Dr Timothy Nulty FCC Presentation

November 19, 2009

Personal Information

- **Presenter:** Dr. Timothy E. Nulty

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- **Education:** Ph.D. Economics, Cambridge University

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- **Professional:**
- 1. Lecturer, Economics: Durham Univ and Oxford Univ 1970 - 1973
- 2. Chief Economist: UAW, 1973 - 1975
- 3. Chief Economist, US Senate/House Commerce Committees: 1975-1984
- 4. Principal Economist/Project Officer, Telecoms, World Bank: 1984-1994
- 5. CEO, Central European Telecom Investments, 1994 – 1998
- 6. Chief Financial Advisor, US DOE and CFO, Hanford Project: 1998 – 2001
- 7. General Manager: Burlington Telecom: 2001 – 2007
- 8. Director, ECFiber Project: 2007 – present.

ECFiber Overview

- **ECFiber PROJECT**
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- **Form**: Joint venture by 21 rural Vermont towns
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- **Territory**: very rural
  - a) Population: 46,500; Households: 18,100; businesses/other: 1400
  - b) Miles of cable: 1460; # of poles: 37,000; area: 600 sq. miles
  - c) Density: Average: 11.6 households/mile
    - Densest town: 27.5 HH/mile
    - Sparsest town: 4.2/mile
  - d) Average HH income: $42,000 (approx equal to Vt average)
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- **Financial performance**:
  - a) Becomes profitable in 5th year after financing @ 49% take-rate
  - b) IRR on all negative cash flows (including terminal value @ 20 yrs): 11% p.a.
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- **Costs**:
  - a) CapEx (first 5 years, including customer connections) $69.3 ml
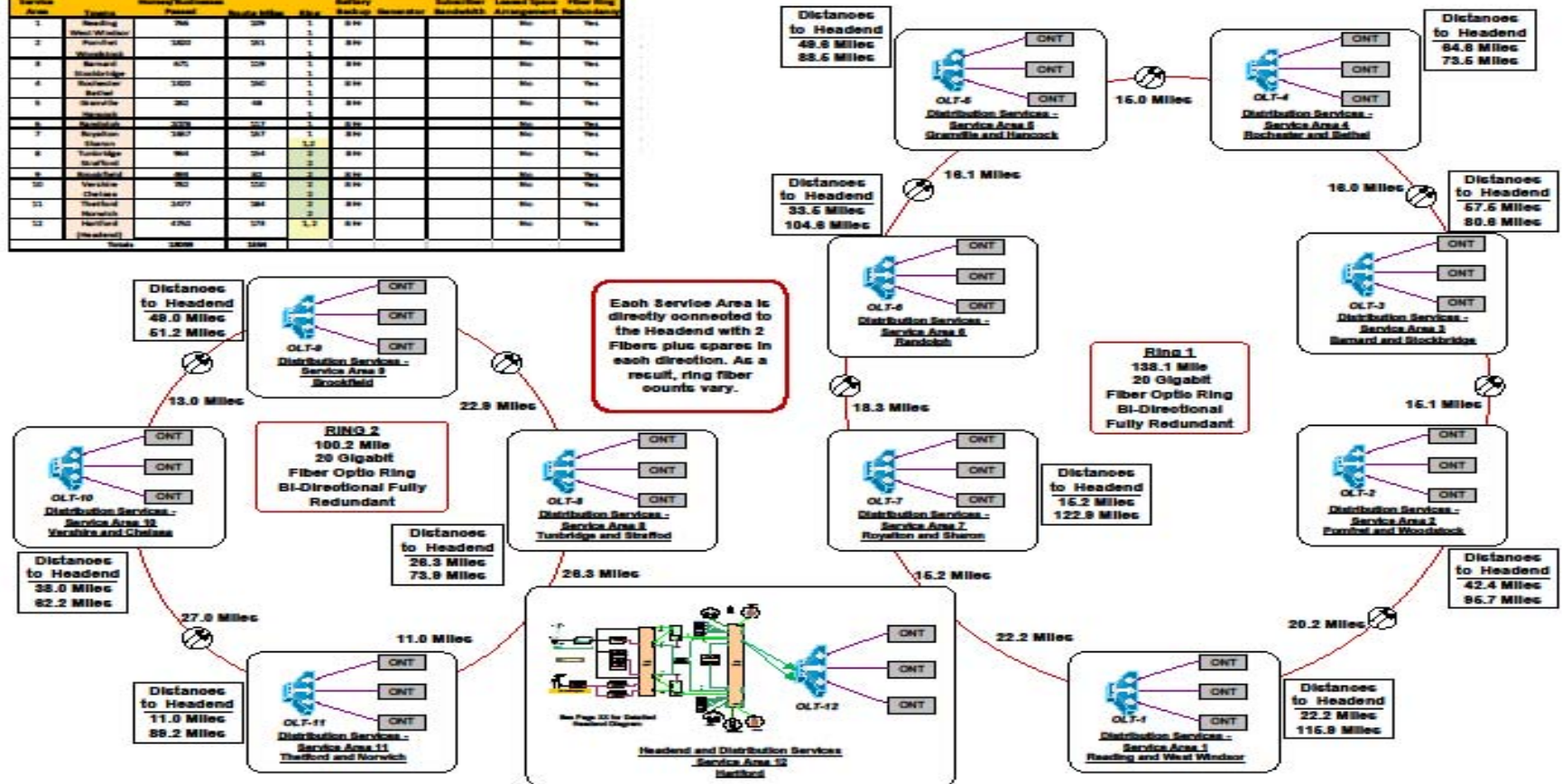 - b) All other (net of revenue, first 5 years): $5.8 mln
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- **Financing**:
  - a) $69.3 mln RUS
  - b) $6.2 mln subordinated debt & equity

EC Fiber Network Design

East Central Vermont Community Fiber Network Diagram

Triple Play FTTH Network-A

Local govt (muni, county etc) universal triple-play FTTH network:

Summary economics: all 3 cases are "overall cash flow positive (I.e. profitable) by the end of the 5th yr after financial closing. The table below summarizes the economics in the 6th year,

Summary of three representative rural areas:
as though each customer were a free-standing business; I.e. #'s are per connected subscriber

		Example A 6th yr	Example B 6th yr	Example C 6th yr
1	**Total external financing (debt + equity)**	$5,629	$6,050	$7,367
	Statement of Cash Operations			
2	**Revenue (per connected sub/yr)**	$1,821	$1,845	$1,848
3	**Operating Costs:**	$867	$867	$867
	EBITDA/connected sub:	$953	$978	$981
	Other cash outflows			
4	new CapEx/existing connected sub	$23	$23	$23
5	P&I per connected sub	$478	$533	$639
6	PILOT per connected sub	$26	$28	$33
7	equip imprvment/replacmnt/conctd sub	$165	$145	$149
	total	$669	$706	$845
8	**Free Cash Flow** per connected sub	$284	$272	$136
9	**Terminal Value (total, not per sub)**	$96,570,779	$133,838,433	$141,176,279
	Assumptions			
10	Total Population	48,000	60,000	80,000
	of which, towns (5 - 10,000 each):	24,000	24,000	24,000
	rural "hinterland":	24,000	36,000	56,000
	Density (premises/mile of cable route)			
	Towns	32.0	32.0	32.0
	hinterland	14.0	10.0	8.0
	total	19.7	13.6	10.4
11	Res. Take rate in year 6	61%	62%	63%
12	ARPU/mo/sub: residential	$138	$138	$138
	business	$431	$431	$431
	Summary financial results			
13	IRR, 20 yrs, incl. terminal, value)	6.56%	4.78%	0.60%
14	ROI on "equity"	38.66%	35.53%	29.66%

Triple Play FTTH-B

Notes

1. Includes the sum of all negative cash flows up to the point of positive cash flow
   (I.e.. includes all CAPEX, all operating losses, debt service, PILOT, equipt replacement etc)
3. Includes COGS (video content, internet bandwidth, LD circuits etc): $39/month/sub
4. CapEx to continue to connect new customers: financed with internal cash flow
5. Debt/equity ratio = 10:1, debt = Taxable muni. paper, @ 6% 20 yrs, first 3 yrs interest only
6. Payment In Lieu Of Taxes.   (Local govt. entities don't pay property tax but do pay PILOT)
7. 1/7 of all equipt in service.   (bldings/fiber plant last longer then loan maturity,
      so debt service covers replacement allowance)
8. Free Cash Flow equals: (EBITDA) - (Other cash outflows) - (CapEx)
9. Terminal value calculated at end of year 20 (= 10 X Final year cash flow - outstanding debt)
10. Sparser areas need larger "critical mass" to reach positive cash flow
11. All muni. FTTH 3-play operations have met or exceeded this…despite competiton from
      incumbnts. Rural areas have less incumbnt competion and can expect higher take rates.
12. Res. ARPU: incl all rev. sources (fees, STB rental etc).   This is < current actual paymnts
      by HH's on inferior triple play services from incumbents w. allowance for 6 yrs of infl.
13. Over and above ALL costs, and including terminal value
14. With 10:1 debt/equity ratio. Different gearing ratios result in different ROI on equity
      "Equity" can include subordinated debt and other mezzanine vehicles

Triple Play FFTH-C

Comment on these numbers:

From: Gary Evans <gevans@exchange.hbci.com>

Subject: RE: fiber numbers

To: "timothy nulty" <t_nulty@yahoo.com>

Date: Friday, October 9, 2009, 1:51 PM

Tim,

I have looked these over with a very critical eye (honestly!), and I find them to be, if anything, conservative. I think you have done a great job...one that very easily can be defended based on the costs we have encountered here at HB

Great job, Tim.

Gary

P.S. The $2,400 per passing cost is, in my mind, completely accurate...and also a far cry from the numbers the government has been bantering around.