

SELECT COMMITTEE ON ECONOMIC DEVELOPMENT

HOUSE OF REPRESENTATIVES

48TH LEGISLATURE

ATTENDANCE

DATE: Jan. 26, 1983

ROOM: 224A

	PRESENT	ABSENT	OTHER
VINCENT, John - Chairman	P		
SCHYE, Ted - Vice-Chairman	P		
ASAY, Tom	P		
DARKO, Paula	P		
FABREGA, Jay	P		
FAGG, Harrison	P		
HANSEN, Stella Jean	P		
HARPER, Hal		A	
HARRINGTON, Dan	P		
METCALF, Jerry	P		
NEUMAN, Ted	P		
RAMIREZ, Jack	P		
VINGER, Orren	P		

MINUTES OF THE SELECT  
COMMITTEE ON ECONOMIC DEVELOPMENT

January 26, 1981

The first meeting of the Select Committee on Economic Development was called to order by Chairman John Vincent at 7:03 in room 224A of the Capitol Building, Helena, Montana on January 26, 1983.

Roll call was taken and all members were present with the exception of Representative Hal Harper.

Representative Vincent opened the meeting, explaining that there would be two segments of the meeting - (1) to consider the hiring of a professional economist to help the committee through the deliberations and (2) to hear testimony on Representative Kitzelman's HJR 6 and Representative Fabrega's HB 70.

Representative Vincent gave a statement explaining his memo regarding the first half of the meeting. He stated that the committee has an opportunity to hire a trained economist, but he wanted to make it absolutely clear that this committee does not need to do this - that it is a decision for the committee to make. He further stated that if, after interviewing the two people that he had been able to find and if the committee decided to hire one of them, that they could certainly do it, but that the committee could decide first if they wanted to hire counsel. Then they could decide which one of the two people they interviewed that they would like to hold that position.

Representative Ramirez questioned whether the committee has the right to do that and explained that he was surprised that this was being done.

Representative Vincent replied that he believed that they do have the right and that he did not think there was anything in the rules that precluded them from doing this. He thought that there was money available in the feed bill for contract services that would enable them to do just this. He further stated that the actual contractual arrangements would have to be discussed by this committee and negotiated between the Speaker and the individual. He also said that he had been able to find nothing that precluded them from doing this. He emphasized that they are going to be dealing with extremely technical information and information that is very complex in nature.

Representative Fagg questioned whether any committee could request someone to come in, such as a doctor for Natural Resources or a taxation expert.

Representative Vincent replied that he did not really believe so; that you can never rule that possibility out, but he did not

feel that this was the case. He felt that a precedent becomes a precedent if you let it, in fact, become established. He felt that it could be made clear that they do not intend for this to set a precedent; and that this is, in fact, a select committee that has been specifically created to pay close attention and give close scrutiny to economic development issues. He said that it is special, and it is select, and given the very nature of the committee, a consultant is more than justified especially if the committee believes that to be the case.

Representative Fabrega noted that in 1979, there was a select committee appointed to look into some problems occurring with prisoners and that that committee did hire a legal consultant.

Representative Kemmis made a statement clarifying whether a committee on its own and, without approval, could proceed to hire a consultant. He thought the answer would be no. He felt it would require the approval of the Speaker. He stated that there is money that has been budgeted, and although it does not appear in the feed bill, professional counseling is one of the categories there; and the total amount is about \$25,000.00. He further said that these things come up in strange ways under the budget, but that there certainly are precedents for hiring professional services. He explained that it would have to be approved by the Speaker in any event. He also declared that he would have no objection to having it submitted to the Legislative Administration Committee for their approval. He felt that if the contract was kept within reason, say not in excess of \$3,000.00, he would be inclined to approve.

Representative Vincent explained that he felt that larger financial institutions would have a direct interest in what this committee and this legislature will develop in I-95 and other economic development issues; and they have trained economists on staff or have access to them. He stated that it is only fair and right that the committee be staffed likewise so that the committee is not at a lost relative to having their own counsel.

#### INTERVIEWS OF APPLICANTS

Mr. Bruce Finnie gave background information as to his education, professional experience, recent research contracts, consulting clients and other pertinent information pertaining to his qualifications.

Representative Ramirez noted that the applicant had written "Capital Formation and Development Finance in Montana" in 1980

for the Governor and had some connection with Belvin-Daniels. He questioned as to whether Mr. Finnie would be predisposed to these programs before the committee ever gets the bills.

Mr. Finnie stated that he had no conflict of interest in his own mind and no bias one way or the other; and he felt that he was definitely independent.

Representative Ramirez questioned if the 1980 publication was a basis for the Governor's program - at least in part, and Mr. Finnie replied that it was written for a different administration and was under contract during the primary.

Representative Ramirez asked about the ideas in it and if they had been used in any way.

Mr. Finnie replied that the ideas in regard to umbrella bonding is part of the administration's plan, but he stated he spent very little time on the administration's plan. The ideas, he stated, also embodied the statement of need for equity capital in Montana. He said that Representative Fabrega's bill was of similar thought; some of the administration's proposals regarding tax credits are also of similar thought and that none of the ideas are novel - most of them have been practiced with varying success in other states.

Representative Ramirez questioned that if this was the case that none of these ideas are really novel and the Department of Commerce has looked into these things, do we really need a consultant.

Mr. Finnie stated that some of these issues are quite complicated and it would be wise to have the opinion of some people who have a background in these areas.

Representative Ramirez asked if the applicant would repeat to him what connection he had with Belvin-Daniels.

Mr. Finnie replied that it was as a subcontractor working on a task, resulting in a procedure to find the advantages of investing money in-state versus out-of-state.

Representative Ramirez questioned if this was in connection with I-95.

Mr. Finnie answered that it was related to I-95, because he doubted if the Department of Commerce would have contracted with Mr. Daniels in the absence of I-95.

Representative Ramirez then questioned if he was subcontracting from Mr. Daniels who was contacting from \_\_\_\_\_ . He also questioned what was his areas of function as a subcontractor.

Mr. Finnie replied that it was very specific - he was looking at bank criteria at the county level, attempting to determine if there were any unusual patterns, such as bond and assets growth at the county level, whether or not you can equate that to economic growth, and a variety of other things. The second task involved was developing a structure for assessing the best you can, the advantages to the state to increase income and employment opportunities and potential revenue increases associated with possessing funds in-state when practical versus funds out-of-state.

Representative Ramirez asked if his report to Mr. Daniels was included in his report to the Department of Commerce.

Mr. Finnie replied that it was, with editing from Daniels and Kerins. (?)

Representative Ramirez further stated that he would assume that because of his interest in this area that Mr. Finnie had read and studied the material that has been set forth by the Department of Commerce.

Mr. Finnie stated that he had received a copy sometime last week.

Representative Ramirez asked him if he felt he had any preconceived notions.

Mr. Finnie stated that he had none. He stated that his contracting, at least for the last year, has been more to the private - probably 60/40 - but he stated that he felt no particular attachment to anyone or idea. He explained that economists generally, except where there is almost a breach of code, do not represent party philosophy - they are essentially technicians although they do become involved in policy issues.

Representative Ramirez stated that he would assume that in his profession he would be familiar with other people in the state of Montana who do similar work or who have similar expertise; and questioned if there were other people beside himself and Mr. Peres who are economists and who would have similar expertise.

Mr. Finnie stated that there are several firms - that there is a fairly good-sized firm in Billings called Mountain States Research; there is Cap, Inc., in Bozeman, primarily involved in

aeronautics; there is Western Analysis; and he was sure there was a variety of consultants within the university system.

Representative Ramirez wondered if he felt that they would have similar expertise with his and Mr. Finnie replied that he thought that would depend entirely upon the person.

Representative Vincent asked Mr. Finnie what he perceived his ability is to take the kind of complex things that the committee is going to be looking at and relate that to the others on the committee, who do not have a great deal of expertise. He explained that he knows that it is very technical, but it is going to be important that the committee understand it and know what the bottom line is. He requested that Mr. Finnie comment relative to the kind of job that he felt he could do.

Mr. Finnie stated that he felt it was reasonable to say that he could take the essence of a piece of legislation and reduce it to something that is more understandable than the legislation itself. He reiterated that his approach, should he be chosen for this job, would be to condense all aspects of the issue to the essentials, to write brief memorandums pertaining to the pros and cons of the issues: he would be willing to offer his opinion as to his positions; and, as he said before, economists are generally not in the same position as attorneys - they are more in the same situation as accountants and engineers. He declared that he would also be prepared to make presentations again reducing somewhat complicated ideas to ideas which are more easily digested by people who are not specifically familiar with this area.

Representative Vincent stated that if the hearing of last Saturday was any indication (wherein during that hearing, they heard about twenty individuals regarding I-95 and economic development), he felt that it seemed pretty clear to him that much of the legislation that is being introduced is not going to be considered a gift; it is not going to be accepted at face value; virtually every piece of it will come under close scrutiny by a lot of different people - from private citizens, who have an interest in this, to small businessmen, to potential entrepreneurs, to people from all walks of life - and that they will be offering suggestions for amendments to every piece of legislation that we are going to consider and when that happens, he felt that it was going to be important for this committee to look at what we have in legislation - that there will be suggestions for offering amendments to every piece of legislation - and when that happens, it will be important for this committee to be able to

look at what we have. He explained that there will be suggestions for amendments that may or may not be in shape to include in the legislation - that it might be a concept - and have Mr. Finnie do a comparison for the committee and give us an objective analysis. He requested that Mr. Finnie address this in regard to what he thought his abilities were.

Mr. Finnie replied that in taking a large amount of paper, condensing it, making presentations so that everyone involved has an understanding of the issues, he felt he would have this ability.

Representative Vincent commented that it was difficult to say - someone might just stand up and say that it is their understanding that this provision of the bill does this and they might not want it to do that and offer just a new concept or objective. They could come in at that point and actually offer amendatory language that is very tightly drawn and very specific. He inquired if Mr. Finnie perceived if he had the ability to access either kind of situation.

Mr. Finnie stated that he believed that he would be able to handle that quite well.

Representative Vincent explained that he felt that this was going to be very important to them, because everybody involved in this process has emphasized that because the initiative is essentially an act of the people that a lot of people will want to have access to the committee to give us their ideas. He exclaimed that it was very important to him that (1) they be given that opportunity to do so and (2) that they are able to assess what they have to say. He said that they might not be coming here as economists and not as people with a lot of expertise in some of these areas, but just people with legitimate concerns, interests and objectives that they will not be able to express in economic terms. He exclaimed that he wanted to make it clear that not only do we accomodate them but that we have the expertise to take what they say and turn it into the kind of format that we need to make a choice.

Mr. Finnie replied that he felt that he had both the background in terms of education and hands-on experience, throughout the last decade, in those areas to be of value to the committee, particularly in terms of seeing the things before that have not worked.

Representative Marks asked the applicant if he had an idea of what the meaning of I+95 is.

Mr. Finnie replied that in terms of general philosophy, he felt he could address that. He felt that in his own mind there is a definite need, not just within Montana but throughout the country, to stimulate investment. He explained that, in this country, we tend to save far less; consequently, we invest far less and \_\_\_\_\_ activity is far less, resulting in high inflation, high unemployment and all sorts of problems in both the private sector and in public. He felt that it was difficult to see what will emerge during the session, but as he sees it, the goal is to make it easier for businesses around the state to meet that need; and he felt that this did not necessarily make it in conflict with the banking industry because they probably need the cooperation and participation of the banking industry in any state program. He further expanded his statement saying that people have tended to look at Montana and the state of Montana as capital short; there are a variety of reasons for a state being capital short; his own feeling is that when interest rates are high, this is regarded as a capital shortage, which makes it difficult in the marketplace, when interest rates are high elsewhere as well. He felt that one problem that Montana has versus the rest of the nation is that there is a very undeveloped venture capital base in Montana. He further explained that the reason businesses are not getting the loans that they want is because they are under the collateral market. He declared that if it is possible to help business out in those early growth years, then the state may see the type of development that many other states have seen.

Representative Marks questioned that in regard to development of venture capital, would Mr. Finnie concede the idea that Montana should revolve state funds as venture capital as being realistic and practical.

Mr. Finnie replied that if there were private money involved, it is a good idea; but if it was all public money, he would be much opposed to that. He felt that if there was a way to generate an interest in developing private venture capital through tax credits and other measures; and, if we are assuming at least 50 per cent of it and not more, then we may create that sort of investment pool and skilled financial staff that is very much lacking here to aid certain types of businesses.

Representative Ramirez asked Mr. Finnie if he had a copy of the 1980 "Capital Formation and Development Finance in Montana" as he would like to see it as an example of his work, and also the work he had done for Belvin-Daniels, or anything else that



he thought might be representative or might relate directly or indirectly to the subject.

Mr. Finnie stated that he would have copies delivered tomorrow morning.

Kenneth Robert Peres gave his background information, employment background, teaching experience, practical experience, and qualifications.

Representative Fagg stated that the applicant seemed to have strong political bias and he wondered if he could evaluate issues on a non-political basis and present them to the group.

Mr. Peres stated that he is a professional and in terms of his role on this committee, it would be to definitely point out the options and it would be almost unethical, he believed, for the economist to put in biases in terms of any program. He stated that the committee was elected by their constituencies and that it is their role to make the decisions. He felt that it was the role of the consultant to more or less 'set the table' so that the committee doesn't have to learn the entire purpose of economic doctrine. He said that he felt that the role of the consultant would be as a researcher; and in terms of his resume and biases, he interpreted it a different way as having a wide range and wide array of experience. He explained that he had worked with bankers, financiers, manufacturers, small business people as well as state and federal officials; and an example of that was his participation on the Governor's Temporary Committee on Development Finance, where he worked with people with various backgrounds and came to a common understanding.

Representative Ramirez said he understood that Mr. Peres was on the Governor's Committee on Government Finance and he wondered how he got on that committee - did the Governor appoint him.

Mr. Peres stated that he didn't know who in particular appointed him, but he thought the reasons were his experience in economic development, also his ability to crystalize issues and explain concepts and offer options.

Representative Ramirez said that he believed that Mr. Peres made mention that he was on the I-95 subcommittee and he wondered if he felt that part of his role was to make recommendations to the Governor as to what programs he should adopt and how he should proceed with his 'Build-Montana' package.

Mr. Peres answered that the role he saw himself in was one of generating options to be considered by the committee as a whole. He felt that the group could come to some understanding and choice of options. He said that in economic development, from his experience, he felt that it was important that no one interest have the total floor or the monopoly on what options are available. He stated that for economic development programs to succeed, as he has seen from his experience, a whole array of groups have to be represented and have input into the concepts.

Representative Ramirez said that he understood that Mr. Peres was a voting member of the committee in making recommendations, so that he did more than just present options, that he would actually vote on the ones that he preferred over the others and he wondered if this was a fair statement.

Mr. Peres answered in the affirmative.

Representative Ramirez asked if he could tell him a little bit about the New School for Social Research.

Mr. Peres answered that it was a graduate faculty that was begun in the early 1930s, basically for exiles from Europe. He explained that the tradition in which he studied economics was the European tradition where he learned many different perspectives. He further stated that usually economics is taught as this is the way to see things and this is what the economist does; it is one basic model. He stated that he had teachers with a vast realm of different models from very, very conservative to very liberal so he got a broad, classical education; and also that education has been very important in that he is able to look at different options from different perspectives. He cited an example of when he was teaching at the University, he was teaching a course or assigned to a course on income distribution and, instead of theory that is dry, he applied income distribution theory to Reaganomics and did it from three very different perspectives so that the students understood that there were different perspectives, different assumptions and different ramifications that come from each different view.

Representative Ramirez commented that he noted in some of his publications that Mr. Peres indicated that he made a presentation at the Economic Development Panel of the Boulder Conference on Economic Development, called "Three Strategies for the Development of Montana's Economy" and he requested that Mr. Peres tell them about that conference and the three strategies that were the subject of his paper.

Mr. Peres replied that he could not say that much about the conference - that he was asked to speak there and what groups were there, he did not know. He doesn't remember too well. He said that the three strategies dealt with local development primarily and could be expanded to the state. He stated that the three strategies were searching out outside appropriations to come into a particular area (what is required for that, what are the pre-conditions, what do you have to look for); the second strategy was developing small businesses within the locality ( what is required, what are some of the problems that arise, what are the ramifications); and the third was developing local resources or state resources for local and export markets (again, looking at what are the pre-conditions, what are the problems and what are the ramifications).

Representative Ramirez asked him if he had any writings in that presentation and Mr. Peres said he just had notes.

Representative Ramirez questioned if he made any recommendations on his presentation or was it purely giving options and Mr. Peres replied that it was purely giving options.

Representative Ramirez questioned Mr. Peres as to whether he had any publications for the committee to look at and he replied that the one underlined "Federal Assistance to Community Development Corporations:" was basically his work and he could get him a copy of that. He stated that he normally prepares only notes and gives oral presentations. Representative Ramirez requested copies of whatever notes or publications he might have.

Representative Vincent stated that the committee was going to have a lot of people before this committee that are in some cases just generally interested in what we are doing and might have concepts that they would like to have pursued and analyzed and possibly developed and implemented into legislation, but may not be able to present them in the kind of technical language that needs to be converted into and he wondered what Mr. Peres felt his capabilities were in something like that - in taking a general concept or objective that someone might have and converting that into laymans' terms.

Mr. Peres said that he could not vouch for legal writing and how to put something in a form that would make legal sense, but in terms of economics that that is what he is trained in as a teacher and that he has had great experience in that.

Representative Vincent stated that one of the primary services that this committee really needs is to take material that is very complex and intricate in nature and boil it down for us so that it is understandable as to exactly what it does.

Mr. Peres said that his strength, as he sees it, are just that - to be able to crystalize issues and options into their basic components.

Representative Fagg questioned the applicant as to whether he would be available tomorrow on a one-to-one basis.

The applicant answered in the affirmative.

Representative Fagg wondered if he had been in business for himself or consulting for other agencies.

Mr. Peres replied that it was mostly to tribes, government agencies, independent consulting firms, and connected with a range from associations, corporations, financial packaging, and some marketing. He said he had spend hundreds and hundreds of hours over financial packages, financial plans, strategies, technical and operational plans and marketing strategies for specific businesses.

Representative Fagg questioned if he had his own consulting business and Mr. Peres replied that he was an independent.

Representative Marks questioned the applicant as to his opinion of I-95.

Mr. Peres stated that relative to this position, he would leave the matter of I-95 to the representatives. He exclaimed that it was a very difficult question and that he felt that it was important that a consultant not put personal biases in. He said what he could do was give a range of options, how it could be interpreted, and what the ramifications of each interpretation might be.

Representative Marks questioned as to whether he felt that the state of Montana should use some of the state funds for venture capital.

Mr. Peres said his response would be similar-that there are different views on using money that comes from a trust fund for venture capital development - there is a view that it is not prudent and the ramifications of that; there is a view that, if done in a prudent manner at a small level of the whole portfolio as has been recommended in other places; and, on the other hand, there are some who say it is quite alright. He reiterated that he felt that what his role would be would be to map out the rami-

fications and the mechanisms for each so that the committee itself could judge.

Representative Vincent explained that the two men that were interviewed tonight were there on his initiative; that he felt that it was only fair and only right that if any other member of the committee knows of another individual, another professional economist, that they think is qualified, that they should have the opportunity to talk to this committee relative to filling this role, that they be afforded this opportunity. He emphasized that he would caution them that time is short and that they don't have a great deal of time to accommodate that, but he felt that they do have enough time as it would be a little over a week before they get into that body of bills that are generally dealing with I-95 implementation and the other big economic development issues. He stated that he would entertain from any member of the committee a suggestion as to another individual that may be interested and ought to be interviewed by the committee.

Representative Vinger said that his concern was that they only received this letter two days ago; Representative Vincent has been working on this thing for two or three weeks; and he questioned why their leadership was not consulted as to the fact that they were thinking about getting someone so they could have a couple here tonight.

Representative Vincent answered that he felt it was fair to say that he had been thinking about this possibility for that period of time, but he didn't think it was fair to say that he had made the necessary arrangements or contacts to these individuals and arranged for them to be here. He said that it is a difficult environment here and he felt that he had done the best that he could. He stated that this is only the first step and he offered the opportunity for others to be considered. He further stated that had he decided that he wanted to present an opportunity to the committee to hire a consultant two or three weeks ago, he didn't see why he couldn't have done it; and he felt that he would have.

He further emphasized to the committee that they are going to have to act rather quickly and he urged expediency on everyone's part, if they want to interview someone else. He stated that they need to reach two decision soon - whether or not to hire a consultant; and, if so, who it is going to be.

Representative Ramirez questioned what the deadline is and Representative Vincent stated that he did not want to set a hard-and-fast deadline. He said that he could not remember the exact day and hour that he made contact with these individuals and told them that he wanted them to be here for interviews; but he thought it was Friday or Saturday of last week; and he realized that time

is short, but that can't be prevented. He asked everybody to use their best judgment and try to do whatever they could as quickly as they could to help the committee come to a decision.

Mr. Peres stated that if anyone wanted to speak to him tomorrow, he would be happy to answer any questions they have.

Representative Fabrega asked if the committee decided to hire an economist, how could a contract be negotiated without knowing how many hours would be involved or would it be on a flexible basis.

Representative Vincent stated that the Speaker and he had determined that there should be caps involved - resources are limited and he thought that the Speaker had already indicated that \$3,000.00 would be the maximum amount that he would consider. He said just what that meant relative to the contractual arrangements and the number of hours worked, he was unsure. He further stated that consultants of this type can charge as much as \$30.00 to \$50.00 an hour; and he thought that in a brief conversation with Mr. Peres, that he talked in terms of more like \$20.00 to \$25.00 an hour; but the terms would be negotiable. He thought that, given the structure they were working in, they could entrust that to the opinion of the committee, but also, the final decision would rest with the Speaker as the chief presiding officer of the House.

The portion of the hearing on the interviews was closed at this time.

#### HOUSE JOINT RESOLUTION 6

Representative Kitselman gave a brief history of the resolution and an explanation of its contents.

Forrest Boles, President of the Montana Chamber of Commerce, stated that they have supported this concept for some time and they felt this resolution would increase the importance of the understanding of economics.

Mr. Dave G. Goss representing the Billings Chamber of Commerce also gave a statement in support of this bill.

Mike Fitzgerald, representing the Montana Trade Commission, offered a statement in support of this resolution.

There were no opponents.

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Representative Hanson questioned Representative Kitselman about whether there were courses being offered in high school now and he replied in the affirmative.

Representative Vincent pointed out some language that he felt should be changed and the hearing on this resolution was closed.

#### HOUSE BILL 70

Representative Fabrega, District 44, explained the bill and stated that this would give a credit of 35 per cent against the income tax for individuals or corporations making an investment in a system that produces electricity from non-fossil fuel and he stated that the credit would be for four years after finishing the project.

Ed Stern, Community Development Director for the City of Livingston, gave information in developing energy from the wind and submitted some handouts. (See Exhibit A, A-1, and B.)

Jim McNairy, representing Alternative Energy Resources Organization, suggested some changes he felt should be made in the bill, such as dropping the \$50,000.00. He offered prepared testimony. (See Exhibit C.)

John Driscoll, representing Montana PUC, rose in support of this bill. (See Exhibit D.)

Bob Olson, representing Evertech Corporation, has an electrical contracting business and stated that they are investigating the feasibility of specific areas for present and future wind generation and that a tax credit would be the push needed to get them started.

Representative Dave Brown, District 83, Silver Bow County, testified that he was representing the Environmental Quality Council, Multi-Tech, Inc. of Butte and himself and he declared that he was strongly in favor of this bill.

Randall Tinkerman, representing American Energy Projects, Inc., stated that there were many mistakes that had been made in California and he gave testimony and information in support of this bill.

John Derry, representing the Blackfoot Electric, stated he is connected with sales and service of wind electric equipment, and he commented on the possibility of small wind generators producing electricity for farms and ranches.

Tom Harpole from Avon, who is a logger, gave a statement, supporting this bill and said that he was interested in producing wind energy himself.

Whitney Hibbard from the Sieben Livestock Company told the committee that they had put in a wind generating system and then done an alternative energy feasibility study and found that it was not economically feasible at this time. He stated that you would have to be in the 50 per cent tax bracket for it to be economically feasible.

Representative Yardley from District 74 gave a brief statement and said that he supported the concept.

Don Reed, representing the Montana Environmental Information Center, testified in favor of the bill. (See Exhibit E). He also gave the committee a chart showing corporate tax credits for energy conservation and renewable energy systems listed by state. (See Exhibit F.)

Wade Wilkison, representing the Montana Solar Energy Industries Association, also gave testimony in support of this bill.

There were no further proponents.

Sheila Rice, an employee of the Great Falls Gas Company, voiced concern that in limiting this to wind generation, that it would be at the expense of conservation and she felt that the most effective way was through conservation.

Dan Bucks, Deputy Director of the Department of Revenue, stated that he was here to provide information on fiscal effects on this particular bill. He submitted to the committee a memorandum from Ellen Feaver, Director of the Department of Revenue. (See Exhibit G.) He stated that he could not predict what it would cost and he believed that there are ways that possibly a credit could be granted that would involve giving a credit against new income and new investment in the state.

Representative Vincent questioned Mr. Bucks stating that his comments relative to new investment and how to proceed would



preclude a lot of people who have testified today.

Mr. Buck responded, explaining how credit could be claimed against taxes to income generated from sales that come from wind mills as a power source.

Representative Ramirez asked the question if we use this credit for economic development, then it is going to cost the state.

Representative Ramirez asked Mr. Tinkerman how long he would be around and where could the committee reach him.

Mr. Tinkerman stated that he would be glad to help the committee and commented on some of the problems they have had in California and hopefully he could help the committee so that some of these problems could be eliminated.

Representative Metcalf questioned Mr. Tinkerman as to whether this has been a benefit to the state or a loss.

Mr. Tinkerman responded that it depended on whether you considered short-term or long-term goals. He further expanded on this remark.

Representative Metcalf said that he had a hard time understanding the state is losing money by giving this tax credit.

Representative Fabrega made a closing statement and Representative Vincent appointed a subcommittee consisting of Representative Metcalf, Chairman, Representative Schye and Representative Fabrega.

The hearing on House Bill 70 was closed.

#### EXECUTIVE SESSION

#### DISPOSTION OF HOUSE JOINT RESOLUTION 6

Representative Ramirez moved that the bill be amended on line 9 of the title by striking "offer" and inserting "encourage the offering of" and the same amendment on page 2, line 2. The motion carried unanimously.

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Representative Ramirez made a motion that the bill DO PASS,  
AS AMENDED. The motion carried unanimously.

The meeting adjourned at 10:19 p.m.

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Representative John Vincent,  
Chairman

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Alice Omang  
Secretary

HOUSE BILL NO. 70

INTRODUCED BY

FABREGA

*J. Fabrega*

1 A BILL FOR AN ACT ENTITLED: "AN ACT TO PROVIDE A CREDIT  
 2 AGAINST INDIVIDUAL OR CORPORATE INCOME TAX LIABILITY FOR  
 3 CAPITAL EXPENDITURES FOR COMMERCIAL SYSTEMS UTILIZING  
 4 RECOGNIZED NONFOSSIL FORMS OF ENERGY GENERATION; PROVIDING  
 5 FOR LIMITATION OF AND CARRYOVER OF THE CREDIT; AND PROVIDING  
 6 AN IMMEDIATE EFFECTIVE DATE."

7 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MONTANA:

8 Section 1. Commercial investment credit -- recognized  
 9 nonfossil forms of energy generation. (1) An individual or  
 10 corporate taxpayer who makes a capital investment in a  
 11 commercial system costing \$50,000 or more located in  
 12 Montana, utilizing recognized nonfossil forms of energy  
 13 generation, as defined in 15-32-102, is entitled to claim a  
 14 tax credit, in an amount equal to 35% of the eligible costs,  
 15 to be taken against the income tax liability imposed upon  
 16 the taxpayer pursuant to Title 15, chapters 30 and 31.

17 (2) For the purposes of determining the amount of the  
 18 tax credit that may be claimed pursuant to subsection (1),  
 19 eligible costs include those associated with the design,  
 20 engineering, acquisition, installation, or upgrading of  
 21 collection equipment, substations, transmission and

22 distribution equipment, safety devices, energy storage  
 23 components, or transmission lines, reduced by the amount of  
 24 any grant provided by the state or federal government for  
 25 such system.

26 Section 2. Limitation on credit. To the extent that an  
 27 investment credit for a system utilizing recognized  
 28 nonfossil forms of energy generation is allowed by section  
 29 48(1) of the Internal Revenue Code, the state credit allowed  
 30 by [section 1] shall be reduced so that the combined  
 31 effective credit does not exceed 60% of the eligible costs,  
 32 notwithstanding the carryover provisions of [section 3].

33 Section 3. Carryover of credit. The tax credit allowed  
 34 under [section 1] is to be deducted from the taxpayer's  
 35 income tax liability for the taxable year in which the  
 36 equipment invested in by the taxpayer is placed in service.  
 37 If the amount of the tax credit exceeds the taxpayer's  
 38 income tax liability for the taxable year, the amount that  
 39 exceeds the tax liability may be carried over for credit  
 40 against the taxpayer's income tax liability in the next  
 41 succeeding taxable year or years until the total amount of  
 42 the tax credit has been deducted from tax liability.  
 43 However, no tax credit may be carried over for deduction  
 44 after the fourth taxable year succeeding the taxable year in  
 45 which the equipment was placed in service.

46 Section 4. Effective date. This act is effective on

INTRODUCED BILL

-2-

HB 70

*House* JOINT RESOLUTION NO. 6  
INTRODUCED BY *Sibelmon Dinkins*

BY REQUEST OF THE JOINT SUBCOMMITTEE ON BUSINESS

1 A JOINT RESOLUTION OF THE SENATE AND THE HOUSE OF  
 2 REPRESENTATIVES OF THE STATE OF MONTANA ENCOURAGING THE  
 3 SUPERINTENDENT OF PUBLIC INSTRUCTION AND THE COMMISSIONER OF  
 4 HIGHER EDUCATION TO DEVELOP AND EXPAND ECONOMICS PROGRAMS  
 5 AND TO OFFER *encourage offering* MORE ECONOMICS COURSES IN MONTANA'S HIGH  
 6 SCHOOLS, COLLEGES, AND UNIVERSITIES.

7 WHEREAS, it is important for all Montanans to understand the free enterprise system;

8 WHEREAS, an understanding of the free enterprise system will lead to an understanding of the importance of jobs in the economy; and

9 WHEREAS, a healthy economy is important to the people of Montana; and

10 WHEREAS, university officials have indicated that freshmen entering Montana's colleges and universities have a lack of understanding in basic economics.

11 NOW, THEREFORE, BE IT RESOLVED BY THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE STATE OF MONTANA:

12 That the Superintendent of Public Instruction and the

1 Commissioner of Higher Education are encouraged to develop  
 2 and expand economics programs and to offer *encourage offering* more economics  
 3 courses in Montana's high schools, colleges, and  
 4 universities.

-End-

*HR 6*

# STANDING COMMITTEE REPORT

.....January 27,..... 19 83.....

MR. **SPEAKER:**.....

**select**

We, you  committee on..... **ECONOMIC DEVELOPMENT**.....

having had under consideration..... **HOUSE JOINT RESOLUTION**..... Bill No. **6**.....

First..... reading copy ( white )  
color

**A JOINT RESOLUTION OF THE SENATE AND THE HOUSE OF REPRESENTATIVES  
OF THE STATE OF MONTANA ENCOURAGING THE SUPERINTENDENT OF PUBLIC  
INSTRUCTION AND THE COMMISSIONER OF HIGHER EDUCATION TO DEVELOP  
AND EXPAND ECONOMICS PROGRAMS AND TO OFFER MORE ECONOMICS COURSES  
IN MONTANA'S HIGH SCHOOLS, COLLEGES, AND UNIVERSITIES.**

Respectfully report as follows: That..... **HOUSE JOINT RESOLUTION**..... Bill No. **6**.....

**first reading copy, be amended as follows:**

1. Title, line 9  
Following: "TO"  
Strike: "OFFER"  
Insert: "ENCOURAGE THE OFFERING OF"
2. Page 2, line 2  
Following: "to"  
Strike: "offer"  
Insert: "encourage the offering of"

**AND AS AMENDED**

DO PASS.

STATE OF MONTANA

REQUEST NO. 045-83

FISCAL NOTE

Form BD-15

In compliance with a written request received January 6, , 19 83 , there is hereby submitted a Fiscal Note for House Bill 70 pursuant to Title 5, Chapter 4, Part 2 of the Montana Code Annotated (MCA).

Background information used in developing this Fiscal Note is available from the Office of Budget and Program Planning, to members of the Legislature upon request.

DESCRIPTION OF PROPOSED LEGISLATION:

House Bill 70 provides a credit against individual or corporate income tax liability for capital expenditures for commercial systems utilizing recognized nonfossil forms of energy generation. Provides for limitation of and carryover for the credit; and provides an immediate effective date.

FISCAL IMPACT:

No estimate is possible at this time. The fiscal impact will depend on the dollar value of future investment and the entities making the investments.

The department feels the proposal could result in a significant decline in revenues initially since the incentives created by the bill are strongest for limited partnerships of high tax liability Montanans. For example \$396M of investments have been proposed for wind generating facilities in Park County alone. At this level of investment, \$138.6M of credits would be available to offset state tax liabilities. This level of investment may not actually occur, however, but it does illustrate the potential impact. California officials will be consulted in an attempt to provide a realistic estimate.

Assuming additional investments are not made in a given facility after the credits are exhausted and taxable income is produced, revenues would increase in the long run relative to levels without the investment.


EFFECT ON COUNTY OR OTHER LOCAL REVENUE:

The proposal, by influencing development, could add to the property tax base of the counties where the facilities are located. No estimate is possible, however.

TECHNICAL NOTE:

It is not clear that the bill limits the credit to investments in new facilities. With the existing wording, investments by new parties in existing facilities may qualify.

FISCAL NOTE 2:K/1



BUDGET DIRECTOR

Office of Budget and Program Planning

Date: 1-10-83

NAME	ADDRESS	REPRESENTING	FAVOR / UPMS
Bob Wilson	101st Hwy 12 W Helena,	EVERTECH (CORP.)	FAVOR
Whitney Hubbard	Robert Livestock Co	same (individual - small business)	FAVOR
Tom Harpole	Avon 59713	myself	FAVOR
RANDALL TINKERMAN	5 PALO ALTO SQ PALO ALTO, CA 94304 94133	AMERICAN ENERGY PROJECTS INC.	FAVOR
Jan Derry	P.O. 1010	Blackfoot Electric	Favor
Jim Mc Rainy	324 Fuller, Suite C-4	AERO	Favor
Don Reed	P.O. Box 1184 Helena	MEIC	Favor



**UNITED  
TECHNOLOGIES  
HAMILTON  
STANDARD**

Windsor Locks, Connecticut 06096  
203/623-1621

Mail Stop 1-3-8

January 21, 1983

Mr. Ed Stern  
Community Development Director  
City of Livingston  
414 East Callender  
Livingston, Montana 59047

Dear Ed:

Enclosed are the two slides you requested. Hope you find them useful for the "cause".

Reflecting on my trip last week, I believe significant progress was made towards creating wind farms of large turbines and the industrial base for support in Montana. The tax credit is a potential incentive to aid the difficult economic picture of a new industry such as this. Please keep me apprised of its progress and any support which I might provide.

I enjoyed the evening at Chico. It proved to be just the cure needed after a long, but productive, week.

Very truly yours,

HAMILTON STANDARD

George G. Walker  
Sales Engineer  
Wind Energy Systems

GGW:jlt

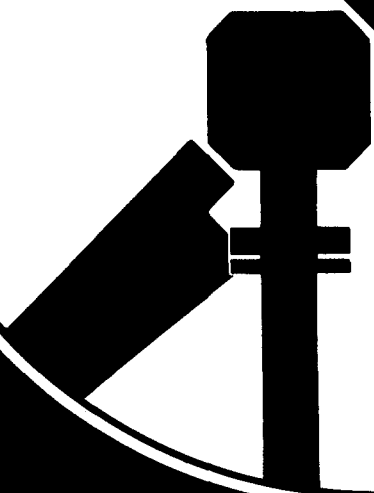
Enclosure

F-1 L + A



**HAMILTON  
STANDARD**

*Wind  
Turbines*



# World's most powerful wind turbine

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 1,500 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 came to pass 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 clouds. The train tracks still carry a heavy volume of freight from Chicago to the West Coast.



## 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 ranging from jet engines to air conditioners, elevators and helicopters.

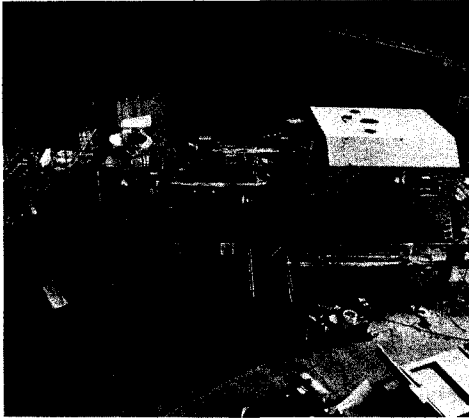
Hamilton Standard, headquartered

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

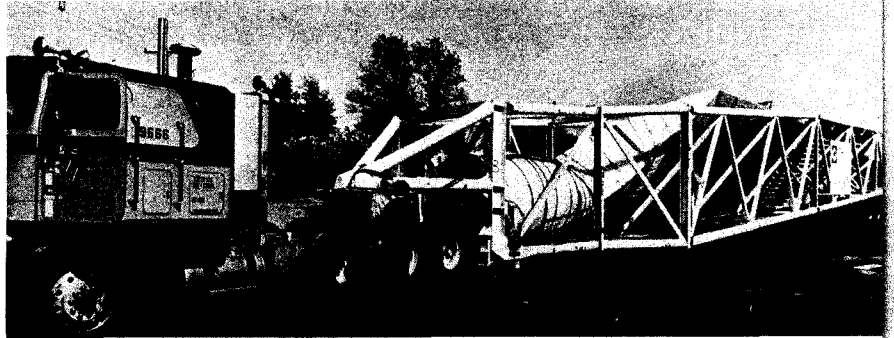
For its first 30 years, Hamilton Standard made only one product -- propellers. Now, it also designs and produces sophisticated control systems for virtually every aircraft in service today. It also makes products for automotive and industrial markets and the nation's space program.



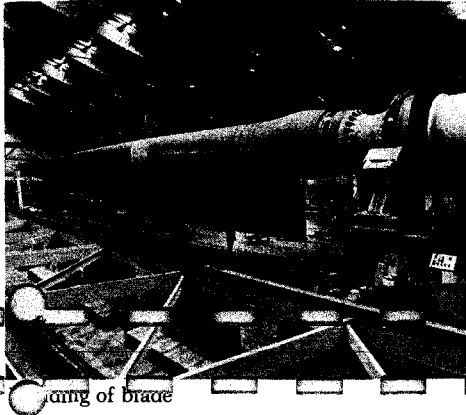
# The making of a wind turbine: A major



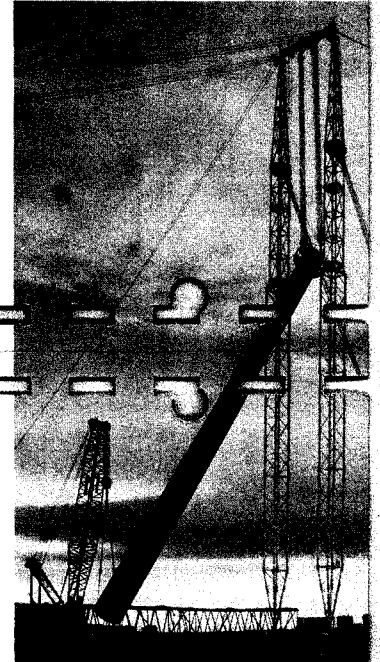
Building of nacelle



Shipping of blade



Hoisting of blade



Erecting turbine tower

The United Technologies Hamilton Standard division in Middletown, Bow, Wyo., bears as little resemblance to wind machines of yesteryear as today's 747 jetliner does to Charles Lindbergh's "Spirit of St. Louis."

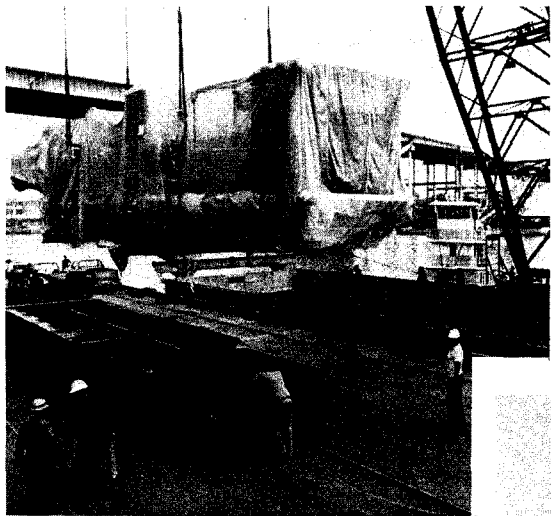
While building an old-fashioned windmill to pump water or produce a small amount of electricity for a farm was a relatively simple task, erecting a technologically complex, utility-size wind energy system is a major engineering accomplishment.



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.

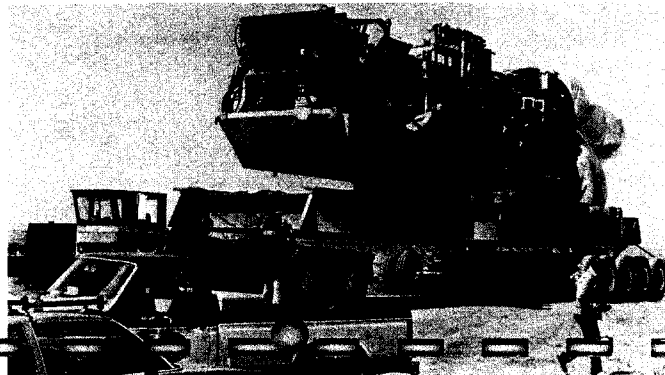
# r engineering accomplishment



Unloading 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 Swedyards, 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.



Hoisting of wind turbine



# History of wind energy

While there has never been anything to match Hamilton Standard's wind turbine in Medicine Bow, Wy., people have been putting nature's breezes to work for thousands of years.

In fact, wind was man's primary source of energy before the Industrial Revolution of the 19th century.

The wind was used to grind grain, to pump water and to produce paper.

And wind provided an important means of transportation, propelling ships, such as the ones that discovered the New World, to all corners of the globe.

In the United States, wind machines were used to pump water for crop irrigation and to provide electricity for people living in rural areas. With the expansion of electric power grids and the discovery of cheap petroleum fuels, however, most windmills were shut down.

Wind is actually a second-hand form of solar energy.

Wind is created when the sun warms the land and the air above it. This hot air rises and cooler air rushes in to replace it, producing everything from gentle breezes to fierce gusts.

The geographical makeup of an area affects wind patterns.

The town of Medicine Bow, for instance, is located within a C-shaped basin formed by the Laramie, Medicine Bow, and Shirley Mountain ranges. This basin helps propel the howling westerly winds that make the area an ideal spot for large-scale wind turbines.



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This report on the United Technologies Hamilton Standard division wind energy program was prepared by the Communications Department and Wind Energy Systems.

Additional information is available from the Communications Department, Mail Stop 1-2-10, Windsor Locks, Ct., 06096.

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# HAMILTON STANDARD WTS-4 4 MEGAWATT WIND TURBINE SPECIFICATIONS

## Rotor

Number of blades .....2  
 Diameter .....256 feet  
 Material ..... fiberglass (with steel retention elements)  
 Speed, rpm .....30  
 Rotation direction counterclockwise(looking up wind)  
 Location, relative to tower ..... downwind  
 Type of hub ..... teetered  
 Method of power regulation ..... variable pitch  
 Cone angle .....6°  
 Tilt angle .....0°

## Blade

Length (total) .....125 feet  
 Weight .....30,000 pounds

## Tower

Type ..... steel shell  
 Tower diameter:  
     at the base .....12 feet  
 Tower material ..... tubular steel  
 Ground clearance .....133 feet  
 Hub height .....262 feet  
 Access ..... internal tower elevator

## Transmission

Type ..... planetary  
 Ratio .....60:1  
 Input speed .....30 rpm  
 Output speed .....1800 rpm

## Generator

Type ..... synchronous AC  
 Rating .....4000 kW  
 Power factor .....0.8  
 Voltage .....4160V  
 Speed .....1800 rpm  
 Frequency .....60Hz

## Orientation Drive

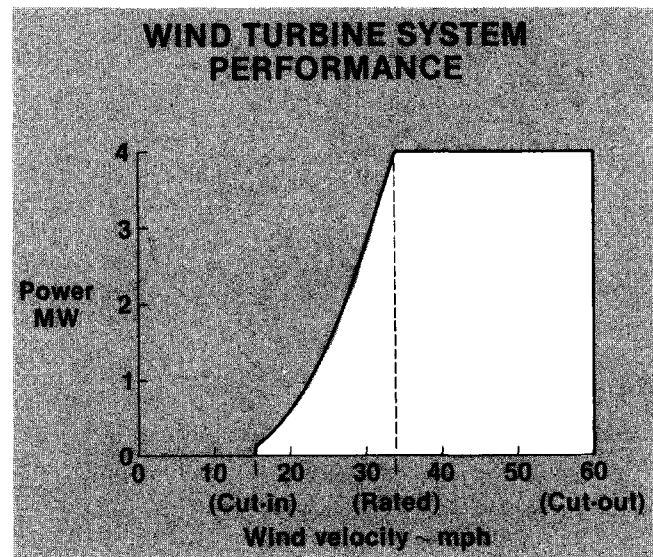
Type ..... free yaw

## Control System

Type ..... Electro-hydraulic  
 Control ..... Microprocessor  
 Pitch change mechanism ..... Hydraulic

## System Design Life

All components .....30 years





## Alternative Energy Resources Organization

424 Stapleton Building, Billings, Montana 59101

(406) 259-1958

324 Fuller, Suite C-4, Helena, Mt. 59601

443-7272

### PREPARED TESTIMONY ON HB 70

My name is Jim McNairy and I'm here tonight representing both the Alternative Energy Resources Organization, commonly known as AERO, and the Pondera Solar Alliance.

AERO and the Pondera Solar Alliance both believe that it is appropriate for the state to offer increased tax incentives for commercial energy generating systems. Our support for HB 70 is contingent, however, on the following changes that we think should be made in the bill. First, the \$50,000 investment threshold should be dropped. Second, in order to protect the state from possible large revenue losses if Montanans with large state tax liabilities use this credit as a tax shelter, we propose that a ceiling be placed on the amount of credits available from the state and <sup>CN</sup>the amount of individual and corporate credits that may be claimed for particular projects. Third, if the credit is made available to manufacturing facilities, firms that manufacture conservation products also be included.

There are two basic questions that need to be addressed concerning HB 70.

1. Are tax credits for commercial energy generating systems necessary? If so, what should be the level of state involvement?
2. What types of renewable energy investments do we want to be targeting with the tax credits?

Montana is blessed with a very good mix of renewable energy resources that can be utilized to help meet a portion of the state's energy needs. One of the keys to developing a long-term sustainable economy in Montana lies in making better use of these clean, renewable energy resources.

Montanans are currently very dependent on outside interests for the energy we consume. Although we produce and export coal, natural gas, and oil, we import 2/3's of the natural gas and petroleum products consumed in-state. Much of these imports come from Canada and the Middle East. By stimulating the further development of Montana's renewable resources, we can decrease our dependence on forces outside our control and also bolster local economies. Various studies conclude

*Exhibit C.*



that between 80-90% of the money spent on conventional energy sources is immediately exported out of local economies. Every dollar that is saved by consumers in reduced fuel bills means that more money is then available to be spent in the local economy.

As is the case with most emerging technologies, the initial cost of many renewable energy generating systems is unfortunately quite expensive. Montana is one of 27 states that have passed renewable energy tax credits. Montana's credit is minimal, however. Our maximum credit ceiling of \$125 per investment ranks us dead last among the 27 states. 20 of these states offer individual credits worth \$1000 or more.

AERO feels that the state will benefit in the coming years by increasing the tax credit for commercial generating systems. In a recent study done for the federal government, the consulting firm of Arthur D. Little, Inc. concluded that if the federal tax credit was raised from 40-75% the federal treasury would still come out ahead because of the increased revenues that would be generated. If Montana's credit is raised, it's not unreasonable to expect the same positive impacts to occur. A higher credit will result in more renewable energy businesses being established. A more attractive Montana market will in turn encourage plants that manufacture renewable products to locate in the state. The California Solar Council estimates that more than \$10 of taxable business is generated for every dollar the state spends on their renewable tax credits.

It is important for the Committee to be concerned with the type of renewable energy investments it is targeting with HB 70, however. The long-term market for commercial generating technologies in the state is in decentralized small-scale wind, hydro, and alcohol fuels for rural uses. The \$50,000 minimum investment threshold in the bill, however, is not geared to meet the needs of these small individual users. The investment threshold may also encourage price gouging. Manufacturers and retailers may end up raising the prices of their systems so that they may qualify for the credits.

The Department of Revenue has expressed concern that the bill as written may result in large amounts of Montana money being sheltered from state taxes in these commercial generating systems. We agree with this concern and propose that ceilings be written into the bill limiting both the total amount of state money available for the credits and the actual dollar amount of credit any individual or corporation may claim on a system or project. These ceilings should be arrived at in consultation with the Department.

In closing, AERO would like to reiterate its recommendations.

1. The \$50,000 minimum investment threshold should be dropped.
2. A ceiling should be placed on the amount of credits available from the state and on the amount of individual or corporate credits that may be claimed.
3. The credit should continue to apply to all forms of commercial renewable energy generation, not singling out any one technology for preferential treatment.
4. Any credit that is made available to manufacturers of renewable energy products should also apply to firms that produce conservation materials in the state. Conservation is the most cost-effective energy resource available to Montanans and it should receive any manufacturing incentives made available to other renewable technologies.

Thank you.

PUBLIC SERVICE COMMISSION

1227 Fifth Avenue • Helena, Montana 59601  
Telephone: (406) 449-3018

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

*Exhibit D*

"AN EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER"

District 2 Counties:

Big Horn  
Carbon

Carter  
Custer

Fallon  
Powder River

Rosebud  
Stillwater

Sweet Grass  
Treasure

Yellowstone

Gerard F. Bollinger, Chairman  
John A. Benson  
Howard L. Ellis  
Clyde 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

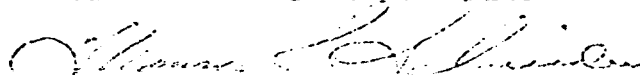
Page 2

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.

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.

# MIDU ruling could set rate precedent for Colstrip plants

By CHARLES S. JOHNSON  
Tribune Capitol Bureau

HELENA — A Helena district court has upheld a state Public Service Commission decision preventing Montana-Dakota Utilities Co. from passing on to consumers the costs of part of its investment in a North Dakota power plant.

The PSC determined in 1981 that 30 megawatts of the 80 megawatts of electricity MDU is obtaining from the Coyote I plant are unneeded "excess capacity" and shouldn't be paid for by ratepayers. The electricity is to serve MDU's 21,000 customers in eastern Montana.

That PSC ruling cost MDU about \$2.1 million a year in revenue raised from electricity rates in Montana.

MDU appealed the PSC order to district court, contending it amounted to an unconstitutional and illegal confiscation of the utility's property.

**BUT DISTRICT** Judge Gordon R. Bennett, Helena, affirmed the PSC order in a decision late last week. In a related decision in August, Bennett had turned down MDU's attempt to obtain an injunction to prevent the PSC order from being enforced.

Bennett ruled last week that the PSC decision both recognized and balanced the interest of both the utility and its ratepayers. MDU failed to meet its burden of proof to show that the PSC erred, he said.

"The utility must anticipate and be prepared for future service growth, but there must be a limit to the extent the ratepayer is forced to pay for future services," Bennett said.

The decision could establish a controversial precedent for utilities that could be next invoked when Montana Power Co. brings its share of Colstrip power plants 3 and 4 into its rate base in the next few years.

**IF THE PSC** should determine that some of Montana Power's share of the Colstrip electricity is unneeded excess capacity, it could disallow some of the company's investment in the twin 700-megawatt power plants. No such determination has been made yet, but Montana Power recently reduced its electric load

forecasts for Montana. The forecasts do include the Colstrip plants.

Montana Power owns 30 percent of the \$1.8 billion Colstrip power plants and transmission lines. PSC officials have predicted that Montana Power's electricity rates will double when Colstrip 3 and 4 are added to the utility's rate base.

MDU, meanwhile, is considering appealing Bennett's decision to the Montana Supreme Court, but no decision has been made yet, according to its Helena lawyer, John Aike.

**THE PSC HAD** originally determined that 40 megawatts of electricity from the Coyote I plant were not "used and useful" and thus didn't belong in MDU's rate base. The rate base is MDU's investments on which it is allowed the opportunity to earn a profit.

After MDU asked for reconsideration, the PSC revised its original ruling and disallowed 30 megawatts instead of 40.

MDU owns 20 percent of the 410-megawatt Coyote power plant.

In its original order, the PSC said: "There is no evidence that Coyote's excess capacity is needed to replace plants which are not operating during scheduled maintenance periods...Furthermore, there is no evidence that MDU's older plants will be retired in the near future because their repair is 'prohibitively expensive.'"

**AT THE TIME**, the PSC also noted that MDU is part of the Mid-Continent Area Power Pool, an association of utilities that had a combined overcapacity of 4,363 megawatts.

In its appeal, MDU argued that the PSC decision was unlawful, unreasonable, arbitrary and capricious.

But Bennett disagreed, saying he found no error in the PSC action.

MDU, he said, "failed to meet its burden of proving manifest errors with clear and convincing evidence." Bennett said the PSC record is replete with "ample supporting evidence" to support the disallowance.

The judge also said he found no illegal confiscation of property involved in this case.

Great Falls  
Tribune  
12-28-81

## APPENDIX B

### SUMMARY OF SPECIFIC DIRECTION IN COSTING

- All values are to be inflated/discounted to reflect constant contract year dollars.
- Inflation is to reflect industry specific, regionalized real cost indices.
- Discounting is to reflect standard (e.g. DRI) projections of national general inflation.
- Variables and formulae are defined and an example provided, below.

#### Definition of Variables

- $\lambda$  = system lambda<sup>1</sup> (¢/KWH)  
a = baseload capital cost<sup>2</sup> (\$/KW)  
b = combustion turbine capital cost<sup>3</sup> (\$/KW)  
c = baseload annual carrying charge<sup>4</sup> (%)  
d = combustion turbine carrying charge<sup>4</sup> (%)  
e = baseload fixed O&M<sup>5</sup> (\$/KW)  
f = combustion turbine fixed O&M<sup>5</sup> (\$/KW)  
g = line loss factor<sup>6</sup> (%)  
h = coal cost<sup>7</sup> (\$/ton)  
i = coal fuel content<sup>7</sup> (BTU/lb)  
j = baseload plant heat rate<sup>8</sup> (BTU/KWH)  
k = baseload variable O&M<sup>5</sup> (¢/KWH)  
cf = QF capacity factor<sup>9</sup> (KWH/KW)

1 Short run incremental energy cost via production modeling of economic dispatch. To include variable O&M and revenue requirement associated with working capital and fuel inventory.

2 Actual baseload capital cost estimates to be supported by actual engineering cost study. The capital cost estimates are to be exhaustive and detailed by component. Rather than list the components, the Commission refers you to Appendix A

of EPRI's "Coal-fired Power Plant Capital Cost Estimates" (Bechtel Power Corporation, May, 1981, report #EPRI PE-1865). Cost estimates will be reviewed with necessary adjustment made as deemed appropriate.

- 3 Actual combustion turbine capital cost estimate supported by actual engineering cost study, if available, or consistent with industry estimates. Treatment must be equally exhaustive and detailed by component.
- 4 Annual carrying charges supported by calculations of incremental cost of capital; 35 year book life assigned to base-load plants, 25 for combustion turbines.
- 5 Appendix A of the EPRI report cited above provides the minimum components to be considered. Includes working capital and variable costs associated with SO<sub>2</sub> removal.
- 6 Initially, equal to 8.3% applied to all energy. Eventually, shall reflect utility specific actual analysis and, in the case of time differentiation, allocated to rating periods commensurate with analysis results.
- 7 Coal cost and fuel content are to reflect actual contract year purchase contracts. Coal cost is to include a separate component reflecting transportation costs.
- 8 Plant heat rate is to reflect actual plant heat rate at expected operating load.
- 9 QF capacity factor is to represent expected performance, initially, and demonstrated performance after first contract year.

#### Rate Schedule Formulae

short-term energy =

$$\lambda g + \frac{(bd + f) \cdot 425}{(8760)(.85) \cdot 85}$$

long-term energy =

$$\frac{((ac + e) - (bd + f))g}{(8760) \cdot 70} + \frac{hj}{i} + k$$

long-term capacity =

$$\frac{(bd + f)cf}{.85}$$

SCHEDULE B

## Calculation of Variable "a" For MPC

	Cash Flow <sup>1</sup> <u>W/AFUDC</u>	Escalation De-Escalation <sup>2</sup> <u>Factor</u>	December <sup>3</sup> <u>1981 \$</u>
1973	509	2.439	1,242
1974	1,214	2.267	2,752
1975	1,354	1.806	2,445
1976	2,287	1.642	3,488
1977	13,431	1.525	20,482
1978	8,915	1.424	12,694
1979	8,003	1.291	10,332
1980	46,365	1.17	54,247
1981	108,879	1.07	116,501
1982	164,304	1.0	164,304
1983	140,427	0.9174	128,828
1984	74,859	0.8495	63,593
1985	35,094	0.7865	27,601
1986	213	0.7351	157
1987	166	0.687	114
			<u>610,000 X (1.1)<sup>4</sup></u>
			= \$671,000 (December 1982 Dollars)

$$671,000 \div 420 \text{ MW} = 1,598/\text{kw.}$$

- 
- 1 Cash Flow with AFUDC was obtained from MPC's Order No. 4865 compliance work papers. Table IV Page 7 of 7 dated February 25, 1982.
  - 2 Escalation and De-escalation factors are from PP&L's 1982 Montana Electric Long Run Incremental Cost Study, Docket No. 82.4.28, (Workbook No. 8)
  - 3 December 31, 1981 dollars.
  - 4 The factor 1.1 indicates 10% inflation from the beginning of 1982 to year ending. (Workbook No. 8, Docket No. 82.4.28).

HB 70

Testimony presented to the House Select Committee on Economic Development

By the Montana Environmental Information Center

January 26, 1983

HB 70 embodies several of the principles to which we referred in our general testimony before this committee. Specifically, HB 70 targets the development of Montana's renewable resources for energy production. By giving tax incentives to new businesses involved in the development of non-fossil forms of fuel generation, the state of Montana reinforces its commitment to alternative energy production and to stable, long-term economic development.

HB 70 is very similar to a tax credit offered by the state of California. The California tax credit has been well received by a broad range of business interests. For example, when asked about the credit, Pacific Gas & Electric Company stated, "These credits have already been the catalyst for a number of power generating projects in our service area, and we would like this to continue. Without these tax credits, some wind and solar projects that could be developed by third parties in our service area might never be built."

The electric energy business is not competitive in the conventional free enterprise sense. It is a regulated utility business. This tax credit enables independent power producers to compete on equal footing with other new generating sources.

A tax credit is like a state investment. The state forgoes tax collections for the time being in hopes of creating sufficient new businesses in the future to offset the revenue loss to the state over the long-run. Non-fossil forms of fuel generation are a very appropriate target for such a state investment.

Three qualities of the non-fossil fuel generation business make it a good target for a tax credit. First, it is a rapidly growing business. Second, it is relatively "foot loose and fancy free." That is, it can be easily attracted by offering a modest credit as is proposed by HB 70. Finally, it has indirect benefits to the general public of Montana. Specifically, a thriving non-fossil fuels business would help hold down consumer costs for all Montanans by reducing the need for expensive new power plants and the need for costly energy imports. And it would keep more money within local communities instead of exporting money outside of the community for energy.

The fiscal impacts of HB 70 can effectively be reduced by placing a cap on the total amount of tax credit available from the state and limiting the credit available for an individual operation to

*Exhibit E*

**CORPORATE TAX CREDITS FOR ENERGY CONSERVATION & RENEWABLE ENERGY SYSTEMS**

STATE	MAXIMUM CORPORATE INCOME TAX CREDIT  % COST/MAX. CREDIT	SYSTEMS INCLUDED	COMMENTS
ARIZONA	35%/\$1000	Solar	
CALIFORNIA	* 55%/\$3000 (Sing.Fam.Dwell) 50%/\$75,000	Solar Solar Pumping	25% If Cost= \$12,000+ (For Other Than Single Family Dwell.) For Farm Irrigation
COLORADO	30%/\$675,000	Solar, Wind	
HAWAII	10%/No Max.	Solar, Wind	Includes Heat Pumps
INDIANA	25%/\$10,000	Solar, Wind	Multiple Dwellings
KANSAS	30%/\$4500	Solar, Wind	
MAINE	20%/\$100	Solar, Wind, Wood	
NEBRASKA	25%/\$5000	Renewable Energy	
N. CAROLINA	25%/\$1000 20%/\$8000	Solar- Single Bldg. Solar Indust. Heat	10%/\$5000: Hydro-Electric 10%/\$1000: Wind Energy Device
N. DAKOTA	5%/No Max.	Solar, Wind, Geothml	
OHIO	10%/\$1000	Solar, Wind, Hydthm.	("Hydthm."= Hydrothermal)
OKLAHOMA	30%/\$10,000	Passive Solar, Wind	Non-Residential Property
OREGON	10%/No Max.	Alternative Energy	
RHODE ISLAND	10%/\$5000	Renewables	
S. CAROLINA	25%/\$1000	Renewables	
UTAH	10%/\$3000	Solar, Wind, Hydro.	For "Commercial Units"
VERMONT	25%/\$3000	Solar, Wind	
VIRGINIA	25%/\$1000	Solar	

\*Combined Federal & State Tax Credit Ceiling.

Prepared By David Freiband, 1/13/'83, Using Several State's Codes Annotated, The All States Tax Guide, Prentice-Hall, Inc., Englewood Cliffs, N.J., (Published Weekly); And A Report By Margaret M. Morris, "State Tax Incentives For Solar And Alternative Energy Systems," In Government Relations Legislative Report, "The Brick Institute Of America, April 30, 1982.

# DEPARTMENT OF REVENUE



TED SCHWINDEN, GOVERNOR

MITCHELL BUILDING


STATE OF MONTANA

HELENA, MONTANA 59620

November 30, 1982

## MEMORANDUM

TO: Governor Ted Schwinden

FROM: Ellen Feaver, Director 

SUBJECT: Wind Energy Proposals from City of Livingston

Mr. E. R. Stern, Director of the City of Livingston, in a letter to you dated October 5, 1982, has proposed a 35 percent wind energy investment credit for three purposes:

- 1) investments in machinery and equipment associated with wind generation,
- 2) investments in inventory and production machinery necessary for the manufacture of wind generation equipment, and
- 3) expenditures for upgrading existing utility equipment to connect with new wind generation facilities.

In addition, he has proposed legislation concerning easements for wind generation.

The Department of Revenue has consulted with the Departments of Commerce and Natural Resources and Conservation and with the Office of Budget and Program Planning in preparing a report for you on these proposals. The assistance of these other agencies has been helpful in preparing this memorandum.

Subsequent to the discussions with the other agencies, Mr. Stern and other persons representing the City of Livingston contacted our Department to discuss the tentative conclusions of the agencies. An effort is made in this memorandum to respond to some of the comments from these persons. Because of these additional discussions with Livingston officials and the time needed to examine the points raised, this memorandum was delayed past its original target date of November 17.

The proposed tax credit is compared by Mr. Stern to a 25% tax credit in California. There are at least four differences between the credit proposed by Mr. Stern and the current California credit:

*Exhibit G*



- 1) The proposed credit would be calculated at 35% of the value of investments instead of California's 25%. The proposed credit would provide investors and cost the state 40% more in tax reductions than the California credit:
- 2) The proposed credit as described in Mr. Stern's letter would appear to apply only to wind energy. The California credit applies not only to wind energy, but also solar, biomass, and hydroelectric energy. (Mr. Stern's proposed credit has subsequently been expanded to include these other forms of renewable energy.)
- 3) The proposed credit would apply to investments in manufacturing wind energy components. California does not include the manufacture of renewable energy equipment in its credit.
- 4) The minimum investment amount in Mr. Stern's proposal is \$50,000. California's minimum investment that qualifies for its credit is \$12,500.

In addition, it is not known for certain whether or not California allows a credit for the upgrade of existing utility equipment. However, it is our impression that the California credit does not cover such expenditures.

It should be noted that the California credit will expire on December 31, 1983, and will not be available for new renewable energy investment after that time unless construction begins prior to the end of 1983 and the facility is in operation prior to the end of 1985. According to representatives of the California Franchise Tax Board, the credit is not likely to be renewed because of the cost of the credit and the very poor fiscal conditions confronting California.

The staff members who evaluated the proposal have inventoried Montana's tax incentives and capital assistance programs for renewable energy development and for new manufacturing. They concluded that Montana's incentives and programs, when packaged together, compare favorably with the incentive provided by California. Further, a number of these incentives are being successfully packaged to attract investments in small-scale hydroelectric power in the state.

This general conclusion requires some modification when considering the specific types of developments proposed by Mr. Stern. The current incentives appear to be less helpful to wind energy electrical generation than to other forms of renewable energy developments. On the other hand, the incentives appear to be very generous for a plant that would manufacture wind energy components.

The following is a description of the incentives now available in Montana that are relevant to renewable energy development and the development of new manufacturing such as the fabrication of wind energy components. Included in the description of the items is a comparison, where relevant, with California.

1. Montana's corporate license tax rate is 6.75%. The California rate is currently 9.6%, or 2.85% higher. A general tax break, in comparison to California, is inherent in the lower tax rate. Further, our minimum tax is \$50 as compared to California's \$200.
2. Montana's treatment of net operating losses is favorable to businesses getting started in the state. Montana permits a current year's net operating loss to be carried back three years to offset income and create refunds of taxes paid. Any unused loss can be carried forward for up to seven years. For California purposes the current year's loss is only deductible in the current year with no provisions for carryover whatsoever. Because new businesses typically experience losses in early years of operation, this Montana tax incentive is potentially important for the development of new technologies such as wind energy. This favorable treatment of net operating losses is available under both Montana's Individual Income Tax and Corporation License Tax.
3. Montana is already providing a corporation license tax credit for "new industries" in the state as defined and provided for in sections 15-31-124 and 15-31-125, Montana Code Annotated. The credit is based on salaries paid to the newly created positions. California has no similar credit. Wind generating facilities would probably not qualify for this credit because they produce something already produced in the state (i.e. electricity). However, the first manufacturing plant producing wind generation components would likely qualify for the credit. The amount of the credit is equal to 1% of total new wages for three years.
4. Depending on the structure of the corporation, new enterprises such as those contemplated in Livingston, may well qualify for Montana's investment tax credit. This credit would be calculated at 30% of the federal investment tax credit which, on this type of equipment, would already reflect the additional 15% federal energy investment tax credit. In effect, Montana already is providing a tax credit incentive of 7.5% on this type of investment. The investment tax credit is scheduled to expire this year. However, legislation is anticipated to renew the credit in some form. The current credit is, in general, available to firms with fewer than ten shareholders or partners.
5. Montana provides property tax incentives that would be applicable to manufacturing wind energy components. 15-24-1401 and 1402, MCA, allows local jurisdictions to grant up to a 50 percent reduction in property taxes for the first five years of operation. In the second five years the tax reduction is scaled down until the facility is fully taxable in the tenth year. In addition, under 15-6-135, MCA, a "new industrial property" can be classified as class five property for the

first three years of operation. Class five property is taxed at 3 percent of market value. Combined together, these two types of incentives would result in new industrial property being taxed at 1.5 percent of market value for the first three years. California has no comparable tax incentive.

6. Montana has used the coal severance tax to finance research, development, and demonstration of renewable energy technologies. Last session the legislature enacted a loan program for commercialization of renewable energy. This program must operate through financial institutions and provides low-interest loans to commercial developers of renewable energy. The loan ceiling in FY83 should exceed \$200,000.
7. Montana communities can use industrial revenue bonds to facilitate development related to wind energy. California communities are probably able to do the same.
8. Additional capital assistance is likely to be available through portions of the "Build Montana" program you will be presenting to the Legislature.

Nearly all of the incentives listed above are likely to be available for a plant that would manufacture wind energy components. The incentives would be especially strong if the plant were owned by a corporation. If that were the case, it is difficult to imagine why further tax incentives would be necessary for such a plant. The new industry tax credit, the favorable treatment of operating losses, the property tax reductions, and the potential investment credit could be combined to provide powerful financial incentives for the establishment of such a plant.

The effectiveness of Montana's tax incentives is somewhat different, however, for wind generation. According to Livingston officials, the type of investment that is attracted to "wind farms" is investment by individuals in tax shelters. These individuals typically invest in limited partnerships that have a large number of partners (more than 10). The limited partnerships would own the wind generating facilities.

The wind farms are often large scale investments. In this respect, wind energy differs significantly from other forms of renewable energy. Mr. Robert Conrich, a California-based financial consultant for Livingston, cited the example of a new Alameda County, California, wind farm that required equity and loan capital totaling \$44 million. Investments on this scale obviously far outstrip the state's alternate energy loan program.

If the investment in wind farms is organized through limited partnerships with more than ten partners, the only incentive of those listed above that is likely to be relevant is the favorable treatment of net operating losses. This incentive is significant and can be attractive to investors searching for tax shelters. It is an incentive that

should not be overlooked by those who are attempting to attract investment to Montana. Moreover, it should be taken into full account in considering any legislation in this area.

It also appears 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's rates. This circumstance should favor development in California. These rates are subject to change, however, in response to changing market conditions for electricity.

Because many of the incentives described above are more likely to be used for other forms of renewable energy investment (typically where the scale of investment is somewhat smaller), it is understandable that a tax credit for wind energy is being proposed. Whether or not such a credit is advisable is a policy judgment for the Legislature and you to decide. Relevant items that might be taken into account in making that judgment include the following:

1. The proposed wind energy credit would be very expensive. Using the Alameda County example cited earlier, a 35 percent credit on a \$44 million investment would cost the state \$15.4 million. This amount is 50 percent greater than the estimated FY '82 cost of the current investment credit for all small businesses in Montana. In addition, the amount is more than half of the projected general fund surplus projected for the end of FY '83 and is over 10% of all individual income tax collections last year.

The Alameda County facility is a 20 megawatt generating unit. Pan Aero, a wind energy company, has discussed facilities as large as 90 megawatts for Montana. Thus, it is fair to say that the estimated cost of the credit could exceed the costs associated with the Alameda County example.

2. Wind energy is of the more expensive forms of renewable energy. One reason that tax incentives are needed to develop wind energy is that it is not sufficiently competitive with other forms of alternative energy at the same avoided cost rates to attract the necessary development capital. Thus, it would need to be decided whether or not the positive aspects of wind energy development justify providing large subsidies to an expensive source of energy.
3. A detailed analysis of the tax revenues that would be generated by a wind farm and of the governmental services that it would require should be conducted if serious consideration is given to the wind energy credit. It would appear at first glance to require a significant number of years for a wind farm to generate revenue in excess of the original credit. However, without more information about the nature and operation of a wind farm, it is not possible to determine how many years would need to pass before a wind farm would begin to contribute its share of governmental costs.

4. The cost-effectiveness of the proposed credit in producing jobs and other economic benefits should be analyzed. In particular, the number of jobs produced per dollar of lost revenue should be compared to the number of jobs that could be produced per dollar spent on other economic development programs or incentives. For example, a comparison should be made between the cost-effectiveness of a commercial wind energy (or renewable energy) investment credit versus the cost-effectiveness of a proposed tax credit for investments in a Montana venture capital corporation.
5. A very limited number of Montana taxpayers (both residents and nonresidents) would share in the tax reductions provided by the credit. The minimum investment requirement of \$50,000 would effectively concentrate the anticipated several million dollars of tax reductions within a relatively small portion of the population.

It is our understanding that legislation has been drafted to expand the proposed wind energy credit to include all commercial-scale non-fossil fuel forms of energy. Obviously, an expansion of the credit would likely increase its potential costs. The staff has not had an opportunity to give detailed consideration to the expanded form of the the proposed credit. In general, however, it should be noted that other forms of renewable energy, especially those that can be developed on a small to medium scale, now benefit from a number of other incentive programs, including some residential scale income tax and property tax incentives that were not described above. It is not clear that these other forms of renewable energy need a further incentive for their development. Further, a cost-benefit analysis should be done to compare the benefits of the credit for each form of renewable energy versus the costs that would be imposed through the credit.

In summary, the following are the recommendations with respect to the proposed wind energy investment credit:

1. The credit does not appear to be necessary for providing incentives for a plant manufacturing wind energy components. Montana law already provides generous benefits for such a plant.
2. A number of incentives are also available for renewable energy development. However, because of the large-scale and expensive nature of wind energy investment, those incentives may not be sufficient to generate the investment desired by Mr. Stern. The proposed credit would be expensive, and the benefits of the credit would have to be weighed against its substantial cost.
3. The cost-benefit analysis of the wind energy credit should also be compared to a similar analysis of alternative economic

development programs or incentives. There are limits to the amount of money that can be spent on credits, incentives, and other programs; and the state should strive for the greatest benefits per dollar spent. Further, the number of Montanans benefiting from any credits or incentives should be considered in any comparative analysis of economic development programs.

4. Although not discussed above, the need for a credit for the upgrade of existing utility company property in association with wind energy is not apparent from Mr. Stern's letter. The need for this portion of the proposed credit should be clearly established before this feature is given further consideration.

Finally, the letter also proposed legislation concerning easements associated with wind energy development. The staff noted that Mr. Stern might want to investigate the option of following the precedent of the solar easements provided for under 70-17-301 and 302, MCA. The staff did not consider in detail the pros and cons of such easements.

The staff members who contributed to this report included:

Dan Bucks, Department of Revenue  
Gerald Foster, Department of Revenue  
William Gosnell, Office of the Budget and Program Planning  
Alan Davis, Department of Natural Resources and Conservation  
Clint Grimes, Department of Commerce.

EF/dlk

WITNESS STATEMENT

Name David G. Goss Committee On Econ. Devel.  
Address P.O. Box 2519 Billings 59103 Date 1/26/83  
Representing Billings Chamber of Commerce Support X  
Bill No. HJR 6 Oppose \_\_\_\_\_  
Amend \_\_\_\_\_

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. *A good understanding of the economy and workings of the market place is basic to any viable economic development program.*
- 2.
- 3.
- 4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

H

WITNESS STATEMENT

Name Nick Ferguson Committee On HJR6  
Address Suite 400 Date \_\_\_\_\_  
Representing Mt. Holly Commission Support   
Bill No. HJR#6 Oppose \_\_\_\_\_  
Amend \_\_\_\_\_

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

- 1.
- 2.
- 3.
- 4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.



WITNESS STATEMENT

Name ED STERN Committee On ECON. DEV.  
Address CITY OF LIVINGSTON Date 1/20/83  
Representing " Support X  
Bill No. H.B. 70 Oppose \_\_\_\_\_  
Amend if appropriate

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

- 1.
- 2.
- 3.
- 4.

Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

## 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.

EJ K

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 catagories 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.

1/13/83

ALUMAX ENERGY 320 MW (Doesn't take into account "staging" for two stage manufacturing facility)

\* (indicates pure guesswork)

Comments:

Price: (L/L/O4 \$'s)

Size

Resource Block

Impact on other ratepayers

"Normal" Industrial use Contract Firm

Normal Impact

— 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 (?).

"Interruptable" System Reserve Not firm

More favorable than normal impact.

— 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.

"Time Compatible" Wind and Water Firm

No impact on MPC ratepayers; Favorable on BPA rate payer

— MW \*

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

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

"Not Used or Useful" Coalstrip Power Firm

More favorable than normal impact on MPC and BPA ratepayers

— MW\*

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

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

RECEIVED  
JAN 19 1983  
MONT. B. S. COMMISSION

JAN 17 1983

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 that reads "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													
PD(W/N <sup>2</sup> )													
% V > 15 mph													
No. Hrs > 50 (Max V)													
McDonnald Pass (30)													
$\bar{V}$ (mph) % Data													
PD(W/N <sup>2</sup> )													
% V > 15 mph													
No. Hrs > 50 (Max V)													
Livingston BOE (30)													
$\bar{V}$ (mph) % Data													
PD(W/N <sup>2</sup> )													
V(100')													
V(150')													
Bennett Peak (32)													
$\bar{V}$ (mph) % Data													
PD(W/N <sup>2</sup> )													
% V > 15 mph													
No. Hrs > 50 (Max V)													
Blackfoot (30)													
Swift Dam (30)													
Heart Butte (35)													
Great Falls (20)													
Pocentello (20)													
Boise (20)													
Bridger Rowl (20)													
Jackson Hole (30)													
Sun Valley (20)													

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	8	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*
Great Falls (20)	12.1	10.0	8.1	9.8	12.7	13.0	13.8	10.4	13.1
Pocentello (20)	11.2	9.1	8.2	8.2	9.4	8.3	10.8	11.2	11.6
Boise (20)	8.8	8.4	7.9	8.1	7.8	8.9	7.8	9.5	8.5
Bridger Rowl (20)			10.2	14.2	10.6	9.4			11.1*
Jackson Hole (30)			13.5	15.6	12.1	11.6			13.2*
Sun Valley (20)			9.4	11.0	7.6	8.9			9.2*

\* Data recovery < 80%

NATIONAL  
WEATHER  
SERVICE

1971 FORD 4 W.D., 4 spd., new hubs, \$1,550. Also, 1947 Jeep, runs good. \$600. 458-9413.

1977 GMC 3/4 TON, 4x4 Super shape. New tires. \$3,595 458-9788

1979 CHEVY 350 4x4, blue & silver, tilt, dual tanks, a.t., p.s., p.b., slide window, white spokes, 69,000 miles. \$5,800. 458-6222, ask for Dave.

# Regulators reach consensus on nuclear plant safety

WASHINGTON (AP) — The Nuclear Regulatory Commission, tentatively agreeing on safety goals for nuclear plants, says it is willing to accept about three cancer deaths a year among people stemming from accidents at an average atomic facility near their homes.

The commission reached a consensus Wednesday on the goals, saying a reactor should not raise by more than 0.1 percent the risks that people living near it otherwise face from accident and cancer deaths not related to nuclear power.

The goals are the NRC's first attempt to quantify how safe a plant must be. Final approval of the goals is expected next week.

Since no one has ever died as a result of commercial nuclear plant accident, officials said any numerical safety goals are largely theoretical.

But they said the 0.1 percent ratio to other causes of death "is low enough to support the expectation that people living or working near nuclear power plants would have no special concern due to the plant's proximity."

Using 1979 data, the NRC estimated that on average, each nuclear plant has 1.7 million people living within 50 miles and that 3,200 of them can be expected to die each year from cancer, despite the plant.

The 0.1 percent goal is aimed at assuring that nuclear power will not cause more than one in 1,000 of those cancer deaths — or 3.2 of the expected 3,200 cancer deaths around the average plant.

Former NRC Commissioner Peter Bradford calculated that with the 83 plants now licensed and 63 others under construction, the goal contains an "implicit maximum theoretical acceptable consequence ... of some 13,000 deaths" from nuclear accidents over the next 30 to 40 years.

Bradford said his calculation should be approached "warily" because hard numbers on which to base it are unavailable. "The fact is that society seems likely to accept maximum theoretical risk of more deaths from a number of other sources, including generating electricity from coal," he said before his term on the commission expired last year.

NRC Commissioner John Ahearne said that 13,000 possible deaths is misleading because additional safety measures "would undoubtedly be required" if there was any accident that led to several deaths.

Commissioner Nunzio Palladino said, "If we had one death, I'm sure we'd recalculate the whole thing."

NRC officials noted that the 1979 Three Mile Island nuclear plant accident, which spawned the goals and hundreds of new safety requirements.

## Public power sees bailout in California

RICHLAND, Wash. (AP) — All five nuclear power plants originally begun by the Washington Public Power Supply System could be completed if California agrees to buy the Pacific Northwest's excess power — and it's a "real possibility," an official says.

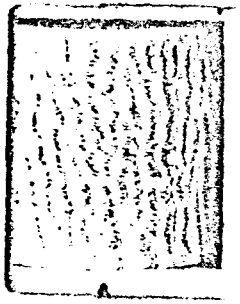
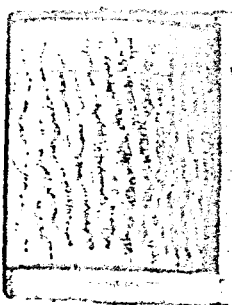
The 88 Northwest public utilities that own two terminated WPPSS plants at Hanford and Satsop hired Charles Luce to find a market for the power produced by the plants.

Luce contacted several California utilities, asking them to estimate how much Northwest power they could use between now and 2002. Their responses are expected by Jan. 15.

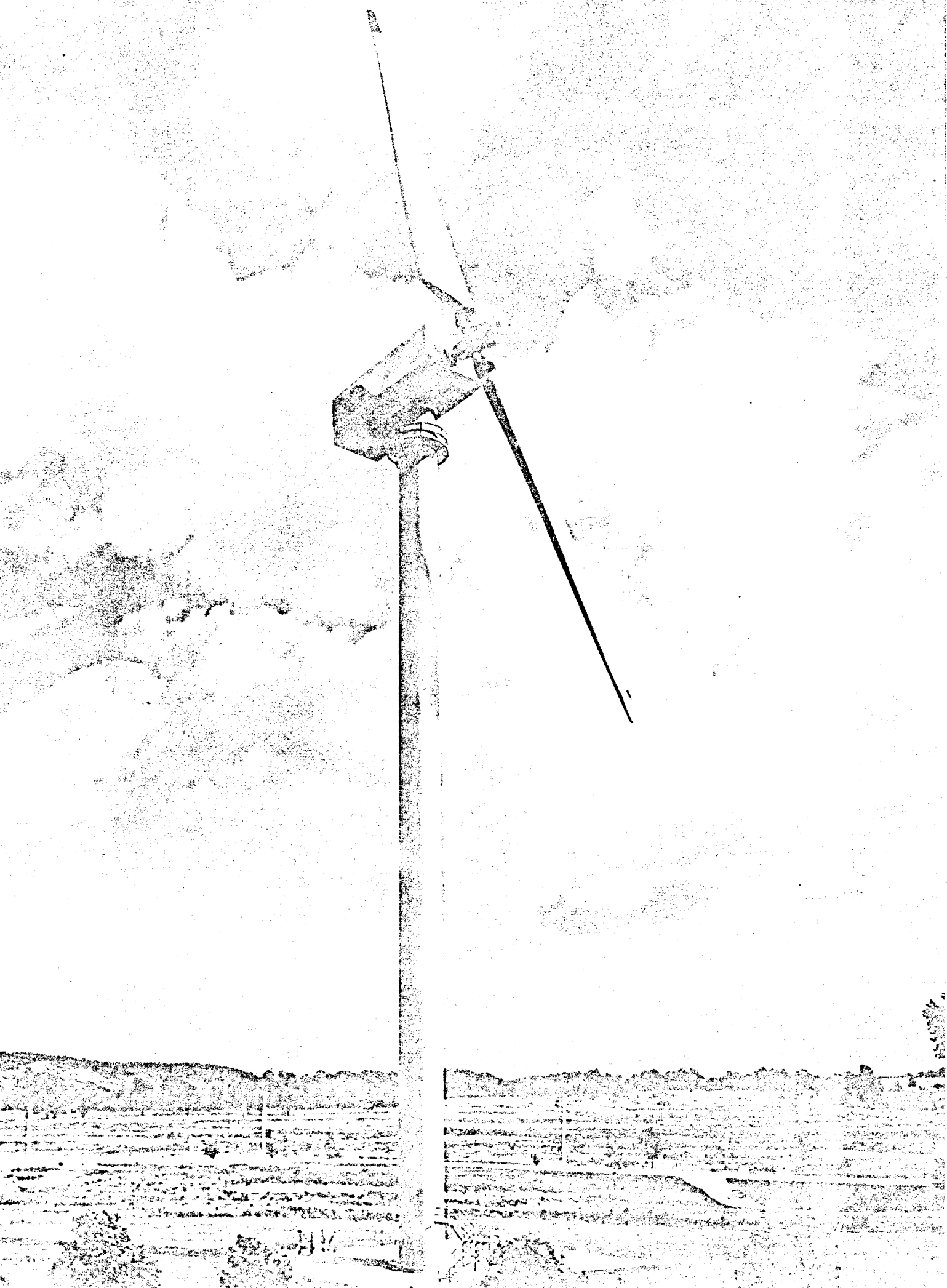
Carl Halvorson, WPPSS executive board director, said Luce would be in Richland next week to brief board members on his efforts.

The utilities hope to keep ratepayers from paying the \$7 billion bond debt on the two plants abandoned last January because of rising costs and doubts about the need for their power.

Luce is working diligently on the plan, which is a "very real possibility," Halvorson said Tuesday.



*Independent Record - 1-6-82*





# HAMILTON STANDARD WTS-4 4 MEGAWATT WIND TURBINE SPECIFICATIONS

## Rotor

Number of blades ..... 2  
 Diameter ..... 256 feet  
 Material ..... fiberglass (with steel retention elements)  
 Speed, rpm ..... 30  
 Rotation direction counterclockwise (looking up wind)  
 Location, relative to tower ..... downwind  
 Type of hub ..... teetered  
 Method of power regulation ..... variable pitch  
 Cone angle ..... 6°  
 Tilt angle ..... 0°

## Blade

Length (total) ..... 125 feet  
 Weight ..... 30,000 pounds

## Tower

Type ..... steel shell  
 Tower diameter:  
     at the base ..... 12 feet  
 Tower material ..... tubular steel  
 Ground clearance ..... 133 feet  
 Hub height ..... 262 feet  
 Access ..... internal tower elevator

## Transmission

Type ..... planetary  
 Ratio ..... 60:1  
 Input speed ..... 30 rpm  
 Output speed ..... 1800 rpm

## Generator

Type ..... synchronous AC  
 Rating ..... 4000 kW  
 Power factor ..... 0.8  
 Voltage ..... 4160V  
 Speed ..... 1800 rpm  
 Frequency ..... 60Hz

## Orientation Drive

Type ..... free yaw

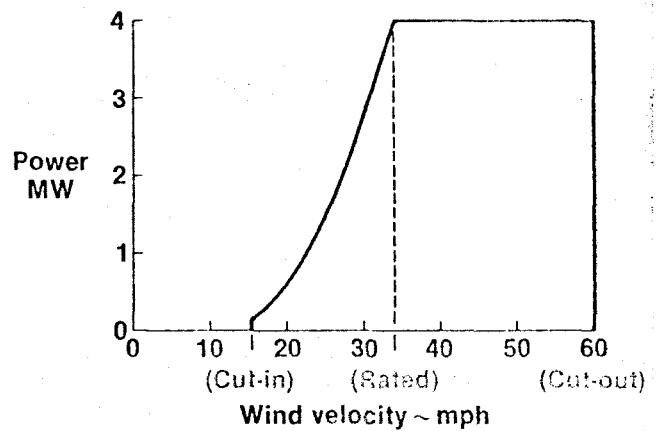
## Control System

Type ..... Electro-hydraulic  
 Control ..... Microprocessor  
 Pitch change mechanism ..... Hydraulic

## System Design Life

All components ..... 30 years

**WIND TURBINE SYSTEM  
PERFORMANCE**



For further information:  
 Vice President - Marketing  
 Hamilton Standard  
 Windsor Locks, CT., USA 06096

Telephone 203/623-1621

# World's most powerful wind turbine

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 1,500 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

## Medicine Bow

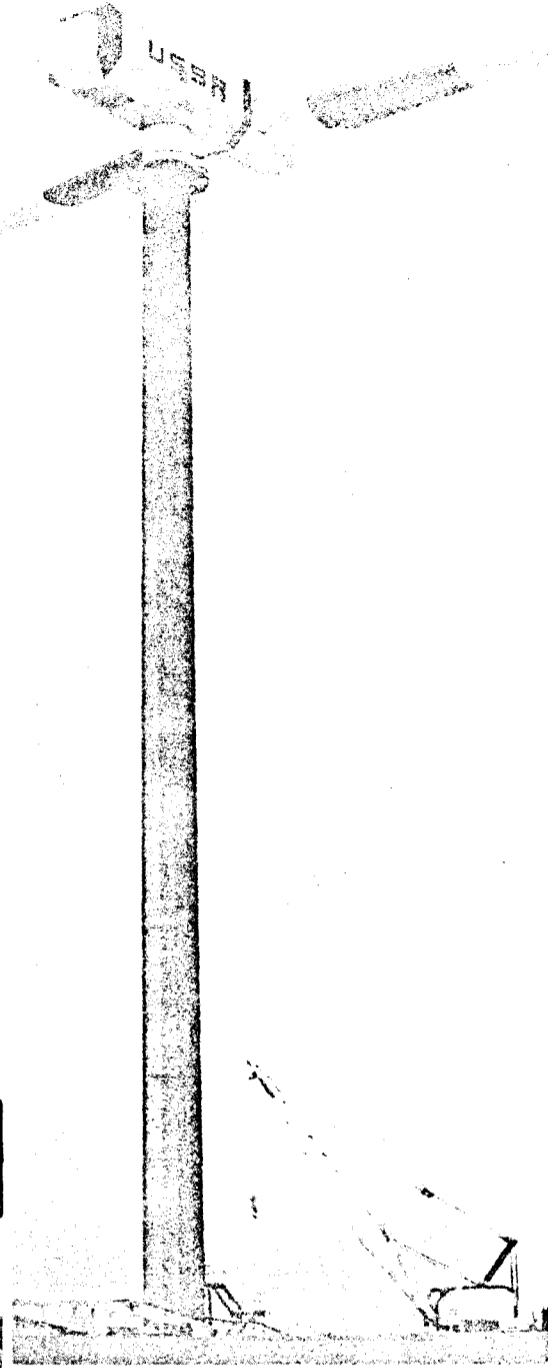
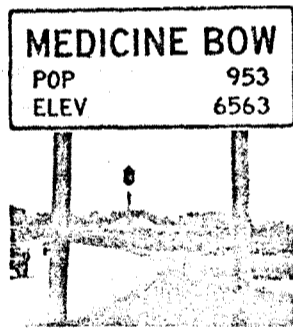
By virtue of being located in the path of a strong wind, Medicine Bow will once again obtain some measure of fame as the home of the world's most powerful wind turbine.

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 '60'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 clouds. The train tracks still carry a heavy volume of freight from Chicago to the West Coast.



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.

## 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.

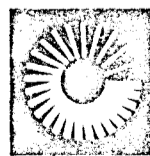
Hamilton Standard's story dates back to 1919, with the founding of the Standard Steel Propeller Company in Pittsburgh, Pa. That company built the propeller for the "Spirit of St. Louis."

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 ranging from jet engines to air conditioners, elevators and helicopters.

Hamilton Standard, headquartered

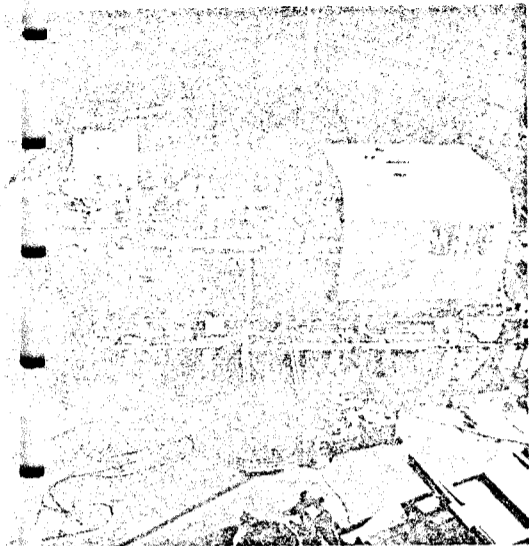
in Windsor Locks, Ct., employs 13,000 of the 190,000 people working around the world for United Technologies.

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

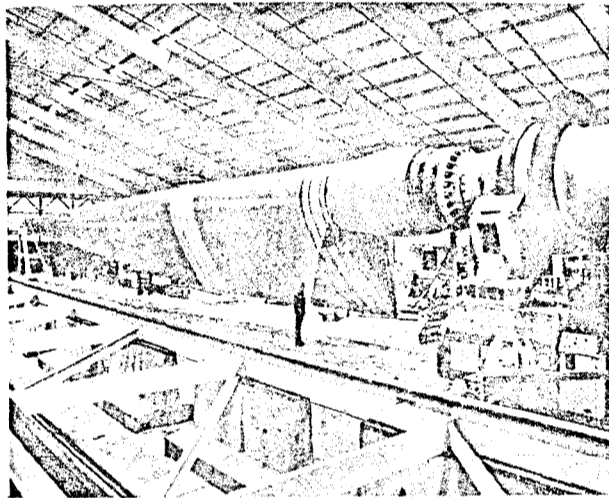
# The making of a wind turbine: A ma



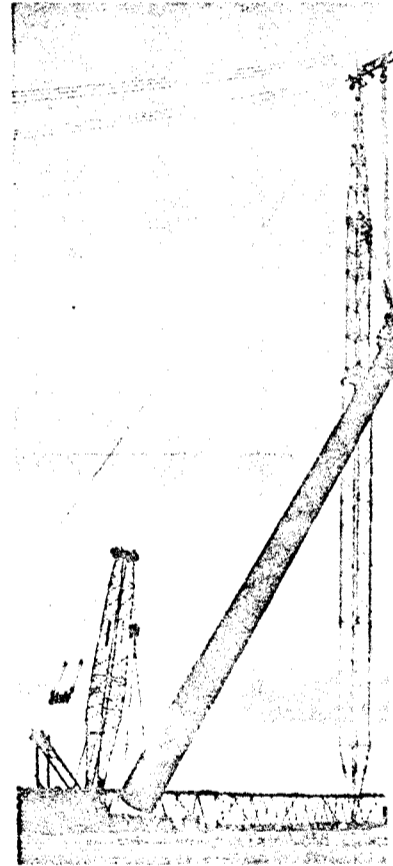
Interior of nacelle



Shipping of blade



Winding of blade



Erecting turbine tower

The United Technologies Hamilton Standard division produced the nacelle and turbine in Medicine Hat, Wyo., bears as little resemblance to wind turbines of yesteryear as today's 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 technologically complex, utility-size wind energy system is a major engineering accomplishment.

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.

# Engineering accomplishment

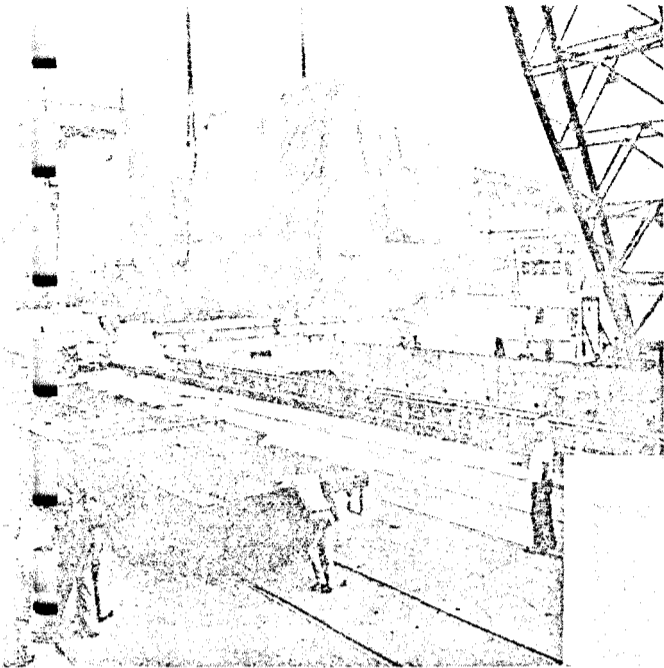
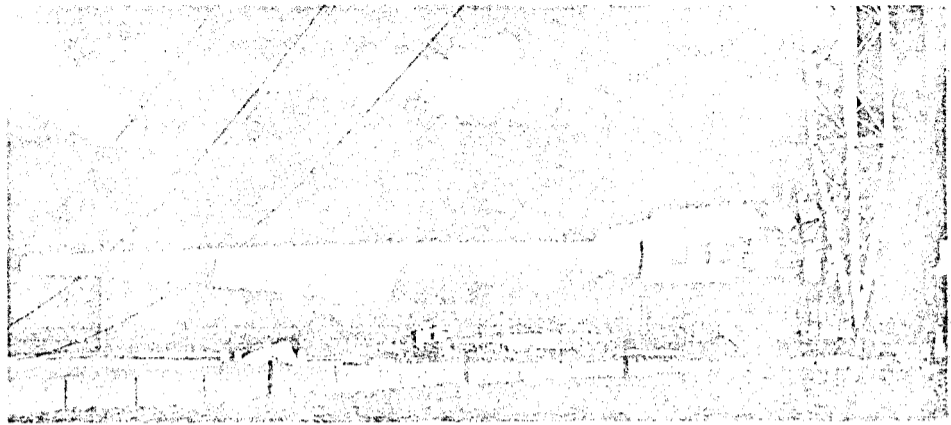
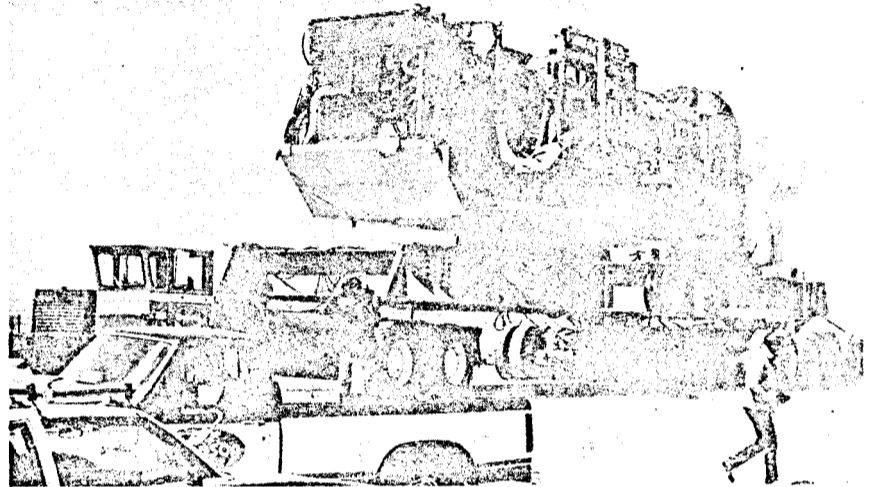


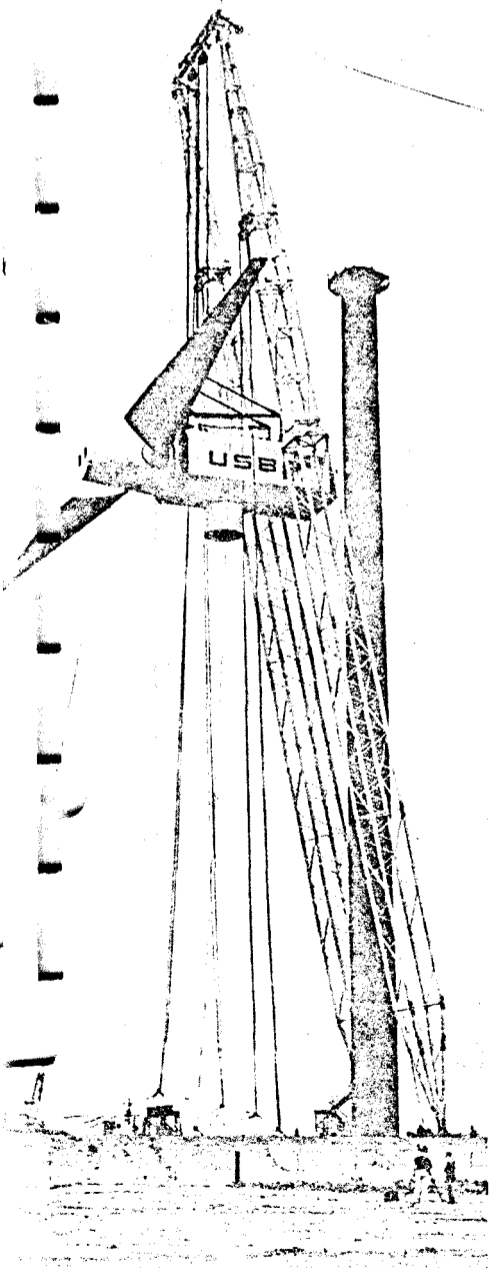
Photo of nacelle



Nacelle and blades on test stand



Moving nacelle to site



Lifting of wind turbine

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 Swedyards, 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.



## RESUME

BRUCE FINNIE

### EDUCATION

Ph.D. University of Nebraska  
Lincoln, Nebraska  
(Economics - 1975)

B.S. Augustana College  
Sioux Falls, South Dakota  
(Economics - 1970)

University of Minnesota  
Minneapolis, Minnesota  
(Economics - 1969)

### PROFESSIONAL EXPERIENCE

1981-Present	Senior Economist and Principal ECO Northwest Ltd. Helena, Montana
1978-1981	Senior Economist and President Western Analysis, Inc. Helena, Montana
1977-1978	Administrative Officer Governor's Office of Commerce and Small Business Development Helena, Montana
1977	Program/Fiscal Analyst Governor's Office of Budget and Program Planning Helena, Montana
1975-1977	Senior Economist Montana Department of Community Affairs Helena, Montana
1973-1975	Economist Nebraska Department of Economic Development Lincoln, Nebraska
1971-1975	Teaching Assistant and Instructor of Economics and Statistics University of Nebraska Lincoln, Nebraska
1970	Claims Adjustor Minnesota Department of Manpower Services Minneapolis, Minnesota

Ed L

1968-1970            Research Analyst/Programmer (part-time)  
                     Department of Economics  
                     Augustana College  
                     Sioux Falls, South Dakota

RECENT RESEARCH CONTRACTS

1982                Montana Environmental Quality Council: an  
                     analysis of hardrock mining impacts

1982                Department of Natural Resources and  
                     Conservation: a market analysis of  
                     industrial water demand/feasibility study  
                     of Tongue River Dam

1982                Department of Natural Resources and  
                     Conservation: economic analysis of Indian  
                     water rights

1982                Northwest Power Planning Council: economic  
                     and energy advisor--load growth, siting,  
                     and conservation

1982                Montana Department of Commerce: community  
                     block grant distribution system

1982                Montana International Trade Commission:  
                     economic advisor

1982                Bureau of Land Management: an analysis  
                     of grazing and wildlife conflicts

1981                Environmental Protection Agency:  
                     Flathead River Basin economic/fiscal impact  
                     study

1981                Northern Lights, Inc.: economic/fiscal  
                     impact of Kootenai River Project

1981                Northern Cheyenne Tribe: economic/  
                     demographic impact of Montco Mine Complex

1980                Department of State Lands: economic impact  
                     of Capital Hill Mall

1980                Montana Department of Highways: economic  
                     impact of travel and tourism

1980                Montana Governor's Office: Economic  
                     Report of the Governor

1980                Old West Regional Commission: an assessment  
                     of capital formation and growth in Montana

Inflation and Public Budgeting, Office of Budget and Program Planning, April 1980

Technology and the Future of Montana's Economy, Montana Department of Labor and Industry, April 1979

Montana Industrial Screening Matrix, Montana Department of Labor and Industry, January 1979

Montana Alternative Simulation System: Methodology and Users' Guide, Montana Department of Community Affairs, June 1977

Montana Futures Project: Simulation and Energy Planning, Montana Department of Community Affairs, June 1976

Montana Input/Output Tables, Montana Department of Community Affairs, May 1976

Trade-Off Analysis and Utility Siting, Montana Energy Research and Development Institute, June 1977

Troy Mine (ASARCO) Economic Impact Assessment (co-author), Montana Department of State Lands, 1978

Yellowstone Level B, Economic/Demographic Projections, Montana Department of Community Affairs, August 1976

Economic Baseline Study, Kootenai River Hydroelectric Project, Volume 2, Economic Baseline - Lincoln County (co-author), Northern Lights, Inc., February 1981

Economic and Demographic Impact of Energy Development in Southeastern Montana, Northern Cheyenne Tribe, July 1981

Travel and Tourism in Montana, Montana Business Quarterly, University of Montana, 1981

Frontier Mall Economic Impact Statement (Technical Economic Component), Department of State Lands, 1980

Economic Analysis of Ambient Air Quality Standards, Montana Chamber of Commerce, 1980

Economic Analysis of the Flathead River Basin, Environmental Protection Agency, 1982

Grazing and Wildlife Conflicts, Bureau of Land Management, 1982

Indian Water Rights, Department of Natural Resources and Conservation, 1982

1980 Old West Regional Commission: public investment plan for State of Montana

1980 Governor's Office of Budget: demographic/employment/inflation forecasting

1979 Montana Department of Labor and Industry: development and analysis of industrial futures for Montana

#### RECENT CONSULTING CLIENTS

- \* Montana Department of State Lands
- \* Montana Department of Natural Resources and Conservation
- \* Montana Department of Commerce
- \* Northwest Regional Power Planning Council
- \* Montana International Trade Commission
- \* Montana Environmental Quality Council
- \* Bureau of Land Management
- \* Environmental Protection Agency
- \* Montana Governor's Office
- \* Old West Regional Commission
- \* Northern Cheyenne Tribe
- \* Northern Lights, Inc.
- \* Systems Technology, Inc.
- \* Private Industry Council
- \* Montana Chamber of Commerce
- \* Utick, Grosfield, Uda, PSC
- \* Hughes, Kellner, Alke, PSC

#### SELECTED REPORTS AND PUBLICATIONS

Economic Report to the Governor 1976 and 1980,  
Montana Governor's Office, November 1976 and  
November 1980

Montana Public Investment Plan, 1979 and 1980,  
Montana Governor's Office, November 1979 and  
November 1980

Montana Economic Development Plan, Office of  
Commerce and Small Business Development,  
December 1978

Balanced Growth Working Paper Series, Office of  
Commerce and Small Business Development, October  
1978

Capital Formation and Development Finance in Montana,  
Office of Budget and Program Planning, June 1980

Demographics and Public Planning, Office of Budget  
and Program Planning, January 1980



RECENT GUEST LECTURES/PRESENTATIONS

- \* Department of Economics, Montana State University
- \* Public Administration Program, University of Montana
- \* Council of Humanities, University of Montana
- \* Montana Chapter - American Statistical Association
- \* Private Industry Council
- \* Carroll College - part-time faculty and honors student advisor
- \* Advisory Council - Montana Office - Pacific Northwest Power Planning Council
- \* Economic Development Council

ADVISORY POSITIONS

Governor's Wilderness Committee 1978  
Governor's Balanced Growth Committee 1979

ACADEMIC AWARDS

Augustana Faculty Scholarship 1968  
Augustana Fellow 1968  
Augustana Senior Honors - Social Science 1970  
NDEA Fellowship 1970  
Intern Research Grant - State of Nebraska 1972  
Dissertation Grant - State of Nebraska 1974

RESUME

KENNETH ROBERT PERES

PERSONAL DATA

ADDRESS

116 Lambros  
Missoula, Montana 59802

TELEPHONE

(406) 549 - 6803

DATE OF BIRTH

September 19, 1948

EDUCATIONAL BACKGROUND

Ph.D. Program

Graduate Faculty  
New School for Social Research  
Department of Economics  
New York, New York  
All requirements completed  
except dissertation  
Areas of Concentration:  
Economic Development  
Political Economy

A.B.D.

Dissertation in progress

Graduate Faculty  
New School for Social Research  
Department of Economics  
April, 1978 - Awarded with  
Ph.D. comprehensive exam  
Major - Economics  
Minor - Anthropology

Master of Arts (Honors)

Bachelor of Arts

University of North Carolina  
Chapel Hill, North Carolina  
June, 1970  
Double Major - History and  
Political Science  
Special Concentrations:  
Latin America & West Africa

EMPLOYMENT BACKGROUND

Senior Research Associate  
National Center for Economic  
Alternatives, Title VII  
Evaluation, 2000 P St., N.W.  
Washington, D.C. 20036

January 1981 - September 1981  
Duties: to participate in the  
congressionally mandated eval-  
uation of the Community Ser-  
vices Administration's Title  
VII program - community devel-  
opment corporations; to visit  
sites of selected grantees,  
collect financial, employment  
and historical data and analyze/  
evaluate grantee and grantor  
(CSA) performance; to make policy  
recommendations for future efforts.

*ex M*

Economist  
Northern Cheyenne Research Project  
Lame Deer, Montana 59043

February 1979 - May 1980  
Duties: to participate in CSA study on institutional barriers to economic development; to analyze economic projects proposed to the tribe - e.g. coal, oil & gas, elk herd, cigarettes; to begin to formulate a reservation model for development and tribal sovereignty

City District Manager  
McGovern Presidential Campaign  
Youngstown, Ohio

August - December 1972  
Duties: to train & organize canvassers; to write & print issue papers; to present issues to local organizations, colleges and high schools; to organize the entire operation and follow through at every level

Deputy Registrar  
Operation Frontlash  
San Francisco, California

June - September 1970  
Duties: to participate in AFL - CIO (COPE) & Democratic Party's intensive voter registration drive; to interview workers for data on their political perspective

#### TEACHING EXPERIENCE

Visiting Assistant Professor  
Department of Economics  
University of Montana  
Missoula, Montana  
"Tribes, Reservations, & Economic Development: Part 1"

September 1981 - June 1982  
Duties: to introduce students to economic concepts; to analyze the historical, economic and political determinants of the reservation political economy; to examine the options, perspectives and complexities of economic development on reservations

"Tribes, Reservations, & Economic Development: Part 2"

Duties: to analyze reservation resources, development options, contracts and negotiations; to give students experience with the basic mechanisms of economic development by dividing into groups which formulated specific development project proposals and presented these to the rest of the class which acted as a tribal council

the historical socio-economic basis of economic theory & policy as a means for understanding our present economic condition

Adjunct Instructor  
St. John's University  
Staten Island, New York  
Department of Business  
'Historical Development of Capitalism'

September 1978 - January 1979  
Duties: to examine the historical formation of U.S. economic structure as a means for understanding the present structure of business, including management and labor relations

Instructor  
Alternative University  
Chapel Hill, North Carolina

September 1968 - June 1970  
Duties: to organize & hold informal classes & meetings on specific topics, including the history of Vietnam, U.S. involvement in SE Asia; to participate in panel discussions and talks on various issues

CONSULTING, PAPERS PRESENTED,  
PUBLISHED TITLES, & INDEPENDENT  
RESEARCH and PROJECTS

November 1982 - January 1983

Governor's Temporary Committee on Development Finance  
Member of the general committee, I-95 implementation and venture capital sub-committees

August, 1982

"Economic Development, the Missoula County Commissioners, and Missoula Jobs Development Corporation"  
Testimony delivered to the Missoula County Commissioners at their annual budget session

June, 1982

"The Northern-Cheyenne/ARCO Oil & Gas Agreement: Economics and Tribal Sovereignty"  
Presented at the First Annual Gathering for the Northern Cheyenne Homeland

May, 1982

"Natural Resources Development: Two Visions"  
Presentation at the Natural Resources & Environmental Panel

"Introduction to Economic Theory III"

Duties: to apply economic concepts by analyzing Reaganomics from various economic perspectives; to examine the structure and development of management from a labor perspective and to present alternative forms of management to a class primarily composed of business and management majors

"Introduction to Political Economy"

Duties: to introduce students to the structural determinants of the U.S. political economy; to analyze various basic industries within the U.S. and Montana economies; to utilize economic concepts and skills by dividing into groups which examined and analyzed different economic sectors within the Montana political economy

Adjunct Instructor  
Dull Knife Memorial Community College  
Lame Deer, Montana  
Extension Division of Antioch College  
Native American Educational Services  
"Administration & Social Services Seminar"

September 1979 - January 1980  
Duties: to illustrate through critical analysis how the Northern Cheyenne Reservation is integrated within the U.S. political economy; demonstrate through historical analysis how this process developed; and examine possible options for development within the current context

Adjunct Instructor  
Staten Island College  
City University of New York  
Division of Community Education  
Women's Studies  
"American Economic Issues"

September 1978 - February 1979  
Duties: to examine with a group of working women and mothers the socio-economic basis for the present position of women in the US economy  
Topics: a) individual attitudes towards the economy with the introduction of a wider perspective including production-exchange-consumption; b) analysis of historical development of U.S. socio-economic structure; c) concrete & specific application of these to working women in the U.S.

Adjunct Instructor  
Staten Island College  
City University of New York  
Department of Politics, Economics & Philosophy  
"Introduction to Economics"

September 1978 - February 1979  
Duties: to examine with a diverse group of students

of the 14th Annual Kyi-Yo  
Conference: Mother Earth -  
Times are Forcing a Decision

April, 1982

"A Critique of the Economics in  
the Bureau of Land Management's  
Powder River Coal Final Envi-  
ronmental Impact Statement &  
Lease Tract Profiles: Recom-  
mendations for Further Study"  
Prepared by Dwayne Ward with  
Ken Peres for the Northern  
Cheyenne Tribal Council

October, 1981

Federal Assistance to Community  
Development Corporations: An  
Evaluation of Title VII of the  
Community Services Act of 1974  
Prepared by the National Center  
for Economic Alternatives for  
the Community Services Admin-  
istration

October, 1981

"Three Strategies for the De-  
velopment of Montana's Economy"  
Presentation at the Economic  
Development Panel of the Boulder  
Conference on Economic Develop-  
ment

September, 1981

One of the organizers of the last  
conference between staff of the  
Office of Economic Development  
(CSA) and the leaders of various  
Community Development Corporations  
from around the country

Facilitator: Workshop on State  
Government Policies and Economic  
Development: Models from the Past,  
Lessons for the Future

October, 1980

"Montana Report: An Interview with  
Ken Peres, Economist, Regarding  
the Recent ARCO Plant Closings  
in Anaconda and Great Falls  
aired over KTVG - TV News,  
Helena; interviewed by news ed-  
itor Mary Ann Melton

July, 1980

"The New Indian Elite: Bureau-  
cratic Entrepreneurs," with  
Fran Swan, in Akwesasne Notes  
Late Spring Issue, May 1980

- May, 1980 "Regarding the Atlantic-Richfield (ARCO) - Northern Cheyenne Oil & Gas Agreement: a Critique,"  
Northern Cheyenne Tribal Council
- January, 1980 "Overcoming Institutional Barriers to Economic Development on the Northern Cheyenne Reservation,"  
Joint report with Nancy Owens Community Services Administration
- November, 1979 "Tribal Elk Herd: Operational Plan and Projected Costs,"  
Presented for Tribal Chairman and BIA Superintendent
- September, 1979 "Regarding the Proposed Joint Venture Coal Agreement among Global PertoChem Services, Inc., Domestic Energy Development Corp., and the Northern Cheyenne Tribe: A Critique,"  
Presented to Northern Cheyenne Tribal Council
- July, 1979 "Issues to Consider Regarding Economic Development on the Reservation,"  
Presented to Administrative Committee of the Tribal Council
- July, 1979 "An Operational Procedure for Policy Formulation, Implementation and Review,"  
Joint report with R. Monteau to Northern Cheyenne Tribal Council
- December, 1977 "Empiricism as Method: the Multiplier-Accelerator Model of the Business Cycle, New School, Advanced Economic Analysis
- May, 1976 "From Merchant to Industrial Capital: the Development of Alternative Modes of Social Control in Latin America, New School, Economic Development II

November, 1975

"Theories of Development: Alternative Strategies," New School, Economic Development I

October, 1975

"Adam Smith: the Dilemma of Value and Labor," New School, Labor Theory of Value Seminar

May, 1975

"Capital Development and Theories of the Peasantry," New School, The Third World in the World Economy

REFERENCES

Gerry Chiarutinni

Former Projects Officer  
Office of Economic Development  
Community Services Administration  
Washington, D.C.  
(currently with the Small  
Business Administration)

Richard Ellis

Title VII Project Director  
National Center for Economic  
Alternatives  
Washington, D.C.

Representative Daniel Kemmis

Speaker of the Montana House  
of Representatives  
Helena, Montana

Nancy J. Owens

Cultural Sciences Co-ordinator  
Department of Natural Resources  
and Conservation  
Helena, Montana

Thomas M. Power

Chairman  
Department of Economics  
University of Montana  
Missoula, Montana

James Rowland

Dean  
Dull Knife Memorial College  
Lame Deer, Montana

Wanda Small

Former Member  
Northern Cheyenne Tribal  
Council and Administrative  
Committee  
Lame Deer, Montana



WITNESS STATEMENT

Name DON REED Committee on ECON. DEV.  
Address P.O. Box 1184 Date 1/26/83  
Representing MEIC Support   
Bill No. HB 70 Oppose \_\_\_\_\_  
Amend

AFTER TESTIFYING, PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments:

1. See attached

2.

3.

4.

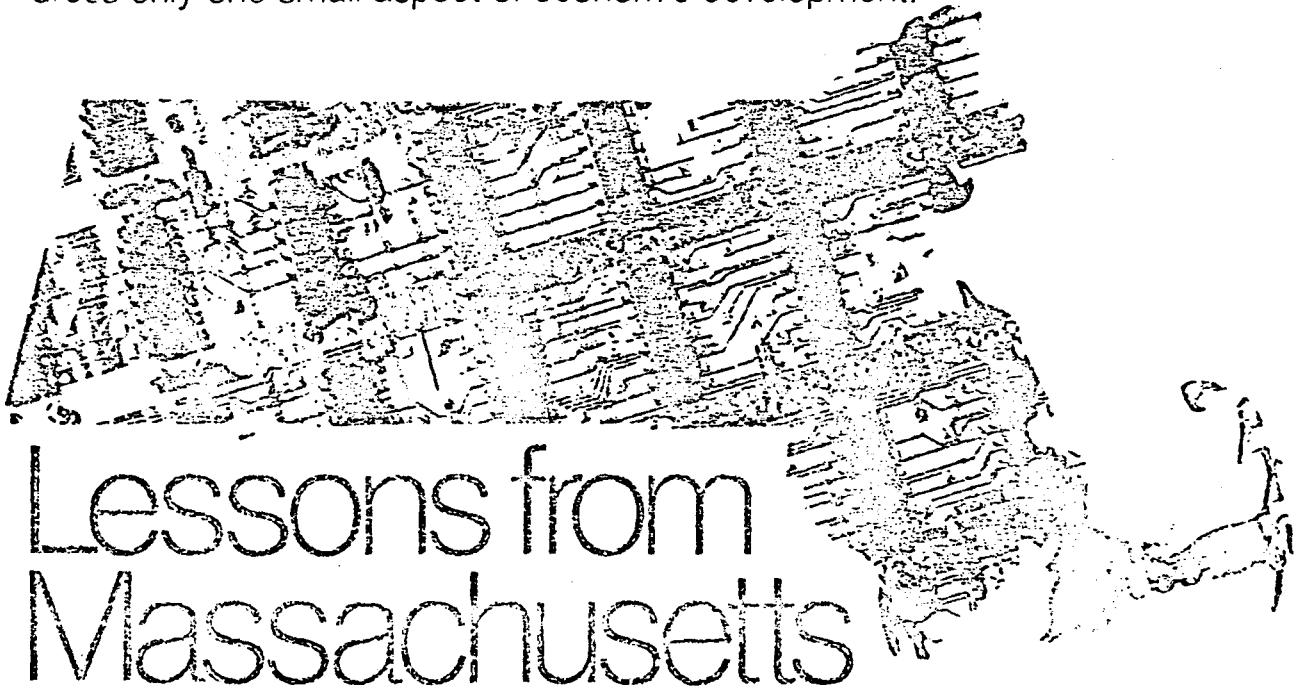
Itemize the main argument or points of your testimony. This will assist the committee secretary with her minutes.

The Massachusetts General Court has led the way in fashioning a series of innovative development strategies that have helped to recast and rebuild the state's economy. The progress of these efforts is being watched with high interest in other states.

# Economic Development:

Encouraging economic growth is one of the highest priorities in almost every state. Most legislatures are using their influence on tax policy, regulatory policies, direct expenditures and public persuasion to shape the future of economic development within their borders.

There is growing evidence, however, that the states' traditional approach to economic development—a vigorous effort to attract new business, particularly through tax incentives, subsidies, and promotion—can be counterproductive. Research indicates that some of these efforts invite high costs, encourage abuses, and—most important—address only one small aspect of economic development.\*



Kenneth N. Hotard

Photo: Dick Parrinello

Breaking this pattern is difficult. As one legislator put it, "We have these tax programs to protect ourselves from what the other 49 states are doing. We have to have these programs to compete." But fresh approaches are beginning to emerge. A new body of experience at the state level indicates that the most effective strategy for creating a strong economic climate is to coordinate the selective use of incentives with a set of programs designed to retain and encourage the growth of existing enterprises.

One of the best examples of this approach is found in Massachusetts. During the 1970s, the state launched a series of innovative programs designed to revive its ailing economy. These programs focused on supporting small firms, in general, and high-technology industries, in particular.

Their success is now generally acknowledged. A review of how it happened may offer useful lessons for other states.

In the early 70s, the Massachusetts economy was in disarray. The state was adversely affected by major shifts in national economic policy. Its traditional industrial base had been eroded. It suffered from high energy costs, rising unemployment, plant closings, and some of the highest business and personal tax rates in the country. It was facing the greatest economic crisis in the postwar period.

In response, Massachusetts has moved swiftly to develop an impressive range of private and public initiatives to aid the development and expansion of business in the state. The 1978 legislature enacted a package of bills that provided the statutory framework for a comprehensive program of financial incentives and technical assistance. These laws covered both economic development and urban revitalization. They expanded the state government's ability to offer public financing to businesses, and they provided new incentives for commercial ventures to revitalize the commercial centers of the Commonwealth's older, developed areas.

Partially as a result of these efforts, the Massachusetts economy is doing well despite the current nationwide recession. State Commerce Commissioner Ernest C. Lopez recently pointed out that "for the 31st consecutive month, our unemployment rate is second lowest among the industrial states. There were more manufacturing expansions in 1979-80 than have occurred during any two-year period in our history." State Representative Timothy A. Bassett, chairman of the House Committee on Com-

merce and Labor, views ingenuity as a major factor in Massachusetts' economic turnaround. "Our location and climate forces us to be creative," he said. "We have to survive by our ingenuity because we surely were not blessed by the good Lord. It means we have to take chances."

Massachusetts began with a conviction that the right kind of capital in the right place at the right time can be a strong incentive for good development. "Capital availability is the real problem," said Belden H. Daniels of Harvard University's John F. Kennedy School of Government.

In a recent paper, Daniels, also a development finance consultant, listed five capital market imperfections as adversely affecting commercial development: risk aversion, high information and transaction costs, increasing market and asset concentration, leader prejudice, and government regulations.

Massachusetts' financial incentives have concentrated on directing the flow of capital to compensate for these market imperfections. The Massachusetts Industrial Finance Agency (MIFA) has been the state's principal development institution providing long-term financing for industrial and commercial expansion. Although similar institutions now exist in 42 states, the MIFA has been among the most successful in directing assistance to needy urban areas while insuring that qualified entrepreneurs have access to the capital necessary for economic growth.

Since its creation less than three years ago, MIFA has given final approval to over \$1 billion in tax-exempt industrial revenue bonds (IRBs). The loans have aided the growth of 802 expanding industrial companies and downtown revitalization projects in the Commonwealth. Projections are that these firms will create 40,000 new, permanent jobs as a result of their growth. Most of the companies receiving IRB financing are smaller firms. One-half of the industrial firms receiving MIFA assistance have sales of less than \$5 million and three-fourths have sales of less than \$20 million.

In addition to IRB financing, MIFA is a source of industrial mortgage insurance. It has committed loan guarantees for 46 small companies and revitalization projects. These projects have stimulated \$47 million in new plant and equipment in the state and will result in 2,500 new, permanent jobs. Only nine states outside New England operate similar mortgage insurance programs. These commercial projects, in order to obtain MIFA financing and loan guarantees, must be located in an approved Commercial Area Revitalization District. This has allowed MIFA to target its efforts and avoid the scandals that have plagued some states.

The Commercial Area Revitalization District (CARD) program allows commercial businesses to utilize three

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\*Article by Kenneth N. Hotard in the September issue of *State Legislatures* will examine the issue of tax incentives for business

development incentives that were previously available only to industrial firms. First, IRBs provide up to 100 percent of new construction or rehabilitation financing. Second, mortgage insurance can be obtained for the highest risk portion of the loan (between 10 percent and 40 percent of the value) and is limited to approximately \$400,000 per project. Both the IRB and mortgage insurance incentives are administered by MIFA. Finally, the Urban Job Incentive Program (UJIP) provides two forms of tax reduction for commercial projects located in CARDs. The first is a credit against a corporation's state excise liability, which is calculated to lower its equalized property tax to the statewide average. Second, a 25 percent payroll deduction is available for up to 10 years for firms locating or expanding in urban areas with substantial poverty. To qualify for this incentive, the company must also offer an approved employee training program.

According to John Judge, undersecretary of the state Department of Communities and Development, the program has generated over \$400 million worth of commercial development activity in 140 CARDs located within Massachusetts' 351 cities and towns. MIFA's director, Robert E. Patterson, believes that the program has been critical in influencing investment decisions within the CARDs. "The fact that MIFA IRB financing accounted for more than half of all new industrial space added in Massachusetts in 1980 indicated the importance of the program to our state's economy," Patterson said.

The Massachusetts Capital Resource Company (MCRC) is an innovative example of a publicly chartered but privately financed and managed development finance institution. MCRC is a limited partnership privately owned and funded by eight Massachusetts-based life insurance

companies. It is a source of capital for business operations unable to obtain financing from conventional sources. Since its organization in 1977, MCRC has received contributions of capital exceeding \$140 million from its partners. In its first three years of operation, it invested \$54 million in 48 companies. The investments, directed toward providing debt capital for maturing industries and new companies, have helped to create or retain over 6,000 permanent jobs.

MCRC was created by an act of the legislature that reduced the state tax liability of the insurance companies in return for their contributions to the investment pool. "It was not generosity on the part of the insurance companies," said State Senator Robert Wetmore, chairman of the Senate Committee on Commerce and Labor. "It was something they wanted desperately. It was a compromise." Regardless of its origin, MCRC has been a highly successful catalyst to commercial development—so much so, that the MCRC companies are seeking continued authorization once their legal obligation expires later this year. It has been hailed by many development finance experts as one of the most promising experiments today.

There are only four publicly chartered and capitalized equity-providing institutions in the country. Two of these are in Massachusetts: the Massachusetts Technology Development Corporation (MTDC) and the Massachusetts Community Development Finance Corporation (MCDFC). Chartered by the legislature in 1978, MTDC is an independent public corporation that provides direct financing and management assistance to start-up and early stage technology-based companies.

The capitalization of MTDC's investment funds is provided in part by the Commonwealth, in part by the U.S. Department of Commerce, and in part by the earnings on the investments of its portfolio in several new areas of high technology. These include: materials science, avionics, and automation industries. Recapitalization of its investment fund, through a \$1 million grant from the U.S. Department of Commerce and a matching appropriation from the legislature, was accomplished in 1981. Subsequently, MTDC has invested \$1.55 million, which has leveraged in excess of \$11 million in investment by private sector sources. MTDC estimated that the investment will account for 2,400 new, permanent jobs at a public cost of \$1,693 per job created.

MCDFC is a public corporation that invests in business enterprises sponsored by community development corporations (CDCs) in economically depressed areas. Venture capital in the form of debt and equity financing is generally offered at terms more liberal than those of the private market and negotiated individually with MCDFC. Of

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Massachusetts has succeeded in addressing the ills of its economy primarily because the state legislature was willing to face the risks of innovation.

of four institutions, MCDFC is the most soundly financed. It received \$10 million in proceeds from general obligation bonds, which the state invested in the corporation's common stock. Through 1980, MCDFC had committed funds to seven enterprises, including a neighborhood supermarket, a Portuguese-language newspaper, and an upholstered furniture operation, for a total of \$1.5 million.

Both MTDC and MCDFC are publicly chartered, and their boards include strong representation from the private sector. Their structure allows them to hire independent, professional managers outside the state civil service. This encourages stability and low management turnover, which, in turn, leads to a higher quality and quantity of investment activity.

In 1970, the Massachusetts Legislature enacted the so-called "Leeway Law" to enable both savings banks and cooperative banks to invest directly in development projects and business ventures that would otherwise be off limits. Under the original law, banks were allowed to set aside 3 percent of their deposits for investments in the purchase, development and management of real or personal property. This investment could be in the form of necessary equity or debt financing to get a project moving. No more than 1 percent of deposits could be invested in a single project. Under Chapter 627, Laws of 1981, the legislature increased the banks Leeway authorization from 3 percent to 4 percent of deposits and required that not less than one-third of this be invested in housing facilities development. Chapter 627 also increased single project investments to 15 percent of deposits. Leeway has allowed banks to display their commitment to the communities they serve and participate directly in the development process, while providing needed dollars for community revitalization. Massachusetts is the only state to offer this type of development incentive.

Among its new initiatives, Massachusetts has established a Community Development Action Grant (CDAG) program. The program is designed to make \$17.5 million available to local governments that do not qualify for the Federal Urban Development Action Grant programs. More than 80 percent of the state's cities and towns will qualify for this program. While this approach is not new, it will allow many jurisdictions access to a significant amount of private investment that would otherwise have been unavailable.

As even this partial listing indicates, Massachusetts has created one of the most diverse packages of development finance tools to be found anywhere in the country. These institutions have altered Massachusetts' economic course by combining three market-affecting strategies: credit insurance, secondary market-

ing of revenue bonds, and incentives to particular industries and particular locations. The state has recognized the demands imposed by the shift from a traditional industrial base to one based on new technology, and it has responded by moving toward new priorities.

"We got out front on this issue," said Senator Wetmore. "The high-tech industry is doing well here because we put programs in place to support it." Under Secretary Judge points out that "the growth of high-tech companies in the state has provided a lot of spin-off benefits. Service sector and commercial sector economics, needed to support the growth industries, are thriving."

Providing a sufficient pool of trained workers and insuring that adequate space is available for expansion are also critical to continued economic growth. The Massachusetts legislature responded to these needs by creating a skills training program and expanding the State Land Bank's authority to finance redevelopment projects.

The Bay State Skills Corporation (BSSC), established in 1981, is a quasi-public corporation designed to stimulate job training and employment by combining public and private interests, commitments, and funding. Funded with \$3 million in state monies, to be matched by private contributors, BSSC identifies occupations that are in high demand, seeks out institutions that are currently providing strong skills training, and provides grants-in-aid to programs that train people for the growth occupations. The training will take place at existing schools, colleges and training centers around the state. Expectations are that the initial funding will provide training in the high technology, machinist, health care, and clerical fields for between 2,000 and 2,500 people over a two-year period.

Massachusetts is one of the few states to operate a land banking program. Capitalized in 1975 with \$49 million in general obligation bonds, the Government Land Bank was

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There is a nationwide trend toward more effective, comprehensive and coordinated use of development incentives.

initially set up to dispose of surplus land when five military bases closed. Recent legislation allows it to acquire, improve, and dispose of any federal, state and local surplus land or vacant buildings, or both, in the state. It has made land and buildings available for industrial, commercial, mixed-use, and residential projects. These projects accommodate new or expanding industries by improving contiguous parcels of land and buildings to create a good inventory of plant or residential sites. The properties are developed into industrial parks or separately assembled to meet a specific need. Once revitalized, the properties are sold or leased to private investors or public agencies. Through 1980, the Land Bank's activities had created 2,200 jobs and leveraged nearly \$60 million in private investment.

Massachusetts has been successful in addressing the ills of its economy primarily because the state legislature was willing to face the risks of innovation. "We have always been a very progressive legislature," says Representative Bassett. "We have been willing to take chances."

Bassett recently characterized his state as the "Japan of the U.S." "We are at the end of the market and we have no natural resources," he noted. "All we have is our wits and the skill of our people to survive and compete."

While Massachusetts is only one example of how public policies can influence the health of a state's economy, it is indicative of a nationwide trend toward more comprehensive, well-coordinated, and cost-effective development incentives. Many state lawmakers and development officials have become increasingly sensitive to several key policy decisions that are necessary to foster economic stability and job growth. In addition, they have gained a more sophisticated understanding of the role of state government in the development process.

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Massachusetts' financial incentives have concentrated on directing the flow of capital to compensate for market imperfections.

First, states are now giving greater consideration to where and what kind of development should occur. By targeting incentives, they are able to encourage private investment in distressed cities and in certain kinds and sizes of firms. For example, some states have chosen to encourage small, high-technology firms, while others are more interested in large manufacturing concerns. These policy decisions dictate the most suitable and effective combination of development incentives.

Second, the degree of risk a state is willing to assume in its development programs is rising. States are taking a more aggressive role in helping entrepreneurs bring new inventions and technology into the marketplace. The best-known programs of this type are the Massachusetts Technology Development Corporation and the Connecticut Product Development Corporation.

Third, states are increasingly willing to use public monies, in conjunction with private investment, to encourage or operate development programs. The previously mentioned Bay State Skills Corporation and the Massachusetts Capital Resource Company are examples of effective public/private sector cooperation.

Fourth, states are paying closer attention to the institutional mechanisms they use to achieve a particular development goal. The most commonly used mechanisms include: a state administrative agency, a semi-autonomous or quasi-public authority, or local governments.

Finally, states are placing a much greater emphasis on the effective coordination of development activities. These efforts demonstrate a growing understanding of complex capital markets and economic needs.

Almost 200 years ago, Edmund Burke pointed out that "mere parsimony is not economy. . . . Expense, and great expense, may be an essential part of true economy." Public officials in Massachusetts have accepted Burke's observation. Their long-term approach to economic development and their willingness to take intelligent risks are yielding real economic benefits for one state—and valuable lessons for other states to consider.



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*Kenneth N. Holard is a former senior research analyst with NCSL's Legislative Information Services program.*

DATE January 25, 1983

TRANSMITTAL  
Inter-Office

DEPARTMENT OF PUBLIC SERVICE REGULATION  
Public Service Commission

TO: Chairman John Vincent  
Select Committee on Economic Development  
FROM: Commissioner John Driscoll  
SUBJECT: Possible Amendments to HB 70: Wind Energy Tax Credit

1. The real legal justification for tax intervention into wind energy development might be that it truly is in the "precommercial phase"; other forms of energy in the same stage might also be included. Whether or not any are in the "precommercial phase", I can't say.

2. The tax credit should be available to companies manufacturing goods in Montana that are directly associated with the wind facility. On the front end wind equipment (i.e. nacelles, towers, generators, props, etc.) could certainly provide substantial industrial development. Some companies would welcome the avoidance of income taxes....to make a wind farm investment as a result of the potential tax credits, they would have to be substantial manufacturing operations to ever get their money back. On the back end, manufacturing facilities securing their own energy sources with large investments would receive their investment back in the form of tax credits from future manufacturing. These companies could be far more substantial large industrial manufacturing firms. The latter category, in my mind, is the real potential for job creation.

If the investment is made, and no jobs appear on any front, then the state is out no money. It will be forgoing what we never enjoyed in the first place.

3. The tax credit should be for an arbitrarily defined "precommercial period". Literally all of a wind facility investment should be credited, if made in the first years of the precommercial period. Less should be credited as wind facilities become lower cost. This phasing in provision would seem to me to attract immediate attention and commitment from large users and equipment manufactures.. and that is what we need...immediate attention and commitment.

4. Once an investment qualifies for the tax credit, the manufacturer should have an indefinite period to recapture the qualified investment against corporate income.

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