

AGENDA Board of Directors October 16, 2013, 11 a.m. Eastern Time 712-432-0460, 1090765

	n	١Ť١	rr	าก	11	ct	10	'n	c
1.		ıu	ı.	u	u	Lι	ıu		

- II. Minutes
- III. Financials
 - a) August P/L and Balance Sheet
 - b) State Reports
 - c) Audit Status
- IV. Education and Training Update –Status of Gold Certification
- V. Research and Development Update
- VI. Legislative Update on NORA
- VII. Old Business
- VIII. New Business
- IX. Adjournment

AGENDA

Board of Directors

May 1st, 2013, 12 Noon. eastern

218-339-4300, 1090765

I. Introductions

Ed Noonan
Bob Boltz
Scott Inman
Charles Stafford
DAVID NEILL
Jeff Witham
Sam Bell
Nancy Allen
Ralph Adams
Mike Neish
Nancy Kister
Allison Heaney
Barry Knox

Jack Woodfin
Mark Petrunis
Carla Romita
Tom Flaherty
Judy Delaney
Eric Degesero
Roger Marran
Jeff Jenkins
Sean Cota
Steve Clark

Will Lawes

Jim Buhrmaster

Dr. Thomas Butcher

Chris Keyser

Mr. Huber called roll and announced that a quorum was met.

Mr. Ed Noonan, Chairman, called the meeting to order at 12:12 p.m. eastern standard time.

II. Minutes

A motion made by Mr. Ralph Adams and duly seconded, and after discussion, the submitted minutes were approved by voice.

III. Financials

a) Year end closing Information

Mr. John Maniscalco, Treasurer, presented the year end financials. Mr. Maniscalco noted that total expenses for the year were \$436,267 which were offset by \$22,961 in income for a total expenses of 413,306. NORA has cash and cash equivalents of \$2,610,217. The main liability is to the states for \$2148,082. Based on yearly cash flow and assets, NORA has approximately 1 year of activity left. A motion to accept this report was made by Ms. Allison Heaney and duly seconded. After discussion, the motion was adopted.

The National Oilheat Research Alliance has worked during the past twelve years to facilitate the advance of its programs through the use of state associations. To that end, NORA has allocated significant funds to the states to cover their activities. However, as a result of those efforts, the central NORA office will not have sufficient funds to continue operations through 2014. This would mean the current research and other activities of the central office will not be available to the heating oil industry.

The Executive Committee has examined this issue and recommends that the Board allow the central office to utilize funds currently in state accounts to continue operations through 2014. The Executive Committee wants to ensure that this action does not disrupt or impair ongoing state activities. To ensure smooth operations at both the state and national level, the Executive Committee would like to ensure that states with remaining funds are provided sufficient resources to continue their operations through 2014.

To accomplish this the Executive Committee recommends that the formula that will be used ensures states have funds sufficient to carry out activities through 2014 based on their activities in 2010-2012 be adopted, and also ensure that no more than 50 percent of the funds be utilized by the central office. Additionally, to ensure sufficient funds and to make these changes as uniform as possible, states that would not be impacted are requested to provide 10 percent of their funds into this effort.

Further, the Executive Committee believes that this allocation of funds should be considered a temporary allocation, and that in future budgets, that these funds be restored to the states.

Now therefore be it resolved: That the central office of NORA be provided with funds from states according to the attached excel sheet.

Be it further resolved: That these reallocations should be considered temporary and that the funds should be restored to the states in future budgets.

Be it further resolved: That the Executive Committee may advance repayment to states on showing of need and a well-designed program, and other information

IV. Education and Training Update

Mr. John Huber presented information on the education services at NORA including the certification program, the NORA store and continuing education credits. He indicated that in light of the finances, it was important that these programs become self-sustaining. He presented

an option to assess fees on new schools, people applying for certification, and trainers. During the discussion it was raised that this would have a negative impact on public primary schools. A motion to eliminate such schools from any fees was made by Mr. Ralph Adams, and duly seconded. After further discussion, this motion was approved. Additionally, during the discussion, NORA staff was directed to investigate raising funds from DEU classes.

V. Research and Development Update

Mr. John Huber reported on the research and development activities. He mainly focused on the biodiesel work that is ongoing and is a collaborative process with the national Biodiesel Board.

VI. Legislative Update on NORA

Mr. John Huber reported on behalf of NAORE, that legislative activity is heating up, and there is hope of enacting legislation in this congress.

VII. Old Business

NONE

VIII. New Business

NONE

IX. Adjournment

Mr. Barry Knox moved to adjourn. Mr. Darren Ledoux seconded the motion, and the meeting was adjourned at 1:24 pm EST.

National Oilheat Research Alliance Statement of Activities For the Eight Months Ending August 31, 2013

	YTD 2013
Projects and State Rebates:	
Research and Development	\$34,564.78
Education and Training	11,569.45
State Rebates	15,305.16
Consumer Education / Website	70.00
Total Grants and State Rebates	61,509.39
Operating Expenses:	
Salaries and Consultants	174,593.67
Employee Taxes	10,565.68
Retirement Plan	12,800.00
Rent and Telephone	12,506.46
Office Supplies	820.95
Equipment Maintenance	2,908.74
Insurance (D & O, L)	5,032.83
Dues, Memberships & Subscriptions	1,110.54
Public and Staff Travel	698.24
Meeting Expense	2,540.27
Bank Fees	1,837.75
Accounting Fees	54,580.96
Total Operating Expenses	279,996.09
Other (Income)/Expenses:	
Interest Income/Expense	(276.75)
Other Income	(852,678.16)
Depreciation and Amortization	210.38
Other Income	(48,362.44)
Other Expense	8,286.58
Total Other (Income)Expenses	(892,820.39)
TOTAL EXPENSES	(612,824.30)
TOTAL EXPENDITURES	(551,314.91)
INCREASE/(DECREASE)	
IN NET ASSETS	\$551,314.91

National Oilheat Research Alliance Statement of Financial Position August 31, 2013

	2013
ASSETS	
CURRENT ASSETS:	
Cash and cash equivalents Prepaid assets Publications inventory Reserve for Inventory Obsolescence	\$2,057,246 8,096 59,393 (6,900)
Total current assets	2,117,835
PROPERTY AND EQUIPMENT Office equipment Computer equipment	8,449 7,944
Less: accumulated depreciation	(16,295)
Total property and equipment	98
TOTAL ASSETS	\$2,117,933
LIABILITIES AND NET ASSETS	
CURRENT LIABILITIES:	
State rebate obligations Accrued expenses	1,190,133 37,900
Total Current Liabilities	1,228,033
NET ASSETS:	
Net Assets	889,900
Total Net Assets	889,900
TOTAL LIABILITIES AND NET ASSETS	\$2,117,933

		Olheat Researc					
	For the Eight I	Aonthis Ending A Disbursed	Disbursed	Disbursed	Disbursed	Disbursed	
CONNECTICIT	APPROVED	in 2009	in 2010	in 2011	in 2012	in 2013	Remaining
CONNECTICUT E & T '10 Grant TOTALS FOR CONNECTICUT	\$188,385,68		\$188,385,68				
DAHO E & T '06 Grant E & T '09 Grant 2010 - Unassigned	6.273.83	6.273.83					
E & T 09 Grant 2010 - Unassigned TOTALS FOR IDAHO	6,273,83 29,814,53 1,714,00 37,802,36	6.273.83					29.814.53 1.714.00
INDIANA		1,507.40		2 705 30	408179	147 11	
2000 - Unassigned 2010 - Unassigned CONSLED TIS Grand E.S.T. TIS Grand	21 434 16 4 690 00 14 620 02 6 005 27	0 742 70 6 005 27	1895.25	103198	218170	4711	4 650 On
TOTALS FOR INDIANA	46.719.45	19.265.55	3.835.25	3,737.28	4.081.79	342.33	15.457.25
KENTUCKY CONS-ED 09 Grant E & T 09 Grant CONS-ED 10 Grant E & T10 Grant	84.265.25 58.499.00 9.701.65 14.552.52	83.397.14 8.122.24	524.50 14.922.89	221.76 2.199.25	122.85 3.621.15		29.633.47
CONS-ED 10 Grant E & T10 Grant TOTALS FOR KENTUCKY	9.701.68 14.552.52 167.019.45		15.447.39		3.744.00		29.533.47 9.701.68 14.552.52 53.887.67
		91.519.38		2.421.01	3.744.00		53.887.67
MASSACHUSETTS CONS-ED 09 Grant E & T 09 Grant CONS-ED 10 Grant E & T 10 Grant	881.900.87 181.397.00 82.085.00 131.183.30	607.801.13 165.719.14	274.099.74 15.677.86	11.083.43 120.531.25	30.001.00 7.746.00	844.50	47.159.07 2.905.05
TOTALS FOR MASSACHUSETTS	1.283.569.17	773.520.27	289.777.60	131.614.68	37.747.00	844.50	50.065.12
MARYLAND (MID-ATL) CONNECTO TO Course EX TOD Course CONNECTO TO Course EX T '10 Great	117 158 85 11 010 36 56 477 00 22 981 00	147 99K 31 25 000 00	145 001 43 8 010 35	44 160 01			
				2.022.32	2.779.63	3.287.50	14.891.55
TOTALS FOR MARYLAND MAINE	450.472.00 243.000.00	172.996.31	153.911.78 78.933.19	69 222 36	36.162.50	3.287.50	14.891.55
MAINE CONS-ED to Grant E & T to Grant CONS-ED to Grant E & T T0 Grant E & T 10 Grant	299.977.77 56.230.58 74.537.00	164.085.81 201.703.68	98.274.09 56.230.58 74.535.42				1.58
TOTALS FOR MAINE	673.745.35 National	365.770.49 Olhest Researc	307.973.28 h Aliance				1.58
	For the Eight I		uoust 31, 2013				
	APPROVED	Disbursed in 2009	Disbursed in 2010	in 2011	in 2012	in 2013	Remaining
MCHGAN							
CORE.FD TIS Greet F.S.T.TIS Greet 2010 - Houselman	\$123 795 00 128 427 00 30 126 00		\$48,755,00 5,000,00	\$40,000,00 20,000,00	\$25,000,00 25,000,00	\$10 000 00 30 500 00	47 977 nn 10 176 nn
TOTALS FOR MICHIGAN	291.314.00		53.766.00	60.000.00	50,000.00	40.500.00	87.048.00
NORTH CAROLINA CONS-ED 10 Grant E & T 10 Grant	70.006.02 10.460.67		70.006.02 10.460.67				
TOTALS FOR NORTH CAROLINA	80.466.69		80.466.69				
NEW HAMPSHIRE CONS-ED 10 Grant E & T 10 Grant	57.928.02 13.943.01		57.928.02 13.943.01				
TOTALS FOR NEW HAMPSHIRE NEW JERSEY	71.871.03		71.871.03				***************************************
NEW JERSEY CORS-ED 19 Grant CORS-ED 10 Grant E & T 10 Grant	574.500.00 2.993.09 189.822.28	384.915.00	189.585.00 2.993.09 129.947.11	59.061.81			813.36
TOTALS FOR NEW JERSEY	767 315 37	384 915 00	322 525 20	50.051.81			813.36
NEVADA E & T 102 thru 105 Grants CONS-ED 107 Grant	3.573.83 6.442.86						3.573.83 6.442.85
TOTALS FOR NEVADA	10.016.69						10.016.69
CHIC CONS-ED 16 Grant CONS-ED 19 Grant E & T 19 Grant 2010 - Unassigned	151.879.31 42.958.54	82.833.80 29.131.14	44.555.06 (4.000.00)	3.035.00	20.705.45	750.00 1.285.00	41.673.54
2010 - Unassigned	100.295.57 51.066.00 346.199.42	111.954.94	40.555.06	3,035,00	20.705.45	2.035.00	75.164.43 51.066.00
OREGON E & T 108 Grant	2.391.90 36.454.18	391.86 20.071.22					2.000.04
OREGON E S T DE Grant CONS-ED DO Grant E S T DE Grant CONS-ED TO Grant	36.454.18 2.743.85 7.465.82	20.071.22 359.91	16.382.96 4.018.21		(127.48)		2.743.85 3.215.18
TOTALS FOR OREGON		20.822.99 Oilheat Researc	20.401.17 h Alliance		(127.48)		7.959.08
	For the Finhs I	dontha Farina d	Dishurani				
	APPROVED	in 2009	in 2010	in 2011	in 2012	in 2013	Remaining
PENNSYLVANIA CONS-ED 19 Grant E & T 19 Grant	\$960.491.52			\$150,000.00	\$150,000.00		\$37.929.18
PENNSYLVANIA CONS-ED 59 Grant E & T T09 Grant E & T T09 Grant TOTALS FOR PENNSYLVANIA	\$960,491,52 335,300,00 282,309,64	\$420.938.90 50.000.00 470.938.90	\$201.623.44 285.300.00				\$37.929.18 32.309.64 70.238.82
CONS-ED to Grant E & T to Grant E & T '10 Grant TOTALS FOR PENNSYLVANIA	1.578.101.16	\$420.938.90 50.000.00 470.938.90	\$201.623.44 285.300.00 486.923.44	\$150,000.00	\$150,000.00		32.309.64
CONS-ED 99 Grant E & 1"10 Grant E & 1"10 Grant TOTALS FOR PENNSYLVANIA RHODE BLAND CONS-ED 90 Grant E & 1"10 Grant E & 1"10 Grant	1.578.101.16 143.000.00 156.228.45 63.911.26	\$420.938.90 50.000.00 470.938.90 73.914.68 68.740.00 3.000.00	\$201.623.44 285.300.00 486.923.44 69.085.32 87.468.46	\$150,000,00 150,000,00 300,000,00	\$150,000.00		32.309.64
CONS-ED 99 Grant E & T-10 Grant E & T-10 Grant TOTALS FOR PENNSYLVANIA RICCOE SLAMD CONS-ED 99 Grant E & T-10 Grant E & T-10 Grant TOTALS FOR RHODE SLAND TOTALS FOR RHODE SLAND	1.578.101.16 143.000.00 156.228.45 63.911.26 263.139.74	\$420.938.90 50.000.00 470.938.90 73.914.68 68.740.00 3.000.00	\$201.623.44 285.300.00 486.923.44	\$150,000.00 150,000.00 300,000.00	\$150,000.00		32.309.64
CONS-ED 90 Grant E 8 T 10 Grant TOTALS FOR PENNSYL WANA NHODE BLAND CONS-ED 90 Grant E 8 T 10 Grant	1.578.101.16 143.000.00 156.228.48 63.911.26 363.139.74 40.813.91 1.866.27 5.964.01	\$420.938.90 50.000.00 470.938.90 73.914.68 68.740.00 3.000.00	\$201.623.44 285.300.00 486.923.44 69.085.32 87.488.48 156.573.80	\$150,000,00 150,000,00 300,000,00	\$150,000.00		32.302.64 70.238.82
CORS-ED DO Clorel E. A. TO Clorel E. E. TO Clorel E. A. TO Clorel E. E. TO Clorel E. TO Clore	1.578.101.16 143.000.00 156.228.45 63.911.26 263.139.74	\$420.938.90 50.000.00 470.938.90 73.914.68 68.740.00 3.000.00	\$201.523.44 285.300.00 486.923.44 69.085.32 87.488.48	\$150,000,00 150,000,00 300,000,00	\$150,000.00		32.309.64 70.235.82
CORS-ED DO Clorel E. A. TO Clorel E. E. TO Clorel E. A. TO Clorel E. E. TO Clorel E. TO Clore	1.578.101.16 143.000.00 156.228.46 63.911.26 363.139.74 40.813.91 1.856.27 5.964.01	\$420.938.90 50.000.00 470.938.90 73.914.68 68.740.00 3.000.00	\$201.623.44 285.300.00 486.923.44 69.085.32 87.488.48 156.573.80	\$150,000,00 150,000,00 200,000,00 60,911,26	\$190,000.00 100,000.00 250,000.00		32.309.64 70.236.62 5.364.03
COME DO SOME \$1 *10 ONE **COME TO SOME **CO	1.578.101.16 143.000.00 156.228.43 63.911.35 363.139.74 40.813.91 1.856.27 5.764.01	\$400,935,90 50,000,00 470,935,90 73,914,63 68,746,00 1,000,00 145,654,68 40,813,91 45,77 41,706,68	\$201,823,44 285,300,00 486,923,44 69,085,32 87,468,46 156,373,80 1,413,50 1,413,50 1,413,50 1,9371,67	\$150,000,00 150,000,00 200,000,00 60,911,26 60,911,26 8,787,76 52,808,01	\$190,000,00 100,000,00 290,000,00 350,000,00	18,737.50	32.309.64 70.235.82 5.364.03 5.364.03 33.820.54 150.67.81 63.855.00
COME DO COME \$1 170 CARE TOTALE FOR PRINTED MONO COME DO COME COME D	1.578.101.16 143.000.00 156.208.40 63.911.40 63.911.40 40.813.91 1.686.27 6.766.41 208.203.50 208.203.50 208.203.50 63.845.00 653.845.00	\$420,938,90 93,000,00 470,938,90 73,914,65 65,740,00 3,000,00 145,654,65 40,813,91 482,77 41,796,68 17,175,21	\$201,623,44 285,300,00 486,923,44 69,085,32 87,486,48 156,573,80 1,413,50	\$150,000,00 150,000,00 200,000,00 60,911,26	\$190,000.00 100,000.00 250,000.00		32.309.64 70.236.62 5.364.03
COME DO COME \$1 170 CARE TOTALE FOR PRINTED MONO COME DO COME COME D	1.578.101.16 143.000.00 156.208.40 63.911.40 63.911.40 40.813.91 1.686.27 6.766.41 208.203.50 208.203.50 208.203.50 63.845.00 653.845.00	\$420,335,00 50,000,00 470,335,90 73,914,65 63,740,00 1000,00 145,554,65 40,813,91 41,294,65 17,175,21 151,580,00 1,532,21 1,431,36	\$201,623,44 285,300,00 486,923,44 69,085,32 87,488,48 156,973,80 1,413,50 1,413,50 1,2371,67 196,383,18	\$150,000,00 150,000,00 300,000,00 60,911,26 60,911,26 8,787,76 52,808,01 60,754,43	\$190,000.00 100,000.00 290,000.00 8,518,66 6,076,34 48,551,31	18.737.50	32.309.64 70.235.82 5.364.03 5.364.03 33.820.54 150.67.81 63.855.00
COME DO COME \$1 170 CARE TOTALE FOR PRINTED MONO COME DO COME COME D	1.578.101.16 143.000.00 156.208.40 63.911.40 63.911.40 40.813.91 1.686.27 6.766.41 208.203.50 208.203.50 208.203.50 63.845.00 653.845.00	\$420,938,90 90,000,00 470,938,90 73,914,65 65,740,00 3,000,00 145,654,65 40,813,91 482,77 41,796,68 17,175,21	\$201,823,44 285,303,00 486,923,44 69,085,32 87,468,46 156,373,80 1,413,50 1,413,50 1,413,50 1,9371,67	\$150,000,00 150,000,00 300,000,00 60,911,26 60,911,26 8,767,76 52,808,01	\$190,000,00 100,000,00 290,000,00 350,000,00	18,737.50	32.309.64 70.235.82 5.364.03 5.364.03 33.820.54 150.67.81 63.855.00
COME ON SOLUTION TOTAL STORM SOLUTION TOTAL STORM SOLUTION TOTAL STORM SOLUTION ELECTRONIC SOLUTION ELECTR	1.578.101.16 143.000.00 156.228.43 63.911.35 363.139.74 40.813.91 1.856.27 5.764.01	\$420,335,00 50,000,00 470,335,90 73,914,65 63,740,00 1000,00 145,554,65 40,813,91 41,294,65 17,175,21 151,580,00 1,532,21 1,431,36	\$201,623,44 285,300,00 486,923,44 69,085,32 87,488,48 156,973,80 1,413,50 1,413,50 1,2371,67 196,383,18	\$150,000,00 150,000,00 300,000,00 60,911,26 60,911,26 8,787,76 52,808,01 60,754,43	\$190,000.00 100,000.00 290,000.00 350,000.00 8,618,86 6,676,54 48,551,31 63,846,53	18.737.50	22.309.64 70.208.82 6.764.00 6.764.00 98.800.54 150.807.61 63.805.00
COME ON SOLUTION TOTAL STORM SOLUTION TOTAL STORM SOLUTION TOTAL STORM SOLUTION ELECTRONIC SOLUTION ELECTR	1.578.101.16 143.000.00 143.000.00 143.000.00 143.000.00 143.000.101.102.14 143.1130.74 14	\$403.935.90 50,000.00 470,935.90 73,914.68 68,740.00 140,913.91 482,77 41,795.68 17,175.21 134,404.88 17,175.21 151,580.00 1,532.21 1,431.35 41,571.79 41,571.79	\$201,623,44 285,300,00 486,323,44 60,085,32 87,488,46 156,573,80 1,413,50 1	\$150,000,00 150,000,00 200,000,00 60,011,26 60,011,26 8,787,76 52,808,01 60,754,43 31,390,96 18,209,04	\$190,000.00 100,000.00 290,000.00 390,000.00 4,518.86 6,775.34 48,551.31 63,846.53	18.737.50 18.737.50 11.806.36 11.792.84	32.303.64 70.238.62 6.764.03 6.764.03 6.365.00 20.365.00 20.365.00 20.365.00 20.365.00 20.365.00
COME DO SOURCE \$1 **10 Come **CONTROL PROMISSIONAN	1.578.101.16 143.003.00 143.003.00 143.003.00 143.003.00 153.011.20.74 143.01.102.74 1	\$403.935.90 50,000.00 470,935.90 73,914.68 68,746.00 1405.654.68 40,813.91 482,77 41,796.68 17,175.21 191,590.09 1,532.21 1,431.36 41,577.39 66,106.75	\$201,623,44 285,303,00 485,923,44 69,085,32 87,463,46 156,573,80 1,413,50 1,413,50 1,2371,67 106,363,18 34,003,00	\$150,000,00 150,000,00 200,000,00 60,911,25 60,911,25 60,911,25 8,181,66 8,787,76 152,000,00 163,000,00 163,000,00	\$190,000.00 100,000.00 290,000.00 390,000.00 4,518.86 6,775.34 48,551.31 63,846.53	18.737.50 18.737.50 11.806.36 11.792.84	32.303.64 70.238.62 6.364.03 6.364.03 133.620.54 133.620.54 133.620.54 133.620.54 133.620.54 133.620.54 133.620.54 133.620.54 133.620.54
COME DO SOURCE \$1 **10 Come	1,578,101.16 165,203.00 165,203.0	\$400.038.90 500.000.00 470.238.90 73.914.65 68.140.00 145.054.65 40.813.91 41.294.66 17.175.21 151.550.00 145.77.79 41.571.39 41.571.39	\$201,823,44 285,300,00 485,923,44 60,085,32 87,463,46 134,350 1,413,50 1,413,50 106,363,18 34,000,00 34,000,00	\$150,000.00 150,000.00 200,000.00 60,911.26 60,911.26 8,757.76 52,808.01 62,754.43 31,300.96 18,500.04 489.17	\$19,000,00 100,000,00 200,000,00 8,014,86 6,077,44 44,551,31 41,102,28 63,846,33 109,970,67	18.737.50 18.737.50 11.806.36 11.792.84	32,303,64 70,238,82 4,704,03 4,704,03 38,800,54 150,867,81 62,865,00 283,033,35 283,01 283,01 4,477,00 4,477,00 5,663,30
CODE DO SOUTH TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL E. 1 TO DOME	1,578,101.16 115,222,4 151,100.00 115,100.00	\$40,038.00 50,000.00 73,018.00 73,018.00 50,740.00 50,74	\$201,822,44 285,300,00 486,922,44 486,922,44 486,922,44 196,637,480 141,140 196,637,480 141,140 196,374,68 196	\$150,000.00 150,000.00 200,000.00 60,911.26 60,911.26 8,757.76 52,808.01 62,754.43 31,300.96 18,500.04 489.17	\$150,000.00 100,000.00 250,000.00 250,000.00 8,618.88 6,675.34 48,251.31 41,102.28 68,858.39	18.737.50 18.737.50 11.806.36 11.792.84	22,202,64 70,238,62 70,238,62 70,238,62 70,638,638,638 70,638,638,638 70,638,638,638,638 70,638,638,638,638,638,638,638,638,638,638
COME NO SOURCE TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL EL TI TO COME EL TI TO	1,576,101,16 15,200,00 153,200,00 153,200,00 153,200,00 153,200,100 153,200,0	\$40,038.00 50,000.00 73,018.00 73,018.00 50,740.00 50,74	\$201,823,44 285,200,00 486,223,44	\$150,000.00 150,000.00 200,000.00 60,911.26 60,911.26 8,757.76 52,808.01 62,754.43 31,300.96 18,500.04 489.17	\$19,000,00 100,000,00 200,000,00 8,014,86 6,077,44 44,551,31 41,102,28 63,846,33 109,970,67	18.737.50 18.737.50 11.806.36 11.792.84	32,303,64 70,238,82 4,704,03 4,704,03 38,800,54 150,867,81 62,865,00 283,033,35 283,01 283,01 4,477,00 4,477,00 5,663,30
COME NO SOURCE TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL EL TI TO COME EL TI TO	1,576,101,16 153,200,00 153,200,0	\$40,038.00 000 000 000 000 000 000 000 000 000	\$201,622,44 265,200,000 466,5225,500,000 466,5225,500,000 466,5255,500 15,718,64 156,571,800 156,571,8	\$150,000,00 150,000,00 200,000,00 60,911,26 00,911,26 00,911,26 00,911,26 1,188,00 1,22,000,01 11,200,00 1	\$190,000.00 100,000.00 220,000.00 8,818.88 4,818.88 4,8251.81 48,551.31 41,102.28 68,865.30 100,370.67	16.237.50 16.237.50 11.205.36 23.500.30	2.309.64 70.238.82 6.364.69 6.364.69 6.364.69 120.867.68 120.867.68 120.867.69 120.867.68 120.867.69 120.867.69 120.867.69 120.867.69 120.867.69 120.867.69 120.867.69 120.867.69 120.867.69 120.867.69 120.867.69 120.867.69
COME DO SOURI TOTAL FOR PENENTANNA E 1 TO COME E	1.576.101.56 11.300.00 11.300.00 11.300.00 11.300.00 11.300.10 11.	F00.033.00 50.000.00 470.033.00 163.746.00 163.746.00 145.654.60 40.013.1 41.796.8 42.77 41.796.8 153.464.8 151.600.00 153.224.4 157.792.2 157.792.2 157.796.00	\$201,623,44 265,206,00 265,006,00 265,006,00 27,606,46 27,606,46 27,607	\$150,000,00 150,000,00 150,000,00 150,000,00 160,911,26 167764,3 177776 1877776 1870776 1870776 1870776 1870776 1870776 187076 1870776 187076	\$190,000,00 100,000,00 220,000,00 8,618,86 6,677,34 41,102,28 68,866,30 109,970,67 502,79	18.737.50 18.737.50 11.806.36 11.792.84	32,303,64 70,238,82 4,704,03 4,704,03 38,800,54 150,867,81 62,865,00 283,033,35 283,01 283,01 4,477,00 4,477,00 5,663,30
COME DO SOURI TOTAL FOR PENENTANNA E 1 TO COME E	1.576.101.56 11.300.00 11.300.00 11.300.00 11.300.00 11.300.10 11.	F40333.00 50000.00 4703333.00 66.740.00 141.644.00 405131.00 141.644.00 405131.00 151.640.00	\$201,622,44 265,200,000 466,5225,500,000 466,5225,500,000 466,5255,500 15,718,64 156,571,800 156,571,8	\$150,000,00 150,000,00 200,000,00 60,911,26 00,911,26 00,911,26 00,911,26 1,188,00 1,22,000,01 11,200,00 1	\$190,000.00 100,000.00 220,000.00 8,818.88 4,818.88 4,8251.81 48,551.31 41,102.28 68,865.30 100,370.67	18.737.50 18.737.50 11.805.35 11.752.54 10.752.55 10.752	23.200.04 70.208.02 6. Wild 97 7.
COME NO SOURCE TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL EL TI TO COME EL TI TO	1.576.101.56 143.000.00 143.000.0	5-00.038.00 500.000.00 470.338.00 50.740.00 470.338.00 470.540.00 470.00	\$201,623,44 280,200,000 486,523,40 486,523,60 17,413,50 186,573,60 187,466,46 186,573,60 187,466,46 186,573,60 187,476,60	\$110,000,00 100,000,00 60,011,26 60,	\$190,000.00 100,000.00 220,000.00 8,818.88 4,818.88 4,8251.81 48,551.31 41,102.28 68,865.30 100,370.67	16.737.50 16.737.50 11.806.36 11.792.84 22.599.20 23.599.20 7.900.00	1 20 20 64 67 75 22 8 8 7 7 22 8 8 7 7 22 8 8 7 7 22 8 8 7 7 22 8 8 7 7 22 8 8 7 7 22 8 8 7 7 22 8 8 7 7 22 8 8 7 7 22 8 8 7 22 8 8 7 2 8 8 7
COME DO SOURS TOTAL STORY PROPERTY UNION TOTAL STORY PROPERTY UNION TOTAL STORY PROPERTY UNION TOTAL STORY PROPERTY UNION EL T TO DOME E	1.574.01.01.01.01.01.01.01.01.01.01.01.01.01.	5-00.203.80 50 50000.00 60 50000.00 60 50000.00 60 50 50000.00 60 50 50 50 50 50 50 50 50 50 50 50 50 50	\$201,822,44 285,200,00 285,200,00 285,200,00 287,488,40 1413,2	\$110,000,00 110,000,00 110,000,00 100,000,0	\$190,000.00 100,000.00 220,000.00 8,818.88 4,818.88 4,8251.81 48,551.31 41,102.28 68,865.30 100,370.67	18.737.50 18.737.50 11.805.35 11.752.54 10.752.55 10.752	23.200.04 70.208.02 6. Wild 97 7.
COME OF SOLUTION TOTAL STORY REMOVEL, NAME TOTAL STORY REMOVEL, NAME A TOTAL STORY REMOVER. A TOTAL STORY REMOVEL, NAME A TOTAL	1570 to 50 (150 to 50 to	5-00.208.00 5-00.000.00 5-00.000.00 5-00.000.00 5-00.000.00 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.00	\$201,822,44 285,200,00 285,200,00 285,285,285,285,285,285,285,285,285,285,	\$110,000.00 110,000.00 110,000.00 100,000.00	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18.737.00 18.237.00 11.205.30 11.792.84 87 2013 7.900.00 7.900.00 22.405.69 22.405.69	13.3064 70.2382 70.238
COME DO SOURCE \$1 *** TO COME PROPERTY NAME ***CONTROL PROPERTY NAME	1.574 to 4.0 (4.00 to 4.0 to 4	5400.003.00 5600.003.00 5600.003 5600.0	\$201,822,44 285,200,00 285,200,00 285,200,00 287,488,40 1413,2	\$110,000,00 110,000,00 110,000,00 100,000,0	\$10,000.00 100,000.00 250,000.00 45,018,00 44,051.11 41,02.28 63,863.30 502,79 502,79 502,79	18,737.50 18,737.50 18,737.50 11,506.36 11,792.84 20,506.20 20,506.20 7,506.20 22,405.69	13.3064 70.2381 70.238
COME DO SOURCE \$1 *** TO COME PROPERTY NAME ***CONTROL PROPERTY NAME	1.5% to 5.0 (4.00) 1.5% to 5.0 (4.00) 2.11.2.7.1 2.11.2.7 2.1	5-00.208.00 5-00.000.00 5-00.000.00 5-00.000.00 5-00.000.00 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.0000 5-00.00	\$201,822,44 285,200,00 285,200,00 285,285,285,285,285,285,285,285,285,285,	\$110,000.00 110,000.00 110,000.00 100,000.00	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18.737.00 18.237.00 11.205.30 11.792.84 87 2013 7.900.00 7.900.00 22.405.69 22.405.69	13.3064 70.2381 70.238
COME DO SOURCE TOTAL FOR PROPERTURNAL TOTAL FOR PROP	150 to 6 to	500.000.000 500.000 500.000 500.000 500.000 500.000 500.000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.00000 500.00000 500.00000 500.00000	\$201.623.44 60.0623.45 60.0623.47 60.6623.44 60.0623.47 60.6623.47	\$150,000,00 150,000,000 150,000,0	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737.50 18,737.50 11,739.54 11,739	30.004
COME DO SOURS TOTAL STOR PROPERTURNAL TOTAL	150 to 50 to	\$40,000 00 00 00 00 00 00 00 00 00 00 00 0	5201.523.44 466.921.41	\$150,000,00 150,000,000 150,000,0	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18.737.50 18.737.50 11.752.84 11.752.84 22.599.20 7.950.2	10 20064 10 20062 10
COME DO SOURS TOTAL STOR PROPERTURNAL TOTAL	150 to 50 to	500.000.000 500.000 500.000 500.000 500.000 500.000 500.000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.0000 500.00000 500.00000 500.00000 500.00000	\$201.623.44 66.0623.44 66.0623.47 67.68.42 67.68.42 67.68.42 68.0623.47 68.06	\$150,000,00 150,000,000 150,000,0	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737,50 18,737,50 11,205,36 11,100	# 33 3064 M 22882 M 22
COME DO SOURS TOTAL STOR PROPERTURNAL TOTAL	150 to 50 to	\$40,000 00 00 00 00 00 00 00 00 00 00 00 0	\$201.823.44 60.06.22.44 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.22 60.06.22.22 60.06.22.22 60.06.22.22 60.06.22.22 60.06.22 60.	\$10,000,00 110,000,00 100,000,00 100,000,0	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737.50 18,737.50 11,739.54 11,739	# 33 3064 M 22882 M 22
COME DO SOURCE TOTAL FOR PROPERTURNAL TOTAL FOR PROP	150 to 6 to	\$40,000 00 00 00 00 00 00 00 00 00 00 00 0	\$201.823.44 60.06.22.44 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.24 60.06.22.22 60.06.22.22 60.06.22.22 60.06.22.22 60.06.22.22 60.06.22 60.	\$10,000,00 110,000,00 100,000,00 100,000,0	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737,50 18,737,50 11,205,36 11,100	30.004
COME DO SOURCE TOTAL FOR PROPERTURNAL TOTAL FOR PROP	150 to 5 to 100	500.00.00 470.00.00 730.00.00 730.00.00 730.00.00 730.00.00 400.00.00 400.00 400.00 400.00 400.00 6	\$201.02.00.00 \$40.00.00 \$1	\$10,000.00 100,000.00	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737.50 18,737.50 11,100.55	**************************************
COME OF SOLUTION TOTAL FOR PROPERTURANA TOTAL FOR PROPERTURANA TOTAL FOR PROPERTURANA E. 1 TO COME E. 1 TO COME E. 1 TO COME E. 2 TO COME E. 2 TO COME E. 3 TO COME E. 3 TO COME E. 3 TO COME E. 4 TO COME E. 4 TO COME E. 5 TO CO	1.5% to 1.6 (1.5% to 1.5% to 1	\$00,000,000 000 000 000 000 000 000 000	\$201.652.44. \$2.00.000.00 \$1.000.000 \$1.000.0000 \$1.000.0000	\$10,000.00 100,000.00	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737.50 18,737.50 11,100.55	**************************************
COME DO SOURS \$1 * 10 OWN TOTAL FOR PENDETUNION TOTAL FOR PENDETUNION TOTAL FOR PENDETUNION \$2 * 10 OWN \$2 * 10 OWN \$3 * 10 OWN \$4 * 10 OWN \$4 * 10 OWN \$4 * 10 OWN \$5 * 10 OWN	1.5% to 1.5 (1.2% to 1.5 (1.2% to 1.5 (1.2% to 1.5 (1.2% to 1.2% to 1.	Section 20 (1975) 47033300 47033300 47033300 47033300 47033300 47033300 47033300 47033300 47033300 47033300 47033000 47033000 47033000 470330000 4703300000 47033000000 470330000000 470330000000000	\$201.52.40.40.52.34.4 486.522.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.4	\$10,000.00 100,000.00	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737.50 18,737.50 11,100.55	33.0064 M 228.00 M 22
COME DO SOURS \$1 * 10 OWN TOTAL FOR PENDETUNION TOTAL FOR PENDETUNION TOTAL FOR PENDETUNION \$2 * 10 OWN \$2 * 10 OWN \$3 * 10 OWN \$4 * 10 OWN \$4 * 10 OWN \$4 * 10 OWN \$5 * 10 OWN	150 to 5 to 100	500 83 80 80 80 80 80 80 80 80 80 80 80 80 80	\$201.02.00.00 \$40.000.	\$10,000.00 100,000.00	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737.50 18,737.50 11,100.55	10 20064 10 20069 10
COME DO SOURCE TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL EL T TO COME	1.5% to 1.5 (1.2% to 1.5 (1.2% to 1.5 (1.2% to 1.5 (1.2% to 1.2% to 1.	Section 20 (1975) 47033300 47033300 47033300 47033300 47033300 47033300 47033300 47033300 47033300 47033300 47033000 47033000 47033000 470330000 4703300000 47033000000 470330000000 470330000000000	\$201.52.40.40.52.34.4 486.522.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.34.4 486.522.4	\$10,000.00 100,000.00	8.616.86 6.675.24 4.502.79 502.70 502.70 502	18,737.50 18,737.50 11,100.55	33.0064 M 228.00 M 22
COME DO SOURCE TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL EL T TO COME	1.5% to 1.5 (1.5% to 1.5% to 1	\$40,000 00 00 00 00 00 00 00 00 00 00 00 0	\$201.02.00.00 \$40.00.00 \$4	\$10,000.00 100,000.00	8.010.000.00 100.000.00 250.000.00 40.000.00 50.000.00 40.000.00 40.000.10 50.079 50.079 50.079 50.079 50.079 50.079	18,737.50 18,737.50 11,1305.55 11	# 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
COME ON SOLUTION TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL TOTAL FOR PROPERTURNAL E. 1 1 10 Come E. 2 1 10 Come E. 2 1 10 Come E. 3 1 10 Come E. 3 1 10 Come E. 4 1 10 Come E. 4 1 10 Come E. 5 1 10 Come E. 5 1 10 Come E. 5 1 10 Come E. 6 1 10 Come E. 7 10 Come E.	150 to 16 to	\$40,033.00 (10,000) \$75,046.00 (10,000) \$75,000 (10,000)	\$201.02.00.00 446.023.44 466.023.44 466.023.44 466.023.44 466.023.43 466.023.63 466.03 46	\$150,000 00 110,000 00	510,000,00 100,000,00 200,000,00 200,000,00 200,000,0	18,737.50 18,737.50 11,1305.25 11,1305.25 11,1305.25 11,1305.25 23,305.20 23,305.20 14,735.20 24,437.50 24,437.50 25,305.25 24,437.50 25,305.25 24,437.50 25,305.25 26,437.50 26,437.50 26,437.50 26,437.50 26,437.50 26,437.50	33.0044 M 22.005 M 22
COME DO COME TOTAL STOR PROPERTURNING TOTAL STOR PROPERTURNING TOTAL STOR PROPERTURNING EL Y 10 Come EL Y 10	150 to 16 to	500,000,000 70,000,000 70,000,000 70,000,00	\$201.00.00.00 \$10.00.00.00 \$10.00.00.00 \$10.00.00.00 \$10.00.00.00 \$10.00	\$150,000 00 110,000 00	8.010.000.00 100.000.00 250.000.00 40.000.00 50.000.00 40.000.00 40.000.10 50.079 50.079 50.079 50.079 50.079 50.079	18,737.50 18,737.50 11,1305.25 11,1305.25 11,1305.25 11,1305.25 23,305.20 23,305.20 14,735.20 24,437.50 24,437.50 25,305.25 24,437.50 25,305.25 24,437.50 25,305.25 26,437.50 26,437.50 26,437.50 26,437.50 26,437.50 26,437.50	33.0044 M 22.005 M 22

TOTALS FOR REPORT 10.204-00.24 1300/572.23 1117/207/20 1207/20120 722-21142 720-12120 11:00:123.00

Advanced Venting – Under a project jointly funded by NORA and NYSERDA, BNL has been exploring low cost methods to vent high efficiency but non-condensing oil-fired appliances. Chimney venting of boilers and furnaces with efficiency levels in the 88 to 92% range can lead to chimney water problems. Stainless steel venting, either side wall or using chimney liners is expensive. The approach explored involves dilution with outside air to reduce vent temperatures low enough to use inexpensive plastic vent materials. One concept developed involves an eductor which allows the appliance to operate under negative pressure. Since the fan in this case is only handling outside air, corrosion potential is eliminated. Energy Kinetics has been a partner on this project and they are already using dilution venting on commercial products. This project has the potential to eliminate chimneys as an impediment to efficiency. Project report has been completed.

<u>Polymer Heat Exchangers</u> – Under a project jointly funded by NORA and NYSERDA, BNL has been developing low cost, thermally conductive polymer heat exchangers for the condensing section of oil-fired boilers. This low cost material eliminates corrosion concerns. To get high thermal conductivity, solid particle fillers are used in the polymer. A heat exchanger has been designed involving a coiled tube. The composite polymer has been extruded and shaped into the coil. Tests are underway now and the project report will be completed just after. This work has led to a followon project with a manufacturer to develop a polymer air heater for a steam boiler. This followon project is jointly funded by the manufacturer and NYSERDA. Another followon project has been proposed to DOE and is pending.

Biodiesel Blends Beyond B-5 – Work in this area is jointly sponsored by NORA, NBB, and NYSERDA. A key goal has been to find the technical limitations to using biodiesel blends over 5% and to develop technical documentation to expand biodiesel use. Work has included seal material compatibility, pump testing, yellow metal interactions, and combustion performance. Part of the technical documentation package includes capturing the great amount of field experience that exists in the U.S. No technical limit to biodiesel content with legacy systems has been identified in all testing. Seal materials have passed all tests to B-100. Only if the acidity of the biodiesel is artificially increased to very high levels are any effects on seals and yellow metals indicated.

<u>Hydronic Controls</u> – Under a joint NYSERDA/NORA project the energy savings potential of advanced boiler control concepts is being evaluated and this work extends even to refit concepts for tankless coil boilers. All major controls manufacturers are providing technical support to this work. These control products are seen as having strong retrofit potential for existing boilers.

<u>Performance of Integrated Hydronic Heating Systems</u> – this work was completed several years ago under joint NORA/NYSERDA sponsorship. The results of this study have received considerable attention in the past year. A new formal methodology for using this approach to evaluate the actual efficiency of boilers in the field and the energy savings potential of boiler replacement has been developed by a major energy services company and is being adopted under

NYSERDA home energy audit programs. This will lead to stronger justification for including boiler replacements in home energy efficiency programs.

Impact of ULS on Condensing Heat Exchanger Corrosion and Materials – Also a jointly funded project with NYSERDA, this work has focused on the implications that the transition to ULS will have on materials selection and cost for condensing appliances. Coupon and whole appliance tests have confirmed a dramatic reduction in corrosion rates and appliances designed for gas can be considered for use with ULS. However, with oil, the low flue gas water content and lower condensation rates still lead to somewhat higher corrosion rates than with gas. This is very dependent on operating conditions. Condensation rates can be higher and corrosion rates will be lower with furnaces just because of the low return air temperature.

<u>Upgraded Pyrolysis Oil for Home Heating Applications</u> – in a new project, sponsored by the U.S. Department of Energy, BNL and NORA are teaming up to evaluate the potential of a new biofuel being developed under a major initiative in the DOE Office of Energy Efficiency and Renewable Energy. There are many potential barriers to the future widespread use of this fuel and, under this program, these are being identified and solutions explored. BNL and NORA are working with several other national labs on this initiative.