risk assessment & control RAC

From: Rick L Carson 11/14/2000 04:58 PM

To: Steve W Young/LON/ECT@ECT, Ted Murphy/HOU/ECT@ECT, Cassandra Schultz/NA/Enron@Enron, Bradford Larson/HOU/ECT@ECT, Randy Petersen/HOU/ECT@ECT, Michael Tribolet/Corp/Enron@Enron, Chip Schneider/NA/Enron@Enron, Connie F Estrems/NA/Enron@Enron, William S Bradford/HOU/ECT@ECT, Mark Ruane/HOU/ECT@ECT
cc: Rick Buy/HOU/ECT@ECT, David Gorte/HOU/ECT@ECT
Subject: Lessons Learned

Attached is a draft of the presentation that Rick Buy will be reviewing with Jeff Skilling concerning "lessons learned" from some of our unfavorable merchant investment experiences. Until Rick and Jeff decide how the presentation will be distributed, please keep the report confidential. Call me at x 3-3905 if you have questions. Regards! Ric k C.

---------------------- Forwarded by Rick L Carson/HOU/ECT on 11/14/2000 05:48 PM ---------------------------

risk assessment & control RAC

From: Stephanie McGinnis 11/14/2000 05:37 PM

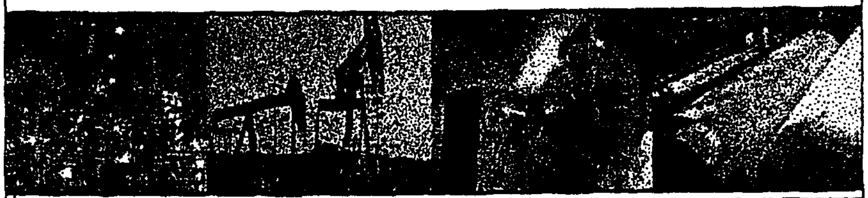
To: Rick L Carson/HOU/ECT@ECT
cc:
Subject: Lessons Learned

Lessons Learned Handouts SKM rev 111400.

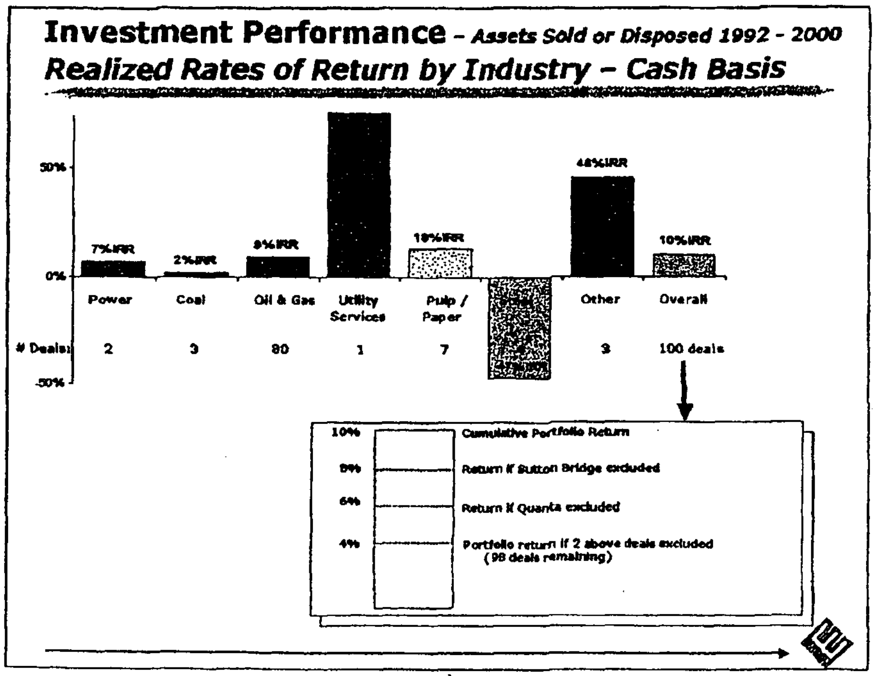
Schneider
Ex. 303 59
EXHIBIT NO.
3.16.04
A. HEUSTIFTER

GOVERNMENT EXHIBIT
24599
Crim No. H 04-0025

ECTe007758410



Investment Portfolio Lessons Learned November 2000



Enron North America
Merchant Portfolio Rate of Return Matrix

REALIZED

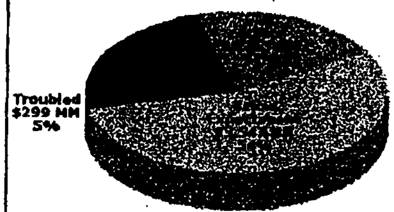
Industry	Investment Type				
	Debt	Private Equity	Public Equity	ENE Stock	Grand Total
Power		7			7
Coal	2				2
Oil & Gas	6	10	34		9
ENE Stock				(5)	(5)
Energy Subtotal	6	8	34	(5)	8
Utility Services		243			243
Paper & Pulp	13				13
Steel	(47)				(47)
Other		46			46
Grand Total	2	15	34	(5)	10

RETURNS BY INVESTMENT ON FOLLOWING PAGE

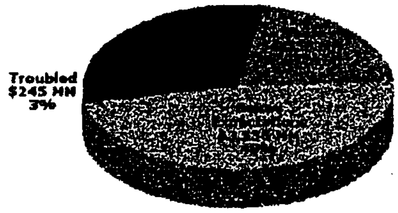
Note that included in these cash flows are sales of assets to Merlin. Any cost of credit derivatives or any additional support has not been included to date and would only reduce returns.

Investment Performance - *Current Equity Portfolio*
Actual Performance vs. Expectations

Cost Basis $6.5 Bn



Carrying Value $7.4 Bn



CONCLUSIONS

- 59% of originally expended capital is not meeting expectations.
- Enron has $3.8 Bn of earnings exposure on assets performing below expectations.
- 81 out of 167 equity transactions are underperforming!

SUPPORT FOR EQUITY PERFORMANCE

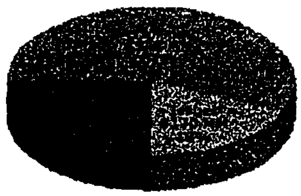
	COST	CARRY
TROUBLED		
North America	275,079	225,520
EGM	-	-
EIM	-	-
EBS	5,000	-
International regions	19,000	19,000
TOTAL	299,079	244,520
	4.57%	3.31%
BELOW		
North America	203,019	195,663
EGM	24,342	27,153
EIM	5,000	4,105
EBS	7,000	3,000
International regions	3,308,000	3,308,000
TOTAL	3,547,361	3,537,921
	54.23%	47.88%
MEETS		
North America	266,774	458,806
EGM	22,500	18,906
EIM	-	2,853
EBS	55,530	56,960
International regions	1,018,000	1,018,000
TOTAL	1,362,804	1,555,525
	20.84%	21.05%
EXCEEDS		
North America	88,880	630,846
EGM	-	-
EIM	12,690	23,898
EBS	20,000	186,010
International regions	1,210,000	1,210,000
TOTAL	1,331,570	2,050,754
	20.36%	27.76%
TOTAL		
North America	**833,752**	**1,510,835**
EGM	**46,842**	**46,059**
EIM	**17,690**	**30,856**
EBS	**87,530**	**245,970**
International region	**5,555,000**	**5,555,000**
TOTAL	**6,540,814**	**7,388,720**

LISTING OF DEALS ON FOLLOWING PAGE

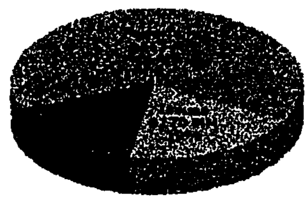
LISTING OF DEALS ON FOLLOWING PAGE

Investment Performance - ***Current Debt Portfolio***
Actual Performance vs. Expectations

Cost Basis $0.95 Bn



Carrying Value $0.88 Bn



CONCLUSIONS

- 43% of originally expended debt capital is not performing or has issues.
- Enron has $315 MM of earnings exposure on debt that is non-performing or has issues.
- 31 out of 55 debt transactions are non-performing or have issues!

SUPPORT FOR DEBT PERFORMANCE

	COST	CARRY
NON-PERFORMING		
North America	144,488	50,505
EGM	-	-
EIM	-	-
Merlin - North America	95,000	95,000
International regions		
TOTAL	239,488	145,505
	25.17%	16.59%
ISSUES		
North America	-	-
EGM	5,365	5,402
EIM	-	-
Merlin - North America	127,382	127,382
International regions	37,000	37,000
TOTAL	169,747	169,784
	17.84%	19.35%
PERFORMING		
North America	310,547	330,402
EGM	2,335	2,313
EIM	771	848
Merlin - North America	104,451	104,451
International regions	124,000	124,000
TOTAL	542,104	562,014
	56.98%	64.06%
TOTAL		
North America	**455,035**	**380,907**
EGM	**7,700**	**7,715**
EIM	**771**	**848**
Merlin - North America	**326,833**	**326,833**
International regions	**161,000**	**161,000**
TOTAL	**951,339**	**877,303**

LISTING OF DEALS ON FOLLOWING PAGE

Why has Enron's investment portfolio performance not met our expectations?

Underperforming Deals
Major Factors

- **Quality of Management**
- **Incentives & Accountability**
- **Excessive Risk**
- **Market Corroboration and Terms**
- **Start-Up / Execution Risk**
- **Adequate Capitalization**
- **Preparation for the "Worst Case"**
- **Monitoring / Lack of Monitoring**

Quality of Management

The most critical factor in the success of an investment is the quality of the investee's management. This quality needs to be measured in terms of personal integrity and managerial skills; both are equally important. Management experience should also be evaluated in relation to the transaction. An executive may have many years of industry experience with a large established company but no experience in successfully launching a new venture.

Quality of Management - Case Study

Enron invested approximately $119 million in equity and debt in a global manufacturer of commodity material made from sustainable resources. This "eco-friendly" company enjoyed a tremendous increase in their stock price in large part due to favorable media "spin" engineered by Management as a result of frequent positive press releases. In reality, the Company was floundering financially and technologically but this fact was hidden from investors as well as their independent outside auditors. The Company is now in bankruptcy.

The above example is Kafus Industries – The CEO Ken Swaisland and President Mike McCabe also had some questionable expenditures on personal type items (i.e., lavish expense accounts, vacations, summer homes, etc)

<u>Other examples of poor management include:</u>

Costilla Energy - $50MM equity – Management team Mike Grella and Cadell Liedtke; paid too much for numerous O&G acquisitions and couldn't close on Pioneer transaction. Ultimately tanked company.

Noram Rig (Ocean Buy) - $16MM loan – Noram CEO Ronvald Gabrielsen; sold loan collateral in violation of loan agreement and moved $5MM of Enron's money out of the country

Earl P Burke - $38MM loan - spent all of his money (and ours) drilling risky exploration wells in South Louisiana with no partners

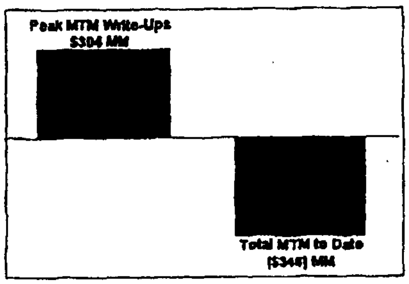
Ecogas - $48MM debt & equity – CEO Jerrill Branson entangled company in numerous lawsuits, also had issue regarding personal conduct.

Incentives & Accountability

Immediate recognition of MTM earnings, assuming flawless execution, has not incentivized commercial personnel to aggressively manage deal execution through exit for value. Incentives to assure that actual performance meets projections have been inadequate.

Incentives & Accountability – Case Study

The chart below shows the combined historical fair value marks through time of 31 transactions which have appeared as "Troubled" or "Loss" on the bi-weekly Watch List Report since its inception in January 1999. The fact that as much as $304 million in MTM income was credited to these failed projects causes concerns that proper incentives for long term execution are absent from our current structure and that execution risk has been inadequately modeled and priced by RAC.



Deal Name	Peak MTM	Total / Actual MTM	
Costilla	0	(53)	
Kafus / CanFibre	103	(65)	*
Qualitech Steel	26	(48)	
Brigham	0	(36)	
NSM	0	(31)	
Repap	0	(21)	
Carrizo	2	(20)	
Hughes Rawls	0	(14)	*
OEDC	0	(14)	
Queen Sand Resources	73	(11)	
Belco Oil & Gas	1	(8)	
Crown	2	(5)	
Lyco Energy	7	(5)	
EnSerCo Offshore/Noram	0	(5)	
Inland Resources	7	(4)	
Alliance Resources/LaTex	0	(4)	
C-Gas	37	(3)	
Browning Exploration	0	(3)	
Hogan Exploration	0	(3)	
ICE Drilling	0	(2)	
Basic Energy Services/Sierra Well Service	3	(1)	*
WB Oil Company	0	(1)	
Neutralysis	0	(1)	
Industrial Holdings	0	(1)	
Gasco	0	(1)	
Earl P Burke/Peltex/Magellan/3TEC/Eugene	0	(0)	
Beau Canada	12	(0)	
TransCoastal Marine	1	(0)	*
TriPoint	1	(0)	
Forcenergy - VPP	0	0	
Heartland Steel	29	14	*
Totals	**304**	**(348)**	

* Additional MTM write downs are likely for these investments

ECTe007758420

Excessive Risk

Intense pressure to close deals driven by earnings considerations has motivated Enron to assume extraordinary investment risks. Enron either didn't recognize or understand risks or they were ignored once identified. RAC shares the responsibility for not adequately assessing and modeling transaction risks or increasing the capital price to reflect these risks.

Excessive Risk – Case Study

Oil and gas drilling partnerships are examples of extremely high risk investments. Despite this, Enron has invested over $352 million in 23 partnerships since 1994. Twelve of these partnerships have been complete failures with nearly $75 million written off. Of the remaining eleven partnerships, six are currently on the "Watch or Troubled Deal List" with cost/carrying values as follows:

Cost Basis: $185 million

Carrying Value: $228 million

	ASSET	COST	CARRY	FV		
	COMPLETE FAILURE PARTNERSHIPS:					
1	Browning	3.5	0	3.5		
2	Grand Gulf	14	5	9		
3	Gulfstar-MidGulf	8	1	7		
4	Hogan	3.1	0	3.1		
5	Hughes Rawls	21	1.2	19.8		
6	Magellan LLC	4.3	2.8	1.5		
7	Meridian I	1.4	0	1.4		
8	Michigan	15.8	8	7.8		
9	OEDC	16	3	13		
10	Rocksprings	4	0.5	3.5		
11	Sweetwater	4	1	3		
12	WB Oil & Gas	2.5	1.4	1.1		
		97.6	23.9	**73.7**	**approx = $75MM**	
	REMAINING PARTNERSHIPS:					
1	Ameritex	6.9	7.6	-0.7	performing	
2	Lewis Energy	15	16	-1	performing	
3	Meridian II	3	5.4	-2.4	performing	
4	Texland	11	12	-1	performing	
5	Vastar	34	29	5	performing	per snapshots
		69.9	70	-0.1		
6	Bonne Terre	32	16	16	Watch List	
7	Cypress Explor	51	52	-1	Watch List	
8	Juniper	24	28	-4	Watch List	count = **6**
9	Linder Petroleum	17	24	-7	Watch List	
10	Sacramento	1	0	1	Watch List	
11	Venoco	60	108	-48	Watch List	per 10/31 Watch List
		185	**228**	**-43**		
		352.5	321.9	30.6		

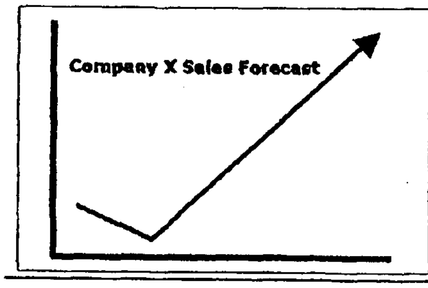
ECTe007758422

Market Corroboration and Terms

Investment assumptions have not been sufficiently validated by third party participation or use of current market input to maximize the ability to syndicate. This consideration is increasingly important to Enron in order to increase the velocity of capital and, in turn, to increase returns on invested capital.

Market Corroboration and Terms – Case Study

A study of a number of "troubled" investments where Enron did not have third party participation indicates that a major area where we may have differed from current market is in growth assumptions. Often our mezzanine debt was priced below market because we had received warrants, which were highly valued internally because of our aggressive growth assumptions. If third party investors had participated, it is likely that growth and other fundamental assumptions would have been more conservative.



Beau Canada - $42.1MM zero coupon @ 7.5% - half of the DASH projected IRR was attributed to warrants (which never traded above strike price); Beau's e-credit rating was 11

Hughes Rawls – $20MM debt financed exploratory operations in Bay Marchand at 10%; such financing rarely financed in capital markets through debt; debt financing would carry coupon rated indicative of equity type returns

Costilla Energy - $50MM Series A cumulative convertible preferred stock was subordinate to Costilla's bank and high yield unsecured debt; quarterly dividend of 7-8% was not priced to reflect subordinate position; when transaction closed the Costilla high yield unsecured notes were trading at a discount to par due to insufficient collateral coverage

Start-Up / Execution Risk

We have a dismal record of investment performance in start-up entities involving technology and construction risks due primarily to the significant inherent risks of start-up businesses, our counterparties' lack of management expertise, as well as passive execution oversight by Enron. These risks have been exacerbated by investments in industries where Enron had limited expertise, so pitfalls obvious to experienced investors were not avoided.

Start-Up / Execution Risk – Case Study

Construction of start-up steel mills and processing facilities is an area where Enron has invested over $123 million despite our lack of expertise in the area.

To date, $64 million has been lost and the remaining $59 million is in serious jeopardy.

The above steel facilities include:

Deal Name	Invested	(Write-Offs)	Current Value
Qualitech Steel	**$48.3MM**	**($48.3MM)**	**$ -0-**
NSM	**31.3MM**	**(31.3MM)**	**-0-**
Heartland Steel	**43.7MM**	**15.0MM**	**58.7MM**
Totals	**$123.3MM**	**($64.6MM)**	**$58.7MM**

Other examples of startups/new industry problem assets include:

City Forest - $29.0MM loan - Greenfield construction of tissue mill

Ecogas - $48.00MM – construction of landfill gas facilities

Industrial Holdings - $15MM debt – manufacturer of various goods (fasteners, valves, tanks)

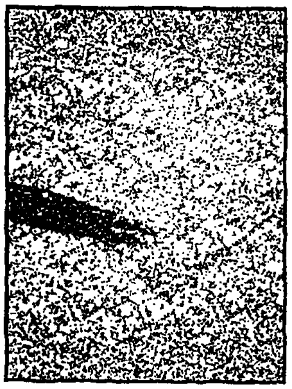
LSI - $9.7MM debt & equity – distributor of electric cable for drilling rigs

TransCoastal Marine - $20MM debt – offshore oil service company

Adequate Capitalization

Investees have been undercapitalized and have experienced liquidity crises in some instances due to our failure to insist on both third party financing and a source of "rainy day" liquidity before making our investment.

Adequate Capitalization – Case Study



Enron acquired a majority equity interest in a landfill gas company in 1999. It was recognized prior to deal closing that substantial external project financing was necessary for the Company to be viable. The acquisition was closed with the representation that a financing commitment was in place with a recognized financial institution. Apparently the financing "commitment" was much more tentative than originally represented and fell through soon after closing. Enron had to provide "life support" working capital because we failed to ensure before making our investment that appropriate third party financing was in place!

The above example relates to Ecogas, the landfill gas company in which Enron acquired an 85% interest and provided debt financing.

Other examples of portfolio companies that have experienced severe liquidity problems include:

Beau Canada	**LSI**
Brigham Exploration	**Lyco**
Carrizo Oil & Gas	**NSM**
Costilla Energy	**Oconto Falls**
Crown Energy	**Qualitech Steel**
Gasco Distribution	**Queen Sand Resources**
Heartland Steel	**Repap Enterprises**
Hogan Exploration	**Sierra Well Service**
Hughes Rawls	**TransCoastal Marine**
Industrial Holdings	**TriPoint, Inc.**
Kafus/CanFibre entities	**WB Oil & Gas**
Linder Petroleum	

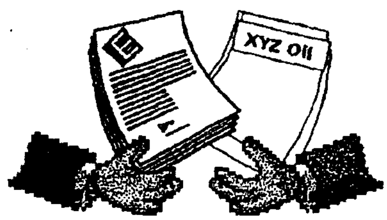
Preparation for the "Worst Case"

Because of Enron's aggressive investment policies, "troubled deals" should be expected; we have inadequately planned for "troubled deals" in terms of our legal documentation, our monitoring procedures and ability to react to these transactions with a "quick response" team.

Preparation for the "Worst Case" – Case Study

A study of a number of deals that have become "troubled" indicates that legal documentation providing Enron rights in a distress situation were never included or were negotiated away by dealmakers.

In one preferred stock investment, Enron reserved additional rights if the company failed a cash flow test. Unfortunately, "cash flow" was not adequately defined and the company was able to avoid our assertion of additional rights.



The above example relates to the cash flow test of Carrizo Oil & Gas

<u>Other examples of legal documentation issues include:</u>

Hainan Island - we failed to negotiate an exit strategy if a government policy changed

Noram - we were "hoodwinked" by the client when the dealmaker agreed (for some reason) not to file a lien against some collateral which was later moved out of the country resulting in a loss for Enron

Midwest Gas Storage – we failed to file a writ of garnishment against lawsuit proceeds which would have covered a large portion of a defaulted loan; we settled for a lesser amount after lengthy negotiations

Monitoring / Lack of Monitoring

While information about deal performance has improved somewhat due to better reporting, there is a still a problem with passive management of investments by Enron. There is a tendency to not act decisively until the transaction becomes very problematic, which, in most cases, is too late to effect needed changes.

Monitoring / Lack of Monitoring – Case Study

Effective deal monitoring and management must extend beyond simply reporting what is represented by company management. In a start-up steel processing plant where Enron has a substantial investment, the Commercial team was in frequent contact with plant management which represented for several months that the project was performing well and was on schedule and within budget. When a shortfall in YTD EBITDA developed, Enron initiated a detailed review which revealed that the project was actually nine months behind schedule due to major technical issues and the Company was experiencing a severe liquidity crisis.

The above relates to Heartland Steel

Other examples include:

CGAS – prior to Don Rollins' intervention, the commercial team had little involvement despite the fact that the asset was not performing

Crown Energy – involved construction and new technology that failed; complete lack of monitoring by deal team

Bonne Terre Exploration – confusion organizationally within Enron as to monitoring responsibilities; company spent almost $40MM on land and seismic leaving little money to drill

Kafus / CanFibre – lack of in depth monitoring failed to detect major performance and management issues

Midwest Gas Storage – loan advances were sent out the door without any documentation that costs were incurred and contractors paid (which they were NOT)

Ecogas – deal team failed to inform management that critical external financing fell through

How do we improve our investment performance?

Recommendations

Investment Performance Improvement
Recommendations

 # 1 - A more rigorous assessment of the qualifications of investee management should be made including the requirement that Senior Management of the Enron Business Unit meet with and assess the competence of the management team.

Investment Performance Improvement
Recommendations

#2 - RAC will more accurately reflect risks previously underestimated based on our "lessons learned." Drilling, exploration, construction, start-up, counterparty management and other execution risks shall be considered when arriving at the RAC capital price and probabilistic model.

Investment Performance Improvement
Recommendations

#3 - Segregate commercial responsibilities into two groups. One should be responsible for transaction origination and the other for transaction execution and asset management. There should be a definitive transfer of the asset to the Execution group at closing.

Investment Performance Improvement
Recommendations

#4 – PRC rankings and compensation should be based on both current transactions and historical performance of previous transactions.

Investment Performance Improvement
Recommendations

#5 - Deals must be developed using current market terms (or better) or third party participation to corroborate pricing and provide the ability to syndicate or maximize the probability of a successful exit.

Investment Performance Improvement
Recommendations

#6 - Investments in start-up entities will not be approved without the following:

- *Independent consultant / engineering reports prepared for Enron, not another entity (as overseen by Enron personnel with relevant expertise with few exceptions)*
- *Detailed plans for design, construction, and commissioning of new asset*
- *Assessment of the capabilities of management and staff with a plan to correct deficiencies*
- *Detailed cash flow budget and liquidity plan in the event of project delay or cost overruns*
- *Deal "milestones" and established due dates to monitor the above*

Investment Performance Improvement
Recommendations

#7 - Initiation of an independent legal review of transaction documents (in addition to the deal attorney) to ensure that Enron is not assuming undue legal risks and has maximized its rights in the event of a distress situation.

Summary

If Enron is to be successful in its investing activities it <u>must</u>:

- **Assess and price risks more realistically**
- **Devote additional resources to deal monitoring and execution**
- **Insist on accountability for performance**