Before the
UNITED STATES COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.

In The Matter Of:	
Adjustment of Rates and Terms for Preexisting Subscription and Satellite Digital Audio Radio Services	Docket No. 2006-1 CRB DSTRA

Testimony of

J. ARMAND MUSEY

President, Near Earth LLC

Witness for Sirius Satellite Radio and XM Satellite Radio Inc.

FINAL

XM Exhibit 9

Before the
COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.

In the Matter of	)
Adjustment of Rates and Terms for Preexisting Subscription and Satellite Digital Audio Radio Services	) Docket No. 2006-1 CRB DSTRA

DIRECT TESTIMONY OF J. ARMAND MUSEY
(ON BEHALF OF XM SATELLITE RADIO INC. AND SIRIUS SATELLITE RADIO INC.)

Qualifications

1. I am the President and a senior member of Near Earth LLC, a specialty investment banking firm based in New York, NY that focuses on the satellite industry and related telecom and media sectors. The firm is an NASD registered broker dealer and provides a range of services including private capital raising, merger and acquisition advisory services and strategic and financial consulting. I hold a bachelors degree from the University of Chicago and am a graduate of the Kellogg Graduate School of Management at Northwestern University. I am also a chartered financial analyst (CFA).

2. Prior to joining Near Earth LLC, I was head of satellite equity research at Salomon Smith Barney and prior to that I held similar positions at other brokerage firms including Banc of America and C.E. Unterberg Towbin. I held a more junior role in the satellite research group at Merrill Lynch. In each case, my role was to provide analytical support to institutional investors considering investments in the satellite communications industry. This involved evaluating the

strategies, managements and financial positions of the firms I covered. I was responsible for writing research reports, building financial models, issuing buy and sell recommendations and issuing earning estimate projections as well as conducting one-on-one meetings with investors. Prior to working in research, I spent two years in investment banking immediately after graduating from business school.

3. In 2000, I was ranked the number one analyst covering the satellite communications industry by the Greenwich Associates survey and ranked third by the Institutional Investor survey for the satellite sector. In 2000, I was also rated a top stock picker in the Wall Street Journal's "All Star" Analyst survey. In 2001, I was a runner-up in the Institutional Investor survey and was ranked third in 2002, the last year for which a satellite communications category was included in the poll.

4. Additionally, I am quoted regularly in both trade publications and national and international publications, I have appeared on national television including Bloomberg, Fox and CNN numerous times as an expert in business issues related to satellite communications and I am frequently asked to speak at major industry conferences. My curriculum vitae is attached as Musey Exhibit 1.

5. Previous experience as an expert witness. I have provided expert witness testimony on one other occasion. The case was *Gross v. SES*.

6. Objective. I have been hired to analyze the potential effect of changing the royalty payments which satellite radio companies pay to sound recordings copyright holders from a capital markets perspective.

7. Materials Considered. (in table form in Musey Exhibit 2) In order to complete my analysis, I have reviewed publicly available documents relating to the historical and projected

financial performance of Sirius Satellite Radio and XM Satellite Radio. A list of the materials I reviewed is included in the appendix. I also rely on my general knowledge of and experience with the satellite industry, including Sirius and XM.

8. Compensation. I am being compensated at a rate of $400 per hour, plus reasonable expenses. My compensation is in no way dependent upon the testimony I offer in this case. Other members of Near Earth LLC have assisted me in preparing this report and our firm will also be compensated at the $400 per hour rate for senior professionals' time and $200 per hour for junior professionals' time.

Summary

9. After analysis of both Sirius and XM's financial history and Wall Street's projected performance, I believe that increases in the current royalty payment structure would have significant adverse effects on the satellite radio industry ranging from lower stock prices to higher costs of borrowing, which both hurt investors. My key conclusions are as follows:

- As of June 2006, Sirius and XM have accumulated $3.4 billion and $3.2 billion in losses, respectively.
- Sirius and XM have also invested over $2.6 billion for space and ground assets just to commence their commercial services.
- These large investments were made over a period of time commencing in 1994 for Sirius and in 1997 for XM.
- Under the "Wall Street baseline" scenario which I will outline herein, the current capital positions of Sirius and XM should be sufficient for them to reach sustainable Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA) and Free Cash Flow (FCF)

breakeven sometime in 2008. This is an up to 11 year period for investors in XM and an up to 14 year period for investors in Sirius.

- Because the companies raised substantial fractions of their early stage capital during more "exuberant" times (1997-2001), there is some question whether it would even be possible to finance a satellite radio company in today's financing environment as the appetite for major telecom infrastructure investments with such long periods of negative cash flow has declined.
- Despite analysts' expectations that common stock investors would require annual returns on their investments in excess of the anticipated weighted average cost of capital (including debt and preferred stock) during this period of 20% to 25%, the aggregate average returns to the common stock investors is negative to date for XM shareholders and negative for Sirius' common shareholders before the 2003 debt restructuring, and only 4.6% for all of Sirius' common shareholders.
- Even assuming analysts' expected 12 to 18 month price targets for these stocks are achieved, investors in the common stock of Sirius and XM will on average still have either negative returns on their capital or, in the case of Sirius, low double digit returns well below the rates of returns normally required by investors for such high levels of risk.
- Our sensitivity analysis shows that a change in royalty payments from the actual current level (whatever that level may be) can significantly change Wall Street expectations of each company's stock price.
- The change in stock price due to changes in the royalty rate is at least equal to or exceeds the change in stock price when other key drivers such as subscriber growth, ARPU, churn rate and SAC are changed by the same percentage amounts.

- For example, if royalty as a percent of revenue increased by 1% in the Sirius case, this would represent a decrease to $5.91 from analysts' average 12 to 18 month target stock price of $6.20. To get back to the $6.20 target price, Sirius would have to increase net subscriber additions by an additional approximately 4% over current analyst projections (without incurring any additional subscriber acquisition costs).
- Both XM and Sirius have seen their stocks trade down materially over the last 12 months. If either Sirius or XM's royalty rates are increased and as a result, their EBITDA and cash flow break-even points are delayed, their perceived growth rates, momentum and progress toward maturity will decrease. This would put further short and intermediate term downward pressure on the stocks until investors who were seeking a higher risk investment moved into the stock and prices reached a point where investors thought they were getting a reasonable price for the new lower level of growth.

10. One of the main reasons for such conclusions is the simple fact that increased royalties provide no benefits to subscribers and as a result have to be 100% absorbed by the companies. In contrast, increases in other costs such as adding exclusive proprietary content or new services like traffic and weather can make the service more attractive to consumers. With a more attractive service offering, the companies can attract additional subscribers and also consider raising subscription fees, in either case offsetting such additional content costs and hopefully increasing profits. In the event that royalty payments were increased to the detriment of the satellite radio industry and its investors, I expect the development of new technologies in the media industry would face greater skepticism amongst future investors. This skepticism may lead to a lack of financing for future technologies that could bring additional media services to the public.

11. Satellite radio service providers, Sirius and XM, were founded on the premise that a service that provides listeners with a differentiated music experience combining high quality digital sound with nationwide service and a hundred channels of mostly ad free music and other content would be able to command a subscription fee from a traditionally free radio audience, and thus, generate returns to investors proportionate to the many risks they would be taking.

12. Since the start of these investments, the competitive landscape of the portable, digital audio world has changed, with the proliferation of the iPOD, HD radio, and internet radio to the extent that satellite radio services have changed their focus from music to acquiring the rights to exclusive (largely non-music) content to justify their subscription fees. Furthermore, as proprietary content increases, I expect new subscribers to be attracted, and thus, revenues to increase as a direct result. Since royalties are calculated as a percentage of total revenue, as more proprietary and non-music content is added by Sirius and XM to drive subscriber growth, the amount of royalties paid will increase despite music not adding additional value. In other words, the total value added by music becomes diluted as more proprietary and non-music content is added. Thus, even maintaining the current levels of royalty rates has an actual effect of increasing them from a relative standpoint given the addition of other content over time and industry expected revenue growth. From an investor's point of view, given the new industry realities and challenges, increasing royalty rates over and above this implicit increase would be wholly unjustified.

Overview of the Satellite Radio Business Model

(a) Investment To-Date

13. In addition to billions of dollars spent on subscriber acquisition, marketing and corporate overhead, Sirius and XM have invested over $2.6 billion for space and ground assets

over the last ten years. These assets include licenses, satellites, terrestrial repeaters, uplink facilities/centers, broadcasting studios and other related infrastructure. In the future, Sirius and XM will need to make similar investments to replace satellites, provide for satellite spares, maintain their network and upgrade their existing systems. As of June 2006, Sirius and XM have accumulated $3.4 billion and $3.2 billion in losses respectively (including depreciation). Investors were willing to fund this large investment on the expectation that a new form of digital, multi-channel and ubiquitous audio distribution would cure many of the dissatisfactions listeners had expressed over AM/FM's lack of quality, choice and convenience; like cable did for broadcast TV. In return for bringing radio into the 21st century, investors expected large returns for the many risks they were taking. This new form of radio is known as Satellite Digital Audio Radio Services (SDARS).

14. Space Segment Costs. The space segment has been and will continue to be the largest capital expenditures for the satellite radio companies. Space segment costs include satellite manufacturing, launch costs, launch and in-orbit insurance and in-orbit performance incentives to the satellite manufacturer. Currently, Sirius has three Loral FS 1300 satellites while XM has three Boeing 702 satellites in service. These satellites typically have a design life of 15 years, but occasionally satellites incur damage while in orbit, reducing this expectancy. In fact, both types of satellites used by Sirius and XM are known to have problems with their solar array cells. In the case of XM, it has already paid for the construction and launch of two replacement satellites one of which is now in orbit and the other is in preparation for launch. Insurance proceeds will cover a portion of the loss in satellite capacity. Sirius also has a spare satellite already constructed and both companies have contracts to build an additional satellite each. They will also need to order additional replacement satellites in years to come as they plan for the eventual

replenishment of their respective fleets. According to the FY2005 financial statements, the gross book value of Sirius and XM's combined space segments is approximately $1,850 million.

Represents book value of assets	**Sirius**	**XM**	**Combined**
# of satellites in orbit	3	3	
Manufacturer / Bus	SS/L FS1300	Boeing 702	
In orbit assets	$950 million	$650 million	
Construction in progress	$30 million	$220 million	
Total space segment cost	$980 million	$870 million	$1,850 million

Source: Company financial reports

15. Ground Segment Costs. Sirius and XM have also incurred and continue to incur significant costs to build out and maintain the ground segments that include terrestrial repeaters, ground stations, broadcast facilities, and various customer service and billing systems. To date, Sirius and XM have spent approximately $780 million in the aggregate on their ground segments. Although most of these items should not need to be replaced in the near term, the capital expenditures to maintain the ground segment can be significant.

Represents book value of assets	**Sirius**	**XM**	**Combined**
Approx. # of terrestrial repeaters	140	800	
Cost of terrestrial repeaters	$75 million	$260 million	
Cost of ground station	$20 million	$40 million	
Cost of broadcast studios	$60 million	$60 million	
Systems and other assets	75 million	$190 million	
Total ground segment cost	$230 million	$550 million	$780 million

Source: Company financial reports

(b) Current Capital Structure

16. To help fund their $2.6 billion investment in space and ground assets as well as day to day operations (combined operating losses of $6.6 billion), Sirius and XM have accessed the public and private capital markets on numerous occasions since the 1990's. There have been significant investments made by both financial and strategic investors over the years, in addition to numerous individual public investors. Currently, Sirius and XM stock trade on NASDAQ under the ticker symbols SIRI and XMSR, respectively.

17. At the end of the second quarter in 2006, Sirius had $1.1 billion in debt with $550 million in cash resulting in $550 million in net debt. XM had $1.35 billion in debt with $431 million in cash resulting in $924 million in net debt. I believe that under the "Wall Street baseline" scenario which I will outline in the following section, the current capital positions of Sirius and XM should be sufficient to reach Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA) and Free Cash Flow breakeven (see table below). Despite having large cash balances, Sirius and XM still generate negative EBITDA and Free Cash Flow.

End of Q2 2006	**Sirius**	**XM**
Cash	$535 million	$431 million
Total Debt	$1,084 million	$1,355.1 million
Net Debt	$549 million	$924.1
Shareholders' Equity	$(57) million	$(185.9) million
Total Capitalization	$1,027 million	$1,169.2 million
Debt/Capitalization	106%	116%

Source: Company financial reports

(c) Historical Risk Profile with Expected Rates of Return at the Time

18. I evaluated the historical risk profiles for Sirius and XM by using the weighted average cost of capital (WACC) over time. When evaluating what returns investors demand for putting their capital at risk, investors balance the magnitude of potential returns with the risk to those returns by adjusting the rate of return they would demand. Thus, as the SDARS companies have successfully conquered the risks associated with financing, launching, and selling their systems, the rate of return that investors have demanded from them has generally declined over time but still remains high compared to typical publicly traded companies. In addition to these internal risks, the rate of return demanded by investors has also been affected by external factors, such as the overall conditions of the financial markets and the projected returns available from competing investments.

19. Theoretical Background. Overall, this phenomenon can be described through the Capital Asset Pricing Model, where the cost of capital is expressed through the formula

$$E(R_i) = R_f + \beta_{im}(E(R_m) - R_f).$$

Where:

- $E(R_i)$ is the expected return on the capital asset or company in this case
- R_f is the risk-free rate of interest
- β_{im} (the beta coefficient) the sensitivity of the asset returns to market returns, or also

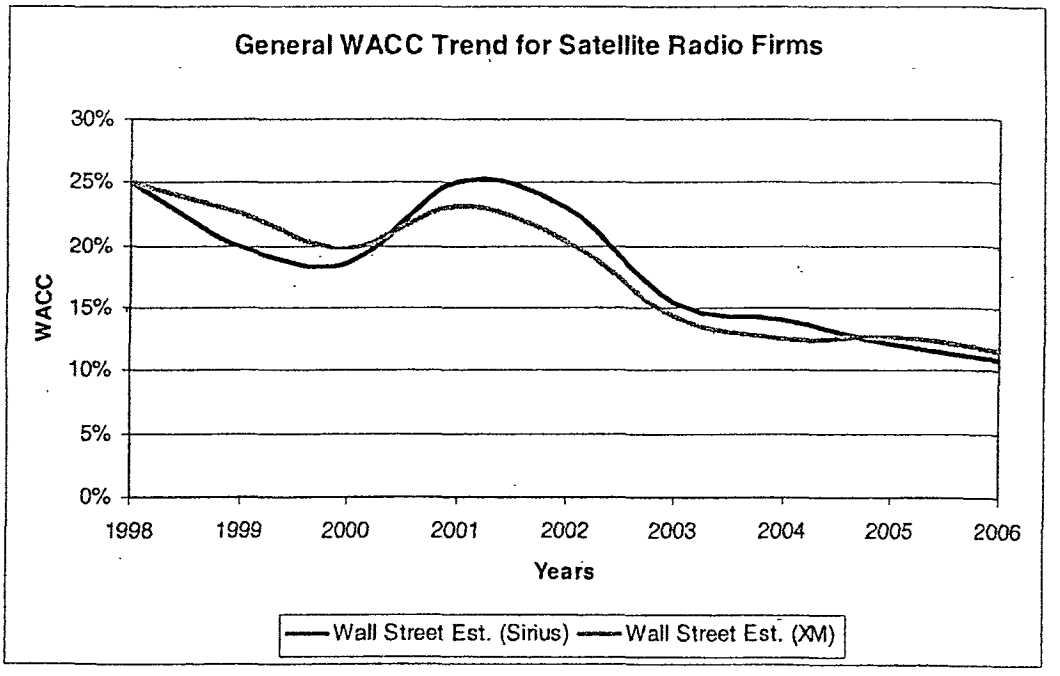
$$\beta_{im} = \frac{Cov(R_i, R_m)}{Var(R_m)}$$

- $E(R_m)$ is the expected return of the market

β_{im} captures the internal risks associated with the satellite radio companies, while the remaining terms capture external market conditions. Because the satellite radio firms both raised substantial fractions of their early stage capital needs (where β_{im} was at its peak) during "exuberant" times (to quote Alan Greenspan) when $E(R_m)$ was depressed, there is some question whether it would even be possible to finance a SDARS company in today's financing environment.

20. Implications for Cost of Capital. I have researched historical Wall Street analyst reports to find analyst's cost of capital assumptions. In the graph below, I plot the weighted average cost of capital (WACC) assumptions used by Wall Street in each year to graph a general trend line between the years 1998-2006. The weighting takes into account the expected investor return requirements for both debt and equity capital weighted by the projected mix of such capital. The graph should not be used as an exact indication of the SDARS companies' WACC at that time since a consensus WACC is extremely difficult to track as analysts do not always publish their figures, however, one can use this graph to see a general trend among past

investors' perceived risk and their required rates of return. Recently, WACC has been declining to approximately 11% for the SDARS companies which reflect a combination of changes in investors' risk, β_{im}, $E(R_m)$, and interest rates. This level of risk is still much greater than terrestrial radio which has WACC estimates of approximately 8.5% - 9.5%, which implies that satellite radio is a riskier investment than terrestrial radio. Because substantial ongoing risks still exist (as compared to lower risk investments such as Treasury bills, investment grade bonds and stocks of more mature and profitable businesses), and because market conditions have become less "exuberant" since the market peak in 2000, it is unlikely that the cost of capital for the SDARS companies will decline materially in the near term unless the companies reach or exceed analyst projections and until cash flow breakeven is reached. These events would reduce risk justifying investors lowering their return requirements. However, I have noticed in a few analysts reports that WACC assumptions have actually increased in 2006.



Source: Wall Street analysts' reports

21. Internal Rate of Return (IRR) to Common Equity Investors. By taking into account all the common equity that investors have invested in Sirius and XM (not including convertible securities and options), and using the companies' current and projected future market values, I calculated the internal rate of return on the aggregate common equity investment for each firm. This analysis demonstrates that the common equity holders, who have taken on the most risk, have not realized adequate returns relative to the risks they assumed when making their investments.

22. To perform this analysis, I evaluated each common equity security offering for both Sirius and XM since their inceptions. Each offering size and date was placed on a timeline and compared to the aggregate equity holdings of those investors based on today's market value and on the price targets of Wall Street analysts 12 to 18 months from now. Using an internal rate of return calculation (IRR), I can determine the average annual return to the common equity investors weighted by time and size of their investment. I only looked at the returns to common equity holders for several reasons. They suffer losses before other classes of investors take a loss. Because the common equity holders take the greatest risk in a company, they consequently demand the highest returns. There have been no debt defaults or failures to redeem preferred stock, so debt holders and preferred stock holders have at least been made whole, although many preferred stock holders have also received below market returns. It is not, therefore, necessary to analyze the returns to debt holders as their returns can generally be characterized as fair. It is also critical that the common equity holders get a fair return because it makes the more (protected) senior investment possible. If they are not allowed a fair return, investor enthusiasm for investing in common equity will diminish and make it more difficult to finance innovative projects in the

future. The results of our IRR analysis is summarized in the table below which shows returns to common equity holders as of today's market price and also assuming the companies reach Wall Street 12-18 month price targets in 12 months and after 18 months.

Internal Rate of Return (IRR) for Common Equity Investors*

	Current	12 Months	18 Months
IRR (Sirius overall)	4.6%	12.1%	11.2%
IRR (Sirius Original Common Equity Investors prior to 2003)	-36.6%	-23.3%	-21.5%
IRR (XM overall)	-5.2%	4.1%	3.8%

* Does not include Warrants, Preferred Stock or other Convertible Securities

Source: Near Earth LLC analysis and Company financial reports

23. As the above table shows, both firms' return on common equity is lower than their historical WACCs and in the case of XM, common equity holders have currently experienced a negative return to date. As the WACC represents a blended average return expectation of all investors (debt and equity), the expected returns required by common equity holders must be much higher than the WACC, as they take a greater share of risk. Clearly, equity investors as a whole, have not yet received an appropriate return on their investment for the risk they assumed, nor do current Wall Street price targets suggest they will in the next 12 to 18 months. It should also be noted that the Sirius figures are somewhat skewed as additional common equity was issued in conjunction with the recapitalization in March 2003 when the stock was trading close to $1.00 per share. As a result, common equity investors from 1994 to 2003 have experienced large losses whereas more recent investors have, in the aggregate, experienced gains.

(d) Fixed Costs

24. The two main fixed costs for both companies are (1) satellite and transmission, and (2) general and administrative.

- Satellite and transmission costs – These expenses consist of costs associated with the operation and maintenance of the satellites, satellite insurance, terrestrial repeater network, satellite uplink facilities and broadcast studios.

- General and administrative costs – These expenses include rent and occupancy, finance, legal, human resources, information technology, and investor relations costs.

(e) Semi-Fixed Costs

25. Semi-fixed costs are expenses that remain fixed over the course of a year or two. These costs have some components that make them vary over a longer period of time, but not on a per capita subscriber basis. These expenses include general sales and marketing, engineering R&D costs, major content agreements and other programming and content expenses. I discuss each in turn:

- Sales and marketing costs – These expenses include costs for advertising, media and production, including promotional events and sponsorships; cooperative marketing; and customer retention.

- Engineering, design and development costs – These expenses include costs to develop future generations of chip sets and new products and costs associated with the incorporation of new radios into vehicles manufactured by automakers.

- Major content agreements – Satellite radio companies have entered into several exclusive programming contracts, including Howard Stern ($80 million per year in cash plus additional equity), the NFL ($27 million per year in cash plus additional equity), NASCAR ($21.5 million per year), and Martha Stewart ($7.5 million per year) for Sirius; and Major League Baseball ($60 million per year) and Oprah ($18 million per year) for XM. In addition to the fixed payments, certain multi-year contracts also may require the satellite radio companies to pay license fees, share advertising revenue, purchase advertising on media properties owned or controlled by the licensor, and pay other guaranteed amounts. Other semi-fixed programming and content expenses include costs to acquire, create and produce content.

(f) Variable Costs

26. Variable costs change with the number of subscribers and typically include subscriber acquisition costs, customer service and support expenses, and royalty payments.

- Subscriber acquisition costs – These costs consist of hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid to chip set manufacturers; and commissions paid to retailers and automakers.

- Loyalty payments and revenue share costs – Loyalty payments to distributors and dealers are payments made after subscribers added as a result of such distributor's or dealer's efforts have remained subscribers for a specified amount of time. Revenue share payments to automakers, retailers and content providers are contractual payments made on a multi-period basis. Both of these costs are included in the sales and marketing expense in the case of Sirius. For XM, revenue share is a separate line item that is included with royalty payments.

- Customer service and support expenses – These expenses include costs associated with the operation of the customer service centers and subscriber management systems.

- Royalty payments – Satellite radio companies have royalty arrangements with two sets of rights holders: 1) holders of copyrights in musical works, or songs, and 2) holders of copyrights in sound recordings—records, cassettes, compact discs and audio files. Musical works rights holders, generally songwriters and music publishers, are represented by performing rights organizations such as the American Society of Composers, Authors and Publishers, or ASCAP, Broadcast Music, Inc., or BMI, and SESAC, Inc. Sound recording rights holders, typically large record companies, are primarily represented by SoundExchange. These organizations seek to establish fees with copyright users, collect royalties and distribute them to the rights holders.

(g) Revenue

27. There are two primary sources of income for satellite radio companies: 1) recurring subscription fees (with one-time activation fees) and 2) advertising revenue. Over 90% of revenues come from subscription fees while only 2-3% is from advertising revenue. Currently, advertising spots are sold primarily on the non-music channels (e.g. news, talk, sports, comedy) so the revenue potential is fairly limited. However, most analysts expect advertising revenue to increase to roughly 10%-15% of total revenue by 2011 as advertisers continue to seek alternative means of reaching targeted niche audiences and the absolute number of non-music listeners climbs. Sirius has also publicly indicated a goal of reaching 10% of revenue generated through advertising.

28. Typically, subscribers purchase their satellite radios either when they purchase an automotive vehicle or from one of several retail channels (e.g. consumer electronics chains, major discount retailers, after-market auto parts stores). Both Sirius and XM have exclusive factory installation relationships with the major automakers as shown below:

XM	Sirius
GM	Ford
Toyota	DaimlerChrysler
Honda	Audi/Volkswagen
Nissan	BMW
Hyundai	Kia
Suzuki	Mitsubishi

Source: Company financial reports

Valuation Methodologies Used by Wall Street analysts

29. An explanation of various valuation methods used by Wall Street analysts are presented below. I believe that this is the best proxy for how investors view and analyze the companies:

(a) Subscriber Economic Models

30. Fixed Cost. The investment case for the satellite radio companies is the combination of the net present value of their subscribers (and the subscribers they are going to get) minus the net present value of the remaining expenses of the enterprise that are not associated with the individual subscribers such as fixed costs. These expenses include:

- Satellite launch and operations
- Terrestrial repeater construction and operation
- Equipment and chipset design subsidies
- Content expenses that are not charged on a per subscriber basis (e.g. NFL, Howard Stern, MLB, Oprah, etc.)
- Corporate G&A
- Automaker distribution agreements and other fixed expenses

31. Since the fixed expenses are very considerable, the value of the business is negative until enough subscribers have been accumulated so that they, in the aggregate, provide an adequate return to compensate for these fixed expenses. Once this level of operations has been achieved, adding new customers creates value in essentially a linear fashion (i.e. twice as many new customers means twice as much created value; see sample calculation below).

32. Sample Illustrative Calculation:

	Per Subscriber	Break-Even	+ 5 subs	+ 10 subs
# of subscribers	1	5	10	15
Revenue per Subscriber	$5	$5	$5	$5
Variable Cost per Subscriber	$3	$3	$3	$3
Gross Profit per Subscriber	$2	$2	$2	$2
Total Gross Profit	$2	$10	$20	$30
Fixed and Semi-Fixed Costs	$10	$10	$10	$10
Operating Profit	($8)	$0	$10	$20

Source: Near Earth LLC

33. Variable Cost. The valuation for the satellite radio companies is directly related to the subscriber economics at the unit level (i.e. per subscriber). This valuation technique examines the costs and benefits from the operator's perspective for each of their subscribers. These costs and benefits can be further subdivided into categories of "one time" vs. "recurring." When summed together, these cash flows can then be valued to project cash flows from a companywide perspective. Only variable costs are included when valuing an incremental subscriber as fixed costs are incurred regardless of the number of subscribers, and thus, have no bearing on the value of each additional subscriber. Fixed costs must, however, be included when valuing the company as a whole.

34. Thus, for each subscriber, the operator benefits from the following recurring income streams:

- Subscription revenues
- Advertising revenues

While incurring the following expense streams:

- Subscriber Acquisition Costs
    - Equipment subsidies
    - Auto manufacturer incentives
    - Dealer incentives (sales commissions)
- Dealer/distributor revenue-sharing payments

- Sales and Marketing
    - Advertising
- Performance royalty payments
- Customer Service and Billing

35. Both companies also provide internet streaming of their content, but currently this represents a relatively small fraction of total revenue and costs. I have decided to ignore it in my analysis as most analysts seem to have as well.

36. Valuing a subscriber also requires some knowledge (or at least a projection) of the tendency of a customer to remain a customer (customer life) and the effect this has on recurring cash flows over time. Generally speaking, the customer life is measured through analysis of churn, which is the fraction of the subscriber base that is lost in any given period (usually expressed as a monthly percentage). Customer life is the inverse of the churn level (i.e. a 1% monthly churn implies a $^{1}/_{.01}$ or 100 month subscriber life). The revenue portion of the cash flow streams is described using the term ARPU (Average Revenue per User), which varies according to inflation, customer demand and other factors. The royalty payments also vary as the ARPU varies.

37. Finally, the individual subscriber analysis must account for the timing of these cash flows. Because of the time value of money, future expenses and revenues must be discounted to the present at a rate that reflects the cost of capital for the firms. Because the expenses from Subscriber Acquisition Costs are front loaded (and as such, are *not* discounted), they play a major role in determining the lifetime subscriber value for a customer. The valuation is also sensitive to the discount rate itself, which has a considerable effect on the value of the future cash flows. Higher discount rates depress the present value of these net cash flows to a greater extent and reduce the overall net value of each customer.

(b) Discounted Cash Flow (DCF) Analyses

38. In addition to valuing the SDARS enterprises on a per subscriber basis, it is common for analysts to project cash flows on an enterprise (company wide) basis for some length of time, typically 5 to 7 years. Then, using the projected cash flows through the end of such projection period, the terminal date, combined with an estimate of the firm wide value on that terminal date, it is possible to estimate the cash flows and value available for distribution to investors. Adjustment for the timing and quantity of cash flows and terminal value is done by discounting them to the present using a projected cost of capital (e.g. 11% per year).

39. In the case of the satellite radio companies, this discount rate reflects the market perception of the uncertainty of these projected cash flows. There are several factors that affect this:

- Changing satellite reliability/lifetime projections
- Changing terrestrial repeater network reliability/lifetime
- Competitive threats
    - Competition between the satellite radio firms
    - Competition between the satellite radio industry and competing technologies (e.g. terrestrial radio, HD radio, iPod, broadband programming services, etc.)
- Regulatory issues
    - Political risks associated with laws being rewritten to favor the NAB or copyright owners
- Macroeconomic environment
- Financing risks (i.e. access to capital and changing interest rates)
- Distribution risks (e.g. GM's shrinking market share)
- Taxation risks
- Potential for Increasing costs
    - Content costs
    - Programming royalties
    - Broadcast facilities
    - Other unexpected events

(c) Forward Trading Multiples

40. While they are not commonly employed at this stage of an industry's maturity, some analysts (and thus presumably some investors) model the future financial behavior of the satellite

radio companies and then determine the future value of the firms using current or expected future trading multiples of comparable companies applied to one or more financial metrics. Commonly used financial metrics include Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA), Free Cash Flow and GAAP (Generally Accepted Accounting Principles) earnings. For example, an investor or analyst may decide the equity of a company should be worth 25.0 times 2008 earnings, a price/earnings multiple of 25.0, or that the enterprise value of a company in 2008 should be worth 10.0 times EBITDA, an EBITDA multiple of 10.0. Investors and analysts choose comparable companies based on the degree to which their businesses match that of the firm to be valued in terms of industry participation, products and services offered, revenue model, capital structure growth rates, size and profitability. These comparable-based valuations at some future time (combined with interim cash flows through the projection date) can then be discounted back to the present to derive a target price. Given that any change in an anticipated underlying financial metric is then multiplied by a factor (e.g. price/earnings multiple or EBITDA multiple) which amplifies such change, valuations using this method can be very sensitive to variations in costs, revenues or other projections. For example, Wall Street analysts value Sirius at 17 times 2010 EBITDA. A $1.00 increase in royalty payment would reduce EBITDA by $1.00 and reduce the valuation by $17.00. The change in valuation would affect only the equity value of the company since the value of the debt would remain constant. Therefore, one can expect that some fraction of investors would respond very strongly to slight variations in programming royalties, especially as such changes would be deemed to be long term in nature and not transient. Generally speaking, these comparable-based techniques are better suited for slower growth firms where the metric in question is not changing rapidly or more mature industries where changes in the metric are better understood.

Current Wall Street Analysts' "Baseline Scenario" and Valuations

41. The satellite radio business model is primarily a subscription content distribution model with limited advertising. The key business drivers and assumptions for a subscription model are subscriber growth, churn rate, average revenue per user (ARPU) which is predominately subscriber revenue with limited advertising revenue, subscriber acquisition costs (SAC), and programming and content expenses. A group of recent reports from the research analysts at major Wall Street Investment Firms covering the Satellite Radio industry was used to develop the Wall Street analysts' "Baseline Scenario" for both Sirius and XM (details of the research reports can be found in the Appendix). Each key business driver and the respective Wall Street analyst assumptions are discussed below:

(a) Subscriber Growth Assumptions

42. Satellite radio subscribers are typically added through the OEM channel or the retail channel. Most analysts are bullish on subscriber additions particularly as the OEM channel continues to ramp up production of vehicles with factory installed satellite radios. This is due to a marked preference on the part of most consumers to not alter the sound equipment in their car following purchase. As I mentioned earlier, recent exclusive content agreements have also contributed to subscriber growth in both the OEM and retail channels.

43. The analysts' reports that I have referenced expect Sirius' subscriber base to grow a compound rate of approximately 28% per year from 6.3 million subscribers in 2006 to 16.9 million subscribers in 2010. Analysts expect XM's subscriber base to grow by a compound rate of approximately 25% per year from 8.2 million subscribers in 2006 to 18.0 million subscribers in 2010.

EOY subscribers ('000,000s)						CAGR
	2006E	2007E	2008E	2009E	2010E	'06-'10
Wall Street Est. (Sirius)	6.30	9.19	11.98	14.53	16.91	28.0%
Wall Street Est. (XM)	8.17	10.67	13.43	15.93	18.01	21.9%
Total	14.47	19.87	25.41	30.46	34.92	24.6%

Source: Wall Street analysts' reports

(b) Churn Rate Assumptions

44. Analysts are assuming average monthly churn rate for both Sirius and XM to increase from 1.8% in 2006 to 2.2% in 2010 (see table below). These analysts predict that churn rate will increase as the percentage of OEM customers increase relative to the overall subscriber base. OEM customers tend to have a higher churn rate because the average new automobile ownership period is approximately four years. This translates into a monthly churn rate of approximately 2.1% if I assume that all OEM customers subscribe to satellite radio after the promotional or prepaid period. But not every OEM subscriber converts to become a satellite radio subscriber after the OEM promotional or prepaid period, and therefore, churn rates for OEM subscribers would have to be higher than 2.1%. In addition, most industry observers expect churn to increase as early adopters of technology products are more enthusiastic and have historically lower churn than later adopters.

Churn Rate (monthly)						CAGR
	2006E	2007E	2008E	2009E	2010E	'06-'10
Wall Street Est. (Sirius)	1.8%	2.0%	2.1%	2.2%	2.2%	6.0%
Wall Street Est. (XM)	1.9%	2.0%	2.0%	2.1%	2.1%	3.2%
Average	1.8%	2.0%	2.1%	2.1%	2.2%	4.6%

Source: Wall Street analysts' reports

(c) Average Revenue per Subscriber (ARPU) Assumptions

45. Wall Street analysts expect ARPU to increase from $10.60 in 2006 to $11.99 in 2010, or basically a $1.40 price increase over the next five years. These rates are not particularly different from current inflation projections as evidenced by interest rates for inflation protected securities. The competitive structure of the satellite radio industry (including its competition

from terrestrial radio and other sources) would lend itself to disciplined pricing strategies between Sirius and XM. Furthermore, the addition of exclusive content may reduce consumers' elasticity of demand, allowing for price increases. However, new technologies such as the iPOD, Internet radio and HD radio may put pressure on the satellite radio industry offsetting the ability to increase prices, and perhaps even pushing prices lower. I will address these issues in later sections of this report.

ARPU (monthly)						CAGR
	2006E	2007E	2008E	2009E	2010E	'06-'10
Wall Street Est. (Sirius)	$ 10.72	$ 11.03	$ 11.56	$ 12.02	$ 12.27	3.4%
Wall Street Est. (XM)	$ 10.49	$ 10.95	$ 11.38	$ 11.54	$ 11.71	2.8%
Average	$ 10.60	$ 10.99	$ 11.47	$ 11.78	$ 11.99	3.1%

Source: Wall Street analysts' reports

(d) Subscriber acquisition costs (SAC) assumptions

46. Analysts expect average SAC to decrease from $90 in 2006 to $57 in 2010, representing a 10% decline in SAC every year as shown below. This is due to the assumption that both companies are moving down the technology cost curve which will lead to cheaper chipsets used in the radio hardware. In addition, the continual increase in gross subscriber additions will create economies of scale for sales and marketing expenses that will improve total Cost per Gross Addition (CPGA) or fully loaded SAC.

SAC (not CPGA)						CAGR
	2006E	2007E	2008E	2009E	2010E	'06-'10
Wall Street Est. (Sirius)	$ 112.17	$ 93.79	$ 78.40	$ 65.40	$ 59.40	-14.7%
Wall Street Est. (XM)	$ 66.35	$ 60.95	$ 57.75	$ 56.75	$ 55.75	-4.3%
Average	$ 89.26	$ 77.37	$ 68.08	$ 61.08	$ 57.58	-10.4%

Source: Wall Street analysts' reports

(e) Programming and Content Cost Assumptions

47. As I discussed earlier, programming and content costs include both semi-fixed costs (*e.g.*, exclusive programming contracts) and variable costs (*e.g.*, royalty payments). I believe that a majority of the total programming & content costs in 2006 are due to expenses of the semi-

fixed variety such as the exclusive programming contracts. However, these semi-fixed multi-year contracts become less significant (as a percentage of revenue) as the subscriber and revenue base increases. Therefore, Wall Street analysts project programming & content costs to decline as a percentage of total revenue from 36% in 2006 to 15% in 2010 for Sirius (see table below) as a result of major content deals remaining fixed.

Prog. & Content (% of Rev)						CAGR
	2006E	2007E	2008E	2009E	2010E	'06-'10
Wall Street Est. (Sirius)	36.2%	24.2%	19.5%	16.5%	14.7%	-20.1%

Source: Wall Street analysts' reports

48. Since XM separates its content and programming costs from royalties and revenue sharing on its financial statements, I will focus on the latter in our analysis. Subsequently, XM's revenue share and royalty costs as a percentage of revenue remain relatively constant as both are variable costs driven by subscriber revenue. Wall Street analysts expect revenue share and royalty payments to approach 20% of revenue in 2010 for XM (see table below). The slight increase is due to the revenue share agreement with General Motors that increases until GM has produced 8 million vehicles with XM factory installed radios.

Revenue Share & Royalties (% of Rev)						CAGR
	2006E	2007E	2008E	2009E	2010E	'06-'10
Wall Street Est. (XM)	17.0%	18.4%	19.5%	20.0%	20.0%	4.2%

Source: Wall Street analysts' reports

49. Sirius' programming & content expenses as a percentage of revenue is lower than XM's revenue share and royalties as a percentage of revenue because Sirius includes revenue share in their sales & marketing expenses. It is important to note that I am not comparing Sirius to XM above as these two line items are fundamentally different.

50. In connection with the music programming, most analysts estimate that the satellite radio companies are paying approximately 6%-8% of revenues to the copyright organizations representing both the musical works and sound recordings. The actual figure is not publicly

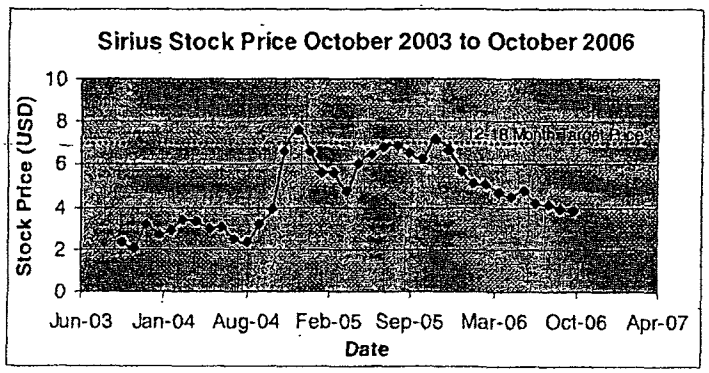
known, and thus, this estimate might not be accurate. Whether it is accurate or not is not important from an investor's perspective as they are only aware of the total content costs disclosed in financial statements and projected by analysts. What is important is the market's expectation about future increases in royalty payments from the current level as such increases would affect the total costs incurred and affect analysts' future cost projections. Due to substantial subscriber growth, the actual dollar amounts of these payments are expected to increase significantly as subscriber revenues increase. Therefore, the programming and content projections as well as the revenue share and royalty payments in the tables above do not make any allowances for an increase in the rate for royalty payments.

51. Non-projected increases in royalty rates thus pose a concern in the mind of investors regarding the value of these satellite radio companies. The concern is that these royalty payments are variable costs, and a percentage increase in royalty payments reduces operating cash flow dollar-for-dollar without adding any new subscribers. This impact would disproportionately affect the programming and content costs in the outer years. For example, a 1% increase in royalty payments would be less disruptive to cash flow in 2006 than in 2010 since revenues are less in 2006 than 2010, but such an increase would delay cash flow breakeven and thus adversely affect the companies' cost of capital as explained below. Furthermore, a company's value is highly sensitive to changes in EBITDA or cash flow in the outer years, depending on the valuation method used. Therefore, a change in the EBITDA and cash flows in the outer years can significantly change the Wall Street analysts' valuations. You will see the potential effect on stock price due to changes in "programming and content" costs in following sections.

(f) Sirius Satellite Radio (SIRI) Valuation Summary

* Different banks are used due to the timing and availability of updated target prices.

52. A recent query of Wall Street analysts' reports produces an average target price of $6.20 per share over the next 12-18 months. The reports used to get the average target price differ because of the timing and availability of the most recent Wall Street analysts' reports within the last two months.

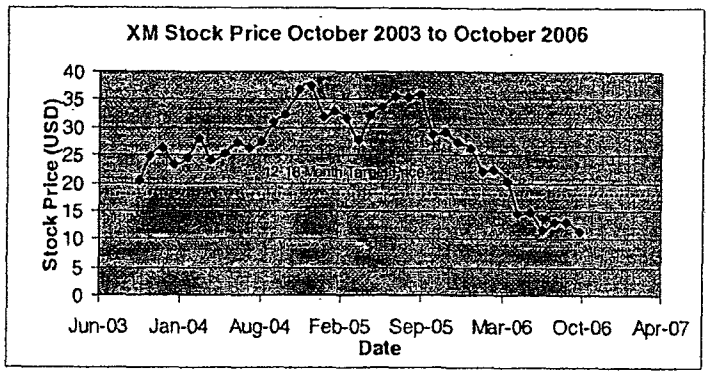


Stock Target Price (12-18 months)		
Sirius Satellite Radio		
Bear Stearns	$	7.00
CIBC World Markets	$	7.00
Credit Suisse	$	6.00
Deutsche Bank	$	6.00
RBC Capital	$	5.00
Wall Street Est. (Sirius)	$	6.20
Share Price, close (10/17/06)	$	3.83

Source: Stock price from NASDAQ, Target price from Wall Street analysts' reports

(g) XM Satellite Radio (XMSR) Valuation Summary

53. A recent query of Wall Street analysts' reports produces an average target price of $17.80 per share over the next 12-18 months.



Stock Target Price (12-18 months)		
XM Satellite Radio		
Bear Stearns	$	17.00
Credit Suisse	$	17.00
Deutsche Bank	$	20.00
RBC Capital Markets	$	20.00
Wachovia	$	15.00
Wall Street Est. (XM)	$	17.80
Share Price, close (10/17/06)	$	11.96

Source: Stock price from NASDAQ, Target price from Wall Street analysts' reports

Implications of Changes to "Baseline Scenario"

54. I have conducted a financial analysis for Sirius and XM using the Wall Street baseline assumptions mentioned above. The financial analysis is utilized to predict the theoretical impact on each company's valuation, debt coverage and break even scenarios due to changes in the baseline assumptions.

(a) Theoretical Impact on Stock Price, Debt Covenants and Capital Raising

55. The next section contains several tables which can also be described as a sensitivity analysis. Each table has two variables, one for the rows and one for the columns in which they are gradually increasing or decreasing. The purpose is to show if variable "A" in the top row increases or decreases and variable "B" on the side column increases or decreases what affect will the changes have on the companies' stock price. While the purpose of this testimony is to show the effect changes in royalty rates have, I feel that it is necessary to compare such effects to changes in other major drivers of the companies' stock price as well. This will demonstrate the magnitude that royalty payments carry relative to the other major drivers. In later sections I will analyze the effects changes in royalty rates have on the costs and availability of additional capital.

56. Sensitivity to Target Stock Price. Our sensitivity analysis shows that a change in royalty payments from the actual current level (whatever that level may be) can significantly change Wall Street expectations of each company's stock price. Analysts' estimates of the current royalty levels are immaterial to my analysis since royalty payments are expressed as a percentage of revenue and I can assume that a percentage increase in royalty payments is a one-to-one increase in the expense line item "Programming and Content (as a percentage of revenue)" for Sirius and a one-to-one increase in the expense line item "Revenue Share and

Royalties (as a percentage of Revenue)" for XM. Thus, any analyzed increase in the royalty rate has a direct increase in the projected costs versus the existing analysts' expectations regardless of what the current royalty rate may be.

57. In the sensitivity tables below, the baseline case for Sirius is when there is a 0% increase in the row named "Programming & Content (as a percentage of revenue)", and a 0% change in the column named "Wall Street baseline case" for each of the key assumptions. The baseline case for XM is when there is 0% increase in "Royalties and Revenue Share (as a percentage of revenue)" and 0% change from the "Wall Street baseline case". The stock price in the sensitivity tables below represents Wall Streets' target price in 12-18 months for both companies ($6.20 for Sirius and $17.80 for XM).

58. In all of the sensitivity tables below, the target stock price begins to fall when one increases the royalty rate. The change in stock price due to changes in the royalty rate is at least equal to or exceeds the change in stock price when other key drivers such as subscriber growth, APRU, churn rate and SAC are changed by the same percentage amounts.

59. In tables 1 and 2 below, it is important to note, increases in costs for proprietary content would be expected to increase the number of subscribers as the services offered would become more desirable; whereas an increase solely in royalty payments would have no effect on the number of subscribers. As the tables point out, a 1% increase in royalty rates in the Sirius case represents a decrease in target price from $6.20 to $5.91. To get back to the $6.20 target price, Sirius would have to increase net additions by approximately 4% (without incurring any additional subscriber acquisition costs). As such, an increase of 3% or 5% in royalty rates would represent a decrease in Sirius' target price to $5.34 and $4.78 respectively which would require significant increases in subscribers in excess of 10% to get back to the current price.

Table 1: Royalty Rate vs. Net Subscriber Addition Growth: Sirius Satellite Radio (SIRI)
(Changes in the royalty rate below reflect changes only in the royalty rate and no other expenses)

Sensitivity Analysis on Sirius Stock Price: Royalty Rate vs. Net Addition Growth								
		% increase in Royalty Rate (as a % of total revenue)						
		-5%	-3%	-1%	0%	1%	3%	5%
	-5%	$7.33	$6.70	$6.09	$5.81	$5.54	$4.98	$4.43
Sub Growth	-3%	$7.52	$6.88	$6.24	$5.97	$5.69	$5.13	$4.57
(% change	-1%	$7.71	$7.06	$6.41	$6.12	$5.84	$5.27	$4.71
from Wall Street	0%	$7.80	$7.15	$6.49	$6.20	$5.91	$5.34	$4.78
baseline)	1%	$7.90	$7.24	$6.58	$6.27	$5.99	$5.42	$4.85
	3%	$8.09	$7.42	$6.75	$6.43	$6.14	$5.56	$4.98
	5%	$8.27	$7.60	$6.92	$6.59	$6.29	$5.71	$5.12

Source: Near Earth LLC analysis

Table 2: Royalty Rate vs. Net Subscriber Addition Growth: XM Satellite Radio (XMSR)
(Changes in the royalty rate below reflect changes only in the royalty rate and no other expenses)

Sensitivity Analysis on XM Stock Price: Royalty Rate vs. Net Addition Growth								
		% increase in Royalty Rate (as a % of total revenue)						
		-5%	-3%	-1%	0%	1%	3%	5%
	-5%	$20.14	$18.34	$16.53	$15.63	$14.73	$12.93	$11.13
Sub Growth	-3%	$21.06	$19.24	$17.41	$16.50	$15.59	$13.76	$11.94
(% change	-1%	$21.98	$20.14	$18.29	$17.36	$16.44	$14.59	$12.74
from Wall Street	0%	$22.44	$20.59	$18.73	$17.80	$16.87	$15.01	$13.15
baseline)	1%	$22.90	$21.04	$19.16	$18.23	$17.29	$15.42	$13.55
	3%	$23.82	$21.94	$20.04	$19.09	$18.15	$16.25	$14.35
	5%	$24.74	$22.83	$20.92	$19.96	$19.00	$17.08	$15.16

Source: Near Earth LLC analysis

60. In tables 3 and 4, an increase in royalty rates would not improve ARPU since the subscribers would not be benefiting from additional content. However, more than a 5% increase in ARPU from the baseline case would be needed to offset a 3 % increase in royalty rates to maintain the stock price targets. In this case, an important dynamic occurs between ARPU and royalty payments. By increasing ARPU, the absolute dollars of royalty payments increase automatically since they are a percentage of revenue. Therefore, a greater increase in ARPU is needed to offset the increase in royalty payments.

Table 3: Royalty Rate vs. ARPU: Sirius Satellite Radio (SIRI)
(Changes in the royalty rate below reflect changes only in the royalty rate and no other expenses)

Sensitivity Analysis on Sirius Stock Price: Royalty Rate vs. ARPU								
		% increase in Royalty Rate (as a % of total revenue)						
		-5%	-3%	-1%	0%	1%	3%	5%
	-5%	$6.71	$6.15	$5.61	$5.34	$5.07	$4.53	$3.99
ARPU Growth	-3%	$7.15	$6.51	$5.96	$5.68	$5.41	$4.85	$4.30
(% change	-1%	$7.59	$6.94	$6.31	$6.03	$5.74	$5.18	$4.62
from Wall Street	0%	$7.80	$7.15	$6.49	$6.20	$5.91	$5.34	$4.78
baseline)	1%	$8.02	$7.36	$6.70	$6.37	$6.08	$5.51	$4.93
	3%	$8.46	$7.79	$7.11	$6.77	$6.44	$5.83	$5.25
	5%	$8.90	$8.21	$7.52	$7.18	$6.84	$6.16	$5.57

Source: Near Earth LLC analysis

Table 4: Royalty Rate vs. ARPU: XM Satellite Radio (XMSR)
(Changes in the royalty rate below reflect changes only in the royalty rate and no other expenses)

Sensitivity Analysis on XM Stock Price: Royalty Rate vs. ARPU								
		% increase in Royalty Rate (as a % of total revenue)						
		-5%	-3%	-1%	0%	1%	3%	5%
	-5%	$18.64	$16.86	$15.08	$14.20	$13.31	$11.53	$9.75
ARPU Growth	-3%	$20.16	$18.35	$16.54	$15.64	$14.73	$12.92	$11.11
(% change	-1%	$21.68	$19.84	$18.00	$17.08	$16.15	$14.31	$12.47
from Wall Street	0%	$22.44	$20.59	$18.73	$17.80	$16.87	$15.01	$13.15
baseline)	1%	$23.20	$21.33	$19.45	$18.52	$17.58	$15.70	$13.82
	3%	$24.72	$22.82	$20.91	$19.96	$19.00	$17.09	$15.18
	5%	$26.23	$24.30	$22.36	$21.40	$20.42	$18.48	$16.54

Source: Near Earth LLC analysis

61. Once again in tables 5 and 6, royalty rates have no effect on monthly churn whereas increasing other content costs, such as for proprietary content, could be expected to reduce churn. As the analysis shows, a 3% increase in royalty payments would require more than a 25% decrease in the monthly churn rates' baseline case for Sirius and XM just to maintain the same target prices. For example, Wall Street analysts predict churn to increase from 1.8% to 2.2% from 2006 to 2009. A 25% decrease in churn would bring this total to 1.35% and 1.65% respectively, levels almost impossible to achieve due to the turnover of automotive vehicles.

Table 5: Royalty Rate vs. Monthly Churn: Sirius Satellite Radio (SIRI)
(Changes in the royalty rate below reflect changes only in the royalty rate and no other expenses)

Sensitivity Analysis on Sirius Stock Price: Royalty Rate vs. Churn								
		% increase in Royalty Rate (as a % of total revenue)						
		-5%	-3%	-1%	0%	1%	3%	5%
	-25%	$8.59	$7.93	$7.28	$6.95	$6.62	$6.01	$5.44
Monthly	-15%	$8.27	$7.62	$6.96	$6.64	$6.31	$5.74	$5.18
Churn	-5%	$7.96	$7.30	$6.65	$6.33	$6.05	$5.48	$4.91
(% change	0%	$7.80	$7.15	$6.49	$6.20	$5.91	$5.34	$4.78
from Wall Street	5%	$7.65	$6.99	$6.35	$6.06	$5.78	$5.21	$4.64
baseline)	15%	$7.33	$6.68	$6.08	$5.80	$5.52	$4.95	$4.38
	25%	$7.02	$6.39	$5.82	$5.53	$5.25	$4.68	$4.11

Source: Near Earth LLC analysis

Table 6: Royalty Rate Sharing vs. Monthly Churn: XM Satellite Radio (XMSR)
(Changes in the royalty rate below reflect changes only in the royalty rate and no other expenses)

Sensitivity Analysis on XM Stock Price: Royalty Rate vs. Churn								
		% increase in Royalty Rate (as a % of total revenue)						
		-5%	-3%	-1%	0%	1%	3%	5%
	-25%	$23.45	$21.62	$19.78	$18.86	$17.94	$16.10	$14.27
Monthly	-15%	$23.04	$21.21	$19.36	$18.44	$17.51	$15.67	$13.82
Churn	-5%	$22.64	$20.79	$18.94	$18.01	$17.08	$15.23	$13.37
(% change	0%	$22.44	$20.59	$18.73	$17.80	$16.87	$15.01	$13.15
from Wall Street	5%	$22.24	$20.38	$18.52	$17.58	$16.65	$14.79	$12.92
baseline)	15%	$21.84	$19.97	$18.09	$17.16	$16.22	$14.35	$12.47
	25%	$21.43	$19.55	$17.67	$16.73	$15.79	$13.91	$12.03

Source: Near Earth LLC analysis

62. Finally in tables 7 and 8, a three percent increase in royalty payments would require more than a 5 percent decrease in the subscriber acquisition costs' baseline case for Sirius and XM just to maintain the same target prices.

Table 7: Royalty Rate vs. SAC: Sirius Satellite Radio (SIRI)
(Changes in the royalty rate below reflect changes only in the royalty rate and no other expenses)

Sensitivity Analysis on Sirius Stock Price: Royalty Rate vs. SAC								
		% increase in Royalty Rate (as a % of total revenue)						
		-5%	-3%	-1%	0%	1%	3%	5%
	-5%	$7.96	$7.30	$6.65	$6.33	$6.05	$5.48	$4.91
SAC	-3%	$7.90	$7.24	$6.59	$6.28	$5.99	$5.42	$4.86
(% change	-1%	$7.84	$7.18	$6.52	$6.22	$5.94	$5.37	$4.80
from Wall Street	0%	$7.80	$7.15	$6.49	$6.20	$5.91	$5.34	$4.78
baseline)	1%	$7.77	$7.12	$6.46	$6.17	$5.89	$5.32	$4.75
	3%	$7.71	$7.05	$6.40	$6.12	$5.83	$5.27	$4.70
	5%	$7.65	$6.99	$6.35	$6.06	$5.78	$5.21	$4.64

Source: Near Earth LLC analysis

Table 8: Royalty Rate vs. SAC: XM Satellite Radio (XMSR)
(Changes in the royalty rate below reflect changes only in the royalty rate and no other expenses)

Sensitivity Analysis on XM Stock Price: Royalty Rate vs. SAC								
		% increase in Royalty Rate (as a % of total revenue)						
		-5%	-3%	-1%	0%	1%	3%	5%
	-5%	$23.06	$21.21	$19.35	$18.42	$17.49	$15.63	$13.77
SAC	-3%	$22.81	$20.96	$19.10	$18.17	$17.24	$15.38	$13.52
(% change	-1%	$22.57	$20.71	$18.85	$17.92	$16.99	$15.13	$13.27
from Wall Street	0%	$22.44	$20.59	$18.73	$17.80	$16.87	$15.01	$13.15
baseline)	1%	$22.32	$20.46	$18.60	$17.67	$16.74	$14.88	$13.02
	3%	$22.07	$20.21	$18.35	$17.42	$16.49	$14.63	$12.77
	5%	$21.82	$19.96	$18.10	$17.17	$16.24	$14.38	$12.52

Source: Near Earth LLC analysis

63. Effect on Debt Covenants and Leverage. Debt covenants are specific restrictions that a borrower agrees to abide by during the life of its loan. The restrictions can be as simple as a cash minimum or restricting the amount of additional debt that can be borrowed to a more complex agreement involving maintaining certain debt ratios. Covenants are important for analyzing companies as a covenant can have a substantial effect on a company's ability to execute a business plan if there is risk of breaching one. A breached covenant can at best increase borrowing costs and at worst allow creditors to foreclose. I believe that under the baseline scenario the major financial covenants of both Sirius and XM (shown in table below) will have little effect on executing their business plans as the chances of a breach is minimal.

Major Debt Covenants

Sirius	XM
Can borrow up to $500 million in Sr. Debt and once positive EBITDA is achieved can borrow an additional 6X EBITDA.	Requires a minimum of $75 million in liquidity.
Additional 175% of new equity raised.	Credit revolver rate is based on company performance.

Source: Company reports

64. The following tables show changes to debt coverage ratios for Sirius and XM as these expenses are increased to 5%. Although I do not expect any of these covenants to be triggered, an increase of 5% significantly reduces the companies' coverage ratios, and thus, would affect

the trading levels of outstanding notes and result in increased borrowing costs. Note that the general effect of a 5% increase is to delay by a full year the time at which the companies' leverage approaches suitable levels (i.e. below 7.0x Net debt/EBITDA).

65. **SIRIUS Satellite Radio Debt Ratios.** At 0% increase in "Programming & Content as a % of Sales": (SIRI)

SIRIUS SATELLITE RADIO	2006E	2007E	2008E	2009E	2010E
Debt Ratios					
EBITDA	($510.1)	($256.7)	$43.9	$380.1	$647.9
Interest Expense	$67.0	$68.5	$67.1	$64.4	$55.6
Total Debt	$1,031.7	$1,031.7	$1,031.7	$730.0	$730.0
Net Debt	$565.4	$648.6	$576.8	$103.1	($547.1)
Total Debt/EBITDA	NM	NM	23.5x	1.9x	1.1x
Net Debt/EBITDA	NM	NM	13.1x	0.3x	NM
EBITDA/Interest Expense	NM	NM	0.7x	5.9x	11.7x
Free Cash Flow/Interest Expense	NM	NM	NM	6.8x	11.0x

Source: Near Earth LLC analysis

At 5% increase in "Programming & Content as a % of Sales": (SIRI)

SIRIUS SATELLITE RADIO	2006E	2007E	2008E	2009E	2010E
Debt Ratios					
EBITDA	($527.7)	($307.9)	($30.1)	$283.5	$530.7
Interest Expense	$67.0	$68.5	$67.1	$64.4	$55.6
Total Debt	$1,031.7	$1,031.7	$1,031.7	$730.0	$730.0
Net Debt	$588.5	$734.0	$750.4	$398.6	($104.1)
Total Debt/EBITDA	NM	NM	NM	2.6x	1.4x
Net Debt/EBITDA	NM	NM	NM	1.4x	NM
EBITDA/Interest Expense	NM	NM	NM	4.4x	9.5x
Free Cash Flow/Interest Expense	NM	NM	NM	5.2x	8.7x

Source: Near Earth LLC analysis

66. As you can see above, changing the "Programming & Content as a percentage of Sales" pushes out meaningful debt coverage ratios to 2009 and deteriorates them in 2009 and 2010. These are the general metrics of credit risk that lenders look for. The higher these ratios are, the higher the cost of borrowing and lower availability of funds.

67. **XM Satellite Radio Debt Ratios.** At 0% increase in "Royalty/Revenue Share as a % of Revenue": (XMSR)

XM SATELLITE RADIO	2006E	2007E	2008E	2009E	2010E
Debt Ratios					
EBITDA	($284.1)	($130.4)	$21.1	$218.6	$404.0
Interest Expense	$86.1	$92.0	$100.7	$98.7	$92.7
Total Debt	$1,354.9	$1,346.5	$1,338.0	$929.4	$920.8
Net Debt	$1,121.4	$1,356.9	$1,311.8	$1,118.8	$749.3
Total Debt/EBITDA	NM	NM	63.3x	4.3x	2.3x
Net Debt/EBITDA	NM	NM	62.1x	5.1x	1.9x
EBITDA/Interest Expense	NM	NM	0.2x	2.2x	4.4x
Free Cash Flow/Interest Expense	NM	NM	6.9x	3.0x	5.0x

Source: Near Earth LLC analysis

At 5% increase in "Royalty/Revenue Share as a % of Revenue": (XMSR)

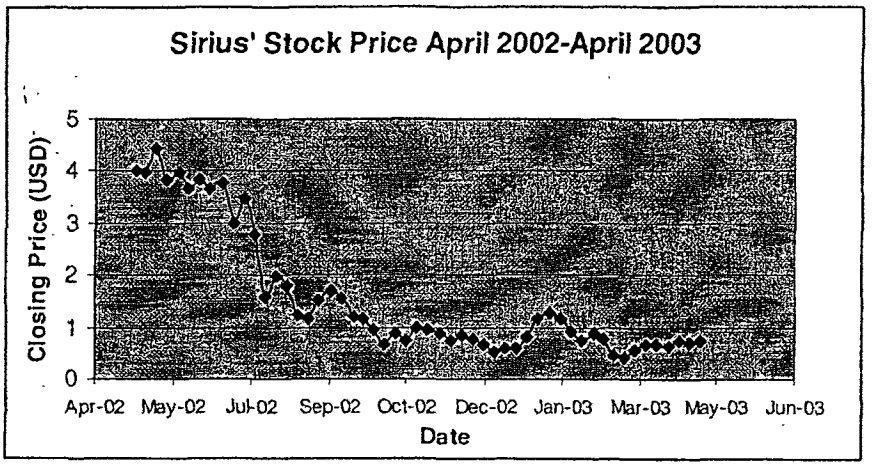
XM SATELLITE RADIO	2006E	2007E	2008E	2009E	2010E
Debt Ratios					
EBITDA	($308.6)	($197.0)	($66.8)	$110.3	$277.5
Interest Expense	$86.1	$94.9	$108.4	$98.7	$92.7
Total Debt	$1,354.9	$1,346.5	$1,338.0	$929.4	$920.8
Net Debt	$1,145.8	$1,450.9	$1,501.3	$1,416.7	$1,173.7
Total Debt/EBITDA	NM	NM	NM	8.4x	3.3x
Net Debt/EBITDA	NM	NM	NM	12.8x	4.2x
EBITDA/Interest Expense	NM	NM	NM	1.1x	3.0x
Free Cash Flow/Interest Expense	NM	NM	NM	1.9x	3.6x

Source: Near Earth LLC analysis

68. Similar to Sirius, increasing the "Royalty/Revenue Share as a percentage of Revenue" pushes XM's meaningful ratios out to 2009 and then reduces the coverage of those ratios, increasing the risk of defaults from a potential creditor's perspective. This generally causes them to increase rates or reduce willingness to lend.

69. Liquidity Crunch and Impact on Capital Raising. A major factor in the perceived internal risk for these companies is their ability to execute their business plans without the need for additional cash investments. Both Sirius and XM have, at earlier points in their histories, encountered market resistance to providing them additional capital in increments that could not completely cover their cash use through cash flow breakeven. During these periods, XM and especially Sirius equity holders were subjected to substantial dilution as additional shares were issued to new investors at relatively low valuations.

70. By mid 2002, Sirius was straddled in debt to the extent that it could not raise additional funds. As you can see below, this had a tremendous effect on the stock price as it went from over $4.00 per share to under $1.00 per share. Finally, in order to just survive, Sirius exchanged 91% of its debt for common stock severely diluting the equity holders percent of ownership. This dilution is the primary cause of the large difference between the return that debt holders and equity holders of Sirius have received to date.

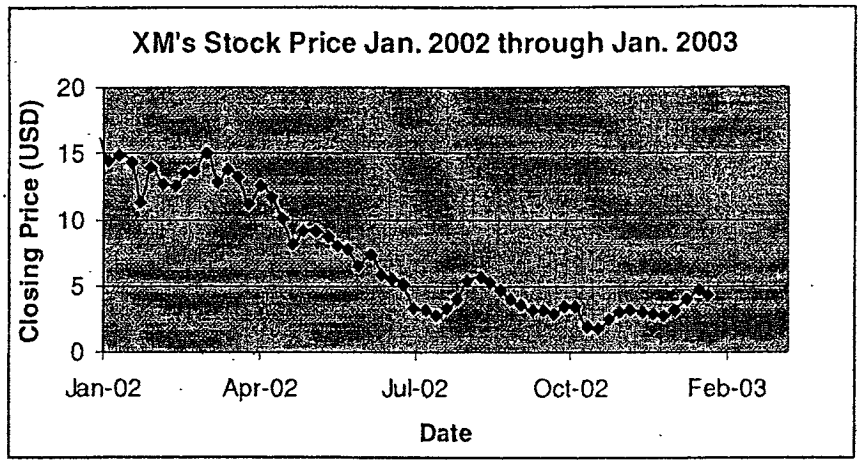


Source: Stock price from NASDAQ

71. In January 2003, XM raised $425 million of equity capital at $3.18 per share versus a stock price as high as $19.20 (intraday high) at the start of 2002. In addition XM was not able to raise this capital as common stock in the public market, but had to issue preferred stock with a dividend and special provisions to private investors.

72. As you can see in the graph below, as XM was struggling to secure financing throughout 2002, the stock price deteriorated to the point that the financing that was secured was only at a fraction of the value of XM the previous year. Consequently, any change in the cost structure for these firms that pushes out the time in which this breakeven milestone is reached could be expected to increase investors' risk perception. This, in turn, would raise the cost of

capital for the firms and could destroy value for current investors, potentially far in excess of the actual dollar amounts that increased costs would extract.



Source: Stock price from NASDAQ

(b) Effect on Investor Psychology

73. Change in EBITDA, FCF Break-Even Timeline. A key investor milestone for Sirius and XM is when they will reach EBITDA and cash flow break-even. In other words, it is the time when either EBITDA or free cash flow is positive. As of today, assuming no increases in royalty rates, Wall Street analysts expect Sirius to reach long-term EBITDA break-even in Q1 2008 and long-term free cash flow break-even in Q2 2008. Analysts expect XM to reach long-term EBITDA break-even in Q1 2008 and long-term free cash flow break-even in Q1 2008 (see table below). The break-even milestones can quickly be pushed back into 2009 if operation costs such as programming and content expenses as a percentage of sales for Sirius or royalty/revenue share expenses as a percentage of sales for XM increases (see table below). I believe that a delay in the break-even milestones would have a significant effect on the psychology of the investors as these types of delays raise doubts on the current management's' credibility and/or ability to project their results. Although delaying these milestones by a quarter might be tolerated by

investors, investors have historically reacted negatively when such delays are several quarters or longer, especially for companies that have never produced positive EBITDA or cash flows.

Sirius				
% Increase in "Prog. and Content as a % of sales"	0%	1%	3%	5%
EBITDA break-even	Q1 2008	Q2 2008	Q3 2008	Q1 2009
Free cash flow break-even	Q2 2008	Q1 2009	Q1 2009	Q1 2009
XM				
% Increase in "Royalty/Revenue Share as a % of sales"	0%	1%	3%	5%
EBITDA break-even	Q1 2008	Q1 2009	Q1 2009	Q1 2009
Free cash flow break-even	Q1 2008	Q1 2008	Q1 2008	Q1 2009

Source: Wall Street analysts' reports and Near Earth LLC analysis

74. Investor Turnover from Growth/Momentum Buyers Could Pressure Stock. Investors look at the predicted timeline of a company's EBITDA and cash flow break-even points as a general measure of the maturity of a company. The closer a firm is to EBITDA and cash flow break-even the more mature it is considered to be and vice versa. Moreover, the more mature a firm is perceived to be, the less risk investors equate with that firm, and thus, lowering the required rate of return. If either Sirius or XM's royalty rates are increased and as a result, their EBITDA and cash flow break-even points are delayed, their perceived growth rates, momentum and progress toward maturity will decrease. Consequently, some current investors would then perceive these firms as lower growth, lower momentum companies with higher risk than when they made their initial investments. Many would then perhaps sell out to move their capital to higher growth, higher momentum companies. This would put short and intermediate term downward pressure on the stock until investors who were seeking a higher risk investment moved into the stock and prices reached a point where investors thought they were getting a reasonable price for the new lower level of growth.

75. Stock Prices Decrease as Margins Decrease. One of the most fundamental ways to evaluate a firm is based on the profit margins (revenue minus cost of goods sold) a company produces. Obviously, the higher the profit margin, the stronger a company is viewed by the

market. In the case of satellite radio, increasing the royalty rate would increase the cost of goods sold and decrease profit margin, thus, having a negative effect of the value of Sirius and XM's stock.

Discussion of Major Risks

76. I used Wall Street analyst estimates to give a proxy as to what the market as a whole is thinking. However, given the recent performance of both Sirius and XM stock relative to the previously mentioned price targets ($2.57 premium for Sirius and $5.84 premium for XM), well above current trading levels, it seems that investors may be more concerned with the risks these companies pose than the Wall Street analysts. Some of these risks include:

(a) Commoditization of Music

77. Originally investors put billions into XM and Sirius in part to provide listeners with a differentiated listening experience combining high quality digital music sound with nationwide service and hundreds of channels. Today, this new service faces intense competition from terrestrial radio, moreover, a listener can get digital quality music through MP3s or iPODs, DBS and cable radio services on their TVs, and using the internet to their PCs. Listeners can download thousands of songs on their MP3's or iPODs, listen to dozens of channels on their DBS or cable service or click on hundreds and hundreds of ad free channels from the internet. In the not too distant future digital music channels will also be available wirelessly and almost nationwide to smart phones and automotive vehicles. In a sense music is becoming commoditized and satellite radio's advantage of ubiquitous digital coverage may erode.

78. Original non-music programming and proprietary premium content will increasingly become even more important as the differentiator between satellite radio and competing technologies. Even today, many of XM's and Sirius' top 20 channels are either proprietary

content, news, talk, sports or comedy. What may continue to draw listeners to XM and Sirius is that the music, though somewhat commoditized, is available everywhere via satellite, is largely ad free and frequently comes with DJs or on-air personalities of national caliber funded by and servicing a national versus local audience. From an investor's point of view, it is their capital that has financed these service attributes. In addition, many artists in less popular genres of music such has jazz and classical have actually benefited immensely from SDARS investors who are not only making their music available nationwide and sound better, but avoiding it being interrupted by 10-20 minutes of ads per hour. The SDARS companies are reaching more people than ever for these "long tail" niche artists because they can aggregate such niche audiences across the entire nation and enjoy the economies of scale of their billion dollar satellite systems. But new technology threatens this advantage and over time may lower the value of providing such niche content offerings if they become more expensive.

(b) Potential for Falling Price for Service

79. Although most Wall Street analysts have subscription prices increasing, I believe there could be sufficient competition from existing and new technologies to put downward pressure on prices for satellite radio service. For example, terrestrial radio operators have begun to offer HD digital radio, Apple's iPOD and competing MP3 devices continue to proliferate, and Internet radio is taking shape and may soon be available for cars and smart phones. Furthermore, 95% of adults still listen to terrestrial radio at least once a week. Consumers now have a tremendous amount of choices for digital quality audio entertainment compared to only a few years ago. Therefore, satellite radio companies not only have to differentiate themselves from each other, but also from both traditional and emergent technologies in order to maintain, much less increase their prices.

(c) Potential for Paying More for Major Exclusive Content

80. The exclusive content agreements with Howard Stern, NASCAR, NFL, Major League Baseball, Oprah, etc. currently serve as a major remaining long-term differentiator between satellite radio and its competitors. Listeners can listen to music through several different media. On the other hand, there is only one place to listen to Howard Stern or Oprah on the radio. This exclusivity helps justifies a subscription based service to a satellite radio subscriber or any other distribution model that could charge a subscription fee in the future. Satellite radio companies depend on these exclusive content deals and with other entrants coming into the audio entertainment market such as iPODs, internet radio, and HD radio, SDARS operators could potentially have to increase not only the number of exclusive contracts they sign but the amount they are willing to pay for each to compete with these new entrants. With only a given number of listeners in the country, this could lead to a price war for top content, which would then reduce the operating performance of these companies below our projections.

Conclusion

81. From my analysis above, it becomes quite clear that relatively small changes in operating costs can significantly affect the future target price expectations for both Sirius and XM. These future target prices, that is to say, investor returns, are particularly sensitive to changes in royalty costs as these cost increases are not associated with offsetting increases in subscribers or revenues as for instance would be increases in subscriber acquisition cost or costs for proprietary non-music content. A resulting decrease in the target prices for Sirius and XM, as estimated by Wall Street analysts, could make it more difficult for these companies to raise capital in the future and have a disruptive impact on their ability to compete with other audio services, maintain and improve their services and potentially even to survive.

82. My analysis shows that investors for the most part, and certainly on average, have suffered below market rates of returns compared to the risks they have taken. These investors now face additional competitive pressures from new distribution mediums and technologies that could have an adverse impact on their future returns. Yet, having suffered such low returns and facing such uncertainties they now run the additional risk of very disruptive increases in operating costs associated with royalties. Such increases would deny satellite radio investors a fair return on investment.

Certification

83. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

Dated: New York, New York
October 30, 2006

J. Armand Musey
President, Near Earth LLC

37 CFR 351.10(c) Statement For Exhibits to Testimony of **J. Armand Musey:**

Exhibit 1	J. Armand Musey Curriculum Vitae
Exhibit 2	Information Considered in Developing Analysis

Exhibit 1
Curriculum Vitae

J. ARMAND MUSEY, CFA
215 E. 80th Street, Apt 7J
New York, NY 10021
amusey@alumni.uchicago.edu
917-514-2132

CAREER HIGHLIGHTS

Recognized finance and strategy expert on issues related to the satellite communications industry and associated telecommunications sectors:

- Built Near Earth LLC, over a three year period, into a leading boutique investment bank focused on the satellite communications industry.
- Regularly quoted in trade publications as well as national and international publications such as The Wall Street Journal, The New York Times and others.
- Frequent speaker at major satellite industry conferences as an expert in satellite finance and strategy.
- Achieve coveted ranking in the Institutional Investor poll for equity research in the satellite communications industry three continuous years (from 2000 until 2002, the last year it was ranked as a separate category)
  - Achieved first ranking in first full year of coverage as senior analyst.
- Ranked #1 analyst covering satellite communications industry by Greenwich Associates poll in 2000.
- Rated as Top Broadcasting Industry Stock Picker in the Wall Street Journal's "All Star" Analyst Survey of 2000.
- Appeared numerous times on national television as an expert on the satellite communications industry, including Bloomberg, Fox and CNN.
- Winner of Salomon Smith Barney research department's internal "Report of the Month" Award, June 2002 and the "Call of the Month" Award, November 2001.

EXPERIENCE

2003 – Present **NEAR EARTH LLC** New York, NY
President and Partner, November 2003 – Present
• Originate and execute transactions in boutique investment bank focused on the satellite, media and telecom industries. Primary services are merger and acquisition and private equity placement advisory.
• Oversee maintenance of the firm's client base, investor relationships and new business prospecting.

2001 – 2003 **SALOMON SMITH BARNEY (CITIGROUP SECURITIES)** New York, NY
Director and Senior Satellite Communications Research Analyst
Satellite Communications and Towers, March 2001 – February 2003
• Primary coverage responsibility for fifteen companies in the satellite communications and tower industries.

9 – 2001 **BANC OF AMERICA SECURITIES** New York, NY

Managing Director and Senior Satellite Communications Research Analyst
Satellite Communications, April 1999 – March 2001

- Primary coverage responsibility for twelve companies in the satellite communications industry.

1998 – 1999 **C.E. UNTERBERG, TOWBIN** New York, NY

Senior Analyst – Satellite Communications, October 1998 – April 1999

- Primary coverage responsibility for eleven companies in the satellite communications industry.

1997 – 1998 **MERRILL LYNCH & CO.** New York, NY

Industry Analyst – Satellite Communications, September 1997 – October 1998

- Assisted senior analyst in initiating and maintaining coverage for 11 companies in the satellite communications industry.
- Given primary company coverage responsibility after only nine months.

1995 – 1997 **INVESTMENT BANKING** New York, NY

Associate – Investment Banking at PaineWebber (August 1995 – November 1995) and Nesbitt Burns (March 1996 – September 1997)

- Member of corporate finance generalist teams.

EDUCATION

2 – 1995 **J. L. KELLOGG GRADUATE SCHOOL OF MANAGEMENT** Evanston, IL
NORTHWESTERN UNIVERSITY

Master of Management degree (MBA) , June 1995

- Majored in Finance and Marketing; 3.7/4.0 GPA.
- Worked full-time as regional manager for Zacks Investment Research while completing degree.

985 – 1989 **UNIVERSITY OF CHICAGO** Chicago, IL

Bachelor of Arts Degree in Sociology with Honors, June 1989

- Significant coursework in Economics and Mathematics.

PROFESSIONAL ACTIVITIES

Chartered Financial Analyst (CFA). Holder of Series 7, 63 and 24 licenses. Member of the New York Society of Security Analysts and the CFA Institute. Vice-Chair of New York Society of Security Analysts Corporate Governance Committee.

Publications

While working in a research capacity from 1997 to 2003, I published analysis on the industry virtually every week, usually multiple times a week. Below are some of my major publications. I was the senior analyst and lead author on all of the reports except where noted.

1) IPTV – The Future of Television?, Near Earth LLC, July 2006 (41 pages)
2) Analysis of the Fixed Service Satellite Industry, Near Earth LLC, July 2006 (38 pages)
3) Analysis of the GEO Satellite Manufacturing Industry, Near Earth LLC, July 2006 (27 pages)
4) DBS Industry Update; Revisiting the Hughes EchoStar Merger, Salomon Smith Barney, June 13, 2002. 39 pages.
5) Equity in the Balance, Aligning Balance Sheet Risk with Equity Valuations, Salomon Smith Barney, May 23, 2002. 50 pages.
6) The Guide to Fixed Satellite Service, Salomon Smith Barney, November 2001. 136 pages
7) DARS Duopoly; The Dawn of a New Age in Radio, Banc of America Securities, October 1999. 107 pages.
8) The Big 3: Hughes, Loral and Orbital Sciences - The Role of Diversified Satellite Operators at the Turn of the Millennium, Banc of America Securities, October 1999. 336 pages.
9) The Satellite Book, C.E. Unterberg Towbin, First Quarter 1999. 54 pages.
10) The Satellite Report 1999, C.E. Unterberg Towbin April 1999. 457 pages
11) Pegasus Communications, C.E. Unterberg Towbin, January 19, 1999. 53 pages.
12) The Global Satellite Marketplace, Merrill Lynch, April 1998 246 pages. Thomas W. Watts was the senior analyst on this report.
13) Hughes Electronics; SatCom Blue Chip, Merrill Lynch, March 20, 1998. 83 pages. Thomas W. Watts was the senior analyst on this report.
14) CD Radio, Inc. Merrill Lynch, July 14, 1998. 10 pages. Thomas W. Watts was the senior analyst on this report.

Periodicals

1) "From the Group Up", Near Earth LLC. Monthly Newsletter from November 2005 to Present.
2) "Heard From the Street", Via Satellite Magazine. Monthly column from late 1999 until early 2003.
3) The Satellite Model Book, Salomon Smith Barney, Second Quarter 2001 – Third Quarter 2002.
4) Payload Monthly. Banc of America Securities. October 1999 – February 2001. 50-100 pages.
5) The Bus Tour; A Quantitative Overview of the Satellite Industry, Banc of America Securities, Third Quarter 1999 – First Quarter 2000. 150-200 pages per edition
6) Hotbird Monthly; Monthly Satellite Industry Update, CE Unterberg, Towbin December 1999-Aril 2000. 30-50 pages per edition.

Exhibit 2
Information Considered in Developing this Analysis

Wall Street Analyst Reports

Date	Firm	Research Analyst	Title
Sirius Satellite Radio			
10/4/2006	Deutsche Bank*	James G. Dix, CFA	XMSR misses subs by more than SIRI, but not changing ests
10/3/2006	CIBC World Markets*	Jason Helfstein	Reducing 3Q sub estimate on weaker retail trends; FY unchanged
10/3/2006	RBC Capital Markets*	Ryan Vineyard	Expect 3Q retail headwinds
9/14/2006	Credit Suisse*	Bryan Kraft	Lowering 3Q Net Adds on OEM production cuts
9/11/2006	Bear Stearns*	Robert S. Peck	Stiletto pre-orders halted... still expects summer release
8/1/2006	Credit Suisse	Bryan Kraft	Sirius Reported a strong (but in-line) quarter
8/1/2006	Deutsche Bank	James G. Dix, CFA	2Q beat & higher guidance despite US OEM risk
8/1/2006	Wachovia Securities	Jeff Wlodarczak	SIRI: Results and guidance in line with expectations
5/16/2006	Morgan Stanley	Benjamin Swinburne, CFA	Raising contribution from Ford in 2007; comfortably FCF positive in 2008
XM Satellite Radio			
10/3/2006	Bear Stearns*	Robert S. Peck, CFA	Channel Checks Point to higher Q3 Adds...Part 1
7/27/2006	CIBC World Markets	Jason Helfstein	No Confidence in NPV model, Removing Target and Downgrading to SP-Spec
5/25/2006	Citigroup	Eileen Furukawa	XMSR: XM Cuts Subs to Reset Bar-But, Expect Better News Lies Ahead
10/11/2006	Credit Suisse*	Bryan Kraft	XM Addressing a New Market Segment
7/21/2006	Deutsche Bank	James G Dix, CFA	2Q Preview: lowering XM ests on retail uncertainty
10/04/2006	Deutsche Bank*	James G Dix, CFA	XMSR misses by more then SIRI, but not changing ests
10/4/2006	Lehman Brothers	Vijay Jayant	3Q update
5/16/2006	Morgan Stanley	Benjamin Swinburne, CFA	Long-Term, The Song Remains the Same
10/04/2006	RBC Capital Markets*	David Bank	3Q Net Sub Adds Below Consensus on Rental Car Accounting Change
7/27/2006	Wachovia Securities	Jeff Wlodarczak	XMSR Q2: Below Expectation; Reducing Valuation Range

*Indicates report was only used for Target Prices. These reports are only updates to previous full length reports and thus, can only provide limited information such as the price target.