

H B

483

COMMITTEE REPORT

HOUSE

4/8/81

FURTHER: FINANCE

(5)

Date: 4-16-81

Mr. Speaker:

The Committee on STATE AFFAIRS has had HB 483

"An Act establishing a film and television section."

under consideration and reports it back as follows:

- do pass do not pass
- do pass with attached amendments(s)
- replace with CS for _____ same title
 new title
- and recommends _____
- AND attaches a "Letter of Intent" New Fiscal Note
- reports it back without recommendation
- referred to the _____ Committee

MEMBERS SIGNING
DO PASS

MEMBERS HAVING
OTHER RECOMMENDATIONS:

[Signature]
[Signature]
[Signature]

[Signature]

[Signature]

CHAIRMAN

	1ST YEAR		SAVINGS IN DOLLARS 7TH YEAR		10TH YEAR	
	LOW	HIGH	LOW	HIGH	LOW	HIGH
ADD VENT DAMPER	.00	.00	.00	.00	.00	.00
INSTALL ELECTRIC IGNITION SYSTEM						
PILOT ON	49.00	73.50	587.51	881.27	1,048.60	<u>1572.90</u>
PILOT OFF	28.00	42.00	335.72	503.58	599.20	898.80

ADD ENERGY DISPLAY UNIT

NORMALLY CONSIDERED COST EFFECTIVE

↑
CORRECTED

RENEWABLE RESOURCE MEASURES

SOLAR SPACE HEATING SYSTEM

NOT NORMALLY CONSIDERED COST EFFECTIVE IN ALASKA

SOLAR HOT WATER HEATER

291.06

3,489.81

6,228.68

COMBINED HOT WATER/HEATING SYSTEM

NOT NORMALLY CONSIDERED COST EFFECTIVE IN ALASKA

DIRECT GAIN SYSTEM

99.48

1,192.76

2,128.87

INDIRECT GAIN GLAZING SYSTEM

NOT NORMALLY CONSIDERED COST EFFECTIVE IN ALASKA

SOLAR GREEN HOUSE (SUNSPACE)

129.32

1,550.55

2,767.45

WINDOW HEAT GAIN RETARDANT DEVICES

NOT CONSIDERED FEASIBLE

SOLAR SWIMMING POOL HEATER

NOT APPLICABLE OR FEASIBLE

WIND ENERGY SYSTEM

.00

.00

.00

.00

.00

.00

*** PLEASE SEE ATTACHED AUDIT RESULTS FORMS FOR ADDITIONAL COMMENTS ***

*** OBSERVATIONS AND MEASUREMENTS ***

FLUE GAS ANALYSIS

COMBUSTION INLET AIR TEMPERATURE	DEGREES F.	OXYGEN	%
EXHAUST AIR TEMPERATURE	DEGREES F.	CARBON DIOXIDE	%
		COMBUSTION EFFICIENCY	%

AREA	SQ FT	R-VALUE	INSULATION TYPE	OVERALL U
CEILING/ATTIC INSULATION				
1	528	18.9	FIBERGLASS	.0527
2			NONE/NA	
3			NONE/NA	
WALL INSULATION				
1	736	11.4	FIBERGLASS	.0871
2			NONE/NA	
3			NONE/NA	
TOTAL	736			
FLOOR INSULATION				
1	528	18.9	FIBERGLASS	.0527
2			NONE/NA	

GLASS DOORS AND WINDOWS

ORIENTATION AND SIZE	# OF OTHER	PANES SINGLE	NEED CAULK	NEED WXSTRP	AREA FACT	PANE OTHER	AREA SINGLE	TOTAL AREA
NORTH SMALL	0	1	1	0	9	0	9	NORTH 9
NORTH LARGE	0	0	0	0	16	0	0	
SOUTH SHALL	0	2	2	0	9	0	18	SOUTH 66
SOUTH LARGE	0	3	3	0	16	0	48	
EAST SMALL	0	0	0	0	9	0	0	EAST 32
EAST LARGE	0	2	2	2	16	0	32	
WEST SMALL	0	3	3	0	9	0	27	WEST 59
WEST LARGE	0	2	2	0	16	0	32	
					TOTAL	0	166	166

NON-GLASS DOORS

# OF REG	DOORS STORM	NEED CAULK	NEED WXSTRP	AREA FACT	DOOR SNGL	AREA STORM
3	0	3	3	21	63	0

OTHER CAULKING REQUIREMENTS:

SILL PLATE/FLOOR JOINTS/CORNERS-244 FT

NET WALL AREA

GROSS WALL AREA	TOTAL GLASS AREA	NON-GLASS DOOR AREA	NET WALL AREA
736	166	63	507

BASEMENT/CLOSED CRAWL SPACE CALCULATIONS

AREA	SQ FT	DEPTH	INSULATION TYPE	R VALUE	U VALUE
FLOOR/GROUND					
1		N/A	NONE/NA		
2		N/A	NONE/NA		
WALL BELOW GRADE					
1			NONE/NA		
2			NONE/NA		
3			NONE/NA		
WALL ABOVE GRADE					
1			NONE/NA		
2			NONE/NA		
3			NONE/NA		

HEAT SAVINGS

LOCATION	AREA	SQ FT	EXISTING			IMPROVED			SAVING BTU/HR
			U VALUE	CORR F	CORR U VALUE	U VALUE	CORR F	CORR U VALUE	
FLOOR	1	0	.0000	1.0	.0000	.0000	1.0	.0000	.0000
	2	0		1.0			1.0		.0000
									FLOOR TOTAL
									.0000
WALL B/GRADE	1	0	.0000	1.0	.0000	.0000	1.0	.0000	.0000
	2	0		1.0			1.0		.0000
	3	0		1.0			1.0		.0000
									WALL BELOW GRADE TOTAL
									.0000
WALL A/GRADE	1	0	.0000	1.0	.0000	.0000	1.0	.0000	.0000
	2	0		1.0			1.0		.0000
	3	0		1.0			1.0		.0000
									WALL ABOVE GRADE TOTAL
									.0000

MONETARY SAVINGS

LOCATION	HEAT SAVING	FIRST YEAR (0.8)		7 th YEAR (11.99)		10 th YEAR (21.4)	
		LOW	HIGH	LOW	HIGH	LOW	HIGH
FLOOR	.00	.00	.00	.00	.00	.00	.00
WALL BELOW	.00	.00	.00	.00	.00	.00	.00
WALL ABOVE	.00	.00	.00	.00	.00	.00	.00

INFILTRATION -- AIR CHANGE FACTOR: 2.25

*** CALCULATIONS FOR LOADS AND EFFICIENCIES ***

INFILTRATION LOSS CALCULATION

TOTAL COND FLOOR FT2	WINT WIND FACT	TERR FACT FT/HR	HEAT LOSS FACT	AIR CHG FACT	NET INFIL HEAT LOSS BTU/HR-F	MAXIMUM SAVINGS
528	.973	12	.021	1.25	160.5	\$429.76

HEATING SYSTEM DATA**

HEATING SEASONAL COST	HEATING ENG SUPPLY RATE BTU/HR-F	FURNACE SEASONAL EFF	HEUR BTU/HR-F
1,105.31	979.5833	98%	959.9916

** HEAT LOADS DETERMINED FROM ENERGY USE DATA

*** CALCULATIONS FOR MEASURES ***

CAULKING

MEASURE	NEED CAULK	FACTOR	LINEAR FEET				
SMALL WINDOWS	6	12	72				
LARGE WINDOWS	7	16	112				
DOORS	3	21	63				
OTHER (LINEAR FT)			244				
		TOTAL	491				
TOTAL MAX INFILTRAT SAVINGS	FIRST YEAR		7TH YEAR (11.99)		10TH YEAR (21.4)		
	LOW	HIGH	LOW	HIGH	LOW	HIGH	
429.76	68.76	103.14	824.43	1,236.65	1,471.46	2,207.20	

WEATHERSTRIPPING

MEASURE	NEED WXSTR	FACTOR	LINEAR FEET	TOTAL FT WINDOW		
SMALL WINDOWS	3	12	36	68		
LARGE WINDOWS	2	16	32			
DOORS	3	21	63			
		TOTAL	131			
TOTAL MAX INFILTRAT SAVINGS	FIRST YEAR		7TH YEAR (11.99)		10TH YEAR (21.4)	
	LOW	HIGH	LOW	HIGH	LOW	HIGH
429.76	34.38	51.57	412.22	618.32	735.73	1,103.60

WATER HEATER INSULATION

HOT WATER ENERGY \$ (\$/10MMBTU)	FIRST YEAR		7TH YEAR (11.99)		10TH YEAR (21.4)	
	LOW	HIGH	LOW	HIGH	LOW	HIGH
15.00	30.00	45.00	359.70	539.55	642.00	963.00

DUCT INSULATION

PROP R	TO BE INS %	PRESENT COST	FIRST YEAR		7TH YEAR (11.99)		10TH YEAR (21.4)	
			LOW	HIGH	LOW	HIGH	LOW	HIGH
0	0	1,105.31						

HYDRONIC HEATING PIPE INSULATION

FT TO INSULATE	PRESENT COST	FIRST YEAR		7TH YEAR (11.99)		10TH YEAR (21.4)	
		LOW	HIGH	LOW	HIGH	LOW	HIGH
0	1,105.31						

HEAT SAVINGS

LOCATION	AREA	SQ FT	EXISTING			IMPROVED			SAVING BTU/HR
			U VALUE	CORR F	CORR U VALUE	U VALUE	CORR F	CORR U VALUE	
CEILIN	1	528	.0527	1.0	.0527	.0263	1.0	.0263	13.9392
	2	0		1.0		.0263	1.0	.0263	.0000
	3	0		1.0		.0263	1.0	.0263	.0000
CEILING TOTAL									13.9392
WALL	1	507	.0871	1.0	.0871	.0526	1.0	.0526	25.3920
WALL TOTAL									25.3920
FLOOR	1	528	.0527	1.0	.0527	.0526	1.0	.0526	.0528
	2	0		1.0		.0526	1.0	.0526	.0000
FLOOR TOTAL									.0528

MONETARY SAVINGS

LOCATION	HEAT SAVING	FIRST YEAR (0.8)		7TH YEAR (11.99)		10TH YEAR (21.4)	
		LOW	HIGH	LOW	HIGH	LOW	HIGH
CEILING	37.32	29.86	44.79	358.02	537.03	639.00	958.51
WALL	67.99	54.39	81.59	652.14	978.26	1,163.95	1,746.03
FLOOR	.14	.11	.17	1.32	2.04	2.35	3.64

STORM OR THERMAL DOORS

EXISTING U VALUE	IMPROVED U VALUE	AREA	HEAT LOSS/GAIN SAVE	1ST YEAR SAVE-LOW	DOOR WXSTRP	TOTAL WXSTRP
.3289	.0895	63	14.49	34.38	63	131

S/T DOOR INFILTRATION SAVINGS 20.67

HEAT SAVE	TOTAL SAVE	FIRST YEAR		7TH YEAR (11.99)		10TH YEAR (21.4)	
		LOW	HIGH	LOW	HIGH	LOW	HIGH
38.80	59.47	47.58	71.37	570.48	855.73	1,018.21	1,527.32

CLOCK THERMOSTAT

RECOMMEND CLOCK THERMOSTAT: NO

STORM OR THERMAL WINDOWS

EXISTING U VALUE	IMPROVED U VALUE	AREA	HEAT LOSS/GAIN SAVE	1ST YEAR SAVE-LOW	WNDW WXSTRP	TOTAL WXSTRP
1.1236	.3584	166	126.16	34.38	68	131

S/T WINDOW INFILTRATION SAVINGS 22.31

HEAT SAVE	TOTAL SAVE	FIRST YEAR		7TH YEAR (11.99)		10TH YEAR (21.4)	
		LOW	HIGH	LOW	HIGH	LOW	HIGH
337.8098	360.11	288.09	432.14	3,454.20	5,181.36	6,165.13	9,247.80

HEATING MODIFICATIONS

	PRESENT SEASON COST	FIRST YEAR		7TH YEAR (11.99)		10TH YEAR (21.4)	
		LOW	HIGH	LOW	HIGH	LOW	HIGH
MEASURERS ELECT/MECH IGNITION SYSTEMS (PILOT OFF IN SUMR)	1.25	49.00	73.50	587.51	881.27	1,048.60	1,572.90
		28.00	42.00	335.72	503.58	599.20	898.80

↑
CORRECTED

DIRECT AND INDIRECT GAIN

	HUER	HUERX.021	GLAZED AREA PSF	ORIENT FACTOR	EFF AREA	CLR	ANNUAL SSF HEAT COST
DIRECT	959.9916	20.1598	80 .8	.95	61	3.03	.1 1,105.31
ADJUSTED HEATING COST	994.78	FIRST YEAR 99.48		7TH YEAR (11.99) 1,192.76		10TH YEAR (21.4) 2,128.87	

DOMESTIC HOT WATER

# OF OCC	USE GPD	DAILY LOAD CAL	ANNUAL REQUIR MM/BTU	AREA REQ PSF	ADJ AREA	LOCAL ENERGY COST
5	25	125	33	.6 170	.80 213	14.70 ✓
ANN EG \$	485.10	FIRST YEAR 291.06		7TH YEAR (11.99) 3,489.81		10TH YEAR (21.4) 6,228.68

SUNSPACE POINTS TABLE

COMMON WALL	15
ENERGY EFFICIENCY	0
INTERIOR THERMAL MASS	0
AIR EXCHANGE	7
OTHER	4
REGION/SYSTEM POINTS	43
TOTAL	69

SUNSPACE

TOTAL POINTS	PSF	ORIEN FACT	DEG DAY FACT	TOT ADJ POINTS	HEATING FACTOR	SUNSPACE LENGTH	COLLECT AREA	HEATING VALUE
69	.9	.95	1.04	61	.44	15	150	66.00
HEATED AREA	SSF	ANNUAL COST	ADJUSTED COST	FIRST YEAR SAVED	7TH YEAR SAVED	10TH YEAR SAVED		
528	.13	1,105.31	994.78	129.32	1,550.55	2,767.45		

WIND ENERGY DEVICES

AVG ANN WND	TERR CODE	HGT OF* TALLEST OBSTRUC	MINIMUM TOWER HEIGHT	HEIGHT/ROUGH FACTOR	TERR SHELT FACT	ADJUST* WIND SPEED	CURRENT ANNUAL KWH USE	TARGET SYSTEM OUTPUT
14.5	4	58/	60	9.0	1.2	15.6	51,410	25,705

SELECTED WIND SYSTEM: 10 KW *NO GO: HIGH OBSTRUCTIONS ✓
 ANNUAL WIND SYSTEM OUTPUT: 30,100 KWH

DIFFERENT SELL AND BUYBACK TARIFFS

CURRENT EL RATE (\$/KWH)	AVERAGE BURBACK RATE	DISPLACED ENERGY SAVINGS	BUYBACK SAVINGS	FIRST YEAR	7TH YEAR (11.99)	10TH YEAR (21.4)
.050				-----	-----	-----
				LOW HIGH	LOW HIGH	LOW HIGH

NET TARIFF (IF BUYBACK RATE NOT KNOWN)

CURRENT ELC RATE	FIRST YEAR	7TH YEAR (11.99)	10TH YEAR (21.4)
.050	-----	-----	-----
	LOW HIGH	LOW HIGH	LOW HIGH

SAMPLE OF BIDS AWARDED ON LIFE CYCLE/TOTAL COST

<u>BID NO.</u>	<u>SUBJECT</u>	<u>LCC VALUE \$ OF INITIAL PURCHASE CONTRACT TERM</u>	<u>EST. LCC SAVINGS \$**</u>
1. 9989	Freezer Unit-Free Standing	\$ 12,306	\$ 6,988
2. 9919	Institutional Appliances	13,437	619
3. 9917	Helicopter Charter	26,600	6,767
4. 9913	Automobile Rental	73,696	16,303
5. 9904	Generator, Electric	13,216	3,903
6. 8667	Flaked Ice Maker/Dispenser	6,660	1,117
7. 8600	Electronic Mailing Machine, etc.	37,427	2,255
8. 8593	Electric Generator, Standby Power	68,072	13,650
9. 8454	Domestic Appliances, Large	159,020	12,591
* 8437	Flashing Light bar for Law Enforcement Ver.	83,284	128,281
11. 8306	Sedans, Station Wagons, Police Interceptors	549,212	41,001
12. 8776	Electric Lamps, Flourescent & Inc.	112,500 (First Year Over Non-LCC)	558,638
		\$1,152,214	\$792,214

* Lightbars affixed atop vehicles causes drag resulting in lower gas mileage for State vehicles. The State was looking for aerodynamic engineered lightbars in order to reduce loss of gas mileage. Road tests were performed in a controlled environment to calculate the gas mileage of a vehicle without a lightbar followed by tests of a vehicle equipped with various lightbars. The testing was coordinated and controlled by the State. LCC formulas were developed to calculate the cost of gas mileage lost plus the cost of the lightbar. It was discovered that the total cost of using one lightbar, though more expensive in initial equipment cost, was substantially less as compared to another lightbar due to less gas lost. Actual tests showed that over twice as much gas was lost using one lightbar over another.

**LCC savings is compared to the average of other energy efficient items offered in bids.