

SIGA TECHNOLOGIES: PROFITING FROM UNCERTAINTY¹

Can Cui wrote this case under the supervision of Professor Mehmet A. Begen solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In late January 2011, Jane Hampton, an equity analyst at Nova Funds, was casually browsing her Bloomberg newsfeed when her attention was drawn to an article titled “PharmAthene, SIGA to Begin Trial over Smallpox Drug Licensing Rights.”² The article narrated the colorful court battle between two biotechnology firms, SIGA Technologies Inc. (NASDAQ Exchange Ticker: SIGA) and PharmAthene Inc. (American Stock Exchange Ticker: PIP) over the rights to ST-246, the world’s only successful antiviral treatment for smallpox. With more than a decade of investing experience focusing on the biotechnology industry, Hampton instinctively thought that the uncertainty involved with these companies could provide an opportunity for profit. She gathered herself to pore over the latest financial reports and press releases. After some preliminary research, Hampton felt a winning trade could indeed be available, though she had yet to determine what it might be.

SIGA TECHNOLOGIES AND THE ST-246

SIGA Technologies Inc. (SIGA) was incorporated in the state of Delaware in 1995 with a corporate goal of developing biotechnology products aimed at preventing and treating infectious diseases.³ It was the only company in the world that had developed a known treatment for smallpox — ST-246.⁴ The treatment was designed to target the smallpox virus and block its transmission to other cells.⁵ In 2007, a 28-month-old child who developed a clinical smallpox-equivalent infection was moribund. However, after being treated

¹ This case has been written on the basis of published sources only. Consequently, the interpretation and perspectives presented in this case are not necessarily those of SIGA Technologies Inc. or any of its employees.

² Sophia Pearson and Jef Feeley, “PharmAthene, Sigma to Begin Trial over Smallpox Drug Licensing Rights,” *Bloomberg*, January 4, 2011; available at <http://www.bloomberg.com/news/2011-01-03/pharmathene-siga-to-begin-trial-over-smallpox-drug-licensing-rights.html>, accessed April 16, 2011.

³ SIGA Technologies Inc. “About SIGA,” SIGA Technologies website, 2007; available at <http://www.siga.com/index.php?ID=2>, accessed April 16, 2011.

⁴ “Investment Analysis: SIGA Technologies (SIGA),” Above Average Odds Investing, November 23, 2010; available at <http://www.aboveaverageodds.com/2010/11/23/investment-analysis-siga-technologies-siga-2/>, accessed April 16, 2011.

⁵ Guang Yang et al., “An Orally Bioavailable Antipoxvirus Compound (ST-246) Inhibits Extracellular Virus Formation and Protects Mice from Lethal Orthopoxvirus Challenge,” *Journal of Virology*, October 2005, pp. 13139–13149; available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1235851/>, accessed April 16, 2011.

with ST-246, he subsequently made dramatic improvements before recovering completely.⁶ This spectacular achievement had led to profound interest from stakeholders around the world.

SMELL THE MONEY

In 2004, the United States government launched Project BioShield, a program that led to the government's procurement from the private sector of vaccines and countermeasures against bioterrorism.⁷ SIGA's excellent smallpox treatment did not go unnoticed by the authorities. On October 13, 2010, the U.S. Department of Health and Human Services (HHS) announced its *intention* to award SIGA a contract valued at up to \$2.8 billion. This contract, if officially awarded, would result in an initial order of 1.7 million doses of ST-246 at \$300 per dose.⁸ Through investigation, Hampton estimated that the first order would be conducted in 2012, and that SIGA should realize a 50 per cent cash margins on the ST-246 without having to materially increase the company's overhead. Because this order represented such a lucrative opportunity for SIGA, Hampton was excited by the investment possibilities this government contract could bring.

In reality, this deal could even more profitable for SIGA. If the government was satisfied with the initial order, Hampton felt it could potentially place a follow-on order valued at either 50 per cent or 100 per cent of the remainder of the \$2.8 billion sum. Hampton believed that if the government was to exercise any type of follow-on option, orders in equal amounts would be likely over the subsequent three years.

Under an even more optimistic scenario, Hampton envisioned the government opting for 100 per cent of the follow-on option and continuing to place orders for the same amount as in 2016 every year thereafter. Hampton felt this projection was optimistic, but not unrealistic. Not only did HHS intend to continue expanding its inventory of treatments and vaccinations, but moreover the ST-246 had a limited shelf life, which required it to be replaced periodically (see Exhibit 1).

SO CLOSE, YET SO FAR

Although procuring the smallpox treatment was an important initiative for HHS, it had yet to officially award the contract to SIGA. According to the request for proposal for the treatment, HHS was mandated to award the contract to businesses with fewer than 300 employees in order to support small private businesses. Although SIGA had approximately 55 employees, SIGA's major shareholder, McAndrew & Forbes Holdings, had approximately 3,000 employees,⁹ which led SIGA's main competitor, Chimerix, to

⁶ "Austin Power Brokers Fifth Annual Equity Conference, June 2009"; available at <http://hosted.mediasite.com/mediasite/SilverlightPlayer/Default.aspx?peid=44fc932c92a742af8f1a67e0bc265234>, accessed April 16, 2011.

⁷ Frank Gottron, *Project BioShield: Purposes and Authorities*, Congressional Research Service, Washington, DC, July 6, 2009; available at <http://www.fas.org/sgp/crs/terror/RS21507.pdf>, accessed April 16, 2011.

⁸ Scott Eden, "SIGA Tech Surges on Possible Government Contract," *The Street*, October 13, 2010; available at http://www.thestreet.com/_yahoo/story/10887705/1/siga-tech-surges-on-possible-government-contract.html, accessed April 16, 2011.

⁹ Alicia Mundy, "Biotech Firm's Drug Pact at Risk," *Wall Street Journal.com*, November 6, 2010; available at <http://online.wsj.com/article/SB10001424052748703665904575600832323459798.html>, accessed April 16, 2011.

file a complaint accusing the government of violating the spirit of helping small businesses.¹⁰ SIGA would likely eventually receive the contract; however, the timing was unknown.¹¹

FRIEND TURNED FOE

Moreover, a greater concern stemmed from SIGA's former partner during the development of ST-246, PharmAthene Inc. (PIP). Due to complications stemming from a failed merger between the two companies in 2006, PIP asserted that it owned the rights to license ST-246 and initiated a lawsuit, which has not yet been resolved.¹² A week-long court hearing was conducted on January 21, 2011. Although a final decision was not reached, the post-trial briefs (whereby each party submits its evidence and arguments in writing) and subsequent oral arguments in front of the court will be completed by the end of April 2011. A final verdict was expected to be issued by mid-2011.¹³ Although Hampton was not an expert on matters of intellectual property, she suspected that if PIP's argument was weak, it could receive a \$10 million award; if strong, it could receive as much as 25 per cent of all income generated by sales of ST-246. Alternatively, SIGA could choose to settle for approximately \$75 million (see Exhibit 2).

PROFITING FROM UNCERTAINTY

Hampton knew that market uncertainty could bring extraordinary profits. However, she had yet to decide how she would invest. She did have several ideas. The simplest strategy would be to invest in the stocks of either SIGA or PIP, or a combination of both. Aside from buying stocks, Nova Funds (for which Hampton was an equity analyst) was a versatile fund that also had the capability to "short" stocks. A short sale occurred when an investor borrowed shares to sell them at the current market price in hopes of buying the shares back at a lower price in the future. The short seller profits when the stock price declines. Hampton felt that given the recent run up in both SIGA and PIP stocks after the government had announced its intention to award the contract to SIGA, perhaps one of the stocks may be overvalued¹⁴ (see Exhibit 3).

Hampton was also intrigued by the idea of using options as a way to invest in the situation. An option would give investors the right, but not the obligation, to either buy shares in an underlying company (in the case of a call option) or to sell shares in the company (in the case of a put option). In other words, the buyer of a call option profits when shares of the underlying company rises; the buyer of a put option profits when shares of the underlying company falls.

Hampton was confident that the both the lawsuit and the government decision would be resolved by June 2011. She thus felt comfortable investing in options that expired in June (see Exhibit 4). She was unsure whether she should invest by purchasing both call and put options on SIGA and PIP, by purchasing just

¹⁰ SIGA Technologies Inc., "SIGA Selected for the Procurement of Smallpox Antiviral Drug for the Strategic National Stockpile and Responds to Small Business Size Protest," press release, October 13, 2010; available at <http://www.siga.com/?ID=149>, accessed April 16, 2011.

¹¹ "Investment Analysis: SIGA Technologies (SIGA)," Above Average Odds Investing, November 23, 2010; available at <http://www.aboveaverageodds.com/2010/11/23/investment-analysis-siga-technologies-siga-2/>, accessed April 16, 2011.

¹² Sophia Pearson and Jef Feeley, "PharmAthene, Sigma to Begin Trial over Smallpox Drug Licensing Rights," *Bloomberg*, January 4, 2011; available at <http://www.bloomberg.com/news/2011-01-03/pharmathene-siga-to-begin-trial-over-smallpox-drug-licensing-rights.html>, accessed April 16, 2011.

¹³ PharmAthene Inc., "PharmAthene Provides Update on Litigation with SIGA Technologies," press release, January 24, 2011; available at <http://ir.pharmathene.com/phoenix.zhtml?c=191999&p=irol-newsArticle&ID=1518971&highlight=>, accessed April 16, 2011.

¹⁴ The capital requirement for shorting is the same with buying stock; i.e., if Hampton has \$100 and she shorted \$50 of stock, she has only \$50 available to buy other stocks.