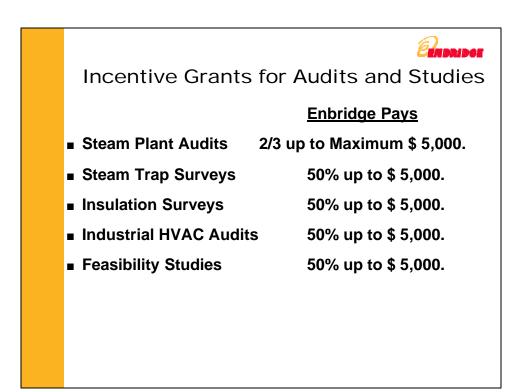
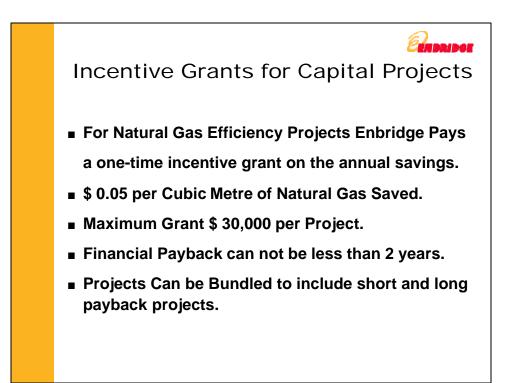


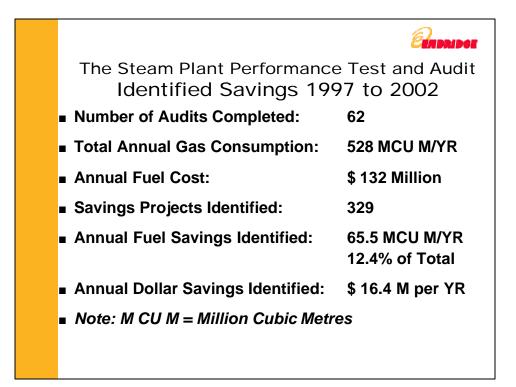
Bob Griffin, P.Eng. Phone: 416-495-5298 e-mail: robert.griffin@enbridge.com November 14, 2002

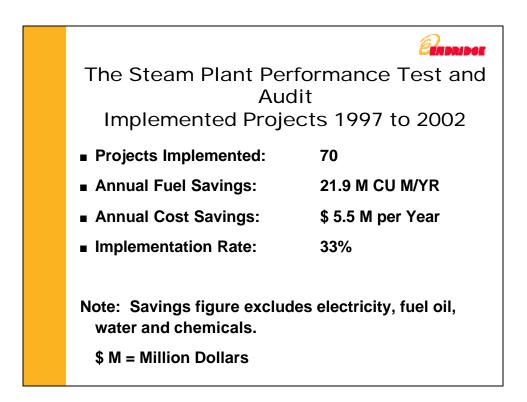












Where Do the Savings Come From? 329 Projects Identified, 62 Plants MCUM % of Fuel		
Combustion Improvements	8.5	1.6%
Boiler Plant Capital Projects	10.3	2.0%
Heat Recovery	15.7	3.0%
Operating Changes	14.9	2.8%
Steam & Condensate System	8.5	1.6%
Building HVAC	2.5	0.5%
Insulation Improvements	1.9	0.4 %
■ Other	3.2	0.5%
■ TOTAL	65.5	12.4%

Steam Trap Surveys Years 2000 and 2001		<b>Quaridos</b>
Number of Surveys Completed: 80		
Number of Traps Identified:	16,	251
Number of Traps Tested:	14,	330
Leaking or Blow-Through:	2,180	15.2%
Blocked or Flooded:	854	6.0%
Total Defects:	3,034	21.2%
Annual Steam Loss:	210.3 Mill	ion LB/YR
Annual Savings Identified:	9.3 Millio	n CU M/YR
Traps repaired or replaced:	7.8 Millio	n CU M/YR

	<b>Eindride</b> e	
Other Steam Saver P	rograms	
Annual Savings Implemented		
Steam Pressure Reduction:	1.7 M CU M/YR	
Combustion Improvements:	1.1	
Insulation Improvements:	2.2	
Other Projects (Stand alone)	3.5	
eg. Direct Contact Water Heaters		
M.U. Air Unit Conversions		
Total Savings Implemented-Other	8.5 M CU M/YR	
\$ 2.1 Million per YR		
	-	

	Total Savings a All Projects			5
		<u>Savings</u>	Cap. Cost	Payback
-	62 Steam Plant Audits	\$ 16.4M	\$ 26.6 M	1.6 YR
•	80 Steam Trap Surveys	\$ 2.3	\$ 1.8	0.8 YR
•	All Other Projects	\$ 2.1	\$ 3.8	1.8 YR
•	<u>Total</u>	<u>\$ 20.8 M</u>	<u>\$ 32.2</u> <u>M</u>	<u>1.5 YR</u>
N	ote: M = Millions of Dollars			
	Savings based on natural gas at \$ 0.25 per CU M			
	Savings exclude electri	city, wate	r, fuel oil and	chemicals

Total Savings-Implemented Saver Program- To date		
	M CU M/YR	M Dollars
Steam Plant Audit	21.9	\$ 5.5
Steam Trap Surveys	7.8	\$ 2.3
■ Other	8.5	\$ 2.1
<u>Total</u>	38.2	<u>\$ 9.9</u>

How Much Does a Survey Cost? Average for All Surveys To Date		
Total Cost Enbridge Share		
Boiler Plant Audit	\$ 8,500	\$ 5,000
Steam Trap Survey	\$ 2,200	\$ 1,100
Insulation Survey	\$ 4,000	\$ 2,000