of outstanding secured convertible notes ("Bridge Notes"), including interest, were exchanged for $12.3 million of new unsecured 8% convertible notes maturing on August 3, 2009 (the "Notes"). The Notes are convertible at the option of the holders into common stock at $10.00 per share and may be redeemed by PharmAthene without penalty after August 3, 2008. Immediately following the closing of the Merger, the Former PharmAthene stockholders, option holders and warrant holders held approximately 56% of the common stock of PharmAthene on a fully-diluted basis and former stockholders, option holders and warrant holders of HAQ prior to the Merger owned approximately 44% of PharmAthene's common stock on a fully-diluted basis after the Merger. Following completion of the Merger, the business conducted by PharmAthene became the one operated by Former PharmAthene prior to the completion of the Merger.

On March 20, 2008, PharmAthene, Inc. and certain of its affiliates (including a newly-formed UK subsidiary, "PharmAthene UK") (collectively, "PharmAthene" or the "Company") entered into a Sale and Purchase Agreement (the "Purchase Agreement") with Avecia Biologics Limited and certain of its affiliates (collectively, "Avecia") for the acquisition of substantially all of the assets and liabilities related to Avecia's vaccines business which includes a second generation recombinant protective antigen ("rPA") anthrax vaccine, which is now referred to as SparVax™, a recombinant dual antigen plague vaccine ("rYP") RypVax™ and a third generation rPA anthrax vaccine program (the "Avecia Acquisition"). On April 2, 2008, the parties amended the Purchase Agreement and the Company completed the Avecia Acquisition acquiring substantially all of the assets and assuming the liabilities, in each case, exclusively associated with Avecia's biodefense vaccines business in accordance with the terms of the Purchase Agreement, as amended, including certain products, patents, trademarks, domain names and other intellectual property, license agreements, contracts, goodwill and other intangibles for approximately $18.6 million. See Note 3 Avecia Acquisition for additional information.

PharmAthene is a biopharmaceutical company focused on developing anti-infectives for biodefense applications. The Company is subject to those risks associated with any biopharmaceutical company that has substantial expenditures for research and development. There can be no assurance that the Company's research and development projects will be successful, that products developed will obtain necessary regulatory approval, or that any approved product will be commercially viable. In addition, the Company operates in an environment of rapid technological change and is largely dependent on the services and expertise of its employees, consultants and other third parties.

Note 2 - Summary of Significant Accounting Policies

Basis of Presentation

These financial statements reflect the historic results of Former PharmAthene prior to the Merger and that of the combined company following the Merger, and do not include the historic financial results of HAQ prior to the completion of the Merger.

Unless specifically noted otherwise, as used throughout these consolidated financial statements, "the Company", "PharmAthene", "we", "us" or "our" refers to the business of the combined company after the Merger and the business of Former PharmAthene prior to the Merger. Unless specifically noted otherwise, as used throughout these consolidated financial statements, "HAQ" refers to the business of the Healthcare Acquisition Corp. prior to the completion of the Merger. The accompanying unaudited consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States.

Principles of Consolidation

The consolidated financial statements include the accounts of PharmAthene and its subsidiaries, PharmAthene U.S. Corporation, PharmAthene Canada, Inc., which was formed in March 2005, and PharmAthene UK Limited, which was formed in March 2008. All significant intercompany transactions and balances have been eliminated.

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Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Segment Information

The Company currently operates in one material business segment. The entire business is comprehensively managed by a single management team that reports to the Chief Executive Officer. The Company does not operate any material separate lines of business or separate business entities with respect to products or product candidates. Accordingly, the Company does not have separately reportable segments as defined by Statement of Financial Accounting Standards No. 131, *Disclosures about Segments of a Enterprise and Related Information*.

Comprehensive Loss

The Company reports comprehensive loss in accordance with the provisions of Statement of Financial Accounting Standards No. 130, *Reporting Comprehensive Income*. Comprehensive loss includes all changes in equity for cumulative translation adjustments resulting from the consolidation of foreign subsidiaries as the financial statements of the subsidiary located outside of the United States are measured using the local currency as the functional currency. Assets and liabilities of these subsidiaries are translated at the rates of exchange at the balance sheet date. The resultant translation adjustments are included in accumulated other comprehensive income (loss), a separate component of stockholders' equity. Comprehensive loss for each of the three month periods ended June 30, 2008 and 2007 was approximately $21.9 million and $4.6 million, respectively. For the six months ended June 30, 2008 and 2007, comprehensive loss was approximately $27.2 million and $7.4 million, respectively.

Cash and Cash Equivalents

Cash and cash equivalents, which consist of short-term money market accounts, are stated at cost, which approximates market value. The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. Interest income resulting from cash and cash equivalents and short-term investments was $0.4 million and $0.1 million for the three months ended June 30, 2008 and 2007, respectively. For the six months ended June 30, 2008 and 2007, interest income resulting from cash and cash equivalents and short-term investments was $0.8 million and $0.1 million, respectively.

Restricted Cash and Letter of Credit

According to the March 20, 2008 Consent and First Loan Agreement with Silicon Valley Bank and Oxford Finance Corporation, the Company is required to maintain a segregated account at either Silicon Valley Bank or Silicon Valley Bank Securities in the amount of at least one and one-quarter times all obligations of PharmAthene to Silicon Valley Bank and Oxford Finance Corporation. As of June 30, 2008, the Company recorded $5.0 million and $3.8 million in short-term and long-term restricted cash, respectively, under this agreement.

As further disclosed in Note 3, the Company agreed to provide a letter of credit in the amount of $7 million as security for the deferred consideration related to the acquisition of assets related to Avecia Acquisition. This letter of credit will be payable upon the earlier to occur of the completion of a financing transaction in the amount of $15 million or more or eighteen months following the consummation of the acquisition. This letter of credit is shown on the balance sheet as long-term restricted cash.

Short-Term Investments

Short-term investments consist of investment grade government agency and corporate debt securities due within one year. All investments are classified as available-for-sale and are recorded at market value. Unrealized gains and losses are reflected in other comprehensive income. The estimated fair value of the available-for-sale securities is determined based on quoted market prices or rates for similar instruments. Management reviews the Company's investment portfolio on a regular basis and seeks guidance from its professional portfolio manager related to US and global market conditions. We assess the risk of impairment related to securities held in our investment portfolio on a regular basis and noted no impairment during the six months ended June 30, 2008.

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Accounts Receivable

From inception to date, substantially all of PharmAthene's accounts receivable have been associated with US government contracts and grants or with the receipt of Quebec provincial or Canadian Federal credits for internally and externally generated research and development expenditures. Amounts invoiced or recorded as billed under these programs but not yet collected are reported as outstanding accounts receivable.

While the Company has a policy to provide an allowance for any amount of accounts receivable which it determines to be uncollectible and the Company will write-off any uncollectible account when the likelihood of collection is determined to be not probable, the Company has not historically found it necessary to record any write-offs of accounts receivable or to record an allowance for uncollectible accounts. At June 30, 2008, the Company's accounts receivable balance included approximately $7.7 million, including unbilled receivables of approximately $4.0 million, related to U.S government contracts.

Property and Equipment

Property and equipment consists of land, building and leasehold improvements, laboratory, computer, farm and office equipment and furniture and are recorded at cost. Leasehold improvements are amortized over the economic life of the asset or the lease term, whichever is shorter. Property and equipment are depreciated using the straight-line method over the estimated useful lives of the respective assets as follows:

Asset Category	Estimated Useful Life (in Years)
Building and leasehold improvements	4 - 20
Laboratory equipment	7
Furniture, farm and office equipment	5 - 7
Computer equipment	3

Intangible Assets

Intangible assets consist of patents and are being amortized using the straight-line method over an eleven year period.

Impairment of Long-Lived Assets

Long-lived assets consist primarily of patents and property and equipment. In accordance with Statement of Financial Accounting Standards("SFAS") No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, the Company reviews long-lived assets and certain identifiable intangibles for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted net cash flows expected to be generated by the asset. Recoverability measurement and estimating of undiscounted cash flows is done at the lowest possible level for which there is identifiable assets. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell.

Revenue Recognition

The Company generates its revenue from two different types of contractual arrangements: cost-plus-fee contracts and cost reimbursable grants. Revenues on cost-plus-fee contracts are recognized to the extent of costs incurred plus an estimate of the applicable fees earned. The Company considers fixed fees under cost-plus-fee contracts to be earned in proportion to the allowable costs incurred in performance of the contract. The Company analyzes each cost reimbursable grant to ensure reporting of revenues gross versus net is appropriate based on the guidance in the AICPA Federal Government Contractors Guide or the Financial Accounting Standards Board's Emerging Issues Task Force Issue 99-19, *Gross Versus Net*, whichever is most appropriate. For the three and six months ended June 30, 2008, the Company recorded approximately $0.5 million and $0.8 million of costs reimbursed from the government as a reduction to research and development expense as they are viewed as reduction of costs under the guidance.

The Company's contracts may include the provisions of more than one of its services. In these situations, the Company recognizes revenue in accordance with the Financial Accounting Standards Board's Emerging Issues Task Force Issue 00-21, *Revenue Arrangements with Multiple Deliverables*. Accordingly, for applicable arrangements, revenue recognition includes the proper identification of separate units of accounting and the allocation of revenue across all elements based on relative fair values, with proper consideration given to the guidance provided by other authoritative literature.

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Research and Development and Purchased In-Process Research and Development

Research and development costs include salaries, facilities expense, overhead expenses, material and supplies, pre-clinical expense, clinical trials and related clinical manufacturing expenses, stock-based compensation expense, contract services and other outside services. On January 1, 2008, the Company adopted the Financial Accounting Standards Board's Emerging Issues Task Force Issue 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services Received for Use in Future Research and Development Activities*. As of June 30, 2008, the Company has recorded $0.4 million in prepaid development costs relating to non-refundable advance payments. All other costs are charged to expense as incurred.

The Company accounts for purchased in-process research and development in accordance with the SFAS No. 2, *Accounting for Research and Development Costs* ("SFAS No. 2") along with Financial Accounting Standards Board ("FASB") Interpretation No. 4, *Applicability of FASB Statement No. 2 to Business Combinations Accounted for by the Purchase Method — an interpretation of FASB Statement No. 2* ("FIN 4"). Under these standards, the Company is required to determine whether the technology relating to a particular research and development project acquired through an acquisition has an alternative future use. If the determination is that the technology has no alternative future use, the acquisition amount assigned to assets to be used in the particular research and development project is expensed. If the technology is determined to have an alternative future use, the Company capitalizes and amortizes the costs incurred over the estimated useful lives of the technology acquired. In the second quarter of 2008, the Company recorded a $15.9 million charge to acquired in-process research and development in connection with the Avecia Acquisition.

Share-Based Compensation

On January 1, 2006, the Company adopted Statement of Financial Accounting Standards No. 123 (Revised 2004), *Share-Based Payment* ("SFAS No. 123R") which establishes accounting for share-based awards exchanged for employee services and requires companies to expense the estimated fair value of these awards over the requisite employee service period. Under SFAS No. 123R, share-based compensation cost is determined at the grant date using an option pricing model. The value of the award that is ultimately expected to vest is recognized as expense on a straight line basis over the employee's requisite service period.

The Company has estimated the fair value of each award using the Black-Scholes option pricing model, which was developed for use in estimating the value of traded options that have no vesting restrictions and that are freely transferable. The Black-Scholes model considers, among other factors, the expected life of the award and the expected volatility of the Company's stock price.

Employee share-based compensation expense recognized in the three and six months ended June 30, 2008 and 2007 was calculated based on awards ultimately expected to vest and has been reduced for estimated forfeitures at a rate of 17.0 percent, based on the Company's historical option forfeitures. SFAS No. 123R requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Share-based compensation expense recognized under SFAS No. 123R for the three and six month periods ended June 30, 2008 and 2007, respectively, was:

	Three months ended June 30,		Six months ended June 30,	
	2008	2007	2008	2007
Research and development	$ 95,749	$ 33,627	$ 193,928	$ 64,172
General and administrative	423,633	57,090	874,501	117,305
Total share-based compensation expense	$ 519,382	$ 90,717	$ 1,068,429	$ 181,477
Share-based compensation expense, per common share:				
Basic and diluted	$ 0.02	$ 0.15	$ 0.05	$ 0.29

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PHARMATHENE, INC.
Notes to Consolidated Financial Statements
June 30, 2008
(unaudited)

Basic and Diluted Net Loss Per Share

The Company applies Statement of Financial Accounting Standards No. 128, *Earnings per Share*, which establishes standards for computing and presenting earnings per share. Basic net loss per share of common stock excludes dilution for potential common stock issuances and is computed by dividing net loss by the weighted-average number of shares outstanding for the period. Diluted net loss per share reflects the potential dilution that could occur if securities were exercised into common stock. However, for all periods presented, diluted net loss per share is the same as basic net loss attributable to common shareholders per share as the inclusion of weighted average shares of common stock issuable upon the exercise of stock options and warrants would be anti-dilutive. Securities outstanding in the amount of 14,673,000 shares for the both the three and six months ended June 30, 2008, respectively, and 106,473,800 and 106,718,900 for the three and six months ended June 30, 2007, respectively, were excluded from the calculation of diluted net loss per share since their inclusion would be anti-dilutive.

The following table provides a reconciliation of the numerators and denominators used in computing basic and diluted net loss per share:

	Three months ended June 30,		Six months ended June 30,	
	2008	2007	2008	2007
Numerator:				
Net loss	$ (21,853,157)	$ (5,242,868)	$ (26,870,785)	$ (8,171,210)
Dividends on and accretion of convertible preferred stock	—	(1,748,261)	—	(3,480,536)
Net loss available to common stockholders	$ (21,853,157)	$ (6,991,129)	$ (26,870,785)	$ (11,651,746)
Denominator:				
Weighted-average shares of common stock outstanding - basic diluted	22,087,121	621,343	22,087,121	621,321

Income Taxes

The Company accounts for income taxes in accordance with Statement of Financial Accounting Standards No. 109, *Accounting for Income Taxes* ("SFAS 109"), which requires that deferred tax assets and liabilities be recognized using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. SFAS 109 also requires that deferred tax assets be reduced by a valuation allowance if it is more likely than not that some portion of the deferred tax asset will not be realized. In evaluating the need for a valuation allowance, the Company takes into account various factors, including the expected level of future taxable income and available tax planning strategies. If actual results differ from the assumptions made in the evaluation of the Company's valuation allowance, the Company records a change in valuation allowance through income tax expense in the period such determination is made.

The Company adopted the provisions of Financials Accounting Standards Board Interpretation No. 48, *Accounting for Uncertainty in Income Taxes- and Interpretation of FASB Statement No. 109* ("FIN 48") on January 1, 2007. The Company has analyzed tax positions in all jurisdictions where it is required to file an income tax return and has concluded that it does not have any material unrecognized tax benefits. As a result, there were no material effects on our financials position or results of operations due to the implementation of FIN 48. As of June 30, 2008, the Company has recognized a valuation allowance to the full extent of its deferred tax assets since the likelihood of realization of the benefit cannot be determined. The Company believes that any of its uncertain tax positions would not result in adjustments to its effective income tax rate because likely corresponding adjustments to deferred tax assets would be offset by adjustments to recorded valuation allowances. We file a US federal income tax return as well as returns for various state and foreign jurisdictions. The Company's income taxes have not been subject to examination in any tax jurisdiction since its inception. Accordingly, all income tax returns filed by the Company are subject to examination in the relevant taxing jurisdictions.

The Company policy is to recognize interest and penalties accrued on any unrecognized tax benefits as a component of tax expense. As of the date of adoption of FIN 48, we did not have interest or penalties accrued for any unrecognized tax benefits and there was no interest expense recognized during the current year.

Fair Value of Financial Instruments

The Company's financial instruments include primarily cash and cash equivalents, accounts receivable, short-term investments and other current assets, accounts payable, accrued and other liabilities, notes payable and long-term debt. Due to the short-term nature of the cash and cash equivalents, accounts receivable, short-term investments and other current assets, accounts payable

and accrued and other liabilities, the carrying amounts of these assets and liabilities approximate their fair value. The fair value of the Company's notes payable and long term debt approximates fair value, based on current incremental borrowing rates of the Company.

Concentration of Credit Risk

Financial instruments which potentially subject the Company to concentrations of credit risk are primarily cash and cash equivalents, short-term investments and accounts receivable. The Company maintains its cash, cash equivalent and short-term investment balances in the form of money market accounts, debt and equity securities and overnight deposits with financial institutions that management believes are creditworthy. All of the Company's accounts receivables are from either the U.S., Canadian or United Kingdom governments.

Reclassifications

Certain prior year amounts in the consolidated financial statements have been reclassified to conform to the current year presentation.

Recent Accounting Pronouncements

In December 2007, the EITF reached a consensus on Issue No. 07-1, *Accounting for Collaborative Arrangements*. In EITF 07-1, the EITF defined a collaborative arrangement as a contractual agreement involving a joint operating activity between two (or more) parties, each of which is both (1) an active participant in the activity and (2) exposed to significant risks and rewards that are dependent on the joint activity's commercial success. Additionally, EITF 07-1 provides information to be disclosed on an annual basis by each collaborative arrangement participant for every significant collaborative arrangement, including the nature of the arrangement, the participant's rights and obligations under the arrangement, the accounting policy followed for collaborative arrangements, and the income statement classification and amounts arising from the collaborative arrangement. EITF 07-01 is effective for financial statements issued for fiscal years beginning after December 15, 2008. This consensus is to be applied retrospectively for all periods presented. We are evaluating the potential impact of this consensus and do not expect it to have a material effect on our financial statements.

In December 2007, the FASB issued Statement of Financial Accounting Standards No. 141 (revised 2007), *Business Combinations* ("SFAS 141R"). SFAS 141R establishes principles and requirements for how an acquirer recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, any noncontrolling interest in the acquiree and the goodwill acquired. SFAS 141R also establishes disclosure requirements to enable the evaluation of the nature and financial effects of the business combination. SFAS 141R is effective for financial statements issued for fiscal years beginning after December 15, 2008. The Company is currently evaluating the potential impact of the adoption of SFAS 141R on its consolidated financial position and results of operations.

Note 3 – Avecia Acquisition and Goodwill

On April 2, 2008, the Company completed the Avecia Acquisition acquiring substantially all of the assets and assuming the liabilities exclusively associated with Avecia's biodefense vaccines business in accordance with the terms of the Purchase Agreement, as amended, including certain products, patents, trademarks, domain names and other intellectual property, license agreements, contracts, goodwill and other intangibles. The transaction was valued at approximately $18.6 million, consisting of the initial consideration of $10 million in cash, deferred consideration of approximately $7 million, secured by a letter of credit, and transaction costs of approximately $1.6 million. The Purchase Agreement also provides for potential milestone considerations totaling $23 million and royalties of 1%-2.5% of net sales depending on product sales within the period of ten years from the consummation of the Avecia Acquisition.

The assets acquired were accounted for in accordance with the provisions of Statement of Financials Accounting Standards No. 141, *Business Combinations* ("SFAS No. 141"). All of the tangible and intangible assets acquired and liabilities assumed of Avecia Vaccines were recorded at their estimated fair market values on the acquisition date. The preliminary purchase price was allocated as follows:

(in thousands)		
Current assets	$	5,301
Current liabilities		(4,959)
Goodwill		2,308
In-process research and development		15,906
Total purchase consideration	$	18,556

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In connection with the transaction, the Company recorded a charge of $15.9 million for acquired research projects associated with products in development for which, at the acquisition date, technological feasibility had not been established and, for accounting purposes, no alternative future use existed.

Pro Forma Financial Information

The unaudited financial information in the table below summarizes the combined results of operations of PharmAthene and Avecia Vaccines on a pro forma basis (as if the companies had been combined as of the beginning of each of the periods presented). The pro forma financial information is presented for informational purposes only and is not indicative of the results of operations that would have been achieved if the acquisition and the reverse merger with Healthcare Acquisition Corp had taken place at the beginning of each of the periods presented. The pro forma financial information for all periods presented includes adjustments to interest expense, interest income and related tax effects.

The unaudited pro forma financial information for the six months ended June 30, 2008 and 2007 combines the historical results for PharmAthene for the six months ended June 30, 2008 and 2007 and the historical results for Avecia for the same periods. The unaudited pro forma financial information for the three months ended June 30, 2007 combines the historical results for PharmAthene for the three months ended June 30, 2007 and the historical results for Avecia for the same period. The unaudited financial information for the three months ended June 30, 2008 reflects the operations of the consolidated company post acquisition.

	Three months ended June 30,		Six months ended June 30,	
(in thousands, except per share data	2008	2007	2008	2007
Total revenue	$ 10,914	$ 11,221	$ 20,601	$ 23,071
Net loss	(21,853)	(5,012)	(28,847)	(7,709)
Basic and diluted net loss per share	$ (0.99)	$ (0.01)	$ (1.31)	$ (0.01)

Note 4 – Fair Value Measurements

Effective January 1, 2008, the Company adopted Statement of Financials Accounting Standards No. 157, *Fair Value Measurements*, which defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. SFAS No. 157 establishes a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

· Level 1 — Quoted prices in active markets for identical assets or liabilities.

· Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.

· Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

The Company's adoption of SFAS No. 157 did not have a material impact on its consolidated financial statements. The Company has segregated all financial assets and liabilities that are measured at fair value on a recurring basis (at least annually) into the most appropriate level within the fair value hierarchy based on the inputs used to determine the fair value at the measurement date in the table below. FSP FAS 157-2 delayed the effective date for all nonfinancial assets and liabilities until January 1, 2009, except those that are recognized or disclosed at fair value in the financial statements on a recurring basis.

As of June 30, 2008, financial assets and liabilities subject to fair value measurements were as follows (in thousands):

	As of March 31, 2008			
	Level 1	Level 2	Level 3	Balance
Assets				
Available-for-Sale Securities	$ 4,813,365	$ —	$	$ 4,813,365
Liabilities				
Derivatives	$ —	$ 9,106	$ —	$ 9,106

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The Company recognized gains of approximately $64,400 and approximately $209,540 on available-for sale securities investments for the three and six months ended June 30, 2008, respectively.

Note 5 - Property and Equipment

Property and equipment consisted of the following:

	June 30, 2008	December 31, 2007
Land	$ 543,962	$ 560,081
Building and leasehold improvements	5,607,026	5,670,628
Furniture, farm and office equipment	225,898	219,855
Laboratory equipment	855,849	866,084
Computer equipment	781,022	556,601
	8,013,757	7,873,249
Less accumulated depreciation	(1,627,678)	(1,302,225)
Property and equipment, net	$ 6,386,079	$ 6,571,024

Depreciation expense for the three months ended June 30, 2008 and 2007 was $186,095 and $125,747, respectively. Depreciation expense for the six months ended June 30, 2008 and 2007 was $341,352 and $237,773, respectively.

Note 6 - Patents

In conjunction with the Company's purchase of the assets of Nexia Biotechnologies Ltd. in March 2005 (the "Nexia Acquisition"), the Company recorded intangible assets related to patents of $1,407,000 with a useful life of eleven years. The gross carrying value and accumulated amortization, adjusted based on current foreign currency rates, was $1,710,637 and $512,978, respectively, at June 30, 2008. The gross carrying value and accumulated amortization, adjusted based on current foreign currency rates, was $1,761,329 and $448,338, respectively, at December 31, 2007. For the three months ended June 30, 2008 and 2007, the Company has recorded amortization expense of $53,819 and $36,412, respectively. For the six months ended June 30, 2008 and 2007, the Company has recorded amortization expense of $94,665 and $71,519, respectively. Amortization expense related to the above intellectual property is expected to be approximately $127,910 per year for the next five years.

Note 7 – Accrued Expenses and Other Liabilities

Accrued expenses and other liabilities consisted of the following:

	June 30, 2008	December 31, 2007
Accrued expenses	$ 6,020,181	$ 2,039,016
Accrued employee expenses	1,489,594	856,659
Restructuring liability	24,429	498,596
Deferred Rent	47,445	46,754
Accrued Interest	66,724	89,357
Other	48,413	72,504
Accrued expenses and other liabilities	$ 7,696,786	$ 3,602,886

Accrued expenses consist primarily of research and development activities and legal and professional services.

Note 8 - Long Term Debt

Convertible 8% Notes

The Convertible Notes accrue interest at an interest rate of 8% per annum, except in the event of a default in which instance the interest rate will increase to 12%. The principal amount of the Notes and any accrued interest are convertible into shares of PharmAthene common stock at the option of the holder at any time based upon a conversion rate of $10.00 per share. The Notes have a maturity date of August 3, 2009. The Company recognized interest expense of approximately $412,400 and $811,100 on the Notes for the three and six months ended June 30, 2008. The Company recognized interest expense of approximately $238,000 and $473,300 for the three and six months ended June 30, 2007 related to Former PharmAthene's Bridge Notes.

$10 Million Debt Financing

On March 30, 2007, the Company entered into a $10 million credit facility with Silicon Valley Bank and Oxford Finance Corporation (together, the "Lenders"). Under the credit facility the Company borrowed $10 million, which bears interest at the rate of 11.5%. Pursuant to the terms of the loan and security agreement evidencing the credit facility, the Company made monthly payments of interest only through September 30, 2007 and, thereafter, makes monthly payments of principal and interest over the remaining 30 months of the loan. The loan is secured by a security interest on all of the Company's assets other than certain intellectual property. The Company may prepay the debt provided it pays certain prepayment fees. In connection with the credit facility, the Company issued to Silicon Valley Bank and Oxford Financial Corporation warrants, which expire on March 30, 2017 to purchase an aggregate of 100,778 shares of common stock with an exercise price of $4.06 per share.

The loan agreement ("Loan Agreement") contains customary affirmative and negative covenants which, among other things, restricts the Company's ability to undertake certain acquisitions, incur certain indebtedness or make certain investments. Due to the then-anticipated merger with Avecia Biologics Limited, PharmAthene sought to obtain the consent of the Lenders to the Avecia Acquisition and entered into a Consent and First Loan Modification Agreement, dated as of March 20, 2008, with the Lenders (the "Loan Modification Agreement") pursuant to which, among other things, the Lenders consented to the Avecia Acquisition provided that (i) PharmAthene (or its UK subsidiary involved in the acquisition) is the surviving entity in the acquisition, (ii) the total initial cash consideration upon the consummation of the acquisition does not exceed $11 million, (iii) the consummation of the acquisition will not otherwise result in an event of default as defined under the Loan Agreement, after giving effect to the acquisition and (iv) within 20 days following the consummation of the acquisition, PharmAthene causes its UK subsidiary to become a co-borrower or a secured guarantor under the Loan Agreement.

The Loan Modification Agreement also amends the Loan Agreement to provide (i) that PharmAthene shall maintain, at all times, at a segregated account, at either Silicon Valley Bank or Silicon Valley Bank Securities, unrestricted and unencumbered cash or cash equivalents in the amount of at least one and one-quarter times principal obligations of PharmAthene to the Lenders, (ii) that if PharmAthene or any of its affiliates creates or acquires any subsidiary, PharmAthene shall notify the Lenders and take all such action as to cause each domestic subsidiary to guarantee the obligations of PharmAthene under the Loan Agreement granting a continuing pledge and security interest in and to the assets of such subsidiary, (iii) that PharmAthene shall deliver to the Lenders a control agreement with M&T Bank granting the lenders a first perfected security interest in the accounts of PharmAthene held at M&T Bank and (iv) amending the definition of "material adverse change" under the Loan Agreement to provide that a material adverse change shall be a determination of the Lenders based upon information available to them and in their reasonable judgment that there is a reasonable likelihood that PharmAthene shall fail to comply with one or more of the financial covenants contained in the Loan Agreement. As discussed in Note 2, the Company has recorded $5.0 million and $3.8 million in short-term and long-term restricted cash, respectively, to comply with provision (i) above.

The Company has recognized interest expense on this credit facility of approximately $230,500 and $490,200 for the three and six months ended June 30, 2008.

Note 9 - Commitments and Contingencies

Leases

The Company leases offices in the United States under a 10 year office lease, which commenced on May 1, 2007. Additionally, with the Avecia Acquisition, the Company leases offices in the United Kingdom until a lease expiring in 2010. Annual minimum payments are as follows:

2008	$	310,300
2009		628,900
2010		599,000
2011		404,300
2012 and thereafter		2,570,200
	$	4,512,700

For the three months ended June 30, 2008 and 2007, total rent expense under operating lease agreements approximated $217,600 and $99,800, respectively. Total rent expense under operating lease agreements was approximately $400,900 and $179,400 for the six months ended June 30, 2009 and 2007, respectively.

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License Agreements

In January 2006, the Company licensed certain patent rights from a research company. The license agreement required a $50,000 up-front payment. Additionally, the agreement provides for a sublicense fee of 20% and milestone payments of $25,000 upon the granting of a US patent, $200,000 upon the initiation of certain studies or trials, and $250,000 upon BLA approval. Upon commercialization, the license agreement requires royalty payments equal to a specified percentage of future sales of products for both government procurement and commercial market sales subject to the license through the expiration of the licensed patents. No sublicense fee or milestone payments have been incurred for the six months ended June 30, 2008 and 2007, respectively.

In August 2006, the Company entered into a research and licensing agreement allowing for the licensing of certain patent rights from a research company. The agreement includes research expense reimbursement payments and certain development milestone payments. Upon commercialization, the license agreement requires royalty payments equal to a specified percentage of future sales of products for both government procurement and commercial market sales subject to the license through the expiration of the licensed patents. No research expense reimbursement payments or milestone payments have been incurred for the six months ended June 30, 2008 and 2007, respectively.

In connection with the Nexia Acquisition, the Company acquired a license agreement originally executed in September 2004 for the rights to certain technologies. This agreement included an option to license product processing technology necessary to perform development of Protexia® as required under the Company's government contract with the Department of Defense.

The Company executed a new licensing agreement with a development company on March 2, 2007 which results in a license to all technology provided under the original agreement including the necessary purification technology previously included in an option and access to additional information and technology deemed to be essential for development of Protexia® and performance under the Department of Defense contract. Under the new agreement, the Company must pay $200,000 over a period of six years with $100,000 due in the first year. This expense is eligible for reimbursement by the US government under the contract with the Department of Defense. During 2007, the Company expensed $100,000 related to this agreement, and has not incurred any expenses for the six months ended June 30, 2008.

In connection with the Avecia Acquisition, the Company acquired license agreements with The Defence Science and Technology Laboratory of the United Kingdom Ministry of Defence ("DSTL") originally executed May and December 2006 for the rights to certain technologies. These agreements allow for the licensing of certain patents and technology necessary to perform development of the rPA and rYP programs as required under the Company's government contracts with the NIAID. Upon commercialization, the license agreements requires that PharmAthene make royalty payments equal to a specified percentage of future sales of products for both government procurement and commercial markets. No payments on these licenses have been incurred.

Note 10– Medarex Collaboration

In November 2004, the Company and Medarex, Inc. ("Medarex") entered into a collaboration agreement under which the companies are working to develop and commercialize MDX-1303 (known as Valortim®), a fully human monoclonal antibody targeting the *Bacillus anthracis* protective antigen. MDX-1303 was developed by Medarex using its UltiMAb Human Antibody Development System®, and this antibody is currently in clinical development by PharmAthene for use against human anthrax infection.

Under the terms of the agreement, Medarex and PharmAthene have agreed jointly to continue to investigate the potential for MDX-1303 to be used as a therapeutic for individuals with active disease as well as for prophylactic treatment of individuals exposed to anthrax. For the three months ended June 30, 2008 and 2007, PharmAthene recorded research and development expenses of approximately $105,000 and $108,900 related to the development activities for MDX-1303. Research and development expenses under this agreement of approximately $212,000 and $297,500 were recorded for the six months ended June 30, 2008 and 2007, respectively. PharmAthene is fully responsible for funding all future research and development activities that are not supported by government funds. The companies will share future profits, if any, according to a pre-agreed allocation percentage.

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Note 11– Stockholders' Equity

2002 Long-Term Incentive Plan

In connection with the Merger, the Company assumed awards that were granted by Former PharmAthene under Former PharmAthene's 2002 Long-Term Incentive Plan (the "2002 Plan") which provided for the grant of incentive stock options, restricted common stock and stock appreciation rights. Under the 2002 Plan, option awards were granted to eligible employees, consultants, officers and directors. The fair value of each option grant was estimated on the date of grant using the Black-Scholes option-pricing model based on selected inputs. The board of directors of Former PharmAthene established the vesting schedule for the awards. Grants made to new employees upon commencement of employment, typically provided for annual vesting of 25% of shares on the first anniversary date of hire. For annual grants to existing employees, grants typically provided for monthly vesting over four years. These options had a maximum term of no more than 10 years. As of June 30, 2008, an aggregate of 405,110 shares of common stock are reserved for issuance upon the exercise of outstanding assumed awards. The 2002 Plan was not assumed by the Company in connection with the Merger. No further grants are being made under the 2002 Plan.

The following tables summarize the activity of the 2002 Plan:

	Shares	Weighted-Average Exercise Price	Weighted-Average Contractual Term
Outstanding, January 1, 2007	404,314	$ 3.64	7.7 years
Granted	121,950	3.90	
Exercised	67	3.90	
Forfeited	(84,340)	4.10	
Outstanding, December 31, 2007	441,857	$ 3.67	7.7 years
Granted	—		
Exercised	—		
Forfeited	(36,747)	3.69	
Outstanding, June 30, 2008	405,110	$ 3.69	6.9 years
Exercisable, June 30, 2008	301,265	$ 3.49	6.9 years
Vested, June 30, 2008	301,265		

2007 Long-Term Incentive Plan

On August 3, 2007, our stockholders approved the 2007 Long Term Incentive Plan (the "2007 Plan") which provides for the granting of incentive and non-qualified stock options, stock appreciation rights, performance units, restricted common awards and performance bonuses (collectively "awards") to our officers and employees. Additionally, the 2007 Plan authorizes the granting of non-qualified stock options and restricted stock awards to our directors and to any independent consultants. At that time, the Company reserved 3,500,000 shares of common stock for distribution of awards under the 2007 Plan. At the 2008 annual meeting held on June 13, 2008, the Company's shareholders approved proposed amendments to the 2007 Plan, increasing from 3,500,000 shares to 4,600,000 shares the maximum number of shares subject to the plan and adding an evergreen provision pursuant to which the number of shares subject to the plan will increase automatically in each year, beginning in 2009 and continuing through 2015, according to certain limits set forth in the 2007 Plan. The Board of Directors in conjunction with management determines who receives awards, the vesting conditions which are generally four years, and the exercise price. Options may have a maximum term of no more than ten years.

On August 30, 2007, the Board of Directors of the Company granted to the Company's Chief Executive Officer, options to purchase 780,000 shares of common stock pursuant to the 2007 Plan at an exercise price of $5.36 per share, determined as the closing price of the Company's common stock on such date, and granted him 100,000 restricted shares of common stock. The options have a term of ten years and both the options and restricted stock award vest over a five year period with 25% vesting on the first anniversary of the grant, and the remainder vesting monthly on a pro rata basis over the succeeding 48 months following the first anniversary.

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The following tables summarize the activity of the 2007 Plan as related to option awards:

	Shares	Weighted-Average Exercise Price	Weighted-Average Contractual Term
Outstanding, January 1, 2007	—	$ —	—
Granted	2,356,867	5.25	9.5 years
Exercised	—	—	
Forfeited	(54,717)	5.20	
Outstanding, December 31, 2007	2,302,150	$ 5.25	9.5 years
Granted	1,101,750	$ 2.79	9.8 years
Exercised	—	—	
Forfeited	(48,628)	5.19	
Outstanding, June 30, 2008	3,355,272	4.17	9.4 years
Exercisable, June 30, 2008	334,639	$ 5.20	9.4 years
Vested, June 30, 2008	334,639		

The following tables summarize the activity of the 2007 Plan as related to restricted stock awards:

	Shares	Weighted-Average Exercise Price	Weighted-Average Contractual Term
Restricted Shares			
Outstanding, January 1, 2007	—	$ —	—
Granted	216,836	5.27	9.9 years
Exercised	—	—	
Forfeited	(1,529)	5.20	
Outstanding, December 31, 2007	215,307	$ 5.27	9.9 years
Granted	17,500	3.18	9.7 years
Exercised	—	—	
Forfeited	—	—	
Outstanding, June 30, 2008	232,807	$ 5.12	9.2 years
Exercisable, June 30, 2008	—	$ —	
Vested, June 30, 2008	—	—	

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Valuation assumptions used to determine fair value of share-based compensation

The fair value for the 2008 and 2007 awards were estimated at the date of grant using the Black-Scholes option-pricing model using the following assumptions:

	June 30,	
	2008	2007
Weighted average volatility	66%	72%
Risk-free interest rate	3.0-3.9%	4.6%

Expected annual dividend yield	—	—
Expected weighted average life, in years	7.0	9.8

The valuation assumptions were determined as follows:

- Weighted average volatility: We determine the expected volatility by using an average historical volatility from comparable public companies with an expected term consistent with ours.
- Risk-free interest rate: The yield on zero-coupon US Treasury securities for a period that is commensurate with the expected term of the award.
- Expected annual dividend yield: The estimate for annual dividends is zero because we have not historically paid a dividend and do not intend to do so in the foreseeable future.
- Expected life: The expected term of the awards represents the period of time that the awards are expected to be outstanding. We use historical data and expectations for the future to estimate employee exercise and post-vest termination behavior and therefore do not stratify employees into multiple groups.

Unit Purchase Option

In connection with the initial public offering, the underwriters paid $100 for an option to purchase up to a total of 225,000 units. The units issuable upon exercise of this option are identical to those offered in the initial public offering except that the associated warrants have a different exercise price as further discussed in the warrant section below. This option became exercisable at $10.00 per unit on August 3, 2007, and expires on July 28, 2010. The exercise price and number of units issuable upon the exercise of the option may be adjusted in certain circumstances including in the event of a stock dividend, or recapitalization, reorganization, merger or consolidation.

Under an amendment to the unit purchase option agreement, the Company is not obligated to pay cash or other consideration to the holders of the unit purchase option or "net-cash settle" the obligation of HAQ under the unit purchase option.

Warrants

In connection with HAQ initial public offering in 2005, HAQ sold 9.4 million warrants to acquire shares of common stock at an exercise price of $6.00 Each warrant entitles the holder to purchase from the Company one share of common stock and expires four years from the effective date of the offerings on July 28, 2009. Furthermore, in connection with the initial public offering, HAQ issued to the representative of the underwriters 225,000 warrants to acquire shares of common stock at an exercise price of $7.50.

Pursuant to the credit facility further discussed in Note 8, the Company issued 100,778 common stock warrants with an exercise price of $4.06 per share.

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The following table summarizes the activity of the Company's warrants:

	Warrants for Shares of Common Stock	Weighted-Average Exercise Price	Warrants for Shares of Preferred Stock	Weighted-Average Exercise Price
Outstanding at January 1, 2007	10,223,911	5.69	1,179,610	4.07
Granted	—	—	98,300	4.07
Converted	98,300	4.07	(98,300)	4.07
Forfeited	(584,731)	0.19	(1,179,610)	4.07
Outstanding at December 31, 2007	9,737,480	$ 6.01	—	
Granted	—		—	
Converted	—		—	
Forfeited	—		—	
Outstanding at June 30, 2008	9,737,480	$ 6.01	—	

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Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. This information may involve known and unknown risks, uncertainties and other factors that are difficult to predict and may cause our actual results, performance or achievements to be materially different from future results, performance or achievements expressed or implied by any forward-looking statements. Forward-looking statements, which involve assumptions and describe management's current expectations regarding our future plans, strategies and objectives, are generally identifiable by use of the words "may," "will,"

"should," "expect," "anticipate," "estimate," "believe," "intend," "project," "potential" or "plan" or the negative of these words or other variations on these words or comparable terminology. Such statements include, but are not limited to, statements about future government contact awards, potential payments under government contracts, potential regulatory approvals, future product advancements, anticipated financial or operational results and expected benefits of our acquisition of the biodefense vaccines business ("Avecia Acquisition") from Avecia Biologics Limited and certain of its affiliates ("Avecia"). These forward-looking statements are based on assumptions that may be incorrect, and we cannot assure you that the projections included in these forward-looking statements will come to pass. Our actual results could differ materially from those expressed or implied by the forward-looking statements as a result of various factors.

We have based the forward-looking statements included in this Quarterly Report on Form 10-Q on information available to us on the date of this Quarterly Report, and we assume no obligation to update any such forward-looking statements. Although we undertake no obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise, you are advised to consult any additional disclosures that we may make directly to you or through reports that we, in the future, may file with the SEC, including Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K.

Unless specifically noted otherwise, as used throughout this Quarterly Report on Form 10-Q, "the Company", "PharmAthene", "we", "us" or "our" refers to the business of the combined company after the merger with Former PharmAthene (the "Merger") and to the business of Former PharmAthene prior to the Merger, and "HAQ" refers to the business of Healthcare Acquisition Corp. prior to the Merger.

The following discussion should be read in conjunction with the consolidated financial statements for the Company which present PharmAthene's results of operations for the quarterly and six month periods ended June 30, 2008 and 2007 as well as its financial positions at June 30, 2008 and December 31, 2007, contained elsewhere in this Quarterly Report on Form 10-Q. The following discussion should also be read in conjunction with the Annual Report on Form 10-K for the year ended December 31, 2007 filed on March 31, 2008, including the consolidated financial statements contained therein, and the Form 8-K/A filed on June 19, 2008 presenting the historical financial statements for the vaccines business acquired from Avecia Biologics .

Overview

PharmAthene is a biodefense company engaged in the development and commercialization of medical countermeasures against biological and chemical weapons. In addition to our own efforts, we collaborate with pharmaceutical companies to support clinical development of product candidates. With the Avecia Acquisition in the second quarter of 2008, we currently have five product candidates in various stages of development:

- SparVax™ - a second generation recombinant protective antigen ("rPA") anthrax vaccine,
- Valortim®, a fully human monoclonal antibody (an identical population of highly specific antibodies produced from a single clone) for the prevention and treatment of anthrax infection,
- Protexia®, which mimics a natural bioscavenger for the treatment or prevention of nerve agent poisoning by organophosphate compounds, including nerve gases and pesticides, and
- RypVax™ - a recombinant dual antigen vaccine for pneumonic and bubonic plague ("rYP").
- a third generation rPA anthrax vaccine,

Our lead product candidate, SparVax™, is a second generation recombinant (produced using genetic engineering technology) version of Protective Antigen for use against human anthrax infection. It is intended to be used to protect individuals before and potentially after exposure to the *Bacillus anthracis* (the anthrax bacterium). Phase I and Phase II clinical trials involving over 700 healthy adult human subjects have been completed with the clinical trials showing that SparVax™ is safe, well tolerated and

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induces an immune response in humans. Earlier preclinical studies have demonstrated that SparVax™ can protect non-human primates against a lethal aerosol challenge of the anthrax Ames strain.

On February 29, 2008, the U.S. Department of Health and Human Services issued a formal Request for Proposal (RFP-BARDA-08015) for an "Anthrax Recombinant Protective Antigen (rPA) Vaccine for the Strategic National Stockpile", which includes a requisition for 25 million doses of an rPA anthrax vaccine. We submitted a response to this solicitation on July 31, 2008 and believe that SparVax™ meets the mandatory qualification criteria set forth in the solicitation.

The main objective for our third generation rPA anthrax vaccine is to meet the U.S. government's longer term primary goal to obtain an rPA-based anthrax vaccine that can be stored, transported and used without the need for a conventional "cold chain" — an important advantage for civilian biodefense deployment within the U.S. Strategic National Stockpile ("SNS"). In particular, we intend to produce a vaccine that can maintain stability for three years at 35º C and induce protective immunity in two or fewer doses. By way of comparison, the currently available first generation anthrax vaccine (BioThrax® Anthrax Vaccine Adsorbed), which was initially licensed by the FDA in 1970, requires six doses over a period of eighteen months to achieve protective immunity and is required to be stored at between 2º and 8º C.

Two grants from the NIH made in 2005 and 2007 in the aggregate amount of $6.9 million for funding of research activities through April 2009 has supported the development of our third generation vaccine candidate. In January 2008, Avecia (the predecessor to our UK subsidiary, PharmAthene UK) responded to an RFP issued by the U.S. government on September 21, 2007 seeking proposals for a third generation rPA vaccine. Based on prior statements from the U.S. government, the U.S government intends to make a final contract award to fund the development of third generation rPA vaccine prior to the end of 2008.

Valortim®, our second most advanced product candidate, is a fully human monoclonal antibody designed to protect against and treat human inhalation anthrax, the most lethal form of infection caused by the *Bacillus anthracis* bacterium. The Company is co-developing Valortim® with Medarex, Inc., a biopharmaceutical company that specializes in developing fully human antibody-based therapeutic products, and will share with Medarex any profits derived

from sales of Valortim®. Preclinical studies in animal models have demonstrated Valortim® to be effective as both a prophylaxis and a therapeutic for inhalation anthrax infection. The Company and Medarex have completed dosing of healthy volunteers in a Phase I open-label, dose-escalation clinical trial to evaluate the safety, tolerability, immunogenicity (eliciting an undesired immune response), and pharmacokinetics (the study of absorption, metabolism and action of drugs) of a single dose of Valortim® administered intravenously or intramuscularly. No drug-related serious adverse events were reported. Final results from the Phase I trial were presented at the Infectious Disease Society of America meeting in October 2006. Valortim® was granted Fast Track Status by the U.S. Food and Drug Administration (the "FDA"), which may permit the Company to submit portions of a Biologics License Application ("BLA") or efficacy supplement before the complete BLA is submitted. Fast Track Status can expedite the review process depending upon whether the FDA has sufficient resources to review the portions submitted. In addition, the FDA granted Valortim® orphan drug status for the treatment of inhalation anthrax**.** On September 28, 2007, the NIAID and the Biomedical Advanced Research and Development Authority ("BARDA") awarded to PharmAthene a $13.9 million contract for the advanced development of Valortim® as an anti-toxin therapeutic to treat inhalation anthrax infection. The contract will be funded in installments through fiscal year 2009.

Protexia®, our nerve agent countermeasure, is a recombinant form of human butyrylcholinesterase, a naturally occurring enzyme ("BChE"), for use in the prophylaxis and treatment of organophosphate chemical nerve agent poisoning. Preclinical studies in animal models suggest that Protexia® may be effective prophylactically and therapeutically for chemical nerve agent poisoning. The Company plans to continue preclinical animal studies of Protexia® through 2008 and to file an Investigational New Drug application ("IND") with the FDA in the third quarter of 2008. Additionally, the Company plans to begin a Phase I clinical trial in humans in the second half of 2008**.**

The procurement process for the scale-up development and sale of Protexia® is already underway with the US Department of Defense (the "DoD"), the department charged with purchasing biodefense countermeasures for military use. The DoD requested competitive bids in a RFP for a recombinant form of BChE drug for the prophylaxis treatment of chemical nerve agent poisoning, which the Company submitted in November 2005. In September 2006, the Company was awarded a multi-year contract by the DoD. The contract provides an initial $41 million for the advanced development of Protexia® through March 2009 and, thereafter, the US government, at its sole discretion, may elect to continue development assistance with further funding of $65 million. Assuming development milestones are met and contract extensions are exercised by the US government, in its sole discretion, and that it elects to procure an initial 90,000 doses of Protexia® from PharmAthene, the Company could receive up to $219 million in funding (including the $106 million for advanced development).

RypVax™ is a recombinant dual antigen plague vaccine intended to be used to protect individuals before exposure to *Yersinia pestis* (the bacterium that causes plague). In the war fighter, vaccination is anticipated to take place before deployment, to be administered in two or three doses over several weeks, and to be sufficient to induce protective immunity followed by an annual booster shot. This vaccine candidate has successfully completed three Phase I clinical trials in healthy adult human subjects. The

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Phase I trials demonstrated that RypVax™ is safe, well tolerated and elicits an immune response. In preclinical animal models, RypVax™ demonstrated the ability to fully protect against a lethal aerosol challenge.

In 2004, Avecia Vaccines was awarded a multi-year contract, valued at up to approximately $50 million, from the NIAID to support the advanced development of the plague vaccine for military use. PharmAthene acquired this contract as part of the Avecia Acquisition. Future government funding for RypVax™ beyond our existing contract remains uncertain at this time.

For the next several years, we believe our main customer will be national governments, primarily the U.S. government. Currently, the U.S. government may, at its discretion, purchase critical biodefense products for the SNS prior to FDA approval based on Emergency Use Authorization enabled under the Project Bioshield legislation. On an ongoing basis we monitor notices for requests for proposal, grants and other potential sources of government funding that could potentially support the development and commercialization of our product candidates. Nevertheless, changes in government budgets, priorities and agendas as well as political pressures could result in a reduction in overall government financial support for the biodefense sector in general and/or specifically the product candidates we are developing. Our existing contracts with the government typically contain provisions that permit the government unilaterally to cancel or reduce the scope of these contracts. As a result, further development of our product candidates and ultimate product sales to the government could be delayed or stopped altogether.

Recent Events

Acquisition of Vaccines Business of Avecia

On March 20, 2008, PharmAthene, Inc. and certain of its affiliates (including a newly-formed UK subsidiary, "PharmAthene UK") entered into a Sale and Purchase Agreement (the "Purchase Agreement") with Avecia Biologics Limited and certain of its affiliates (collectively, "Avecia") for the acquisition of substantially all of the assets and liabilities related to Avecia's vaccines business, which includes a second generation recombinant protective antigen (rPA) anthrax vaccine, a recombinant dual antigen plague vaccine and a third generation rPA anthrax vaccine program (the "Avecia Acquisition").

On April 2, 2008, the Company completed the Avecia Acquisition acquiring substantially all of the assets and assuming the liabilities, exclusively associated with Avecia's biodefense vaccines business in accordance with the terms of the Purchase Agreement, as amended, including certain products, patents, trademarks, domain names and other intellectual property, license agreements, contracts, goodwill and other intangibles. At closing, PharmAthene paid to Avecia the initial consideration of $10 million in cash (which is subject to a working capital adjustment) (the "Initial Consideration") and provided a letter of credit in the amount of $7 million as security for the deferred consideration in such amount (the "Deferred Consideration") which is payable upon the earlier to occur of (a) the completion of a financing transaction in which PharmAthene receives gross proceeds of not less than $15 million and (b) eighteen months following the consummation of the Avecia Acquisition. Additional milestone consideration of up to $23 million and royalties of 1.0%- 2.5% of net sales depending on the product sold within the ten years from the consummation of the Avecia Acquisition, may become payable to Avecia in the future. The Company incurred transaction costs of approximately $1.6 million related to this acquisition.

PharmAthene and Avecia entered into certain ancillary agreements upon the consummation of the acquisition including, without limitation, transitional services agreements, laboratory facilities agreements, a master services agreement, a supply agreement and a subcontract agreement which, in each case, provide for services to be performed by Avecia for PharmAthene both on a transitional and on a going-forward basis. Under the master services agreement, Avecia has agreed that, for agreed upon fees, it will carry out process development, analytical development, production and disposition of protective antigens

for the plague and anthrax vaccines as well as stability testing of such antigens and of the final dosage form of the vaccines which contains the protective antigens in connection with various projects. The work to be performed by Avecia and amounts to be paid to Avecia in connection with each project are based upon the specific tasks related to each project including necessary materials, method development, management supervision and costs associated therewith and are set out in various schedules to the master services agreement.

Results of Operations

Revenue

The Company recognized revenues of $10.9 million and $2.3 million during the three months ended June 30, 2008 and 2007, respectively. For the six months ended June 30, 2008 and 2007, the Company recognized revenues of $16.8 million and $5.3 million, respectively. These revenues consisted primarily of contract funding from the U.S. government for the development of pharmaceutical products for Protexia®, one of the Company's five drug candidates. The Avecia Acquisition in the second quarter of 2008, and particularly the acquired NIAID contracts supporting the development of the rPA and rYP product candidates, further boosted revenues for the three and six month periods ended June 30, 2008 by $3.6 million.

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Contract Revenue

During the three and six months ended June 30, 2008 and 2007, PharmAthene recognized revenues related to U.S. government awarded contracts and grants as follows:

- Under the Company's September 2006 contract for the advanced development of Protexia®, the Company recognized $7.1 million and $2.3 million of revenue for the quarter ended June 30, 2008 and 2007, respectively. For the six months ended, June 30, 2008 and 2007, revenue recognized under this contract was $12.8 million and $5.3 million, respectively.

- Under the September 2007 contract for the advanced development of Valortim®, the Company recognized $0.2 million and $0.4 million of revenue in the three and six months ended June 30, 2008, respectively. No amounts were recognized during the corresponding periods in 2007.

- Under our contract for the development of a second generation recombinant version of Protective Antigen (SparVax™) for use against human anthrax infection, which the Company acquired as part of the Avecia Acquisition, the Company recognized approximately $2.2 million of revenue for the three months ended June 30, 2008.

- Under the contract for the advanced development of a plague vaccine (RypVax™), which the Company acquired as part of the Avecia Acquisition , the Company recognized approximately $1.4 million of revenue for the three months ended June 30, 2008.

Research and Development Expenses

The Company's research and development expenses were $11.2 million and $4.0 million for the quarter ended June 30, 2008 and 2007, respectively. For the six months ended June 30, 2008 and 2007, expenses related to research and development activities were $17.1 million and $7.1 million, respectively. These expenses resulted from research and development activities related to programs for Valortim® and for Protexia®, as well as expenses related to the SparVax™ and RypVax™ programs which were acquired in the second quarter of 2008. The Company incurred both direct expense which included salaries and other costs of personnel, raw materials and supplies and indirect expenses. The Company also incurred third-party costs related to these projects, such as contract research, consulting and clinical development costs for individual projects.

Research and development expenses for the three months ended June 30, 2008 and 2007, respectively, were attributable to research programs as follows:

	Three months ended June 30,	
(amounts in millions)	2008	2007
Anthrax vaccines	$ 5.0	$ 1.0
Chemical nerve agent protectants	4.2	2.4
Recombinant dual antigen vaccine	1.7	—
Internal research and development	0.3	0.6
Total research and development expenses	$ 11.2	$ 4.0

Research and development expenses for the six months ended June 30, 2008 and 2007, respectively, were attributable to research programs as follows:

	Six months ended June 30,	
(amounts in millions)	2008	2007
Anthrax vaccines	$ 7.1	$ 1.5
Chemical nerve agent protectants	7.8	4.6
Recombinant dual antigen vaccine	1.7	—
Internal research and development	0.5	1.0
Total research and development expenses	$ 17.1	$ 7.1

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Research and development expense increased $7.1 million for the quarter ended June 30, 2008 as compared to the quarter ended June 30, 2007 primarily as a result of increased process development and manufacturing activities related to the chemical nerve agent protectant program of $1.6 million and increased

process development and clinical development of Anthrax vaccines of $2.9 million. Additionally, the Company incurred costs related to manufacturing and clinical development associated with the recombinant dual antigen vaccine program acquired from Avecia Vaccines in the second quarter of 2008 of approximately $1.4 million. For the six months ended June 30, 2008, research and development costs increased $10.0 million as compared to the six months ended June 30, 2007. In addition to the $4.5 million of costs incurred due to newly acquired programs, anthrax vacccine program expense increased $2.6 million as a result of increased development activity in the year, and chemical nerve agent protectant program expenses increased $3.4 million as a result of increased process development and manufacturing activities. These increases are offset by decreases in internal resource and other related research costs.

In October 2006, the National Institutes of Health (NIH) Countermeasures Against Chemical Threats (Counter ACT) Research Network awarded a $1.7 million grant to support continued development of Protexia®. The Company recognizes cost reimbursements under this contract as a reduction to offset research expenses. See Note 2 to our Financial Statements - Summary of Significant Accounting Policies – Revenue Recognition.

The Company has been awarded approximately $1.8 million in congressional appropriations from the United Stated Army Medical Research and Material Command (USAMRMC) for the development to advance the Valortim® program. The Company recognized costs reimbursements of approximately $0.2 million and $0.5 million under this funding as a reduction to offset research expenses for the three and six month periods ended June 30, 2008. Additionally, PharmAthene has recognized costs reimbursements of approximately $0.3 million under the NIH grant funding for development of its third generation anthrax vaccine candidate, which it acquired from Avecia Vaccines in the second quarter of 2008, as a reduction to offset research expenses for the three months ended June 30, 2008.

Internal research and development costs include activities related to the development of future programs.

General and Administrative Expenses

General and administrative functions for the Company include executive management, finance and administration, government affairs and regulations, corporate development, human resources, legal, and compliance. For each function, the Company may incur direct expenses such as salaries, supplies and third-party consulting and other external costs. Indirect costs such as facilities, utilities and other administrative overhead are also included in general and administrative expenses.

Expenses associated with general and administrative functions for the Company were $5.2 million and $3.0 million for the three months ended June 30, 2008 and 2007, respectively. For the six months ended June 30, 2008 and 2007, the Company incurred general and administrative costs of $9.9 million and $5.5 million, respectively. General and administrative expenses increased $0.7 million as a result of the Avecia Acquisition relating primarily to employee costs, consulting services and travel expense.

Excluding the $0.7 million increase resulting from the Avecia Acquisition, general and administrative expenses increased $1.5 million and $3.7 million for the three and six months ended June 30, 2008 as compared to the comparable prior year periods. General and administrative expenses increased $1.5 million for the second quarter of 2008 as compared to the second quarter of 2007 primarily due to increased employee costs of $0.4 million, increased stock compensation expense of $0.4 million and an additional $0.5 million due to higher consulting and legal costs associated with compliance and operating as a publicly traded entity. Excluding the effects of the Avecia Acquisition, expenses related to general and administrative activities increased $3.7 million for the six month period ended June 30, 2008 as compared to the six month period ended June 30, 2007. This increase in expenses resulted primarily from increased employee costs, including travel, of $1.4 million, increased stock compensation expense of $0.9 million and an additional $1.1 million in consulting and legal services costs associated with compliance, as a publicly traded entity and costs related to preparing and submitting various bids and proposals.

Acquired In-process Research and Development

In the second quarter of 2008, PharmAthene recorded acquired in-process research and development of $15.9 million associated with the Avecia Acquisition. We paid total purchase consideration of $17.0 million. We valued the acquisition at $18.6 million after the inclusion of acquisition costs. Of this amount, we identified $5.3 million as current assets, $5.0 million as current liabilities, $2.3 million of goodwill and $15.9 million as the value attributable to development programs and technology. Because we determined that the development programs and technology had no future alternative use, we charged the value attributable to the development programs and technology as purchased in-process research and development.

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Depreciation and Intangible Amortization

Depreciation and intangible amortization expense was $239,000 and $162,000 for the three months ended June 30, 2008 and 2007, respectively, and was $436,000 and $309,000 for the six months ended June 30, 2008 and 2007, respectively. Depreciation expense for the three months ended June 30, 2008 and 2007 was $186,000 and $126,000, respectively, and for the six month periods ended June 30, 2008 and 2007 was $341,000 and $238,000, respectively. Depreciation expenses results primarily from farm building improvements, leasehold improvements related to newly leased office space and lab equipment.

For the three months ended June 30, 2008 and 2007, PharmAthene incurred amortization expense of $53,000 and $36,000, respectively. Amortization expense for the six months ended June 30, 2008 and 2007 was $95,000 and $71,000, respectively.

Other Income and Expenses

Other income and expenses primarily consists of income on the Company's investments, interest expense on the Company's debt and other financial obligations and the change in market value of our derivative financial instruments. For the three months ended June 30, 2008 and 2007, the Company's interest income was $0.4 million and $0.1 million, respectively. For the six months ended June 30, 2008 and 2007, PharmAthene recognized interest income of $0.8 million and $0.1 million, respectively. The increase in interest income for the three and six month periods ended June 30, 2008 as compared to the same periods in 2007 resulted from higher average investment balances in the first half of fiscal year 2008 as a result of the $58.7 million cash proceeds from the Merger received in September 2007.

The Company incurred interest expense of $0.7 million and $0.6 million for the three months ended June 30, 2008 and 2007, respectively. Interest expense for the six months ended June 30, 2008 and 2007 was $1.3 million and $0.8 million, respectively. Interest expense results primarily from PharmAthene's outstanding 8% convertible notes and its $10 million credit facility.

During the fiscal year ended December 31, 2006, the Company issued 8% convertible notes in an aggregate principal amount of $11.8 million. The Company recognized $0.2 million and $0.5 million in interest expense related to these notes for the first quarter and first half of fiscal year 2007. These notes plus accrued interest were converted into new convertible 8% notes (the "Notes") in an aggregate principal amount of $12.3 million in conjunction with the Merger on August 3, 2007. The Company recognized interest expense of $0.4 million and $0.8 million related to the Notes for the three and six month periods ended June 30, 2008, respectively.

The Company entered into a $10.0 million credit facility on March 30, 2007 with Silicon Valley Bank and Oxford Financial Corporation. The Company recognized interest expense of $0.2 million and $0.5 million related to this facility for the three and six month periods ended June 30, 2008, respectively. For the six months ended June 30, 2007, the Company recognized interest expense of $0.3 million.

PharmAthene recorded a change in market value of $0.1 million related to the conversion feature of its Notes for the six months ended June 30, 2008.

Liquidity and Capital Resources

Overview

In general, the Company's primary cash requirements are to fund its research and development programs, general and administrative expense, and acquisition activity. Our cash requirements in future periods could change materially as a result of changes in our business and strategy. These changes could arise from the Company's management team's evaluation of our business strategy, the progress of our research and development activities and clinical programs, licensing activities, acquisitions, divestitures or other corporate developments.

Since inception in March 2001, we have not generated positive cash flow. To bridge the gap between payments made to us under our government contracts and grants and our operating and capital needs, we have had to rely on a variety of financing sources, including the issuance of equity securities and convertible notes, proceeds from loans and other borrowings, and the trust funds obtained in the Merger. For the foreseeable future, we will continue to need to utilize these types of financing vehicles and potentially others to help fund our future operating and capital requirements. In evaluating alternative sources of financing, we consider, among other things, the dilutive impact, if any, on our stockholders, the ability to leverage stockholder returns through debt financing, the particular terms and conditions of each alternative financing arrangement and our ability to service our obligations under such financing arrangements. At our current rate of cash consumption, we will need to engage in one or more financing transactions of the types listed above no later than the end of the first quarter of 2009. There can be no assurance that funding will be available to us on acceptable terms or at all

Our consolidated financial statements have been prepared on a basis which assumes that PharmAthene will continue as a going concern and which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course

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of business. The Company has incurred cumulative net losses and expects to incur additional losses to perform further research and development activities. The Company does not have commercial products and, given the substantial costs relating to the development of pharmaceutical products, has comparatively limited capital resources. Our plans with regard to these matters include continued development of our products as well as seeking additional funds to support our research and development efforts. Although we continue to pursue these plans, there is no assurance that we will be successful in obtaining sufficient financing on commercially reasonable terms or at all or that we will be able to secure additional funding through government contracts and grants.

Continuation of PharmAthene as a going concern is dependent upon, among other things, the success of the Company's research and development programs and our ability to obtain adequate financing. The Company's consolidated financial statements do not include any adjustments relating to recoverability of the carrying amount of recorded assets and liabilities that might result from the outcome of these uncertainties.

Sources and Uses of Cash

Cash and cash equivalents for the Company were $14.2 million and $40.6 million at June 30, 2008 and December 31, 2007, respectively. The $26.4 million decrease in cash and cash equivalents as of June 30, 2008 from December 31, 2007 primarily was attributable to the Avecia Acquisition, in connection with which we paid an initial consideration of $10.0 million and funded the $7.0 million letter of credit, as well as the funding of operations, the funding of restricted cash obligations and the repayment of debt.

Operating Activities

Net cash used in operating activities was $4.1 million and $6.2 million for the six months ended June 30, 2008 and 2007, respectively. The 2008 cash used in operations reflects a net loss after the effect of non-cash adjustments of $8.7 million, an increase in accounts receivable of $2.4 million, and an increase in accrued expenses and accounts payable of $2.3 million. Non-cash adjustments for the six months ended June 30, 2008 included a write off of acquired in process research and development of $15.9 million as a result of the Avecia Acquisition and stock compensation expense of $1.1 million. Accounts receivable increased due to contract award receivables due from the DoD related to increased activities related to the advanced development of Protexia® and from NIAID related to the further development of SparVax™ and RypVax™ under contracts acquired in the second quarter of 2008 as part of the Avecia acquisition. Accounts payable and accrued expenses increased due to increased development activities primarily SparVax™ and RypVax™ related, compliance related activities and approximately $0.8 million for performance based employee bonuses.

The 2007 cash used in operations resulted primarily from a net loss after the effect of non-cash adjustments of $7.6 million and increased accounts receivable of approximately $1.0 million due to contract award receivables. These increases were partially offset by increased accounts payable and accrued expenses of approximately $1.9 million resulting from increased development activities and decreased prepaid expenses of approximately $0.6 million primarily attributable to the use of funds for development activity related to the collaboration with Medarex on the Valortim® program. Prepaid expenses fluctuate from period to period depending upon the timing and level of preparation and initiation of research and development activity and clinical trials.

Investing Activities

Net cash used in investing activities was $20.3 million for the six months ended June 30, 2008 as compared to $0.5 million for the six months ended June 30, 2007. In the first half of 2008 and in connection with the Avecia Acquisition, the Company paid $10 million to Avecia and funded a $7 million letter of credit. In order to fund the transaction and the restricted cash obligations pursuant to the Loan Modification Agreement, approximately $10.3 million of available-for-sale securities were sold. Additionally, during the first six months of 2008, the Company incurred approximately $1.6 million related to transactions costs incurred as a result of the Avecia Acquisition.

All investing activities in the first half of 2007 related to the purchase of property and equipment. The Company finances capital expenditures primarily through direct purchases utilizing the Company's existing cash.

Financing Activities

Net cash used by financing activities was $2.0 million for the six month period ended June 30, 2008 as compared to net cash provided by financing activities of $8.6 million for the period ended June 30, 2007. The Company made principal repayments of $2.0 million under outstanding credit facilities for the six months ended June 30, 2008.

As previously disclosed, PharmAthene is a party to a $10 million secured credit facility evidenced by a Loan and Security Agreement, dated as of March 30, 2007 (the "Loan Agreement"), with Silicon Valley Bank and Oxford Finance Corporation (together, the "Lenders"). Under the credit facility, the Company has borrowed $10 million, which bears interest at an annual

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rate of 11.5%. The Loan Agreement contains customary affirmative and negative covenants which, among other things, restrict the Company's ability to undertake certain acquisitions, incur certain indebtedness or make certain investments. As a consequence, PharmAthene sought to obtain the consent of its Lenders to the Avecia Acquisition and entered into a Consent and First Loan Modification Agreement, dated as of March 20, 2008, with the Lenders (the "Loan Modification Agreement") pursuant to which, among other things, the Lenders consented to the Avecia Acquisition provided that (i) PharmAthene (or its UK subsidiary involved in the acquisition) is the surviving entity in the acquisition, (ii) the total initial cash consideration upon the consummation of the acquisition does not exceed $11 million, (iii) the consummation of the acquisition will not otherwise result in an Event of Default as defined under the Loan Agreement, after giving effect to the acquisition and (iv) within 20 days following the consummation of the acquisition, PharmAthene causes its UK subsidiary to become a co-borrower or a secured guarantor under the Loan Agreement. The Company made principal repayments of $3.0 million through June 30, 2008.

The Loan Modification Agreement also amends the Loan Agreement to provide (i) that PharmAthene shall maintain, at all times, at a segregated account, at either Silicon Valley Bank or Silicon Valley Bank Securities, unrestricted and unencumbered cash or cash equivalents in the amount of at least one and one-quarter times all obligations of PharmAthene to the Lenders, (ii) that if PharmAthene or any of its affiliates creates or acquires any subsidiary, PharmAthene shall notify the Lenders and take all such action as to cause each domestic subsidiary to guarantee the obligations of PharmAthene under the Loan Agreement granting a continuing pledge and security interest in and to the assets of such subsidiary, (iii) that PharmAthene shall deliver to the Lenders a control agreement with M&T Bank granting the Lenders a first perfected security interest in the accounts of PharmAthene held at M&T Bank and (iv) amending the definition of "material adverse change" under the Loan Agreement to provide that a material adverse change shall be a determination of the Lenders based upon information available to them and in their reasonable judgment that there is a reasonable likelihood that PharmAthene shall fail to comply with one or more of the financial covenants contained in the Loan Agreement.

Future Cash Needs

Since inception in March 2001, we have not generated positive cash flow. To bridge the gap between payments made to us under our government contracts and grants and our operating and capital needs, we have had to rely on a variety of financing sources, including the issuance of equity securities and convertible notes, proceeds from loans and other borrowings, and the trust funds obtained in the Merger. For the foreseeable future, we will continue to need to utilize these types of financing vehicles and potentially others to help fund our future operating and capital requirements. In evaluating alternative sources of financing, we consider, among other things, the dilutive impact, if any, on our stockholders, the ability to leverage stockholder returns through debt financing, the particular terms and conditions of each alternative financing arrangement and our ability to service our obligations under such financing arrangements. At our current rate of cash consumption, we will need to engage in one or more financing transactions of the types listed above no later than the end of the first quarter of 2009. There can be no assurance that funding will be available to us on acceptable terms or at all.

The Company's future capital requirements and liquidity will depend on many factors including, but not limited to, the progress of its research and development programs; the progress of pre-clinical and clinical testing; the time and cost involved in obtaining regulatory approval; the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights; changes in its existing research relationships, competing technological and marketing developments; its ability to establish collaborative arrangements and to enter into licensing agreements and contractual arrangements with others; and any future change in its business strategy.

The Company expects to fund its development activities for Protexia® primarily using the funds available from the contract with the DoD. Under the initial phase of the agreement, the DoD has agreed to fund up to $41 million of development costs as incurred through March 2009. Management believes this funding will be sufficient to complete the development of Protexia®. On September 28, 2007, PharmAthene was awarded a $13.9 million contract for the advanced development of Valortim® from the NIAID and BARDA. Management believes that the remaining costs for this development program will be financed through additional grants to the Company anticipated to be received from the United States government and from the Company's available cash.

In connection with the Avecia Acquisition , in addition to other future payments that may be payable to Avecia based on the achievement of certain milestones, we paid to Avecia $10 million upon the closing of the acquisition and an additional $7 million will be payable upon the earlier of the consummation of a financing transaction in which we receive gross proceeds of not less that $15 million or eighteen months after the closing of the acquisition. Further, as a result of the Loan Modification Agreement entered into in connection with the Avecia Acquisition, PharmAthene's credit facility was amended to provide, among other things, that PharmAthene shall maintain, at all times, at a segregated account, at either Silicon Valley Bank or Silicon Valley Bank Securities, unrestricted and unencumbered cash or cash equivalents in the amount of at least one and one-quarter times all obligations of PharmAthene to the Lenders further restricting its available cash.

Off-Balance Sheet Arrangements

The Company has entered into facility and equipment operating lease agreements. The Company's obligations under these agreements are presented under the ''Contractual Obligations'' Section.

Critical Accounting Policies

Estimates

The preparation of financial statements in conformity with US generally accepted accounting principles requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. We base our estimates and assumptions on historical experience and various other factors that are believed to be reasonable under the circumstances. Actual results could differ from our estimates and assumptions. The Company believes the following critical accounting policies, among others, affect its more significant estimates and assumptions and require the use of complex judgment in their application.

FASB 123R regarding share-based payments

The FASB issued FAS 123R, which requires that all share-based payments to employees, including grants of employee stock options, be recognized in the income statement based on their grant date fair values. Costs of all share-based payments are recognized over the requisite service period that an employee must provide to earn the award (i.e. usually the vesting period) and charged to the operating expense associated with that employee.

Revenue Recognition

The Company generates its revenue from two different types of contractual arrangements: cost-plus-fee contracts and cost reimbursable grants. Revenues on cost-plus-fee contracts are recognized to the extent of costs incurred plus an estimate of the applicable fees earned. The Company considers fixed fees under cost-plus-fee contracts to be earned in proportion to the allowable costs incurred in performance of the contract. The Company analyzes each cost reimbursable grant to ensure reporting of revenues gross versus net is appropriate based on the guidance in the AICPA Federal Government Contractors Guide or the Financial Accounting Standards Board's (FASB's) Emerging Issues Task Force (EITF) Issue 99-19, *Gross Versus Net*, whichever is most appropriate.

The Company's contracts may include the provisions of more than one of its services. In these situations, the Company recognizes revenue in accordance with the Financial Accounting Standards Board's (FASB's) Emerging Issues Task Force (EITF) Issue 00-21, *Revenue Arrangements with Multiple Deliverables*. Accordingly, for applicable arrangements, revenue recognition includes the proper identification of separate units of accounting and the allocation of revenue across all elements based on relative fair values, with proper consideration given to the guidance provided by other authoritative literature.

Research and Development Expenses

Research and development costs include salaries, facilities expense, overhead expenses, material and supplies, pre-clinical expense, clinical trials and related clinical manufacturing expenses, stock based compensation expense, contract services and other outside services. On January 1, 2008, the Company adopted the Financial Accounting Standards Board's (FASB's) Emerging Issues Task Force (EITF) Issue 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services Received for Use in Future Research and Development Activities*. All other costs are charged to expense as incurred.

Intangible Assets

When the Company acquires development products, it allocates the purchase price, including acquisition expenses and assumed liabilities, to tangible and intangible assets. The portion allocated to intangible assets may be allocated to trademarks, patents and other intangibles. The Company estimates the useful lives of the assets by considering the remaining life of the patents, estimated future introductions of competing products, and other related factors.

Because of the nature of pharmaceutical research, and particularly because of the difficulties associated with efficacy studies in humans related to the bioterrorist products with which the Company works and the government's related funding provisions, factors that affect the estimate of the life of the asset are often more uncertain than other non-bioterrorist pharmaceutical research. On an annual basis, the Company assesses recoverability of intangibles from future operations, using undiscounted future cash flows derived from the intangible assets.

Any impairment would be recognized in operating results to the extent the carrying value exceeds the fair value, which is determined based on the net present value of estimated future cash flows; in certain situations, where the carrying value is

dependent upon the outcome of a single study and that study is unsuccessful, that impairment may be significant in amount and immediate in timing.

Contractual Obligations

The following are contractual commitments at June 30, 2008 associated with leases, research and development arrangements, collaborative development obligations and long term debt:

Contractual Obligations(1)	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 years
Operating facility leases	$ 4,727,000	$ 732,000	$ 1,213,000	$ 841,000	$ 1,941,000

Research and development agreements	30,033,000	28,153,000	1,880,000	—	—
Notes payable, including interest	21,815,000	4,556,000	17,249,000	—	—
Total contractual obligations	$ 56,575,000	$ 33,451,000	$ 20,342,000	$ 841,000	$ 1,941,000

(1)This table does not include any royalty payments of future sales of products subject to license agreements the Company has entered into in relation to its in-licensed technology, as the timing and likelihood of such payments are not known.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

Not applicable.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended, as of the end of the period covered by this report. Based on this evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosures.

Management's Quarterly Report on Internal Control Over Financial Reporting

PharmAthene's management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. PharmAthene's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. PharmAthene's internal control over financial reporting includes those policies and procedures that:

(i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of PharmAthene's assets;

(ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of PharmAthene's management and directors; and

(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of PharmAthene's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of PharmAthene's internal control over financial reporting as of June 30, 2008. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework.

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Based on this assessment, management determined that PharmAthene maintained effective internal control over financial reporting as of June 30, 2008.

This Quarterly Report on Form 10-Q does not include an attestation report of our independent registered public accounting firm, Ernst & Young LLP, regarding internal control over financial reporting. Management's report was not subject to attestation by our independent registered public accounting firm pursuant to temporary rules of the SEC that permit us to provide only management's report in this Quarterly Report on Form 10-Q.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting, identified in connection with the evaluation required by Section 13a-15(d) of the Securities Exchange Act of 1934, as amended, that occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Disclosure Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

PART II – OTHER INFORMATION

Item 1A. Risk Factors.

Stockholders and potential investors should carefully consider the risks described below relating to investment in our common stock. Our most significant risks and uncertainties are described below, however, they are not the only risks we face. If any of the following risks actually occur, our business, financial condition and/or results of operations could be materially adversely affected, the trading price of our common stock could decline, and a stockholder could lose all or part of his or her investment.

Risks Related to Our Business

It is expected that PharmAthene will incur net losses and negative cash flow for the foreseeable future, and we cannot guarantee that we will achieve profitability; therefore, our business, results of operations and financial condition may be materially adversely affected.

We have incurred significant losses since we commenced operations. For the fiscal year ended December 31, 2007, the Company incurred an operating loss of approximately $16.5 million and had an accumulated deficit of approximately $87.4 million at December 31,2007. For the six months ended June 30, 2008, the Company incurred an operating loss of approximately $26.9 million and had an accumulated deficit of approximately $114.3 million at June 30, 2008. The Company's losses to date have resulted principally from research and development costs related to the development of its product candidates, general and administrative costs related to its operations, and costs related to the Avecia Acquisition.

As a result of our continuing losses and the Avecia Acquisition, we may need to seek additional financing. Our available cash and cash equivalents at June 30, 2008 was approximately $14.2 million. However, at June 30, 2008, we had outstanding debt to noteholders of approximately $12.7 million, approximately $7.0million outstanding under our credit facility and, in connection with the Avecia Acquisition, we have agreed to pay $7 million upon the earlier of the consummation of a financing transaction in which we receive gross proceeds of not less than $15 million or eighteen months after the closing of the acquisition. Accordingly, to the extent that our losses continue at the current level, if we do not access sufficient additional funding through contracts and grants with the US or foreign governments, we will need to seek additional financing no later than the first quarter of 2009. There can be no assurances that we will be successful in obtaining sufficient financing on commercially reasonable terms or at all.

We expect that PharmAthene will incur substantial losses for the foreseeable future as a result of increases in its research and development costs, including costs associated with conducting preclinical testing, clinical trials and regulatory compliance activities.

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The Company's likelihood for achieving profitability will depend on numerous factors, including success in:

- developing and testing new product candidates;
- carrying out the Company's intellectual property strategy;
- establishing the Company's competitive position;
- pursuing third-party collaborations;
- acquiring or in-licensing products;
- receiving regulatory approvals;
- manufacturing and marketing products; and
- continuing to receive government funding and identifying new government funding opportunities.

Many of these factors will depend on circumstances beyond our control. We cannot guarantee that we will achieve sufficient revenues for profitability. Even if we do achieve profitability, we cannot guarantee that we can sustain or increase profitability on a quarterly or annual basis in the future. If revenues grow slower than we anticipate, or if operating expenses exceed our expectations or cannot be adjusted accordingly, then our business, results of operations, financial condition and cash flows will be materially and adversely affected. Because our strategy might include acquisitions of other businesses, acquisition expenses and any cash used to make these acquisitions will reduce our available cash.

In connection with the Avecia Acquisition, PharmAthene paid to Avecia $10 million in cash consideration at closing and had to modify its existing loan agreement to require it to maintain at a segregated account unrestricted and unencumbered cash or cash equivalents in the amount of at least one and one-quarter times all obligations of PharmAthene to its lenders. As a result, we have less available cash for operations, working capital and additional acquisitions.

In consideration for the Avecia Acquisition, we also agreed to pay Avecia the following:

- $10 million at the time of the consummation of the acquisition; plus
- an additional $7 million payable upon the earlier to occur of (a) the completion of a financing transaction in which PharmAthene receives gross proceeds of not less than $15 million and (b) eighteen months after the consummation of the Avecia Acquisition, which payment is secured by a letter of credit; plus
- additional contingent amounts payable upon the occurrence of certain events as follows:
  - $3 million upon the entry by PharmAthene into a multi-year funded contract or series of contracts with the US Department of Defense (or other agency or representative or sub-contractor of the US government) or the Defence Science Technology Laboratory, an agency of the UK Ministry of Defence (or any other agency or representative or sub-contractor of the US or UK government) for the further development of Avecia's pneumonic and bubonic plague ("rYP") vaccine, RypVax™, with a total committed aggregate value in excess of $30 million;
  - $10 million upon the entry by PharmAthene into a multi-year funded contract with the US Department of Defense (or other agency or representative or sub-contractor of the US government) for the further development of the RypVax™ rYP vaccine, as a result of (a) a Resources Allocation Decision of the Resource Allocation Review Board and the Resource Allocation Advisory Committee of the US Department of Defense or (b) some other similar substantial funding in excess of $150 million (including the value of any option elements within such contract); and

- $5 million upon the entry by PharmAthene into a multi-year funded development contract to be issued by the Biological Advanced Research and Development Authority (part of the US Department of Health and Human Services) under solicitation number RFP-BARDA-08-15 for the further development of Avecia's anthrax (rPA) vaccine, SparVax™; and

- $5 million upon the entry by PharmAthene into a contract or contracts for the supply of rPA vaccine, SparVax™, into the Strategic National Stockpile; and

- 2.5% of net sales (as defined under the Purchase Agreement) of rPA vaccine, SparVax™, made by PharmAthene to the US government within the period of ten years from the consummation of the Acquisition after the first 25 million doses; and

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- 1% of net sales (as defined under the Purchase Agreement) of third generation anthrax vaccine made by PharmAthene to the US government within the period of ten years from the consummation of the Acquisition.

PharmAthene is a party to a $10 million secured credit facility bearing interest at an annual rate of 11.5% evidenced by the Loan Agreement with the Lenders which required consent of the Lenders to the Avecia Acquisition. Consequently, PharmAthene obtained the consent of its Lenders to the acquisition and entered into the Loan Modification Agreement, pursuant to which, among other things, the Lenders consented to the acquisition and required PharmAthene to maintain, at all times, at a segregated account, at either Silicon Valley Bank or Silicon Valley Bank Securities, unrestricted and unencumbered cash or cash equivalents in the amount of at least one and one-quarter times all obligations of PharmAthene to the Lenders.

As a result of the Avecia Acquisition and the Loan Modification Agreement, we have less available cash to use for operations, working capital or additional acquisitions, and may be required to raise additional capital or debt financing for same. Our inability to raise additional capital or to obtain adequate financing, if necessary, would result in the need to reduce the pace of implementing our business objectives and could be materially harmful to our business, which would force us to curtail or cease our business operations. As a consequence, our stock price could fall.

PharmAthene is in various stages of product development and there can be no assurance of successful commercialization.

PharmAthene has not commercialized any products or recognized any revenues from product sales. In general, our research and development programs are at early stages. To obtain FDA approval for our biological warfare defense products under current FDA regulations, the Company will be required to perform two animal model studies for efficacy and provide animal and human safety data. The Company's other products will be subject to the relevant approval guidelines under FDA requirements, which include a number of phases of testing in humans. Even if PharmAthene initially receives positive early stage pre-clinical or clinical results, such results may not be indicative of similar results that could be anticipated in the later stages of drug development.

Our drug candidates will require significant additional research and development efforts, including extensive pre-clinical and clinical testing and regulatory approval, prior to commercial sale. We cannot be sure that our approach to drug discovery will be effective or will result in the development of any drug. In addition, applicable laws, regulations, and policies may change, and our products may be subject to new legislation or regulations that may delay or suspend research and development. PharmAthene cannot assure you that any drugs resulting from our research and development efforts will be commercially available. Even if we succeed in developing and commercializing our product candidates, the Company may never generate sufficient or sustainable revenues to enable us to be profitable. Furthermore, even if our product candidates are successful when tested in animals, such success would not be a guarantee of the effectiveness and safety of such product candidates in humans. There can be no assurances that one or more of the Company's future product candidates would not fail to meet safety standards in human testing, even if those product candidates were found to be effective in animal studies. There can be no assurances that any such product candidates will prove to be effective in humans.

Most of PharmAthene's immediately foreseeable future revenues are contingent upon grants and contracts from the US government and collaborative and license agreements and the Company may not achieve sufficient revenues from these agreements to attain profitability.

Until and unless PharmAthene successfully markets a product, our ability to generate revenues will largely depend on our ability to enter into additional collaborative agreements, strategic alliances, research grants, contracts and license agreements with third parties, including, without limitation, the US government and branches and agencies thereof, and maintain the agreements we currently have in place. Substantially all of the revenues of the Company to date have been derived from grants and government contracts, primarily with the US government. There can be no assurances that existing government contracts will be renewed or that we can enter into new contracts or receive new grants. For example, our existing contracts for the advanced development of plague vaccine, RypVax™, expires in the first half of 2009, and future government funding for this development program remains uncertain at this time. Furthermore, under the terms of our 2006 contract with the DoD regarding Protexia®, the DoD may elect not to continue development assistance of this nerve agent countermeasure after initial funding of $41 million has been received, or, if it does so elect to continue funding and we meet all development milestones, it may nevertheless choose not to procure any doses of Protexia®.

The Company has an agreement with Medarex, Inc., to develop Valortim®, a fully human monoclonal antibody product designed to protect against and treat inhalation anthrax. Under the agreement with Medarex, the Company will be entitled to a variable percentage of profits derived from sales of Valortim®, if any, depending, in part, on the amount of its investment. In addition, the Company has entered into licensing and research and development agreements with a number of other parties and collaborators. There can be no assurances that the research and development conducted pursuant to these agreements will result in product candidates capable of generating revenues for the Company.

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PharmAthene may need additional capital in the future. If additional capital is not available or not available on acceptable terms, the Company may be forced to delay or curtail the development of our product candidates.

PharmAthene's requirements for additional capital may be substantial and will depend on many other factors, including:

- continued funding by the DoD and other branches and agencies of the US government;
- payments received under present or future collaborative partner agreements;
- continued progress of research and development of the Company's products;
- the Company's ability to license compounds or products from others;
- costs associated with protecting the Company's intellectual property rights;
- development of marketing and sales capabilities; and
- market acceptance of the Company's products.

To the extent PharmAthene's capital resources are insufficient to meet future capital requirements, it will have to raise additional funds to continue the development of our product candidates. To the extent that our losses continue at the current level, if we do not access sufficient additional funding through contracts and grants with the US or foreign governments, we will need to seek additional financing no later than the end of the first quarter of 2009. We cannot assure you that financing will be available on favorable terms, if at all. To the extent the Company raises additional capital through the sale of securities, the issuance of those securities could result in dilution which may be substantial to the Company's stockholders. In addition, if the Company incurs additional debt financing, a substantial portion of our operating cash flow may be dedicated to the payment of principal and interest on such indebtedness, thus limiting funds available for the Company's business activities. If adequate funds are not available, the Company may be required to curtail significantly our development and commercialization activities.

Biodefense treatment and drug development is an expensive and uncertain process, and delay or failure can occur at any stage of PharmAthene's development process, increasing our development costs and/or adversely affecting the commercial prospects of our product candidates.

To develop and commercialize biodefense treatment and drug candidates, the Company must provide the FDA and foreign regulatory authorities with clinical and non-clinical data that demonstrate adequate safety and effectiveness. This involves engaging in clinical trials, which is a lengthy and expensive process, the outcome of which is uncertain. Because humans are not normally exposed to anthrax, nerve agents, plague, smallpox or other lethal biotoxins or chemical agents and it would be unethical to expose humans to such, effectiveness of the Company's biodefense product candidates cannot be demonstrated in humans, but instead, under the FDA's "Animal Rule" (see Code of Federal Regulations (21 CFR 601 Subpart H)), can be demonstrated, in part, by utilizing animal models. This effect has to be demonstrated in more than one animal species expected to be predictive of a response in humans, but an effect in a single animal species may be acceptable if that animal model is sufficiently well-characterized for predicting a response in humans. The animal study endpoint must be clearly related to the desired benefit in humans and the information obtained from animal studies allows selection of an effective dose in humans.

For many of the biological and chemical threats, the animal models are not available, and as such the Company will have to develop appropriate animal models, a time-consuming research effort. Further, we may not be able to sufficiently demonstrate the animal correlation to the satisfaction of the FDA, as these correlates are difficult to establish and are often unclear. FDA may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies, refuse to approve our products, or place restrictions on our ability to commercialize those products. Finally, other countries do not, at this time, have established criteria for review and approval of these types of products outside their normal review process, i.e. there is no "Animal Rule" equivalent in countries other than the United States, and consequently there can be no assurance that we will be able to make a submission for marketing approval in foreign countries based on such animal data. See also *"—If we experience delays in obtaining regulatory approvals, or are unable to obtain or maintain regulatory approvals, PharmAthene may be unable to commercialize any products."*

Delays in obtaining results can occur for a variety of reasons such as slower than anticipated enrollment by volunteers in the trials, adverse events related to the products and unsatisfactory results of any trial. Any delay or adverse clinical event arising

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during any of our clinical trials could force the Company to abandon a product altogether or to conduct additional clinical trials in order to obtain approval from the FDA and other regulatory bodies. The Company's development costs will increase substantially if it experiences material delays in any clinical trials or if it needs to conduct more or larger trials than planned.

Additionally, few facilities in the US and internationally have the capability to test animals with anthrax, plague, nerve agents, or other lethal biotoxins or chemical agents or otherwise assist us in qualifying the requisite animal models. We have to compete with other biodefense companies for access to this limited pool of highly specialized resources as well. As such, PharmAthene may not be able to secure contracts to conduct the testing in a predictable timeframe or at all. Further, if delays are significant, or if any of the Company's products do not prove to be safe, pure, and potent (including efficacy) or do not receive required regulatory approvals, the Company will be unable to recognize revenues from the sale of products, and the commercial prospects for our product candidates will be adversely affected.

Even if the Company completes the development of our nerve *agent, plague and anthrax* ***products, if the Company fails to obtain contracts to supply products to the US or foreign governments or the US or foreign governments do not purchase sufficient quantities of our products, PharmAthene may be unable to generate sufficient revenues to continue operations.***

For the next several years, we believe our main customer will be national governments, primarily the U.S. government. The US government has undertaken commitments to help secure improved countermeasures against bioterrorism including the stockpiling of treatments and vaccines for anthrax, plague and nerve agents through the SNS and other military stockpiling efforts. However, the process of obtaining government contracts is lengthy and uncertain and the Company will have to compete with other companies for each contract. There can be no assurances that the Company will be awarded any contracts to supply the US or other governments with our products as such awards may be made, in whole or in part, to the Company's competitors. If the US government makes significant future contract awards for the supply of our emergency stockpile to PharmAthene's competitors, the Company's business will

be harmed, and it is unlikely that the Company will ultimately be able to supply that particular treatment or product to foreign governments or other third parties.

Further, changes in government budgets and agendas may result in a decreased and de-prioritized emphasis on procuring the biodefense products PharmAthene is developing. In addition, government contracts typically contain provisions that permit cancellation in the event that funds become unavailable to the governmental agency. If the US or foreign governments make significant future contract awards to the Company's competitors to the exclusion of the Company or otherwise fail to purchase the Company's products, it is unlikely that the Company will ultimately be able to commercialize that particular treatment or product or that it will be able to generate sufficient revenues to continue operations.

US government agencies have special contracting requirements which give them the ability to unilaterally control our contracts.

PharmAthene anticipates that our primary sales will be to the US government. US government contracts typically contain unfavorable termination provisions and are subject to audit and modification by the government at its sole discretion, which will subject the Company to additional risks. These risks include the ability of the US government to unilaterally:

- suspend or prevent the Company for a set period of time from receiving new contracts or extending existing contracts based on violations or suspected violations of laws or regulations;
- terminate PharmAthene's contracts;
- reduce the scope and value of PharmAthene's contracts;
- audit and object to the Company's contract-related costs and fees, including allocated indirect costs;
- control and potentially prohibit the export of the Company's products; and
- change certain terms and conditions in the Company's contracts.

The US government will be able to terminate any of its contracts with the Company either for its convenience or if the Company defaults by failing to perform in accordance with the contract schedule and terms. Termination for convenience provisions would generally enable the Company to recover only the Company's costs incurred or committed, settlement expenses, and profit on the work completed prior to termination. Termination for default provisions do not permit these recoveries and would make the Company liable for excess costs incurred by the US government in procuring undelivered items from another source.

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PharmAthene may fail to fully realize the potential of Valortim® and of our co-development arrangement with our partner in the development of Valortim® which would have an adverse affect upon our business.

PharmAthene and our development partner have completed the first Phase I clinical trial for Valortim® without any reported adverse reactions. However, before we may begin selling any doses of Valortim®, we will need to conduct a more comprehensive Phase I trial in a significantly larger group of human subjects. The Company will be required to expend a significant amount to scale up manufacturing capability through a contract manufacturer in order to conduct the more extensive clinical trials. If the Company's contract manufacturer is unable to produce sufficient quantities at a reasonable cost, or has any other obstacles to production, such as violative manufacturing, then the Company will be unable to commence the clinical trials necessary to begin marketing Valortim®. Even after the Company expends sufficient funds to complete the development of Valortim® and when and if it enters into an agreement to supply Valortim® to the US government, it will be required to share any and all profits from the sale of products with our partner in accordance with a pre-determined formula.

Because we depend on clinical research centers and other contractors for clinical and non-clinical testing, including testing under the Animal Rule, and for certain research and development activities, the results of our clinical trials, non-clinical animal efficacy studies, and such research and development activities are largely beyond our control.

The nature of clinical trials and our business strategy of outsourcing substantially all of our research and development work require that we rely on clinical research centers and other contractors to assist us with research and development, clinical and non-clinical testing (including animal efficacy studies under the FDA's "Animal Rule"), patient enrollment and other activities. As a result, our success depends largely on the success of these third parties in performing their responsibilities. Although we pre-qualify our contractors and believe that they are fully capable of performing their contractual obligations, we cannot directly control the adequacy and timeliness of the resources and expertise that they apply to these activities. Furthermore, we have to compete with other biodefense companies for access to this limited pool of highly specialized resources. If our contractors do not perform their obligations in an adequate and timely manner or we are unable to enter into contracts with them because of prior commitments to our competitors, the pace of clinical or non-clinical development, regulatory approval and commercialization of our drug candidates could be significantly delayed and our prospects could be adversely affected.

We depend on third parties to manufacture, package and distribute compounds for our product candidates. The failure of these third parties to perform successfully could harm our business.

We have utilized, and intend to continue utilizing, third parties to manufacture, package and distribute our product candidates. We do not have any manufacturing facilities. Any material disruption in manufacturing could cause a delay in our development programs and potentially future sales. Furthermore, certain compounds, media, or other raw materials used to manufacture our drug candidates are available from one or a limited number of sources. Any delays or difficulties in obtaining key components for our product candidates or in manufacturing, packaging or distributing our product candidates could delay clinical trials and further development of these potential products. Additionally, the third parties we rely on for manufacturing and packaging are subject to regulatory review, and any regulatory compliance problems with these third parties could significantly delay or disrupt our commercialization activities.

If PharmAthene cannot enter into new licensing arrangements, our ability to develop a diverse product portfolio could be limited and our ability to compete would be harmed.

A key component of the Company's business strategy is in-licensing compounds and products developed by other pharmaceutical and biotechnology companies or academic research laboratories. Competition for promising compounds or products can be intense. If the Company is not able to identify new licensing opportunities or enter into other licensing arrangements on acceptable terms, it may be unable to develop a diverse portfolio of products.

Our plan to use collaborations to leverage our capabilities and to grow in part through the strategic acquisition of other companies and technologies may not be successful if we are unable to integrate our partners' capabilities or the acquired companies with our operations or if our partners' capabilities do not meet our expectations.

As part of our strategy, we intend to continue to evaluate strategic partnership opportunities and consider acquiring complementary technologies and businesses. In order for our future collaboration efforts to be successful, we must first identify partners whose capabilities complement and integrate well with ours. Technologies to which we gain access may prove ineffective or unsafe. Our current agreements that grant us access to such technology may expire and may not be renewable or could be terminated if we or our partners do not meet our obligations. These agreements are subject to

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differing interpretations, and we and our partners may not agree on the appropriate interpretation of specific requirements. Our partners may prove difficult to work with or less skilled than we originally expected. In addition, any past collaborative successes are no indication of potential future success.

In order to achieve the anticipated benefits of an acquisition, we must integrate the acquired company's business, technology and employees in an efficient and effective manner. The successful combination of companies in a rapidly changing biodefense industry may be more difficult to accomplish than in other industries. The combination of two companies requires, among other things, integration of the companies' respective technologies and research and development efforts. We cannot assure you that this integration will be accomplished smoothly or successfully. The difficulties of integration are increased by the need to coordinate geographically separated organizations and address possible differences in corporate cultures and management philosophies. The integration of certain operations will require the dedication of management resources which may temporarily distract attention from the day-to-day operations of the combined companies. The business of the combined companies may also be disrupted by employee retention uncertainty and lack of focus during integration. The inability of management to integrate successfully the operations of the two companies, in particular, to integrate and retain key scientific personnel, or the inability to integrate successfully two technology platforms, could have a material adverse effect on our business, results of operations and financial condition.

PharmAthene faces, and likely will continue to face, competition from companies with greater financial, personnel and research and development resources. Our commercial opportunities will be reduced or eliminated if our competitors are more successful in the development and marketing of their products.

The biopharmaceutical industry is characterized by rapid and significant technological change. The Company's success will depend on our ability to develop and apply our technologies in the design and development of our product candidates and to establish and maintain a market for our product candidates. There also are many companies, both public and private, including major pharmaceutical and chemical companies, specialized biotechnology firms, universities and other research institutions engaged in developing pharmaceutical and biotechnology products. Many of these companies have substantially greater financial, technical, intellectual property, research and development, and human resources than we have. Competitors may develop products or other technologies that are more effective than any that are being developed by the Company or may obtain FDA approval for products more rapidly.

If the Company commences commercial sales of products, we still must compete in the manufacturing and marketing of such products, areas in which we have limited experience. Many of these companies also have manufacturing facilities and established marketing capabilities that would enable such companies to market competing products through existing channels of distribution. The Company's commercial opportunities will be reduced or eliminated if our competitors develop and market products for any of the harmful effects that it targets that:

- are more effective;
- have fewer or less severe adverse side effects;
- are more adaptable to various modes of dosing;
- obtain orphan drug exclusivity that blocks the approval of our application for seven years;
- are easier to administer; or
- are less expensive than the products or product candidates the Company will be developing.

Further, the regulatory climate for generic versions of biological products approved under a Biological License Application (BLA) in the U.S. remains uncertain. Currently, there is no formalized mechanism by which the FDA can approve a generic version of an approved biological product. Federal legislation has been introduced to establish a legal pathway for the approval of generic versions of approved biological products. If enacted, the legislation will impact the revenue projections for our products.

Even if the Company is successful in developing effective products, and obtains FDA and other regulatory approvals necessary for commercializing them, our products may not compete effectively with other successful products. Our competitors may succeed in developing and marketing products either that are more effective than those that PharmAthene may develop, alone or with our collaborators, making our products obsolete, or that are marketed before any products that the Company develops are marketed.

Companies that are developing products that would compete with the Company's products include: VaxGen, Inc., which is developing vaccines against anthrax and smallpox; Avant Immunotherapeutics, Inc., which has vaccine programs for agents of

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biological warfare, including plague and anthrax; Human Genome Sciences, Inc., Elusys Therapeutics, Inc. and Avanir Pharmaceuticals, Inc., all of which are developing monoclonal antibodies as anthrax treatments. Other competitors of the Company include: Emergent Biosolutions Inc., BioSante Pharmaceuticals, Inc., Dynport Vaccine Company, LLC and Ligocyte Pharmaceuticals, Inc.

Political or social factors may delay or impair PharmAthene's ability to market our products and our business may be materially adversely affected.

Products developed to treat diseases caused by, or to combat the threat of, bioterrorism will be subject to changing political and social environments. The political and social responses to bioterrorism have been unpredictable. Political or social pressures may delay or cause resistance to bringing the Company's products to market or limit pricing of our products, which would harm the Company's business.

The US government's determination to award any contracts to the Company may be challenged by an interested party, such as another bidder, at the General Accounting Office or in federal court. If such a challenge is successful, a contract may be terminated.

The laws and regulations governing the procurement of goods and services by the US government provide procedures by which other bidders and other interested parties may challenge the award of a government contract. In the event that the Company is awarded a government contract, such protests could be filed even if there are not any valid legal grounds on which to base the protest. If any such protests are filed, the government agency may decide to suspend the Company's performance under the contract while such protests are being considered by the General Accounting Office or the applicable federal court, thus potentially delaying delivery of goods and services and payment. In addition, the Company could be forced to expend considerable funds to defend any potential award. If a protest is successful, the government may be ordered to terminate the Company's contract at our convenience and reselect bids. The government could even be directed to award a potential contract to one of the other bidders.

Legal and Regulatory Risks of Development Stage Biotechnology Companies

PharmAthene's commercial success will be affected significantly by our ability to obtain protection for our proprietary technology and that of our licensors and collaborators and not infringe the patents and proprietary rights of third parties.

The patent position of biotechnology firms generally is highly uncertain and involves complex legal and factual questions. To date, no consistent policy has emerged regarding the breadth of claims allowed in biotechnology patents. PharmAthene currently holds two US patents, has three pending US patent applications, and has a limited number of international patents pending. In addition, we have rights under numerous other patents and patent applications pursuant to exclusive and non-exclusive license arrangements with licensors and collaborators. However, there can be no assurance that patent applications owned or licensed by the Company will result in patents being issued or that the patents, existing or issued in the future, will afford protection against competitors with similar technology. Any conflicts resulting from third-party patent applications and patents could significantly reduce the coverage of the patents owned, optioned by or licensed to the Company or our collaborators and limit the ability of the Company or that of our collaborators to obtain meaningful patent protection.

Further, the commercial success of PharmAthene will depend significantly on our ability to operate without infringing the patents and proprietary rights of third parties. The Company is aware of one US patent covering recombinant production of an antibody, which, it has been argued, covers any reproduction of an antibody, as well as another US patent application with claims over pegylated butyrylcholinesterase.

Although PharmAthene believes that neither Valortim®, which is a monoclonal antibody and uses recombinant reproduction of antibodies, nor Protexia®, which uses pegylated butyrylcholinesterase technology, infringes on any valid claims of such patents, the Company cannot provide any assurances that if a legal action based on either of these two patents were to be brought against the Company or our distributors, licensees or collaborators, that the Company or our distributors, licensees or collaborators would prevail or that PharmAthene has sufficient funds or resources to defend such claims. If patents are issued to third parties that contain competitive or conflicting claims, PharmAthene, our licensors or collaborators may be legally prohibited from researching, developing or commercializing potential products or be required to obtain licenses to these patents or to develop or obtain alternative technology. The Company, our licensors and/or our collaborators may be legally prohibited from using patented technology, may not be able to obtain any license to the patents and technologies of third parties on acceptable terms, if at all, or may not be able to obtain or develop alternative technologies.

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The costs associated with establishing the validity of patents, of defending against patent infringement claims of others and of asserting infringement claims against others is expensive and time consuming, even if the outcome is favorable. An outcome of any patent prosecution or litigation that is unfavorable to PharmAthene or one of our licensors or collaborators may have a material adverse effect on the Company. The expense of a protracted infringement suit, even if ultimately favorable, would also have a material adverse effect on the Company.

Any inability to protect PharmAthene's intellectual property could harm our competitive position and adversely affect our business.

PharmAthene's success will depend, in part, on our ability to obtain patents and maintain adequate protection of other intellectual property for our technologies and products in the US and other countries. If the Company does not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate our competitive advantages. Further, the laws of some foreign countries will not protect the Company's proprietary rights to the same extent as the laws of the U.S., and the Company may encounter significant problems in protecting our proprietary rights in these foreign countries.

The patent positions of pharmaceutical and biotechnology companies, including the Company's patent positions, involve complex legal and factual questions and, therefore, validity and enforceability cannot be predicted with certainty. Patents may be challenged, deemed unenforceable, invalidated or circumvented. PharmAthene will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that it covers our proprietary technologies with valid and enforceable patents or that it effectively maintains such proprietary technologies as trade secrets. The Company will apply for patents covering our technologies and product candidates as it deems appropriate. PharmAthene may fail to apply for patents on important technologies or products in a timely fashion, or at all, and in any event, the applications the Company files may be challenged and may not result in issued patents. Any future patents the Company obtains may not be sufficiently broad to prevent others from practicing our technologies or from developing competing products. Furthermore, others may independently develop similar or alternative technologies or design around the Company's patented technologies. In addition, if challenged, the Company's patents may be declared invalid. Even if valid, the Company's patents may fail to provide it with any competitive advantages.

PharmAthene relies upon trade secrets protection for our confidential and proprietary information. The Company has taken measures to protect our proprietary information; however, these measures may not provide adequate protection to the Company. The Company has sought to protect their proprietary information by entering into confidentiality agreements with employees, collaborators and consultants. Nevertheless, employees, collaborators or consultants may still disclose the companies' proprietary information, and the Company may not be able to meaningfully protect our trade secrets. In addition, others may independently develop substantially equivalent proprietary information or techniques or otherwise gain access to the Company's trade secrets.

PharmAthene's use of hazardous materials and chemicals require it to comply with regulatory requirements which may result in significant costs and expose PharmAthene to potential liabilities.

PharmAthene's research and development involves the controlled use of hazardous materials and chemicals. The Company is subject to federal, state, local and foreign laws governing the use, manufacture, storage, handling and disposal of such materials. The Company will not be able to eliminate the risk of accidental contamination or injury from these materials. In the event of such an accident, the Company could be held liable for significant damages or fines, and these damages could exceed our resources and any applicable insurance coverage. In addition, the Company may be required to incur significant costs to comply with regulatory requirements in the future.

PharmAthene may become subject to product liability claims, which could reduce demand for our product candidates or result in damages that exceed our insurance coverage.

PharmAthene faces an inherent risk of exposure to product liability suits in connection with our product candidates being tested in human clinical trials or sold commercially. The Company may become subject to a product liability suit if any product it develops causes injury, or if treated individuals subsequently become infected or otherwise suffer adverse effects from our products. Regardless of merit or eventual outcome, product liability claims may result in decreased demand for a product, injury to the Company's reputation, withdrawal of clinical trial volunteers and loss of revenues.

If a product liability claim is brought against the Company, the cost of defending the claim could be significant and any adverse determination may result in liabilities in excess of our insurance coverage. Additionally, the Company will be applying for indemnification under the Support Anti-terrorism by Fostering Effective Technologies Act of 2002 which preempts and modifies tort laws so as to limit the claims and damages potentially faced by companies who provide certain "qualified"

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anti-terrorism products. However, the Company cannot be certain that it will be able to obtain or maintain adequate insurance coverage on acceptable terms, if at all.

Legislation limiting or restricting liability for medical products used to fight bioterrorism is new, and PharmAthene cannot be certain that any such protection will apply to our products and, therefore, PharmAthene could become subject to product liability suits and other third party claims if such protections do not apply.

The Public Readiness and Emergency Preparedness Act ("Public Readiness Act") was signed into law in December 2005 and creates general immunity for manufacturers of countermeasures, including security countermeasures (as defined in Section 319F-2(c)(1)(B) of that act), when the Secretary of Defense issues a declaration for their manufacture, administration or use. The declaration is meant to provide general immunity from all claims under state or federal law for loss arising out of the administration or use of a covered countermeasure. Manufacturers are excluded from this protection in cases of willful misconduct.

Upon a declaration by the Secretary of Health and Human Services, a compensation fund is created to provide "timely, uniform, and adequate compensation to eligible individuals for covered injuries directly caused by the administration or use of a covered countermeasure." There is no assurance, however, that the Secretary of Health and Human Services will issue such a declaration. The "covered injuries" to which the program applies are defined as serious physical injuries or death. Individuals are permitted to bring a willful misconduct action against a manufacturer only after they have exhausted their remedies under the compensation program. A willful misconduct action could be brought against us if an individual(s) has exhausted their remedies under the compensation program which thereby could expose us to liability. PharmAthene may become subject to standard product liability suits and other third party claims if products it develops which fall outside of the Public Readiness Act cause injury or if treated individuals subsequently become infected or otherwise suffer adverse effects from such products.

PharmAthene may be subject to claims that it or our employees wrongfully used or disclosed alleged trade secrets of the employees' former employers. Such litigation could result in substantial costs and be a distraction to our management.

As is commonplace in the biotechnology industry, the Company employs individuals who were previously employed at other biotechnology or pharmaceutical companies, including their competitors or potential competitors. Although no claims against the Company are currently pending, the Company may be subject to claims that these employees or it have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. Even if the Company is successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

If we experience delays in obtaining regulatory approvals, or are unable to obtain or maintain regulatory approvals, PharmAthene may be unable to commercialize any products.

The Company will need to conduct a substantial amount of additional preclinical and clinical research and development before any US or foreign regulatory authority will approve any of our products. In addition, the Company's product candidates will be subject to extensive and rigorous government regulation. Results of the Company's research and development activities may indicate that our potential products are unsafe or ineffective. In this case, regulatory authorities will not approve them. Even if approved, the Company's products may not be commercially successful. If the Company fails to develop and commercialize our products, it may be forced to curtail or cease operations.

In addition, the commencement and rate of completion of clinical trials for the Company's products may be delayed by many factors, including:

- lack of efficacy during the clinical trials in animals;
- unsatisfactory results of any clinical trial;
- failure to comply with Good Clinical Practices;
- unforeseen safety issues;
- slower than expected rate of patient recruitment; or
- government or regulatory delays.

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Delays in obtaining regulatory approvals may:

- adversely affect the commercialization of any products that the Company or our collaborative partners develop;
- impose costly procedures on the Company or our collaborative partners;
- diminish any competitive advantages that the Company or our collaborative partners may attain; and
- adversely affect the Company's receipt of revenues or royalties

The results from preclinical testing and early clinical trials are often not predictive of results obtained in later clinical trials. Although a new product may show promising results in initial clinical trials, it may subsequently prove unfeasible or impossible to generate sufficient safety and efficacy data to obtain necessary regulatory approvals. Data obtained from preclinical and clinical studies are susceptible to varying interpretations, which may delay, limit or prevent regulatory approval. In addition, the Company may encounter regulatory delays or rejections as a result of many factors, including results that do not support our claims, perceived defects in the design of clinical trials and changes in regulatory policy during the period of product development. The Company's business, financial condition, prospects and results of operations may be materially adversely affected by any delays in, or termination of, our clinical trials or a determination by the FDA that the results of the Company's trials are inadequate to justify regulatory approval.

Any required approvals, once obtained, may be suspended or revoked. Further, if the Company fails to comply with applicable FDA and other regulatory requirements at any stage during the regulatory process, it may encounter difficulties including:

- delays in clinical trials or commercialization;
- product recalls or seizures;
- suspension of production and/or distribution;
- revocation of previously approved marketing applications; and
- injunctions, civil penalties and criminal prosecutions.

PharmAthene's collaborative partners may not be able to conduct clinical testing or obtain necessary approvals from the FDA or other regulatory authorities for any product candidates. If we fail to obtain required governmental approvals, we or our collaborative partners will experience delays in, or be precluded from, marketing products developed through it or, as applicable, their research.

PharmAthene and our contract manufacturers will also be required to comply with the applicable FDA current Good Manufacturing Practice ("cGMP") regulations. These regulations include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Manufacturing facilities are subject to inspection by the FDA. These facilities must be approved before the Company will be able to use them in commercial manufacturing of our products. The Company and our contract manufacturers may not be able to comply with the applicable cGMP requirements and other FDA regulatory requirements. If the Company and our contract manufacturers fail to comply, we could be subject to fines or other sanctions, or be precluded from marketing our products.

PharmAthene may be required to perform additional clinical trials or change the labeling of our products if we or others identify side effects after our products are on the market. Such events could harm sales of the affected products.

If the Company or others identify side effects after any of our products are on the market, or if manufacturing problems occur:

- regulatory approval may be revoked;
- reformulation of the affected products, additional clinical trials, or changes in labeling of the Company's products may be required;
- changes to or re-approvals of the Company's manufacturing facilities may be required;
- sales of the affected products may drop significantly;
- the Company's reputation in the marketplace may suffer; and
- lawsuits, including class action suits, may be brought against the Company

Any of the above occurrences could harm or prevent sales of the affected products or could increase the costs and expenses of commercializing and marketing these products.

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Risks Related to PharmAthene's Common Stock

Certain transactions that we may engage in to raise capital could dilute our shareholders.

We will seek to raise additional capital and may do so at any time through various financing alternatives, including selling shares of common or preferred stock. Raising capital through the issuance of common stock may depress the market price of our stock and any such financing will dilute our existing shareholders.

Release of 2,250,000 shares of our common stock from escrow could have an adverse effect on the market price of our common stock.

The Company's initial stockholders hold 2,250,000 shares of common stock which have recently been released from escrow and are now eligible for trading in the public market. The presence of this additional number of shares of common stock eligible for trading in the public market may have an adverse effect on the market price of the Company's common stock.

The American Stock Exchange may delist the Company's securities from trading which could limit investors' ability to make transactions in our securities and subject us to additional trading restrictions.

The Company's common stock and some warrants are listed on the AMEX, a national securities exchange. PharmAthene cannot assure you that our securities will continue to be listed on the AMEX. If the AMEX delists the Company's securities from trading on our exchange and it is not able to list our securities on another exchange or to have them quoted on Nasdaq, the Company's securities could be quoted on the OTC Bulletin Board, or "pink sheets". As a result, we could face significant adverse consequences including:

- a limited availability of market quotations for our securities;
- a determination that the Company's common stock is a "penny stock" which will require brokers trading in the Company's common stock to adhere to more stringent rules and possibly resulting in a reduced level of trading activity in the secondary trading market for the Company's securities;
- a limited amount of news and analyst coverage for the Company; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

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Item 4. Submission of Matters to a Vote of Security Holders.

At our 2008 annual meeting of stockholders held on June 13, 2008, the Company's stockholders voted:

(1) to amend (by a vote of 16,496,056 to 50,176, with 12,200 holders abstaining) the Amended and Restated Certificate of Incorporation to increase from seven to eight the maximum number of directors that may serve on the Board of Directors;

(2) to elect eight directors to the Board of Directors for a term of one year, as further detailed below;

(3) to ratify (by a vote of 16,512,992 to 45,440, with 0 holders abstaining) the selection by the Audit Committee of the Board of Directors of Ernst & Young LLP as our independent registered accounting firm for the fiscal year ending December 31, 2008; and

(4) to approve (by a vote of 12,130,817 to 855,088, with 500 holders abstaining and 3,572,027 holders not voting) proposed amendments to the Company's 2007 Long-Term Incentive Compensation Plan (as amended, the "2007 Plan"), to increase from 3,500,000 shares to 4,600,000 shares the maximum number of shares subject to the 2007 Plan and to add an evergreen provision pursuant to which the number of shares subject to the 2007 Plan will increase automatically in each year, beginning in 2009 and continuing through 2015, according to certain limits set forth in the 2007 Plan.

The results of the election of directors are as follows:

Nominee	Number of Votes For	Number of Votes Withheld
John Pappajohn	16,500,104	58,328
David P. Wright	16,546,004	12,428
Joel McCleary	16,546,004	12,428
John Gill	16,546,004	12,428
Derace L. Schaffer, M.D.	16,546,004	12,428
James H. Cavanaugh, Ph.D. **	9,021,058	0
Elizabeth Czerepak *, **	9,021,058	0
Steven St. Peter **	9,021,058	0

* As previously disclosed, Ms. Czerepak resigned from our Board of Directors on July 16, 2008.

** Noteholder Director. "Number of Votes" denotes the aggregate principal amount of Convertible 8% Notes that was voted for the nominee or that was withheld with respect to the nominee.

Item 5. Other Information

(a) As reported previously, 2,250,000 shares of our common stock, representing a portion of the stock consideration paid to stockholders of Former PharmAthene in connection with the August 3, 2007 merger between Healthcare Acquisition Corp. ("HAQ") and Former PharmAthene, were placed in escrow for a period of one year to cover potential indemnification claims pursuant to an escrow agreement among HAQ, former PharmAthene and Continental Stock Transfer & Trust Company, as escrow agent. These shares have been released from escrow and are being distributed to the relevant stockholders.

Item 6. Exhibits.

No.	Description
2.1	Amendment Agreement, dated April 2, 2008, among Avecia Investments Limited and Others and PharmAthene, Inc. and Others relating to a Sale and Purchase Agreement entered into on March 20, 2008 in respect of the Avecia Vaccines Business (incorporated by reference to Exhibit 2.1 to PharmAthene's Current Report on Form 8-K filed on April 8, 2008).
3.1	Amended and Restated Certificate of Incorporation of PharmAthene, Inc., as amended on June 13, 2008 (incorporated by reference to Exhibit 3.1 to PharmAthene Inc.'s Current Report on Form 8-K filed on June 19, 2008).
3.2	Bylaws of PharmAthene, Inc., as amended on April 28, 2008 (incorporated by reference to Exhibit 3.1 to PharmAthene, Inc's Current Report on Form 8-K filed on May 2, 2008).
10.29	Transitional Services Agreement, dated April 2, 2008, between Avecia Biologics Limited and PharmAthene UK Limited (incorporated by reference to Exhibit 10.29 to PharmAthene's Current Report on Form 8-K/A filed on June 18, 2008).
10.30	Form of PharmAthene Inc. Executive Employment Agreement
10.31	Form of PharmAthene Inc. Confidentiality and Non-Disclosure Agreement
10.32	Master Services Agreement, dated April 2, 2008, between PharmAthene UK Limited and Avecia Biologics Limited

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10.33	Master Service Agreement, dated December 15, 2004, between Avecia Limited and the Secretary of State for Defence, acting through the Defence Science and Technology Laboratory (DSTL) (rPA) *,**
10.34	Master Service Agreement, dated August 18, 2005, between Avecia Limited and DSTL (rYP) *,**
10.35	Manufacturing Licence Agreement, dated June 20, 2006, between Avecia Limited and DSTL (rYP) *,**
10.36	Manufacturing and Marketing Licence Agreement, dated December 4, 2006, between Avecia Limited and DSTL (rPA) *,**
10.37	Letter Agreement, dated March 20, 2008, between Avecia Biologics Limited and DSTL, relating to the Manufacturing Licence Agreement (rYP) and the Manufacturing and Marketing Licence Agreement (rPA) *,**
10.38	PharmAthene, Inc. 2007 Long-Term Incentive Compensation Plan, as amended on April 13, 2008 (incorporated by reference to Annex B to PharmAthene Inc.'s Definitive Proxy Statement on Schedule 14A filed on May 15, 2008).
31.1	Certification of Chief Executive Officer and Principal Financial Officer Pursuant to SEC Rule 13a-14(a)/15d-14(a).
31.2	Certification of Chief Executive Officer and Principal Financial Officer Pursuant to SEC Rule 13a-14(a)/15d-14(a).
32.1	Certification of Chief Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350.
32.2	Certification of Chief Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350.

* To be filed by amendment.

** These agreements have been novated as of April 2, 2008, such that PharmAthene, Inc. has succeeded Avecia Limited as counterparty to DSTL in such agreements.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused the report to be signed on its behalf by the undersigned, thereunto duly authorized.

PHARMATHENE, INC.

Dated: August 14, 2008

By: /s/ David P. Wright

David P. Wright
Chief Executive Officer

Dated: August 14, 2008

By: /s/ Christopher C. Camut

Christopher C. Camut
Principal Financial Officer

Employee Name:

FORM OF
EMPLOYMENT AGREEMENT

This **EMPLOYMENT AGREEMENT** (this "**Agreement**") is made and entered into this _____ by and between _____ (the "**Executive**") and **PharmAthene, Inc.**, a Delaware corporation (the "**Company**").

W I T N E SS E T H:

WHEREAS, the Company desires to employ the Executive and the Executive desires to accept employment with the Company subject to the terms and conditions herein agreed upon:

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants and obligations hereinafter set forth, the parties hereto hereby agree as follows:

1. Employment; Term. The Company hereby agrees to employ the Executive and the Executive hereby accepts employment with the Company upon the terms and conditions hereinafter set forth for the period commencing on _____ (the "**Effective Date**") and ending on the first anniversary of such date. The term of this Agreement shall be automatically extended for an additional year on each anniversary of the date hereof unless written notice of non-extension is provided by either party to the other party at least 90 days prior to such anniversary. The period of the Executive's employment under this Agreement, as it may be terminated or extended from time to time as provided herein is referred to as the "**Employment Period**."

2. Position and Duties.

a. **Position and Duties Generally.** The Executive shall be employed by the Company in the position of _____ and shall faithfully render such executive, managerial, administrative and other services as are customarily associated with and incident to such position and as the Company may from time to time reasonably require consistent with such position. The Executive shall report to _____.

b. **Other Positions.** The Executive shall hold such other positions and executive offices with the Company and/or of any of the Company's subsidiaries or affiliates as may from time to time be authorized by the Board. The Executive shall not be entitled to any compensation other than the compensation provided for herein for serving during the Employment Period in any other office or position of the Company or any of its subsidiaries or affiliates, unless the Compensation Committee specifically approves such additional compensation.

c. **Devotion to Employment.** Except for vacation time taken in accordance with the Company's vacation policy in effect from time to time and in accordance with the terms of this Agreement and for absences due to temporary illness, the Executive shall be a full-time employee of the Company and shall devote full time, attention and efforts during the Employment Period to the business of the Company and the duties required of him in his position. During the Employment Period, the Executive shall not be engaged in any other business activity which, in the reasonable judgment of the Board or its designee, conflicts with the duties of the Executive hereunder, whether or not such activity is pursued for gain, profit or other pecuniary advantage.

Employee Name:

3. Compensation; Reimbursement.

a. **Base Salary.** For the Executive's services, the Company shall pay to the Executive an annual base salary of not less than $_____ per annum, payable in equal periodic installments according to the Company's customary payroll practices, but no less frequently than monthly. The Executive's base salary shall be subject to review annually by the Compensation Committee and shall be subject to increase at the option and sole discretion of the Compensation Committee.

b. **Bonus.** The Executive shall be eligible to receive at the sole discretion of the Compensation Committee, an annual cash bonus of up to an additional ___% of the Executive's base salary. In addition, the Executive may be eligible for additional bonuses at the option and sole discretion of the Compensation Committee based upon based upon the achievement of certain pre-determined performance milestones.

c. **Benefits Generally.**

i. In addition to the salary and cash bonus described above, the Executive shall be entitled during the Employment Period to participate in such employee benefit plans and programs of the Company, and shall be entitled to such other fringe benefits, as are from time to time made available by the Company generally to employees of the level, position, tenure, salary, age, health and other qualifications of the Executive including, without limitation, medical, dental and vision insurance coverage for the Executive and the Executive's dependents, disability, death benefit and life insurance and pension plans.

ii. Without limiting the generality of the foregoing, the Executive shall be eligible for such awards, if any, including stock and stock options under the Company's 2007 Long-Term Incentive Plan or such other plan as the Company may from time to time put into effect as shall be granted to the Executive by the Compensation Committee or other appropriate designee of the Board acting in its sole discretion.

iii. The Executive acknowledges and agrees that the Company does not guarantee the adoption or continuance of any particular employee benefit plan and participation by the Executive in any such plan or program shall be subject to the rules and regulations applicable thereto.

d. **Vacation.** The Executive shall be entitled to _____ days of vacation in each calendar year.

Employee Name:

e. **Expenses.** The Company shall reimburse the Executive in accordance with the practices in effect from time to time for other officers or staff personnel of the Company for all reasonable and necessary business and travel expenses and other disbursements incurred by the Executive for or on behalf of the Company in the performance of the Executive's duties hereunder, upon presentation by the Executive to the Company of appropriate supporting documentation.

f. **Perquisites.** The Executive shall be entitled to those perquisites as the Company shall make available from time to time to other executive officers of the Company, which shall include, without limitation, the costs associated with the use of an automobile in an amount not to exceed $1,000 per month and the costs for Executive's use of a cellular telephone and personal digital assistant to the extent such equipment is used for business purposes.

4. **Death; Disability.** In the event that the Executive dies or is incapacitated or disabled by accident, sickness or otherwise, so as to render the Executive mentally or physically incapable of performing the services required to be performed by the Executive under this Agreement for a period that would entitle the Executive to qualify for long-term disability benefits under the Company's then-current long-term disability insurance program or, in the absence of such a program, for a period of 120 consecutive days or longer (such condition being herein referred to as a "**Disability**") then (i) in the case of the Executive's death, the Executive's employment shall be deemed to terminate on the date of the Executive's death and (ii) in the case of a Disability, the Company, at its option, may terminate the employment of the Executive under this Agreement immediately upon giving the Executive notice to that effect. The determination to terminate the Executive in the event of a Disability shall be made by the Board or the Board's designee. In the case of a Disability, until the Company shall have terminated the Executive's employment hereunder in accordance with the foregoing, the Executive shall be entitled to receive compensation provided for herein notwithstanding any such physical or mental disability.

5. **Termination For Cause.** The Company may terminate the employment of the Executive hereunder at any time during the Employment Period for "cause" (such termination being herein referred to as a "**Termination for Cause**") by giving the Executive notice of such termination, which termination shall be effective on the date of such notice or such later date as may be specified by the Company. For purposes of this Agreement, "**Cause**" means (i) the Executive's willful and substantial misconduct that is materially injurious to the Company and is either repeated after written notice from the Company specifying the misconduct or is continuing and not corrected within 20 days after written notice form the Company specifying the misconduct, (ii) the Executive's repeated neglect of duties or failure to act which can reasonably be expected to affect materially and adversely the business or affairs of the Company after written notice from the Company specifying the neglect or failure to act, (iii) the Executive's material breach of any of the agreements contained in Sections 11, 12, 13 or 14 hereof or of any of the Company's policies, (iv) the commission by the Executive of any material fraudulent act with respect to the business and affairs of the Company, (v) the Executive's conviction of (or plea of nolo contendere to) a crime constituting a felony, (vi) demonstrable gross

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Employee Name:

negligence, or (vii) habitual insobriety or use of illegal drugs by the Executive while performing the Executive's duties under this Agreement which adversely affects the Executives performance of the Executive's duties under this Agreement.

6. **Termination Without Cause.** The Company may terminate the employment of the Executive hereunder at any time without "cause" or fail to extend this Agreement pursuant to the terms hereof (such termination being herein referred to as "**Termination Without Cause**") by giving the Executive notice of such termination, upon the giving of which such termination shall take effect not later than 30 days from the date such notice is given.

7. **Voluntary Termination by Executive.** Any termination of the employment of the Executive by the Executive otherwise than as a result of death or Disability or for Good Reason (as defined below) (such termination being herein referred to as "**Voluntary Termination**"). A Voluntary Termination will be deemed to be effective immediately upon such termination.

8. **Termination by Executive for Good Reason.** Any termination of the employment of the Executive by the Executive for Good Reason which shall be deemed to be equivalent to a Termination without Cause. For purposes of this Agreement "**Good Reason**" means (i) any material breach by the Company of any of its obligations under this Agreement, (ii) any material reduction in the Executive's duties, authority or responsibilities without the Executive's consent, (iii) any assignment to the Executive of duties or responsibilities materially inconsistent with the Executive's position and duties contained in this Agreement without the Executive's consent, (iv) a relocation of the Company's principal executive offices or the Company determination to require the Executive to be based anywhere other than within 25 miles of the location at which the Executive on the date hereof performs the Executive's duties; (v) the taking of any action by the Company which would deprive the Executive of any material benefit plan (including, without limitation, any medical, dental, disability or life insurance); or (vi) the failure by the Company to obtain the specific assumption of this Agreement by any successor or assignee of the Company or any person acquiring substantially all of the Company's assets; provided, however, that the Executive may not terminate the Employment Period for Good Reason unless the Executive first provides the Company with written notice specifying the Good Reason and providing the Company with 20 days in which to remedy the stated reason.

9. **Effect of Termination of Employment.**

a. **Voluntary Termination; Termination For Cause.** Upon the termination of the Executive's employment as a result of the Executive's Voluntary Termination or a Termination For Cause, the Executive shall not have any further rights or claims against the Company under this Agreement except the right to receive (i) the unpaid portion of the base salary provided for in Section 3(a) hereof, computed on a pro rata basis to the date of termination, (ii) payment of the Executive's accrued but unpaid amounts and extension of applicable benefits in accordance with the terms of any incentive compensation, retirement, employee welfare or other employee benefit plans or programs of the Company in which the Executive is then participating in accordance with the terms of such plans or programs, and (iii) reimbursement for any

expenses for which the Executive shall not have theretofore been reimbursed as provided in Section 3 hereof.

b. **Termination Without Cause; Termination for Good Reason.** Upon the termination of the Executive's employment as a result of a Termination Without Cause or for Good Reason, the Executive shall not have any further rights or claims against the Company under this Agreement except the right to receive (i) the payments and other rights provided for in Section 9(a) hereof and (ii) severance payments in the form of a continuation of the Executive's base salary as in effect immediately prior to such termination for a period of **[___ months]** following the effective date of such termination. To the extent that severance payments shall be payable under this Agreement such payments shall be in consideration for and only after the Executive executes a General Release containing terms reasonably satisfactory to the Company.

c. **Death and Disability.** Upon the termination of the Executive's employment as a result of death or Disability, neither the Executive nor the Executive's beneficiaries or estate shall have any further rights or claims against the Company under this Agreement except the right to receive the payments and other rights provided for in Section 9(a) hereof.

d. **Forfeiture of Rights.** In the event that, subsequent to termination of employment hereunder, the Executive (i) breaches any of the provisions of Sections 11, 12, 13 or 14 hereof or (ii) makes or facilitates the making of any adverse public statements or disclosures with respect to the business or securities of the Company, all payments and benefits to which the Executive may otherwise have been entitled shall immediately terminate and be forfeited, and any portion of such amounts as may have been paid to the Executive shall forthwith be returned to the Company.

10. **Disclosure of Confidential Information.** The Executive shall not, directly or indirectly, at any time during or after the Employment Period, disclose to any person, firm, corporation or other business entity, except as required by law, or use for any purpose except in the good faith performance of the Executive's duties to the Company, any Confidential Information (as herein defined). For purposes of this Agreement, "**Confidential Information**" means all trade secrets and other non-public information of a business, financial , marketing, technical or other nature pertaining to the Company or any subsidiary, including information of others that the Company or any subsidiary has agreed to keep confidential; provided, however, that Confidential Information shall not include any information that has entered or enters the public domain (other than through breach of the Executive's obligations under this Agreement) or which the Executive is required to disclose by law or legal process. Upon the Company's request at any time, the Executive shall immediately deliver to the Company all materials in the Executive's possession which contain Confidential Information.

Employee Name:

11. **Restrictive Covenant.**

a. **Term of Restrictive Covenant.** The Executive hereby acknowledges and recognizes that, during the Employment Period, the Executive shall be privy to trade secrets and Confidential Information critical to the Company's business and the Executive further acknowledges and recognizes that the Company would find it extremely difficult or impossible to replace the Executive and, accordingly, the Executive agrees that, in consideration of the benefits to be received by the Executive hereunder, the Executive shall not, from and after the date hereof, throughout the Employment Period, and for a period of 12 months following the termination of the Employment Period (i) directly or indirectly engage in the development, production, marketing or sale of products that compete (or, upon commercialization, would compete) with products of the Company being developed (so long as such development has not been abandoned), marketed or sold at the time of the termination of the Employment Period (such business or activity being herein referred to as a "**Competing Business**") whether such engagement shall be as an officer, director, owner, employee, partner, affiliate or other participant in any Competing Business, (ii) assist others in engaging in any Competing Business in the manner described in the foregoing clause (i), or (iii) induce other employees of the Company or any subsidiary thereof to terminate their employment with the Company or any subsidiary thereof or engage in any Competing Business or hire any employees of the Company or any subsidiary unless such persons have not been employees of the Company for at least 12 months.

b. **Sufficient Consideration.** The Executive understands that the foregoing restrictions may limit the ability of the Executive to earn a livelihood in a business similar to the business of the Company, but nevertheless believes that the Executive has received and shall receive sufficient consideration and other benefits, as an employee of the Company and as otherwise provided hereunder, to justify such restrictions which, in any event (given the education, skills and ability of the Executive), the Executive believes would not prevent the Executive from earning a living.

12. **Non-Disparagement.** The Executive shall not engage in conduct, through word, act, gesture or other means, or disclose any information to the public or any third party which (i) directly or indirectly discredits or disparages in whole or in part the company, its subsidiaries, divisions, affiliates and/or successors as well as the products and the respective officers, directors, stockholders and employees of each of them; (ii) is detrimental to the reputation, character or standing of these entities, their products or any of their respective officers, directors, stockholders and/or employees; or (iii) which generally reflects negatively on the management decisions, strategy or decision-making of these entities.

13. **Company Right to Inventions.** The Executive shall promptly disclose, grant and assign to the Company, for its sole use and benefit, any and all inventions, improvements, technical information and suggestions relating in any way to the business of the Company which the Executive may develop or acquire during the Employment Period (whether or not during usual working hours), together with all patent applications, letters patent, copyrights and reissues thereof that may at any time be granted for or upon any such invention, improvement or technical information. In connection therewith: (i) the

Employee Name:

Executive shall, without charge, but at the expense of the Company, promptly at all times hereafter execute and deliver such applications, assignments, descriptions and other instruments as may be necessary or proper in the opinion of the Company to vest title to any such inventions, improvements, technical information, patent applications, patents, copyrights or reissues thereof in the Company and to enable it to obtain and maintain the entire right and title thereto throughout the world, and (ii) the Executive shall render to the Company, at its expense (including a reasonable payment for the time involved in case the Executive is not then in its employ), all such assistance as it may require in the prosecution of applications for said patents, copyrights or reissues thereof, in the prosecution or defense of interferences which may be declared involving any said applications, patents or copyrights and in any litigation in which the Company may be involved relating to any such patents, inventions, improvements or technical information.

14. **Enforcement.** It is the desire and intent of the parties hereto that the provisions of this Agreement be enforceable to the fullest extent permissible under the laws and public policies applied in each jurisdiction in which enforcement is sought. Accordingly, to the extent that a restriction contained in this Agreement is more restrictive than permitted by the laws of any jurisdiction where this Agreement may be subject to review and interpretation, the terms of such restriction, for the purpose only of the operation of such restriction in such jurisdiction, shall be the maximum restriction allowed by the laws of such jurisdiction and such restriction shall be deemed to have been revised accordingly herein.

15. **Remedies; Survival.**

a. **Injunctive Relief.** The Executive acknowledges and understands that the provisions of the covenants contained in Sections 11, 12, 13 and 14 hereof, the violation of which cannot be accurately compensated for in damages by an action at law, are of crucial importance to the Company, and that the breach or threatened breach of the provisions of this Agreement would cause the Company irreparable harm. In the event of a breach or threatened breach by the Executive of the provisions of Sections 11, 12, 13 or 14 hereof, the Company shall be entitled to an injunction restraining the Executive from such breach. Nothing herein contained shall be construed as prohibiting the Company from pursuing any other remedies available for any breach or threatened breach of this Agreement.

b. **Survival.** Notwithstanding anything contained in this Agreement to the contrary, the provisions of the Sections 3, 9, and 11 through 17 hereof shall survive the expiration or earlier termination of this Agreement until, by their terms, such provisions are no longer operative.

16. **Notices.** Notices and other communications hereunder shall be in writing and shall be delivered personally or sent by air courier or first class certified or registered mail, return receipt requested and postage prepaid, addressed as follows:

if to the Company:

PharmAthene, Inc.
One Park Place, Suite 450
Annapolis, Maryland 21401

Employee Name:

with a copy to:
McCarter & English, LLP
Four Gateway Center
100 Mulberry Street
Newark, New Jersey 07102
Attention: Jeffrey Baumel, Esq.

if to the Executive to:

with a copy to :

All notices and other communications given to any party hereto in accordance with the provisions of this Agreement shall be deemed to have been given on the date of delivery, if personally delivered; on the business day after the date when sent, if sent by air courier; and on the third business day after the date when sent, if sent by mail, in each case addressed to such party as provided in this Section 16 or in accordance with the latest unrevoked direction from such party.

18. **Binding Agreement; Benefit.** The provisions of this Agreement shall be binding upon, and shall inure to the benefit of, the respective heirs, legal representatives and successors of the parties hereto.

19. **Governing Law; Jurisdiction.** This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of Maryland applicable to contract made and to be performed therein. Any action to enforce any of the provisions of this Agreement shall be brought in a court of the State of Maryland or in Federal court located within that State. The parties consent to the jurisdiction of such courts and to the service of process in any manner provided by Maryland law. Each party irrevocably waives any objection which it may now or hereafter have to the laying of the venue of any such suit, action or proceeding brought in such court and any claim that such suit, action or proceeding brought in such court has been brought in an inconvenient forum and agrees that service of process in accordance with the foregoing shall be deemed in every respect effective and valid personal service of process upon such party.

Employee Name:

20. **Waiver of Breach.** The waiver by either party of a breach of any provision of this Agreement by the other party must be in writing and shall not operate or be construed as a waiver of any subsequent breach by such other party.

21. **Entire Agreement; Amendments.** This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements or understandings among the parties with respect thereof. This Agreement may be amended only by an agreement in writing signed by the parties hereto.

22. **Headings.** The section headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

23. **Severability.** Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

24. **409A Compliance.** The intent of the Executive and the Company is that the severance and other benefits payable to the Executive under this Agreement not be deemed "deferred compensation" under, and shall otherwise comply with, Section 409A of the Internal Revenue Code of 1986, as amended. The Executive and the Company agree to use reasonable best efforts to amend the terms of this Agreement from time to time as may be necessary to avoid the imposition of liability under Section 409A of the Code in any manner that does not materially alter the substantive rights and obligations of the parties hereunder.

25. **Executive's Acknowledgement.** The Executive acknowledges (a) that the Executive has had the opportunity to consult with independent counsel of his own choice concerning this Agreement and (b) that the Executive has read and understands the Agreement, is fully aware of its legal effect and has entered into it freely based on the Executive's own judgment.

26. **Assignment.** This Agreement is personal in its nature and the parties hereto shall not, without the consent of the other, assign or transfer this Agreement or any rights or obligations hereunder; provided, that the provisions hereof shall inure to the benefit of, and be binding upon, each successor of the Company, whether by merger, consolidation, transfer of all or substantially all of its assets or otherwise.

27. **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall for all purposes constitute one agreement which is binding on all of the parties hereto.

Employee Name:

IN WITNESS WHEREOF, the parties have duly executed this Agreement as of the date first above written.

EXECUTIVE

_____

PHARMATHENE, INC.

By _____
Name: David P. Wright
Title: President and Chief Executive Officer

Form of
Confidentiality and Non-Solicitation Agreement

This Confidentiality and Non-Solicitation Agreement is made effective for all purposes and in all respects as of the date of the undersigned employee's or consultant's first day of employment with or service as a consultant to the Company.

In consideration for the agreement of PharmAthene, Inc., a Delaware corporation, its subsidiaries, affiliates, successors or assigns (together the "Company") to employ me or to continue to employ me, as the case may be, as an employee or consultant and my receipt of the compensation now and hereafter paid to me by the Company, I agree as follows:

1. Definition of Confidential Information. I acknowledge that I may be furnished or have access to confidential, proprietary or trade secret information relating to the Company's past, present or future (i) products, processes, formulas, patterns, compositions, compounds, projects, specifications, know how, research data, clinical data, personnel data, compilations, programs, devices, methods, techniques, inventions, software, and improvements thereto; (ii) research and development activities; (iii) designs and technical data; (iv) marketing or business development activities, including without limitation prospective or actual bids or proposals, pricing information and financial information; (v) customers or suppliers; or (vi) other administrative, management, planning, financial, marketing, purchasing or manufacturing activities. All of this type of information, whether it belongs to the Company or was provided to the Company by a third party with the understanding that it be kept confidential, and any documents, diskettes or other storage media, or other materials or items containing this type of information, are proprietary and confidential to the Company ("Confidential Information").

2. Obligations. I agree to preserve and protect the confidentiality of Confidential Information both during and after my employment with or by the Company. In addition, I agree not to, at any time during the term of this Agreement or thereafter, (i) disclose or disseminate Confidential Information to any third party, including without limitation employees or consultants of the Company without a legitimate business need to know; (ii) remove Confidential Information from the Company's premises or make copies of Confidential Information, except as required to perform my job; or (iii) use Confidential Information for my own benefit or for the benefit of any third party. I also agree to take all actions necessary to avoid unauthorized disclosure and otherwise to maintain the confidential or proprietary nature of such Confidential Information. If I am not certain whether or not information is confidential, I will treat that information as Confidential Information until I have verification from the Company's Chief Financial Officer that the information is not Confidential Information.

3. Exceptions. The Company agrees that the obligations in Section 2 do not apply to any information that I can establish (i) has become publicly known without a breach of this Agreement by me or a third party's breach of an agreement to maintain the confidentiality of the information; or (ii) was developed by me prior to the date this Agreement is signed, and prior to the date any earlier Confidentiality Agreement of the Company was signed, if the date of development can be established by documentary evidence.

4. Former Employer Information. I agree that I will not, during my employment with or by the Company, improperly use or disclose any proprietary information or trade secrets of any former or current employer or any other person or entity and that I will not bring onto the premises of the Company any unpublished document or proprietary information belonging to any such employer, person or entity unless consented to in writing by such employer, person or entity.

5. Inventions and Works Retained and Licensed. I have attached hereto, as Exhibit A, a list describing all inventions, original works of authorship, developments, improvements, and trade secrets which were made by me prior to my employment with or by the Company (collectively referred to as "Prior Works or Inventions"), which belong to me, which relate to the Company's business, products, or research and development, and which are not assigned to the Company hereunder, or, if no such list is attached, I represent that there are no such Prior Works or Inventions. If, in the course of my employment with or by the Company, I incorporate into a Company product, process or machine a Prior Work or Invention owned by me or in which I have an interest, the Company is hereby granted and shall have a nonexclusive, royalty-free, assignable, irrevocable, perpetual, worldwide license to make, have made, modify, use and sell such Prior Work or Invention as part of or in connection with such product, process or machine.

6. Ownership of Works. I agree that the Company owns all right, title and interest, including without limitation all trade secrets, patents and copyrights, in the following works that I create, make, conceive or reduce to practice, solely or jointly: (i) works that are created using the Company's facilities, supplies, information, trade secrets or time; (ii) works that relate directly or indirectly to or arise out of the actual or proposed business of the Company, including, without limitation the research and development activities of the Company; (iii) works that relate directly or indirectly to or arise out of any task assigned to me or work I perform for the Company or (iv) works that are based on Confidential Information (collectively "Works"). Because these Works will inevitably be based upon or somehow involve the Company's business, products, services or methodologies, I agree that the Works will belong to the Company even if I create, make, conceive or reduce them to practice on my own time, using my own equipment, on the Company's premises or elsewhere or after termination of my employment with or by the Company. The Works belonging to the Company, include, without limitation program code and documentation. I will promptly provide full written disclosure to an officer of the Company of any Works I create, make, conceive or reduce to practice, solely or jointly. To the extent that the Works do not qualify as works made for hire under U.S. copyright law, I irrevocably assign to the Company the ownership of, and all rights of copyright in, the Works. The Company will have the right to hold in its own name all rights in the Works, including without limitation all rights of copyright, trade secrets and trademark. I also waive all claims to moral rights in any Works. I acknowledge and agree that any and all patents, patent applications or other intellectual property rights relating to the Works are to be the exclusive property of the Company.

7. Ownership of Inventions. (a) I irrevocably assign to the Company my entire right, title and interest in any invention, modification, design, program code, software, documentation, formula, data, know how, technique, process, method, device, discovery improvement, developments, or works of authorship and all related patents, patent applications,

copyrights and copyright applications whether patentable or not, created, made, conceived or reduced to practice, solely or jointly by me whether or not during normal working hours or on my own time, using my own equipment, on the premises of the Company or elsewhere, or after termination of my

employment with or by the Company that (i) is created using the Company's facilities, supplies, information, trade secrets or time; (ii) relates directly or indirectly to or arises out of the actual or proposed business, including without limitation the research and development activities, of the Company; (iii) relates directly or indirectly to or arises out of any task assigned to me or work I perform for the Company or (iv) is based on Confidential Information (collectively "Inventions"). I will promptly make full written disclosure to an officer of the Company of any Inventions I create, make, conceive or reduce to practice, solely or jointly. I also waive all claims to moral rights in any Inventions. I acknowledge and agree that any and all patents, patent applications or other intellectual property rights relating to the Inventions are the exclusive property of the Company.

(b) I agree to cooperate fully with the Company, both during and after my employment with or by the Company, with respect to the procurement, maintenance and enforcement of copyrights, patents and other intellectual property rights (both in the United States and foreign countries) relating to Works and/or Inventions. I agree to execute and deliver all papers, including, without limitation, copyright applications, patent applications, declarations, oaths, formal assignments, assignments of priority rights, and powers of attorney, which the Company may deem necessary or desirable to protect its rights and interests in any Works and/or Inventions. I further agree that if the Company is unable, after reasonable effort, to secure my signature on any such papers, any executive officer of the Company shall be entitled to execute any such papers as my agent and attorney-in-fact, and I hereby irrevocably designate and appoint each executive officer of the Company as my agent and attorney-in-fact to execute any such papers on my behalf, and to take any and all actions as the Company may deem necessary or desirable to protect its rights and interests in any Works and/or Inventions, under the conditions described in this sentence.

8. Maintenance of Records. I agree to keep and maintain adequate and current written records of all Works and Inventions made by me (solely or jointly with others) during the term of my employment with or by the Company. The records will be in the form of notes, sketches, drawings, and any other format that may be specified by the Company. The records will be available to and remain the sole property of the Company at all times.

9. Return of Confidential Information. I agree to return to the Company all Confidential Information in my possession, custody or control immediately upon my termination from the Company, or earlier if the Company requests.

10. Notification of New Employer. In the event I leave the employ of the Company or cease to serve as a consultant to the Company, I hereby grant consent to notification by the Company to my new employer about my rights and obligations under this Agreement.

11. Noncompetition; Nonsolicitation of Employees. I acknowledge and agree that:

(i) The Company is engaged in a unique and specialized industry, and faces competition on a worldwide basis. I, through my association with the Company as an employee or consultant, will acquire a considerable amount of knowledge and goodwill with respect to the business of the Company, which knowledge and goodwill are extremely valuable to the Company and which would be extremely detrimental to the Company if used by me to compete with the Company. It is, therefore, understood and agreed by the parties hereto that, because of the nature of the business of the Company, it is necessary to afford fair protection to the Company from such competition by Participant. Consequently, while I am employed with or by the Company and for a period of one (l) year after termination of such employment (for any reason whatsoever, whether voluntary or involuntarily), I agree that I will not, whether alone or as a partner, officer, director, consultant, agent, employee or stockholder of any company or their commercial enterprise, directly or indirectly engage in any business or other activity anywhere in the world which is competitive with or render services to any firm or business organization which competes with the Company in business of research, discovery and/or development of human therapeutics and vaccines for infectious diseases or bio chemical defense related products that are being actively researched, discovered or developed by the Company at the time of termination of such employment. The foregoing prohibition shall not prevent my employment or engagement after termination if such employment or engagement, in any capacity, does not involve work or matters related to the business of research, discovery and/or development of human therapeutics and vaccines for infectious diseases or bio chemical defense related products that are being actively researched, discovered or developed by the Company at the time of termination of my employment. I shall be permitted to own securities of a public company not in excess of five (5%) of any class of such securities and to own stock partnership interests or other securities of any entity not in excess of five (5%) of any class of such securities and such ownership shall not be considered to be competition with the Company; and

(ii) during and for one (1) year after termination of my employment or engagement for any reason I shall not, directly or indirectly solicit, recruit or hire any employee of the Company to work for a third party other than the Company or engage in any activity that would cause any employee to violate any agreement with the Company.

12. Representations and Warranties. I represent and warrant that (i) I am able to perform the duties of my position and that my ability to work for the Company is not limited or restricted by any agreements or understandings between me and other persons or companies; (ii) I will not disclose to the Company, its employees, consultants, clients, teaming partners or suppliers, or induce any of them to use or disclose, any confidential information or material belonging to others, except with the written permission of the owner of the information or material; and (iii) any information, material or product I create or develop for, or any advice I provide to, the Company, its employees, consultants, clients, teaming partners or suppliers, will not rely or be based on confidential information or trade secrets I obtained or derived from a source other than the Company. I agree to indemnify and hold the Company harmless from damages, claims, costs and expenses based on or arising from the breach of any agreement or understanding between me and another person or company or from my use or disclosure of any confidential information or trade secrets I obtained from sources other than the Company.

13. Damages and Injunctive Relief. I acknowledge and agree that:

(i) My obligations under this Agreement have a unique and substantial value to the Company and I remain obligated even if I voluntarily or involuntarily leave the Company's employment. I understand that if I violate this Agreement during or after my employment or engagement, the Company may be able to recover monetary damages from me and/or the other relief described below.

(ii) A violation or even a threatened violation of this Agreement is likely to result in irreparable harm to the Company and monetary damages alone would not completely compensate the Company for the harm. Accordingly, the Company may obtain an injunction prohibiting me from violating this Agreement, an order requiring me to render specific performance of the Agreement, and/or other appropriate equitable remedies.

(iii) If a court determines that I have breached or attempted or threatened to breach this Agreement, I consent to the granting of an injunction restraining me from further breaches or attempted or threatened breaches of this Agreement, compelling me to comply with this Agreement, and/or prescribing other equitable remedies.

14. At Will Employment. I understand that this Agreement does not create an obligation on the Company or any other person or entity to continue my employment. I acknowledge that I am employed by the Company on an at will basis and that either the Company or I may terminate my employment at any time and for any reason. While no verbal or other commitments have been made to or by me to suggest other than at will employment, I specifically acknowledge that this supersedes any prior representation or agreement to the contrary and that the at will nature of my employment may not be amended, modified or waived except by a fully executed written agreement with the Company.

15. Miscellaneous Provisions.

(i) No failure to act by the Company will waive any right contained in this Agreement. Any waiver by the Company must be in writing and signed by an officer of the Company to be effective.

(ii) The provisions of this Agreement are applicable to Confidential Information, Works and Inventions disclosed, created, developed or proprietary before or after I sign this Agreement.

(iii) This Agreement is to be construed according to its fair meaning and not strictly for or against either party.

(iv) This Agreement will be governed by the law of the State of Delaware without regard to its conflicts of laws provisions. Suit to enforce any provision of this Agreement or to obtain any remedy with respect hereto may be brought in a court of the State of Maryland and for this purpose I expressly consent to the jurisdiction of said courts.

(v) If any provision of this Agreement conflicts with the law of the State of Delaware or if any provision is held invalid by a court with jurisdiction over the parties to this Agreement, the provision will be deemed to be restated to reflect as nearly as possible the parties' original intentions in accordance with applicable law, and the remainder of the Agreement will remain in full force and effect. If it is not possible to restate the provision in a legal and valid manner, then the provision will be deemed not to be a part of the Agreement and the remaining provisions will remain in full force and effect.

(vi) This document constitutes the entire agreement between the Company and me concerning the matters addressed in this Agreement and it supersedes any prior agreement concerning those matters. This Agreement may not be changed in any respect except by a written agreement signed by both parties. Any subsequent change or changes in my duties, salary or compensation will not affect the validity or scope of this Agreement.

(vii) All remedies provided in this Agreement are cumulative and in addition to all other remedies which may be available at law or in equity. Any headings set forth in this Agreement are strictly for convenience of reference, and shall not be used in construing or interpreting any provision of this Agreement. This Agreement maybe assigned by the Company without my consent.

Signature: _____

Print Name: _____

Address: _____

Date: _____

PHARMATHENE, INC.

By: _____

Title: _____

PharmAthene, Inc.
Confidential Materials Omitted and Filed Separately with the
Securities and Exchange Commission
Confidential Portions denoted by [***]

LN_937421_13.DOC EXECUTION COPY

MASTER SERVICES AGREEMENT

THIS AGREEMENT is made this 2nd day of April 2008 between:

(1) **PHARMATHENE UK LIMITED**, c/o Hogan & Hartson, Juxon House, London, England ("**PharmAthene**"); and

(2) **AVECIA BIOLOGICS LIMITED** of Hexagon Tower, Blackley, Manchester, M9 8ZS, England ("**Avecia**");

WHEREAS

A Avecia has experience and knowledge with regard to manufacture of recombinant proteins.

B PharmAthene is carrying out development in relation to Drug Products under various Prime Contracts.

C PharmAthene wishes to have Avecia carry out Programmes, including, without limitation, process development, analytical development, Production and Disposition of Drug Substance and stability testing of Drug Substance and Drug Product, from time to time in support of the Prime Contracts and Avecia wishes to carry out Programmes for PharmAthene.

D PharmAthene and Avecia also desire to enter into a relationship in which, at the request of PharmAthene, Avecia will be obligated to supply Drug Substance to PharmAthene and/or its Affiliate to permit PharmAthene and/or its Affiliate to comply with its supply obligations to a Third Party. It is intended this relationship be the subject of a separate supply agreement the terms for which have been agreed between the parties and dated April 2, 2008.

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. Definitions and Interpretation

1.1 Definitions:

In this Agreement, the following expressions shall have the following meanings:

Affiliate	In relation to any party to this Agreement, any corporation, association or other business entity which directly or indirectly controls, is controlled by or is under common control with such party and "**control**" shall mean the legal power to direct or cause the direction of the

	general management and policies of such entity whether through the ownership of at least 50% of voting securities or capital stock of such business entity or any other comparable equity or ownership interest with respect to a business entity other than a corporation.
Applicable Law(s)	The laws, rules, and regulations, including any statutes, rules, regulations, or other requirements, that may be in effect from time to time and that apply (i) to the development, Production, registration, and marketing of Drug Product, including any such statutes, rules, regulations, or other requirements of any applicable Regulatory Authority and/or (ii) to the manufacture of Drug Substance at the Facility.
Avecia Operating Documents	The standard operating procedures, standard manufacturing procedures, protocols, validation documentation, and supporting documentation, such as environmental monitoring, in each of the foregoing cases, for operation and maintenance of the Facility and Avecia equipment used for Producing Drug Substance and/or Other Material, excluding any of the foregoing that are unique to Production of Drug Substance.
Avecia Technology	All Intellectual Property, information, protocols, data procedures, records and materials, including polynucleotides encoding Drug Substance and cell lines and vectors that arc owned by or licensed to Avecia (other than licensed to Avecia by PharmAthene for the limited purposes hereunder) and used for producing Drug Substance and/or Other Material. For the avoidance of doubt, Avecia Technology includes Avecia Operating Documents and the pPoP^{TM} Technology.
Avecia Quality	The function within Avecia responsible for review of documents produced during a Programme against the Drug Substance Specification and/or Drug Substance

Requirements.

Batch	The quantity of Drug Substance derived from one fermentation.
Batch Manufacturing Records	All documentation recording specifications, manufacturing formulae, processing, packaging, procedures and records relating to the Production of each Batch.
Business Day	A day (other than a Saturday and a Sunday) on which banks generally are open for business in Delaware or London as appropriate depending on whether it is the US or UK.
Cancellation Fee	The fees set out in a Project Plan payable by PharmAthene in the event of: (i)delay to any manufacturing activity detailed in the applicable Project Plan; or (ii)termination of the applicable Project Plan.
cGMP	Current Good Manufacturing Practice as defined in the MHRA Rules and Guidance for Pharmaceutical Manufacturers and Distributors 2007 part II: Basic Requirements for Active Substances used as Starting Materials, and ICHQ7a - as incorporated in the Federal Register volume 66 No 186 (ICHQ7a) and those sections applicable within the FDA Regulations 210, 211, 600, 601 and 610.
Confidential Information	All information and data provided by one party to the other party except any portion of such information and data which: (i) is known to the recipient (as evidenced by its written records) before receipt thereof from the disclosing party; (ii) is disclosed to the recipient by a third person who has the right to make such disclosure; (iii) is or becomes part of the public domain through no fault of the recipient; or (iv) the recipient can reasonably establish is independently developed by the recipient without use of the information disclosed

by the disclosing party.

Disposition	The process by which all documentation related to Production of a Batch is reviewed as set out in sections 2.5 and 5.5 and/or any other applicable provisions of the Quality Agreement.
Disposition Package	The executed Batch Manufacturing Records and associated deviation reports, investigation reports, corrective and prevention action reports and certificate of analysis resulting from the Production and Disposition of each Batch.
Drug Product	The final dosage form of the vaccine which contains Drug Substance in association with other active or inactive ingredients.
Drug Substance	The (i) protective antigen of a recombinant anthrax vaccine and (ii) the two antigens known as Fl and V for a recombinant plague vaccine, as the case may be.
Drug Substance Requirements	The applicable Batch Manufacturing Records, Quality Agreement. Avecia's current (at the execution of the relevant Programme) standard operating procedures and cGMP and the Quality Agreement.
Drug Substance Specification	A listing of specifications for, and the analytical testing to be performed on, the applicable Drug Substance.
Facility	The facility located at Belasis Avenue, Billingham, Cleveland, UK, TS23 1YN.
Intellectual Property	All know-how, inventions, discoveries, devices, data, patents, designs, copyrights, or other industrial or intellectual property and all applications therefor.
Other Material	Any material or substance manufactured by Avecia that is used in the process for Producing Drug Substance.
PharmAthene Technology	All Intellectual Property, Business Intellectual Property (as defined in the following agreement) and materials (including but not limited to cell

lines) that is owned by or licensed to PharmAthene and/or its Affiliates including but not limited to Intellectual Property, Business Intellectual Property (as defined in the following agreement) transferred to PharmAthene Inc. and/or its Affiliates pursuant to the Sale and Purchase Agreement dated March 20, 2008 between Avecia Investments Limited and Others and PharmAthene and Others; Intellectual Property licensed to PharmAthene by the Secretary of State for Defence as represented by the Defence Science and Technology Laboratory; polynucleotides encoding Drug Substance and cell lines and vectors for producing Drug Substance.

pPoP™ Technology The technology claimed in patent applications which are equivalent to and/or derived from application WO9905297 (including US Patent#6,537,779) and granted patents issuing from such applications, together with all re-issues, continuations, continuations-in-part, divisions, substitutes, renewals and extensions of such granted patents and all foreign equivalents thereof.

Marketing Authorization The necessary regulatory approval for the sale of any of the Drug Product in any country within the Territory.

Master Batch Record The document in respect of the applicable Drug Substance which sets out in detail the master production instructions and Batch Manufacturing Records, as agreed between the parties pursuant to sections 2.14 and 5.4 and any other applicable provisions of the Quality Agreement.

Non-Conforming Batch A Batch which does not conform to the Drug Substance Requirements.

Prime Contract A contract between PharmAthene and a national government or agency thereof for supply of services in relation to Drug Substance or Drug Product, including, at the date of this Agreement, the contracts set out below:

(i) Contract in respect of validations of a process for production of a plague vaccine with the Defence Science and Technology Laboratory (“Dstl”), being part of the UK Ministry of Defence, numbered RD 032 016784;

(ii) Contract in respect of development of an anthrax vaccine with the National Institutes of Health (“NIH”), being an agency of the US Government, numbered NO-Al-30052; and

(iii) Contract in respect of development of a plague vaccine with NIH, numbered NO-Al -40034.

Process Specification The document which defines the process for Production of the applicable Drug Substance including any critical processing parameters as agreed between the parties pursuant to sections 2.9 and 5.9 and any other applicable provisions of the Quality Agreement.

Production or Produce The production and packaging of Drug Substance by Avecia.

Programme The programme of work to be carried out by Avecia as set out in more detail in the applicable Project Plan together with any additional work which the parties agree to add using a Programme Amendment Order.

Programme Amendment Order A document detailing changes to a Programme agreed and signed by both parties.

Project Plan The plan for conduct of a Programme, including (where applicable) Production and Disposition of Drug Substance and any other activities, as agreed between the parties under this Agreement.

Quality Agreement The document agreed by the parties and dated April 2, 2008 or any modification or replacement thereof).

(i) the mutually agreed quality standards applicable for the Production and Disposition of Drug Substance, and in accordance with cGMP; and

(ii) the roles and responsibilities of each party's personnel in relation to quality matters applicable thereto.

QC Document	The documents referred to in section 2.1.1 of the Quality Agreement.
Regulatory Authority	Those agencies or authorities responsible for regulation of Drug Product and Drug Substance in the United States, European Community or any other country in the Territory as identified in the applicable Project Plan.
Tax Authority	Any taxing or other authority, body or official (whether within or outside the United Kingdom) competent to impose, administer or collect any form of taxation, levy, impost, duty, charge, contribution or withholding of any kind whether of the United Kingdom or elsewhere.
Territory	The entire World.
Third Party	Any person other than the parties or their respective Affiliates.
VAT	Value added tax chargeable under or pursuant to the Value Added Tax Act 1994 or the EC Council Directive 2006/112/EC on the common system of value added tax or any similar sales, purchase or turnover tax chargeable outside the European Union;

1.2 Headings: The headings used in this Agreement are for convenience only and are not part of this Agreement.

2. Conduct of Programmes.

2.1 Agreement of Project Plans and Initiation of Programmes:

(a) Prior to commencement of a Programme, PharmAthene shall communicate its requirements for work to Avecia and a Project Plan shall be developed by Avecia and agreed to in writing by PharmAthene under this Agreement. Once the content of the Project Plan has been agreed, Avecia shall deliver two (2) signed originals of the Project Plan to PharmAthene. PharmAthene shall sign both originals of the Project Plan and return one (1) fully executed original to Avecia. The fully executed Project Plan shall be incorporated herein by reference and made a part of this Agreement. Project Plans 1 through 4 attached hereto have been agreed to by Avecia and PharmAthene and are incorporated herein by reference and made part of this Agreement without separate execution by Avecia and PharmAthene. Unless otherwise specified in a Project Plan, in the event there is a conflict between the terms of a Project Plan and this Agreement, this Agreement shall govern. In the event of a conflict between a Project Plan and any other term(s) and/or requirement(s) of this Agreement, the other term(s) and/or requirement(s) of this Agreement will control, provided that if there is a conflict between the terms of this Agreement or a Project Plan and the Quality Agreement, the Quality Agreement shall govern. Where more than one Project Plan has been agreed to and executed, each said executed Project Plan shall be incorporated herein by reference and made a part hereof. Avecia shall have no obligation for conduct of a Programme until PharmAthene has executed and returned the Project Plan to Avecia. Following execution of the Project Plan, Avecia shall commence the Programme pursuant to the Project Plan, provided however that Avecia will not commence Production until the Master Batch Record, the Process Specification and the Quality Agreement applicable to the Programme shall have been agreed in accordance with Clause 2.2. It is recognised and understood that the timings set out in a Project Plan at the time of execution will be based on activities to be conducted during calendar quarters, with detailed schedules of specific timings during particular calendar months to be agreed in writing following execution of a Project Plan.

(b) In the event that PharmAthene enters into (x) an extension to an existing Prime Contract or (y) arising as a result of the Plague Vaccine Resource Allocation Decision of the US Department of Defense (a "RAD Contract"), in each case pursuant to which PharmAthene is to carry out further development of a Drug Substance, at the request of PharmAthene, Avecia and PharmAthene shall enter into, sign and execute a Project Plan pursuant to which Avecia will develop such Drug Substance as follows:

(i) Avecia shall Produce the Drug Substance in accordance with the requirements of the applicable government contract or extension thereof, and any other terms applicable to a subcontractor;

(ii) Avecia shall Produce the plague vaccine Drug Substance for a RAD Contract in accordance with the financial terms set out in Avecia's proposal B2434 in support of the proposal submitted for the Plague Vaccine Resource Allocation Decision attached as Exhibit 2.1;

(iii) Avecia shall Produce the plague vaccine Drug Substance under the existing Prime Contract in accordance with the price mechanism set out in the existing Prime Contract;

(iv) Avecia shall Produce the anthrax vaccine Drug Substance in accordance with the price mechanism set out in Project Plan #l .

(c) In the event that PharmAthene enters into a government contract other than one referred to in Section 2.1(b) above pursuant to which PharmAthene is to carry out further development of a Drug Substance, at the request of PharmAthene, the parties shall act

in good faith and use commercially reasonable endeavours to enter into, sign and execute a Project Plan pursuant to which Avecia will develop such Drug Substance at a price reasonably consistent with the Drug Substance pricing referred to in Section 2.1(b) above.

2.2 **Production Documentation:** The Master Batch Record, the Drug Substance Specification, the Process Specification and the QC Document applicable to a Programme or any change thereto shall be reviewed and approved in accordance with the Quality Agreement. Each Batch shall be Produced and its Disposition carried out by using a copy of the Master Batch Record, the Process Specification and the Drug Substance Specification and the Quality Agreement Document. Each executed Batch Manufacturing Record for such Batch shall be assigned a unique batch number. Any deviation from the Master Batch Record, the Drug Substance Specification or the Process Specification shall be dealt with in accordance with sections 2.10 and 5.10 of the Quality Agreement. Avecia shall provide PharmAthene with supporting Production and Disposition documentation requested by PharmAthene in a form suitable for PharmAthene's submission to any Regulatory Authority.

2.3 **Vendor and Supplier Audit and Certification:** Avecia shall certify and audit all suppliers and vendors of raw materials and consumable items intended for use in Production of Drug Substance in accordance with Avecia's vendor assurance procedures. Audits in respect of any critical raw materials which are mandated by PharmAthene shall be conducted subject to agreement of a Project Plan covering such audit.

2.4 **Delivery Terms:** Avecia shall deliver all Drug Substance to PharmAthene or to PharmAthene's designated consignee. All deliveries shall be made Ex Works the Facility (Incoterms 2000), to a carrier designated by PharmAthene, at PharmAthene's expense. PharmAthene shall procure, at its cost, insurance covering damage or Ioss of Drug Substance during shipping.

2.5 **Conduct of Programmes.** Avecia shall carry out each Programme :

(a) in accordance with the terms of this Agreement; and

(b) with reasonable skill, care and diligence and no less than the level of skill, care and diligence to be reasonably expected of a provider of similar services.

For the avoidance of doubt, it shall not be considered a breach of this Agreement or the applicable Project Plan by Avecia if a development objective of a development Programme is not achieved so long as Avecia has complied with its obligations set out in Section 2.5(b). Time shall not be of the essence in the performance of any development Programme or part thereof unless specifically stated otherwise in the applicable Project Plan. The parties acknowledge that, having regard to the fact that some of the work to be performed hereunder may by its nature be developmental, Avecia cannot and consequently does not guarantee to PharmAthene the achievement of a successful outcome for a development Programme.

2.6 **Consideration:** PharmAthene shall pay to Avecia the amounts and at the times set out in the applicable Project Plan.

2.7 **Issue of Invoices:** Unless otherwise specified in a Project Plan, Avecia shall issue invoices for the sums set out in the applicable Project Plan as such sums fall due and PharmAthene shall pay such sums within 30 calendar days of the date of receipt of the relevant invoice, unless stated otherwise in the applicable Project Plan. Interest shall become due on late payments at an annual rate of 2% above the base lending rate of the bank referred to in Section 2.8 below, from the date on which payment falls due until the date of payment.

2.8 **Bank Account Details:** Unless otherwise agreed, all amounts payable to Avecia under this Agreement shall be paid in U.S. Dollars, without deduction, by authenticated and value dated Swift telegraphic transfer, quoting invoice numbers of payment, to:

The Royal Bank of Scotland PLC, Manchester Mosley street, 38 Mosley Street,
Manchester M60 2BE.
Swift [***], sort code [***],
Account number [***], IBAN [***]

2.9 **Taxes:**

(a) All payments under this Agreement are exclusive of any VAT (or other tax) that may apply. Where any VAT is properly chargeable on any supply of goods or services in respect of which payment is required to be made under this Agreement, subject to the party supplying such goods or services (the Supplier) having delivered to the other party to this Agreement (the Recipient) a proper VAT invoice in respect of that VAT, the Recipient shall pay to the Supplier the amount of that VAT in addition to the amount of such payment not later than the date on which such payment is made or, if later, the date falling thirty (30) calendar days after

the delivery by the Supplier to the Recipient of a proper VAT invoice in accordance with this Clause 2.9(a).

(b) Any payment to be made by either party under this Agreement (the Payer) to the other party to this Agreement (the Payee) shall be made in full without, and free and clear of, any deduction or withholding whatsoever (save only as required by any applicable law).

(c) If a Payer makes a deduction or withholding required by any applicable law from a payment under this Agreement, the sum due from the Payer shall be increased to the extent necessary to ensure that, after the making of any such deduction or withholding, the Payee receives a sum equal to the sum it would have received had no deduction or withholding been made.

(d) If any deduction or withholding is required by any applicable law as referred to in Clause 2.9(b), the Payer shall:

(i) make such deduction or withholding; and
(ii) pay the full amount deducted or withheld to the relevant Tax Authority, in accordance with applicable law.

(e) If, at any time after any increased payment is made as a consequence of the application of Clause 2.9(c), the Payee receives or is granted credit against, refund of, or remission from any tax payable but which it would not have received or been granted had the relevant payment not been made under this Agreement, the Payee shall to the extent that it can do so without prejudicing the retention of the amount of such credit or remission, reimburse the Payer such amount as, acting reasonably, the Payee determines will leave it in no worse a position than it would have been in had the circumstances giving rise to the increased payment not in fact arisen. Such reimbursement shall be made not later than ten (10) Business Days after the Payee receives or is granted such credit.

2.10 Default in Payment Obligations: In addition to all other remedies available to Avecia in the event of a PharmAthene default, if PharmAthene fails to make payments as required hereunder, Avecia may refuse all further Project Plans, refuse to Produce or Disposition any Drug Substance or carry out Programmes until all outstanding sums are paid in full, modify the foregoing terms of payment, place the account on a letter of credit basis, require full or partial cash payment in advance and/or suspend deliveries of Drug Substance until PharmAthene provides assurance of further or future payment reasonably satisfactory to Avecia.

2.11 Flowdown provisions: To the extent that any work performed by Avecia under this Agreement is performed pursuant to a Prime Contract, Avecia acknowledges and agrees that any and all work performed thereunder is subject to the terms and conditions of the Prime Contract that are applicable to a subcontractor under the Prime Contract. Avecia acknowledges that it has been provided with a copy of

the existing Prime Contracts and is informed as to the terms, conditions and obligations of the Prime Contract that are applicable to a subcontractor thereunder. Avecia covenants and agrees to be bound by the terms, conditions and obligations of the Prime Contract that are applicable to a subcontractor thereunder. Without limiting the foregoing, it is understood that Programmes under this Agreement will be carried out pursuant to obligations contained in the Prime Contracts and such Prime Contracts contain obligations on PharmAthene to flow down certain clauses (including, without limitation, US Government FAR, DFAR and HHSAR clauses and UK Government DEFCON clauses) to PharmAthene's subcontractors, including Avecia. Clauses applicable to Prime Contract with Dail are set out in Schedule 1A and clauses applicable to Prime Contracts with NIH are set out in Schedule 1)B. Clauses flowing down from additional Prime Contracts will be set out in further schedules, to be added by written agreement of the parties. If a Project Plan refers to a schedule to this Agreement, the clauses set out in the relevant schedule shall be incorporated into this Agreement by reference solely in respect of such Project Plan.

3. Term and Termination

3.1 Term: This Agreement shall commence on the date first above written and will continue until all Programmes have been completed, unless terminated earlier pursuant to Section 32 below (the "**Term**").

3.2 Termination: This Agreement or a Project Plan (as appropriate) may be terminated at any time upon the occurrence of any of the following events:

(a) **Termination for Material Breach:** Either party may terminate this Agreement or a Project Plan if the other is in material breath of this Agreement and does not rectify such breach (if such breath is capable of remedy) within fourteen (14) calendar days for monetary defaults (which default can be cured by making such payment within said fourteen (14) calendar day period) or thirty (30) calendar days for non-monetary defaults (or such additional time reasonably necessary to cure such non-monetary default provided the breaching party has commenced a cure within the thirty (30) day period (or such other period as is reasonably practicable) and is diligently pursuing completion of such cure) after receipt by the breaching party of written notice of such default. At the option of the non-breaching party, such termination may be with respect to the entire Agreement, or only with respect to an individual Project Plan which is subject to the breach.

(b) **Termination for Financial Matters:** Either party may terminate this Agreement immediately by giving the other party written notice thereof if the other has a liquidator, receiver, manager receiver or administrator appointed, or ceases to continue trading or is unable to pay debts as defined in Section 123 of the Insolvency Act 1986 (England and Wales) or the equivalent occurs in any jurisdiction in which the other is resident or carried on business.

(c) **Termination for Convenience:** A Project Plan or the Agreement may be terminated by PharmAthene for convenience without cause in its absolute discretion by giving Avecia written notice thereof. Avecia may terminate a Project Plan only if the applicable Project Plan specifically states that such termination is permitted.

3.3 Payment on Termination: In the event of the termination of this Agreement or a Project Plan, PharmAthene shall pay to Avecia:

(a) all sums payable under the applicable Project Plan(s) up to the date of termination but not yet paid, including sums which are payable but in respect of which no invoice has been issued at the date of termination, including all sums due in relation to raw materials or consumables ordered or purchased by Avecia (if applicable);, and

(b) in consideration for research and development and technical consultancy provided by Avecia relating to termination of the manufacturing stage or stages of a terminated Programme, any applicable Cancellation Fees, except for termination by PharmAthene in the event of a material breach by Avecia pursuant to Section 3.2(a); and

(c) in consideration for research and development and technical consultancy provided up to the date of termination, a pro rated sum based on work completed in respect of any commenced but incomplete stage or milestone under a terminated Programme (other than a stage or milestone identified as a manufacturing stage or milestone in the applicable Project Plan) at the date of such termination, less any payments already made in respect of such stage or milestone.

3.4 **Survival:** Termination or expiration of this Agreement through any means or for any reason, except as set out in Section 10, shall be without prejudice to the rights and remedies of either party with respect to any antecedent breach of any of the provisions of this Agreement. The provisions of Sections 3, 8, 9, 10, 11, 12, 13, 14, 18 and 19 hereof shall survive expiration or termination of this Agreement.

3.5 **Events upon Termination**

Upon termination and unless otherwise agreed between the Parties:

(a) Products Produced for PharmAthene under this Agreement shall be delivered by Avecia to PharmAthene whereupon PharmAthene shall pay Avecia in accordance with the terms of this Agreement;

(b) work in progress commenced by Avecia under this Agreement shall be completed by Avecia and delivered to PharmAthene whereupon PharmAthene shall pay Avecia in full thereof in accordance with the terms;

(c) all records relating to the Production and analysis of Drug Substance and retained samples of materials, components and Drug Substance shall be transferred to PharmAthene if requested by PharmAthene, except as provided in Section 3.5(d).

(d) Avecia shall, upon PharmAthene's prior written request, return or destroy any PharmAthene Confidential Information in the possession or control of Avecia. Likewise, PharmAthene shall, upon Avecia's prior written request, return or destroy any Avecia Confidential Information in the possession or control of PharmAthene, except Avecia Confidential Information as to which PharmAthene retains rights under this Agreement. Notwithstanding the foregoing provisions: (i) Avecia may retain and preserve, at its sole cost and expense, samples and standards of each Batch following termination or expiration of this Agreement solely for use in determining Avecia's rights and obligations hereunder, (ii) each Party may retain such of the other Party's Confidential Information as may be required by Applicable Laws, regulations, or guidelines and (iii) PharmAthene may continue to retain, use and have used Avecia Confidential Information that is required to maintain Marketing Approval and/or is useful to Produce Drug Substance and Product, and (iv) Avecia may retain Confidential Information of PharmAthene to the extent required for Avecia to supply Drug Substance to PharmAthene or its Affiliate pursuant to a contract with respect to such supply.

4. Compliance

4.1 **Manufacturing Compliance:** Avecia shall advise PharmAthene immediately if an authorised agent of any regulatory body visits Avecia's manufacturing facility and makes an inquiry regarding Avecia's Production of Drug Substance for PharmAthene. Upon such notice being given, PharmAthene, or its designee, shall, upon prompt notice to Avecia, be permitted to be present at such visit if PharmAthene reasonably believes that such visit is related to the Production or storage of Drug Substance and/or Programmes under this Agreement. Manufacturing deviations and investigations which occur during Production of Drug Substance and which do not cause the Production to be non-compliant with the Drug Substance Requirements, shall not be deemed to cause such Drug Substance to be non-conforming.

4.2 **Cleaning Validation:** Avecia shall provide to PharmAthene details of all other products manufactured in the same stream of Avecia's facility as any Drug Substance Produced under this Agreement, including dosage information, and shall demonstrate successful cleaning verification.

4.3 **Reserve Samples:** Avecia shall be responsible for obtaining and maintaining sufficient quantities of Drug Substance reserve samples pursuant to cGMP as specified in the appropriate Project Plan.

4.4 **Audits:** Audits of the portions of Avecia's facility used for Production of Drug Substance shall be conducted in accordance with the Quality Agreement or the applicable Project Plan. If PharmAthene chooses to audit Avecia other than in accordance with section 2.12 of the Quality Agreement, PharmAthene agrees to reimburse Avecia for Avecia's reasonable expenses incurred in hosting the audit. All audited data will be treated as Confidential Information of Avecia and PharmAthene shall not be permitted to remove or copy data without Avecia's prior consent, such consent not to be unreasonably denied.

4.5 Unless otherwise agreed by PharmAthene, Avecia shall Produce the Drug Substance and the Other Material only at the Facility.

4.6 Avecia shall Produce, package, handle, and provide quality assurance for Drug Substance Produced under this Agreement, as set forth in the Drug Substance Requirements and in accordance with cGMP Rules and Marketing Authorization (if applicable under a Project Plan) and in all material respects in accordance with Applicable Laws, and deliver to PharmAthene the quantities of Drug Substance specified in the applicable Project Plan.

4.7 Avecia shall package and label Drug Substance for shipment in accordance with the Drug Substance Requirements and Drug Substance Specification. Each delivery shall be accompanied by the Disposition Package. Should Avecia at any time during the term of this Agreement have reason to believe that it shall be unable to meet a delivery date (if applicable under a Project Plan), Avecia shall promptly notify PharmAthene.

4.8 Avecia shall maintain accurate records for the Production of Drug Substance as required by Applicable Laws, including cGMP. PharmAthene shall have the right to use, read, audit, copy and reference any of the foregoing in connection with a filing for or maintaining Marketing Authorizations of Drug Substance; in connection with the review of manufacturing activities related to preventive maintenance, calibrations, equipment validations, testing, housekeeping, or personnel training, or as otherwise authorized by this Agreement. PharmAthene shall own the Drug Substance Requirement and all Batch Manufacturing Records.

4.9 Avecia shall comply with the Drug Substance Requirements, cGMP and Applicable Laws in Producing the Drug Substance.

4.10 Avecia shall employ sufficient and appropriately qualified technical and other staff to properly fulfil its obligations relating to the Production of the Drug Substance in accordance with the provisions of this Agreement.

4.11 Avecia shall store samples of each Batch of the Drug Substance in accordance with the Drug Substance Specification, and Drug Substance Requirements, Applicable Laws, and cGMP.

4.12 Avecia shall produce Other Material in accordance with the manufacturing procedures, specifications, batch manufacturing records, master batch records and

any quality agreement, that are applicable to Other Material and in accordance with Applicable Laws.

5. Disposition of Drug Substance

5.1 Disposition Procedure:

(a) Disposition shall be carried out in accordance with sections 2.5 and 5.5 of the Quality Agreement. Within forty-two (42) calendar days after Batch production by Avecia, Avecia will provide to PharmAthene the Disposition Package.

(b) Within twenty one (21) Business Days following receipt of the Disposition Package, PharmAthene shall confirm in writing whether PharmAthene accepts Avecia's findings detailed in the Disposition Package, or provide to Avecia a written list of questions for dose out prior to completion of Disposition.

(c) Disposition shall be deemed to be complete and PharmAthene shall be deemed to have waived its right to reject Avecia's findings in the Disposition Package and shall be deemed to have accepted the Drug Substance, if:

(i) PharmAthene notifies Avecia that PharmAthene accepts Avecia's assessment that a Batch conforms to the Drug Substance Requirements; or

(ii) PharmAthene fails to notify Avecia within twenty-one (21) Business Days following receipt of the Disposition Package, whichever is longer whether PharmAthene accepts Avecia's findings in the Disposition Package; or

(iii) the list of questions provided by PharmAthene under Section 5.1(b) is closed out to the parties' mutual satisfaction as evidenced in writing, signed by both parties.

5.2 Non- Conforming Drug Substance:

(a) If (i) Avecia's findings detailed in the Disposition Package indicate that a Batch of Drug Substance is a Non-Conforming Batch or (ii) PharmAthene notifies Avecia that PharmAthene does not accept Avecia's finding that a Batch is in conformity with the Drug Substance Requirements detailed in the Disposition Package and instead PharmAthene believes that the Disposition Package indicates that the Batch is a Non-Conforming Batch, it shall notify Avecia by telephone including a detailed explanation of the non-conformity and shall confirm such notice in writing to Avecia by facsimile or email. Upon receipt of such facsimile or email notice, Avecia will investigate such alleged non-conformity, and (i) if Avecia agrees that

such Drug Substance is a Non-Conforming Batch, deliver to PharmAthene a corrective action plan within thirty (30) calendar days after receipt of PharmAthene's written notice of non-conformity, or such additional time as is reasonably required if such investigation or plan requires data from sources other than PharmAthene or Avecia, or (ii) if Avecia disagrees with PharmAthene's belief that the Batch is a Non-Conforming Batch, Avecia shall so notify PharmAthene by telephone within the thirty (30) calendar day period and confirm such notice in writing by facsimile or email.

(b) If the parties dispute whether the Disposition Package indicates that a Batch is conforming or non-conforming and are unable to resolve the matter in accordance with Section 2.5.13 of the Quality Agreement, the Disposition Package will be submitted to a mutually acceptable laboratory or consultant for resolution, whose determination of conformity or non-conformity, and the cause thereof if non-conforming, shall be binding upon the parties. PharmAthene shall bear the costs of such laboratory or consultant, except as set out in Section 5.3.

5.3 Remedies for Non-Conforming Batch:

(a) In the event a Non-Conforming Batch results from wilful or intentional misconduct and/or negligence and/or failure to comply with Applicable Laws or the Quality Agreement, as agreed to by Avecia or as determined by the laboratory pursuant to Section 2.5(b), then Avecia, in consultation with PharmAthene, shall, at Avecia's expense, rework or reprocess such Non-

Conforming Batch or Produce a replacement Batch and Disposition such Batch as soon as reasonably practicable. In such event, Avecia shall bear the costs of the laboratory or consultant engaged under Section 5.2(c).

(b) If a Non-Conforming Batch results other than from the circumstances of Section 5.3(a), then Avecia and PharmAthene shall meet to agree a course of action, which may include (but is not limited to) rework or reprocessing of such Non-Conforming Batch or Production of a replacement Batch at additional cost to PharmAthene.

6. Force Majeure

Failure of either party to perform under this Agreement (except the obligation to make payments) shall not subject such party to any liability to the other if such failure is caused by acts of God, lightning, acts of terrorism, earthquakes, fire, explosion, flood, drought, war, riot, sabotage, hijackings, embargoes, blockades, strikes, labour disputes (excluding labour disputes involving the work force or any part thereof of the party in question), compliance with any order or regulation of any government entity, or by any cause beyond the reasonable control of the affected party, whether or not foreseeable, provided that written notice of such event is promptly given to the other party. For the avoidance of doubt, this provision shall not be applicable in the event of failure of Drug Product in clinical trials or failure of Drug Product to gain regulatory approval.

7. Changes Mandated by Regulatory Authority

7.1 Drug Substance-Specific Changes: If facility, equipment, process or system changes are required of Avecia as a result of a change in the regulatory requirements of a Regulatory Authority, and such regulatory changes apply primarily to the Production and supply of one or more of Drug Substances, then PharmAthene and Avecia will review such requirements and agree in writing to such regulatory changes, and PharmAthene shall bear I00% of the reasonable costs thereof.

7.2 General Changes: If such regulatory changes apply generally to one or more Drug Substances as well as to other products produced by Avecia for itself or for third parties, then Avecia shall bear the cost of those changes.

8. Confidentiality

8.1 Confidentiality: It is contemplated that in the course of the performance of this Agreement each party may, from time to time, disclose Confidential Information to the other. Except as permitted by the Agreement, each party agrees to take all reasonable steps to prevent disclosure of Confidential Information of the other party to Third Party. Except for the Avecia Technology, any and all information, data, materials including cell lines, and know how that relates to Drug Substance, Drug Product or the Production of Drug Substance and/or Drug Product including but not limited to PharmAthene Technology in the possession of or which comes into the possession of Avecia shall be deemed to be Confidential Information of PharmAthene that is disclosed to Avecia and shall not be subject to any of the exceptions (i), (ii) or (iv) of the definition of Confidential Information of Section 1.1. No provision of this Agreement shall be construed so as to preclude disclosure of Confidential Information as may be reasonably necessary to secure from any governmental agency necessary approvals or licenses or to obtain patents with respect to the Drug Product or the Drug Substance.

8.2 Third Party Disclosure: Avecia shall be permitted to disclose Drug Product and Drug Substance information to Third Party developmental and analytical services providers in connection with performance of its obligations hereunder provided such providers shall be subject to confidentiality agreements. Either party may disclose Confidential Information of the disclosing party to those Affiliates, agents and consultants who need to know such information to accomplish the purposes of this Agreement and PharmAthene shall have the right to disclose Confidential Information of Avecia pursuant to the licenses granted to PharmAthene under this Agreement (collectively, 'Permitted Recipients"); provided such Permitted Recipients are bound to maintain such Confidential Information in confidence.

8.3 Disclosure to Courts or by Law or Other Rules: Subject to the proviso below, nothing in this Section 8 shall preclude disclosure of any Confidential Information (a) required by any court entitled by law to disclosure of the same, or (b) which is required by law to be disclosed (including, without limitation, to a regulatory

authority, in connection with freedom of information legislation or regulations, or in relation to filings with any recognised stock exchange). If a party is required to make a disclosure in accordance with this Section 8.3 it shall only make a disclosure to the extent to which it is obliged. Notwithstanding the foregoing, the party intending to make such disclosure shall in each case promptly notify the other party when any requirement to disclose has arisen, to enable the other party to seek an appropriate protective order and to make known to the intended recipient the proprietary nature of the Confidential Information and to make any applicable claim of confidentiality in respect thereof. The party intending to make such disclosure shall co-operate in any action which the other party may in its reasonable discretion decide to take.

8.4 Publicity. The parties agree that the public announcement of the execution of this Agreement or a particular Project Plan shall only be by one or more press releases mutually agreed to by the parties. A Party wishing to make a press release shall forward a copy of the proposed press release to the other Party prior to publishing said press release, whereupon the Party receiving such proposed Press Release shall approve, amend or reject such press release. In the event the Parties do not mutually agree on the contents of the proposed press release such press release shall not be made, except that neither party shall unreasonably withhold approval of such press release.

8.5 Duration of Confidentiality: All obligations of confidentiality and non-use imposed upon the parties under this Agreement shall expire ten (10) years after the expiration or earlier termination of this Agreement; provided, however, that Confidential Information which constitutes the trade secrets of a party and which is identified as such shall be kept confidential indefinitely, subject to the limitations set out in this Section.

9. Intellectual Property

9.1 Existing Intellectual Property:

(a) Except as the parties may otherwise expressly agree in writing, each party shall continue to own its existing patents, trademarks, copyrights, trade secrets and other Intellectual Property, without conferring any interests therein on the other party. Neither party nor any Third Party shall acquire any right, title or interest in the Intellectual Property of the other party by virtue of this Agreement or otherwise, except to the extent expressly provided herein.

(b) Avecia acknowledges that Avecia currently has in its possession PharmAthene Technology useful for producing Drug Substance and acknowledges and agrees that as between Avecia and PharmAthene, PharmAthene has all rights in and to PharmAthene Technology.

9.2 Disclaimer: Except as otherwise expressly provided herein, nothing contained in this Agreement shall be construed or interpreted, either expressly or by

implication, estoppel or otherwise, as: (i) a grant, transfer or other conveyance by either party to the other of any right, title, license or other interest of any kind in any of its Inventions or other Intellectual Property, (ii) creating an obligation on the part of either party to make any such grant, transfer or other conveyance or (iii) requiring either party to participate with the other party in any cooperative development program or project of any kind or to continue with any such program or project.

9.3 New Intellectual Property: Except as prohibited by a Prime Contract, Intellectual Property arising during and as a direct result of a Programme ("New Intellectual Property") shall be owned by PharmAthene. Avecia shall ensure that it secures these rights for PharmAthene when placing sub-contracts under this Agreement. PharmAthene hereby grants to Avecia a non-exclusive, paid-up, perpetual, non-terminable, worldwide license, with the right to grant sublicenses, and otherwise transfer such license to practice any and all New Intellectual Property for any purpose other than to make, have made, use, offer for sale, sell, and import Drug Substance or Drug Product, which license shall survive termination of this Agreement. Avecia agrees to assign and hereby assigns to PharmAthene all of Avecia's right, title and interest in and to the New Intellectual Property.

9.4 Rights in Intellectual Property: The party owning any Intellectual Property shall have the world wide right to control the drafting, filing, prosecution and maintenance of patents covering such Intellectual Property, including decisions about the countries in which to file patent applications. Patent costs associated with the patent activities described in this Section 9.4 shall be borne by the sole owner. Each party will cooperate with the other party in the filing and prosecution of patent applications. Such cooperation will include, but not be limited to, furnishing supporting data and affidavits for the prosecution of patent applications and completing and signing forms needed for the prosecution, assignment and maintenance of patent applications.

9.5 Confidentiality of Intellectual Property: Intellectual Property shall be deemed to be the Confidential Information of the party owning or licensed to such Intellectual Property. The protection of each party's Confidential Information is described in Article 8. It shall be the responsibility of the party preparing a patent application to obtain the written permission of the other party to use or disclose the other party's Confidential Information in the patent application before the application is filed and for other disclosures made during the prosecution of the patent application.

9.8 Avecia covenants and agrees that Avecia will use PharmAthene Technology only for Production of Drug Substance under this Agreement except as otherwise agreed between the parties.

9.9 At the request of PharmAthene, Avecia shall provide PharmAthene with access to any and all PharmAthene Technology in the possession of Avecia; and provide, as

requested, samples of cell lines, vectors and polynucleotides in the possession of Avecia that is PharmAthene Technology.

10. Warranties, Liability and Indemnity

10.1 Save as expressly set out in this Agreement, neither party makes any warranty, express or implied (including any warranty implied by law).

10.2 (a) Avecia warrants that it possesses and shall maintain in full force and effect at all times during the term of this Agreement all licences, permits and similar certificates required for the operation of the Facility and for the Production of Drug Substance and the storage of the materials and components for Production of Drug Substance. Avecia shall promptly notify PharmAthene if Avecia receives notice that any such license, permit, or approval is or may be revoked or suspended.

(b) Avecia represents and warrants that (i) Avecia is licensed to the pPOP™ Technology and that such license is in full force and effect; (ii) Avecia has the right to grant the sublicenses to the pPOP™ Technology that have been granted to PharmAthene under this Agreement; (iii) the granting of such sublicenses does not require the consent of any Third Party and is not inconsistent with any rights or licenses that have been granted to any other person or entity; and (iv) such sublicenses have been validly granted.

10.3 Intellectual Property Indemnity: Each party ("**the First Party**") shall be liable for and indemnify the other ("**the Second Party**") against any liability, loss, claim, damage, proceedings and costs whatsoever arising out of any actual or suspected infringement of any Intellectual Property of a Third Party (an "**Intellectual Property Infringement**") as a result of the Second Party's use of the Intellectual Property of the First Party in performance of a Programme, provided that the Second Party:

(a) gives the First Party the sole conduct of the defence to any claim or action in respect of the Intellectual Property Infringement and does not at any time admit liability or otherwise settle or compromise or attempt to settle or compromise the said claim or action except upon the express instructions of the First Party; and

(b) acts in accordance with the reasonable instructions of the First Party and gives the First Party such assistance as it shall reasonably require in respect of the conduct of such defence.

Notwithstanding the foregoing provisions of this Section 10.2, the First Party's liability to indemnify the Second Party shall cease in respect of continuing use by the Second Party of the Intellectual Property of the First Party which is the subject of the Intellectual Property Infringement following either:

(i) notification (which shall be given promptly) by the First Party to the Second Party that the Intellectual Property of the First Party is actually or is believed by the First Party to be the subject of an Intellectual Property Infringement; or

(ii) the Second Party becoming aware that the Intellectual Property of the First Party is the subject of an Intellectual Property Infringement;

except where the First Party agrees or insists that the Second Party shall continue to use the Intellectual Property of the First Party which is the subject of the Intellectual Property Infringement.

10.4 PharmAthene Indemnity: PharmAthene shall fully indemnify and defend Avecia against, all Third Party claims, suits, actions, demands, liabilities, expenses and/or losses (including reasonable legal fees) brought against or suffered by Avecia or its Affiliates or its or their directors, officers, shareholders or employees, and against all costs incurred in connection therewith arising out of or resulting from the use of Drug Substance following acceptance of a Batch of Drug Substance by PharmAthene or arising out of or resulting from use of Drug Product and/or arising from the negligence or wilful misconduct on the part of PharmAthene in performing any activity contemplated by this Agreement except that this indemnity shall not apply to the extent that Avecia is obligated to indemnify PharmAthene under Section 103 or 10.5.

10.5 Avecia Indemnity: Avecia shall fully indemnify and defend PharmAthene against, all Third Party claims, suits, actions, demands, liabilities, expenses and/or losses (including reasonable legal fees) brought against or suffered by PharmAthene or its Affiliates or its or their directors, officers, shareholders or employees, and against all costs incurred, arising out of or resulting from Production of Drug Substance by or on behalf of Avecia and/or arising out of the negligence or wilful misconduct on the part of Avecia in performing any activity contemplated by this Agreement, except that this indemnity shall not apply to the extent that PharmAthene has an obligation to indemnify Avecia pursuant to Section 10.3 or 10.4 of this Agreement.

10.6 Indemnification Procedure.

(a) Notice of Claim. All indemnification claims in respect of a Party, its Affiliates or their respective directors, officers, employees and agents (each, an "Indemnitee") will be made solely by the applicable Party (the "Indemnified Party"). The Indemnified Party will give the indemnifying Party (the "Indemnifying Party") prompt written notice (an "Indemnification Claim Notice") with respect to which such Indemnified Party intends to base a request for indemnification under any of Sections 10.3, 10.4 or 10.5 (a "Loss"). Each Indemnification Claim Notice must contain a description of the claim and the nature and amount of such Loss, to the extent that the nature and amount of such Loss are known at such time. The Indemnified Party will furnish promptly to the Indemnifying

Party copies of all papers and official documents received in respect of any Losses.

(b) At its option, the Indemnifying Party may assume the defense of any Third Party Claim by giving written notice to the Indemnified Party within thirty (30) days after the Indemnifying Party's receipt of an Indemnification Claim Notice.

(c) Upon assuming the defense of a Third Party Claim, the Indemnifying Party may appoint as lead counsel in the defense of the Third Party Claim any legal counsel selected by the Indemnifying Party. In the event the Indemnifying Party assumes the defense of a Third Party Claim, the Indemnified Party will immediately deliver to the Indemnifying Party all original notices and documents (including court papers) received by any Indemnitee in connection with the Third Party Claim. Should the Indemnifying Party assume the defense of a Third Party Claim, the Indemnifying Party will not be liable to the Indemnified Party or any other Indemnitee for any legal expenses subsequently incurred by such Indemnified Party or other Indemnitee in connection with the analysis, defense or settlement of the Third Party Claim.

(d) Right to Participate in Defense. Without limiting the preceding section 10.6, any Indemnitee will be entitled to participate in, but not control, the defense of such Third Party Claim and to employ counsel of its choice for such purpose; provided, however, that such employment will be at the Indemnitee's own expense unless (i) the employment thereof has been specifically authorized by the Indemnifying Party in writing, or (ii) the Indemnifying Party has failed to assume the defense and employ counsel in accordance with the preceding section 10.6(c), in which case the Indemnified Party will control the defense.

(e) With respect to any Losses relating solely to the payment of money damages in connection with a Third Party Claim and that will not result in the Indemnitee's becoming subject to injunctive or other relief or otherwise adversely affect the business of the Indemnitee in any manner, and as to which the Indemnifying Party will have acknowledged in writing the obligation to indemnify

the Indemnitee hereunder, the Indemnifying Party will have the sole right to consent to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss, on such terms as the Indemnifying Party, in its sole discretion, will deem appropriate, and will transfer to the Indemnified Party all amounts which said Indemnified Party will be liable to pay prior to the entry of judgment. With respect to all other Losses in connection with a Third Party Claim, where the Indemnifying Party has assumed the defense of the Third Party Claim in accordance with Section 10.6(b), the Indemnifying Party will have authority to consent to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss provided it obtains the prior written consent of the Indemnified Party (which consent will be at the

Indemnified Party's sole and absolute discretion). The Indemnifying Party will not be liable for any settlement or other disposition of a Loss by an Indemnitee that is reached without the written consent of the Indemnifying Party. Regardless of whether the Indemnifying Party chooses to defend or prosecute any Third Party Claim, no Indemnitee will admit any liability with respect to, or settle, compromise or discharge, any Third Party Claim without the prior written consent of the Indemnifying Party.

(f) Cooperation. Regardless of whether the Indemnifying Party chooses to defend or prosecute any Third Party Claim, the Indemnified Party will, and will cause each other Indemnitee to, cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith. Such cooperation will include access during normal business hours afforded to the Indemnifying Party, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party Claim, and making Indemnitees and other employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder, and the Indemnifying Party will reimburse the Indemnified Party for all its reasonable out-of-pocket expenses in connection therewith.

10.7 **Insurance.** Each party shall secure and maintain in full force and effect during the term of this Agreement policies of insurance having policy limits, deductibles and other terms appropriate to the conduct of that party's business. Evidence of such insurance in the form of a broker's letter will be made available for examination upon request of the other party.

11. Technology Transfer and Licence from Avecia

11.1 In the event that for any reason this Agreement is terminated or a Project Plan directed to Production of Drug Substance is terminated or PharmAthene intends to manufacture or have manufactured Drug Substance pursuant to a written notice from PharmAthene to Avecia, Avecia shall transfer to PharmAthene and/or its designee any and all PharmAthene Technology and shall provide to PharmAthene and/or its designee Avecia Technology, so as to permit PharmAthene and/or its designee(s) to Produce Drug Substance and Avecia shall provide sufficient technical assistance to enable PharmAthene and/or its designee(s) to Produce Drug Substance, all in accordance with a plan submitted to Avecia by PharmAthene. To the extent transferable, Avecia shall also transfer any license(s), permit(s), or approval(s) obtained specifically for the Production of Drug Substance under this Agreement.

11.2 Avecia hereby grants to PharmAthene a non-exclusive, royalty-free, paid-up, perpetual, non-terminable, worldwide license, with the right to grant sublicenses (except to the extent set out in Section 11.3 below in respect of the pPoP^{TM}

Technology), and otherwise transfer such license to practice any and all Avecia Technology to make, have made, use, offer for sale, sell, and import Drug Substance or Drug Product, which license shall survive termination of this Agreement.

11.3 Notwithstanding the provisions of Section 11.2, PharmAthene shall not be entitled to grant sublicenses under the pPoP^{TM} Technology. At PharmAthene's request, Avecia shall grant a further non-exclusive, royalty-free, paid-up, perpetual, non-terminable, worldwide license to a third party nominated by PharmAthene to practice the pPoP^{TM} Technology to make, have made, use, offer for sale, sell, and import Drug Substance or Drug Product on behalf of PharmAthene, which license shall survive termination of this Agreement. PharmAthene may choose not to take a license under the pPoP^{TM} Technology under Section 11.2 or to surrender such license and may instead request Avecia to grant a second license to a third party nominated by PharmAthene on the same terms as the first license granted under this Section 113. PharmAthene may request Avecia to terminate a license granted to a third party under this Section 11.2 and to grant a replacement license to a further third party such that, at any time, no more than two licences under the pPoP^{TM} Technology are granted under this Agreement at any one time.

11.4 In consideration for the technical assistance provided by Avecia under Section 11.1 above, PharmAthene shall make payment to Avecia in accordance with the rates for personnel based on the relevant Project Plan.

12. Notices

Any formal notice required or permitted under this Agreement shall be in writing which may take the form of a letter or facsimile and shall be sent by prepaid post, facsimile, or hand delivery (including messenger service) to the following address of the respective parties:

If to PharmAthene:

PharmAthene Inc.
One Park Place, Suite 450
Annapolis
MD 21401
USA
Attn: Joan Fusco, Senior Vice President Operations
Facsimile: 410-269-2601

With a copy to: PharmAthene Inc. (address as above)
Attn: Contracts
Facsimile; 410-269-2601

If to Avecia: Avecia Biologics Limited
Belasis Avenue
Billingham
Cleveland, TS23 1YN

Attn: President
Facsimile: +44 (0)1642 364463

With a copy to: Avecia Biologics Limited
Hexagon Tower
Blackley
Manchester, M9 8ZS
Attn: Company Secretary
Facsimile: +44 (0)161-7211886

Any party may, at any time by written notice to the other parties, change the address or the facsimile numbers to which notices or other communications shall be sent. All notices and other communications shall have been duly given or made (i) when delivered by hand (including by messenger service) upon delivery or (ii) when delivered by post upon delivery or (iii) when faxed upon receipt of a legible copy by recipient and production of a satisfactory transmission report by sender confirming transmission of the fax in full to the appropriate number by the fax machine which sent the fax.

13. Independent Contractor

Nothing in this Agreement shall create, or be deemed to create, a partnership or the relationship of principal and agent or employer and employee between the parties. Each party agrees to perform under this Agreement solely as an independent contractor.

14. Entire Agreement

This Agreement, together with the Quality Agreement, the applicable Project Plan (and any associated Programme Amendment Orders) and the Master Batch Record, the Process Specification and the QC Document applicable to a Programme, contains the entire agreement between the parties and supersedes any previous agreements relating to a Programme and any understandings between the parties with respect thereto.

15. Assignment and Subcontracting

15.1 **Assignment:** This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective legal successors but shall not otherwise be assignable by either party, without the prior written consent of the other party, which consent shall not be unreasonably withheld or delayed, provided that either party may assign this Agreement (including its rights and obligations under it) without consent to an Affiliate or in connection with a genuine business re-organisation or to a purchaser of the whole or part of the business or assets to which this Agreement relates. At the request of the assigning party, the parties shall execute a novation agreement in support of and confirming such assignment.

15.2 **Subcontracting:** With the prior written consent of PharmAthene, Avecia shall be entitled to subcontract certain analytical work under a Programme, subject to inclusion in such subcontract of confidentiality and intellectual property provisions no less onerous than those contained herein and provided that Avecia

shall be liable for any acts or omissions of any subcontractor as if such acts or omissions were Avecia's own.

16. Variation

No variation or amendment of this Agreement shall bind either party unless made in writing in the English language and agreed to in writing by duly authorised officers of both parties.

17. Severability

If any provision of this Agreement is agreed by the parties or otherwise determined to be illegal, void or unenforceable under any law that is applicable hereto, this Agreement shall continue in force save that such provision shall be deemed to be excised herefrom with effect from the date of such agreement or decision or such earlier date as the parties may agree.

18. Waiver

A failure by either party hereto to exercise or enforce any rights conferred upon it by this Agreement shall not be deemed to be a waiver of any such rights or operate so as to bar the exercise or enforcement thereof at any subsequent time or times.

19. Law, Jurisdiction and Dispute Resolution

19.1 Governing Law and Jurisdiction: This Agreement is governed by and shall be construed and interpreted in accordance with English law.

19.2 Reference to Parties' Senior Representatives: Any dispute, difference or disagreement concerning this Agreement shall initially he referred to the President, Avecia Biologics and the CEO of PharmAthene. Without prejudice to the foregoing, any disputes relating to quality issues shall be dealt with in accordance with the Quality Agreement.

19.3 Arbitration: Any matter or dispute arising out of or in connection with this Agreement which is not able to be resolved pursuant to Clause 19.2 within thirty calendar days (or such long period as the parties may agree) shall be finally settled by commercial arbitration in accordance with the Rules of Arbitration of the International Chamber of Commerce to be held in London, England. The language of the proceedings shall be English. In appointing arbitrators, the parties shall consider the appointment of an arbitrator or arbitrators capable of making decisions on the technical aspects of the applicable Programme. The decision of the arbitrators shall be binding on both parties and may be enforced by either party in any court having competent jurisdiction.

19.4 Interim Steps: Neither of the parties shall be deemed to be precluded from taking such interim formal steps as may be considered necessary to protect such party's position while the procedures referred to in Clauses 19.2 and 19.3 are pursued.

IN WITNESS WHEREOF, the parties hereto have each caused this Agreement m be executed by their duly-authorised representatives as of the date above written.

PHARMATHENE UK LIMITED		**AVECIA BIOLOGICS LIMITED**	
By:	/s/ David P. Wright	By:	
Name:	David P. Wright	Name:	
Title:	Chief Executive Officer	Title:	
Date:	March 31, 2008	Date:	

IN WITNESS WHEREOF, the parties hereto have each caused this Agreement m be executed by their duly-authorised representatives as of the date above written.

PHARMATHENE UK LIMITED		**AVECIA BIOLOGICS LIMITED**	
By:		By:	/s/ A. C. Buckmaster
Name:		Name:	A. C. Buckmaster
Title:		Title:	Director
Date:		Date:	April 2, 2008

Schedule 1A

[***]

[Pages omitted: 8]

Schedule 1B

ADDITIONAL TERMS APPLICABLE TO WORK PLANS UNDER NIH PRIME CONTRACTS

PART I - NIH CONTRACT FLOWDOWN PROVISIONS

A. Incorporation of FAR/HHSAR Clauses and Additional Prime Contract Clauses

1. The Federal Acquisition Regulation (FAR) and Health and Human Services Acquisition Regulation (HHSAR) clauses listed in Section D are incorporated into the Contract by reference, with the same force and effect as if they were given in full text, and are applicable, subject to the notes contained in Section C, during the performance of this Contract If the date or substance of any of the clauses listed below is different than the date or substance of the clause actually incorporated in the Prime Contract referenced by number herein, the date or substance of the clause incorporated by said Prime Contract shall apply instead.

2. The additional clauses set out in full in Section E are incorporated into this Contract and are applicable during the performance of this Contract.

B. Additional Definitions

As used in the clauses listed in Section D and set out in full in Section E below and otherwise in this Schedule:

1. "Contractor" means Avecia, acting as the immediate (first-tier) subcontractor to PharmAthene.

2. "Contract" means the Master Services Agreement and the applicable Project Plan together with the FAR and HHSAR clauses and additional clauses incorporated by virtue of this Schedule.

3. "Master Services Agreement" means the agreement entered into between PharmAthene and Avecia and dated April 2nd 2008 under which Avecia agrees to carry out Programmes.

4. "Subcontract" means any contract placed by the Contractor or lower-tier subcontractors under the Contract.

C. Notes for Interpretation of FAR and HHSAR clauses

In respect of each clause:

1. Substitute "PharmAthene" for 'Government" or "United States" as applicable throughout the clause.

2. Substitute "PharmAthene Contracts Manager" for "Contracting Officer," "Administrative Contracting Officer," and "ACO" throughout the clause.

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3. Insert "and PharmAthene" after "Government" or "Contracting Officer," as appropriate, throughout the clause.

4. Insert "or PharmAthene" after "Government" throughout the clause.

5. Communication or notification required under the clause from or to the Contractor, and to or from the Contracting Officer shall be through PharmAthene.

6. "Contracting Officer" shall mean the U.S. Government Contracting Officer for PharmAthene's Prime Contract under which this Contract is entered.

D. FAR and HHSAR clauses

The full text of a clause may be accessed electronically at the following addresses:
http://www.a m et.gov/far/
http://farsite.hill.af.millreg html/regs/other/hhsar/352.htm#P271_51559

Although this list is extensive, several of the clauses are inapplicable to Avecia at the current time (e.g. US-centric provisions related to Veteran owned businesses, Equal Opportunity, Drug Free Workplace, etc) because they are inoperative to the extent that work is carried on outside the US. They are however all included for the sake of completeness and to address a situation in which Avecia was called upon to subcontract to a US subcontractor, in which case the clauses may be required to flow down to this second tier subcontractor.

1. FEDERAL ACQUISITION REGULATION (FAR) (48 CFR CHAPTER 1) CLAUSES:

FAR Clause	DATE	TITLE
52.202-1	Jul 2004	Definitions
52.203-3	Apr 1984	Gratuities (Over $100,000)
52.203-5	Apr 1984	Covenant Against Contingent Fees (Over $100,000)
52.203-6	Jul 1995	Restrictions on Subcontractor Sales to the Government (Over $100,000)
52.203-7	Jul 1995	Anti-Kickback Procedures (Over $100,000)
52.203-8	Jan 1997	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity (Over $100,000)
52.203-10	Jan 1997	Price or Fee Adjustment for Illegal or Improper Activity (Over $100,000)
52.203-12	Jun 2003	Limitation on Payments to Influence Certain Federal Transactions (Over $100,000)
52.204-4	Aug 2000	Printed or Copied Double-Sided on Recycled Paper (Over $100,000)
52.204-7	Oct 2003	Central Contractor Registration
52.209-6	Jul 1995	Protecting the Government's Interests When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment (Over $25,000)
52.215-2	Jun 1999	Audit and Records - Negotiation (Over $100,000)
52.215-8	Oct 1997	Order of Precedence - Uniform Contract Format

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52.215-10	Oct 1997	Price Reduction for Defective Cost or Pricing Data
52.215-12	Oct 1997	Subcontractor Cost or Pricing Data (Over $500,000)
52.215-14	Oct 1997	Integrity of Unit Prices (Over $100,000)
52.215-15	Jan 2004	Pension Adjustments and Asset Reversions
52.215-17	Oct 1997	Waiver of Facilities Capital Cost of Money
52.215-18	Oct 1997	Reversion or Adjustment of Plans for Post-Retirement Benefits (PRB) other than Pensions
52.215-19	Oct 1997	Notification of Ownership Changes
52.215-21	Oct 1997	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data - Modifications
52.216-7	Dec 2002	Allowable Cost and Payment
52.216-8	Mar 1997	Fixed Fee
52.219-4	Jan 1999	Notice of Price Evaluation Preference for HUBZone Small Business Concerns "(c) Waiver of evaluation preference [ ] Offeror elects to waive the evaluation preference." ALTERNATE I
52.219-8	May 2004	Utilization of Small Business Concerns (Over $100,000)
52.219-9	Jan 2002	Small Business Subcontracting Plan (Over $500,000)
52.219-16	Jan 1999	Liquidated Damages - Subcontracting Plan (Over $500,000)
52.219-23	Oct 1999	Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns
52.222-2	Jul 1990	Payment for Overtime Premium (Over $100,000) (Note: The dollar amount in paragraph (a) of this clause is $0 unless otherwise specified in the Contract)
52.222-3	Jun 2003	Convict Labor
52.222-26	Apr 2002	Equal Opportunity
52.222-35	Dec 2001	Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans
52.222-36	Jun 1998	Affirmative Action for Workers with Disabilities
52.222-37	Dec 2001	Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans
52.223-6	May 2001	Drug-Free Workplace
52.223-14	Aug 2003	Toxic Chemical Release Reporting (Over $100,000)
52.225-1	Jun 2003	Buy American Act - Supplies
52.225-5		Trade Agreements
52.225-13	Dec 2003	Restrictions on Certain Foreign Purchases
52.227-1	Jul 1995	Authorization and Consent, Alternate I (Apr 1984)
52.227-2	Aug 1996	Notice and Assistance Regarding Patent and Copyright Infringement (Over $100,000)
52.227-11	Jun 1997	Patent Rights - Retention by the Contractor (Short Form) (Note: In accordance with FAR 27.303(a)(2), paragraph (f) is modified to include the requirements in FAR 27.303(a)(2)(i) through (iv). The frequency of reporting in (i) is annual.
52.227-14	Jun 1987	Rights in Data - General
52.227-16	Jun 1987	Additional Data Requirements
52.229-8	Mar 1990	Taxes-Foreign Cost-Reimbursement Contracts

52.232-9	Apr 1984	Limitation on Withholding of Payments
52.232-17	Jun 1996	Interest (Over $100,000)
52.232-20	Apr 1984	Limitation of Cost
52.232-23	Jan 1986	Assignment of Claims
52.232-25	Oct 2	Prompt Payment, Alternate I (Feb 2002)
52.232-33	Oct 2003	Payment by Electronic Funds Transfer-Central Contractor Registration
52.232-34	May 1999	Payment by Electronic Funds Transfer - Other than Central Contractor Registration
52.233-1	Jul 2002	Disputes
52.233-3	Aug 1996	Protest After Award, Alternate I (Jun 1985)
52.242-1	Apr 1984	Notice of Intent to Disallow Costs
52.242-3	May 2001	Penalties for Unallowable Costs (Over $500,000)
52.242-4	Jan 1997	Certification of Final Indirect Costs
52.242-13	Jul 1995	Bankruptcy (Over $100,000)
52.242-15	Aug 1989	Stop Work Order with Alternate I (April 1984)
52.243-2	Aug 1987	Changes - Cost Reimbursement, Alternate V (Apr 1984)
52.244-2	Aug 1998	Subcontracts, Alternate II (Aug 1998)
52.244-5	Dec 1996	Competition in Subcontracting (Over $100,000)
52-244-6	Apr 2003	Subcontracts for Commercial Items
52.245-5	May 2004	Government Property (Cost-Reimbursement, Time and Material, or Labor-Hour Contract)
52.246-5	Apr 1984	Inspection of Services – Cost Reimbursement
52.246-8	May 2001	Inspection of Research and Development – Cost Reimbursement
52.246-23	Feb 1997	Limitation of Liability (Over $100,000)
52.247-63	Jun 2003	Preference for U.S. Flag Air Carriers
52.249-6	Sep 1996	Termination (Cost-Reimbursement)
52.249-14	Apr 1984	Excusable Delays
52.253-1	Jan 1991	Computer Generated Forms

2. DEPARTMENT OF HEALTH AND HUMAN SERVICES ACQUISITION REGULATION (HHSAR) (48 CFR CHAPTER 3) CLAUSES:

HHSAR Clause	DATE	TITLE

352.202-1	Jan 2001	Definitions - with Alternate paragraph (h) (Jan 2001)
352.216-72	Oct 1990	Additional Cost Principles
352.223-70	Jan 2001	Safety and Health
352.228-7	Dec 1991	Insurance - Liability to Third Persons
352.232-9	Apr 1984	Withholding of Contract Payments
352.233-70	Apr 1984	Litigation and Claims
352.242-71	Apr 1984	Final Decisions on Audit Findings
352.270-5	Apr 1984	Key Personnel
352.270-6	Jul 1991	Publications and Publicity
352.270-7	Jan 2001	Paperwork Reduction Act

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3. NATIONAL INSTITUTES OF HEALTH (NIH) RESEARCH CONTRACTING (RC) CLAUSES:

The following clauses are attached and made a part of this Contract:

NIH(RC)-4 Invoice/Financing Request Instructions and Contract Financial Reporting for NIH Cost-Reimbursement Type Contracts
NIH (RC)-7, Procurement of Certain Equipment (APRIL 1984) (OMB Bulletin 81-16).

4. ADDITIONAL FAR CONTRACT CLAUSES INCLUDED IN FULL TEXT

FAR Clause 52.244-6, SUBCONTRACTS FOR COMMERCIAL ITEMS (JULY 2004)

(a) **Definitions.** As used in this clause–
Commercial item, has the meaning contained in Federal Acquisition Regulation 52.202-1, Definitions.
Subcontract, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this Contract.

(c) (1) The Contractor shall insert the following clauses in subcontracts for commercial items: (i) 52.219-8, Utilization of Small Business Concerns (MAY 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $500,000 ($1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.
(ii) 52.222-26, Equal Opportunity (APR 2002) (E.O. 11246).
(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212(a)).
(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).
(v) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631) (flow down required in accordance with paragraph (d) of FAR clause 52.247-64).
(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this Contract.

E. Additional Clauses

1. Possession Use and Transfer of Select Biological Agents or Toxins

Work involving select biological agents or toxins shall not be conducted under this Contract until the Contractor and any affected subcontractor(s) are granted a certificate of registration or are authorized to work with the applicable agents.

For prime or subcontract awards to domestic institutions who possess, use, and/or transfer Select Agents under this Contract, the institution must complete registration with the Centers for Disease Control and Prevention (CDC), Department of Health and Human Services (DHHS) or the Animal and Plant Health Inspection Services (APHIS), U.S. Department of Agriculture (USDA), as applicable, before using NIH funds for research involving Select Agents. No NIH funds can be used for research involving Select Agents if the final registration certificate is denied.

For prime or subcontract awards to foreign institutions who possess, use, and/or transfer Select Agents under this Contract, the institution must provide information satisfactory to the NIH that a process equivalent to that described in 42 CFR 73 (http://www.cdc.gov/od/sap/docs/42cfr73.pdf) for U.S. institutions is in place and will be administered on behalf of all Select Agent work sponsored by these funds before using these funds for any work directly involving the Select Agents. The Contractor must provide information addressing the following key elements appropriate for the foreign institution: safety, security, training, procedures for ensuring that only approved/appropriate individuals have access to the Select Agents, and any applicable laws, regulations and policies equivalent to 42 CFR 73. An NIAID-chaired committee of U.S. federal employees (including representatives of NIH grants/contracts and scientific program management, CDC , Department of Justice and other federal intelligence agencies, and Department of State) will assess the policies and procedures for comparability to the U.S. requirements described in 42 CFR Part 73. When requested by the contracting officer, the Contractor should provide key information delineating any laws, regulations, policies, and procedures applicable to the foreign institution for the safe and secure possession, use, and transfer of Select Agents. This includes concise summaries of safety, security, and training plans, and applicable laws, regulations, and policies. For the purpose of security risk assessments, the Contractor must provide the names of all individuals at the foreign institution who will have access to the Select Agents and procedures for ensuring that only approved and appropriate individuals have access to Select Agents under the Contract.

Listings of HHS select agents and toxins, biologic agents and toxins, and overlap agents or toxins as well as information about the registration process, can be obtained on the Select Agent Program Web site at http://www.cdc.gov/od/sap/

2. Prohibition on Contractor Involvement with Terrorist Activities

The Contractor acknowledges that U.S. Executive Orders and Laws, including but not limited to E.O. 13224 and P.L. 107-56, prohibit transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism.

It is the legal responsibility of the Contractor to ensure compliance with these Executive Orders and Laws. This clause must be included in all subcontracts issued under this Contract.

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3. Reimbursement of Costs for Independent Research and Development

The primary purpose of the Public Health Service (PHS) is to support and advance independent research within the scientific community. PHS has established effective, time tested and well recognized procedures for stimulating and supporting this Independent research by selecting from multitudes of applications those research projects most worthy of support within the constraints of its appropriations. The reimbursement through the indirect cost mechanism of independent research and development costs not incidental to product improvement would circumvent this competitive process.

To ensure that all research and development projects receive similar and equal consideration, all organizations may compete for direct funding of independent research and development projects they consider worthy of support by submitting those projects to the appropriate Public Health Service grant office for review. Since these projects may be submitted for direct funding, the Contractor agrees that no costs for any independent research and development project, including all applicable indirect costs, will be claimed under this contract.

4. Privacy Act

This procurement requires the Contractor to do one or more of the following: design, develop, or operate a system of records on individuals to accomplish an agency function in accordance with the Privacy Act of 1974, Public Law 93-579, December 31, 1974 (5 USC 552a) and applicable agency regulations. Violation of the Act may involve the imposition of criminal penalties.

The Privacy Act System of Records applicable to this project is Number 09-25-0200. This document may be accessed on the Internet at the following URL: http://oma.od.nih.gov/ms/privacy/pa-files/0200.htm.

5. Salary Rate Limitation Legislation Provisions

a. Pursuant to Public Law(s) the cited in paragraph b, below, no NIH Fiscal Year funds may be used to pay the direct salary of an individual through this contract at a rate in excess of applicable amount shown for the fiscal year covered. Direct salary is exclusive of fringe benefits, overhead, and general and administrative expenses (also referred to as Indirect cost" or "facilities and administrative (F&A) costs"). Direct salary has the same meaning as the term "institutional base salary." An individual's direct salary (or institutional base salary) is the annual compensation that the contractor pays for an individual's appointment whether that individual's time is spent on research, teaching, patient care or other activities. Direct salary (or institutional base salary) excludes any income that an individual may be permitted to earn outside of duties to the contractor. The per year salary rate limit also applies to individuals proposed under subcontracts. It does not apply to fees paid to consultants If this is a multiple year contract, it may be subject to unilateral modifications by the Government if an individual's salary rate exceeds any salary rate ceiling established in future HHS appropriation acts.

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b.	Public Law No. P.L. 110-161, Division G. Title II, General Provisions, Section 203	Fiscal Year 2008	Dollar Amount of Salary Limitation* Executive Level I

c. Payment of direct salaries is limited to the Executive Level I* rate which was in effect on the date(s) the expense was incurred.

* For the period 10/1107 – 12/31107, the Executive Level I rate is $186,600. Effective January 1, 2008, the Executive Level 1 rate increased to $191,300 and will remain at that rate until it is revised. See the web site listed below for the Executive Schedule rates of pay:

FOR FY-08 EXECUTIVE LEVEL SALARIES EFFECTIVE JANUARY 1, 2008:

http://www,opm.gov/oca/PATRATES/index.htm (click on "Executive Schedule" for the current Fiscal Years salary rate or scroll down to the "Prior Salary Tables" to locate the Executive Level salary rates from previous years.)

F. Representations and Certifications

The following document is incorporated by reference:

Representations and Certifications filed 12 July 2007 using the Online Representations and Certifications Application (ORCA) website.

PART II - OTHER TERMS

A. Applicability of Additional Terms

The following additional terms shall be applicable to any Programme carried out under a Project Plan which incorporates reference to this Schedule 1.

B. Additional Definition

"Consumables" means consumable items intended for use in Production including, without limitation, reagents (including analytical reagents), raw materials, packaging components, chromatography resins, filters, filtration membranes, media bags, tubing, hoses, in-process measurement probes and analytical columns.

C. Additional Consideration In relation to Consumables.

1. Avecia shall provide an estimate of anticipated expenditure on Consumables when Avecia has generated a bill of materials prior to commencement of Production. Avecia shall bear the expenditure on Consumables itself.

2. Avecia shall issue invoices for technical consultancy services provided in respect of such Consumables as follows:

   (a) Avecia shall issue an invoice in an amount equivalent to 50% of the estimated expenditure when Avecia has generated the bill of materials.

   (b) On completion of Disposition or earlier termination of the applicable Project Plan, Avecia shall calculate the expenditure actually incurred in respect of Consumables used during Production and shall issue an invoice for an amount equivalent to 10% of the expenditure actually incurred in respect of such Consumables plus a sum equivalent to the difference between the expenditure actually incurred and the amount paid by PharmAthene under paragraph (a) above.

Schedule

[***]

[Pages omitted: 5]

MASTER SERVICES AGREEMENT
BETWEEN AVECIA BIOLOGICS LIMITED AND PHARMATHENE INC.
DATED APRIL 2nd 2008

Protect Plan #1

[***]

[Pages omitted: 14]

MASTER SERVICES AGREEMENT
BETWEEN AVECIA BIOLOGICS LIMITED AND PHARMATHENE
DATED APRIL 2nd 2008

Project Plan #2

[***]

[Pages omitted: 13]

MASTER SERVICES AGREEMENT
BETWEEN AVECIA BIOLOGICS LIMITED AND PHARMATHENE UK LIMITED
DATED APRIL 2ND 2008

Protect Plan #3

[***]

[Pages omitted: 19]

MASTER SERVICES AGREEMENT
BETWEEN AVECIA BIOLOGICS LIMITED AND PHARMATHENE UK LIMITED
DATED APRIL 2ND 2008

Protect Plan #4

[***]

[Pages omitted: 8]

Exhibit 31.1

Certification of Chief Executive Officer
Pursuant to SEC Rule 13a-14(a)/15d-14(a)

I, David P. Wright, certify that:

1. I have reviewed this Form 10-Q of PharmAthene, Inc. for the quarter ended June 30, 2008;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statement for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 14, 2008

/s/ David P. Wright
Name: **David P. Wright**
Title: **Chief Executive Officer**

Exhibit 31.2

Certification of Principal Financial Officer

Pursuant to SEC Rule 13a-14(a)/15d-14(a)

I, Christopher C. Camut certify that:

1. I have reviewed this Form 10-Q of PharmAthene, Inc. for the quarter ended June 30, 2008;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statement for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated August 14, 2008

/s/ Christopher C. Camut

Name: **Christopher C. Camut**
Title: **Principal Financial Officer**

Exhibit 32.1

Certification Pursuant to Section 1350 of Chapter 63
of Title 18 of the United States Code

In connection with the Quarterly Report of PharmAthene, Inc. (the "Company") on Form 10-Q for the quarter ended June 30, 2008, as filed with the Securities and Exchange Commission (the "Report"), I, David P. Wright, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ David P. Wright

David P. Wright
Chief Executive Officer
August 14, 2008

Exhibit 32.2

Certification Pursuant to Section 1350 of Chapter 63
of Title 18 of the United States Code

In connection with the Quarterly Report of PharmAthene, Inc. (the "Company") on Form 10-Q for the quarter ended June 30, 2008, as filed with the Securities and Exchange Commission (the "Report"), I, Christopher C. Camut, Principal Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Christopher C. Camut

Christopher C. Camut
Principal Financial Officer
August 14, 2008