

Item	Unit	Measuring Point	Recording			ANN High	ANN Low
			D-0	D-1	D-2		
Test Number			D-0	D-1	D-2	D-3	
Date			7/26	7/26	7/26	7/26	
Time			09:00	10:45	11:45	14:30	
A Mill hot air damper open	%	local	42	97	64	40	
A Mill cold air damper open	%	local	12	2	8	12	
A Mill capacity damper open	%	local	46	47	54	65	
A Mill classifier vane open	%	local					
B Mill hot air damper open	%	local	97	97	97	97	
B Mill cold air damper open	%	local	2	2	2	2	
B Mill capacity damper open	%	local	53	47	58	58	
B Mill classifier vane open	%	local					
C Mill hot air damper open	%	local	97	97	97	97	
C Mill cold air damper open	%	local	2	2	2	2	
C Mill capacity damper open	%	local	47	47	48	48	
C Mill classifier vane open	%	local					
D Mill hot air damper open	%	local					
D Mill cold air damper open	%	local					
D Mill capacity damper open	%	local					
D Mill classifier vane open	%	local					

BOILER METAL TEMPERATURE

(III-1)

Test Number	Item	Unit	Measuring Point	Recording			ANN High	ANN Low
				D-0	D-1	D-2		
Date				7/26	7/26	7/26		
Time				09:00	10:45	11:45	14:30	
	Div. wall out tube metal temp.	1 °C	DL E51T10	441.0	458.6	452.6	455.5	538
	Div. wall out tube metal temp.	2 °C	DL E51T11	470.6	487.7	494.0	484.1	538
	Div. wall out tube metal temp.	3 °C	DL E51T12	523.7	535.4	526.8	529.9	538
	Div. wall out tube metal temp.	4 °C	DL E51T13	450.4	469.9	465.8	465.1	538
	Div. wall out tube metal temp.	5 °C	DL E51T14	442.2	462.6	453.3	458.3	538
	Div. wall out tube metal temp.	6 °C	DL E51T15	461.5	479.0	472.5	479.6	538
	Div. wall out tube metal temp.	7 °C	DL E51T16	443.1	463.1	458.0	457.6	538
	Div. wall out tube metal temp.	8 °C	DL E51T17	458.4	475.7	468.6	471.9	538
	Div. wall out tube metal temp.	9 °C	DL E51T18	452.8	471.5	470.0	463.0	538
	Div. wall out tube metal temp.	10 °C	DL E51T19	481.6	498.0	496.2	488.5	538
	Final SH tube metal temp.	1 °C	DL E61T10	531.4	540.9	535.6	535.2	602
	Final SH tube metal temp.	2 °C	DL E61T11	510.3	517.5	515.0	515.7	602
	Final SH tube metal temp.	3 °C	DL E61T12	544.0	558.3	552.3	547.4	602
	Final SH tube metal temp.	4 °C	DL E61T13	526.0	534.6	531.7	528.9	602
	Final SH tube metal temp.	5 °C	DL E61T14	533.5	547.0	535.4	589.2	602
	Final SH tube metal temp.	6 °C	DL E61T15	442.2	461.9	449.0	455.4	602
	Final SH tube metal temp.	7 °C	DL E61T16	528.5	540.2	531.6	533.3	602
	Final SH tube metal temp.	8 °C	DL E61T17	514.5	523.4	518.3	519.7	602
	Final SH tube metal temp.	9 °C	DL E61T18	523.6	523.1	525.5	527.2	602
	Final SH tube metal temp.	10 °C	DL E61T19	517.8	515.6	521.8	519.5	602
	Final SH tube metal temp.	11 °C	DL E61T20	526.0	525.9	525.8	527.9	602
	Final SH tube metal temp.	12 °C	DL E61T21	509.9	506.1	509.7	507.1	602
	Final SH tube metal temp.	13 °C	DL E61T22	553.7	560.7	551.9	555.0	602
	Final SH tube metal temp.	14 °C	DL E61T23	530.1	532.1	531.0	529.2	602
	Final SH tube metal temp.	15 °C	DL E61T24	546.9	551.1	543.0	549.6	602
	Final SH tube metal temp.	16 °C	DL E61T25	527.9	527.7	525.6	526.1	602

(III-2)

Test Number	Item	Unit	Measuring Point	Recording			ANN High	ANN Low
				D-0	D-1	D-2		
Date				7/26	7/26	7/26		
Time				09:00	10:45	11:45	14:30	
	RH out tube metal temp.	°C	DL E71T10	492.5	494.8	489.8	493.1	599
	RH out tube metal temp.	°C	DL E71T11	473.8	476.8	472.6	474.8	599
	RH out tube metal temp.	°C	DL E71T12	563.4	577.0	556.8	558.7	599
	RH out tube metal temp.	°C	DL E71T13	541.8	555.8	537.4	539.7	599
	RH out tube metal temp.	°C	DL E71T14	546.0	555.8	529.6	555.2	599
	RH out tube metal temp.	°C	DL E71T15	542.0	553.0	527.7	550.7	599
	RH out tube metal temp.	°C	DL E71T16	502.9	510.1	499.8	509.0	599
	RH out tube metal temp.	°C	DL E71T17	480.1	486.4	473.6	484.1	599
	RH out tube metal temp.	°C	DL E71T18	505.4	503.5	506.0	512.5	599
	RH out tube metal temp.	°C	DL E71T19	479.4	478.7	485.3	488.8	599
	RH out tube metal temp.	°C	DL E71T20	505.7	501.2	509.5	516.3	599
	RH out tube metal temp.	°C	DL E71T21	490.0	486.2	499.4	505.3	599
	RH out tube metal temp.	°C	DL E71T22	494.9	491.1	495.2	498.7	599
	RH out tube metal temp.	°C	DL E71T23	475.6	472.8	478.7	481.8	599
	RH out tube metal temp.	°C	DL E71T24	514.8	518.8	509.7	517.0	599
	RH out tube metal temp.	°C	DL E71T25	524.0	530.2	525.2	524.0	599
	RH out tube metal temp.	°C	DL E71T26	590.2	595.8	587.1	586.2	599
	RH out tube metal temp.	°C	DL E71T27	577.7	584.9	576.1	575.2	599
	RH out tube metal temp.	°C	DL E71T28	548.4	552.8	546.7	544.4	599
	RH out tube metal temp.	°C	DL E71T29	521.9	527.2	519.5	525.9	599

FURNACE TEMPERATURE

(IV-1)

Item	Unit	Measuring Point	Recording	B.E.T.		ANN	
				High	Low	High	Low
Test Number			D-0	D-5			
Date			7/26	7/26			
Time			09:30	14:45			
3F Left near S/B C-3	°C	local	1,275	1,205			
3F Right near S/B C-1	°C	local	1,285	1,215			
3F Mezz. Rear Right near S/B F-2	°C	local	1,290	1,280			
3F Mezz. Rear Left near S/B F-5	°C	local	1,300	1,320			
4F Mezz. Right Rear near S/B D-2	°C	local	1,370	1,370			
4F Mezz. Left Rear near S/B D-7	°C	local	1,330	1,355			
5F Left Rear near S/B C-3	°C	local	1,330	1,320			
5F Right Rear near S/B C-2	°C	local	1,370	1,345			
7F Mezz. Front Right 2nd Port	°C	local	1,215	1,180			
7F Mezz. Front Center Port	°C	local	1,200	1,235			
7F Mezz. Front Left 2nd Port	°C	local	1,175	1,210			
8F Left near S/B 6-L	°C	local	1,050	1,075			
8F Right near S/B 6-R	°C	local	1,075	1,060			
8F Rear Left 2nd Port	°C	local	920	920			
9F Left near S/B 4-L	°C	local	975	980			
9F Right near S/B 4-R	°C	local	980	1,010			
9F Front Left 2nd Port	°C	local	950	960			
9F Front Center Port	°C	local	945	960			
9F Front Right 2nd Port	°C	local	970	980			

(IV-2)

Item	Unit	Measuring Point	Recording			B.E.T.		ANN	ANN
			D-0	D-1	D-2	D-3	High	Low	
Test Number			D-0	D-1	D-2	D-3			
Date			7/26	7/26	7/26	7/26			
Time			09:00	10:45	11:45	14:30			
A-1 Air resistor open		local	4.9	4.9	4.9	4.9			
A-2 Air resistor open		local	4.8	4.8	4.8	4.8			
A-3 Air resistor open		local	4.0	4.0	4.0	4.0			
A-4 Air resistor open		local	3.6	3.6	3.6	4.6			
B-1 Air resistor open		local	5.0	5.0	5.0	5.0			
B-2 Air resistor open		local	4.5	4.5	4.5	4.5			
B-3 Air resistor open		local	4.8	4.8	4.8	4.8			
B-4 Air resistor open		local	5.0	5.0	5.0	5.0			
C-1 Air resistor open		local	5.0	5.0	5.0	5.0			
C-2 Air resistor open		local	5.0	5.0	5.0	5.0			
C-3 Air resistor open		local	5.0	5.0	5.0	5.0			
C-4 Air resistor open		local	4.0	4.0	4.0	4.0			
D-1 Air resistor open		local	0.0	0.0	0.0	0.0			
D-2 Air resistor open		local	0.5	0.5	0.5	0.5			
D-3 Air resistor open		local	1.0	1.0	1.0	1.0			
D-4 Air resistor open		local	1.0	1.0	1.0	1.0			
Airport damper open (Right)		local	4.5	4.5	4.5	2.5			
Airport damper open (Left)		local	5.5	5.5	5.5	2.5			

(V-1)

Item	Unit	Measuring Point	Recording				B.E.T.	ANN High	ANN Low
			D-0	D-1	D-2	D-3			
Test Number									
Date			7/26	7/26	7/26	7/26			
Time			09:00	10:45	11:45	14:30			
Burner Barrel A-1	°C	DL B60T10	260.0	268.7	270.3	273.6	400	400	
Burner Barrel A-1	°C	DL B60T11	172.4	176.6	179.2	180.3	400	400	
Burner Barrel A-1	°C	DL B60T12	251.5	260.8	262.8	265.5	400	400	
Burner Barrel A-1	°C	DL B60T13	242.9	252.9	254.9	257.5	400	400	
Burner Barrel A-2	°C	DL B60T20	265.2	274.8	276.7	278.7	400	400	
Burner Barrel A-2	°C	DL B60T21	196.0	200.4	204.2	203.5	400	400	
Burner Barrel A-2	°C	DL B60T22	224.2	233.0	234.2	236.4	400	400	
Burner Barrel A-2	°C	DL B60T23	239.8	249.4	251.3	253.8	400	400	
Burner Barrel A-3	°C	DL B60T30	227.0	238.6	242.1	240.9	400	400	
Burner Barrel A-3	°C	DL B60T31	192.3	198.4	202.5	202.4	400	400	
Burner Barrel A-3	°C	DL B60T32	255.1	266.9	270.1	270.0	400	400	
Burner Barrel A-3	°C	DL B60T33	263.7	274.8	277.5	277.1	400	400	
Burner Barrel A-4	°C	DL B60T40	266.9	277.4	279.5	281.2	400	400	
Burner Barrel A-4	°C	DL B60T41	150.7	154.3	155.7	156.7	400	400	
Burner Barrel A-4	°C	DL B60T42	258.6	267.9	270.5	272.3	400	400	
Burner Barrel A-4	°C	DL B60T43	274.5	282.5	283.4	285.6	400	400	
Burner Barrel B-1	°C	DL B61T10	206.6	210.8	215.3	218.9	400	400	
Burner Barrel B-1	°C	DL B61T11	222.8	227.7	232.3	233.5	400	400	
Burner Barrel B-1	°C	DL B61T12	258.9	264.5	269.0	271.7	400	400	
Burner Barrel B-1	°C	DL B61T13	237.3	242.0	246.6	249.2	400	400	
Burner Barrel B-2	°C	DL B61T20	243.3	246.9	250.2	252.5	400	400	
Burner Barrel B-2	°C	DL B61T21	193.3	197.7	202.7	204.3	400	400	
Burner Barrel B-2	°C	DL B61T22	270.3	274.8	277.3	279.5	400	400	
Burner Barrel B-2	°C	DL B61T23	243.3	246.9	249.9	252.6	400	400	
Burner Barrel B-3	°C	DL B61T30	245.6	250.0	253.4	256.2	400	400	
Burner Barrel B-3	°C	DL B61T31	180.5	185.2	190.0	191.6	400	400	
Burner Barrel B-3	°C	DL B61T32	268.2	273.4	276.1	278.5	400	400	
Burner Barrel B-3	°C	DL B61T33	242.6	246.8	250.2	253.4	400	400	
Burner Barrel B-4	°C	DL B61T40	228.6	234.1	239.1	242.2	400	400	
Burner Barrel B-4	°C	DL B61T41	218.2	224.1	229.8	230.2	400	400	
Burner Barrel B-4	°C	DL B61T42	251.5	258.1	262.3	264.8	400	400	
Burner Barrel B-4	°C	DL B61T43	251.6	256.2	260.1	262.3	400	400	

Item	Unit	Measuring Point	Recording						B.E.T.		ANN High	ANN Low
			D-0	D-1	D-2	D-3	High	Low				
Test Number												
Date			7/26	7/26	7/26	7/26	7/26					
Time			09:00	10:45	11:45	14:30						
Burner Barrel C-1	°C	DL B62T10	232.1	237.6	241.0	243.2						
Burner Barrel C-1	°C	DL B62T11	226.9	232.0	236.3	236.3						
Burner Barrel C-1	°C	DL B62T12	234.3	239.4	243.8	246.2						
Burner Barrel C-1	°C	DL B62T13	224.7	230.3	234.1	236.1						
Burner Barrel C-2	°C	DL B62T20	260.2	266.5	267.9	270.1						
Burner Barrel C-2	°C	DL B62T21	203.8	207.7	211.3	209.8						
Burner Barrel C-2	°C	DL B62T22	242.5	248.9	251.3	255.1						
Burner Barrel C-2	°C	DL B62T23	287.5	293.2	294.7	291.1						
Burner Barrel C-3	°C	DL B62T30	41.7	43.2	43.4	43.4						
Burner Barrel C-3	°C	DL B62T31	51.1	51.2	51.9	53.2						
Burner Barrel C-3	°C	DL B62T32	279.4	284.4	286.1	289.1						
Burner Barrel C-3	°C	DL B62T33	226.8	229.3	230.3	232.4						
Burner Barrel C-4	°C	DL B62T40	233.9	240.5	245.0	247.0						
Burner Barrel C-4	°C	DL B62T41	233.7	239.9	244.5	244.7						
Burner Barrel C-4	°C	DL B62T42	242.9	249.2	253.6	255.6						
Burner Barrel C-4	°C	DL B62T43	257.6	264.4	268.4	270.1						
Burner Barrel D-1	°C	DL B63T10	322.1	328.6	325.5	333.4						
Burner Barrel D-1	°C	DL B63T11	285.5	290.3	293.1	293.3						
Burner Barrel D-1	°C	DL B63T12	327.7	335.9	332.7	336.9						
Burner Barrel D-1	°C	DL B63T13	337.6	345.4	341.5	348.3						
Burner Barrel D-2	°C	DL B63T20	332.4	340.2	336.3	342.9						
Burner Barrel D-2	°C	DL B63T21	271.0	275.7	279.4	281.3						
Burner Barrel D-2	°C	DL B63T22	348.2	350.0	360.3	358.8						
Burner Barrel D-2	°C	DL B63T23	330.9	338.3	337.2	341.9						
Burner Barrel D-3	°C	DL B63T30	-	-	-	-						
Burner Barrel D-3	°C	DL B63T31	268.2	273.2	276.9	277.8						
Burner Barrel D-3	°C	DL B63T32	310.3	317.9	319.0	318.7						
Burner Barrel D-3	°C	DL B63T33	340.6	349.8	347.9	350.9						
Burner Barrel D-4	°C	DL B63T40	324.7	334.0	334.6	337.3						
Burner Barrel D-4	°C	DL B63T41	278.3	284.4	287.5	289.1						
Burner Barrel D-4	°C	DL B63T42	348.8	359.8	357.5	361.5						
Burner Barrel D-4	°C	DL B63T43	324.1	332.3	331.8	340.6						

B.E.T.: Boiler Efficiency Test

Combustion Test of Calaca Unit I Boiler

(I-1)

Item	Unit	Measuring Point	Recording				B.E.T.		ANN	
			E-1	E-2	E-3(a)	E-4(a)	High	Low	High	Low
Test Number			8/6	8/6	8/6	8/6				
Date			08:30	11:30	14:30	16:30				
Time										
Coal blend ratio	(S/A)									
Generator load	MW	DL Q20W10	226.4	300.5	299.3	290.0	300			
Main steam flow	T/H	DL G21H10	733	893	940	910	913.3			
Feed water flow	T/H	DL E15F10	662	806	836	820	881.5			
SH spray flow	T/H	DL E55F10	63.0	87.1	90.0	88.2	56.4			
Drum level	mm	DL E20L10	-1.6	11.1	7.8	8.8	-11.7	127	-203	
Drum pressure	kg/cm <sup>2</sup>	DL E20P10	175.1	176.8	181.8	177.2	187.2	200		
Turbine inlet steam press.	kg/cm <sup>2</sup>	DL G21P10	167.2	163.5	168.4	163.7		171		
Final SH outlet temperature	°C	DL E60T10	535.8	558.6	548.9	547.7	542.5			
RH outlet temperature	°C	DL E74T10	526.3	559.4	548.1	549.1	541.6			
Eco. inlet feedwater temp.	°C	DL E10T10A	258.9	274.6	275.3	274.3				
A Hot primary air flow	T/H	DL A42F10	84	128	98	101				
B Hot primary air flow	T/H	DL A46F10	89	121	110	111				
A Tempering air flow	T/H	DL A42F20	66	44	62	57				
B Tempering air flow	T/H	DL A46F20	64	39	58	55				
A Secondary air flow	T/H	DL A52F10	271	406	416	406				
B Secondary air flow	T/H	DL A52F10	300	453	445	453				
Total air flow	T/H	DL A60G10	873	1,191	1,189	1,183				
Boiler exit gas O <sub>2</sub>	(A) %	DL A80C10	3.27	2.75	2.97	3.42			5.88 2.94	
Boiler exit gas O <sub>2</sub>	(B) %	DL A80C20	-1.74	-1.74	-1.74	-1.74	3.22	5.88	2.94	
Total fuel flow	T/H	DL B10G10A	99.59	145.64	138.84	137.09	110.4			
A FDF discharge draft	mmAq	DL A12F10	49.6	171.6	174.5	182.4	233.7			
B FDF discharge draft	mmAq	DL A16F10	50.3	171.0	173.5	183.2	231.1			
Wind box draft	mmAq	DL A70F10	3.4	60.2	61.9	70.7	114.3			
Furnace draft	mmAq	DL A80F10	-12.0	-7.4	-10.6	-7.9	-20.3			



(I-2)

Item	Unit	Measuring Point	Recording Point				B.E.T.		ANN High	ANN Low
			E-1	E-2	E-3(a)	E-4(a)	High	Low		
Test Number			E-1	E-2	E-3(a)	E-4(a)				
Date			8/6	8/6	8/6	8/6				
Time			08:30	11:30	14:30	16:30				
A Lower Eco outlet draft	mmAq	DL E10F10	-66.2	-90.9	-97.1	-98.3			-94	
B Lower Eco outlet draft	mmAq	DL E10F20	-65.8	-89.0	-92.9	-95.7			-96.5	
A AH gas side diff. press.	mmAq	DL A53D10	87.1	159.6	145.4	154.0			119.4	
B AH gas side diff. press.	mmAq	DL A57D10	91.1	135.5	130.6	144.6			114.3	
Primary air press.	mmAq	DL A40F10	1,551	1,594	1,615	1,657			1,496.2	
A IDF inlet draft	mmAq	DL A22F10	-211.8	-327.1	-329.0	-340.7			-297.2	
B IDF inlet draft	mmAq	DL A26F10	-209.8	-325.1	-327.3	-338.2			-294.6	
A AH inlet air temp.	°C	DL A52T10	36.9	36.2	37.3	33.3			35.1	
B AH inlet air temp.	°C	DL A56T10	37.3	36.6	37.8	33.4			33.9	
A AH outlet air temp.	°C	DL A52T20	315.6	334.1	333.7	335.7			338.3	
B AH outlet air temp.	°C	DL A56T20	308.9	328.1	327.9	328.9			337.4	
A AH inlet gas temp.	°C	DL A53T10	340.0	369.8	368.6	371.8			365.4	
B AH inlet gas temp.	°C	DL A57T10	333.6	361.9	362.7	365.2			367.9	
A AH outlet gas temp.	°C	DL A53T20	143.5	143.1	145.5	143.3			147.4	
B AH outlet gas temp.	°C	DL A57T20	146.2	149.0	150.9	148.5			150.3	
A Precip outlet gas temp.	°C	DL C10T10	136.9	139.9	140.9	138.3			143.6	
B Precip outlet gas temp.	°C	DL C10T20	137.5	141.4	141.8	140.1			144.4	
A IDF motor amp.	A	CR indicator	215	247	246	250			236	
B IDF motor amp.	A	CR indicator	215	245	245	250			230	
A FDF motor amp.	A	CR indicator	73	84	85	85			85	
B FDF motor amp.	A	CR indicator	72.5	83	82.5	83			86	
A Pri. air fan motor amp.	A	CR indicator	210	230	230	230			183	
B Pri. air fan motor amp.	A	CR indicator	215	230	228	230			196	
A IDF inlet vane open	%	CR controller	58	72.5	72	72			70	
B IDF inlet vane open	%	CR controller	65	77	78	77.5			73	
A FDF inlet vane open	%	CR controller	52.5	70	70	70			74	
B FDF inlet vane open	%	CR controller	49	65	65	65			70	
SH pass damper open	%	CR controller	66	56	75	79			74	
RH pass damper open	%	CR controller	55	60	45	40			75	
Pri. air capacity damper open	%	CR controller	75	96.5	97.5	97.5				
O <sub>2</sub> analysis by Orsat (A)	%		3.4	4.0	4.0					
O <sub>2</sub> analysis by Orsat (B)	%		3.8	3.8	4.2					

(II-1)

Item	Unit	Measuring Point	Recording				B.E.T.	ANN High	ANN Low
			E-1	E-2	E-3(a)	E-4(a)			
Test Number			E-1	E-2	E-3(a)	E-4(a)			
Date			8/6	8/6	8/6	8/6			
Time			08:30	11:30	14:30	16:30			
A Mill coal fineness	%								
A Mill coal feeder flow	T/H	DL B11F10	33.53	45.86	43.81	43.72	36.7		
A Mill inlet air temp.	°C	DL B13T10	217	265	208	212	196.2		
A Mill air coal outlet temp.	°C	DL B13T20	69	70	68	68	77.9		
A Mill diff. draft	mmHg	CR indicator	420	520	540	535	527.8		
A Mill primary air flow	T/H	DL B13F10	899	99.1	100.9	98.3	86.0	31.3	
A Mill hot air damper open	%	local	22	27	20	20			
A Mill cold air damper open	%	local	25	20	29	27			
A Mill capacity damper open	%	local	36	46	54	54			
A Mill motor amp.	A	CR indicator	80	85	85	85	86		
A Mill classifier open	%						60		
B Mill coal fineness	%								
B Mill coal feeder flow	T/H	DL B21F10	33.88	49.78	47.33	47.30	36.0		
B Mill inlet air temp.	°C	DL B23T10	193	263	253	251	174.6		
B Mill air coal outlet temp.	°C	DL B23T20	70	71	70	70	78.9		
B Mill differential draft	mmHg	CR indicator	500	600	580	590	500.0		
B Mill primary air flow	T/H	DL B23F10	100.7	99.7	99.7	102	86.7	31.3	
B Mill hot air damper open	%	local	24	31	27	27			
B Mill cold air damper open	%	local	20	12	12	12	40		
B Mill capacity damper open	%	local	64	98	98	98			
B Mill motor amp.	A	CR indicator	80	92	85	85	90		
B Mill classifier open	%						60		

Item	Unit	Measuring Point	Recording				B.E.T.		ANN	
			E-1	E-2	E-3(a)	E-4(a)	High	Low	High	Low
Test Number			E-1	E-2	E-3(a)	E-4(a)				
Date			8/6	8/6	8/6	8/6				
Time			08:30	11:30	14:30	16:30				
C Mill coal fineness	%									
C Mill coal feeder flow	T/H	DL B31F10	32.16	49.97	47.74	46.96				37.1
C Mill inlet air temp.	°C	DL B33T10	188	266	245	249				174.2
C Mill air coal outlet temp.	°C	DL B33T20	69	69	70	69				80.0
C Mill differential draft	mmAq	CR indicator	430	580	570	570				507.4
C Mill primary air flow	T/H	DL B33F10	91.7	109.6	106.8	106.1				82.5
C Mill hot air damper open	%	local	24	39	27	32				
C Mill cold air damper open	%	local	29	15	22	20				62
C Mill capacity damper open	%	local	28	57	55	52				
C Mill motor amp.	A	CR indicator	82	90	92	85				92
C Mill classifier open	%									60
D Mill coal fineness	%									
D Mill coal feeder flow	T/H	DL B41F10								-
D Mill inlet air temp.	°C	DL B43T10								-
D Mill air coal outlet temp.	°C	DL B43T20								-
D Mill differential draft	mmAq	CR indicator								-
D Mill primary air flow	T/H	DL B43F10								31.3
D Mill hot air damper open	%	local								-
D Mill cold air damper open	%	local								-
D Mill capacity damper open	%	local								-
D Mill motor amp.	A	CR indicator								-
D Mill classifier open	%									-

(II-3)

Item	Unit	Measuring Point	Recording				B.E.T.		ANN	
			E-1	E-2	E-3 (a)	E-4 (a)	High	Low	High	Low
Test Number			E-1	E-2	E-3 (a)	E-4 (a)				
Date			8/6	8/6	8/6	8/6				
Time			08:30	11:30	14:30	16:30				
A Mill hot air damper open	%	local	22	27	20	20				
A Mill cold air damper open	%	local	25	12	29	27				
A Mill capacity damper open	%	local	36	46	54	54				
A Mill classifier vane open	%	local								
B Mill hot air damper open	%	local	24	31	27	27				
B Mill cold air damper open	%	local	20	12	12	12				
B Mill capacity damper open	%	local	64	98	98	98				
B Mill classifier vane open	%	local								
C Mill hot air damper open	%	local	24	39	27	32				
C Mill cold air damper open	%	local	29	15	22	20				
C Mill capacity damper open	%	local	28	57	55	52				
C Mill classifier vane open	%	local								
D Mill hot air damper open	%	local*								
D Mill cold air damper open	%	local*								
D Mill capacity damper open	%	local*								
D Mill classifier vane open	%	local*								

\* D - NOT IN SERVICE

BOILER METAL TEMPERATURE

(III-1)

Test Number	Item	Unit	Measuring Point	Recording			ANN High	ANN Low
				E-1	E-2	E-3(a) E-4(a)		
Date				8/6	8/6	8/6		
Time				08:30	11:30	14:30	16:30	
Div. wall out tube metal temp.	1	°C	DL E51T10	460.0	477.8	477.7	477.5	538
Div. wall out tube metal temp.	2	°C	DL E51T11	484.0	505.5	504.4	501.6	538
Div. wall out tube metal temp.	3	°C	DL E51T12	523.0	553.4	541.3	540.3	538
Div. wall out tube metal temp.	4	°C	DL E51T13	465.0	485.5	486.4	486.1	538
Div. wall out tube metal temp.	5	°C	DL E51T14	456.5	471.9	480.0	481.5	538
Div. wall out tube metal temp.	6	°C	DL E51T15	473.9	485.9	483.1	486.6	538
Div. wall out tube metal temp.	7	°C	DL E51T16	451.6	468.3	474.2	471.6	538
Div. wall out tube metal temp.	8	°C	DL E51T17	465.0	482.2	483.1	486.1	538
Div. wall out tube metal temp.	9	°C	DL E51T18	457.9	472.6	477.2	476.7	538
Div. wall out tube metal temp.	10	°C	DL E51T19	484.9	500.5	499.7	498.3	538
Final SH tube metal temp.	1	°C	DL E61T10	541.9	555.6	551.6	551.1	602
Final SH tube metal temp.	2	°C	DL E61T11	520.3	535.0	530.7	524.3	602
Final SH tube metal temp.	3	°C	DL E61T12	548.2	589.9	576.5	574.1	602
Final SH tube metal temp.	4	°C	DL E61T13	533.9	562.4	550.9	547.3	602
Final SH tube metal temp.	5	°C	DL E61T14	530.0	567.8	553.7	554.4	602
Final SH tube metal temp.	6	°C	DL E61T15	462.6	481.5	488.7	492.7	602
Final SH tube metal temp.	7	°C	DL E61T16	530.7	539.6	533.3	531.1	602
Final SH tube metal temp.	8	°C	DL E61T17	516.1	526.0	521.5	520.6	602
Final SH tube metal temp.	9	°C	DL E61T18	516.6	533.6	521.1	519.4	602
Final SH tube metal temp.	10	°C	DL E61T19	513.3	529.8	520.1	520.3	602
Final SH tube metal temp.	11	°C	DL E61T20	520.8	553.0	546.9	541.7	602
Final SH tube metal temp.	12	°C	DL E61T21	505.0	527.1	520.7	520.0	602
Final SH tube metal temp.	13	°C	DL E61T22	548.1	586.0	575.6	572.8	602
Final SH tube metal temp.	14	°C	DL E61T23	524.7	553.4	545.1	544.8	602
Final SH tube metal temp.	15	°C	DL E61T24	546.3	559.2	554.0	557.5	602
Final SH tube metal temp.	16	°C	DL E61T25	526.1	536.9	530.8	534.3	602

(III-2)

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			E-1	E-2	E-3(a)	E-4(a)		
Test Number			8/6	8/6	8/6	8/6		
Date			08:30	11:30	14:30	16:30		
Time								
RH out tube metal temp.	1 °C	DL E71T10	498.4	514.0	511.6	512.2	599	
RH out tube metal temp.	2 °C	DL E71T11	482.0	496.1	493.3	493.0	599	
RH out tube metal temp.	3 °C	DL E71T12	573.2	627.2	613.3	616.3	599	
RH out tube metal temp.	4 °C	DL E71T13	554.7	604.1	588.5	593.7	599	
RH out tube metal temp.	5 °C	DL E71T14	525.6	586.5	567.2	574.2	599	
RH out tube metal temp.	6 °C	DL E71T15	522.6	587.9	563.6	573.2	599	
RH out tube metal temp.	7 °C	DL E71T16	495.6	536.9	524.5	531.9	599	
RH out tube metal temp.	8 °C	DL E71T17	473.1	516.8	506.2	514.1	599	
RH out tube metal temp.	9 °C	DL E71T18	500.7	494.7	489.7	488.1	599	
RH out tube metal temp.	10 °C	DL E71T19	478.7	477.4	472.1	473.3	599	
RH out tube metal temp.	11 °C	DL E71T20	490.9	492.8	489.5	483.8	599	
RH out tube metal temp.	12 °C	DL E71T21	474.5	478.1	474.0	468.8	599	
RH out tube metal temp.	13 °C	DL E71T22	496.1	509.5	511.1	501.2	599	
RH out tube metal temp.	14 °C	DL E71T23	475.9	492.1	491.6	482.9	599	
RH out tube metal temp.	15 °C	DL E71T24	504.3	521.0	516.9	510.4	599	
RH out tube metal temp.	16 °C	DL E71T25	522.8	560.9	556.8	543.4	599	
RH out tube metal temp.	17 °C	DL E71T26	570.6	615.4	608.5	594.9	599	
RH out tube metal temp.	18 °C	DL E71T27	563.4	609.3	599.6	586.1	599	
RH out tube metal temp.	19 °C	DL E71T28	543.9	581.1	578.0	562.2	599	
RH out tube metal temp.	20 °C	DL E71T29	512.2	532.5	525.2	519.7	599	

FURNACE TEMPERATURE

(IV-1)

Item	Unit	Measuring Point	Recording				B.E.T.	ANN High	ANN Low
			E-1	E-2	E-3(a)	E-4(a)			
Test Number			E-1	E-2	E-3(a)	E-4(a)			
Date			8/6	8/6	8/6	8/6			
Time			08:30	11:30	14:30	16:30			
3F Left near S/B C-3	°C	local		1,260	1,260	1,270			
3F Right near S/B C-1	°C	local		1,245	1,255	1,230			
3F Mezz. Rear Right near S/B F-2	°C	local		1,420	1,365	1,340			
3F Mezz. Rear Left near S/B F-5	°C	local		1,405	1,365	1,390			
4F Mezz. Right Rear near S/B D-2	°C	local		1,435	1,460	1,460			
4F Mezz. Left Rear near S/B D-7	°C	local		1,430	1,445	1,420			
5F Left Rear near S/B C-3	°C	local		1,440	1,440	1,410			
5F Right Rear near S/B C-2	°C	local		1,440	1,460	1,460			
7F Mezz. Front Right 2nd Port	°C	local		1,290	1,290	1,290			
7F Mezz. Front Center Port	°C	local		1,290	1,260	1,280			
7F Mezz. Front Left 2nd Port	°C	local		1,260	1,255	1,250			
8F Left near S/B 6-L	°C	local		1,145	1,140	1,140			
8F Right near S/B 6-R	°C	local		1,130	1,125	1,110			
8F Rear Left 2nd Port	°C	local		1,020	1,015	1,000			
9F Left near S/B 4-L	°C	local		1,035	1,040	1,025			
9F Right near S/B 4-R	°C	local		1,020	1,010	1,010			
9F Front Left 2nd Port	°C	local		1,020	1,040	1,020			
9F Front Center Port	°C	local		1,015	1,010	1,010			
9F Front Right 2nd Port	°C	local		1,015	1,045	1,010			

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			E-1	E-2	E-3(a)	E-4(a)		
Test Number			8/6	8/6	8/6	8/6		
Date			08:30	11:30	14:30	16:30		
Time								
A-1 Air resistor open		local	5.0	5.0	5.0	5.0		
A-2 Air resistor open		local	4.8	4.8	4.8	4.8		
A-3 Air resistor open		local	4.0	4.0	4.0	4.0		
A-4 Air resistor open		local	3.8	3.8	3.8	3.8		
B-1 Air resistor open		local	5.0	5.0	5.0	5.0		
B-2 Air resistor open		local	4.5	4.5	4.5	4.5		
B-3 Air resistor open		local	4.7	4.7	4.7	4.7		
B-4 Air resistor open		local	4.5	4.5	4.5	4.5		
C-1 Air resistor open		local	5.0	5.0	5.0	5.0		
C-2 Air resistor open		local	4.9	4.9	4.9	4.9		
C-3 Air resistor open		local	5.0	5.0	5.0	5.0		
C-4 Air resistor open		local	4.0	4.0	4.0	4.0		
D-1 Air resistor open		local	1.4	1.4	1.4	1.4		
D-2 Air resistor open		local	2.5	2.5	2.5	2.5		
D-3 Air resistor open		local	2.2	2.2	2.2	2.2		
D-4 Air resistor open		local	2.9	2.9	2.9	2.9		
Airport damper open (Right)		local	1.8	2.0	1.5	1.0		
Airport damper open (Left)		local	1.8	1.9	1.4	1.0		



Test Number	Item	Unit	Measuring Point	Recording				B.E.T.	ANN High	ANN Low
				E-1	E-2	E-3(a)	E-4(a)			
Date				8/6	8/6	8/6	8/6			
Time				08:30	11:30	14:30	16:30			
Burner Barrel A-1		°C	DL B60T10	275.1	294.5	295.5	298.1	400	400	
Burner Barrel A-1		°C	DL B60T11	178.4	201.7	203.1	205.2	400	400	
Burner Barrel A-1		°C	DL B60T12	268.1	288.7	289.3	291.7	400	400	
Burner Barrel A-1		°C	DL B60T13	258.2	276.7	278.6	280.7	400	400	
Burner Barrel A-2		°C	DL B60T20	280.7	301.5	302.0	303.0	400	400	
Burner Barrel A-2		°C	DL B60T21	211.9	232.2	231.7	233.2	400	400	
Burner Barrel A-2		°C	DL B60T22	236.9	255.6	256.5	257.8	400	400	
Burner Barrel A-2		°C	DL B60T23	255.7	278.1	279.6	280.9	400	400	
Burner Barrel A-3		°C	DL B60T30	238.0	261.9	264.1	265.9	400	400	
Burner Barrel A-3		°C	DL B60T31	200.1	227.8	229.5	230.8	400	400	
Burner Barrel A-3		°C	DL B60T32	263.4	286.8	288.1	289.8	400	400	
Burner Barrel A-3		°C	DL B60T33	270.8	293.9	294.9	296.2	400	400	
Burner Barrel A-4		°C	DL B60T40	278.8	301.4	302.1	302.3	400	400	
Burner Barrel A-4		°C	DL B60T41	157.9	174.3	174.0	174.5	400	400	
Burner Barrel A-4		°C	DL B60T42	270.1	290.2	291.5	292.5	400	400	
Burner Barrel A-4		°C	DL B60T43	281.9	301.6	303.1	304.3	400	400	
Burner Barrel B-1		°C	DL B61T10	226.7	245.9	248.7	250.3	400	400	
Burner Barrel B-1		°C	DL B61T11	238.5	264.7	264.8	266.6	400	400	
Burner Barrel B-1		°C	DL B61T12	276.5	296.5	298.4	300.0	400	400	
Burner Barrel B-1		°C	DL B61T13	255.7	272.3	274.1	275.5	400	400	
Burner Barrel B-2		°C	DL B61T20	249.3	270.5	273.2	274.8	400	400	
Burner Barrel B-2		°C	DL B61T21	206.6	229.2	229.7	231.9	400	400	
Burner Barrel B-2		°C	DL B61T22	277.7	294.7	296.6	298.8	400	400	
Burner Barrel B-2		°C	DL B61T23	254.6	273.3	274.8	276.1	400	400	
Burner Barrel B-3		°C	DL B61T30	253.2	267.6	269.8	271.4	400	400	
Burner Barrel B-3		°C	DL B61T31	192.0	214.1	214.9	216.4	400	400	
Burner Barrel B-3		°C	DL B61T32	278.3	290.3	291.7	292.8	400	400	
Burner Barrel B-3		°C	DL B61T33	251.9	269.6	273.0	274.4	400	400	
Burner Barrel B-4		°C	DL B61T40	242.8	261.9	263.1	264.3	400	400	
Burner Barrel B-4		°C	DL B61T41	231.6	257.4	257.8	258.9	400	400	
Burner Barrel B-4		°C	DL B61T42	263.1	278.9	280.0	281.5	400	400	
Burner Barrel B-4		°C	DL B61T43	262.3	282.0	283.0	283.9	400	400	

Item	Unit	Measuring Point	Recording				B.E.T. High	ANN Low
			E-1	E-2	E-3(a)	E-4(a)		
Test Number			8/6	8/6	8/6	8/6		
Date			08:30	11:30	14:30	16:30		
Time								
Burner Barrel C-1	°C	DL B62T10	252.7	271.9	273.8	276.1	400	
Burner Barrel C-1	°C	DL B62T11	242.9	268.0	268.3	270.8	400	
Burner Barrel C-1	°C	DL B62T12	252.7	275.8	276.5	279.1	400	
Burner Barrel C-1	°C	DL B62T13	247.2	267.2	268.8	270.5	400	
Burner Barrel C-2	°C	DL B62T20	272.7	297.1	298.7	300.8	400	
Burner Barrel C-2	°C	DL B62T21	219.5	243.0	243.2	244.8	400	
Burner Barrel C-2	°C	DL B62T22	257.6	282.1	283.7	285.6	400	
Burner Barrel C-2	°C	DL B62T23	301.7	323.6	323.1	323.7	400	
Burner Barrel C-3	°C	DL B62T30	44.2	56.8	57.9	50.2	400	
Burner Barrel C-3	°C	DL B62T31	51.8	63.1	63.8	60.9	400	
Burner Barrel C-3	°C	DL B62T32	284.0	308.8	310.3	311.7	400	
Burner Barrel C-3	°C	DL B62T33	234.9	257.7	259.3	261.1	400	
Burner Barrel C-4	°C	DL B62T40	250.3	274.1	276.1	277.6	400	
Burner Barrel C-4	°C	DL B62T41	246.2	271.9	273.0	274.3	400	
Burner Barrel C-4	°C	DL B62T42	257.7	281.6	282.9	284.0	400	
Burner Barrel C-4	°C	DL B62T43	271.8	295.8	297.1	298.0	400	
Burner Barrel D-1	°C	DL B63T10	331.3	346.0	349.6	351.2	400	
Burner Barrel D-1	°C	DL B63T11	294.8	316.8	317.4	318.9	400	
Burner Barrel D-1	°C	DL B63T12	346.3	356.8	359.8	358.8	400	
Burner Barrel D-1	°C	DL B63T13	347.5	359.0	362.6	362.2	400	
Burner Barrel D-2	°C	DL B63T20	347.0	359.5	363.4	361.9	400	
Burner Barrel D-2	°C	DL B63T21	277.2	301.9	302.4	303.4	400	
Burner Barrel D-2	°C	DL B63T22	369.4	375.8	373.9	373.2	400	
Burner Barrel D-2	°C	DL B63T23	339.5	355.1	357.9	358.2	400	
Burner Barrel D-3	°C	DL B63T30	-	-	-	-	400	
Burner Barrel D-3	°C	DL B63T31	278.8	303.5	304.1	303.6	400	
Burner Barrel D-3	°C	DL B63T32	321.7	337.2	339.1	337.9	400	
Burner Barrel D-3	°C	DL B63T33	348.8	361.4	364.5	362.8	400	
Burner Barrel D-4	°C	DL B63T40	332.2	346.7	349.7	348.4	400	
Burner Barrel D-4	°C	DL B63T41	288.4	305.6	308.1	309.2	400	
Burner Barrel D-4	°C	DL B63T42	356.9	361.9	364.4	361.5	400	
Burner Barrel D-4	°C	DL B63T43	328.8	344.2	346.4	346.5	400	

Combustion Test of Calaca Unit I Boiler

(I-1)

Item	Unit	Measuring Point	Recording				B.E.T.		ANN High	ANN Low
			E-5 8/7	E-6(a) 8/7	E-8(a) 8/7	E-9(a) 8/7	High	Low		
Test Number			60/40	60/40	60/40	60/40				
Date			09:00	10:30	13:00	14:30				
Time										
Coal blend ratio	(S/A)		60/40	60/40	60/40	60/40				
Generator load	MW	DL Q20W10	293.3	292.8	295.5	304.7	300			
Main steam flow	T/H	DL G21H10	929	904	939	960	913.3			
Feed water flow	T/H	DL E15F10	838	822	864	886	881.5			
SH spray flow	T/H	DL E55F10	90.2	89.2	74.8	90.4	56.4			
Drum level	mm	DL E20L10	10.1	8.1	-7.4	38.6	-11.7	127	-203	
Drum pressure	kg/cm <sup>2</sup>	DL E20P10	178.7	176.8	180.4	184.6	187.2	200		
Turbine inlet steam press.	kg/cm <sup>2</sup>	DL G21P10	164.8	163.3	166.7	170.6		171		
Final SH outlet temperature	°C	DL E60T10	539.5	548.9	535.8	536.7	542.5			
RH outlet temperature	°C	DL E74T10	542.2	550.0	529.1	537.2	541.6			
Eco. inlet feedwater temp.	°C	DL E10T10A	275.1	274.4	275.0	276.4				
A Hot primary air flow	T/H	DL A42F10	110	120	124	111				
B Hot primary air flow	T/H	DL A46F10	114	112	136	132				
A Tempering air flow	T/H	DL A42F20	56	52	30	39				
B Tempering air flow	T/H	DL A46F20	53	55	30	36				
A Secondary air flow	T/H	DL A52F10	419	397	395	415				
B Secondary air flow	T/H	DL A52F10	437	449	446	454				
Total air flow	T/H	DL A60G10	1,194	1,181	1,146	1,182				
Boiler exit gas O <sub>2</sub>	(A) %	DL A80C10	3.14	3.21	3.40	3.20				
Boiler exit gas O <sub>2</sub>	(B) %	DL A80C20	-	-	-	-				
Total fuel flow	T/H	DL B10G10A	139.85	139.85	139.78	139.75	110.4			
A FDF discharge draft	mmAq	DL A12F10	179.8	174.3	162.1	185.7	233.7			
B FDF discharge draft	mmAq	DL A16F10	179.1	173.7	159.8	184.9	231.1			
Wind box draft	mmAq	DL A70F10	64.3	69.2	59.1	67.5	114.3			
Furnace draft	mmAq	DL A80F10	-10.7	-9.0	-14.0	-12.1	-20.3			

(I-2)

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			E-5	E-6(a)	E-8(a)	E-9(a)		
Test Number			8/7	8/7	8/7	8/7		
Date			09:00	10:30	13:00	14:30		
Time								
A Lower Eco outlet draft	mmHg	DL E10F10	-95.8	-99.3	-99.6	-97.0	-94	
B Lower Eco outlet draft	mmHg	DL E10F20	-97.3	-96.7	-98.8	-96.4	-96.5	
A AH gas side diff. press.	mmHg	DL A53D10	141.3	148.0	147.4	144.8	119.4	
B AH gas side diff. press.	mmHg	DL A57D10	137.9	137.2	139.0	134.1	114.3	
Primary air press.	mmHg	DL A40P10	1,609	1,601	1,527	-7	1,496.2	
A IDF inlet draft	mmHg	DL A22F10	-332.6	-333.4	-335.9	-332.4	-297.2	
B IDF inlet draft	mmHg	DL A26F10	-331.5	-331.6	-333.8	-330.1	-294.6	
A AH inlet air temp.	°C	DL A52T10	34.8	35.4	36.7	36.6	35.1	
B AH inlet air temp.	°C	DL A56T10	35.0	35.7	37.2	36.9	33.9	
A AH outlet air temp.	°C	DL A52T20	333.5	338.5	333.9	334.1	338.3	
B AH outlet air temp.	°C	DL A56T20	325.8	331.4	330.7	329.9	337.4	
A AH inlet gas temp.	°C	DL A53T10	369.3	374.6	371.5	371.3	365.4	
B AH inlet gas temp.	°C	DL A57T10	361.7	367.7	367.9	366.0	367.9	
A AH outlet gas temp.	°C	DL A53T20	144.2	145.4	140.9	141.8	147.4	
B AH outlet gas temp.	°C	DL A57T20	148.7	150.4	147.6	148.6	150.3	
A Precip outlet gas temp.	°C	DL C10T10	139.6	141.1	136.6	138.8	143.6	
B Precip outlet gas temp.	°C	DL C10T20	140.0	141.7	138.8	140.7	144.4	
A IDF motor amp.	A	CR indicator	248	247	245	250	236	
B IDF motor amp.	A	CR indicator	248	244	245	247	230	
A FDF motor amp.	A	CR indicator	84	84	83	85	85	
B FDF motor amp.	A	CR indicator	85	83	83	84	86	
A Pri. air fan motor amp.	A	CR indicator	230	229	230	230	183	
B Pri. air fan motor amp.	A	CR indicator	230	228	230	232	196	
A IDF inlet vane open	%	CR controller	72	72	71	72.5	70	
B IDF inlet vane open	%	CR controller	73.5	77.5	77.5	77.5	73	
A FDF inlet vane open	%	CR controller	69	70	69	71	74	
B FDF inlet vane open	%	CR controller	66	65	64	65	70	
SH pass damper open	%	CR controller	80	79	72.5	68	74	
RH pass damper open	%	CR controller	39	40	46.5	51.5	75	
Pri. air capacity damper open	%	CR controller	97.5	97.5	97.5	97.5	97.5	
O <sub>2</sub> analysis by Orsat (A)	%		4.0	4.6				
O <sub>2</sub> analysis by Orsat (B)	%		3.8	4.2				

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B.E.T.: Boiler Efficiency Test

Item	Unit	Measuring Point	Recording				B.E.T.	ANN High	ANN Low
			E-5	E-6(a)	E-8(a)	E-9(a)			
Test Number			8/7	8/7	8/7	8/7			
Date			09:00	10:30	13:00	14:30			
Time									
A Mill coal fineness	%								
A Mill coal feeder flow	T/H	DL B11F10	41.41	41.19	41.27	41.36	36.7		
A Mill inlet air temp.	°C	DL B13T10	221	230	289	276	196.2		
A Mill air coal outlet temp.	°C	DL B13T20	68	69	80	80	77.9		
A Mill diff. draft	mmAq	CR indicator	530	550	500	500	527.8		
A Mill primary air flow	T/H	DL B13F10	99.2	97.9	95.1	95.4	86.0	31.3	
A Mill hot air damper open	%	local	20	24	34	30			
A Mill cold air damper open	%	local	25	25	27	19			
A Mill capacity damper open	%	local	57	57	42	40			
A Mill motor amp.	A	CR indicator	80	80	80	80	86		
A Mill classifier open	%						60		
B Mill coal fineness	%								
B Mill coal feeder flow	T/H	DL B21F10	49.16	48.97	49.53	49.64	36.0		
B Mill inlet air temp.	°C	DL B23T10	253	261	283	282	174.6		
B Mill air coal outlet temp.	°C	DL B23T20	69	69	80	81	78.9		
B Mill differential draft	mmAq	CR indicator	600	620	630	620	500.0		
B Mill primary air flow	T/H	DL B23F10	108	109	110.5	106.6	86.7	31.3	
B Mill hot air damper open	%	local	27	32	38	35			
B Mill cold air damper open	%	local	12	12	10	10	40		
B Mill capacity damper open	%	local	98	98	98	98			
B Mill motor amp.	A	CR indicator	92	90	90	90	90		
B Mill classifier open	%						60		

(II-2)

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			E-5	E-6(a)	E-8(a)	E-9(a)		
Test Number			8/7	8/7	8/7	8/7		
Date			09:00	10:30	13:00	14:30		
Time								
C Mill coal fineness	%							
C Mill coal feeder flow	T/H	DL B31F10	49.62	49.38	49.34	49.45	37.1	
C Mill inlet air temp.	°C	DL B33T10	246	249	285	273	174.2	
C Mill air coal outlet temp.	°C	DL B33T20	69	69	81	80	80.0	
C Mill differential draft	mmAq	CR indicator	580	570	620	600	507.4	
C Mill primary air flow	T/H	DL B33F10	108.9	108.9	109.7	109.7	82.5	
C Mill hot air damper open	%	local	32	32	72	54	31.3	
C Mill cold air damper open	%	local	20	20	8	12	62	
C Mill capacity damper open	%	local	52	58	55	56		
C Mill motor amp.	A	CR indicator	92	95	75	75	92	
C Mill classifier open	%						60	
D Mill coal fineness	%							
D Mill coal feeder flow	T/H	DL B41F10					-	
D Mill inlet air temp.	°C	DL B43T10					-	
D Mill air coal outlet temp.	°C	DL B43T20					-	
D Mill differential draft	mmAq	CR indicator					-	
D Mill primary air flow	T/H	DL B43F10					31.3	
D Mill hot air damper open	%	local					-	
D Mill cold air damper open	%	local					-	
D Mill capacity damper open	%	local					-	
D Mill motor amp.	A	CR indicator					-	
D Mill classifier open	%						-	

(II-3)

Item	Unit	Measuring Point	Recording				ANN	
			B.E.T.		High		Low	
Test Number		E-5 E-6(a) E-8(a) E-9(a)						
Date		8/7 8/7 8/7 8/7						
Time		09:00 10:30 13:00 14:30						
A Mill hot air damper open	%	local	20	24	34	30		
A Mill cold air damper open	%	local	25	25	27	19		
A Mill capacity damper open	%	local	57	57	42	40		
A Mill classifier vane open	%	local						
B Mill hot air damper open	%	local	27	32	38	35		
B Mill cold air damper open	%	local	12	12	10	10		
B Mill capacity damper open	%	local	98	98	98	98		
B Mill classifier vane open	%	local						
C Mill hot air damper open	%	local	32	32	72	54		
C Mill cold air damper open	%	local	20	20	8	12		
C Mill capacity damper open	%	local	52	58	55	56		
C Mill classifier vane open	%	local						
D Mill hot air damper open	%	local						
D Mill cold air damper open	%	local						
D Mill capacity damper open	%	local						
D Mill classifier vane open	%	local						

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B.E.T.: Boiler Efficiency Test

BOILER METAL TEMPERATURE

(III-1)

Item	Unit	Measuring Point	Recording			B.E.T.	ANN High	ANN Low
			E-5	E-6(a)	E-8(a) E-9(a)			
Test Number			8/7	8/7	8/7			
Date			09:00	10:30	13:00	14:30		
Time								
Div. wall out tube metal temp. 1	°C	DL E51T10	472.5	479.8	451.1	454.7	538	
Div. wall out tube metal temp. 2	°C	DL E51T11	500.5	508.4	486.5	485.0	538	
Div. wall out tube metal temp. 3	°C	DL E51T12	531.0	535.4	522.7	526.3	538	
Div. wall out tube metal temp. 4	°C	DL E51T13	479.6	486.3	459.8	463.4	538	
Div. wall out tube metal temp. 5	°C	DL E51T14	470.2	478.1	456.5	455.1	538	
Div. wall out tube metal temp. 6	°C	DL E51T15	476.7	481.4	459.2	463.8	538	
Div. wall out tube metal temp. 7	°C	DL E51T16	462.6	469.9	460.9	457.0	538	
Div. wall out tube metal temp. 8	°C	DL E51T17	479.3	485.6	469.1	471.6	538	
Div. wall out tube metal temp. 9	°C	DL E51T18	469.6	476.4	464.4	462.4	538	
Div. wall out tube metal temp. 10	°C	DL E51T19	496.9	502.2	498.9	491.1	538	
Final SH tube metal temp. 1	°C	DL E61T10	545.9	553.6	541.4	541.2	602	
Final SH tube metal temp. 2	°C	DL E61T11	523.1	529.0	520.3	518.7	602	
Final SH tube metal temp. 3	°C	DL E61T12	567.9	572.6	555.7	565.0	602	
Final SH tube metal temp. 4	°C	DL E61T13	541.4	546.3	535.5	541.9	602	
Final SH tube metal temp. 5	°C	DL E61T14	545.6	551.3	531.3	540.3	602	
Final SH tube metal temp. 6	°C	DL E61T15	481.8	489.1	455.3	459.1	602	
Final SH tube metal temp. 7	°C	DL E61T16	522.7	529.2	517.4	515.9	602	
Final SH tube metal temp. 8	°C	DL E61T17	509.5	516.1	508.5	504.0	602	
Final SH tube metal temp. 9	°C	DL E61T18	511.4	518.4	506.0	504.2	602	
Final SH tube metal temp. 10	°C	DL E61T19	510.7	516.5	504.1	502.8	602	
Final SH tube metal temp. 11	°C	DL E61T20	537.4	544.5	534.6	536.3	602	
Final SH tube metal temp. 12	°C	DL E61T21	512.4	519.2	511.2	511.1	602	
Final SH tube metal temp. 13	°C	DL E61T22	568.3	574.1	566.8	568.1	602	
Final SH tube metal temp. 14	°C	DL E61T23	538.2	544.3	539.6	539.4	602	
Final SH tube metal temp. 15	°C	DL E61T24	551.6	560.5	548.5	546.5	602	
Final SH tube metal temp. 16	°C	DL E61T25	527.0	534.5	526.2	524.4	602	



(III-2)

Test Number	Item	Unit	Measuring Point	Recording			B.E.T.	ANN High	ANN Low
				E-5	E-6(a)	E-8(a) E-9(a)			
Date				8/7	8/7	8/7			
Time				09:00	10:30	13:00	14:30		
	RH out tube metal temp.	1 °C	DL E71T10	504.0	508.9	494.6	500.1	599	
	RH out tube metal temp.	2 °C	DL E71T11	484.3	489.0	478.4	482.2	599	
	RH out tube metal temp.	3 °C	DL E71T12	602.4	601.4	575.7	588.8	599	
	RH out tube metal temp.	4 °C	DL E71T13	580.3	584.5	559.8	570.0	599	
	RH out tube metal temp.	5 °C	DL E71T14	563.6	565.4	533.7	548.4	599	
	RH out tube metal temp.	6 °C	DL E71T15	560.8	563.3	532.3	545.4	599	
	RH out tube metal temp.	7 °C	DL E71T16	527.4	530.9	497.8	506.6	599	
	RH out tube metal temp.	8 °C	DL E71T17	508.2	508.4	480.3	490.4	599	
	RH out tube metal temp.	9 °C	DL E71T18	478.4	480.1	476.5	476.6	599	
	RH out tube metal temp.	10 °C	DL E71T19	462.9	465.1	458.2	459.9	599	
	RH out tube metal temp.	11 °C	DL E71T20	478.9	481.0	480.5	479.2	599	
	RH out tube metal temp.	12 °C	DL E71T21	461.3	463.6	466.6	466.7	599	
	RH out tube metal temp.	13 °C	DL E71T22	498.4	501.6	510.5	510.4	599	
	RH out tube metal temp.	14 °C	DL E71T23	478.7	482.6	493.4	493.7	599	
	RH out tube metal temp.	15 °C	DL E71T24	509.4	511.7	514.0	513.2	599	
	RH out tube metal temp.	16 °C	DL E71T25	543.2	545.5	550.4	552.6	599	
	RH out tube metal temp.	17 °C	DL E71T26	593.2	594.3	602.1	601.5	599	
	RH out tube metal temp.	18 °C	DL E71T27	583.5	586.6	595.0	594.6	599	
	RH out tube metal temp.	19 °C	DL E71T28	563.6	564.3	568.5	570.9	599	
	RH out tube metal temp.	20 °C	DL E71T29	516.7	518.5	522.7	523.3	599	

FURNACE TEMPERATURE

(IV-1)

Item	Unit	Measuring Point	Recording	B.E.T.		ANN	
				High	Low	High	Low
Test Number			E-5 E-6(a) E-8(a) E-9(a)				
Date			8/7 8/7 8/7 8/7				
Time			09:00 10:30 13:00 14:30				
7F Mezz. Front Right 2nd Port	°C	local	1,300 1,280 1,290 1,255				
7F Mezz. Front Center Port	°C	local	1,265 1,260 1,290 1,250				
7F Mezz. Front Left 2nd Port	°C	local	1,230 1,290 1,285 1,270				
8F Left near S/B 6-L	°C	local	1,145 1,160 1,120 1,150				
8F Right near S/B 6-R	°C	local	1,120 1,140 1,140 1,150				
8F Rear Left 2nd Port	°C	local	1,005 1,000 1,010 1,020				
9F Left near S/B 4-L	°C	local	1,015 1,035 1,000 1,010				
9F Right near S/B 4-R	°C	local	1,040 1,050 1,020 1,035				
9F Front Left 2nd Port	°C	local	1,005 1,040 1,000 1,015				
9F Front Center Port	°C	local	1,020 1,015 985 1,000				
9F Front Right 2nd Port	°C	local	1,015 1,020 1,010 1,030				

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B.E.T.: Boiler Efficiency Test

Item	Unit	Measuring Point		Recording		B.E.T.		ANN	
						High	Low	High	Low
Test Number		E-5	E-6(a)	E-8(a)	E-9(a)				
Date		8/7	8/7	8/7	8/7				
Time		09:00	10:30	13:00	14:30				
A-1 Air resistor open	local	5.0	5.0	5.0	5.0				
A-2 Air resistor open	local	4.8	4.8	4.8	4.8				
A-3 Air resistor open	local	4.0	4.0	4.0	4.0				
A-4 Air resistor open	local	3.8	3.8	3.8	3.8				
B-1 Air resistor open	local	5.0	5.0	5.0	5.0				
B-2 Air resistor open	local	4.5	4.5	4.5	4.5				
B-3 Air resistor open	local	4.5	4.5	4.5	4.5				
B-4 Air resistor open	local	4.6	4.6	4.6	4.6				
C-1 Air resistor open	local	5.0	5.0	5.0	5.0				
C-2 Air resistor open	local	5.0	5.0	5.0	5.0				
C-3 Air resistor open	local	5.0	5.0	5.0	5.0				
C-4 Air resistor open	local	4.0	4.0	4.0	4.0				
D-1 Air resistor open	local	1.4	1.4	1.4	1.4				
D-2 Air resistor open	local	2.4	2.4	2.4	2.4				
D-3 Air resistor open	local	2.2	2.2	2.2	2.2				
D-4 Air resistor open	local	2.9	2.9	2.9	2.9				
Airport damper open (Right)	local	0.8	0.3	1.0	1.0				
Airport damper open (Left)	local	0.8	0.4	1.0	1.0				

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			B.E.T.	B.E.T.				
Test Number			E-5	E-6(a)	E-8(a)	E-9(a)		
Date			8/7	8/7	8/7	8/7		
Time			09:00	10:30	13:00	14:30		
Burner Barrel A-1	°C	DL B60T10	297.7	302.5	299.8	302.4	400	
Burner Barrel A-1	°C	DL B60T11	204.3	206.9	210.0	211.5	400	
Burner Barrel A-1	°C	DL B60T12	291.7	296.0	294.3	296.5	400	
Burner Barrel A-1	°C	DL B60T13	281.4	285.6	284.3	286.1	400	
Burner Barrel A-2	°C	DL B60T20	303.0	307.7	304.9	306.9	400	
Burner Barrel A-2	°C	DL B60T21	231.6	235.2	235.5	237.7	400	
Burner Barrel A-2	°C	DL B60T22	258.1	261.7	262.2	264.1	400	
Burner Barrel A-2	°C	DL B60T23	281.6	285.8	283.9	285.7	400	
Burner Barrel A-3	°C	DL B60T30	265.4	270.5	272.3	273.2	400	
Burner Barrel A-3	°C	DL B60T31	229.6	233.0	235.9	237.3	400	
Burner Barrel A-3	°C	DL B60T32	289.6	294.3	295.1	295.6	400	
Burner Barrel A-3	°C	DL B60T33	295.6	300.4	300.7	301.6	400	
Burner Barrel A-4	°C	DL B60T40	300.6	305.4	305.7	306.6	400	
Burner Barrel A-4	°C	DL B60T41	173.6	176.4	181.8	183.2	400	
Burner Barrel A-4	°C	DL B60T42	291.0	296.0	296.9	298.2	400	
Burner Barrel A-4	°C	DL B60T43	302.4	307.4	306.6	308.2	400	
Burner Barrel B-1	°C	DL B61T10	248.2	251.8	252.4	255.4	400	
Burner Barrel B-1	°C	DL B61T11	264.2	267.6	267.0	268.9	400	
Burner Barrel B-1	°C	DL B61T12	298.3	302.3	300.0	302.0	400	
Burner Barrel B-1	°C	DL B61T13	273.4	277.1	277.4	279.5	400	
Burner Barrel B-2	°C	DL B61T20	271.4	275.4	275.1	277.1	400	
Burner Barrel B-2	°C	DL B61T21	230.2	234.0	234.4	236.6	400	
Burner Barrel B-2	°C	DL B61T22	296.5	300.8	298.5	300.5	400	
Burner Barrel B-2	°C	DL B61T23	272.7	276.4	276.3	278.4	400	
Burner Barrel B-3	°C	DL B61T30	267.6	272.6	273.9	275.5	400	
Burner Barrel B-3	°C	DL B61T31	214.1	217.7	221.6	223.1	400	
Burner Barrel B-3	°C	DL B61T32	287.8	292.8	293.2	293.9	400	
Burner Barrel B-3	°C	DL B61T33	271.0	275.7	277.0	279.3	400	
Burner Barrel B-4	°C	DL B61T40	261.3	265.7	268.6	270.1	400	
Burner Barrel B-4	°C	DL B61T41	255.8	260.0	262.3	263.2	400	
Burner Barrel B-4	°C	DL B61T42	279.4	283.9	285.7	286.2	400	
Burner Barrel B-4	°C	DL B61T43	281.5	284.7	288.0	289.1	400	

Item	Unit	Measuring Point	Recording				B.E.T.		ANN High	ANN Low
			E-5 8/7	E-6(a) 8/7	E-8(a) 8/7	E-9(a) 8/7				
Test Number										
Date			09:00	10:30	13:00	14:30				
Time										
Burner Barrel C-1	°C	DL B62T10	273.7	276.6	277.8	278.8		400		
Burner Barrel C-1	°C	DL B62T11	268.1	271.3	270.6	272.0		400		
Burner Barrel C-1	°C	DL B62T12	276.5	279.9	281.3	282.0		400		
Burner Barrel C-1	°C	DL B62T13	268.2	271.3	272.5	274.1		400		
Burner Barrel C-2	°C	DL B62T20	298.4	302.1	301.2	302.2		400		
Burner Barrel C-2	°C	DL B62T21	242.5	244.8	246.0	247.4		400		
Burner Barrel C-2	°C	DL B62T22	282.8	286.7	287.0	288.2		400		
Burner Barrel C-2	°C	DL B62T23	321.6	323.8	322.2	322.4		400		
Burner Barrel C-3	°C	DL B62T30	57.5	57.5	56.4	58.2		400		
Burner Barrel C-3	°C	DL B62T31	63.5	64.0	68.2	69.3		400		
Burner Barrel C-3	°C	DL B62T32	308.6	312.7	314.5	313.8		400		
Burner Barrel C-3	°C	DL B62T33	257.7	261.4	266.8	267.1		400		
Burner Barrel C-4	°C	DL B62T40	274.2	277.9	281.7	282.2		400		
Burner Barrel C-4	°C	DL B62T41	270.5	274.6	276.4	276.8		400		
Burner Barrel C-4	°C	DL B62T42	280.0	284.1	287.4	287.4		400		
Burner Barrel C-4	°C	DL B62T43	294.2	298.6	301.2	301.2		400		
Burner Barrel D-1	°C	DL B63T10	352.9	358.7	351.2	354.5		400		
Burner Barrel D-1	°C	DL B63T11	317.6	321.8	317.1	318.5		400		
Burner Barrel D-1	°C	DL B63T12	361.1	366.5	358.1	361.2		400		
Burner Barrel D-1	°C	DL B63T13	365.2	370.5	363.0	366.4		400		
Burner Barrel D-2	°C	DL B63T20	364.4	370.5	364.6	366.4		400		
Burner Barrel D-2	°C	DL B63T21	302.3	305.6	304.3	306.4		400		
Burner Barrel D-2	°C	DL B63T22	376.9	378.0	377.5	379.6		400		
Burner Barrel D-2	°C	DL B63T23	359.9	365.0	360.3	363.0		400		
Burner Barrel D-3	°C	DL B63T30	-	-	-	-		400		
Burner Barrel D-3	°C	DL B63T31	301.8	304.3	304.2	306.3		400		
Burner Barrel D-3	°C	DL B63T32	336.7	341.4	340.9	341.0		400		
Burner Barrel D-3	°C	DL B63T33	364.4	371.5	369.8	370.8		400		
Burner Barrel D-4	°C	DL B63T40	348.7	355.4	353.7	354.3		400		
Burner Barrel D-4	°C	DL B63T41	306.8	310.3	310.9	307.7		400		
Burner Barrel D-4	°C	DL B63T42	361.4	368.1	365.4	365.3		400		
Burner Barrel D-4	°C	DL B63T43	346.4	354.5	353.1	354.1		400		

B.E.T.: Boiler Efficiency Test

Combustion Test of Calaca Unit I Boiler

(I-1)

Item	Unit	Measuring Point	Recording				B.E.T.	ANN High	ANN Low
			C-0	C-1	C-4				
Test Number			8/8	8/8	8/8				
Date			09:00	11:00	18:30				
Time									
Coal blend ratio	(S/A)		70/30	70/30	70/30				
Generator load	MW	DL Q20W10	209.3	223.6	299.1	300			
Main steam flow	T/H	DL G21H10	651	707	936	913.3			
Feed water flow	T/H	DL E15F10	590	643	848	881.5			
SH spray flow	T/H	DL E55F10	58.2	61.1	91.3	56.4			
Drum level	mm	DL E20L10	4.6	1.8	6.1	-11.7	127	-203	
Drum pressure	kg/cm <sup>2</sup>	DL E20P10	174.3	173.1	181.9	187.2	200		
Turbine inlet steam press.	kg/cm <sup>2</sup>	DL G21P10	168.1	165.6	167.6		171		
Final SH outlet temperature	°C	DL E60R10	546.7	537.0	543.9	542.5			
RH outlet temperature	°C	DL E74R10	534.4	534.4	537.8	541.6			
Eco. inlet feedwater temp.	°C	DL E10R10A	253.5	257.9	275.2				
A Hot primary air flow	T/H	DL A42F10	111	117	144				
B Hot primary air flow	T/H	DL A46F10	116	127	141				
A Tempering air flow	T/H	DL A42F20	39	37	21				
B Tempering air flow	T/H	DL A46F20	34	31	28				
A Secondary air flow	T/H	DL A52F10	234	265	379				
B Secondary air flow	T/H	DL A52F10	254	299	432				
Total air flow	T/H	DL A60G10	791	862	1,145				
Boiler exit gas O <sub>2</sub> (A)	%	DL A80C10	2.78	2.85	2.84	-	5.88	2.94	
Boiler exit gas O <sub>2</sub> (B)	%	DL A80C20	-1.74	-1.74	-1.74	3.22	5.88	2.94	
Total fuel flow	T/H	DL B10G10A	100.72	111.86	149.94	110.4			
A PDF discharge draft	mmAq	DL A12F10	35.7	49.3	158.5	233.7			
B PDF discharge draft	mmAq	DL A16F10	31.1	48.9	157.0	231.1			
Wind box draft	mmAq	DL A70F10	1.7	6.9	56.1	114.3			
Furnace draft	mmAq	DL A80F10	-10.9	-11.3	-12.9	-20.3			

Item	Unit	Measuring Point	Recording				B.E.T.	ANN High	ANN Low
			C-0	C-1	C-4				
Test Number									
Date			8/8	8/8	8/8				
Time			09:00	11:00	18:30				
A Lower Eco outlet draft	mmAq	DL E10F10	-60.2	-67.4	-99.4		-94		
B Lower Eco outlet draft	mmAq	DL E10F20	-58.0	-66.0	-98.5		-96.5		
A AH gas side diff. press.	mmAq	DL A53D10	77.5	91.4	142.0		119.4		
B AH gas side diff. press.	mmAq	DL A57D10	74.8	84.4	135.5		114.3		
Primary air press.	mmAq	DL A40P10	1,531	1,527	1,528		1,496.2		
A IDF inlet draft	mmAq	DL A22F10	-181.4	-209.0	-332.1		-297.2		
B IDF inlet draft	mmAq	DL A26F10	-179.5	-206.5	-330.2		-294.6		
A AH inlet air temp.	°C	DL A52T10	37.3	37.0	34.7		35.1		
B AH inlet air temp.	°C	DL A56T10	38.0	36.8	34.4		33.9		
A AH outlet air temp.	°C	DL A52T20	300.5	308.8	336.4		338.3		
B AH outlet air temp.	°C	DL A56T20	292.5	300.2	326.3		337.4		
A AH inlet gas temp.	°C	DL A53T10	326.7	338.1	375.0		365.4		
B AH inlet gas temp.	°C	DL A57T10	316.0	327.6	364.5		367.9		
A AH outlet gas temp.	°C	DL A53T20	129.3	131.6	140.4		147.4		
B AH outlet gas temp.	°C	DL A57T20	135.0	136.5	144.9		150.3		
A Precip outlet gas temp.	°C	DL C10T10	125.0	127.0	136.6		143.6		
B Precip outlet gas temp.	°C	DL C10T20	129.3	130.0	136.6		144.4		
A IDF motor amp.	A	CR indicator	215	219	246		236		
B IDF motor amp.	A	CR indicator	211	215	245		230		
A FDF motor amp.	A	CR indicator	72	73	82		85		
B FDF motor amp.	A	CR indicator	70	72	83		86		
A Pri. air fan motor amp.	A	CR indicator	226	222	231		183		
B Pri. air fan motor amp.	A	CR indicator	210	221	232		196		
A IDF inlet vane open	%	CR controller	56	60	72		70		
B IDF inlet vane open	%	CR controller	64	65	77		73		
A FDF inlet vane open	%	CR controller	47	52	66.5		74		
B FDF inlet vane open	%	CR controller	42.5	49	64		70		
SH pass damper open	%	CR controller	57.5	57	82		74		
RH pass damper open	%	CR controller	62	63	38		75		
Pri. air capacity damper open	%	CR controller	80	80	97.5				
O <sub>2</sub> analysis by Orsat (A)	%								
O <sub>2</sub> analysis by Orsat (B)	%								

(II-1)

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			C-0	C-1	C-4	B.E.T.		
Test Number								
Date			8/8	8/8	8/8			
Time			09:00	11:00	18:30			
A Mill coal fineness %								
A Mill coal feeder flow	T/H	DL B11F10	32.46	34.37	49.84		36.7	
A Mill inlet air temp.	°C	DL B13T10	227	248	307		196.2	
A Mill air coal outlet temp.	°C	DL B13T20	75	75	77		77.9	
A Mill diff. draft	mmAq	CR indicator	400	420	600		527.8	
A Mill primary air flow	T/H	DL B13F10	86.8	83.4	103.2		86.0	
A Mill hot air damper open	%	local	25	28	44		31.3	
A Mill cold air damper open	%	local	21	18	11			
A Mill capacity damper open	%	local	36	36	69			
A Mill motor amp.	A	CR indicator	50	50	62		86	
A Mill classifier open	%						60	
B Mill coal fineness %								
B Mill coal feeder flow	T/H	DL B21F10	35.96	38.32	49.77		36.0	
B Mill inlet air temp.	°C	DL B23T10	246	264	283		174.6	
B Mill air coal outlet temp.	°C	DL B23T20	75	75	76		78.9	
B Mill differential draft	mmAq	CR indicator	520	560	600		500.0	
B Mill primary air flow	T/H	DL B23F10	98.7	101	106		86.7	
B Mill hot air damper open	%	local	33	37	39		31.3	
B Mill cold air damper open	%	local	12	10	9		40	
B Mill capacity damper open	%	local	55	48	77			
B Mill motor amp.	A	CR indicator	60	60	82		90	
B Mill classifier open	%						60	



(II-2)

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			C-0	C-1	C-4	B.E.T.		
Test Number			C-0	C-1	C-4			
Date			8/8	8/8	8/8			
Time			09:00	11:00	18:30			
C Mill coal fineness	%							
C Mill coal feeder flow	T/H	DL B31F10	32.22	39.59	49.82		37.1	
C Mill inlet air temp.	°C	DL B33T10	257	266	290		174.2	
C Mill air coal outlet temp.	°C	DL B33T20	74	71	75		80.0	
C Mill differential draft	mmAq	CR indicator	440	420	620		507.4	
C Mill primary air flow	T/H	DL B33F10	93.2	97.6	114.3		82.5	
C Mill hot air damper open	%	local	100	100	100		31.3	
C Mill cold air damper open	%	local	2	2	2		62	
C Mill capacity damper open	%	local	55	33	62			
C Mill motor amp.	A	CR indicator	60	60	60		92	
C Mill classifier open	%						60	
D Mill coal fineness	%							
D Mill coal feeder flow	T/H	DL B41F10					-	
D Mill inlet air temp.	°C	DL B43T10					-	
D Mill air coal outlet temp.	°C	DL B43T20					-	
D Mill differential draft	mmAq	CR indicator					-	
D Mill primary air flow	T/H	DL B43F10					-	
D Mill hot air damper open	%	local					-	
D Mill cold air damper open	%	local					-	
D Mill capacity damper open	%	local					-	
D Mill motor amp.	A	CR indicator					-	
D Mill classifier open	%						-	

(II-3)

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			C-0	C-1	C-4	B.E.T.		
Test Number			C-0	C-1	C-4			
Date			8/8	8/8	8/8			
Time			09:00	11:00	18:30			
A Mill hot air damper open	%	local	25	28	44			
A Mill cold air damper open	%	local	21	18	11			
A Mill capacity damper open	%	local	36	36	69			
A Mill classifier vane open	%	local						
B Mill hot air damper open	%	local	33	37	39			
B Mill cold air damper open	%	local	12	10	9			
B Mill capacity damper open	%	local	55	48	77			
B Mill classifier vane open	%	local						
C Mill hot air damper open	%	local	100	100	100			
C Mill cold air damper open	%	local	2	2	2			
C Mill capacity damper open	%	local	25	33	62			
C Mill classifier vane open	%	local						
D Mill hot air damper open	%	local						
D Mill cold air damper open	%	local						
D Mill capacity damper open	%	local						
D Mill classifier vane open	%	local						

A-6-77

B.E.T.: Boiler Efficiency Test

BOILER METAL TEMPERATURE

(III-1)

Test Number	Item	Unit	Measuring Point				Recording	B.E.T.	ANN High	ANN Low
			C-0	C-1	C-4	C-4				
			8/8	8/8	8/8	8/8				
			09:00	11:00	18:30					
Div. wall out tube metal temp. 1	DL E51T10	°C	468.7	447.7	476.8			538		
Div. wall out tube metal temp. 2	DL E51T11	°C	505.6	481.6	502.4			538		
Div. wall out tube metal temp. 3	DL E51T12	°C	530.4	519.1	533.3			538		
Div. wall out tube metal temp. 4	DL E51T13	°C	477.6	458.8	488.1			538		
Div. wall out tube metal temp. 5	DL E51T14	°C	454.6	448.2	471.4			538		
Div. wall out tube metal temp. 6	DL E51T15	°C	479.7	467.6	484.0			538		
Div. wall out tube metal temp. 7	DL E51T16	°C	449.6	451.0	464.3			538		
Div. wall out tube metal temp. 8	DL E51T17	°C	473.8	470.0	479.1			538		
Div. wall out tube metal temp. 9	DL E51T18	°C	449.8	459.7	469.8			538		
Div. wall out tube metal temp. 10	DL E51T19	°C	492.8	490.9	499.0			538		
Final SH tube metal temp. 1	DL E61T10	°C	548.4	541.5	543.1			602		
Final SH tube metal temp. 2	DL E61T11	°C	525.4	519.7	521.3			602		
Final SH tube metal temp. 3	DL E61T12	°C	562.2	553.7	565.9			602		
Final SH tube metal temp. 4	DL E61T13	°C	541.1	533.1	539.1			602		
Final SH tube metal temp. 5	DL E61T14	°C	539.2	527.2	546.8			602		
Final SH tube metal temp. 6	DL E61T15	°C	464.9	447.2	479.5			602		
Final SH tube metal temp. 7	DL E61T16	°C	539.9	527.2	534.9			602		
Final SH tube metal temp. 8	DL E61T17	°C	523.8	512.9	520.1			602		
Final SH tube metal temp. 9	DL E61T18	°C	531.5	522.1	522.7			602		
Final SH tube metal temp. 10	DL E61T19	°C	528.4	515.7	519.6			602		
Final SH tube metal temp. 11	DL E61T20	°C	532.2	527.9	534.7			602		
Final SH tube metal temp. 12	DL E61T21	°C	516.2	509.9	513.4			602		
Final SH tube metal temp. 13	DL E61T22	°C	560.9	557.8	570.7			602		
Final SH tube metal temp. 14	DL E61T23	°C	537.0	532.9	540.4			602		
Final SH tube metal temp. 15	DL E61T24	°C	558.0	548.9	557.3			602		
Final SH tube metal temp. 16	DL E61T25	°C	538.1	528.7	531.7			602		

(III-2)

Item	Unit	Measuring Point	Recording				ANN High	ANN Low
			C-0	C-1	C-4	B.E.T.		
Test Number			C-0	C-1	C-4			
Date			8/8	8/8	8/8			
Time			09:00	11:00	18:30			
RH out tube metal temp.	°C	DL E71T10	509.8	509.5	502.2	599	599	
RH out tube metal temp.	°C	DL E71T11	489.1	489.8	479.9	599	599	
RH out tube metal temp.	°C	DL E71T12	581.6	582.7	602.2	599	599	
RH out tube metal temp.	°C	DL E71T13	559.5	563.7	581.0	599	599	
RH out tube metal temp.	°C	DL E71T14	531.6	532.9	562.2	599	599	
RH out tube metal temp.	°C	DL E71T15	524.1	528.7	560.1	599	599	
RH out tube metal temp.	°C	DL E71T16	514.2	494.0	524.7	599	599	
RH out tube metal temp.	°C	DL E71T17	491.5	473.1	503.3	599	599	
RH out tube metal temp.	°C	DL E71T18	528.8	511.8	493.0	599	599	
RH out tube metal temp.	°C	DL E71T19	506.5	492.6	476.1	599	599	
RH out tube metal temp.	°C	DL E71T20	504.4	508.8	472.8	599	599	
RH out tube metal temp.	°C	DL E71T21	489.6	498.0	461.3	599	599	
RH out tube metal temp.	°C	DL E71T22	491.5	489.3	480.1	599	599	
RH out tube metal temp.	°C	DL E71T23	472.7	471.9	460.1	599	599	
RH out tube metal temp.	°C	DL E71T24	507.4	510.9	513.2	599	599	
RH out tube metal temp.	°C	DL E71T25	509.8	529.6	517.9	599	599	
RH out tube metal temp.	°C	DL E71T26	573.3	589.7	588.0	599	599	
RH out tube metal temp.	°C	DL E71T27	557.1	578.9	575.8	599	599	
RH out tube metal temp.	°C	DL E71T28	533.2	550.8	540.6	599	599	
RH out tube metal temp.	°C	DL E71T29	512.6	520.3	519.0	599	599	

FURNACE TEMPERATURE

(IV-1)

Test Number	Item	Unit	Measuring Point	Recording				ANN High	ANN Low
				C-0	C-1	C-4	B.E.T.		
Date				8/8	8/8	8/8			
Time				08:30	10:30	18:00			
3F	Left near S/B C-3	°C	local	1,220	1,220	1,250			
3F	Right near S/B C-1	°C	local	1,220	1,200	1,240			
3F	Mezz. Rear Right near S/B F-2	°C	local	1,330	1,320	1,350			
3F	Mezz. Rear Left near S/B F-5	°C	local	1,310	1,320	1,350			
4F	Mezz. Right Rear near S/B D-2	°C	local	1,400	1,430	1,435			
4F	Mezz. Left Rear near S/B D-7	°C	local	1,400	1,385	1,420			
5F	Left Rear near S/B C-3	°C	local	1,400	1,380	1,410			
5F	Right Rear near S/B C-2	°C	local	1,390	1,400	1,465			
7F	Mezz. Front Right 2nd Port	°C	local	1,180	1,150	1,240			
7F	Mezz. Front Center Port	°C	local	1,210	1,190	1,245			
7F	Mezz. Front Left 2nd Port	°C	local	1,230	1,200	1,260			
8F	Left near S/B 6-I	°C	local	1,000	1,080	1,135			
8F	Right near S/B 6-R	°C	local	1,040	1,070	1,135			
8F	Rear Left 2nd Port	°C	local	935	950	1,040			
9F	Left near S/B 4-L	°C	local	990	940	1,020			
9F	Right near S/B 4-R	°C	local	995	950	1,005			
9F	Front Left 2nd Port	°C	local	960	950	1,040			
9F	Front Center Port	°C	local	950	940	990			
9F	Front Right 2nd Port	°C	local	960	950	990			

Item	Unit	Measuring Point	Recording				B.E.T.		ANN	ANN
			C-0	C-1	C-4	C-4	High	Low	High	Low
Test Number			C-0	C-1	C-4	C-4				
Date			8/8	8/8	8/8	8/8				
Time			09:00	11:00	18:30	18:30				
A-1 Air resistor open		local	4.9	4.9	4.9	4.9				
A-2 Air resistor open		local	4.8	4.8	4.8	4.8				
A-3 Air resistor open		local	4.0	4.0	4.0	4.0				
A-4 Air resistor open		local	3.8	3.8	3.8	3.8				
B-1 Air resistor open		local	5.0	5.0	5.0	5.0				
B-2 Air resistor open		local	4.5	4.5	4.5	4.5				
B-3 Air resistor open		local	4.6	4.6	4.6	4.6				
B-4 Air resistor open		local	4.6	4.6	4.6	4.6				
C-1 Air resistor open		local	5.0	5.0	5.0	5.0				
C-2 Air resistor open		local	4.9	4.9	4.9	4.9				
C-3 Air resistor open		local	5.1	5.1	5.1	5.1				
C-4 Air resistor open		local	4.0	4.0	4.0	4.0				
D-1 Air resistor open		local	1.2	1.2	1.2	1.2				
D-2 Air resistor open		local	2.5	2.5	2.5	2.5				
D-3 Air resistor open		local	2.2	2.2	2.2	2.2				
D-4 Air resistor open		local	2.9	2.9	2.9	2.9				
Airport damper open (Right)		local	0.4	1.0	1.0	1.0				
Airport damper open (Left)		local	0.4	1.0	1.0	1.0				

Item	Unit	Measuring Point	Recording				B.E.T.		ANN	ANN
			C-0	C-1	C-4	High	Low	High	Low	
Test Number										
Date			8/8	8/8	8/8					
Time			09:00	11:00	18:30					
Burner Barrel A-1	°C	DL B60T10	265.6	271.8	299.1	400				
Burner Barrel A-1	°C	DL B60T11	175.2	180.9	207.3	400				
Burner Barrel A-1	°C	DL B60T12	258.1	264.1	291.6	400				
Burner Barrel A-1	°C	DL B60T13	249.8	255.5	281.9	400				
Burner Barrel A-2	°C	DL B60T20	269.0	274.4	303.9	400				
Burner Barrel A-2	°C	DL B60T21	198.1	205.1	233.8	400				
Burner Barrel A-2	°C	DL B60T22	229.6	234.4	257.9	400				
Burner Barrel A-2	°C	DL B60T23	245.6	252.0	281.5	400				
Burner Barrel A-3	°C	DL B60T30	227.6	234.6	262.7	400				
Burner Barrel A-3	°C	DL B60T31	192.0	200.2	230.0	400				
Burner Barrel A-3	°C	DL B60T32	253.0	259.5	288.6	400				
Burner Barrel A-3	°C	DL B60T33	260.4	266.0	294.4	400				
Burner Barrel A-4	°C	DL B60T40	269.6	275.6	305.6	400				
Burner Barrel A-4	°C	DL B60T41	151.5	155.8	173.3	400				
Burner Barrel A-4	°C	DL B60T42	260.7	267.3	295.9	400				
Burner Barrel A-4	°C	DL B60T43	273.8	279.9	306.4	400				
Burner Barrel B-1	°C	DL B61T10	213.1	221.2	249.2	400				
Burner Barrel B-1	°C	DL B61T11	224.8	233.9	266.5	400				
Burner Barrel B-1	°C	DL B61T12	263.4	271.9	299.3	400				
Burner Barrel B-1	°C	DL B61T13	244.3	250.9	275.6	400				
Burner Barrel B-2	°C	DL B61T20	237.2	244.7	272.4	400				
Burner Barrel B-2	°C	DL B61T21	196.2	203.8	233.3	400				
Burner Barrel B-2	°C	DL B61T22	264.9	272.3	298.6	400				
Burner Barrel B-2	°C	DL B61T23	239.6	247.0	275.2	400				
Burner Barrel B-3	°C	DL B61T30	242.4	249.1	268.0	400				
Burner Barrel B-3	°C	DL B61T31	182.2	189.4	216.1	400				
Burner Barrel B-3	°C	DL B61T32	265.7	272.5	287.6	400				
Burner Barrel B-3	°C	DL B61T33	241.1	247.7	270.9	400				
Burner Barrel B-4	°C	DL B61T40	229.5	237.3	262.5	400				
Burner Barrel B-4	°C	DL B61T41	216.7	226.1	256.8	400				
Burner Barrel B-4	°C	DL B61T42	250.9	258.0	280.0	400				
Burner Barrel B-4	°C	DL B61T43	247.1	254.0	279.7	400				

Item	Unit	Measuring Point		Recording				B.E.T.		ANN	ANN
		C-0	C-1	C-4	8/8	11:00	18:30	High	Low	High	Low
Test Number											
Date		8/8	8/8	8/8							
Time		09:00	11:00	18:30							
Burner Barrel C-1	°C	DL B62T10	241.8	246.8	276.2					400	
Burner Barrel C-1	°C	DL B62T11	229.0	236.3	269.9					400	
Burner Barrel C-1	°C	DL B62T12	240.6	247.1	281.0					400	
Burner Barrel C-1	°C	DL B62T13	235.2	240.1	270.4					400	
Burner Barrel C-2	°C	DL B62T20	261.1	265.6	300.5					400	
Burner Barrel C-2	°C	DL B62T21	205.9	212.6	244.4					400	
Burner Barrel C-2	°C	DL B62T22	245.3	249.3	285.6					400	
Burner Barrel C-2	°C	DL B62T23	284.6	291.7	322.7					400	
Burner Barrel C-3	°C	DL B62T30	46.1	51.3	44.9					400	
Burner Barrel C-3	°C	DL B62T31	54.6	57.4	54.1					400	
Burner Barrel C-3	°C	DL B62T32	271.4	279.0	310.5					400	
Burner Barrel C-3	°C	DL B62T33	224.0	227.4	259.9					400	
Burner Barrel C-4	°C	DL B62T40	237.2	242.7	276.0					400	
Burner Barrel C-4	°C	DL B62T41	231.2	238.9	271.3					400	
Burner Barrel C-4	°C	DL B62T42	246.1	250.3	280.8					400	
Burner Barrel C-4	°C	DL B62T43	258.4	264.7	295.7					400	
Burner Barrel D-1	°C	DL B63T10	323.8	330.2	352.1					400	
Burner Barrel D-1	°C	DL B63T11	281.3	289.1	318.5					400	
Burner Barrel D-1	°C	DL B63T12	336.1	343.3	358.2					400	
Burner Barrel D-1	°C	DL B63T13	339.7	346.8	363.7					400	
Burner Barrel D-2	°C	DL B63T20	337.1	344.5	361.6					400	
Burner Barrel D-2	°C	DL B63T21	263.7	273.0	303.8					400	
Burner Barrel D-2	°C	DL B63T22	360.5	359.9	374.2					400	
Burner Barrel D-2	°C	DL B63T23	329.4	336.3	361.4					400	
Burner Barrel D-3	°C	DL B63T30	-	-	-					400	
Burner Barrel D-3	°C	DL B63T31	262.2	272.6	302.8					400	
Burner Barrel D-3	°C	DL B63T32	305.0	313.8	336.5					400	
Burner Barrel D-3	°C	DL B63T33	340.0	345.4	364.5					400	
Burner Barrel D-4	°C	DL B63T40	321.9	327.7	348.4					400	
Burner Barrel D-4	°C	DL B63T41	271.9	280.2	306.9					400	
Burner Barrel D-4	°C	DL B63T42	340.0	344.1	358.2					400	
Burner Barrel D-4	°C	DL B63T43	322.3	325.6	346.8					400	



Combustion Test of Calaca Unit I Boiler

(I-1)

Item	Unit	Measuring Point	Recording	B.E.T. High	ANN High	ANN Low
Test Number		E-11	E-13			
Date		8/11	8/11			
Time		09:30	11:30			
Coal blend ratio	(S/A)	60/40	60/40			
Generator load	MW	DL Q20W10	298.8	293.3	300	
Main steam flow	T/H	DL G21H10	942	942	913.3	
Feed water flow	T/H	DL E15F10	888	842	881.5	
SH spray flow	T/H	DL E55F10	64.9	90.2	56.4	
Drum level	mm	DL E20L10	4.6	9.1	-11.7	127 -203
Drum pressure	kg/cm <sup>2</sup>	DL E20P10	182.8	177.6	187.2	200
Main steam pressure	kg/cm <sup>2</sup>	CRT	-	-		
Turbine inlet steam press.	kg/cm <sup>2</sup>	DL G21P10	168.5	163.6		171
Final SH outlet temperature	°C	DL E60T10	537.7	540.2	542.5	
Main steam temperature	°C	CRT	-	-		
RH outlet temperature	°C	DL E74T10	533.8	538.8	541.6	
Eco. inlet feedwater temp.	°C	DL E10T10A	275.1	274.8		
A Hot primary air flow	T/H	DL A42F10	120	117		
B Hot primary air flow	T/H	DL A46F10	134	134		
A Tempering air flow	T/H	DL A42F20	30	40		
B Tempering air flow	T/H	DL A46F20	42	32		
A Secondary air flow	T/H	DL A52F10	381	413		
B Secondary air flow	T/H	DL A52F10	445	472		
Total air flow	T/H	DL A60G10	1,156	1,208		
Boiler exit gas O <sub>2</sub>	(A) %	DL A80C10	2.76	3.65		5.88 2.94
Boiler exit gas O <sub>2</sub>	(B) %	DL A80C20	-	-	3.22	5.88 2.94
Total fuel flow	T/H	DL B10G10A	142.17	142.76	110.4	
A FDF discharge draft	mmAq	DL A12F10	173.8	198.7	233.7	
B FDF discharge draft	mmAq	DL A16F10	173.5	198.2	231.1	
Wind box draft	mmAq	DL A70F10	69.6	77.3	114.3	
Furnace draft	mmAq	DL A80F10	-10.2	-15.2	-20.3	