Deal Thesis – DRAFT (Rev 2) Low Temp/Cryogenic Equipment Manufacturing & Service

John Rice - August 28, 2010

















Executive Summary

Market Segment

Few segments of the valve and rotating machinery (pumps/compressors) markets have managed to withstand the onslaught of competitive pressure from low cost country producers like the cryogenic or low temperature equipment market. Due to the severe conditions of service (-350°F < T < -30°F) in this \$3B/yr worldwide niche, technology, facilities, and product reputation have created moderately high barriers to entry, consistently strong margins, and an underserved aftermarket where most OEMs license agents or reps to furnish end users with parts and service.

The primary served market is LNG (Liquified Natural Gas), a segment of the energy sector experiencing dramatic infrastructure growth. Only 9 LNG import terminals are in operation in the U.S., while an additional 22 have been approved (4 under construction) by the DOE/FERC, 6 more under review, and 4 more approved in Mexico and Canada. These existing facilities along with the 22 new sites, are concentrated in the Gulf Coast and NE U.S. This site concentration excludes major LNG export centers in the Middle East, West/North Africa, Trinidad, Brazil, and SE Asia. The low temperature equipment segment also provides diversification against the cyclicality of oil & gas production by serving the air/gas separation, aerospace/defense, power, and petrochemical markets among others.

In spite of these attractive fundamentals, the market remains fragmented and consists of a small number (~30) of key OEMs with no leading solutions providers, and a primary focus on new CapEx projects versus the more stable aftermarket where service, productivity, and safety enhancing solutions afford an excellent opportunity for high EBIT margins and growth. We consider the infrastructure (CapEx) growth as a secondary but valuable risk-mitigating driver for investment.

The primary, under-served value in this segment, is in aftermarket parts and service of the worldwide installed base of critical equipment.

Strategy and Proposal

We propose building the first *aftermarket-centric* provider of critical, low temperature valves, rotating machinery, and lucrative aftermarket components (seals and bearings), by applying advanced material and design technologies to capture our and competitors' spare parts and service business.

To do so will require:

- 1. Acquisition of 3 key OEMs in the \$50/yr-\$100M/yr revenue range to establish brand credibility.
 - + Process valve OEM (\$25M/yr-\$75M/yr)
 - + Rotating machinery OEM (\$50M/yr-\$100M/yr)
 - Established technology developer and tester (\$5M/yr-\$10M/yr)
- 2. Strategic partnerships with:
 - + Advanced low temperature sealing material company (MST)
 - + Independent bearing and seal manufacturer/fabricator
 - + Key regional service partners where direct operations financially risky.

+ Control and protection systems company

Aftermarket spare parts yield gross margins in the 60%-90% range, with incremental EBITDAs typically in the 40%-60% range. The bulk of this business is centered around seals, bearings, O-rings, and other wearing parts critical to successful operation of the equipment. New low temperature inorganic material technologies have recently completed proof testing, and are capable of displacing the silicon-based elastomers which have dominated the sealing segment of this market.

Our marketing strategy is to commercialize these technologies using our installed base, grow market demand from O&M customer pull, then capture select competitor's aftermarket business, and finally standardize introduction into our new equipment (CapEx) sales.

Qualification testing will be led by the "technology developer" and guided by each OEM. Once proved out, we will solicit strategic partnerships with one or two strategic operating customers to gain market acceptance and "pull". Introducing the technologies directly into the field avoids the resistance typically experienced when dealing with new project EPCs, and establishes a direct channel into the more stable O&M budgets and customer Operation departments. These people have the strongest purchasing influence (O&M and CapEx) within customer organizations, and often over-ride project (CapEx) engineers and EPCs in selection of equipment vendor and design. Creating demand from this source, accelerates market acceptance and revenue growth.

Where financially justified, we envision direct ownership of service and repair operations internationally where the installed base is sufficient to support the investment. Where it is not, we will establish exclusive aftermarket partner agreements with leading regional service ventures. Partnerships with independent bearing and seal manufacturer's for final assembly and test will be created only where exclusivity can be reasonably assured. Otherwise, internal assembly and test or contracted manufacturing will be pursued. Establishing partnership with a control and protection systems company will provide direct insight into customers' most problematic equipment which can best be refurbished with higher performance parts.

Investment Returns

By acquiring the equipment OEMs, we purchase an installed base of equipment to immediately field prove superior, proprietary, aftermarket parts and service, and create a growth platform for capturing competitors' aftermarket business. As such, shareholder value enhancement will be accomplished by % EBITDA improvement, which will increase exit sale multiples dramatically over the ownership horizon.

Based on conservative market growth rates, fixed asset and SG&A synergies, and revenue/margin growth from aftermarket recapture, we expect ROS and ROE performance well above those for most strategic buyers (OEMs) worldwide. Given their recent declines in EBITDA growth and margins from their core valve and machinery businesses, we expect bidding competition from majors such as Cameron, Tyco, Emerson, and GE, with EBITDA multiples in the 5.5-7.0x range.

Our plan calls for a 4-6 year investment period, with early exit possible in 3-4 years. Parametric financials were run to refine target purchase criterion, with the following ranges being attractive depending upon ROE expectations of the equity group:

- Trailing %EBITDA in the 5%-15% range
- PPE EBITDA multiples in the 3.5x-5.5x range
- PPE Revenue multiple < 0.70
- Total Phase 1 acquisition investment < \$250M

A valuation was run in the "sweet spot" of these ranges, giving the following returns by year 5:

- Revenue growth from \$300M/yr to \$421M/yr
- EBITDA% from 9.1% to 16.1%
- ROIC of 13.4% Year 1 to 34.6% in Year 5 with IRR = 46%
- Enterprise value of \$399M at EBITDA multiple of 6.0x

The Table below provides a 5 year summary of performance, detailed assumptions are given in the Exit Strategy section of this proposal.

	ject Arwen			Purchase price \$150	.000		
(\$000s)	Simplified Baseline - Draft						
	Year 1	Year 2	Year 3	Year 4	Year 5		
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COGS - Stand Alone sset Step-up	229,515.0	242,146.4	255,421.5	269,368.6	284,016.7 -		
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G&A - Stand-alone G&A - Synergies	62,595.0 -	65,259.3	67,989.9	68,816.8 -	69,426.3 -		
orp Mgmt Charge @ 1% mortization of Intangibles	3,210.0	3,434.7	3,675.1	3,932.4	4,207.7		
otal SG&A Expense % of sales	65,805.0 20.5%	68,694.0 20.0%	71,665.0 19.5%	72,749.2 18.5%	73,634.0 17.59		
perating Income % of Net Sales	25,680.0 8.0%	32,629.7 9.5%	40,426.4 11.0%	51,121.0 13.0%	63,114.8 15.09		
BITDA % of Net Sales	30,480.0 9.5%	37,429.7 10.9%	45,226.4 12.3%	55,921.0 14.2%	67,914.8 16.19		
eturn on Capital (ROIC)	13.4%	17.5%	22.4%	29.2%	34.69		

These returns assume only modest market acceptance of new material technology corresponding to 10%-12%/yr aftermarket revenue growth (7%/yr overall), and 1%/yr (of revenue) improvement in SG&A and COGS. No growth from secondary (e.g. aerospace, gas separation) markets is assumed, nor is any market share increase in new equipment (CapEx) assumed.

9/6/2016 Market & Industry

After 1 ¹/₂ years of depressed CapEx spending, Exploration and Production growth has resumed, providing solid fundamentals in growth of the installed based of equipment, and opportunities for solutions providers and superior aftermarket support.

US Oil & Gas Production is a \$329B/yr US industry with natural gas accounting for 34.3% or \$113B of this total. 81% is in the form of pipeline gas, while liquefied forms account for 19% or \$21.5B/yr. US Oil & Gas Extraction revenue is expected to grow at an average annual rate of 6.0% from 2010-2015. Industry revenue is the primary driver in establishing expenditures for CapEx and Operating & Maintenance budgets for most US producers. Worldwide Oil & Gas Extraction revenue is approximately 2.5x that of the US, or \$820B/yr. Energy demand growth tracks worldwide GDP growth at 2%-3.5%/yr.

US LNG imports run through 9 coastal terminal facilities which are concentrated largely in the Gulf of Mexico and SE states. Figure 1 shows the locations for these facilities along with 3 others in Mexico and Canada. Figure 2 shows the dramatic expansion already approved, with 22 new facilities receiving DOE/FERC approval and 4 of those currently under construction.



Figure 1 - 9 Existing US LNG Terminals

Note: There is an existing import terminal in Perfuelas, PR. It does not appear on



Initial focus will be on aftermarket and installed base share penetration in the lower risk North American markets. The geographic concentration of these terminals simplifies our focus on the aftermarket element of the business.

In comparison, opportunities on the international export terminal side are much larger than NA. LNG infrastructure and growth is forecast to be highest in the Middle East, West/North Africa, Latin America, and SE Asia. These locations represent aftermarket recapture opportunities as most OEMs license 3rd party partners to provide high margin service and sales for their installed base of equipment. Caution in establishing owned operations is warranted and will proceed only when justifiable from a risk and reward perspective.

Critical equipment for handling liquefied and cryogenic gases is a specialized, moderately high barrier to entry, growth niche within the O&G equipment segment

Liquified **N**atural **G**as (LNG and LPG) and cryogenic gas handling equipment is a niche, highly engineered segment of the Oil & Gas equipment industry, characterized by moderately high barriers to entry arising from the severe temperature $(-300^{\circ}F < T < -30^{\circ}F)$ conditions the valves, pumps, compressors, and control equipment operate in. These demanding conditions impose stringent technical requirements upon product metallurgy, design configuration and standards, test

facilities, and operation of the valves, pumps, compressors, instrumentation, control, and safety equipment. These factors have also limited the competitive price erosion from low cost countries such as China and India, that have been experienced by the bulk of the O&G equipment industry. The same stringent requirements have provided a barrier for OEMs to avoid aftermarket competition from 3rd party pirates in high margin parts (>70%) and service (>35%), which represent the high EBITDA margin annuity driven by each OEM's installed base of equipment. To date, most OEMs have approached the aftermarket in a traditional order taking fashion, in contrast to a value adding solutions selling strategy.

US Valve manufacturing is forecast to generate revenues of \$26B in 2010, and grow at 3.1%/yr through 2015 after declining 1%/yr from 2005 to 2009. Highest growth rate is expected in the oil & gas segment of this industry. Approximately \$1.3B (5%) of the \$26B total is for low temperature gas valves. US Pump and compressor manufacturing revenue is forecast at \$19.8B in 2010, with \$4B (20.2%) selling into the oil & gas industry extraction segment, and an estimated \$0.5B (13%) of that being for the low temperature equipment segment. US manufacturing revenue for cryogenic valves, pumps and compressors alone is estimated at \$1.8B/yr. US production is believed to be roughly 60% of the total, yielding an estimated 2010 worldwide revenue of approximately \$3B in 2010, with 2010-2015 annual average growth of 3%-5%.

Opportunity

- Low temperature OEM segment is concentrated in number, but fragmented from a systems solution perspective, compared to general valve and rotating machinery OEMs, and is believed to number less than 30 worldwide, with no dominant player in the segment. No OEM currently offers an integrated solutions strategy, particularly one targeted at the aftermarket for critical valves, rotating machinery, and safety and protection systems.
- **O&G industry trend is toward supply chain integration** to reduce on-going administrative and project costs on the CapEx side, and O&M costs on the aftermarket side.
- **Product Quality and technical differentiation are keys to success** and represent market share capture, facility and channel consolidation, and solutions development opportunities. Solutions which enhance end user operational productivity and/or safety afford end customers with the greatest value.
- Secondary opportunities exist in the air/gas separation, aerospace/defense, industrial gases, and petrochemical markets. These segments represent further diversification, incremental growth, and contracted product development opportunities.
- Aftermarket parts and service support to international growth regions is often handled locally by OEM approved, independently owned partners. This is largely driven by fixed costs and risks of establishing and managing local operations. As a result, an attractive portion of the high margin parts and service business is lost to OEMs. Long manufacturing lead times and transportation logistics often drive these independents to carry large spare parts inventory to protect customers in case of equipment malfunction.

Deal Thesis Summary

Acquire 3 companies in the \$50M-\$150M revenue range: a) market leading cryogenic valve OEM, b) leading cryogenic pump/compressor OEM, and 3) recognized advanced equipment developer to:

- Create a segment leading solutions provider based on technology differentiation and aftermarket focused solutions strategy.
- Consolidate worldwide sales and support channels, product development, manufacturing and test facilities, and drive supply chain cost synergies.
- Establish a strategic alliance with a recognized control and protection systems OEM to provide an "automation systems wrap" around critical equipment.
- Opportunistically recapture aftermarket EBIT by opening local aftermarket support facilities for overhaul, repair, refurbishment, parts manufacturing, and service to high growth customers. This may entail minority or controlling interest in established 3rd party partners.

Phase 1- OEM Acquisition & Cost Synergies. Acquiring the valve or pump/compressor OEM will be the first priority as it establishes market position and brand recognition. It also provides a sound basis for refining cost and channel synergies, and creates a more compelling proposition to private sellers of the next two OEM businesses. (1-2 yrs)

Phase 2 – Control and Protection Systems Alliance. Phase 2 is developing a strategic alliance with an automation, control and protection systems company. This is an electronic controls and software entity whose value is to provide on-going monitoring and protection of critical equipment operation. These are typically high margin (>50%) businesses with strong applications know-how which will be further strengthened by the acquired OEMs. Acquisition is not ruled out, but not part of the baseline plan as some of the potential buyers (see Exit Strategy) have automation businesses they may believe can be adapted to this niche. ($\frac{1}{2}$ -1 year)

Phase 3 – *international Aftermarket Expansion.* This is a regional case-by-case scenario, with regional focus on the highest installed base and locations with concentrated segment growth. Possible locations are Middle East (1 of UAE, Oman, Saudi Arabia, Eqypt), SE Asia (1 of Indonesia, Malaysia, Thailand), and Latin America (Brasil). Many of these countries impose stiff import tariffs on infrastructure equipment in an attempt to attract exactly this type of investment. These facilities would possess limited manufacturing capability, enjoy tariff and tax offsets, and provide fast turnaround, lower cost parts and service support to critical clients, thus recapturing EBIT lost to 3^{rd} party local partners. In some cases (e,g, Malaysia), governmental regulations may limit our ownership to minority joint venture interest. We would target opening of these operations to be financed from free cash flow. (2 – 2 $\frac{1}{2}$ yrs)

Potential Acquisition Candidates

Candidate Attributes

Our strategy to establish a solutions market leader in the cryogenic segment while simultaneously leveraging opportunities for cost synergy, leads to the following strategic criterion:

- Strong market brand, product technical and quality reputation.
- High cost and/or under-developed worldwide channels to market.
- Under-served installed base as evidenced by low aftermarket revenue share.
- Under-investment in product development or significant opportunity to leverage same.
- Strong and stable product gross margins indicating premium price and brand strength.
- Significant opportunity for operational and capital efficiency improvement.
- Deep, recognized application expertise in the low temperature equipment segment.
- Mature and seasoned management team.

- Management who wants to stay and believes higher growth in this segment is possible.
- Sellers willing to accept PPE corresponding to EBITDA and Revenue multiples in the 3.5x-5.5x and 0.3x-0.6x ranges respectively. This corresponds roughly to candidates in the \$50M-\$100M/yr revenue range and %EBITDA in the 5%-10% range.

Overall, companies with excellent segment product and reputations, but relatively weak or modest operational and channel to market efficiencies, are our target market. It is likely that most of these will be closely held entities. Carve-outs of larger public operations will also be examined, but typically command higher multiples with less opportunity for synergy exploitation.

Acquisition targets being investigated include:

- + JC Carter rotating machinery (private)
- + Argo Tech rotating machinery (public)
- + Cryostar rotating machinery, some valves and specialty equipment (Linde Group)
- + Barber Nichols advanced developer of cryogenic rotating machinery (private)
- Powell Valve valves (private)
- + Flow Group UK Bestobell and other specialty cryogenic valves (public UK)
- ✤ TruFlo and Orton valves (part of public IMI/CCI)
- + Hamworthy (public UK)
- Vanessa specialty valve lines (private)
- + Tyco specialty valve lines

Management Team

- Core Team: CEO, CFO, CTO, CMO, and 3 operating GMs
- Except for the CEO, CFO, and possibly the CMO, expect the top two levels of senior management will be taken from the acquired companies.
- Board Make-up: PEG members as required, CEO, CFO, plus 1 segment industry expert preferably retired senior executive from a major customer. Also may need to consider a Board position for a key owner of an acquired company

Details TBD

Exit Strategy & Business Case

Based on historical and forecasted growth rates, post-acquisition cost synergies, and revenue/margin growth from a solutions offering and recaptured aftermarket, we anticipate growth will exceed ROS and ROE averages for most oil & gas OEMs worldwide. Given increasing competition from low cost country producers, and their resulting decline in EBITDA growth and margins for their core business, we expect vigorous bidding competition from worldwide OEM industry majors (e.g. Cameron, Tyco, Emerson, GE) with an EBITDA sell multiples in the 5.5-8x range, as compared to current multiples in the 3.5-5.5x range.

Alternative exit strategy is an IPO, though we do not anticipate this strategy will yield investor returns equivalent to a strategic acquirer considering the relatively small (~\$500M/yr) size of the business. An LBO/MBO is also a possibility depending on prevailing costs of capital in the sale time horizon (4-7 yrs).

Upon completion of Phase 2 (~ end of Year 3), we recommend floating sale interest to check valuation potential, gain feedback on strategy, refine our development plans, and determine probable returns from international expansion. Overall, plans call for a 4-6 year holding period for all three Phases, with a possible early exit in 3-4 years.

Parametric financials were run to refine target purchase criterion, with the following ranges being attractive depending upon ROE expectations of the equity group:

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A hypothetical valuation was run in the "sweet spot" of these ranges.

Assuming 5 year horizon:

- Day 1 Phase 1 asset purchase with PPE of \$150M
- 5.5x EBITDA and 0.5X Revenue multiples.
- Post-acquisition revenue CAGR of 7%/yr for 5yrs, 3% in perpetuity
- SG&A synergies equal to 1%/yr (3 % point max) of revenue
- Product/service gross margin improvements of 1%/yr (5% max) of sales
- Beginning DSO of 73 days, improving 3 days per year
- Incremental R&D investment = 0.5% of sales for years 0-3
- Capital budgets set to keep depreciation constant
- 100% debt financing at 8% long term, 6% short term, tax rate of 35% and 1% PEG fees

Cursory valuation gives the following results by year 5:

- Revenue growth from \$300M/yr to \$421M/yr
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Operating Income	25,680.0	32,629.7	40,426.4	51,121.0	63,114.8		
% of Net Sales	8.0%	9.5%	11.0%	13.0%	15.0%		
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Return on Capital (ROIC)	13.4%	17.5%	22.4%	29.2%	34.6%		
Internal Rate of Return (at 3% Perpetuity)					46.0%		

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