

MINUTES OF THE MEETING
TAXATION COMMITTEE
MONTANA STATE SENATE

April 7, 1983

The sixty-first meeting of the Taxation Committee was called to order at 8 a.m. by Chairman Pat M. Goodover in Room 415 of the Capitol Building.

ROLL CALL: All members were present.

CONSIDERATION OF HOUSE BILL 755: Representative Dan Yardley, House District 74, said California has solar and wind energy tax credits. They have a lot of development in wind farms. The major thought behind this bill is to provide a credit for capital expenditures for commercial systems that generate electricity by means of wind power. It encourages development in the area of wind power and won't be an impact on the budget. You can take the credit only if you are making a profit.

PROPOSERS

John Driscoll, a member of the Montana Public Service Commission, submitted a written packet (attached as Exhibit A) including recommendations of the Montana Public Service Commission concerning the marketing of federal firm surplus energy. Alumax and Stauffer Chemical Company could use some of the power not used (200 megawatts). Stauffer Chemical said 90% could be interrupted; Alumax said 33% of theirs could be interrupted. The 200 megawatts should be made available at a lower cost. If that is the way to solve the excess generation capacity problem, it would prevent litigation. There is a surplus of power available in the Northwest in the spring and summer months, and we have excellent cold weather wind sites in Montana (Table 2.3.6 of Exhibit A). Under this bill, if Alumax, Stauffer, or Arco wants the resource and wants it wheeled over the lines, they will make sure the manufacturing site is good. This could be good for economic development.

Ed Stearns, representing the city of Livingston, said their role is from the jobs development standpoint. Livingston has the second largest wind potential in the United States. Bendex, Boeing, General Electric, and Westinghouse are interested in that area. We have everything to gain by passing this bill. He submitted a copy of a letter from S. Charles Nicholson, Mayor of Livingston, dated January 6, 1983, addressed to Governor Ted Schwinden, which comments on the proposed Montana Wind Energy Commercial Investment Tax Credit. It is attached as Exhibit B and includes a cost comparison of different fuel types. Wind is the least expensive.

OPPONENTS

There were no opponents to the bill.

Questions from the committee were called for.

Senator Elliott wondered why we needed this if we have such a huge surplus of power already on the grid system. Mr. Driscoll said actually power is required to be purchased at cost or less than the cost of power from the coal-fired plants. HB 755 applies to large industry looking for ways to get energy without driving up everyone else's bills. They need a way to get the pre-commercial cost down to the production cost. From a long-run point of view, utility should be acquired from the least expensive mix of resources. We should work out a good contract with California and bill the excess to them at a higher rate. The surplus we have is stopping conservation measures. We can't figure out how to get rid of the surplus.

Senator Towe asked what a megawatt of wind energy could be generated for. Mr. Driscoll said he did not have numbers; this just sets some general guidelines.

Senator Towe commented that the federal act requires that there be a market available to existing utility companies.

Mr. Driscoll said projects are from 5-10 megawatts. The initial cost is high, but when the cost drops down to \$5 million, it is competitive.

Senator Towe asked Mr. Driscoll if section 2(2)(d) was meant to be all wind related and Mr. Driscoll responded affirmatively.

Representative Yardley said that in the case of manufacturing plants, the credit against tax liability would be on income because the plant produces the wind energy generating equipment.

Senator Towe thought "as set forth in [section 2(1)]" should be inserted after "liability" on page 3, line 22, to clarify what tax liability was being referred to.

Dan Bucks from the Department of Revenue said they had helped draft this bill. It was their impression that a retail business would have to engage in expansion or build a new facility to take advantage of the credit. He said we are talking about major industrial users here. Senator Towe's suggestion to refer to section 2(1) in section 4 (carryover of credit) is good; that affects timing.

Senator Towe also mentioned deleting line 19 on page 3 of the bill.

Senator Eck wondered what the possibility was of dealing with BPA without going through Montana Power Company. Mr. Stearns

thought there was a good possibility. We could wheel the energy to other places if it's not needed here. There would be a wheeling tariff associated with this. In 1978, all state regulatory commissions were required to establish the "avoided cost" for each jurisdictional utility in order to set a buy-back rate for renewable resources. That, and tariffs, are determined by law and are not open to negotiation.

Senator Eck stated that Montana Power Company was probably not willing to follow those regulations. Mr. Driscoll felt the answer was to find a market for the surplus. BPA is still in the study phase of wind energy resources.

Representative Yardley suggested the effective date be changed to immediately or to October 1, 1983, rather than December 31, 1983. It has to be economically feasible or it won't benefit the person seeking tax credit.

The hearing on HB 755 was closed.

CONSIDERATION OF HOUSE BILL 841: Representative Jerry Driscoll, House District 69, sponsored HB 841. He said he saw about 100 employee W-2s with gross incomes of \$7,000 a year, including tip income. That is about \$5,500 in wages and \$1,000 to \$1,500 in tips. They are not even in the 5% tax bracket. He questioned the accuracy of the fiscal note. Tips are not considered income in unemployment or workers' compensation claims. Now, each waitress must keep a ticket, and if she can prove she earned less, she can claim less income. He felt tip income should be exempted from income tax liability like tax refunds.

PROPONENTS

Frank Sullivan, Local 457, AFL-CIO, Butte, submitted written testimony, attached as Exhibit C.

Maragret Flanagan, Local 533, Helena, supported HB 841. This bill is needed for the people who work in these establishments (Exhibit D).

Mark Quick, Local 101, Great Falls, also testified in support of the bill.

Sandy Otten, a waitress at Jorgensons in Helena, said the IRS says they make 15% in tips. She provided an example: The other day, she said, they made \$222.50 in tickets for two luncheons. The total tip left was \$4.50--a 2% tip! Funk and Wagnall's dictionary defines tip as a gift given in money. The waitresses are being taxed on gifts, and that is unfair.

Bob Durkee, representing the Montana Tavern Association, supported the bill.

Phil Strobe, representing the Montana Innkeepers Association, also supported HB 841.

OPPONENTS

There were no opponents to HB 841.

TECHNICAL INFORMATION

Dan Bucks from the Department of Revenue submitted amendments, attached as Exhibit E, dealing with the effective and termination dates of the bill. The third reading copy of the bill has a termination date which is the date the president signs a bill terminating the employee allocation for tax purposes. The amendments provided by Mr. Bucks provide that if the federal law is terminated, say, in June 1984, then the termination date of HB 841 is January 1, 1984.

Senator Gage, an accountant, said the tax consequence of this bill is minimal. On income tax returns he has done, tips are seldom reported.

Representative Driscoll gave the example of a business that has an annual gross income of \$50,000 and has 10 employees. So, \$5,000 ($\$50,000 \div 10$) is allocated to each employee, and 8% of \$5,000 is \$400.

Senator Elliott asked if tip income was reported in a separate place on the W-2 form, and Representative Driscoll responded that it was.

Senator Turnage wondered if the tip tax was limited to waitresses. The committee referred to IRC § 3402(k) for a definition of tips.

Senator Mazurek asked Sandy Otten if she kept a record of her tips and how it compared with the 8% of the gross receipts. Ms. Otten said she made 8% in tips sometimes, but made much less than that at other times.

Senator Goodover thought some places required tips to be pooled. Frank Sullivan indicated that sometimes the tips are split with the cooks. It depends on the establishment, what shifts, and what days are being worked. There is no way to determine whether they are making 8% or 15%.

Senator Norman said it was his understanding that Congress had passed this law but had promulgated no rules in conjunction with it. Dan Bucks said he had a copy of an IRS memorandum issued by the local district office. They have provided that memo to tax practitioners and others in the industry.

Senator Goodover asked Phil Strobe how many innkeepers included meals as part of a waitress's employment. Mr. Strobe indicated

it was pretty standard that meals are included. That practice applies mainly to large food and beverage establishments.

Representative Driscoll stated that fast food restaurants, such as McDonald's, were not included in this. He hoped January 1, 1983, would be the effective date of this act.

Senator Turnage asked Cort Harrington, the committee's staff attorney, to look up the definition of tips and draw up amendments telling what tips were being spoken of.

CONSIDERATION AND DISPOSITION OF HOUSE BILL 780: Senator Elliott submitted amendments to the committee (copy attached as Exhibit F) and explained them to the members. He noted that there will be no refunds any more, just incentive payments (amendment No. 19, Exhibit F).

Senator Elliott moved that the amendments (Exhibit F) be adopted. The motion was seconded.

Senator Norman moved that "and requests for refunds from gasohol dealers for the use of gasoline to produce gasohol" at the end of subsection (d) at the bottom of page 2 and top of page 3 of Exhibit F be stricken and that on page 4 of the amendments, following "denaturing alcohol to", the word "be" be inserted. The motion was seconded and passed unanimously.

A vote was then taken on Senator Elliott's motion that the amendments, as amended, be adopted. The motion passed unanimously.

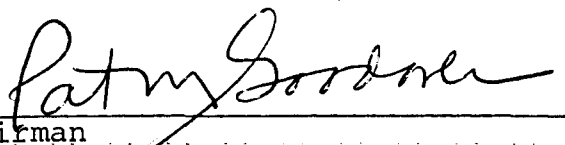
Cort Harrington noted that it would all be taxed at the same rate and the alcohol will get the incentive.

Senator Elliott moved that HB 780 BE CONCURRED IN AS AMENDED. The motion was seconded.

Senator McCallum asked about the federal tax on alcohol. Mr. Nichols said that since April 1, 1983, all gasohol is taxed at 4 cents a gallon instead of 9 cents a gallon.

A vote was taken on Senator Elliott's motion, and it passed unanimously. Senator Elliott will carry HB 780 on the floor of the Senate.

The meeting adjourned at 10 a.m.


Chairman

ROLL CALL

SENATE TAXATION

COMMITTEE

48th LEGISLATIVE SESSION -- 1983

Date 4/7 /83

NAME	PRESENT	ABSENT	EXCUSED
SENATOR GOODOVER, CHAIRMAN	✓		
SENATOR McCALLUM, VICE CHAIRMAN	✓		
SENATOR BROWN	✓		
SENATOR CRIPPEN	✓		
SENATOR ELLIOTT	✓		
SENATOR GAGE	✓		
SENATOR TURNAGE	✓		
SENATOR SEVERSON	✓		
SENATOR HAGER	✓		
SENATOR ECK	✓		
SENATOR HALLIGAN	✓ <i>Halligan</i>		
SENATOR LYNCH	✓		
SENATOR NORMAN	✓		
SENATOR TOWE	✓		
SENATOR MAZUREK	✓		

PUBLIC SERVICE COMMISSION

1227 Fifth Avenue • Helena, Montana 59601

Telephone: (406) 449-3018

HB 755
January 21, 1983

Thomas J. Schneider, Commissioner
District 2

Mr. Daniel J. Evans, Chairman
Pacific Northwest Electric Power Planning
and Conservation Council
Central Office, United Carriage House
700 SW Taylor
Portland, Oregon, 97204

Dear Chairman Evans:

On November 29, 1982, the Bonneville Power Administration issued a request for recommendations concerning the marketing of federal firm surplus energy. Attached is a copy of the responding recommendations of the Montana Public Service Commission.

The concerns of the Montana Commission are evident from the attached comments, and are, essentially, that valuable and costly energy resources are being exported from the region at prices less than that which would result from a sound long-range policy.

In examining the delicate question of sales of regional energy supplies, it has become obvious to the Commission that it is an area which will require a cooperative regional approach. For that purpose we have attached the Montana Commission comments in hopes they will be considered by the Council in its efforts in developing a Regional Long-Range Energy plan.

Very truly yours,

Thomas J. Schneider,
Chairman

TJS:imb

Enclosure

Consumer Complaints (406) 449-3456

"AN EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER"

District 2 Counties

Big Horn
Carter

Carter
Custer

Fallon
Powder River

Rosebud
Stillwater

Sweet Grass
Treasure

Yellowstone

Don E. Schlinger, Chairman
B. Driscoll
A. J. Ellis
De Jarvis
Thomas J. Schneider

January 10, 1983

Mr. Pete Johnson, Administrator
Bonneville Power Administration
P.O. Box 12999
Portland, Oregon 97212

Dear Sir:

This letter is in response to BPA's November 29, 1982, request for recommendations concerning the marketing of firm surplus energy from the northwest.

The Montana Public Service Commission applauds the efforts of the Oregon PUC for the analysis and recommendations on this subject. The Oregon PUC and Governor Atiyeh have played a vital role in generating and focusing regional discussion of this critical marketing issue. We trust this BPA solicitation of recommendations is a very positive move toward a regional resolution of the issue.

The basic principle for operating the regional power supply system must be to benefit the regional ratepayers. Given that premise, it should be obvious that firm off-region sales must reflect marginal cost principles. Furthermore, given the scheduled thermal plants contained in Table I of the BPA notice (Valmy #2, WNP #2, Colstrip #3 and #4, WNP #3, and WNP #1) which give rise to this surplus, it is ludicrous to ignore Long Run Incremental Cost principles in pricing firm off-region sales. To make firm off-region sales at prices that do not reflect either an appropriate LRIC calculation or the fixed plus variable cost (revenue requirement) of the most expensive regional power supplies is to assure that regional ratepayers or individual utility ratepayers subsidize off-region sales. The legitimate and cost based signal of off-region purchasers of firm surplus must be unambiguous--they are purchasing the regions marginal surplus not hydro electric power.

The Montana PSC recognizes that such a regional marketing strategy will require collective action and consent of the individual utilities and BPA. However, to ignore the opportunity and the necessity to act as a region in marketing the firm surplus is to perpetuate the price cutting short-run cost recovery mentality which serves the region so poorly. A regional sharing or

Pete Johnson

1/10/83

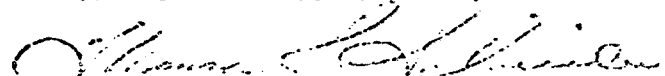
Page 2

pooling of the benefits of this collective action, could be made in proportion to the firm surplus of the individual participants or in some other equitable manner. This regional marketing concept appears entirely consistent with the Regional Act which focuses on collective actions to obtain supply for the region.

The attached Comments and Recommendations of the Montana PSC develop these ideas more fully. The Montana PSC is prepared to meet with BPA, other state commissions and the Northwest Power Planning Council to pursue these critical issues.

Sincerely,

PUBLIC SERVICE COMMISSION


Thomas J. Schneider
Chairman

TJS/jmo

Attachment

MEMORANDUM AND RECOMMENDATIONS

The Montana PSC is deeply concerned that a short-run marketing strategy based upon variable costs will evolve. Such strategy would significantly understate the real costs to the region of firm power. The Montana PSC must only conclude that parties inclined to the short-run cost: (1) consider the present and near term thermal facilities as "sunk or unavoidable" costs which must be recovered from regional ratepayers, and (2) any price above variable costs is a benefit by making a "contribution" against these fixed costs. The Montana PSC urges that such assumptions are dangerous and we believe incorrect.

If firm surplus exists in the magnitudes which BPA has determined, then substantial excess capacity exists. State regulators and intervenors will surely be sensitive to this excess capacity issue and its effect upon the rates and risks borne by ratepayers. The Montana PSC has addressed this issue in a recent MDU rate case involving a new coal plant and excluded 40 percent of that plant as excess capacity not used and useful. A news article covering the District Court's affirmation of that order is attached.

A straight forward alternative to the issue of the utility versus ratepayer risk of excess capacity or firm surplus is purely a matter of pricing policy. Pricing firm of regional sales at LRIC or a level necessary to cover the full revenue requirement of the most expensive resources avoids this bitter issue in an economically rational manner to the benefit of the region.

2

LRIC RATIONALE

Each state regulatory commission (PUC) was required by Sec. 210 of the Public Utility Regulatory Policy Act of 1978 (PURPA) to establish the "avoided cost" for each jurisdictional utility in order to set a buy-back rate for renewable energy resources. The Montana Public Service Commission established such "full avoided cost" upon the basis of the LRIC of conventional coal fixed facilities. The costs of Colstrip #3 and #4 were used as a conservative proxy for LRIC for both Pacific Power and Light and the Montana Power Company.

The Montana PSC respectfully submits that the use of Colstrip #3 and #4 costs has a logical regional application and significance. Five major IOU's (PP&L, MPC, PgSP&L, WWP, and PGE) participate in these units. Furthermore, these resources are included in Table I as near term thermal resources in the BPA plan, and BPA has a major transmission commitment associated with the Colstrip Units. We have attached for your convenience the summary sheet establishing the full avoided costs or LRIC. The use of a different facility could, of course, be acceptable to the Montana PSC.

To the extent the use of LRIC is considered "too theoretical, speculative or unreal," the Montana PSC submits that given the early completion dates for the Table I thermal plants they will constitute real costs and real revenue requirements very soon!

A reasonably similar pricing strategy would rely upon the sale of specific thermal plant(s) output(s) at a level necessary

to cover the full revenue requirement of the plant(s). Again, this off-region marketing strategy would be unambiguous and fully cost justified. A sharing or pooling of benefits within the region could be in proportion to the firm surplus (firm resources less firm load) of the individual utilities.

IS LRIC PUNITIVE OR PROVINCIAL

To price the region's surplus firm sales on the basis of the regions LRIC (or in the alternative the fixed plus variable cost of existing thermal plants) cannot be considered punitive in any long-term economic sense. In fact, the long-run incremental cost principle is the basis for the PURPA avoided costs determinations in most jurisdictions.

The Montana PSC is literally putting the money (rates) where its philosophy and mouth are by adopting such full avoided cost rates for renewable resource acquisitions. Other PUC's in the region are doing likewise. Given that consistent long-run philosophy in acquiring renewables during a "surplus" period any criticism of off-region sales based on LRIC as punitive or provincial is indeed hollow.

The Montana PSC strongly urges BPA and the Northwest Power Planning Council to adopt this consistent philosophy in their resource acquisition plans. Conservation and renewable resources must be acquired at "full avoided cost" if the regional priorities of conservation and renewables are to develop. In reality such

acquisitions could be sold by displacement or contract as off-region sales at LRIC with the sales revenue and the job development remaining within the northwest where they are so desperately needed. Such treatment is equivalent to the sale of thermal resources discussed above.

GENERAL ASSUMPTIONS

1. Montana Power Company probably has excess generation capacity right now. This is subject to verification by the PSC in February hearings.
2. Montana Power Company will probably have excess generation capacity added to the current surplus if Colstrip 3, let alone 4, is declared used and useful. This will be verified in the Colstrip hearings scheduled tentatively for late summer, 1983. (For Points No. 1 and No. 2 I draw your attention to the press clipping on MDU's encounter with the PSC on this matter.)
3. BPA is in a surplus position at least through the end of the decade (See request for Recommendation). This Commission would like to see joint action to recover sunk costs from the California market (See PSC letter). Because of NW Regional Council proclivities, BPA institutional orientation to marketing, and FERC regulations regarding the intertie, a modified plan will probably result in cheap hydro power (available April through July...and getting more scarce in August-September) being plentiful for industrial use in the Northwest, including Montana.
4. Note that this probable abundance of spring and summer hydro will be in addition to 500 MW of hydro (previously firm) that will be spilled April 15 to June 15 as part of the NW fish program. There are no demand problems from August 31 to April. The result must mean extremely cheap hydro some parts of the year, if you can use it.
5. The Rocky Mountain Front in Montana has the best cold weather wind sites in the Northwest. Two are currently being mapped by BPA (Livingston and the Blackfoot Reservation). There are many others, including Great Falls, but the data is scarce. Locals are confident that Livingston will bear scrutiny. There is a long history of data for the site, now being considered seriously by reputable wind firms.
6. At least one reputable wind firm (United Technologies) has installed and is reasonably confident of its technology (aircraft and space based) 30 million of private money invested so far. What the company needs now is a major wind project to prime the pump of its production. Once through the early production phase, the unit cost will definitely decline (several references). A very likely production site for the nacelle portion (locomotive size) of the UT generators is Livingston's locomotive rebuild facilities. This would seem to be preferable to the Swedish shipyards which built the first two devices. Unit cost is approximately 10 million initially.
7. United Technologies is interested in a joint venture partner for the wind farm development that will prime the market. Their propeller (260 feet long each) factory can build 50 a year.

2.

8. The wind in Livingston (if preliminary facts withstand the test of time) should be compatible in time with the cheap spring and BPA/NW hydro. A Medicine Bow paper indicates that 1 MW of cold weather wind will "firm up" 2.8 MW of peaking hydro.

9. Large industrial customers (Alumax, for example) are interested not in the current price of energy, but in reducing the riskiness of the future price of energy. The lower the price, and the more fixed the price, the more attractive the energy package.

10. Due to fundamental changes in energy economics, large loads on systems cause rates to increase for both the large loads and for other ratepayers on the system.

11. Alumax, as an example, currently has a contract for energy at nearly 30 mills (3¢) in Umatella Oregon. If the price of BPA energy to DSIs rises much more, the company will have to drop the contract....with 16 million already invested. By comparison, the price of energy for the same load on our system is 1.2¢ on average, and will go to 1.6¢ on average when the commission's rate design order passes its current court test. Alumax is reluctant to enter Montana because its own impact on our small system will drive rates to over 6¢ soon by their calculations.

12. The fundamental problem is: How to get new large loads without driving up both their rates and the rates of other categories of customers.

If the full cost of a wind farm investment can be recovered through tax credits against corporate income earned from manufacturing DIRECTLY ASSOCIATED WITH THAT WIND FARM we may be solving the problem. This would mean that wind manufacturing companies on the front end would have a market created to justify production of their product, and could invest money in that market knowing that it would be gotten back in the future in avoided corporate income taxes to Montana.

At the back end, large industrial users could get fixed price cheap energy in Montana during winter months. The energy would be at a cost necessary to cover wheeling charges, landowner royalties, property taxes, operation and maintenance, and the interest charges on front end investment until recovered in the tax credit. The winter wind would round out the cheap hydro already available into the foreseeable future in the region.

To get the cheap fixed energy....new large loads would have to locate in Montana.

* (indicates pure guesswork)

Comments:

Price (1/1/84 \$'s)

Size

Resource Block

Impact on other
Ratepayers

Normal
Impact

"Normal" Industrial
use Contract
Firm

— MW*

1.8 ¢/Kwh
(will rise over
time)

Some allowance must be made
for utility obligation to serve.
Limited by political constraints &
and Alumax realization that more
load on small system means higher price
Current price 1.2 ¢; rate redesign
price 1.6¢; rate increase price (?).

More favorable
than normal
impact.

"Interruptable"
System Reserve
Not firm

— MW to 107 MW

1 ¢ (-)*
(will rise over
time)

PSC evaluating greater use of
interruptable customers for system
reserve instead of off system sales
of reserve margins. MPC may be
more interested with flooded market.
Rate payer interested in stability
Alumax has 80 in Oregon, said it
could use up to 107.

No impact
on MPC ratepayer;
Favorable
on BPA rate
payer

"Time Compatible"
Wind and Water
Firm

— MW *

1 ¢ *
(Mostly fixed if
fish spill contract
can be gotten early)
Could vary with need
for backup in late summer.

Probably limited by need for reserve
to cover late summer when wind or
water are not available for next block.

More favorable
than normal impact
on MPC and BPA ratepayers

"Not Used or Useful"
Coalstrip Power
Firm

— MW**

4.5¢*
(variable element
will reflect O&M and
fuel; mostly fixed)

With full tax credit entire cost
of wind system could be recovered from
corporate income tax; abundance of
long term surplus hydro for fish spills
makes it theoretically cheap; costs
for carrying charges; wheelin
fees; reserve costs.

Instead of stockholders eating
unplanned excess to utility base,
they sell it to Alumax, or allow
Alumax joint ownership (should be
less costly).

Total:

Combinations are not inflexible, but are suggestive of a general approach.



Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

In reply refer to: PRTA

JAN 17 1983

RECEIVED

JAN 19 1983

MONT. P. S. COMMISSION

John Driscoll
Montana PUC
Capital P.O.
Helena, MT 59601

Dear John:

Per your request I have attached a sheet which summarizes the data that we have collected from our Montana sites. Please note that the period of record is very short and that data recovery rates are less than 80%. Longer data records and improved recovery rates are required before inferences can be drawn.

Sincerely,

A handwritten signature in cursive script, reading "Michael J. Berger".

Michael J. Berger, Chief
Assessment Section PRTA

Enclosure

Table 2.3.6: Western Montana and southern Idaho sites wind statistics for the period June 1981-May 1982. (M - missing data)

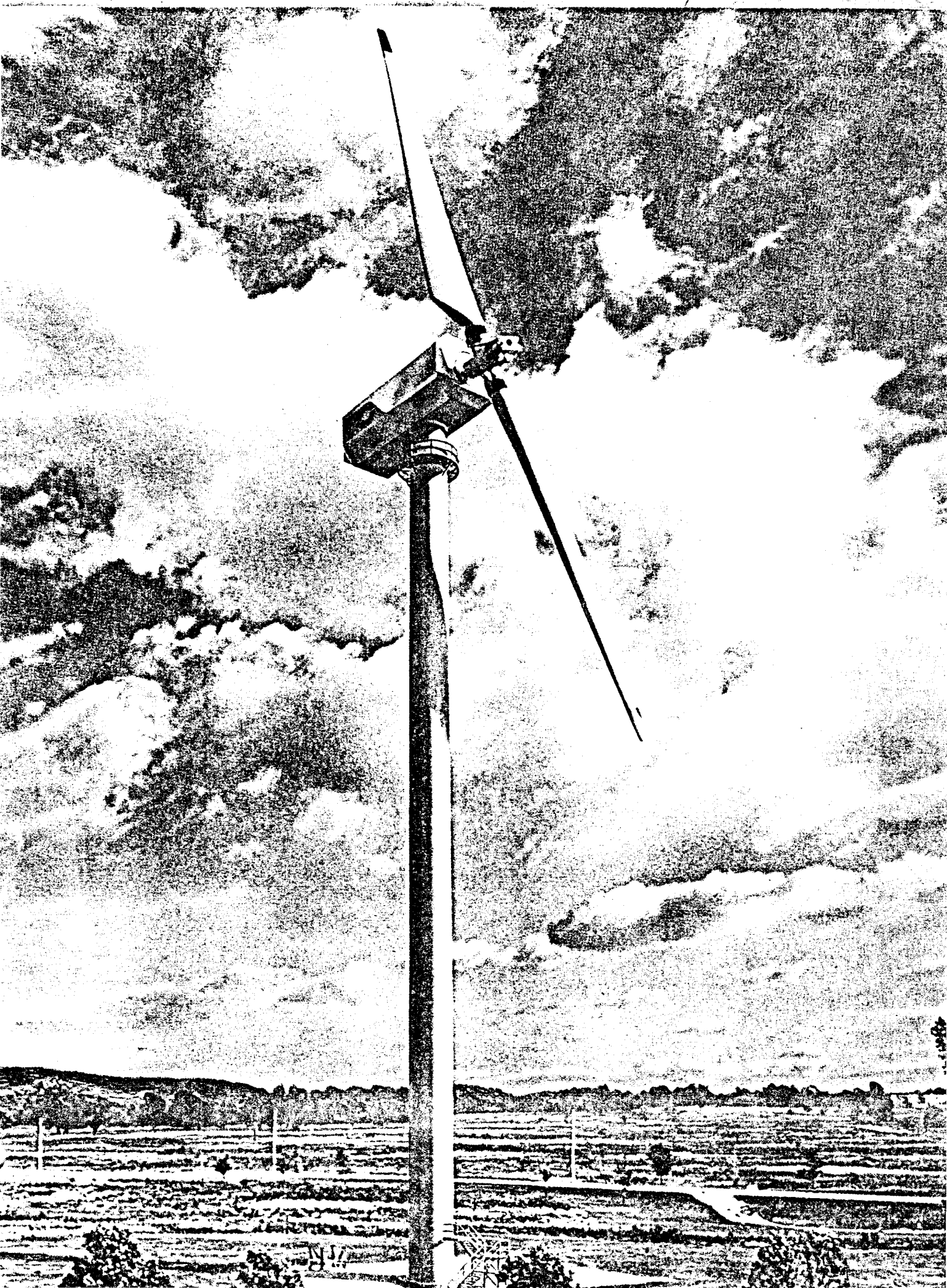
Site (Anem. Ht (ft))	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	AVG
\bar{V} (mph) % Data Rainbow Field PD (W/M ²) (30) % V > 15 mph No. hrs > 50 (Max V)					15.7 90.6 37.3 49 3(51)	19.9 99.3 688 72	17.1 94.6 430 62	18.6 92.2 905 55 15(64) 24(57)	21.0 93.8 1094 63	N N	N N	M M	18.4* 39.5 600 58 42
\bar{V} (mph) % Data McDonnald Pass PD (W/M ²) (30) % V > 15 mph No. hrs > 50 (Max V)						22.5 88.2 756 75 9(55)	40.4* 5.1 3325 100	N M	N M	M M	M M	M M	23.5* 7.7 901 78 9
\bar{V} (mph) % Data Livingston PD (W/M ²) (30) V (100') V (150')	12.3 97.9 212	11.9 98.5 208	9.6 97.9 113	9.6 98.3 120	15.5 99.5 473	18.1 98.9 590	22.2 88.0 1271	23.5* 41.8 1557	--data not available--				16.2* 60.1 568
\bar{V} (mph) % Data Bennett Peak PD (W/M ²) (32) % V > 15 mph No. hrs > 50 (Max V)	14.3 16.4	13.9 15.7	11.2 13.2	11.0 12.3	17.7 18.6	21.1 22.1	24.9 21.1*	26.2* 25.4*				M	17.5* 18.5*
				15.3* 20.1 205 44	14.2 89.9 210 45	17.0 95.4 285 55	21.1 89.1 619 72	26.1* 46.8 1020 88 1(50)	20.9* 32.4 579 74	22.4* 30.5 941 69 8(57)	N	M	19.0* 33.7 571 64 9

OTHER DATA

Blackfoot (30)	14.5	16.8	18.0	19.3	16.8	12.6	18.4	11.9	16.0*
Swift Dam (30)	14.4	17.1	17.7	16.4	16.9	M	M	12.9	15.9*
Heart Butte (35)	15.5	18.2	16.5	19.1	18.9	M	17.3	16.7	17.5*
Grain Mills (20)	12.1	10.0	8.1	9.8	13.0	12.5	13.8	10.4	11.6
Pocahontas (20)	11.2	9.1	8.2	8.2	8.3	10.8	13.4	9.8	11.2
Hoise (20)	8.8	8.4	7.9	8.1	7.8	8.9	7.8	9.5	8.5
Bridge Rowl (20)						10.2	14.2	10.6	9.4
Jackson Hole (30)						13.5	15.6	12.1	11.6
Sun Valley (20)						9.4	11.0	7.6	8.9

* Data recovery < 80%

NATIONAL
WEATHER
SERVICE



HAMILTON STANDARD WTS-4 4 MEGAWATT WIND TURBINE SPECIFICATIONS

Rotor

Number of blades2
 Diameter256 feet
 Material fiberglass (with steel retention elements)
 Speed, rpm30
 Rotation direction counterclockwise(looking up wind)
 Location, relative to towerdownwind
 Type of hubteetered
 Method of power regulationvariable pitch
 Cone angle6°
 Tilt angle0°

Blade

Length (total)125 feet
 Weight30,000 pounds

Tower

Typesteel shell
 Tower diameter:
 at the base12 feet
 Tower materialtubular steel
 Ground clearance133 feet
 Hub height262 feet
 Accessinternal tower elevator

Transmission

Typeplanetary
 Ratio60:1
 Input speed30 rpm
 Output speed1800 rpm

Generator

Typesynchronous AC
 Rating4000 kW
 Power factor0.8
 Voltage4160V
 Speed1800 rpm
 Frequency60Hz

Orientation Drive

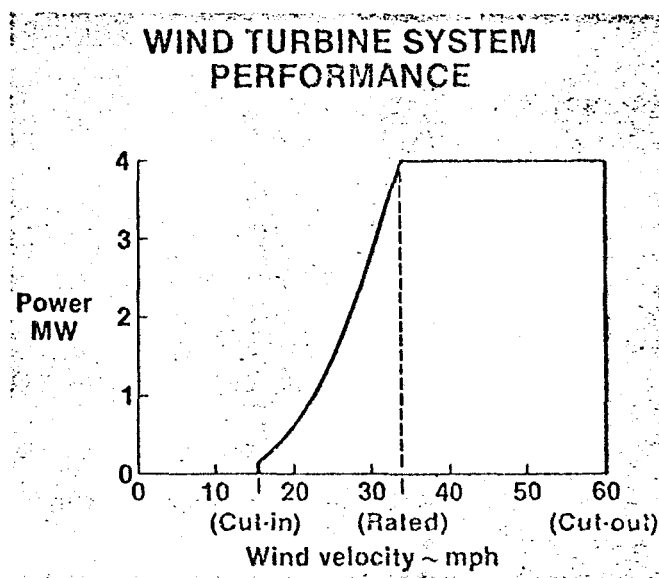
Typefree yaw

Control System

TypeElectro-hydraulic
 ControlMicroprocessor
 Pitch change mechanismHydraulic

System Design Life

All components30 years



The world's most powerful wind turbine is ready to begin generating electricity.

Standing over 250 feet tall, the four-megawatt turbine will produce enough power to meet the needs of 5,000 homes a year -- a job that now requires 20,000 barrels of oil.

The federal Department of the Interior's Bureau of Reclamation contracted for construction of the turbine in February 1980. Work was completed in July 1982, and the turbine is scheduled to be connected to the region's power grid during the fall of 1982.

The project is designed to test the concept of blending wind energy with hydroelectric power systems.

Upon completion of the testing of this concept and the first machines, as many as 50 wind turbines may be built near Medicine Bow, Wyo.

Hamilton Standard's wind turbine consists of two 125-foot, 15-ton fiberglass blades mounted on a nacelle which houses the system's generator and computer control equipment. The nacelle, in turn, is

mounted on a steel tower over 250 feet above the ground.

The turbine produces electricity when the blades, which face downwind, begin spinning. This rotation turns a shaft in the nacelle, and that motion is converted to electricity by a generator. The power is sent over conventional transmission lines.

The machine is fully automatic and self-regulating. A computer system in the nacelle puts the machine into operation when the wind speed reaches 15 m.p.h. and shuts it down when the wind is above 60 m.p.h. The computer also sends orders to hydraulic controls, which tilt the blades at just the angle needed to obtain the maximum power from available wind.

The nacelle is like a weathervane in that it can "yaw," or turn freely, as the wind direction changes.

Hamilton Standard's wind energy experts believe the wind -- a clean, quiet and inexhaustible source of power -- could supply over two percent of the nation's electricity by the turn of the century.

Work on wind energy systems began at Hamilton Standard in the early 1970's, when it became apparent that the United States would have to become less dependent on foreign oil.

In designing the Medicine Bow wind turbine and a similar three-megawatt machine recently completed in Sweden, Hamilton Standard made use of its knowledge of propeller technology, aerodynamics and computer systems.

Medicine Bow

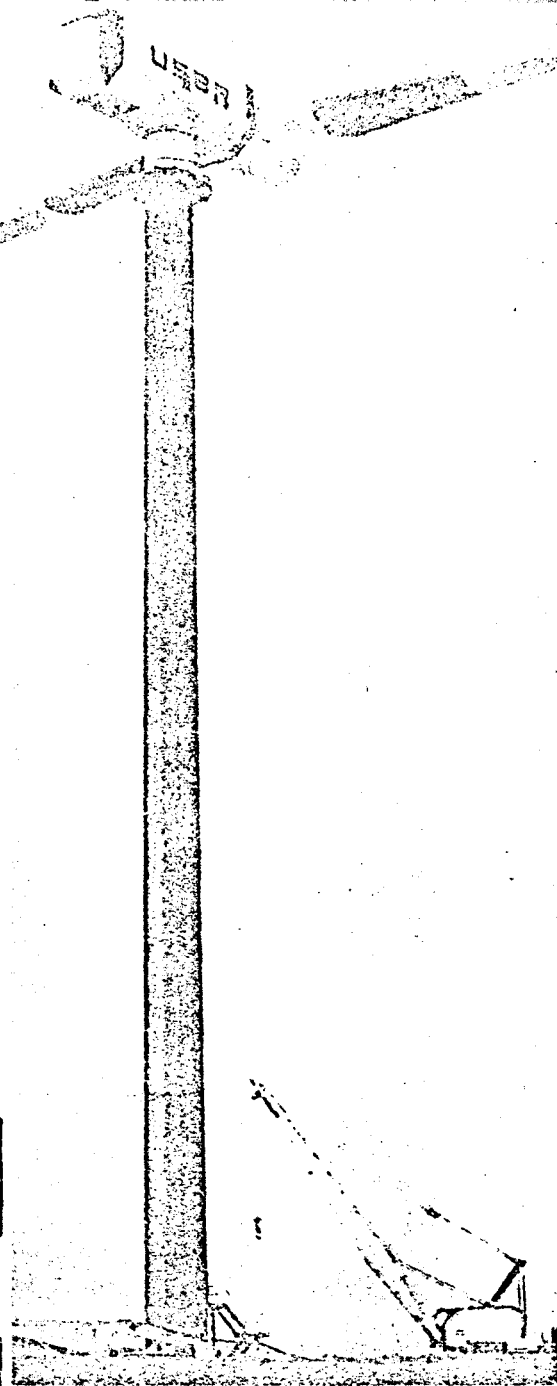
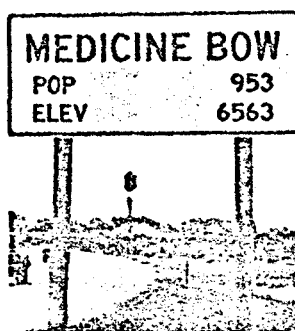
By virtue of being located in the path of a strong wind, Medicine Bow will once again obtain some measure of fame as the home of the world's most powerful wind turbine.

The town first made the map as the site of Owen Wister's classic novel, "The Virginian." This story of the American West, written in 1885, inspired the popular television series of the 1960's.

Legend has it that the town was named Medicine Bow because Indians who once came into the area to cut wood for their bows said the trip was good medicine.

In the late 1800's, the Union Pacific Railroad came through town.

In 1878, a young inventor named Thomas Edison took the train to Medicine Bow to get a look at an eclipse of the sun. The area provided the perfect vantage point, because the wind kept away any smoke, fog or



Who is Hamilton Standard?

From the propeller that carried Charles Lindbergh across the Atlantic to NASA's space shuttle and the Medicine Bow wind turbine, the United Technologies Hamilton Standard division has a history of putting technology to work for people.

Hamilton Standard's story dates back to 1919, with the founding of the Standard Steel Propeller Company in Pittsburgh, Pa. That company built the propeller for the "Spirit of St. Louis."

The name of Hamilton Standard's parent corporation is United Technologies (UTC). Headquartered in Hartford, Ct., United Technologies is a leading Fortune 500 company. Its various divisions manufacture products

in Windsor Locks, Ct., employs 13,000 of the 190,000 people working around the world for United Technologies.

For its first 30 years, Hamilton Standard made only one product -- propellers. Now, it also designs and produces sophisticated control systems for virtually every aircraft in service today. It also makes products for automotive and industrial markets and the nation's space program.



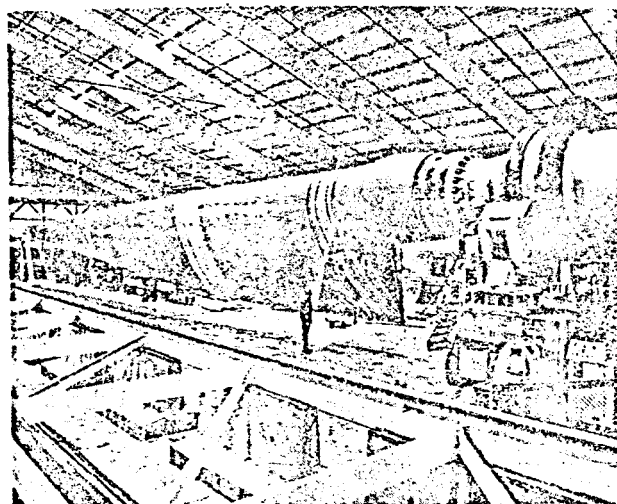
**UNITED
TECHNOLOGIES
HAMILTON
STANDARD**



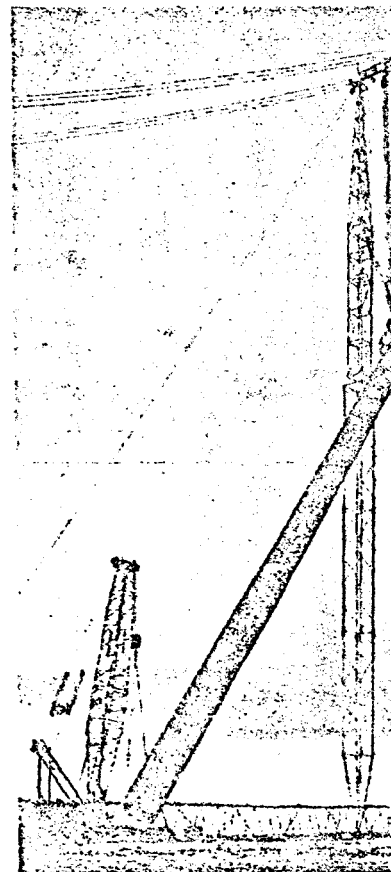
ng f nacelle



Shipping of blade



Winding of blade

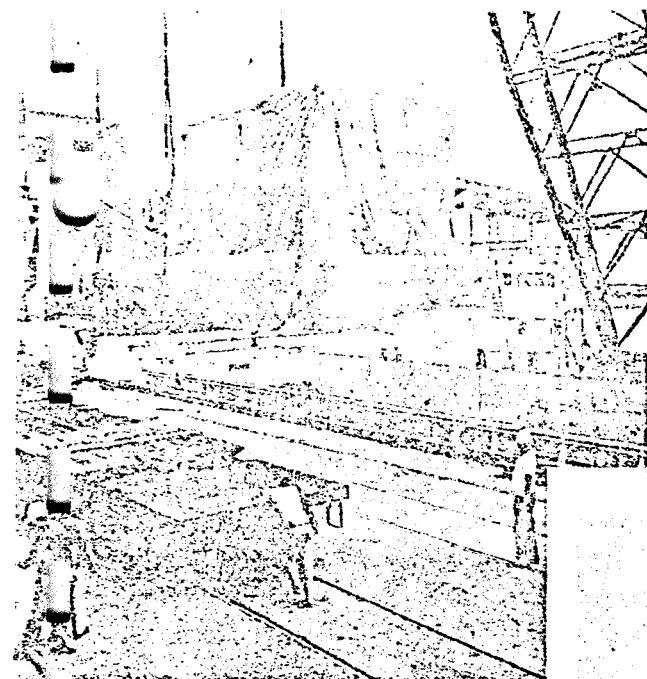


Erecting turbine tower

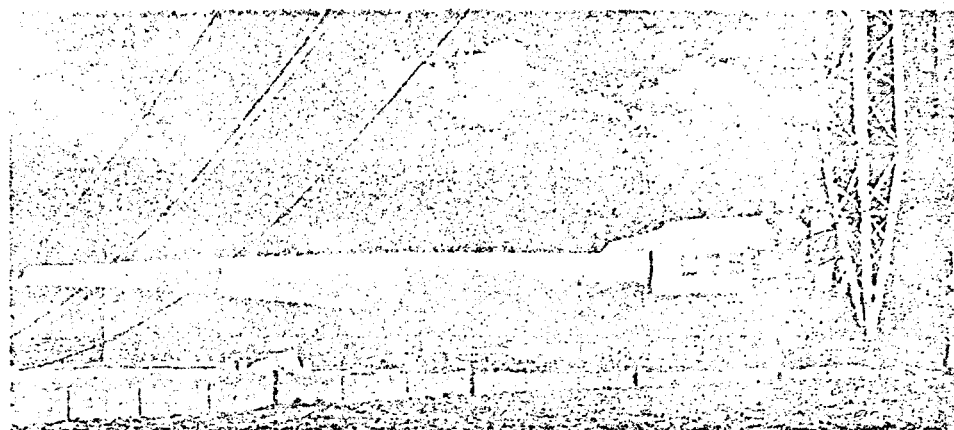
United Technologies
Hamilton Standard division
turbine in Medicine
, bears as little
resemblance to wind
mills of yesteryear as
a 747 jetliner does to
Charles Lindbergh's "Spirit
of St. Louis."
While building an old
fashioned windmill to pump
water or produce a small
amount of electricity for a
farm was a relatively simple
task, erecting a technologi-
cally complex, utility-size
energy system is a
major engineering ac-
complishment.

The 15-ton, 125-foot long blades for the wind turbine were produced by Hamilton Standard through a unique, computer-controlled fiberglass winding process. Fiberglass was selected as the material for the blades because of its relatively low cost, its durability, and its resistance to corrosion. The blades were made at Hamilton Standard's wind energy facility in East Granby, Ct. That facility is the only one in the world specifically designed for the production of wind turbine blades.

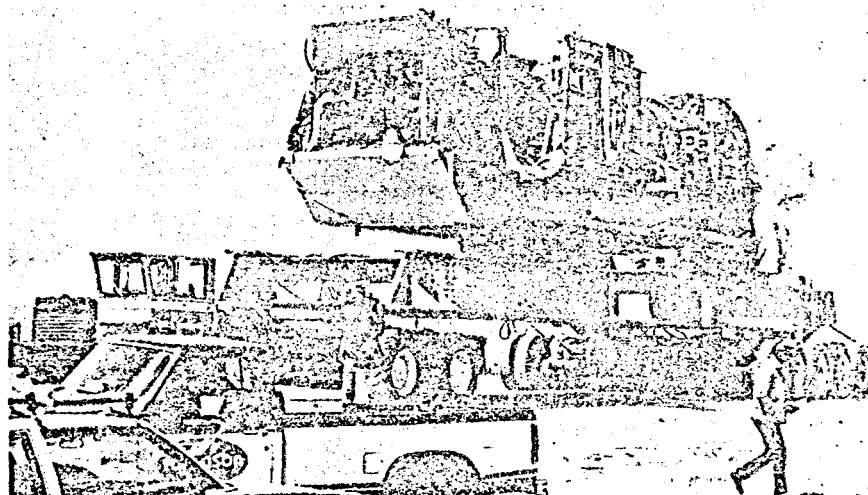
The turbine tower is a hollow steel tube provided by ITT Meyer Industries of Red Wing, Minn. It was formed by seam-welding steel plates in a 12-sided tubular arrangement. The tower sits in a solid concrete foundation 70 feet deep and 19 feet wide. In December 1981, the tower was lifted into place with a crane under the supervision of Stearns Roger, of Denver, Co., the firm in charge of all site and construction work.



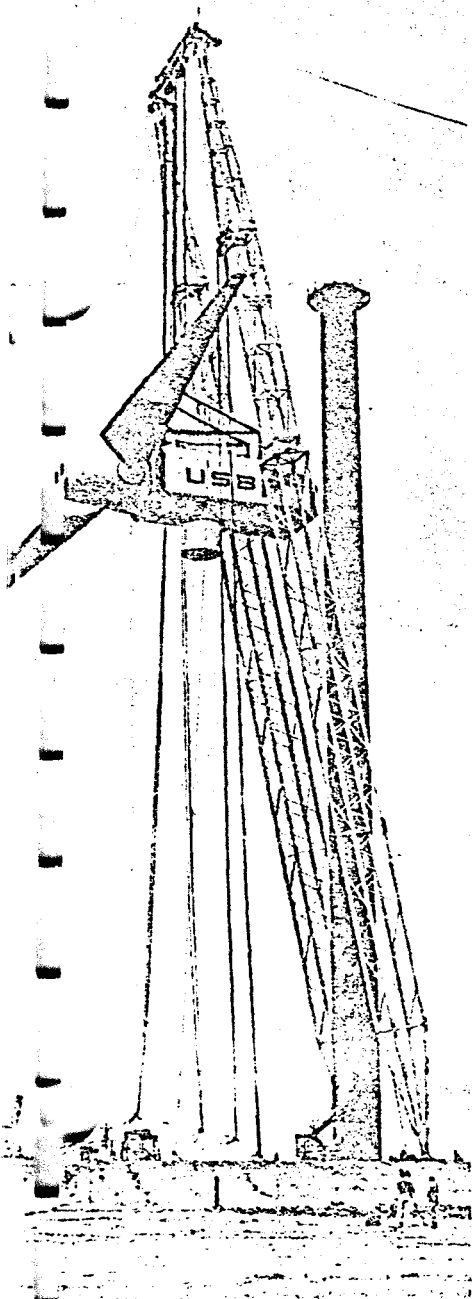
side of nacelle



Nacelle and blades on test stand



Moving nacelle to site



The two blades were driven from Connecticut to Wyoming aboard trailers designed by Hamilton's engineers. Because of the size of the loads, there were restrictions on the highways the blades could travel and the hours they could be on the road. As a result, it took drivers from International Transport, Inc., 10 days and 3,000 miles to bring each blade cross-country.

The nacelle contains the gearbox, generator, and hydraulic and computer controls for the wind turbine. The nacelle, which weighs 330,000 pounds, was assembled by Swedeyards, a Swedish company. It was shipped from that country to the port of Houston, Tx., by the Lykes Bros. Steamship Co. of New Orleans, La. In Houston, the nacelle was lifted by cranes out of a barge and onto a heavy-duty railroad flatcar.

After riding the rails to Medicine Bow, the nacelle was lifted again. Lampson Inc., of Denver, Co., used cranes to take it off the train and place it on a special transporter vehicle for the final 5.9-mile ride to the turbine site.

Once at the site, the nacelle was placed on a test stand. At this point, a building was constructed around it so workers could fully reassemble and test it. The blades were also mounted to the nacelle while it was on the stand.

On July 9, 1982, a crane alongside the tower was used to lift the nacelle and blades into place. Once these components were on top of the tower, workers bolted them into place. Ninety-six bolts, each eight inches long, were used for this job.

Dedicating the wind

by JAMES R. UDALL

TWO GIANT WIND TURBINES were dedicated in Medicine Bow, Wyo., on Sept. 4, 1982 — the centennial of central station electric power. The machines, a 2.5 MW Boeing Mod-2, and a Hamilton Standard W.T.S.-4, which at 4 MW is the world's most powerful wind machine, were funded as part of a Bureau of Reclamation demonstration project. Together the two will provide enough electricity to power 3,000 homes.

How did the Bureau of Reclamation, better known for dams than windmills, get into the wind business?

In 1976, after the first oil crisis, the bureau began a search for methods to enhance the power generation from its existing facilities. After finding inspiration in a Swedish experiment, two BuRec engineers, ironically named Stan Hightower and Abner Watts, proposed a simple — and elegant — plan.

If the bureau meshed megawatt-sized wind machines into its existing hydro-power grid it could remedy, in one stroke, the characteristic defects of each of the two energy sources. On the one hand, the engineers reasoned, integrating wind into an electrical system is difficult because some provision must first be made for its sporadic nature. As for hydro plants, they rarely have enough water — particularly in the West — to run continuously at full capacity.

By blending wind and water the bureau could conserve water while the wind was blowing, and during calm spells, hydro power could firm up the intermittent wind-generated electricity.

Congress bought the concept, appropriated the funds, and now, six years later, the Bureau of Reclamation owns two state-of-the-art wind turbines.

The turbines are enormous — more than 300 feet high — and enormously sophisti-

cated. Both turbines are monitored by computers; for instance, if ice forms on the propeller a sensor triggers an alarm which automatically halts the blade. Some part of this sophistication was supplied by another federal agency which might also seem misplaced in the wind project, the National Aeronautics and Space Administration (NASA).

Representing NASA at the dedication was Vernon Weyers, who three years ago was transferred from launch vehicles to wind machines. Weyers recalls that after telling his children the news, they said, "Dad, you've become the first man to go from the Space Age to the Stone Age in one day."

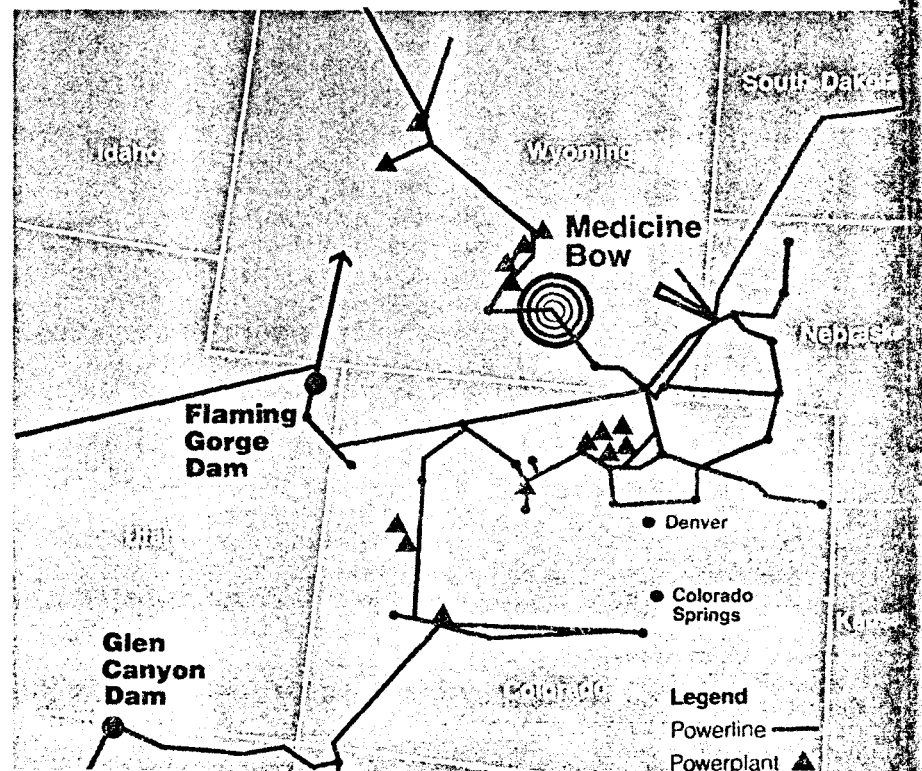
"But the basic principles of aerodynam-

ics, systems integration and structural analysis are the same," said Weyers. "We've transferred the technology."

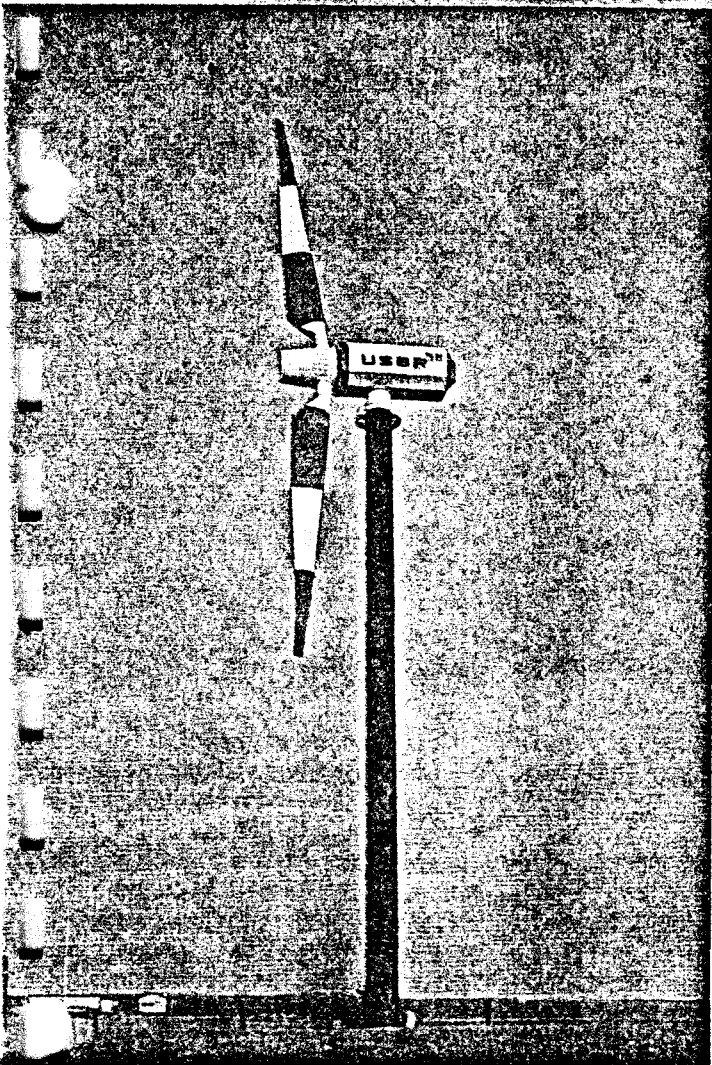
Since the bureau eventually hopes to contract for a 100-MW windfarm in Wyoming, the competition between Boeing Hamilton Standard, a subsidiary of United Technologies, has been fierce. "This is the first time we have had two different designs competing side by side," said BuRec engineer Watts.

The outcome of that contest will hinge on the chief design consideration in large-scale wind machines — reliability. A machine that runs half the hours in a 10-year period will have had the equivalent use of a car that was driven two million miles.

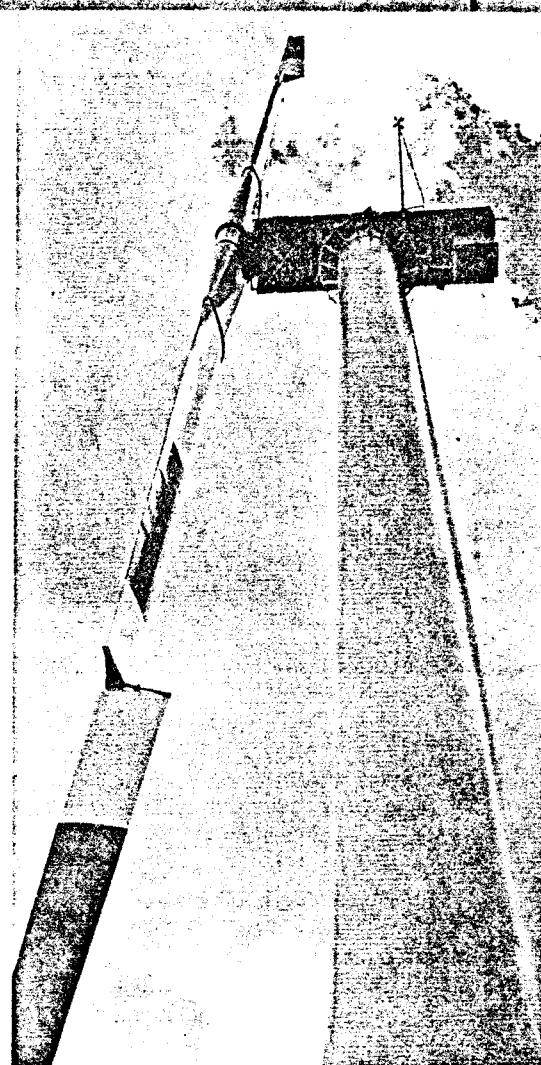
The Bureau of Reclamation's Medicine Bow, Wyo., wind project is strategically located in a high wind area close to major transmission lines and hydroelectric and coal-fired plants, facilitating efficient integration of windpower into the grid.



Udall is a free-lance writer based in Denver, Colo.



The large wind turbines at Medicine Bow are the 2.5-MW Boeing Mod-2, right, and 4-MW Hamilton Standard W.T.S.-4. The latter has produced up to 4.8 MW of sustained power and will generate enough electricity to meet the needs of more than 1,500 homes a year, according to the Bureau of Reclamation. The bureau estimates large-scale wind turbines operating at potential western sites could add 5,000 MW to the nation's generating capacity, producing 15 billion kWh a year.



"These are fatigue machines," said George Walker of Ham Standard. "To assess them we need a lot of operator time in an utility environment. You have to cycle the blades, develop the stresses and see how the machine holds up."

The challenge of windmill design is that the turbines have to be machined to exacting tolerances, but they also have to be able to rotate untended in hail, rain, snow and high winds. If something goes wrong, a wind turbine can self destruct in a hurry.

Notwithstanding such problems, a number of companies (in addition to Ham Standard and Boeing), including Bendix, Westinghouse and General Electric hope to market the first 'economic' multi-megawatt wind turbine.

In theory, large machines have an economy of scale that smaller turbines cannot match, but there are those who feel the large companies are on the wrong path. "I think these giant machines will be dinosaurs," said Jay Carter Jr. of Carter Wind Systems. "For these aerospace companies bigger is better, but the machines are not yet cost-effective and government subsidies won't be there forever."

Carter's own 25-kW machines are back-ordered 2½ years, and his design is so respected by Hamilton Standard that it has caught an interest in the smaller company

and plans to monitor a 25-kW Carter in Medicine Bow. Though it would take 160 Carter's machines to match the output of one Ham Standard turbine—and Carter can only make four a week—if Ham Standard or Boeing cannot build and sell enough machines to gain the benefits of mass production, large turbines may never grab a significant market share.

As Bob Bussolari of Ham Standard put it when asked the price of his firm's turbine, "You don't want to know the price of the first Model-T, the one you want to buy is the 1,000th."

"But if Ham Standard doesn't sell the 10th unit," said Don Hardy of Pan Aero Corp., a Denver-based windfarm developer, "They'll never sell the 1,000th. These large companies have to price that first unit into the marketplace and that requires a commitment to manufacture it at an initial loss."

Currently both large and small wind turbine companies are relying on third-party, venture capital firms such as Pan Aero to keep the industry solvent. But third-party developers are having their problems as well. High interest rates, the oil glut, and legal challenges to the Public Utility Regulatory Policies Act (PURPA), which guarantees small energy producers a fair price and a market for their electricity, are slowing emergence of the industry.

The dedication ceremony was a low key affair. A girl on horseback delivered a letter from Secretary of the Interior James Watt saying he approved. Daisy Mae Epperson, of Rock River, Wyo. was awarded a medal for her 1948 letter in which she had told her congressman that the nation ought to build some machines to harness Wyoming's wind. Thirty-four years later, her wish was being granted.

Leaving the dedication I drove west past hulking dragline shovels, laid-off servants of Old King Coal, the nation's most abundant fossil fuel. In Rawlins, Wyo., the morning paper reported auto sales down to the lowest level since 1962, when the United States was using roughly half the electricity used today.

Past Rawlins, 100 miles from the two turbines, the wind was still sweeping strongly from the west, antelope grazed, and the horizon was empty. How many wind turbines, I wondered, might be economically placed on America's great plains? And I recalled what Jay Carter Jr. had said:

"Wind will be stronger in 20 years than it is now. Stronger in 50 than in 20. There's five to 10 percent of the nation's energy blowing around free out there. And though the utilities right now have a wait-and-see attitude, they'll soon be scrambling all over themselves to get every part of it." ☀

Stearns
844
755

**City of Livingston
Montana**

414 East Callender
Livingston, Montana 59047

Senate Taxation Comm.
Exhibit B
April 7, 1983
HB 755

FROM THE OFFICE OF

MAYOR

January 6, 1983

The Honorable Ted Schwinden
Governor, State of Montana
Montana State Capitol
Helena, MT 59620

Dear Governor Schwinden:

Per your request of December 7, 1982 in which you reference the Department of Revenue Memorandum, dated November 30, 1982 regarding the proposed Montana Wind Energy Commercial Investment Tax Credit, and requested our comments regarding the above referenced memorandum, we should be pleased to take this opportunity to comment on such and appreciate the opportunity to do so.

BACKGROUND

To begin with, the rationale behind this proposal is based on the following premise: that by harnessing the identified wind energy resource in Montana (second only to Texas) we can accomplish two goals simultaneously.

1. Through in-state placement of electrical generating facilities we can create job opportunities with operation and maintenance of these same facilities, and also create jobs associated with assembly and manufacturing of equipment placed in these facilities.
2. Through establishment of in-place electrical generating facilities in the state of Montana we can assure other industry, dependent on electrical energy, of plentiful and varied electrical energy sources not dependent on regional, and therefore, outside control, and make Montana a more attractive environment for industrial development.

We can accomplish these two twin goals by encouragement in the early years of wind energy development by making Montana as attractive a site for construction of these generating facilities as possible (i.e., tax credits).

Through successful encouragement and placement of generating facilities in Montana, we can resultingly attract assembly and manufacturing of associated equipment here through a formula of 'scale of economy'. The concentration of machinery that is required for placement of wind electrical energy generating facilities will demand that manufacturers place their factories as close as possible to their markets to minimize transportation costs, as well as to provide responsive warranty repair stations. This relationship between generating facilities and manufacturing operations is especially true when

you consider that wind energy is an infant industry and therefore mass manufacturing capabilities have not been established by the factories producing these goods. The establishment of long-term markets will, therefore, dictate where manufacturing factories will be established; as the market expands into a more national and international picture, these manufacturing sites will remain and expand to meet that market. We submit that Montana is the logical area for establishment of these manufacturing operations.

RESPONSE TO REVENUE DEPARTMENT ASSESSMENT

To specifically address the Department of Revenue memorandum regarding proposed legislation granting certain tax credits to stimulate the above economic development scenario, we should like to go on record and address the following points in the order in which they appear in the memorandum.

The California law cited by the Dept. of Revenue does not, in fact, make specific mention of whether the up-grading of existing utility equipment would qualify for the tax credit. The included equipment does include collection and transmission equipment, and the lines between wind energy facilities and existing utility lines. It appears that if such up-grading were reasonably necessary to the operation of a wind energy facility in California, the cost of such up-grading would qualify for the California credit.

The need for the inclusion of such up-grading is important. Many proposed wind farm developments are some distance from a transmission line with sufficient capability to handle the power to be generated. Rather than installing new collecting lines, it may be more appropriate, in some situations, to modify existing lines of lower capacity. For example, new lines, insulators and extra arms may be installed on existing power poles. Similarly, existing electrical substations may require modifications to handle the increased level of generation.

The California Franchise Tax Board, cited by the Dept. of Revenue in regards to possible expiration of the California law, is the revenue collection arm of the state government and has no particular expertise in assessing the likelihood of the passage of pending legislation. Other state agencies, particularly the California Energy Commission, can be found which will speak for the position that the proposed California state tax credit extension bill does, indeed, have a good chance of passage. Although it is true that very poor fiscal conditions confront the state of California, the real cost of the tax credit is open to question. Furthermore, there is a popular conception in California that the recent extraordinary increases in electrical rates are related to the cost of foreign oil and thus, that lessening dependence upon such fuel sources will abate the seemingly needless utility rate increases. Therefore, there are many California state legislators who are anxious to convey to the voters their support of alternative energy techniques. Further, to qualify in California at this time for the credit, regardless of renewal of the tax law, all a developer need do is begin construction, (i.e., roads) before the end of 1983 and have the ability to generate before 1985 to take full advantage of the law.

The Dept. of Revenue memorandum cites a list of existing incentives and subsidies currently available in Montana which seemingly meet the need to create a proper business climate in Montana for energy development. Importantly however, the Dept. of Revenue correctly differentiates between manufacturing operations and actual electrical generation facilities when they suggest "Nearly all of the incentives listed above are likely to be available for a plant that would manufacture wind energy components... The effectiveness of Montana's tax incentives is somewhat different, however, for wind generation....If the investment in wind farms is organized through limited partnerships with more than ten (10) partners, the only incentive of those listed above that is likely to be relevant is the favorable treatment of net operating losses".

Montana's treatment of net operating losses may be less attractive than it might first appear. Generally, a reduction in state income tax liability will result in an increase in federal income tax liability. This is because state income taxes are generally deductible in computing federal taxable income. The investor in a Montana wind energy development limited partnership is likely to be in the 50% federal tax bracket. Thus, it is reasonable to assume that his federal tax liability will be increased by 50% of the decrease in state tax liability.

Using the referenced \$44 million wind energy development project in Alameda County, California (Windpower Partners - 1982-2) as an example, were this project built in Montana, the investors state income tax savings during the first four years (not including tax credits) would thenceforth be recovered in state income tax payments every two years thereafter, according to figures presented in the offering prospectus. Both California and Montana, by the way, have top state income tax brackets of 11%. Importantly, as the point made in the beginning of this letter strongly indicates, construction of wind electrical generating facilities must predate manufacturing operations to create that same manufacturing potential.

Therefore, we can effectively see the ability of Montana to respond to and create an effective climate conducive to creating energy development is lacking at this time and remains to be addressed.

The Dept. of Revenue memorandum states that "At present Montana's avoided cost rates for the purchase of electricity from alternative sources are, after capacity factors are included, generally somewhat lower than California rates. This circumstance should favor development in California". This statement is incorrect and reflects a general misunderstanding of energy policy as determined by the federal Public Utilities Regulatory Policy Act (PURPA). In fact, at this time the long-term base rate for Independent Power Production to Qualifying Facilities (QF) are higher than those assessed in California. The effective purchase rate the City of Livingston is receiving for sale of electricity per kw hour, including capacity, is 6.44¢ as paid by the Montana Power Company, as compared to 5.4¢ plus .5¢ capacity assessed against Southern California Edison, and 5.854¢ plus capacity of .58¢ assessed against Pacific Gas and Electric, these being the two largest utilities in the country. Therefore, to borrow the Dept. of Revenue statement, these circumstances should favor development in Montana; the fact that we are not seeing such is again reflective of California's existing tax credit.

The Dept. of Revenue memorandum asserts that the wind energy tax credit would be very expensive. This could be true in the sense that the proposed tax credit bill acts as a necessary 'loss-leader' for stimulating manufacturing industry. However, the extent of that expense can be mitigated when we look at the revenue stream that will accrue to both state and local government coffers in the long-term, when we look at both five and ten year cash flows.

For example, let's look at the estimated gross economic impact of wind energy development in Park County alone, over the next 20 years (Park County being only one of over two dozen counties with strong wind energy electrical potential). There follows an estimated reasonable scenario in which 1,000 megawatts of wind turbines are installed in Park County during the 20 year term formerly referred to. 1,000 megawatts is quite a lot, equivalent to one nuclear power generator plant, representing perhaps 20,000 machines of the size commonly used in wind farms in California, and 300-400 large machines of the Bendix, Boeing or United Technologies variety.

Quite obviously Park County has no foreseeable need for such amounts of electric power. A primary reason for the universal popularity of electric power is the ability to transmit it over long distances by the use of relatively inexpensive facilities having relatively small line losses. It has been estimated that transmission of power from Wyoming to California would result in a loss of only 6%. Thus it is not unrealistic to envision Montana as an important center of wind energy facilities, but of electrical generation as well. To accomplish this by using a clean, inexhaustible source of power, rather than a coal or nuclear plant, would seem a goal worth pursuing. The unit cost of wind farm equipment is expected to drop substantially over the coming years, as volume orders justify mass production techniques and foreign competition make further inroads into the domestic marketplace. Following staff statements of the California Energy Commission, who have used a unit cost of \$800 per kw, multiplying this by the above 1,000 megawatt (a megawatt is 1,000 kw) we have a total development cost of \$800 million in Park County.

For such development under the Montana Wind Energy Commercial Investment Tax Credit proposal, the 35% tax credit would cost the state treasury \$280 million or an average of \$14 million annually. However, the tax credit bill is envisioned to expire five years after proposed adoption, limiting the term of amortization, as well as the fact that large portions of limited partnership investment capital will come from outside the state of Montana and therefore constitute new revenue sources to the state rather than a drain on existing tax base.

Continuing with the 20 year scenario, though, based on Employment and Gross State Product (GSP) multipliers as estimated by the California Department of Water Resources Bulletin 210 (March 1980), Measuring Economic Impacts, Tables 15 & 16 pages 96-103, the California Energy Commission places the increase of employment arising from such development at 42,250 employment years, for an average of 2,112 full time jobs throughout the 20 year period.

State income taxes in California and Montana seem comparable, with both having maximum tax brackets of 11%. According to the Statistical Section of the California Franchise Tax Board, the average tax rate for wage income is 3.5% and for corporate profits 9.6%. By use of the GSP multipliers, the California Energy Commission states that the increase in state income tax revenues for such a 1,000 megawatt project at \$72 million or an average of \$3.65 million annually.

If taxed at 1%, property tax on equipment with a capital cost of \$800 million would amount to \$8 million per year, a sum nearly equal to the gross income from the sale of beef in Park County during 1980.

Again, based on these same GSP multipliers, the commission estimates the increase in gross state product at \$3.3 billion, or an average of \$824 million over each of the 20 years. Of this amount, 63% is wage income and 14% profit income (see DWR bulletin 210, page 7). To place the figure of \$824 million in perspective, livestock production contributed \$800 million to Montana's economy in 1979, or 58.4% of the states agricultural income, Montana's largest industry.

It is not possible to quantify the social, family or community benefits which would also accrue to the people of Montana from such development. Tourism, certainly in the early years, should increase significantly. Retail sales, housing and automobile markets cannot but help being impacted by the creation of 2,112 new jobs; this without even allowing for associated manufacturing potential referred to earlier in this letter.

Additionally, nowhere in the Dept. of Revenue memorandum do we find reference to an extremely large group of Montana tax payers -- utility rate payers. Utility companies across the country are experiencing increasing difficulty in raising funds for required capital improvements. Even when successful, high interest rates and construction costs are passed through to the already overburdened rate payers. The independent power producer undertakes all the risks inherent to the development of alternative techniques, selling the power to utility companies at wholesale rates. The utility's only obligation thereafter is to purchase that power the developer is able to deliver. The opportunity to purchase new power without ratebasing the associated capital costs is a significant additional benefit to the utility, and thus to its rate payers, the people of Montana.

The statement is made in the memo that "Wind energy is (one) of the more expensive forms of renewable energy". We strongly disagree with this statement. The attached chart, taken from a recently published report by the California Energy Commission clearly indicates that the cost of wind energy is nearly half that of the next least expensive generation source, and the last in cost of all 16 generation sources listed, both renewable and conventional.

Nor is the question of equipment cost effectiveness of concern to Montana's utility companies or rate payers. The Montana Public Service Commission mandates a single price to be paid by utility companies for power produced by all alternative generation sources. The profitability, or lack thereof, to the independent producer is thus controlled by market factors acting

upon his decision on whether or not to construct a particular project. The price he receives for his power is not a function of his capital or operation costs.

The conservative attitude of many public utility companies does not permit them to invest in equipment which they perceive as new and less than reliable. These perceived risks are thus undertaken by private wind energy development farms largely with financing from institutional sources or from the sale of limited partnership units. The reality of competing for such funds in the financial marketplace requires that one offer tax benefits to the potential investor. Tax credits are the most attractive such benefit. Therefore, it is not that wind energy is insufficiently competitive with other forms of alternative energy to attract investment capital, but that the benefits of the financial offering must compete with all manner of other investment opportunities.

CONCLUSION AND RECOMMENDATIONS

In summary, the proposed Montana Wind Energy Commercial Investment Tax Credit, as an economic development tool to broaden base employment opportunities within this state, does, to a degree, function as a 'loss-leader' for stimulating electrical energy generation plants and associated manufacturing operations. Short-term revenue decreases to the state of Montana can be made up in the long-term through attraction of new taxable revenue sources to the state including generation facilities, factories, payroll and other items. The City of Livingston, in cooperation with various investment groups, are developing additional cash flow scenarios that involve demonstration of potential investment as per the proposed tax credit; as these are finalized in the next few weeks they will be forwarded as additional attachments to this transmittal.

In carefully reviewing the proposed tax credit legislation five (5) areas of amendment could be proposed to help stem concerns of potential revenue loss to the state. These would include:

1. Inserting language in the bill that clearly limits application of the tax credit for a period not to exceed five years before the bill itself is terminated (i.e., 5 year sunset provision attached to the tax credit). If the bill is adopted in 1983, projects not begun previous to 1988 would not be eligible for this credit. This concept was intended to be written into the original bill, but due to an oversight has been neglected to be included in the original draft. We endorse such a limitation.
2. The tax credit, as originally conceived, was meant to simply address wind energy electrical generation as an identified target industry. In the process of being drafted by the Legislative Council, input received from certain legislators broadened the bill to include all recognized non-fossil forms of energy generation. We would endorse an amendment to restrict the bill to its original intent of wind energy electrical generation as

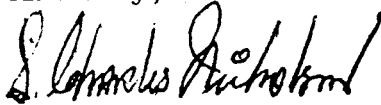
a measure to restrict potential revenue losses to the state from other forms of alternative energy application, as it appears it is not clearly understood what financial impact the broadening of the bill previously referenced could have on state revenue.

3. The proposed tax credit bill, in terms of the percentage of investment to be allowed as a credit could be reduced by amendment to further decrease potential impact of loss of taxable revenue to the state of Montana. It should be kept in mind that California's law is a credit of 25% and if consideration of reducing the credit in Montana is made, the ability of Montana to create a proper attractive investment climate for this activity, the credit should not be so reduced as to be eclipsed by California initiatives. On the other hand a reduced credit relative to the original proposal is certainly more effective than no credit at all. We would be happy to work with the state of Montana in exploring such an option.
4. Again, in an effort to reduce potential revenue losses to the state of Montana associated with adoption of the tax credit bill, the credit as it applies to manufacturing and utility up-grade could be deleted, and result in targeting a tax credit for wind electrical generating facilities only. While not desirable, this kind of amendment protects the main intent of the bill of still stimulating placement of these same generating facilities. A reliance on simple 'economy of scale' would be developed however, in the hope of attracting associated manufacturing associations rather than creating a specific atmosphere conducive to such operations. However, as correctly pointed out by the Dept. of Revenue memorandum, a number of incentives certainly exist that could adequately stimulate manufacturing interests. Utility up-grade costs would have to be shouldered and absorbed by the developers as part of the overall construction costs.
5. The tax credit bill could be amended so that the minimum qualifying investment be measured against the total cost of an individual project, without regard to the amount invested by a single tax payer as an expression of a to be determined ratio. This would effectively lower the minimum qualifying investment from an absolute dollar amount (i.e., \$50,000) and allow for broader participation by potential investors, as well as allowing for smaller scale projects to qualify also. The total cost of a qualifying project could be reduced to as little as \$20,000 as opposed to the current minimum limitation.

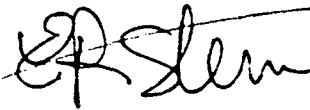
The Honorable Ted Schwinden
January 6, 1983
Page 8

Again, thank you for your time and consideration of this matter, as well as the invitation and opportunity to comment on the Dept. of Revenue's analysis of the proposed Montana Wind Energy Commercial Investment Tax Credit.

Sincerely,



S. Charles Nicholson
Mayor, City of Livingston



E. R. Stern
Community Development Director

SCN/ERS/sw

TABLE E-111-4

Levelized Cost Calculations Using TAO Model
10% Real Discount Rate and 3% Real Interest Rate
Range is 20% Plus and Minus of Actual Calculation^a

(¢/kWh)

Technology (Fuel Type) ^b	1987	1994	1998
Wind Turbine ^c	5-7	6-10	7-11
Wood-Fired	9-13	15-23	21-31
Steam Geothermal	9-13	17-25	23-35
Fuel Cell (Methanol)	10-16	15-23	19-29
Small Hydroelectric ^d	10-77	18-139	25-194
Cogeneration (Natural Gas)	12-18	16-24	22-34
Fuel Cell (Natural Gas)	13-19	24-36	34-52
Biomass ^d	14-24	22-40	29-52
Repowering (Methanol)	18-26	21-31	26-38
Coal	-	22-34	31-47
Cogeneration (Distillate)	14-20	25-38	26-54
Nuclear	-	25-38	38-58
Advanced Geothermal	16-24	29-43	41-61
IGCC ^e	17-25	30-44	41-61
Solar Photovoltaic	20-30	31-47	41-61
Oil-Fired	23-35	44-66	62-94

- a. All plants begin operation in year indicated, analysis based on 30-year plant life.
- b. Data from California Energy Commission Electricity Cost by Generation Technology September 1981, P300-81-012.
- c. Real Capital Escalation = -3.3 percent.
- d. A range of low and high instant capital costs were used to calculate levelized costs.
- e. Integrated Gasification-Combined Cycle.

841

Testimony of Frank Sullivan
House Bill 841
House Taxation Committee
March 4, 1983

SENATE TAXATION COMMITTEE
EXHIBIT C
APRIL 7, 1983
HB 841

I am Frank Sullivan, president and business representative of Hotel Employees and Restaurant Employees Local 457, AFL-CIO, Butte, Montana. I am representing the approximately 1,000 members of our local. I am also here on behalf of the state Culinary and Bartenders Alliance of Montana, which is composed of 14 local unions from all over the state.

Our members support House Bill 841, which would exclude tips from Montana income tax liability. We support this bill because it gives some much-needed assistance to some of the lowest paid workers in this state. Most of the tipped employees in Montana are waitresses. If they are union waitresses, they make \$3.35 per hour. That is not much, but it is still better than the minimum wage level of many non-union waitresses who make only \$2.75 per hour. Most of these waitresses are women, many of whom are single parents and the sole support of their families. Their low hourly wage is supplemented to some degree by the tips which they receive. But of course, tips are voluntary gratuities, not a set rate, which they can depend on.

The amount in tips they make depends on what kind of establishment they work in, what shift, and what days they work. Many of them are now working reduced hours, because of the economic recession. And, because everyone is struggling to make ends meet, many of those who are tipped employees find they are getting fewer and smaller tips.

This bill will help hard working low paid workers, who really need the assistance.

Please vote for House Bill 841.

Thank you.

(This sheet to be used by those testifying on a bill.)

SENATE TAXATION COMMITTEE

EXHIBIT B

APRIL 7, 1983

HB 841

NAME: Margaret Flanagan DATE: 4-7-83

ADDRESS: 1616 Carmon apt 22

PHONE: 442-3737 - 442-3776

REPRESENTING WHOM? H+PE+G Linc 593

APPEARING ON WHICH PROPOSAL: Full

DO YOU: SUPPORT? ☒ AMEND? ☐ OPPOSE? ☐

COMMENT:

PLEASE LEAVE ANY PREPARED STATEMENTS WITH THE COMMITTEE SECRETARY.

Bucks
841
4/7

SENATE TAXATION COMMITTEE
EXHIBIT E
APRIL 7, 1983
HB 841
Amendments to HB 841

Page 1, line 15.

Following: "PROVIDING"

Insert: "AN EFFECTIVE DATE AND "

Page 7, line 22.

Following: "SECTION 3."

Insert: "EFFECTIVE DATE AND"

Page 7, line 22.

Following: "ACT"

Insert: "IS EFFECTIVE FOR THE TAX YEARS BEGINNING ON OR AFTER
. THIS ACT"

Page 8, line 3.

Following: "TERMINATES,"

Strike: "IT DOES SO ON THE DATE OF THE FINAL APPROVAL OF THE
CONGRESSIONAL LEGISLATION."

Insert: "THE TERMINATION IS EFFECTIVE FOR THE TAX YEAR AND ALL
SUCCEEDING TAX YEARS BEGINNING ON OR AFTER JANUARY 1,
PRECEDING FINAL APPROVAL OF THE CONGRESSIONAL LEGISLATION."

Amend HB 780

1. Title, line 5.
Following: "THE PRODUCTION OF"
Insert: "ALCOHOL TO BE BLENDED FOR"
2. Title, line 8.
Following: line 7
Strike: "SECTION"
Insert: "SECTIONS"
Following: "15-70-204"
Insert: "AND 15-70-221"
3. Page 1, line 13.
Following: "through"
Strike: "13"
Insert: "11"
Following: "cited as the"
Strike: "Gasohol"
Insert: "Alcohol"
4. Page 1, line 17.
Following: "production of"
Insert: "alcohol to be blended for"
5. Page 1, line 25.
Following: "through"
Strike: "13"
Insert: "11"
6. Page 3, lines 5 and 6.
Strike: subsection (3) in its entirety
Re-number: subsequent^{sub} sections
7. Page 3, line 10.
Following: "distributor"
Insert: "and gasohol dealers"
8. Page 3, line 17.
Following: "distributor"
Insert: "or gasohol dealer"
9. Page 3, line 18 through page 4, line 15.
Strike: sections 8 and 9 in their entirety
Strike: sections 8 and 9 in their entirety
Re-number: subsequent sections
10. Page 4, line 18.
Following: "alcohol"
Insert: "distilled in Montana"
11. Page 4, line 20.
Following: "as allowed in"
Strike: "[section 11]"

Insert: "15-70-221"

12. Page 4, line 22 through page 5, line 4.

Strike: section 11 in its entirety

Renumber: subsequent sections

13. Page 5, line 5.

Following: line 4

Insert: "Section 9. Tax incentive for production of alcohol.

(1) There is a tax incentive payable to alcohol distributors for distilling alcohol to be blended with gasoline for sale as gasohol provided the alcohol is distilled in Montana from Montana agricultural produces. Payment shall be made by the department of revenue out of the amount collected under 15-70-204.

(2) Except as provided in subsection (3) the tax incentive on each gallon of alcohol distilled in accordance with subsection (1) is:

(a) beginning July 1, 1983, 70 cents per gallon;
(b) beginning April 1, 1985, 50 cents per gallon;
(c) beginning April 1, 1986, 30 cents per gallon; and
(d) beginning April 1, 1989 and thereafter there is no tax incentive.

(3) The incentive schedule provided for in subsection (a) shall be modified in response to market conditions as follows:

(a) If for any 2 consecutive calendar quarters ending on or before September 30, 1984, the gallons of gasohol sold comprise 8% or more but less than 11% of the total gallons of nonaviation gasoline and gasohol sold, the tax incentive for alcohol shall be 50 cents per gallon effective beginning the second calendar quarter after the 2 consecutive calendar quarters during which the gallons of gasohol sold comprised 8% or more but less than 11% of the total gallons of nonaviation gasoline and gasohol sold.

(b) If for any 2 consecutive calendar quarters ending on or before September 30, 1986, the gallons of gasohol sold comprise 11% or more but less than 18% of the total gallons of nonaviation gasoline and gasohol sold, the tax incentive for alcohol shall be 30 cents per gallon effective beginning the second calendar quarter after the 2 consecutive calendar quarters during which the gallons of gasohol sold comprised 11% or more but less than 18% of the total gallons of nonaviation gasoline and gasohol sold.

(c) If for any 2 consecutive calendar quarters ending on or before September 30, 1988, the gallons of gasohol sold comprise 18% or more of the total gallons of nonaviation gasoline and gasohol sold, the tax incentive for alcohol shall be eliminated effective beginning the second calendar quarter after the 2 consecutive quarters during which the gallons of gasohol sold comprised 18% or more of the total gallons of nonaviation gasoline and gasohol sold.

(d) Each quarter, the department shall compute the share of the total nonaviation gasoline and gasohol market that is represented by gasohol, according to the information contained

in gasoline distributors' returns. ~~[and requests for refunds from
gasohol dealers for the use of gasoline to produce gasohol.]~~"

Renumber: subsequent sections

Following: "Application for"

Strike: "refund"

Insert: "payment of tax incentive"

14. Page 5, line 6.

Following: "shall apply for"

Strike: "refund"

Insert: "payment of tax incentive"

15. Page 5, line 8.

Following: "original"

Strike: "bulk delivery invoice or"

Insert: "production records and"

16. Page 5, line 9.

Following: line 8

Strike: "claimant"

Insert: "gasohol dealer"

Following: "the time of"

Strike: "purchase"

Insert: "sale"

17. Page 5, line 10.

Following: "gallons of"

Strike: "gasoline purchased"

Insert: "alcohol sold"

18. Page 5, line 11.

Following: "Application for"

Strike: "refunds"

Insert: "the payment of the tax incentives"

19. Page 5, line 14.

Following: line 13

Insert: "(3) The payment of the tax incentives shall be reduced
by the amount of tax provided for in 15-70-204(3) that is due
on alcohol to be blended for gasohol."

20. Page 6, line 13.

Following: line 12

Insert: "Alcohol that is blended or is to be blended with
gasoline to be sold as gasohol is subject to a tax per gallon
equal to the license tax imposed on nonaviation gasoline
distributors under subsection (1)."

Strike: remainder of section through page 8, line 15.

21. Page 8, line 16.

Following: line 15

Insert: "Section 13. Section 15-70-221, MCA, is amended to
read: "15-70-221. Refund authorized. (1) Any person who shall

purchase and use any gasoline on which the Montana gasoline license tax has been paid for denaturing alcohol to be used in gasohol or operating or propelling stationary gasoline engines, tractors used off the public highways and streets, or for any commercial use other than propelling vehicles upon any of the public highways or streets of this state shall be allowed a refund of the amount of tax paid directly or indirectly on the gasoline so used. Such refund or drawback should in no instance exceed the tax paid or to be paid to the state and no refund shall be allowed of that portion of the tax per gallon upon aviation gasoline allocated to the department of commerce by 67-1-301.

(2) Any distributor paying the gasoline license tax to this state erroneously shall be allowed a credit or refund of the amount of tax so paid."

STANDING COMMITTEE REPORT

April 7

19 83

MR. **PRESIDENT**

We, your committee on **taxation**

having had under consideration **House** Bill No. **780**

Harp (Elliott)

Respectfully report as follows: That **House** Bill No. **780**

third reading copy, be amended as follows:

1. Title, line 5.

Following: "THE PRODUCTION OF"

Insert: "ALCOHOL TO BE BLENDED FOR"

2. Title, line 8.

Following: line 7

Strike: "SECTION"

Insert: "SECTIONS"

Following: "15-70-204"

Insert: "AND 15-70-221"

3. Page 1, line 13.

Following: "through"

Strike: "13"

Insert: "11"

Following: "cited as the"

Strike: "Gasohol"

Insert: "Alcohol"

~~DO NOT~~

(Continued on page 2)

J. C.

April 7 19 83

4. Page 1, line 16.
Following: "through"
Strike: "13"
Insert: "11"

5. Page 1, line 17.
Following: "production of"
Insert: "alcohol to be blended for"

6. Page 1, line 25.
Following: "through"
Strike: "13"
Insert: "11"

7. Page 3, line 14.
Following: ";"
Insert: "and"

8. Page 3, lines 5 and 6.
Strike: subsection (3) in its entirety
Re-number: subsequent subsections

9. Page 3, line 10.
Following: "distributor"
Insert: "and gasohol dealers"

10. Page 3, line 17.
Following: "distributor"
Insert: "or gasohol dealer"

11. Page 3, line 18 through page 4, line 15.
Strike: sections 8 and 9 in their entirety
Re-number: subsequent sections

12. Page 4, line 18.
Following: "alcohol"
Insert: "distilled in Montana"

13. Page 4, line 20.
Following: "as allowed in"
Strike: "[section 11]"
Insert: "15-70-221"

14. Page 4, line 22 through page 5, line 4.
Strike: section 11 in its entirety
Re-number: subsequent sections

(Continued on page 3)

April 7

19 83

15. Page 5, line 5.

Following: line 4

Insert: "Section 9. Tax incentive for production of alcohol.

(1) There is a tax incentive payable to alcohol distributors for distilling alcohol to be blended with gasoline for sale as gasohol provided the alcohol is distilled in Montana from Montana agricultural products. Payment shall be made by the department of revenue out of the amount collected under 15-70-204.

(2) Except as provided in subsection (3) the tax incentive on each gallon of alcohol distilled in accordance with subsection (1) is:

- (a) beginning July 1, 1983, 70 cents per gallon;
- (b) beginning April 1, 1985, 50 cents per gallon;
- (c) beginning April 1, 1986, 30 cents per gallon; and
- (d) beginning April 1, 1989 and thereafter there is no tax incentive.

(3) The incentive schedule provided for in subsection (a) shall be modified in response to market conditions as follows:

(a) If for any 2 consecutive calendar quarters ending on or before September 30, 1984, the gallons of gasohol sold comprise 8% or more but less than 11% of the total gallons of nonaviation gasoline and gasohol sold, the tax incentive for alcohol shall be 50 cents per gallon effective beginning the second calendar quarter after the 2 consecutive calendar quarters during which the gallons of gasohol sold comprised 8% or more but less than 11% of the total gallons of nonaviation gasoline and gasohol sold.

(b) If for any 2 consecutive calendar quarters ending on or before September 30, 1986, the gallons of gasohol sold comprise 11% or more but less than 18% of the total gallons of nonaviation gasoline and gasohol sold, the tax incentive for alcohol shall be 30 cents per gallon effective beginning the second calendar quarter after the 2 consecutive calendar quarters during which the gallons of gasohol sold comprised 11% or more but less than 18% of the total gallons of nonaviation gasoline and gasohol sold.

(c) If for any 2 consecutive calendar quarters ending on or before September 30, 1988, the gallons of gasohol sold comprise 18% or more of the total gallons of nonaviation gasoline and gasohol sold, the tax incentive for alcohol shall be eliminated effective beginning the second calendar quarter after the 2 consecutive quarters during which the gallons of gasohol sold comprised 18% or more of the total gallons of nonaviation gasoline and gasohol sold.

(Continued on page 4)

April 7

19 83

(d) Each quarter, the department shall compute the share of the total nonaviation gasoline and gasohol market that is represented by gasohol, according to the information contained in gasoline distributors' returns."

Renumber: subsequent sections

16. Page 5, line 5.

Following: "Application for"

Strike: "refund"

Insert: "payment of tax incentive"

17. Page 5, line 6.

Following: "shall apply for"

Strike: "refund"

Insert: "payment of tax incentive"

18. Page 5, line 8.

Following: "original"

Strike: "bulk delivery invoice or"

Insert: "production records and"

19. Page 5, line 9.

Following: line 8

Strike: "claimant"

Insert: "gasohol dealer"

Following: "the time of"

Strike: "purchase"

Insert: "sale"

20. Page 5, line 10.

Following: "gallons of"

Strike: "gasoline purchased"

Insert: "alcohol sold"

21. Page 5, line 11.

Following: "Application for"

Strike: "refunds"

Insert: "the payment of the tax incentives"

22. Page 5, line 14.

Following: line 13

Insert: "(3) The payment of the tax incentives shall be reduced by the amount of tax provided for in 15-70-204(3) that is due on alcohol to be blended for gasohol."

23. Page 6, line 13.

Following: line 12

Insert: "Alcohol that is blended or is to be blended with gasoline to be sold as gasohol is subject to a tax per gallon equal to the license tax imposed on nonaviation gasoline distributors under subsection (1)."

Strike: line 13 on page 6 through line 15 on page 8.

(Continued on page 5)

April 7

19 83

24. Page 8, line 16.

Following: line 15

Insert: "Section 13. Section 15-70-221, MCA, is amended to read: "15-70-221. Refund authorized. (1) Any person who shall purchase and use any gasoline on which the Montana gasoline license tax has been paid for denaturing alcohol to be used in gasohol or operating or propelling stationary gasoline engines, tractors used off the public highways and streets, or for any commercial use other than propelling vehicles upon any of the public highways or streets of this state shall be allowed a refund of the amount of tax paid directly or indirectly on the gasoline so used. Such refund or drawback should in no instance exceed the tax paid or to be paid to the state and no refund shall be allowed of that portion of the tax per gallon upon aviation gasoline allocated to the department of commerce by 67-1-301.

(2) Any distributor paying the gasoline license tax to this state erroneously shall be allowed a credit or refund of the amount of tax so paid."

25. Page 8, line 19.

Following: "through"

Strike: "13"

Insert: "11"

26. Page 8, line 22.

Following: line 21

Strike: "13"

Insert: "11"

And, as so amended

BE CONCURRED IN