

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 86/2
998 SCOMM44: HOUSE POWER ALTERNATIVES STUDY COMM. 1979-80

the appointment of an eight-member economic advisory board which would address itself to an economic study to be carried out by a private firm selected by the Corps of Engineers. Its members included W. T. Kegley, Governor Egan's representative; Dr. William R. Wood, President of the University of Alaska; Irene Ryan, Anchorage mining engineer; Stanley J. McCutcheon, Anchorage attorney; Frank H. Mapleton, Fairbanks mechanical engineer; Dr. Edward Steve Shaw, Stanford University economist; Samuel B. Morris, Los Angeles consulting engineer; and Gus Norwood, executive secretary of the Northwest Public Power Association. Corps plans for the 1961 winter included economic study, dam structure study, and reservoir investigation. It was also announced that the U. S. Fish and Wildlife Service, a unit of the Department of the Interior, would make an independent study of the effects on wildlife of such a project as Rampart.⁽⁴⁾

In April 1961, Harold L. Moats of the corps reported on progress to a meeting of Anchorage civil engineers. He stated that an "exhaustive economic study" by a private consulting firm which he did not name, would probably take two years to determine the project's economic feasibility. He also described the drilling, topographic, and hydrographic work which the corps was carrying on.⁽⁵⁾

Moats was cautiously optimistic about the project: "Rampart is so large that many people consider it as something that must be considered for the far-distant future. That is not necessarily so. Our studies show that with full authorization and proper allocation of construction funds it is physically possible that Rampart could start producing a substantial amount of power for industry by 1971-72." It would take about 20 years to fill the huge reservoir but "it also takes some time to develop an industrial complex that can utilize a block of power of about 5 million kilowatts."⁽⁶⁾

Moats recognized such problems as the effects of extreme cold on the project and of the dam on spawning fish and migrating game, but felt that such difficulties would be overcome.

In public presentations made by Moats and Colonel Christian Hamburger of the Corps during the winter and spring of 1961, the corps spokesman stressed the long-range view of power needs, while stating

that full economic studies must still be made. Alaskans responded gladly to prospects for future industrial developments suggested by the corps officials. It was cheering to hear that "even Rampart's total capacity will be insufficient for the future demands of power-hungry industries--industries which process metal ores through electrical processes and industries that are auxiliary to these." Such industries as these "must locate where the power is cheapest."⁽⁷⁾

It was not the corps's policy to refer directly to the power projects of other agencies, such as the Devil Canyon proposal of the Bureau of Reclamation; however, Hanburger did assure Alaskans that "there is not another project in the planning stages in Alaska which could be built and on the line in 10 years with this kind of low-cost power."⁽⁸⁾

This was a valid reference to Devil Canyon, which was the only other possible rival to Rampart, and which was then being planned by a rival federal agency.

Bureau of Reclamation Competes

In 1959 the Bureau of Reclamation's report on the Devil Canyon project expressed favorable prospects for the Susitna River basin which was "ideal in many respects for initiating a substantial hydroelectric development program in the Railbelt of Alaska." Such power could be produced at a reasonable cost of five or six mills per kilowatt hour to the consumer. Another study released by the bureau early in 1961 was equally optimistic about the two dam projects which would include a 680,000 kilowatt capacity power plant, a capacity nearly eight times the current production of all power plants in Alaska. As Reclamation Commissioner Floyd Dominy put it in a Boston speech at a meeting of the Associated General Contractors, "This energy could be a major factor in unlocking Alaska's industrial development."⁽⁹⁾

Clearly the Bureau of Reclamation was reacting to the corps's push for the Rampart Dam project. Initially, the Bureau commissioner avoided specific references to the rival Corps of Engineers Rampart project, but the thrust of his remarks clearly formed an argument: Devil Canyon was big enough to meet anticipated power needs and foster industrial development.

It appeared that battle lines were being drawn between the two projects. There was nothing illegal or tawdry in the rival agencies' appeals to the public. In fact, it looked in 1961 as if interested parties would be given a choice of power alternatives which, in the democratic process, was certainly a healthy situation. Before long the power issue was sharpened in the public forum. In September 1960, Floyd E. Dominy, Commissioner of the Bureau of Reclamation told a Senate Interior and Insular Affairs Committee that Rampart was not needed and its consideration should be postponed indefinitely and that the Bureau of Reclamation offered a better answer to power needs. Dominy submitted his agency's feasibility report on the Susitna River, "a more modest program...to meet the Railbelt's needs for years to come." Devil Canyon and the other proposed Susitna projects "can keep ahead of growing requirements."⁽¹⁰⁾

The modest proposal of the Bureau did not go unnoticed by Rampart proponents. Senator E. L. Bartlett of Alaska charged Dominy with attempting to "dynamite" Rampart, a stance "in keeping with the 'do-nothing' policy of the Republican administration in western power development." Bartlett apparently believed that more was involved than the traditional Bureau of Reclamation-Corps of Engineers rivalry; Dominy's statement reflected a Republican election tactic to discredit the Rampart project. The "limited present market" argument, he stated, was a familiar echo of Republican sentiment, an argument used earlier "against Grand Coulee and the other great dams of the West."⁽¹¹⁾

Bartlett insisted that Democrats were not supporting Rampart to the exclusion of other projects, like Devil Canyon: "We are strongly for the multi-stage development of the Susitna."⁽¹²⁾ Obviously Bartlett knew well that Congress was not likely to fund Susitna projects in addition to Rampart, but did not find it necessary to explain that.

Looking back now to the 1960-61 period, it is possible to see that Alaska's power proponents led by Senator Ernest Gruening determined that one project should be presented to Congress, and that would be Rampart. It would not do to divert attention to Devil Canyon or any other alternative. Once this decision was made, only limited means of calling attention to Devil Canyon remained. Without backing from either Alaskan public officials or state newspapers, the Bureau of Reclamation had little chance to rally support for the Susitna project.

Market Study

It was May 1961 when the corps announced the granting of a \$120,000 contract for the evaluation of Rampart's economic benefits. The Development and Resources Corporation of New York was selected "from among seven advisory corporations of international renown."⁽¹³⁾ David E. Lilienthal, formerly chairman of the U. S. Atomic Energy Commission, was chairman of the board for the organization and its president, Gordon R. Clapp, had formerly chaired the board of the Tennessee Valley Authority. This respected organization had one year in which to conduct the study which would determine the size of the market for Rampart's power, basing its analysis on existing data and projections for the future.

According to the corps, the corporation would start with several major premises: that the U. S. population was expected to rise sharply as reported by the U. S. Department of Commerce; that the gross national product would increase to \$570 billion by 1965 and \$2,300 billion by 2010; that personal income would increase; that employment and business activity would continue on a high level such that the standard of living for the U. S. and the world would continue to grow; and, finally, that technology in the major power-using industries would develop along lines then generally recognized as feasible for the future.

Given such premises and the hydropower orientation of the organization's officials, the corps might have had reason to believe that the Development and Resources Corporation would not be dismayed by the potential of Rampart.

The corps was not indifferent to its public reputation. Fairly or not, opponents of that agency had frequently charged that its only concern was in building dams, regardless of particular needs and other considerations. Opponents of Rampart were already voicing this sentiment, and Colonel Christian Hanburger tried to remove any impression of over-eagerness in a series of public pronouncements in August 1961. Speaking to the Fairbanks Chamber of Commerce, Hanburger stressed that Rampart could not be built unless a market existed for the enormous amount of power which would be produced. Feasibility did not depend upon the suitable conditions for construction: "We must know that there will be a market for the power...it must be proven that what can be

produced can be used to benefit Alaska and the nation." And this crucial factor was to be determined by an assessment of an independent agency--not by the corps itself; this was why the corps had contracted, with much attendant publicity, with the Development and Resources Corporation. Hanburger admitted that neither present nor future power needs in Alaska justified a project of Rampart's capacity. There was a "dire need" for cheap power in Alaska, but "we cannot afford to go out and develop power to the extent that we will have a large block of it sitting around unsold."⁽¹⁴⁾ What the corps needed was some assurance that Rampart's construction would trigger industrial growth, i.e., that users would establish plants in Alaska in order to use the cheap power.

Hanburger's cautious assessment did not deter such Rampart proponents as Alaska's Senator Ernest Gruening, who were not worried about excess power since they believed that a surplus of power could attract much-needed industry to Alaska. Their view followed a historic Alaskan pattern which had been expressed again and again in the past, namely, that if a resource or a transport means were first made available, swift development would follow inevitably. In this view, providing the resource first was not putting the cart before the horse; on the contrary, it was the rational pattern for prospective development. In fairness to their view of things, it was difficult to forecast what future power needs might develop. According to Hanburger's estimate, Rampart, if all studies proved favorable to construction, would not generate power before 1971 or 1972. Perhaps by that time, its proponents reasoned, industrial demands for power will have multiplied many times beyond current expectations. A matter of faith in Alaska's potential was involved.

Gruening's Leadership

Senator Ernest Gruening's great interest in Rampart became apparent in the spring of 1961. After a visit to the dam site by Army engineers and the advisory board, Gruening told the press "we're going to get Rampart." His expression was to be repeated often from that point and amounted to something of a war cry for the project. The dam's cost was estimated to be some \$1,300,000,000, a huge sum, but justified by Gruening

and the Corps of Engineers because of the expected low cost of power which would be produced.

The *New York Times* reported on Gruening's campaign and on the Devil Canyon study in June 1961 and noted that conservationists and power developers were frequently in conflict over hydroelectric projects.

"Moreover, rivalry frequently arises between the Corps of Engineers and the Federal Bureau of Reclamation." Gruening's strategy with regard to the rivalry was to emphasize the comparative costs of Rampart and Devil Canyon power--two mills per kilowatt hour for Rampart against an estimated six mills for Devil Canyon. And Gruening questioned whether Devil Canyon power would even be as cheap as six mills, arguing that the cost would actually be eight mills unless "Congress waived the interest charges on the fifty-year, \$500,000,000, project."⁽¹⁵⁾

It is not clear that the public had much of an opportunity to compare the Rampart and Devil Canyon projects. The Bureau of Reclamation had a very limited forum for presenting its case and the proponents of Rampart did not expend much effort in drawing comparisons. Indeed, there was no way Alaskans could know that their support of Rampart would be useless and that the struggle would set back hydroelectric power development for years. In retrospect we can see that the all-out struggle had just this effect, yet at the time no one could reasonably have presented the competing probabilities cogently.

Efforts to elicit a public attitude did not come to anything. When, for example, the members of the Greater Anchorage Chamber of Commerce reviewed figures on Rampart, Devil Canyon, and a proposed Bradley Lake project presented by its power committee, they were unable to agree on any recommendations. All the group could do was reaffirm earlier requests stating the need for power. As the press reported, the chamber "could not come to an understanding of which project or which interim generating facility would be most advantageous to back."⁽¹⁶⁾

Who should the public have looked to for disinterested leadership in 1961? Alaska's congressional representatives urged Rampart in terms which excluded other considerations, while Governor Egan's position was not clearly expressed. Organized presentation of the situation was thus left to Gruening and the Yukon Power for America lobby, except for the efforts of the Bureau of Reclamation, the Corps of Engineers, the Alaska

Conservation Society, and the proponents of coal power. In Alaska, only the pro-Rampart voice was a strong one, but, as it turned out, the weight of opinion expressed in Alaska was not decisive.

The argument of conservationists was expressed forcefully by Alaska State Representative Jay Hammond after he and others convinced the state legislature in its 1961 resolution to abandon a blanket endorsement of Rampart. Legislators agreed to call for the federal government's acceleration of biological, mineralogical, and sociological studies in order that they not lag behind engineering feasibility studies. Hammond expressed concern over the effects of Rampart on the fish, wildfowl, and people of the region, and wondered that Alaskans, who repeatedly protested federal land withdrawals, would endorse the huge Rampart withdrawal without question.

Other sources of power should be considered, Hammond suggested, "The Rampart has already, and no doubt will continue, to de-emphasize less imaginative, more immediately available and perhaps more feasible sources of power. Rampart proponents say that these will not be needed when the great dam is built. "Could it possibly be the converse is also true: if other power sources are developed, would there be any need for Rampart?" (17)

Hammond also questioned the Corps's and Gruening's thesis that cheap and abundant power was the key to Alaska's development. A study of the economy commissioned by the legislature and made by the Arthur D. Little Company denied this thesis, stating flatly that industrial development would not necessarily follow the creation of a large power source.

In the 1964 legislature, Hammond and others checked a move by Rampart supporters to get state funding for dam lobbying. The House resolution cautioned against the use of state funds in promotion of federal action prior to the completion of studies on the project.

An Alternative?

The mounting criticism of Rampart split the ranks of hydropower proponents who feared long-term delays would create a stalemate in the power situation. C. W. Snedden, publisher of the *Fairbanks Daily News-Miner*, threw his support behind Devil Canyon in April 1961. Snedden

argued that "Devil Canyon offers no conflict with the huge, long-range Rampart project. Rather, it offers a first step to lower power costs in the immediate future while we await the necessary but lengthy engineering, authorization and construction periods of a project of the magnitude of Rampart." The Bureau of Reclamation forecasts for Susitna would answer a great need and could reduce power costs to Fairbanks users to a fraction of its present cost: "Less than seven years after the project receives approval from Congress and the President, construction should be completed on the first stage."⁽¹⁸⁾

Snedden had supported the Yukon Power for America organization but, unlike others, he was prepared to look at alternatives. He perhaps read the signs of Rampart's fate more clearly than did other supporters, or did not agree with their unstated but obvious belief that boosting Devil Canyon threatened Rampart.

The *Anchorage Daily News* editorialized in favor of Devil Canyon on several occasions. In October 1961 it cited the recommendation of the Alaska Chapter of the National Electrical Contractors Association, a group which "once again strongly recommended construction of the Devil Canyon dam." The contractors predicted an urgent need within five years for additional power supplies and observed that Rampart "is still in the dream stage with ten years of engineering and study ahead of it," while President John F. Kennedy and Secretary of Interior Morris K. Udall had already "given the go ahead" to the Susitna project. "Look to the Susitna for immediate needs," urged the *News*, "while pursuing Rampart as an overall super power plant for not only Alaska but all of northern North America."⁽¹⁹⁾ In January of the same year the *News* made the same point: "If there is a choice, which when it comes to getting in on federal monies there must be, it would seem wiser to concentrate on Devil Canyon at this time."⁽²⁰⁾

And, once again in May 1961, the same newspaper editorialized on the dam issue. The report from the Resources Development Corporation was due some time in May, and "around it may swing Alaska's future."⁽²¹⁾ According to the editor, the market study would determine the fate of Rampart.

Market Favorable

The Development and Resources Corporation reported in April 1962. Gordon R. Clapp, the research organization's president made it clear in his letter of transmittal to the Corps of Engineers that his team had directed itself to the essential question. "Can the power output of the Rampart project be marketed if and when the project is built?" And the answer after completing the study was conclusive: "We have reached the conclusion that the power output...can be reached." Study of market trends indicated that a demand for the power would follow its existence. Industries requiring cheap power would locate in various regions of the state for the specific purpose of utilizing Rampart power. Not only would industry use the anticipated power from Rampart but would probably require even more. Thus the research organization echoed the old theme of Alaska's boosters: let the government provide the necessary stimulation and development would follow. As Clapp put it: "Rampart should be considered as a stage of the development of Alaska to the benefit of the nation." (22)

Division of Responsibility

According to earlier Corps' pronouncements, the favorable market report should have signaled a significant green light along the road to eventual passage of an appropriations bill for the construction of Rampart. Yet shortly before the report was issued, its impact was negated by an agreement between the Secretary of the Interior and Secretary of the Army. After considerable negotiation, the secretaries had resolved to end the long rivalry between the U. S. Army Corps of Engineers and the Department of the Interior's Bureau of Reclamation, and eliminate the duplication of effort and responsibility in dam projects. Congressmen and executive officers had called for such cooperation for years, and the agreement seemed to bring the long competition to an end. Projects in Alaska, the Columbia River Basin, and the Missouri River Basin were subjects of the compromise. Henceforth the Bureau of Reclamation was charged with responsibility for all economic feasibility and power-marketing studies and the operation of completed projects in Alaska, while the corps would handle engineering studies and construction.

Rampart was treated specifically in the agreement. The corps would complete its studies of the project, yet the Department of the Interior would undertake studies of the projects' effects on natural resources and investigate the marketing potential as well. It is not clear why an agreement to end duplication of efforts would specifically mandate duplication in Rampart's case, unless the feeling existed in some quarters that the study commissioned by the corps might be questionable. At any rate, the agreement opened the way for more studies and effectively limited the corps's overall responsibility for evaluating Rampart. At some future date, the corps would have to render a decision, but would need to consider the findings of the Department of the Interior before acting on Rampart.

The Bureau of Reclamation funded another market study over a two-year period (1963-65) at a cost of \$250,000, and the Department of the Interior awaited the results of studies which its various divisions were still carrying on. Meanwhile, the controversies raised by conservationists and sports interests were drawing nationwide attention to Rampart. Senator Gruening had more to worry about now than the slow machinery of government as the public debate widened.

When the U. S. Fish and Wildlife Service warned against Rampart in January 1963, Rampart proponents received their first substantial setback. Now the conservationists and sportsmen had the aid of a strongly worded report from an Interior Department agency to provoke public comment. The odds shifted as a consequence.

Yukon Power for America

Gruening hoped to offset the growing conservationist sentiment by organizing a strong center for pro-Rampart opinion. In September 1963, a meeting was held at Mt. McKinley Park which resulted in the formation of Yukon Power for America, a lobbying group led by the mayors of Anchorage and Fairbanks.

Gruening told the conferees in a keynote address that more unanimity existed for Rampart than had been expressed for statehood, and professed not to understand the opposition of conservationists. Gruening

and others questioned a conservationist view financed by gunmakers, a reference to the support given the Alaska Conservation Society by national sportsmen organizations. Ira Gabrielson, formerly of the U. S. Fish and Wildlife Service, and then director of the Wildlife Management Institute, was specifically attacked.

Sporting interests continued their campaign against Rampart. A newsletter to all Boone and Crockett Club members from the Wildlife Management Institute called Rampart "the greatest boondoggle of all time." Members were urged to protest the expenditure of 1.5 billion dollars in public funds while the market for Rampart power was "uncertain, at best."⁽²³⁾ The important Yukon Wetlands would most certainly be destroyed, warned the club, and these produced one and one-half million ducks, geese, swans, and cranes each year, not to mention numerous other wild birds.

Gruening persisted with his advocacy and found a new argument in support of Rampart. Studies indicated that Alaska had huge phosphate deposits, he reported to a U. S. Senate Interior Committee, and Rampart was needed to convert the phosphates into commercial products such as detergents and fertilizer.

Gruening worked desperately to offset the public impact of the Fish and Wildlife Service. His arguments before various groups ranged from branding the agency's report as "untrue and unscientific" to his repeated insistence that conservationists believed that "the two-legged species is not entitled to a habitat."⁽²⁴⁾ People's needs should be considered too, Gruening stated, and the bias of officials of the Fish and Wildlife Service should be disregarded.

An examination of the public discussion in Alaska from 1959 through 1964 shows the force of persistence. In 1961 there had been considerable support for Devil Canyon. Two major newspapers, the *Fairbanks Daily News-Miner* and the *Anchorage Daily News* favored the Susitna project as an immediate goal which should be pursued, although neither paper pushed particularly hard. Rampart was not to be abandoned, but the papers argued that Devil Canyon construction should be achieved first. But Alaska's governor and its congressional leaders rejected this approach and insisted on reversing the priorities, and influential citizens fell

in line by forming Yukon Power for America, a lobby for Rampart. The very title of the association precluded a consideration of Devil Canyon; it was to be Yukon power, that is, Rampart, or nothing. Conservationists seemed to support Devil Canyon in 1961 too, but as the Rampart proponents hardened their line, it was enough for conservationists to attack Rampart without making more than vague references to other power alternatives.

Conservationists had seemed to favor Devil Canyon as an alternative to Rampart in the early 1960s. Celia Hunter of the Alaska Conservation Society wrote the *Anchorage Daily News* in October 1963 of a "conspiracy of silence" regarding alternatives and urged more consideration of Devil Canyon because of its Railbelt location and its "clean bill of health from the Fish and Wildlife Service biologists."⁽²⁵⁾ Robert B. Weeden, wildlife biologist and spokesman for the Alaska Conservation Society expressed similar views early in 1964, noting the favorable 1960 Fish and Wildlife Service report: "This project, to me, is a much more sensible one for Alaska. First, we could get it within seven years. Second, it would produce eight times as much electricity as we now use in the whole of Alaska, which should be enough for even dreamers. Third, the power would be available 15 miles from the Alaska Railroad, midway between Anchorage, and Fairbanks. Fourth, it would destroy few valuable resources."⁽²⁶⁾

Weeden made no secret of the fact that support for Devil Canyon had strategic significance in the Rampart struggle: "In my opinion, one of the best ways to squelch Rampart would be to stir up the latent support present for other worthwhile power projects--like Taiya or Devil Canyon. News media realize this, and Devil Canyon, for example, is never mentioned any more."⁽²⁷⁾ The Alaska Conservation Society spokesmen, Hunter and Weeden, appeared to be sincere in favoring Devil Canyon and were not simply bringing forward the Susitna project as a means of halting Rampart.

In March 1964, the Alaska Native Brotherhood adopted a resolution withholding an endorsement of Rampart. Native leaders feared that the rights of Natives of the Yukon were not adequately protected. This resolution directly countered Gruening's insistence that Natives favored the construction of Rampart, and it constituted an alliance between Natives and conservationists. Thus a new element of opposition, potentially a very potent one, entered the picture. From this point Rampart

supporters could not argue that the project would benefit "all the people."

The heaviest blow of all fell on Rampart proponents in May 1964 when the U. S. Fish and Wildlife Service recommended against the dam in a report indicating that the blow to wildlife would be overwhelming. Another came indirectly in the form of the great earthquake which devastated southcentral Alaska in March 1964. Rampart proponents were divided upon the effect of the earthquake on the hydroelectric project. C. W. Snedden argued that Congress would be unlikely to appropriate money for Rampart following the appropriation of large sums for the rehabilitation of southcentral Alaska. Other members of Yukon Power for America felt that the earthquake might engender public sympathy which would be favorable to Rampart.

Trustees of Yukon Power for America met at Sitka in May and were addressed by Governor William Egan and Senator Bob Bartlett. Both speakers urged them to push even harder for Rampart and both affirmed "Rampart will be built"--the familiar rallying cry of proponents. The trustees responded by calling for early construction and insisting that the need for Rampart had not been diminished by the earthquake.

Despite the affirmative line maintained at the meeting, those close to the situation saw that hope for Rampart was dim indeed. Time was running out for the Yukon Power for America supporters. There was nothing they could do after the double blow dealt by the Natives and the U. S. Department of Fish and Wildlife in 1964. The Rampart project continued to suffer as the conservationists accelerated their attacks on the great project, and the final blow came when the Department of the Interior's 1967 report to the Secretary of the Army, *Alaska Natural Resources and the Rampart Project*, contradicted the firmly held positions of Rampart's proponents.

Congress could hardly be expected to provide construction monies unless the need for the project's power had been clearly established. Even then, Congress would have to be convinced that the economic gains offset any anticipated ecological disruptions. On both counts the Department of the Interior's conclusions were adverse to Rampart: the power market did not seem to exist and the ecological effects would be drastic.

Without making direct reference to the Resources and Development Corporation's optimistic report to the corps on the ample potential Rampart power market, the Department of the Interior dismissed its findings: "The fragmentary and inconclusive data available concerning Alaska mineral resources, together with uncertainties with respect to competitive world resources and markets for potential Alaska products, preclude accurate forecasting of the industrial development likely to occur in Alaska with the availability of low-cost power."⁽²⁸⁾

The Department of the Interior acknowledged the importance of "aiding Alaska, in the national interest, to develop an economy based increasingly on development and processing in Alaska of Alaska resources," and submitted that Rampart would be a catalyst to such development. "However, a basic requirement of each proposal of federal assistance should be that it constitutes the most desirable means of accomplishing a merited objective and the Rampart project does not stand this test."⁽²⁹⁾ Thus the department's adverse conclusions were not based on differences with Rampart proponents on the philosophy of government, but on matters of economy and ecology.

The Department of the Interior found that the only industry likely to be attracted to Alaska for cheap power was that of aluminum production, and it evaluated the usage and costs which could reasonably be established. The resulting figures showed that power rates would be too high to attract aluminum production to Alaska, and other studies proved that transmission costs of Rampart power to the Northwest would preclude marketing there. "In the absence of such demands for large blocks of the project power tremendous financial investments required for...and the availability of favorable, less costly power alternatives," The Department of the Interior could not recommend construction.⁽³⁰⁾

The Department of the Interior noted that its field reports were also reviewed by the University of Michigan. This study, funded by the Natural Resources Council of America, reviewed ecological and economic consequences of the Rampart project as reported by the corps. The Department of the Interior did not further cite the Michigan studies, but knowledge of them could not have influenced the department to favor Rampart. Michigan researchers did not agree that considerable population

and industrial increase could be anticipated and concluded that the Development and Resources Corporation tried to uphold a preconceived position "that Rampart Dam's market would be justified by listing all possible industries that could use up its electrical output."⁽³¹⁾

As for the ecological questions, the Department of the Interior pointed out that the Fish and Wildlife Service had estimated an annual wildlife loss of 1.5 million ducks, 12,800 geese, 10,000 cranes, 20,000 grebes, 13,000 moose, and 3.6 million commercial fur animals. Additionally, between 231,300 and 430,000 anadromous fish would be lost each year. Some mitigation measures could reduce these losses but "full replacement of losses of fish and wildlife resources would not be feasible or possible." Without calculation the loss monetarily, assuming mitigation features such as salmon ladders were constructed, Fish and Wildlife believed "the losses would be so great as to hazard achievement of a favorable benefit-cost ratio for the project."⁽³²⁾

The Department of the Interior asked the National Academy of Sciences to review the fish and wildlife findings. The academy's review overwhelmingly contradicted the arguments of Rampart proponents who had argued that losses could be offset by gains:

1. The Yukon Wetlands, with its rivers, vast networks of marshes, and lakes and potholes, is one of the finest fish, wildlife, big game, and small game production areas in North America.

2. Construction of the Rampart dam would destroy the productivity of the Yukon Wetlands in renewable resources, and leave in its stead a huge windswept lake, an unsatisfactory habitat for wildlife.

3. If Rampart dam is constructed, individual animals might survive flooding of the reservoir area, but the likelihood that populations of animals would survive is extremely doubtful. Other habitats to which these populations might migrate are already supporting all the life forms they can.

4. Construction of the Rampart dam would result in the destruction of the valuable up-river salmon stocks. On the other hand, the committee is not convinced that the four proposals for mitigation of the effects on fishing of the Rampart dam are feasible; and, if feasible, that they would be successful.

5. The Yukon Wetlands presently contributes more than one million waterfowl annually to the continental duck population. The proposed waterfowl mitigation measures would be almost prohibitively expensive and would ultimately contribute less than a third of the present waterfowl production. The reservoir would not provide suitable nesting habitats, marshes, and shallow water areas because of its relatively steep banks, rising waters as the reservoir is filling, and later, because of wave action and ice push.

6. Big game, small game, and various fur-bearing animals would also disappear. Mitigation measures for resident game populations are not feasible.

7. It seems inconceivable that serious thought is given to the investment of more than \$650 million to support mitigation programs whose feasibility and likelihood of success can only be regarded as extremely problematical. There is need for thorough comparative evaluation of the benefits from both the present situation and those reasonably expected from the proposed impoundment.

8. Construction of the dam would destroy a highly productive area which is presently benefiting the whole of North America at no cost.⁽³³⁾

Any assessment of the Rampart Dam project raises certain considerations, the chief of which is whether Congress was ever likely to fund such a gigantic venture. It may be that its very size might have created enough enthusiasm, but we can never know with any certainty. Traditionally, Democrats have taken great pride in similar engineering marvels, notably the Grand Coulee Dam and the Tennessee Valley Authority, and the Democrats surged to executive power with John Kennedy's election as president in 1960. Yet there were other national priorities competing for funds in the 1960s, particularly as the Vietnam conflict escalated. Economic considerations aside, the period was one of increasing awareness of the impact of development on the natural environment, and national conservation sentiment against the dam was displayed effectively. Heavy conservationist pressure was brought to bear on the Department of the Interior and such pressure would have been felt acutely by Congress, if the department had recommended construction.

It is certainly arguable that Rampart's prospects were never very good. If this were the case, why did it go as far as it did, and what were the effects of the campaign? In answer to the first question, it seems clear that the dynamic leadership of Senator Ernest Gruening provided much of the impetus. He inspired the project, rallied support in Alaska and elsewhere, and badgered government agencies relentlessly. It was as if Gruening saw Rampart as the climax of his brilliant political career. He insisted that the project was not a visionary or romantic one, but one of the eminent practicality, a means of solving with one blow the decades-long dilemma of the Alaskan economy. He was a wise man and a cagey fighter but could not realize his hopes when too many experts disagreed with his analysis of the dam's value.

Gruening lost his campaign and the struggle had important effects on Alaska. Success gave the conservationists in and outside of Alaska an assurance that inspired their further organizational efforts; and it provided a platform for Native's opposition to federal policies which was to bear fruit in the land claims dispute.

These were positive gains; were there negative results? Some of the proponents of Devil Canyon certainly considered this to be the case. But for Rampart, Devil Canyon might be producing power today.

SUSITNA (DEVIL CANYON)

The history of the Devil Canyon proposal shows complexities beyond those related to the Rampart question.

The nineteenth Alaska territorial legislature, meeting in early 1949 in Juneau, addressed a joint memorial to the President of the United States, the Congress, the Secretary of the Interior, the Bureau of Reclamation and the delegate from Alaska, asking that Alaska be included in the Bureau of Reclamation program with participation under the Reclamation Funds. The memorialists pointed out that the Bureau of Reclamation had operated since 1902 in the western states and played a substantial role in developing irrigation projects and reclaiming lands in that region. Since 1939 the bureau's responsibilities had been enlarged to include the construction of hydroelectric power projects. Inclusion of Alaska into the bureau's program, the memorialists maintained, would result in the expansion of utilities and other services with consequent acceleration of settlement. This, in turn, would strengthen the territory as a buffer area in the interest of national defense.⁽³⁴⁾

Subsequently, the Department of the Interior provided \$150,000 to be used by the Bureau of Reclamation to update its Alaskan investigations of 1948. The results of these studies were to be used as a basis for legislation authorizing the development of the territory's water resources.

In its final report, published in 1952, the Bureau of Reclamation identified a large number of possible hydroelectric power sites throughout Alaska. The bureau pointed out that, among all the potential rivers, the Susitna River was the most strategically situated of all Alaska streams because of its proximity to Anchorage and Fairbanks and the connecting railbelt. The Susitna River basin occupies the northern half of the Cook Inlet area. It is bounded on the west and north by the Alaska Range, and on the east by the Copper River Plateau. The Susitna River enters Cook Inlet 25 miles west of Anchorage. The main stream originates in a series of glacier-bearing peaks some 90 miles south of Fairbanks and 200 miles north of Anchorage of which Mt. Hayes at 13,940

feet is the highest. For the first 50 miles the river meanders generally southward over a broad alluvial fan and plateau after which it turns sharply westward for 75 miles through a practically continuous canyon incised in a high-level broad valley; it then travels southwest for 125 miles in a broad lowland. The Susitna has five principal tributaries: The Maclaren River originating in the Alaska Range, the Tyone River from the Talkeetna Mountains, the Chulitna River from the Alaska Range in Mount McKinley National Park, the Talkeetna River from the Talkeetna Mountains, and finally the Yentna River system which drains a large portion of the Alaska Range. (35)

The Bureau of Reclamation identified three possible damsites on the Susitna River, labeled sites Nos. 1 through 3. The first was near the upstream end of the 75-mile canyon section some 17 miles below the mouth of the Tyone River. The bureau envisioned a main dam in the steep-walled rock canyon, 100 feet wide at the bottom. A concrete dam some 575 feet high with a crest length of 12,00 feet would create a reservoir with 9,000,000 acre-feet of active capacity. The bureau estimated that a power plant at this site would generate more than 2,000,000,000 kwh of firm energy each year. (36)

The second site was located 36 miles below the first at a location where the valley bottom is less than 300 feet wide and rock slopes rise far above the river at 45° angles. A concrete dam raising the water 425 feet would create a reservoir reaching to the tailwater of site No. 1 and contain some 1,000,000 acre-feet of active storage space. The annual power output at this plant would exceed 2,000,000,000 kwh of firm energy. (37)

The third site, or Devil Canyon Site, was located 30 miles downstream from the second site. At this location, the rock walls rise steeply, almost vertically in places, to heights of 600 to 1,000 feet above the stream. A dam high enough to raise the water 525 feet would have a crest length of 1,000 feet and create backwater to site No. 2. The active storage capacity would be 1,000,000 acre-feet and the annual firm energy production would amount to more than 2,600,000,000 kwh. (38)

The Bureau of Reclamation had focused attention on Alaska's vast water resources, pointing out that more than half the hydropower potential remaining in America was found in the territory. And, in order to meet some of Anchorage's power needs, Congress authorized the Bureau of Reclamation to build a relatively small installation at Eklutna near Anchorage in the early 1950s.

Since the early 1950s, both the Bureau of Reclamation and the Corps of Engineers have conducted studies identifying the various viable hydropower sites in Alaska. After release of a favorable feasibility study in May of 1960, formal review was initiated in 1961. The Department of the Interior proposed authorization of Devil Canyon and Denali, and transmission facilities to Anchorage and Fairbanks. At a cost of \$498,874,000, the project was designed to produce a large block of low-cost power serving as a catalyst, according to Secretary of the Interior Stewart L. Udall, for expanding the population and bringing industrial development to the railbelt area.

Unfortunately, the Department of the Interior's timing paralleled initial moves on the Rampart project by the U. S. Army Corps of Engineers. Shortly thereafter, the Department of the Army recommended deferring any action on Devil Canyon until the Rampart studies were completed. For all practical purposes, the recommendation shelved the Devil Canyon proposal for the time being.⁽³⁹⁾

Some Alaskans continued to advocate Devil Canyon. William A. Egan, Alaska's governor, voiced his concern that, despite predictions of a doubling of energy demands within ten years, virtually no additional power generation facilities were under construction. The governor also urged that the six-mill estimate for Devil Canyon be reappraised since Alaska needed low-cost power for industrial development. Various chambers of commerce supported the Devil Canyon project as did the Alaska Chapter of the National Electrical Contractors Association. The latter organization had put on a drive "to sell electric heat." It had received a guarantee of cost of operation to the consumer from both the Chugach Electric Association and the Golden Valley Electric Association. The new rates made electric heat competitive with oil and gas heating. "The public is hungry for the all-electric house" and "quite a number of

buildings have been contracted for without any publicity. So we are bound and determined to sell more power than they have available, and to force a development of electric power generation." But despite support for Devil Canyon, it was the Rampart proposal which had captured the public imagination. Described as "the daddy of all power projects" on the North American continent by its proponents, it did not matter that the proposal was still in the "dream stage" and needed at least ten years of further studies. The sheer size of the grand project attracted many supporters. Devil Canyon paled in significance when compared to Rampart. (40)

The Army-Interior agreement of 1962, already referred to, had assigned leading responsibilities for comprehensive hydropower development investigation in Alaska to the latter department. The agreement had assigned design and construction responsibilities for Alaska water projects to the Corps of Engineers. While the corps prepared a Rampart study, the Bureau of Reclamation contributed a natural resource and power market investigation to the corps's project, but also accomplished considerable additional work on the power potential of the Upper Susitna. The Department of the Interior issued its report, entitled "Alaska Natural Resources and the Ramparts Project," in 1967. In it, it appraised the various power alternatives and proposed a tentative plan for the railbelt area. The investigators recommended an initial interconnection of the Anchorage and Fairbanks areas and construction of well-head, gas-fired thermal plants in the Cook Inlet area, together with such mine-mouth, coal-fired thermal plants in the Cook Inlet and Healy areas as appeared economical. For the near future, the Department of the Interior envisioned the expansion of thermal plants because of the relatively low construction costs involved, but also recommended the construction of hydroelectric developments, such as individual dams on the Upper Susitna River and the Bradley Lake project. The department realized that the costs of hydroelectric power development consisted almost entirely of very high construction investments. Since hydropower must be generated near the site of falling water, it often requires extensive and expensive transmission facilities as well. The principal advantage of hydropower is that electricity is generated from falling water, a renewable resource

which is free. Furthermore, operation and maintenance costs are very minor. Competing thermal plants, while relatively cheap to construct, are susceptible to rising fossil-fuel costs throughout the life span of the installation and also are relatively expensive to maintain and operate. (41)

While most studies by federal agencies and railbelt area utilities after the 1967 Department of the Interior report focused on the generation of electricity by low-cost Cook Inlet gas, interest in the Susitna project continued on a low level. Finally, in January of 1972, the U. S. Senate Public Works Committee, at the urging of Senator Ted Stevens (R., Alaska) passed a resolution calling on the Corps of Engineers to study the Upper Susitna and a 1973 resolution by the Alaska State Legislature requested the Department of the Interior to update its feasibility report on the Susitna project. In response, the corps requested the necessary funds from Congress for its 1974 fiscal year budget to undertake the study. The Office of Management and Budget, however, disallowed the funds. (42) Obviously, it did not consider the Alaskan project to have a high priority.

Energy Crisis

A new urgency in looking at alternatives to fossil fuels had been forced upon the United States by the Arab oil boycott in 1973. In an effort to bring about a change in American policy toward Israel, the Arab countries had cut off oil supplies to the United States. The pressure to develop reliable domestic energy supplies became almost irresistible. By late 1973, Americans were shivering through a cold winter and debated the energy crisis. And, perhaps for the first time, most realized that the era of cheap and plentiful energy had come to an end.

Appropriately enough, Senator Mike Gravel (D., Alaska), the chairman of the Senate Water Resources Subcommittee, announced in January of 1974 that his group had authorized the expenditure of \$50,000 for updating the 1960 Bureau of Reclamation feasibility study of the Susitna project. The Army Corps of Engineers was to complete the study that very same summer and as early as 1975 Congress could be asked to authorize

a study of the site and design for the project. An appropriation to begin construction, if all went well, could be proposed as early as 1976. (43)

Early in that same year the other members of Alaska's congressional delegation, Senator Ted Stevens (R., Alaska) and Representative Don Young (R., Alaska) introduced legislation which would authorize construction of the Susitna project. Under the terms of the pending bills, the corps would receive approximately \$1 million to begin design work based upon a review of the prior work performed by the Bureau of Reclamation. It would also allow a preliminary analysis on transmission lines and marketability of Susitna power by the Alaska Power Administration. (44)

Agency Involvement

Of the federal agencies which have become involved in the development of hydroelectric power in Alaska, the two most important are the Department of the Interior, through its Bureau of Reclamation, and the Corps of Engineers. The former has had a long-standing interest in hydroelectric development, dating back to 1906. In that year, Congress provided for the development of power in addition to water control for irrigation and other purposes. The Bureau of Reclamation originally inventoried the hydroelectric potential of Alaska in the late 1940s. The only actual development based on these investigations was the Eklutna project near Anchorage, completed in 1955, which is discussed in detail elsewhere. (45)

As early as 1912, Congress instructed the Corps of Engineers to include hydroelectric potential evaluations in its survey reports. Since that time, the corps has developed hydroelectric proposals and submitted them to Congress for authorization. Normally, the corps also operated the projects it constructed. In 1944, Congress directed that electricity generated at multiple-use reservoirs under corps jurisdiction be turned over to the Department of the Interior for marketing. And although the corps established its Alaska District in 1946, so far it has constructed only the Snettisham project, begun in 1967 and completed in 1973. But Juneau did not receive dependable power until 1976 because of transmission line failures. (46)

The 1962 agreement between the Secretaries of the Interior and Army made the Bureau of Reclamation the planning, marketing, operation and maintenance agent while the Corps of Engineers became the design and construction agency. Finally, in 1967, the Department of the Interior withdrew the Bureau of Reclamation from Alaska, and in its stead established the Alaska Power Administration (APA) on June 16, 1967. APA took over the staff and property of the Bureau of Reclamation, and maintains, operates, and markets the power from the Eklutna and Snettisham projects. APA also plans the development and use of Alaska's water power, analyzes future electricity demands, and studies electrical transmission needs. For example, APA actively participated in the study of the Upper Susitna Basin.⁽⁴⁷⁾ APA, an agency within the Department of the Interior, apparently was established to deal exclusively with Alaska's hydroelectric potential.

The Federal Power Commission and the Rural Electrification Administration (REA) are also involved in Alaska's hydroelectric development. The former grants licenses for nonfederal developments on federal lands, collaborates with the corps in evaluating the economic feasibility of new projects, approves power rates set by APA, reviews federal hydroelectric developments, and possesses broad powers for planning. The latter, established by Congress in 1936, makes loans for rural electrification. Several REA cooperative electric utilities operate in Alaska, the largest of them the Chugach Electric Association of Anchorage.⁽⁴⁸⁾

The Corps of Engineers and the Bureau of Reclamation had a history of vigorous competition in Alaska hydroelectric planning and development. As already stated, the 1962 agreement between the corps and the Department of the Interior did delineate the roles of the two agencies, but friction apparently continued. For, as recently as 1975, APA expressed a desire to enlarge its responsibilities by undertaking all preauthorization planning, including so-called Level C or implementation studies. If APA succeeds, this would give it complete responsibilities in all federal water resource planning responsibilities, ranging from broad assessments of regional water resource needs to carrying out specific engineering and design projects.⁽⁴⁹⁾

By 1974, much work had been accomplished on the Susitna project. The Alaska Power Administration, provided with such a headstart, completed the updating of the 1961 Bureau of Reclamation report on the Devil

Canyon project on the Upper Susitna. The study included a more sophisticated design, fresh cost estimates, a brief analysis of the power market as well as environmental and economic assessments, and reaffirmed the desirability and feasibility of the project.⁽⁵⁰⁾

In that same year, the Alaska State Legislature passed additional resolutions urging the development of hydroelectric resources generally and supporting the Devil Canyon project specifically. Also in 1974, the Federal Power Commission published its Alaska Power Survey. It concluded a statewide survey of existing and planned electrical generating systems and an assessment of future needs and alternatives to the year 2000.

In the meantime, the State of Alaska, impatient with federal delays, had hired the Henry J. Kaiser Company to reassess the Susitna project. The consultants proposed yet another scheme, the construction of a high dam upstream from Devil Canyon, in lieu of the Bureau of Reclamation initial development plan of Devil Canyon plus Denali for the first phase. Kaiser was considering the establishment of a large aluminum plant in the railbelt area which was contingent upon the availability of large blocks of cheap energy.⁽⁵¹⁾

Early in 1975, the Department of the Interior learned that the Corps of Engineers had concluded that extensive additional foundation studies would have to be undertaken on the Susitna River before any final decision could be reached. The corps recommended construction at the Devil Canyon and Watana sites as the first stage plan. The Department of the Interior was concerned because the corps' plan would likely preclude the dam at the vee site which it favored and which amounted to well over one billion kilowatt-hours annual energy potential, a significant portion of the total Susitna potential.⁽⁵²⁾

Actually, the Department of the Interior had been uneasy about the foundation at Denali for a long time. It considered the site feasible for an earth dam, but had always preferred an alternative site if one could be found. The 1961 Devil Canyon Report and the 1974 Status Report had included very conservative design and cost assumptions for Denali so as to provide reasonable assurances of overall feasibility. On this basis, the department considered the Devil Canyon and Denali plans an

appropriate basis for seeking Congressional authorization. But, unless the corps provided further details on their new studies, the department saw no reason for endorsing the change in plans. (53)

Meanwhile, the conservation-minded administration of Governor Jay S. Hammond became involved in the Devil Canyon project when it created an ad-hoc task force chaired by Commissioner of Commerce and Economic Development Langhorne A. Motley. The task force reviewed the Corps of Engineers's proposal prior to its submission to Congress. Early in 1976, Motley's group recommended that the administration endorse the corps request for Congressional authorization of the project and further funds for preconstruction planning. It requested, however, clarification of several points in the corps analysis. The task force pointed out that extensive further studies were needed to supply answers to complex administrative, biological, environmental and socioeconomic questions. Biological studies alone, ranging from salmon enumeration to spawning and rearing, and from moose and caribou habitat to that of various small fur bearers, were estimated to cost \$3,709,000 between 1977 and 1981. The task force also proposed that the Corps of Engineers have the Alaska Power Administration develop a mechanism through which appropriate state, federal, and local governmental authorities could participate in the design and review the investigations designed to produce answers to the many unanswered questions. (54)

Early in 1976, Alaska's mercurial U. S. Senator Mike Gravel (D., Alaska) decided to assume leadership in the drive to get the Susitna project underway. On March 26, 1976, the senator addressed the Alaska legislature on the subject of hydroelectric development in the state. He pointed out that the Corps of Engineers had completed its Devil Canyon study and would soon send its report and an environmental impact statement to Congress recommending authorization of a two-dam system, estimated to cost \$1.5 billion, considerably more than the 1974 estimated cost of \$682,000,000. The next step would be to seek Congressional authorization of the project. Gravel, as chairman of the Senate Water Resources Subcommittee, felt confident of securing authorization. But authorization was only half the battle--it would still be necessary to secure financing. Both Republican and Democratic administrations had expressed the desire to decrease federal participation in such public

work projects, and repeatedly recommended that the beneficiaries of water resource projects should bear in full the cost of construction, operation, and maintenance of such projects. Although Congress had not yet acted on these proposals, Gravel felt that it was only a matter of time until these suggestions were accepted by the lawmakers.

While Congress dawdled, the administration had been cutting Corps of Engineers' programs through the budgetary process. Its total program, Gravel stated, had been funded at less than half that of ten years ago. This allowed for finishing projects underway and operating and maintaining completed projects. It did not allow new construction and very few surveys. Clearly, the handwriting was on the wall. The federal government obviously intended to phase out federal involvement in water resources projects. Additionally, the nation perceived Alaska to be a wealthy oil state. Too long had the state been coddled by the federal government. The senator explained that, in fiscal year 1974, Alaskans had paid .18 percent of the total tax burden of the entire United States. Total federal spending in Alaska amounted to slightly more than twice what Alaskans had paid in taxes. Dollar figures were even more impressive. In the same year the federal government had spent approximately \$1,321 per capita in the United States, while in Alaska this amounted to \$3,401 per capita. Congress, he predicted, would tell the state to use its own fossil energy sources rather than asking it to purchase an alternative energy source with other people's tax monies. (55)

Gravel described several Corps of Engineers' projects in various parts of the country and concluded that it had taken an average of 18 years from the time of authorization to the receipt of the first construction funds. For years, he continued, the corps had been criticized for cost overruns on its projects when, in fact, "most overruns are a product of erratic cash flows necessitated by federal budget constraints." (56)

Devil Canyon was estimated to cost \$1.5 billion and would be the largest corps' project ever, both because of inflated costs and the scope of the undertaking. The advanced engineering and design work alone, Gravel asserted, was to cost \$50 million over a four-year period. At an average of \$12.5 million per year, that amounted to over 50 percent of the money requested for advanced engineering and design for all projects in the federal 1977 fiscal year budget. In other words, a

project benefitting a little more than one tenth of one percent of the total American population would be using better than 50 percent of available funds designated for all projects.⁽⁵⁷⁾

Senator Gravel argued the urgent need for a break with tradition. Alaska must rely upon another means of financing hydroelectric projects. The senator proposed that Congress appropriate monies to a revolving fund equal to the phase one or the advanced engineering and design portion of any one project. The sponsoring state agency, in this case the Alaska Power Authority, soon to be created by the state legislature, would issue bonds based on the proposed project to pay the corps for the phase-one work. In the event that the proposed development was not feasible, the federal-revolving fund monies would be used to pay off the state bonds. If, however, the proposed project proved to be feasible, the Alaska Power Authority would issue revenue bonds and contract for the work. Under the Gravel plan, the federal-revolving fund would act solely as a guarantee for the phase-one costs incurred by the state sponsor.⁽⁵⁸⁾

Senator Gravel proposed broad new legislation, the Hydroelectric Power Development Act of 1976, which would establish a revolving fund and stipulate that the federal government would assume the responsibility of paying all cost increases caused by any delays in construction or unforeseen contingencies of various kinds. If, for any reason, the project was terminated before completion, the federal government would fully reimburse the sponsoring state power authority for any losses suffered.⁽⁵⁹⁾

Comment on the senator's proposal was not confined to its novel aspects of financing, but showed the range of opposition to hydroelectric projects. A conservation agency, the Fairbanks Environmental Center, opposed the project, claiming it could not be justified environmentally or economically. Specifically, the center asserted that the project would "have major biological impact and will destroy a unique wilderness river basin." The Devil Canyon project, a two-dam system, would flood some 50,500 acres of the Upper Susitna River, disrupting the migratory patterns of the Nelchina caribou herd, destroying much of its habitat, and subjecting it to increased hunting pressure. Much moose habitat would be flooded as well, lowering the carrying capacity of the area

while control of the hydrologic balance of the Susitna River could have a significant impact on the downstream fisheries, particularly the salmon.

The *Anchorage Daily Times* ignored the major issues and expressed opposition to the corps's proposal to build elaborate recreational facilities at the two manmade lakes at a cost of \$2 million. It sounded like a good idea, the editor stated, "that is, if your idea of outdoorsing it is to run your recreational vehicle up to a unit, climb in your boat, and roar around the lake, return, have dinner and a couple of shots in your motor home and maybe watch a little TV before retiring. . ." The editor concluded that, at one time, the few Alaskans who went camping did so for the fun of it, and it rarely involved more than "a sleeping bag, a tent or an evergreen bough lean-to, and a hatchet for firewood." The value of the outdoors was that it was outdoors and, by definition, very different from indoors. Trees and animals did pretty much what they wanted to and did not share their homes with permanent rock fireplaces, hiking trails, snowmachines, and motorized campers. (60)

Bud Shultz, the general manager of the state's largest electrical utility cooperative, Anchorage-based Chugach Electric Association, Inc., stated that the Devil Canyon project "just does not make economic sense." The power from the project would be too expensive, Schultz asserted for, in 1976, Chugach customers paid 24 mills for their power at retail prices, and only 11 mills at wholesale prices. Devil Canyon power, on the other hand, was estimated to cost 21.9 mills at wholesale prices-- and that was in 1975 dollars. By the time the project finally produced any power, Schultz feared, the price probably would have tripled. The general manager pointed out that Chugach had long-term commitments to purchase cheap fuel, principally gas, to run its generators. (61) What Schultz did not recognize, however, was that the federal government probably would prohibit the use of natural gas for power generation altogether in the near future and allocate that valuable resource for higher use.

On June 10, 1976, Senator Gravel finally introduced two measures-- one authorizing the construction of the Watana and Devil Canyon units of the Upper Susitna Basin project and related transmission facilities

together with implementation of the Hydroelectric Power Development Act of 1976 to facilitate the construction of hydroelectric power projects by the Corps of Engineers.⁽⁶²⁾

The second measure sought to facilitate the senator's scheme to have state power authorities finance the construction of hydroelectric projects as fast as engineering capabilities demanded.

At the end of June the Corps of Engineers did not, as expected, recommend the immediate authorization of the project. Instead, it stated that feasibility studies justified funding for a fuller evaluation in order to determine whether or not the investment of large sums needed for development of the project were warranted.⁽⁶³⁾ There were reactions to Gravel's financing proposal as well. Unofficially, the Alaska Power Administration opposed his financing scheme. Although this body favored the concept of nonfederal financing of power developments wherever possible, the agency feared the senator's approach would lead to exceptionally large federal monetary obligations because of the language of the Gravel proposal. It believed that substantial federal obligations should be controlled through a process of congressional authorization on a project-by-project basis.⁽⁶⁴⁾

Arguably, this negative assessment owed something to the fear that its functions would be assumed by a state power authority. In formal testimony before the Water Resources Subcommittee of the Senate Committee on Public Works, Robert J. Cross, the administrator of the Alaska Power Administration stated that his agency considered the development of Devil Canyon entirely feasible. As for Gravel's financing scheme, Cross pointed out that it was "obvious that the bill covers areas that are far beyond the expertise and jurisdiction" of his agency and "would involve substantial shifts of responsibility in federal water programs, and that other regions of the U. S. would be affected."⁽⁶⁵⁾

At the time Gravel had unveiled his financing scheme, a measure to create the Alaska Power Authority was pending before the state legislature. Introduced by legislators Jim Duncan and Red Swanson in response to power needs in southeastern Alaska, the proposal was admirably suited to fulfill Gravel's conception of the state's role. After intensive infighting between the "boomers" and controlled-growth factions within the Hammond administration, the Alaska Power Authority emerged. As a public corporation within the Department of Commerce and Economic

Development, but with a separate and independent legal existence, the new body is charged with responsibility to promote, develop, and advance the prosperity and welfare of Alaskans by providing a means of constructing, acquiring, financing, and operating hydroelectric and fossil fuel generating projects. The Alaska Power Authority is to use monies from a revolving fund for funding feasibility studies, preconstruction engineering, design, and construction of power projects. As such, the authority was to provide low-cost monies to assist utilities in developing new generating capacities and also act as a wholesale power supplier.

One observer of power development in Alaska noted that there had been real concern that the Alaska Power authority might evolve into an uncontrollable force for development. For this reason, a delicate system of checks and balances was written into the authorizing legislation. The authority was to determine power needs, determine priorities, and assist with its bonding authority or serve as a project developer and marketing agent. Power development proposals were to be submitted to the governor for review by affected state agencies. After review, the chief executive is to forward the proposal to the legislature with his recommendations. The Alaska Power Authority bonding authority would have to be activated by a joint resolution of the legislature, subject to the governor's veto. And since the Hammond administration prefers the separation of the planning and construction functions of its public works-related agencies, the Division of Energy and Power Development has been established in the Department of Commerce and Economic Development to complement the Alaska Power Authority. The Division of Energy and Power Development is charged with formulating a power development plan for the state, while the Alaska Power Authority has to perform its functions in accordance with this plan.⁽⁶⁶⁾

In September of 1976, the Devil Canyon project cleared its first major legislative hurdle when formal studies of the project were approved by the Senate Public Works Committee. The dam was part of a package of projects approved. Funding authorizations, however, were delayed until the start of the federal government's 1978 fiscal year beginning October 1, 1977.⁽⁶⁷⁾ It soon became apparent, however, that the Water Resources Development Act of 1976 could not be approved because the conference committee determined that disparities between the House and

Senate versions of the measure were too great to be resolved before Congress adjourned. At the last minute, conference committee members decided to give negotiations another try. They continued their efforts until an acceptable bill was hammered out which both houses then accepted and which President Carter signed. The legislation, besides including funding for 149 public works projects in all 50 states, provided \$25 million for the first phase of the Susitna project under Gravel's financing scheme. (68)

A month later, Senator Gravel urged state officials to order sale of revenue bonds by the Alaska Power Authority to get the first phase of the Devil Canyon project started in the summer of 1977. In case no bonds were sold, Gravel pointed out, federal funds would not be available until October 1, 1977, again delaying the project. The senator suggested the state immediately provide \$100,000 to the Corps of Engineers to enable it to prepare a plan of study, including firm data on the cost of the project. The study then would provide the basis for the sale of state bonds to fund an early construction start. (69)

By early 1977, the state had taken no steps to sell revenue bonds and no money had been provided for the corps to prepare a plan of study. Instead, the State Department of Natural Resources had entered the picture by coordinating a cooperative study, involving state, local, and federal agencies designed to identify problems and collect, compile, and analyze information on water and land resources and resource problems in the Susitna Basin. The study, once completed, was to provide the various agencies involved with a basis for planning and resource management decisions regarding the Devil Canyon project. This action further muddled the waters.

2. Contrary to Senator Gravel's expectations, the Senate-House Conference Committee on the appropriations bill deleted the monies for Susitna in July of 1977. All was not lost, however, because Senator John Stennis (D., Miss.) received assurance from the House conferees to hold early hearings on the merit of the Susitna proposal. Senator Gravel once again expressed optimism and stated that he would "press hard for an appropriation in the Supplemental (appropriation in the fall) and expect that (his) efforts will meet with success." (70)

Since July 1977, Alaskan newspapers have been relatively quiet about the Susitna Project. Conservationists have continued to express their concerns. In the winter of 1977, the Denali Citizen's Council told Governor Hammond that the Susitna project was "scaled beyond the wildest needs of the Anchorage area and Southcentral region" and would "produce a tremendous glut of cheap power...which will not only invite but make practically mandatory the state's inducement of large industrial electric power users to move into the Susitna region to accomplish a rapid pay-back of this gargantuan federal pork barrel." The council asserted that the estimated cost of the project amounted to \$7 billion, which made it safe to assume that "it will run at least twice that... ever see a corps project in Alaska that didn't double its estimated cost?" The council asked the governor if he intended "to provide the Teamsters and all the other crooked unions in this state with another big-boom chance to rip off the state and people of Alaska." If the governor intended to follow this course, the council assured him he "could hardly support a bigger mess than this \$14 billion boondoggle." The council stated that Alaska needed stability and a chance to build a better, not bigger society in Alaska. Last but not least, "the Susitna hydroproject is far greater in size than conservationists ever consented to when they pointed to Devil Canyon as a possible alternative to Rampart. What they spoke of was a modest hydroproject that would flood only several square miles at most in Devil Canyon. This gargantua would flood over 82 square miles for 80 miles upriver!" The council urged the governor to "keep our developments small and Alaskan. Show that development can be in harmony with the environment--natural and human."⁽⁷¹⁾

Alaskan opponents of the project probably rejoice that the Susitna project seems to be stalled for the moment. George Matz, the director of the Fairbanks Environmental Center, probably expresses the concerns of those opposed to Susitna best. Calling the project "a strange hybrid between a dinosaur, octopus, and fox," he worries that, if built, it will dictate rather than respond to the future lifestyles that will predominate in Alaska. If completed on time in 1990, Susitna would provide three times the amount of energy now used by the Anchorage and Fairbanks load centers. The surplus power, Matz asserts, would undoubtedly be used to stimulate and subsidize industrial and population growth in both

the Anchorage and Fairbanks metropolitan areas. This prospect is not appealing to the members of the Fairbanks Environmental Center.⁽⁷²⁾

Actually, total area electric power requirements in 1972 amounted to about 2 billion kilowatt-hours, representing some 77 percent of the estimated total statewide electric requirements for the year. Mid-range growth estimates for the Alaska Power Survey indicated that these requirements would increase to approximately 5 billion kilowatt-hours in 1980 and that this figure would double by 1990. According to estimates, the full four-dam potential of the Susitna project, however, would deliver only some 7 billion kilowatt-hours annually--a little over 70 percent of the estimated 1990 railbelt area power requirements.⁽⁷³⁾

On the federal level in Washington, the Susitna project has not surfaced again in Congress, busy with debating President Jimmy Carter's energy proposals, among other issues. No doubt, the issue of hydro-electric development in Alaska is part of a national contest between the proponents of economic growth and those advocating "zero growth." Groups like Friends of the Earth, the Sierra Club, and various other environmental organizations together with their Alaskan affiliates advocate a concept they call "voluntary simplicity." This calls for a substantial lowering of the American standard of living. In energy matters, they are followers of British physicist Amory B. Lovins who rejects present federal policies which essentially represent an extrapolation of the past and rely on rapid expansion of centralized high technologies to increase supplies of energy, especially in the form of electricity. A mammoth project like Susitna clearly belongs in this category.

Alaska's Susitna project has become embroiled in a conflict between traditional liberals committed to economic growth and material progress, and the contemporary environmentalists who oppose unlimited growth and remind us that we live in a world of scarce resources. Indeed, scarcity is the modern planner's penance for sins committed by the traditional liberals in their attempts to dominate nature. There are ideological undertones in the environmental movement. In their rhetoric, environmentalists remind mankind of its imminent doom and the sinfulness of his profligate nature. But like the traditional liberals, environmentalists often are intolerant and unwilling to permit the individual free choice.

When the Susitna project emerges again, there undoubtedly will be demands for a new environmental impact statement before permission is given to advance the project to the planning stage. Environmentalists are prepared to criticize such a statement as inadequate and incomplete. They will point out that the energy demand projections assume a substantial growth of energy-intensive industries in the vicinity of Anchorage which, they maintain, is purely speculative. Therefore, much of the power produced will be superfluous. Furthermore, risks are high. The Upper Susitna has a subarctic climate, and the Corps of Engineers has never built a dam under those climatic conditions with the attendant danger of substantial ice build-up. Finally, the area lies in a very active seismic zone. Earthquakes of an intensity up to and exceeding 8.5 on the Richter scale are entirely possible. Could a dam be built to withstand such forces? Perhaps, but only time will tell. (74)

Whatever the course of the Susitna project, those who support and those who oppose it will reflect on the history of the Rampart proposal. It is clear that the advocacy of Rampart delayed Devil Canyon at a time when its construction might have been pushed through against comparatively slight resistance. Advocates of Rampart who now favor Devil Canyon might wish they had not committed themselves so singlemindedly earlier. On the other hand, those who now oppose Devil Canyon may be encouraged by the shelving of Rampart to believe that similar forces can be mobilized to stop the Susitna project. Of course, conditions are different. In very important aspects, the two projects are not parallels. Yet, as rallying points for sustained public pressure from various interest groups, they share many similarities.

As has been shown, legislative action in Juneau and Washington, D. C., made Gravel's financing scheme possible. The state legislature passed the 1976 Alaska Power Authority Act, while the Water Resources Development Act of 1976 authorized a new procedure for public, non-federal financing of federally constructed hydroelectric projects. It is also clear that the federal functions performed by the Alaska Power Administration, the Corps of Engineers, and the Federal Power Commission closely parallel the responsibility of the state's Alaska Power Authority and Division of Energy and Power Development. Federal and state review as well as an assessment of public opinion are assured through the environmental impact statement process. The federal hydroelectric

development process is extremely cumbersome, but it offers opportunities for the consolidation of opposition and for a full debate of the issues. Federal involvement also assures consideration of the national interest and, of course, offers the advantage of financial subsidies.

The pertinent state agencies are presumably more responsive to local needs, but, to the extent that developments are funded out of the general fund rather than from power sales from projects, they are more expensive. Undoubtedly, the federal agencies will slowly withdraw their activities in hydroelectric planning and development from Alaska. This, however, excludes the Federal Power Commission which will retain its regulatory and licensing role.

Once the responsible state agencies have become fully operational, electric utilities will increasingly turn to them for timely planning and development aid. Once the state has assumed full responsibility for power planning and development, where will this leave the various interest groups?

Pressures for developing Alaska's resources are overwhelming at times. The impact of strong dissenting opinions on the state decision-making process will focus attention on available alternatives and hopefully prevent colossal blunders. But much will also depend on the inclinations of the chief executive and the makeup of the state legislature. In late 1977, one year before the election, the powerful *Anchorage Daily Times* already has launched a campaign against Governor Hammond, regularly attacking him as a "no-growther." The paper has powerful allies in this attack in Teamster boss Jess Carr and former governor Walter J. Hickel. Too often Governor Hammond instead of boasting of his administration's careful approach to economic development, has gone on the defensive and cited the economic growth fostered by his administration.

In the final analysis, the Susitna project was not delayed by opposition from the conservationists, but rather by the cumbersome and protracted federal hydropower development process as well as the disinterest of various chief executives to the power needs of Alaska.

CONCLUSIONS

By tradition, historians are reticent to conclude that certain causative factors have produced clearly defined results or a specific situation, yet it does appear that the Rampart-Susitna hydroelectric projects have been closely intertwined and that emphasis on the one has affected the other. We have been dealing with a situation which has emerged as the result of an assessment of certain priorities and strategies, but not one in which a direction was determined with full anticipation of the results. It is obvious that the political process has a bearing upon the authorization of hydroelectric projects in Alaska.

Advocates of a particular project or a particular means of solving a hydroelectric need have not been tempted to present their position to the public in such a way as to promote a clear debate on the most effective course of action. Their failure to do this does not proceed from an attempt to deceive or to mislead the public. Rather, they act from their conviction that their position has to be represented as strongly as possible. Essentially the Rampart proponents have argued that their project represented the highest good, and in making this argument they convinced themselves that their project represented the only feasible possibility. Environmentalists, on the other hand, have concentrated their efforts on showing the unsoundness of Rampart, and, with the help of adverse reports from federal agencies, could do so effectively. Their advocacy of alternate hydroelectric or other power alternatives has been tentatively expressed, and had been hardly strong enough to open a general public consideration. Of course, it is not the policy of environmental groups to foster any hydroelectric projects. Their favoring the Susitna project has been understood, where it has been appreciated at all, as merely a diversionary tactic. What has been lacking has been the leadership of other individuals or organizations free from commitments to the Corps of Engineers, the Bureau of Reclamation, the Gruening group, or the conservationists, who might have presented the issues on a less partisan level. The editorial efforts which have been made by a couple of newspapers have not been enough to keep the Susitna project alive in the face of the aggressive Rampart advocacy. We are not insisting that the Susitna project was then or is

now the best solution to Alaska's power requirements, but only pointing out that a significant consideration of other alternatives could not have occurred within the adversary framework that has developed.

Who should have tried to extend the power debate? Ultimately, that responsibility should have been assumed by the elected officials of the state. For good reasons, these officials had to be concerned with tactics and advocacy. An all-out effort to throw open a full discussion of the problem jeopardized Gruening's Rampart position and the commitment which the state officials sincerely believed necessary. Thus they were drawn into the "all or nothing" approach which was the result, if not the intention, of the unfortunate determination of the Gruening-led Rampart forces. We must reiterate that neither corruption nor misrepresentation was involved. Quite simply, the situation has evolved as it has due to a choice of strategy in reaching a desired political conclusion. We need not say that the wrong decisions were made, but we can see that the decisions made determined the present status of the Susitna project.

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Study of Susitna choices omits human factor

Daily News-Miner, Fairbanks, Alaska, Wednesday, April 23, 1980—11

The Susitna Dam project, to build or not to build. The Alaska Power Authority toured the railbelt this past week, holding public meetings in Fairbanks, Wasilla, Palmer and Anchorage, explaining the plan of study designed to determine the project's feasibility economically, environmentally, and from the standpoint of seismic and geologic risks.

Attending the Fairbanks meeting, I was impressed and depressed by the assumptions implicit in APA assessments of Susitna dam viability. Eric Yould, executive director of APA, voiced these assumptions:

1) that railbelt demand for electrical power will expand to absorb all of Susitna's production capacity by completion date;

2) that environmental costs are tolerable (hence, the relatively short period allotted for field studies).

The political impetus behind dam construction is stimulated by a number of factors. Mike Gravel has seized upon it as a major campaign plank in his bid for re-election; his position on the U.S. Senate's Public Works Committee has enabled him to keep the project alive and struggling.

Construction dollars and jobs are seen by many as a major benefit, although the high unemployment figures, especially in Fairbanks, are a

**Celia
Hunter**



legacy of our last major construction boom: the oil pipeline. Construction jobs often increase residual unemployment rather than alleviating it in the long run.

And an implicit assumption is being made about the growth of the railbelt area—a decision that growth is good and should be encouraged. The very possible means of this growth have not been presented in a form which would elicit their opinions.

Based upon the reactions of railbelt residents to the comparatively mild growth stimulus posed by state land disposals this past winter in the Yampit Chase, etc., these plans are pretty generally opposed. Increased population pressure and effects on their lifestyles. Dam construction activities, plus construction of a high-

voltage intertie transmission system linking Fairbanks and Anchorage will compound growth problems more drastically than land disposal, plus increasing local vulnerability to massive power network failures such as paralyzed New England and New York City within recent memory.

One feature of the proposed studies which nags insistently for more attention is the exploration of alternatives to construction of the Susitna Dam. A mere 3 per cent of study funds is budgeted for these studies, and their format harks back to the major assumption, again—the alternatives selected, including nuclear, coal, natural gas, petroleum, solar and wood will be judged dollar-wise in relation to their capacity to duplicate the amount of power equivalent to Susitna's line capacity.

Missing entirely from the study of alternatives is the human factor, which has already confounded previous power demand projections by APA. Human reactions to the energy crisis have already diminished actual power needs of the Fairbanks area so much that GVEA has discarded plans for expanded power generation.

Conservation is given short shrift

Opinion

APA in listing alternatives, and is assumed to be a mandatory function of government, enforcing low, medium or high intensity regulations. That conservation can be a spontaneous reaction initiated by Alaskan residents themselves escapes their notice.

The actual mix of alternatives geared to present-day energy costs is already evident. People are spending money on super-insulation of new or existing structures; they have turned off electric heating elements and installed wood-burning units to supply space

heat; there are utilizing solar energy, mostly passive, for many low-grade heating tasks, including heating water. Their homes are cooler and they don't sweaters.

As is so often the case, this ongoing revolution in human habits and adaptations has escaped the notice of the "experts." Intent only on their charts and graphs and the imperatives they visualize of industrialization and increasingly complex technologies, they ignore what is happening all around them. By the time they are ready to stage their party, to produce those gargantuan increments of electrical power, they may look around and discover that nobody really wants it.

However, that won't daunt them. When local demand fails to match the over-supply, they will unveil Scenario No. 2, and provide alluring inducements to attract industry north to use that power, and we'll be trapped in the same game of hard-selling surplus power, outstripping supply, and being forced to create more power which has

been going on in the Pacific Northwest for years, until finally those unhappy citizens find themselves being billed for construct massive nuclear plants to supply the artificially created demands.

But these considerations won't fit into a computerized analysis.

rights to Iran.

Last of a series

Take it from lawmakers . . . Susitna is a priority

Hydroelectric development on the Susitna River to help power Fairbanks, Anchorage and the areas between is being studied by state officials. This five-part series looks at the proposal.

By SUSAN FISHER
News-Miner Bureau

JUNEAU—Senate leaders are gung-ho. House members are reserved, and Alaska's congressmen are pushing for the state to take the lead on the Susitna River hydroelectric project.

The word among legislative leaders is that at least \$7 million, and perhaps \$10.8 million, is assured this session for phase-two studies of the project.

What is not assured, and in fact may be in dispute, is any funding this year for initial studies of an inter-tie, or power grid, connecting Anchorage, Fairbanks and the areas between.

And the House is reserving any full commitment to Susitna until it has the study results in hand and a full examination of alternatives.

Susitna hydro has not been a visible item this session, with the exception of one Senate Resource Committee meeting jammed with supporters.

But leaders in both the House and Senate confidently say there are a majority of votes to fund phase-two studies.

"There's no higher priority for the Railbelt, in my opinion," said Senate Minority Leader Jalmar Kerttula, D-Palmer. "The better it's understood, the less opposition I see."

He has pressed for \$7 million in the Senate's capital supplemental budget if an appropriation bill for phase-two studies isn't passed. Another \$3 million or \$4 million could be put in the Senate budget.

On the House side, a bill packaging several hydro projects under the Alaska Power Authority is being drafted.

House Finance Chairman Russ Meekins Jr., D-Anchorage, said the Susitna study funding will appear in that bill, not in the budget or sup-

plemental capital bills.

The \$10.8 million for the Susitna studies would be financed by the five per cent oil royalty that now is set aside for renewable resources development, said an aide to Rep. Jim Duncan, D-Juneau. Meekins confirmed that.

Meekins also said Thursday that while the House as a whole will vote for the full Susitna study series, his committee has no money for the inter-tie study.

Sen. Majority Leader Mike Colletta, R-Anchorage, said he will press for at least \$5 million this session to begin inter-tie studies.

The inter-tie is justified with or without the Susitna dams, Colletta said. It has "the potential of creating a lot of job activities at a time when jobs are needed, and consolidating the energy requirements for a vast area of the state," he said.

"Support for Susitna is solid in the senate," Colletta said. The inter-tie and Susitna, he believes, can fuel not only

the Railbelt, but industry, including all petrochemical activity that could evolve from a gas liquids pipeline.

Susitna, says Senate Resource chairman Bill Sumner, R-Anchorage, "is a dream in the process of coming true for a lot of people," some of whom have supported the concept since the late 1960s.

"The state can't afford to wait much longer in terms of getting that project under way or we'll pay for it in the escalating cost of petroleum energy we're using now," Sumner said.

Anchorage, which now enjoys low-cost natural gas, is "within five years of seeing runaway costs in terms of gas prices. The replacement costs are going to be astronomical in terms of tax rates," Sumner predicts.

While no one believes Susitna hydropower could be on line before the early 1990s, Sumner, Colletta and

(See SUSITNA, page 8)

☆ ☆ ☆

Federal funds not expected

By SUSAN FISHER
News-Miner Bureau

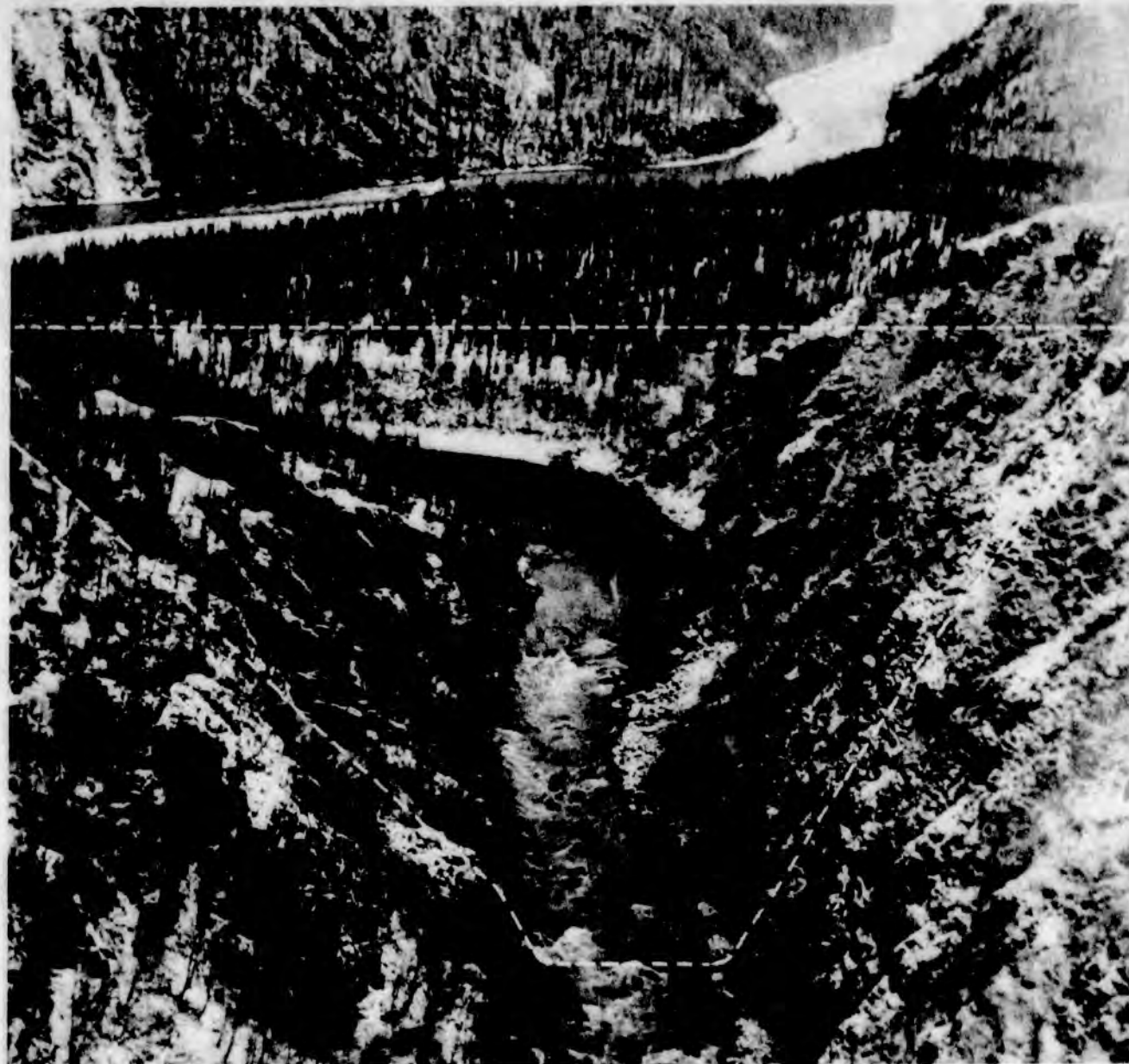
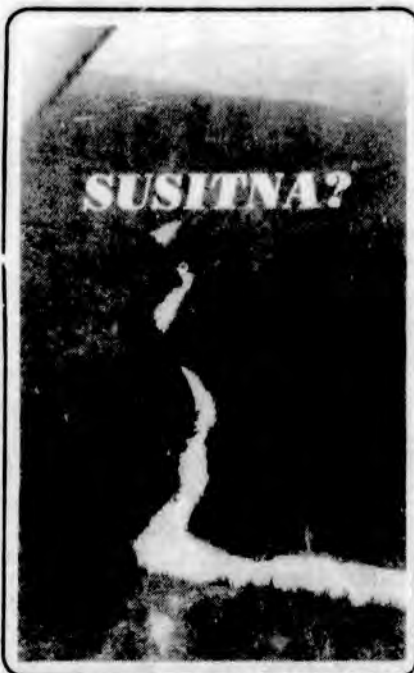
JUNEAU—Alaska's congressional delegation is united: the state should continue taking its own lead on the Susitna project even if it must do so without banking on federal bucks.

Republicans Rep. Don Young and Sen. Ted Stevens believe the federal money just won't be there for a project as large as Susitna.

Democrat Sen. Mike Gravel isn't going that far, saying there is a chance for federal funding, but there is no national bond market, anyway.

They believe the state is correct in going ahead with the studies at its own expense, and all said they will continue trying to line up federal funding.

(See CONGRESS, page 8)



PROPOSED DAM SITE—The Corps of Engineers' proposal for a hydroelectric project on the Susitna River includes an 800-foot thin-arch concrete dam at Devil

Canyon. The dam would be built after the earth-fill Watana dam was completed upstream.

SUSITNA . . .

(Continued from page 1)

Kerttula see it as the long-term answer for the future.

But two House members caution that many of the fans on the Susitna bandwagon are oversimplifying the project and the results.

Reps. Brian Rogers, D-Fairbanks, and Hugh Malone, D-Kenai, comprise the House Power Alternative Study Committee.

Susitna may be feasible, but the information that studies must yet provide is detailed and complex, and by no means assures that the state will want to go with the original Army Corps of Engineers concept of two dams on the river.

Some of that needed information is core and rock samples, river flow, physical characteristics of the site, per-kilowatt cost, consumer demand, utility rate structure, the size of one or both dams, silt deposits, market and alternative energy mixes.

Rogers and Malone said it is premature to assume the state is now at the "go-no go" point of decision-making on the project as a whole; it is too early to decide.

Malone said that when the state goes to the Federal Energy Regulatory Commission for permits, it must show the alternatives and prove that Susitna is the best choice. That means a full study of the alternatives.

Such a study of small hydroelectric projects, solar, wind, biomass, wood, waste heat, conservation, and coal has been commissioned, but the results won't be in by the end of this session.

"I don't believe I have enough information to say Susitna is the answer, at least not until the studies are complete. I wholeheartedly support the studies," Rogers said.

Malone said a common assumption is that Susitna will provide cheap energy. Cheap, perhaps, in comparison to future oil prices, but not necessarily at rates lower than today's, he said.

If the dams or the inter-tie are over-designed, if the project has cost over-

runs, if alternatives aren't carefully examined, the consumer will pay, Malone said.

Alternatives come into sharper focus as a way to supply energy in the next decade or so before Susitna is on line, Rogers said.

Even if the state goes with Susitna, it must have back-up energy. Otherwise Alaskans, particularly Fairbanksans, truly will find themselves "freezing to death in the dark" in the event of a line failure or dam breakage, Rogers noted.

"People are not going to tolerate going without lights for three years waiting for Susitna; they just aren't going to wait," Malone said.

"With everything I've heard, in figures, the cost production of kilowatts has always been more than the Susitna," Kerttula said. "When it's on-stream, the full power needs of the area would take the first dam, with 200 to 500 years of firm power."

"I'm enamored with a completely renewable resource and one that I see no possibilities of desecration or environmental damage," he said.

"If you didn't have Susitna, you may need that grid more than ever," he said, adding that "small hydros could double capacity."

But another issue that could net political debate is how the state will pay the full costs of the Susitna project if it is a "go."

Sumner and Kerttula maintain that a firm energy supply at a stable cost to the majority of Alaskans would benefit the bush, because the state can underwrite the kilowatt cost differences.

Rogers said a feeling among legislators whose districts would not benefit from Susitna or the inter-tie, particularly Southeastern legislators, is that the project should be revenue bonded, just as the smaller hydro projects, rather than paid for on a cash basis.

Some of the most enthusiastic support for Susitna is coming from municipal officials—borough assemblymen, city councilmen, mayors.

"Municipalities are acutely aware of the need," Sumner said. "They are fully aware of the escalating costs. They know that it's (Susitna) competitive with any tax dollars. Mat Valley knows to the extent development is feasible, they have got to have the power."

"I think people under-estimate the magnitude of the project," Malone says. "It will be one of the largest hydro projects on the North American continent. In anybody's book it's a multi-billion-dollar project."

He points to the Bradley Lake hydro project Army Corps of Engineers is working on in his district. Anchorage's municipal utility company put in a 75-megawatt gas-fired turbine for \$7.5 million. Malone said Bradley Lake hydro, which will generate about 75 megawatts, is estimated to cost \$200 million.

Of the House studies, "What we're really trying to do here in the long run is provide power at reasonable rates to the larger area with the best course of action," he said.

If hasty or wrong decisions are made, "The one who suffers in the end is the consumers, not the politicians," Malone said.

Dotting Ireland's countryside are some 150 ancient stone tombs. Experts believe that revered dead were buried in such places. However, it is unknown why the large stones, weighing as much as a ton, were moved and erected.



Second of a series

State financing could make or break hydro plan

Studies are under way for what could be massive hydroelectric development on the Susitna River. This five-part series looks at the proposal, its benefits and the objections.

By SUE LEWIS
Staff Writer

If the Susitna hydro project were built in 1980, state officials believe it would cost \$3 billion.

But construction is years away and will take a decade to complete. Who will pay for it, where the money will come from, and when construction will begin are all open questions.

And the effects of inflation leave the actual cost an open question, too, since 1980 dollars may be worth far less further into this decade.

Early this year the state began a 30-month study, estimated to cost \$26 million, to find out if the project is feasible. About this time next year the Alaska Power Authority expects to recommend whether the state should go ahead with license applications before the Federal Energy Regulatory Commission.

Originally proposed by the U.S. Army's Corps of Engineers, the project is now under APA's authority. State officials believe if state financing can't be arranged, the project probably will never be built.

"I really don't envision any Corps of Engineers involvement," said Eric Yould, executive director of APA. "We

have to rely on the advice our congressional delegation has given: Susitna is so large and the mood in Congress is such that we probably couldn't get funding."

With that concern in mind, Sen. Mike Gravel, D-Alaska, in 1976 pushed through the Alaska Hydroelectric Power Development Act that enables the federal government to back state bonds to pay for the feasibility studies. If the project turns out not to be feasible, the federal government would reimburse the state.

It's up to the Legislature to decide how to finance construction. Gravel has said he believes the project would be an appropriate one for his proposed Alaska General Stock Ownership Corp. to participate in. Voters this fall will vote an initiative setting up AGSOC.

If the Corps had built the project, it would have been its largest in terms of cost. But other dams are substantially larger in size, according to Yould.

Watana, the first of two dams to be built under the present scheme, would be an earth-fill dam 810 feet high. Yould said it would require 50 million cubic yards of fill; Torbella Dam in Pakistan used 200 million cubic yards, he said.

He said the Russians are building a dam that reaches 1,300 feet high, compared to Watana's 810 feet and the 635-foot high concrete thin arch dam that would be built at Devil Canyon downstream from Watana. Canada's Mica Dam is about the same height as

Watana and Hoover Dam is about the same height as Devil Canyon.

Earlier this year the contractor for the feasibility study, Boston engineering firm Acres American, set up a 40-man camp at the Watana site and began engineering and environmental studies.

Last week they submitted an application to the federal Bureau of Land Management for a permit to conduct environmental and hydrological studies

at the two dam sites and in a corridor from the dam sites to the Railbelt area.

BLM spokesman Joette Storm said that although the application is for a permit for work from April 8 to December 1983, BLM is most likely to grant for a year at a time, each year reviewing work done the previous year before extending the permit.

That work will help state officials decide whether to recommend the project be built. If they decide to recommend construction, it will be up to the Legislature to decide how to fund it.

Yould said cost estimates and feasibility studies now focus on the two-dam scheme proposed by the Corps of Engineers. But he said if the decision is made to proceed, that scheme will be compared with other engineering designs, and changes could be made.

The Corps estimated it would take six years to build the Watana Dam, which would go up first, along with the related transmission lines to carry electricity to Anchorage and Fairbanks. That dam would provide 3.1 billion kilowatt hours of energy.

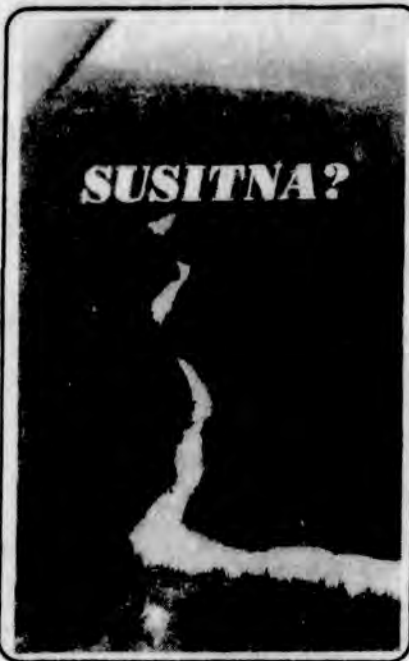
Then construction of the Devil

Canyon dam would begin, taking five years to complete. It would add 3 billion kilowatt hours of energy.

Although the entire project would thus take 11 years to complete, Yould said power from the Watana Dam could be on line by 1990 if licensing and permit processes proceed smoothly.

He said if the state decides to proceed, it will ask the newly created Energy Mobilization Board to help unspool the red tape and get the project to construction as quickly as possible.

If plans for state financing fall
(See SUSITNA, page 3)



Usibelli feels industry will step in next

By DERMOT COLE
Staff Writer

The Usibelli Coal Mine near Healy produces about 700,000 tons a year of coal to provide heat and light for Interior Alaska.

Mine President Joe Usibelli, whose customers include Golden Valley Electric Association, MUS, the University of Alaska and the military, believes that if the Susitna project is built, there will still be a demand for Healy coal because industry will move in to sap up the electricity produced by the dams.

"You've got that much power in one place, some kind of industry comes in,

possibly aluminum, and you're right back where you started," Usibelli said.

He said Alaska needs an industrial base and perhaps the Susitna project should be considered an industrial power source.

Usibelli said he doesn't know if the project will ever be built and he questions whether it can pay for itself because he believes government-funded hydroelectric projects never do. But Usibelli said there still would be a need for coal-generated power if Susitna is built.

"I'm highly prejudiced, but I think that coal is an alternative that should be looked at very thoroughly," he said.

"Alaska has as much coal as the rest of the country ever had. At our current rates of production we've got enough for 300 years. The dam will certainly be full before then and coal would disturb less ground in the process."

While Usibelli believes Susitna power could be the kickoff for industrial development, others say the normal growth of demand for electricity will absorb whatever it has to offer, which currently is about twice the annual electrical consumption in the Anchorage, Kenai and Fairbanks areas.

In an attempt to settle some of the questions about the demand for Susitna

(See HEALY, page 3)

SUSITNA . . .

(Continued from page 1)

er and the alternatives open to the state, the University of Alaska's Institute of Social and Economic Research has been hired to do a power-demand study as part of the Susitna feasibility studies.

Assistant professor Scott Goldsmith said there are two factors that make such predictions difficult. The first is accurately projecting the rate of economic growth, which he said is the "driving force" behind electrical demands. The second is determining what the energy alternatives are.

"You can't really say just on the basis of demand alone. You have to look at what the other sources of supply will be at that time," Goldsmith said.

Predictions of Alaska's economic growth and demand for energy have tended to be less accurate than in other western states, Goldsmith said, because of the boom-bust nature of the economy.

A recent borough study compared the accuracy of population projections to predictions of electrical demand.

The borough said a 1974 study by the Alaska Power Administration predicted a three per cent annual increase in the state's population, bringing the population to 410,000 in 1980.

The actual rate is close to that projection, the borough said. It's a different story with regard to electrical demand projections, which the Fairbanks Energy Inventory said were "about twice as high as actual consumption" in 1978.

HEALY . . .

(Continued from page 1)

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"It has taken an average of 18 years from the time of authorization to first construction monies," he has said.

For Wednesday: The environmental questions.

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(Continued from page 1)

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For Wednesday: The environmental questions.

Electrical exports linked to fish kill

Associated Press

Vancouver, British Columbia — British Columbia Hydro's electricity exports to the United States were linked Tuesday with possible destruction of salmon-spawning beds in the Nechako River in the northcentral part of the province.

Hydro officials testifying at the National Energy Board's hearing into Hydro's bid to renew four export licences said at least some of the electricity purchased from Alcan Aluminum Ltd.'s Kemano generating station will be used for exports to the U.S.

Under terms of a contract drawn up a year ago, Hydro can purchase a minimum of 1,200 gigawatt hours a year from the Kemano generating station at the Nechako Reservoir. One gigawatt is one billion watts.

In fact, in 1979 hydro purchased 1,700 gigawatt hours from Kemano, according to testimony by W. N. Tivy, hydro's superintendent of systems control.

In previous testimony Bill Best, vice president of electrical operations for Hydro, confirmed the power from Kemano makes up part of the load used by Hydro for interruptible exports to the U.S.

Bill Schouwenberg, chief of the water use unit of the fisheries habitat protection branch, told the energy board reduced water flow into the Nechako River from the Kemano dam this fall may have damaged spawning areas downstream for chinook salmon.

He testified that low water levels could expose some of the spawning beds and freeze the salmon eggs.

Schouwenberg said he won't know for sure how much damage has been done for another four or five years, when the hatched salmon return to spawn.

But he suggested a seriously reduced salmon population could cost the province's fishing industry hundreds of thousands of dollars.

Schouwenberg said Alcan spilled off large volumes of water from the Kemano reservoir last summer, but drastically reduced those volumes in the fall when they were needed to keep river levels high enough for the salmon beds.

The problem was compounded by

the company refused.

He predicted that if there is substantial damage to the spawning beds in the Nechako River, fishing restrictions will be needed in four or five years to make sure enough spawning chinook salmon get back into the rivers.

Best said he was unaware of the problem with the Nechako River, and pointed out that Hydro has no control over how Alcan runs its dam and reservoir.

Panel OKs zone plan

(Continued From Page A-1)

Spencer, chief administrative officer for municipal utilities.

The assembly's decision doesn't affect Chugach State Park. It remains designated as public lands and for all practical purposes can't be developed.

In other business Tuesday, the assembly:

— Withheld the appointment of Doyle Carmody to the Planning and Zoning Commission. Several assembly members expressed concern that there may be too many persons involved in real estate serving on the commission.

Carmody, who has been active in all phases of real estate in Alaska, will be asked to appear before the assembly next week.

While the assembly withheld approval of Carmody, it did approve the appointment of more than 50 persons to various city commissions and boards.

— Scheduled a work session for next week to discuss a proposed increase in the sewer rates charged in the Anchorage bowl. The work session was asked by Rose, who has charged that the rate hike is illegal because it represents "de facto" consolidation of the Eagle River, Girdwood and Anchorage sewer service districts.

— Said it wants to meet with the Anchorage School Board to discuss the closing of Russian Jack Elementary School and other recent actions



Associated Press

COOL'S OUT TODAY

face from embers and smoke as he surveys the remains of the school which had no fire protection.

suspension possible

requirement in this case

will be trying to give the middle ground," Parenteau

binson then denies the federal government's request for a stay, have prevented the government accepting the bids, forcing the Interior Department to cancel and return \$100,000 in payments on bids.

government is successful in best for a stay, Interior Secretary Andrus will go ahead and

award the leases. However, the leases might eventually be voided, if an appeals court upholds the permanent injunction.

Saying "a clock is ticking away," Margaret Strand, lead attorney for the Justice Department, told the judge that "the sale would be effectively canceled" if he did not permit the stay.

However, attorneys for the environmentalists and the natives argued that approval of the bids constitutes a commitment to continue with the lease sale.

Bruce Terris, attorney for the North Slope Borough, said: "The acceptance of bids constitutes an obvious commitment to the lease sale as it now stands. This court said it would not consummate the lease sale and it would not accept the bids."

Terris also raised anew the bids offered on the four Dinkum Sands tracts, subject of an ownership dispute between the state and federal governments.

"This is urgent," Terris said. "They (the oil companies) are going to start with pre-exploration work on Dinkum Sands — the very action the court enjoined."

But state attorney Robert Loef-

attered ow is recast

pressure in the Gulf of pressed against a high pressure front brought high winds in Anchorage, Kodiak, Valdez and other areas of the north gulf

to 60 mph were recorded in while 45 to 55 mph winds



Sourdough Jack
Says: "Jimmy severed diplomatic relations with Iran? That means he'll recall our Embassy employees from Tehran. Clever way to outsmart those militants!"

Energy, which provides an incentive for producers to hoard North Slope oil. The scheme is called the entitlements program. It was originally created to force producer-processors with large reservoirs of cheap domestic oil, to foot part of the bill that small and independent refiners paid for imported and Alaskan crude. Now, according to Ashland Oil President Robert E. Yancey, the program is perpetuating the very thing it was set up to prevent: harm to small and independent refiners. Not only is it channeling \$180 million a month out of the pockets of independents and into the coffers of

received \$2.84 million in additional receipts between July and November. "Our average crude costs would have been reduced by 50 to 60 cents per barrel," Yancey wrote. And, a spokesman for the Independent Refiners Association pointed out, independent refiners would not be in the position they now find themselves: scrounging for the Alaskan crude like thirsty men roaming the desert for water. Only a year ago the entitlements program, which was started at the time of the Arab oil embargo in 1974, made sense to everyone. Alaskan crude was cheap, but

their oil because that was what the crude cost. In view of the large transportation costs and small profits on Alaskan oil, refinery officials decided to treat it the way they treated imported oil. Refiners who processed either were, in fact, subsidized. When it was introduced and for five years later, the subsidy had little effect on the market for Alaskan crude. Producers scrambled for purchasers of Alaskan crude on the West Coast rather than having to ship the oil through the Panama Canal to Gulf of Mexico refineries. And independent refiners on the West

they judged the cost of domestic oil. These days, a barrel of foreign crude delivered to the Gulf Coast costs about \$30. Alaskan producers can beat that price even if their shipping cost is \$9 a barrel, because federal controls limit their wellhead price to \$14. Prudhoe Bay producer-processors now can make a hefty profit by selling their oil to West and Gulf Coast refiners. But they can make an even greater profit by refining it themselves. DOE's entitlements program still subsidizes them to do just that. "Through last November, producers paid 65 cents per barrel of Alaskan

along with the program, domestic oil is decontrolled. "In a couple of months, you won't have the entitlements program to kick around," joshed an official from Arco. Meanwhile, as thirsty independents look on, the producer-processors are refining more and more of their Alaskan oil. Sohio, which owns 53 per cent of the 1.5 million barrels that now go through the pipeline daily, refines more than half of that amount itself, or 450,000 barrels. Exxon owns 300,000 barrels of the daily output. According to sources

Pinched by the major independents also are being by their own foresight management. In the past year, West Coast have adapted their plants to greater amounts of Alaskan oil. Whereas last spring, they handle about 800,000 barrels, they can consume as much as 1,000,000 barrels daily. Industry officials postulate that West Coast refiners could process 200,000 barrels of Alaskan oil daily. (See OIL, page 5)

First of a series

Devil Canyon could be Alaska's Hoover Dam

Studies are under way for what could be massive hydroelectric development on the Susitna River. This five-part series looks at the proposal, its benefits and the objections.

By SUE LEWIS
Staff Writer

If Hoover Dam were spanning the Susitna River at Devil Canyon, it would look a lot like the dam that may be built there sometime during this decade.

Devil Canyon is one of the two sites on the Susitna that the Alaska Power Authority is studying for a two-dam hydroelectric power generation system.

Although a hydro project on the Susitna River has been on the drawing board for years, it will be at least another year before state officials decide whether they'll recommend it be built.

"Hoover Dam's height will give people a feel for what Devil Canyon will look like," says Eric Yould, executive director of the Alaska Power Authority. "Hoover is just over 700 feet high and Devil Canyon would be 635. They're both concrete, thin-arch dams."

The project itself and methods to pay for its construction have changed substantially since the U.S. Army

Corps of Engineers in 1950 listed three sites along the Susitna for "possible future developments."

When Congress that year asked for a preliminary examination and survey of harbors and rivers in Alaska, and for a report on the advisability of improvements in the interest of navigation, flood control, hydro power, and related water uses, the Corps listed the Watana, Denali and Portage areas on the Susitna River as possible sites for hydroelectric projects.

The Portage site, since renamed Devil Canyon, remains as one of the sites for a two-dam proposal the Corps of Engineers pursued in the 1970s, and still gives its name to the entire project, now estimated to cost some \$3 billion in 1980 dollars.

Now overseeing the entire project is the Alaska Power Authority, a body created after Sen. Mike Gravel, D-Alaska, pushed through Congress the Alaska Power Development Act of 1976. According to Gravel, the Susitna project would have been considered years earlier if two other events hadn't intervened.

"The first was the abortive Rampart Dam proposal," Gravel said in a May 23, 1977, report. "Sen. Ernest Gruening, who held the same position I now hold



on the Public Works Committee, proposed, with the Army Corps of Engineers, a huge dam at the Yukon's Rampart Canyon 100 miles northwest of Fairbanks. A heated national debate

arose over the environmental liabilities of the Rampart proposal, and a subsequent cost-benefit analysis showed the project to be economically undesirable.

Gravel said the Rampart proposal was dismissed just as a second water crisis occurred: the 1967 flood at Fairbanks.

"For the next several years, the need for flood control drew attention away from the question of hydroelectric development in the state."

But in 1972 the Senate Public Works committee ordered the Corps of Engineers to renew the study of power options, including hydro potential, for the Railbelt. And in 1973 Gravel became chairman of the Water Resources subcommittee. From that position, he pushed for funding to study the project.

"Its locations, its high power potential, the stabilizing effect it could have on the energy systems of the Railbelt area and the fact that it would reduce the need for new fossil fuel plants in Alaska—all these factors were in its favor," Gravel said in 1977.

And besides, he pointed out then, "environmentalists had cited it during the Rampart controversy as a preferable alternative because it would

do relatively little harm to fish and wildlife habitat."

But after deciding the project might never be built if left under the Corps, Gravel pushed for passage of the Alaska Power Development Act, allowing the state to pay for feasibility studies, with a federal repayment guarantee if it turns out the project is not feasible.

This year the state began a massive study to find out if construction is feasible. A 30-month study, funded by \$26 million from the state's general fund, is to look at power demands; the site itself; the river's hydrology; the geology of the area; fish, wildlife and plants in the area; and marketing and financing.

A Boston engineering firm, Acres American, is conducting the study, and this spring set up a 40-man camp at the Watana Dam site, the first of the two dams that would be built.

After the results of the first 12 to 15 months of study are reviewed, Alaska Power Authority officials will recommend whether to proceed with the next step: getting permits and licenses from the Federal Energy Regulatory Commission.

According to APA's Yould, about this time next year the power authority will

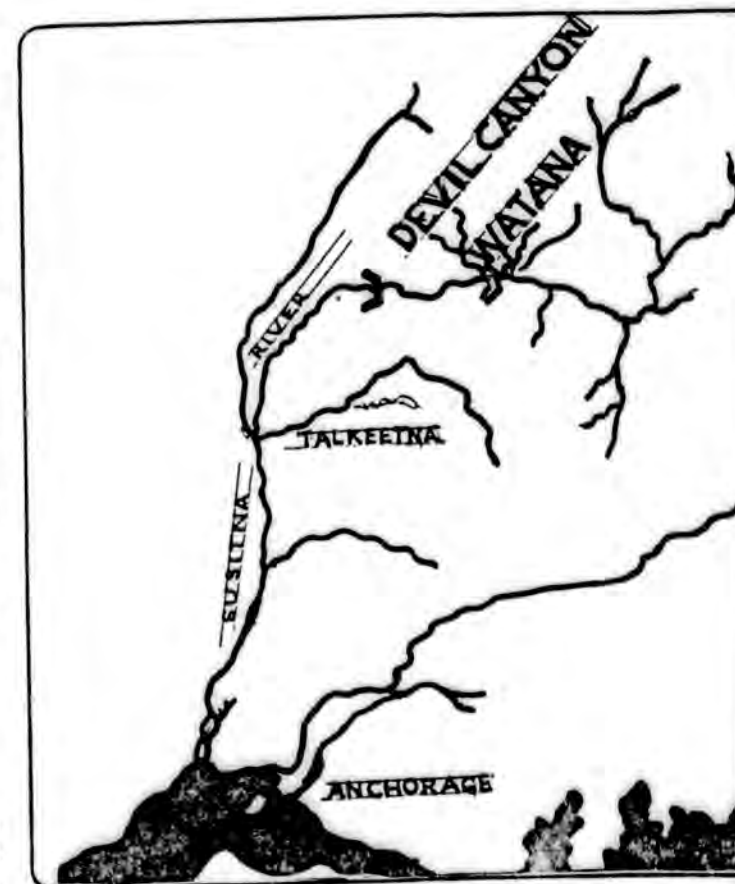
look at load projections being developed now and at preliminary environmental assessments, then decide whether to recommend proceeding to the license phase.

"Assuming Susitna has been found to be superior to the alternatives, both economically and environmentally,

we'll recommend to the govt. the Legislature that Susitna proceed to FERC licensing.

Yould said the economic would be made by assigning alternative power generation then comparing them to Susitna.

(See SUSITNA, page 5)



HYDROELECTRIC PROJECT—The state is construction of a two-dam hydroelectric project on the Susitna River, shown in this map. The project include an earth-fill dam at Watana and a concrete dam at Devil Canyon. (N)

Fairbanksans' utility rates could rise after hydro completion

By DERMOT COLE
Staff Writer

Electric rates in Fairbanks won't necessarily go down if the Susitna hydro project is built, but utility bills would level off once electricity from the two proposed dams on the Susitna river flows to the state's largest cities, supporters of the project claim.

"In many respects Susitna could be expensive in the initial years of

operation, but over the long, long, long run, it's going to be extremely cheap power," said Eric Yould, executive director of the Alaska Power Authority.

He said it's conceivable utility rates would go up with completion of the first of the two proposed dams in 1990 or so—it depends on the interest rate and the ultimate cost of the two dams, now estimated at \$3 billion.

"The interest rate on a capital-

intensive project is very critical to what the ultimate cost of energy is to a community," he said.

"If we were to go to revenue bonds on this project we might be able to get 7 per cent money. If, on the other hand, the state wanted to make a total equity investment in the project, they could virtually control what the cost of power would be by the interest rate," Yould said.

In any case, Susitna boosters say that once the project is finished, the cost of the electricity it produces won't be subject to the inflationary pressures afflicting power plants fired by oil or coal.

One who subscribes to that idea is Bob Huffman, general manager of Golden Valley Electric Association. About 25 per cent of Susitna's power would be consumed in the Fairbanks

area. The rest would go to Anchorage. "The electric rates would be less from that hydroelectric development than it would be from a coal-fired unit, and about the only thing close to it would be a very large nuclear facility used by both Southcentral and the Interior," Huffman said.

He said GVEA probably would continue to run its coal plant in Healy (See ELECTRIC, page 5)

"Flying is the one of the reasons I came here in the first place," said Thomas, whose flying abilities are well documented. "I've always been something of a bush pilot."

Thomas said he expects to work as a contract air carrier during the summer, servicing climbing groups booked by Genet Expeditions.

"I perceived a real need for this

His one-man, one-plane operation will consist of himself and a Helio-Courier equipped with a single 295 horse power engine. The plane is highly rated as one of the best short takeoff and landing planes made. Its design was perfected in the 40s by a group of Massachusetts Institute of Technology engineers.

Thomas, who is an old hand at fly-

ing, but will be able to respond instantly if needed by the climbers.

"I think the service will be permanent, but I will take it one summer at a time," he said.

Thomas was Gov. Jay Hammond's running mate in 1974 but did not seek re-election in 1978. He lives in Anchorage.

ping to a furnace replacement burner designed for better fuel efficiency.

If the improvements could be demonstrated to pay for themselves through energy cost savings over a seven-year period, persons could receive grants for their purchase, construction or installation. Grants

Consultant criticizes Susitna dam study

by Mark Skok
Times Writer

The Susitna dam project may be unfeasible and definitely would not begin providing electricity until the 1990s, a time of declining power needs in Alaska, says a consultant's report released Tuesday.

And an earlier study of the Susitna project is weak and appears aimed at selling the project rather than electricity, according to the report by Arlon R. Tussing & Associates Inc.

Tussing's report stems from a \$200,000 appropriation to the House power alternatives study committee.

Its strongly worded criticism is aimed at the preliminary Susitna Hydroelectric Project Plan of Study by Acres American Inc.

That consulting firm was hired by the Alaska Power Authority to examine the feasibility of Susitna power proposals.

"We believe the plan still needs major changes before it can remotely be considered as the basis for

an informed state decision on the Susitna project," Tussing writes.

The preliminary Acres study was published in February. Overall, the \$25 million Acres study plan is expected to take 30 months to complete.

The Acres study will not begin making even preliminary cost and scheduling estimates for the Susitna project until five weeks after the go/no-go decision is scheduled, Tussing says.

Nor can the Acres study compare alternative power sources with the proposed Susitna project in terms of cost, how soon electricity can be generated, and whether backup power will be available because no specific construction plan has been selected, he says.

It does not take a realistic look at power demands, according to Tussing.

Tussing foresees a power demand growth during the 1980s as Prudhoe Bay activity increases, but the demand will fall sharply during the

1990s as North Slope oil production declines.

Susitna power would not come on line until the 1990s.

The hydroelectric power is expected to be more expensive, at least initially, than power derived from coal or natural gas.

Chugach Electric Association, the largest utility along the railbelt, has not been an enthusiastic backer of the project, and Chugach management is not convinced Susitna power would provide the lowest cost or most practical way of serving its customers, Tussing says.

He does not expect the dam to be

No shortages seen of gas, oil

Associated Press

For the near future, Anchorage will probably have adequate supplies of gas and oil, although prices are expected to go up.

An Anchorage planning report said, however, that population growth or interruptions of supply due to gas line construction could bring shortages of gasoline and diesel fuel. The possible shortfalls could be as much as 25 percent below normal.

The forecasts were made in a draft report of an "Energy Crisis Contingency Plan" for the municipality.

a major factor in attracting energy-intensive industry.

Abundant Susitna power conceivably could be a major factor in attracting only two energy-intensive industries, Tussing says. These are uranium enrichment and aluminum smelting plants.

The prospect of a uranium-enrichment plant being installed before 2000 is almost nil, the report says.

Factors other than the cost of electricity would be primary considerations in attracting an aluminum producer. The availability of ore, and shipping, construction and labor costs would affect strongly an industrialist's decision to build in Alaska.

He said power supply planners should include new energy-intensive industries in their forecasts only if firms sign a minimum-bill contract to purchase a definite part of the plant's capacity.

A 1974 power proposal by an aluminum manufacturer appears to have no active support now, Tussing notes.

Power transmission is a major problem in Alaska. Areas such as the Kenai Peninsula are subject to long power outages when wind and avalanches down lines.

Local power generating concepts, such as a smaller hydro plant considered at Bradley Lake 26 miles northeast of Homer, likely would suit the economic and power needs of peninsula residents better than the Susitna dam, according to Tussing.

Alaska Railroad raises fares

Associated Press

Fairbanks — The Alaska Railroad has announced it will hike passenger fares for its Fairbanks-Anchorage run about 25 percent as of May 1.

The one-way fare from Fairbanks

to Anchorage will increase from \$40 to \$49.75 and a round trip ticket will jump from \$72 to \$89.75.

The railroad said it needed a rate hike because fuel costs have risen 112 percent hike since March.

Property taxes for most Anchorage homeowners will be lower than last year under 1980 mill rates recommended by Mayor George Sullivan Friday.

"Although the areawide assessed valuation for 1980 has increased by \$7 million over 1979 figures, these lower mill levies will result, on the average, in lower taxes for property owners," Sullivan said.

(See chart, Page A-3)

The mayor's recommendation, which goes to the Anchorage Assembly Tuesday night, calls for lower mill levies in all 13 city tax districts. In nine of those districts, that means reductions in the average tax bill. In the other four, the mill levy reduction is offset by higher assessments and the average tax bill will rise slightly.

The recommended rates will be the subject of a 7:30 p.m. public

Sullivan gave three reasons for the lower rates.

He said the city received an additional \$1.6 million in interest on short-term investments for 1980 because of high interest rates on today's money markets.

The municipality also is applying an additional \$1.5 million of fund balance to the budget, bringing the total amount of fund balance to \$9.3 million.

Additionally, the city received an increase of \$15.8 million in state funds for the Anchorage School District. Anchorage School District tax requirements are down some \$1.27 million for 1980 over the 1979 level, the mayor said.

As a result, Sullivan said total property tax requirements for the municipality will be \$1.5 million less in 1980 than in 1979. Tax requirements for general government operations will be \$51 million in 1980, which is a \$239,400 decrease from 1979 tax requirements.

As an example of lower tax bills, Sullivan said the value of an \$80,000 home in Muldoon increased by an av-

er, the property owner will pay about \$63 less in taxes in 1980 than in 1979.

An Anchorage Bowl home assessed at \$80,000 in 1979 will require an average of \$80 less in property taxes this year. A similar home in Eagle River, where the assessed valuations rose by 12 percent this year, will result in an average of \$105 less in taxes under Sullivan's mill levy recommendation.

However, parts of the Anchorage Bowl and Spennard areas which were physically reappraised this year for the first time in three years will experience an average tax increase of \$17.

by Mark Skok
Times Writer

*We're gonna rock you Ayatollah,
Sock you Ayatollah,
Bomb, bomb, bomb Iran...*

Since Friday evening, for 2 mi-

nor position toward them.

In their statement broadcast on Tehran radio, the militants continued "We have decided to keep the hostages in custody in various cities throughout the country ... At present, as a political act, the spy hostages are being kept in various places. Details of this decision will subsequently be disclosed to the nation."

The militants were quoted as saying they had information the American mission had a greater purpose than simply to rescue the hostages, and urged that the house of Iranian leader Ayatollah Ruhollah Khomeini

ies through diplomatic channels. Switzerland is representing the United States in Iran following President Carter's break in diplomatic ties on April 7.

Mrs. Timm, mother of 20-year-old Kevin Hermening, the youngest hostage, had been sitting at the back of the news conference but then moved forward and slipped into a seat beside Bani-Sadr before making her brief statement.

She said she clearly did not agree with the American move and that she expected to leave Iran on Sunday with her husband Kenneth. Mrs. Timm saw her son on Monday after arriving in Tehran 10 days ago.

traordinary session
American rescue atte

Meanwhile, Iran's bilization Board ord with military training those in the desert p the Americans landed meini's "command alert." It also offer course" in defense tra weekend for Tehran c have not received mili

Tehran radio said recovering the comm Iranian forces had blow copters and seized th ers left in the desert mention of the transpo

The drums of war heard in Anchorage

minutes, 11 seconds at a shot, listeners of an Anchorage radio station have been venting their frustrations over Iran to the tune of machine guns and explosions, set to Beach Boys music.

The song, first aired at 5 p.m. Friday on KFQD, is "Bomb Iran." If lis-

teners initially mistake it for the old hit "Barbara Ann," the similarity is intentional.

*Went to Iran
Lookin' for the man,
Met the Ayatollah.
Bomb, bomb, bomb Iran...*

When the song is played, the station w ing where they can g copies, disc jockey Bill this morning.

KFQD, however, copy. It was recorded studio Friday by the N This Time Zone Singers widely known in the U chorage for that matter

The Time Zone Singers KFQD Station Manager and the station's co Ernie Norris, who mo

(See DRUMS, Pa



Financiers consider \$1.6 billion Beluga fuel plant

by Susan Andrews
Times Writer

The Cook Inlet Region native corporation and a California mining corporation are considering building a \$1.6 billion plant to convert coal at Beluga to methanol.

Cook Inlet Region Inc., and Placer Amex have asked the U.S. Department of Energy to finance a \$3.8 million feasibility study of the proposal. Placer Amex is principal leaseholder on state-owned lands at Beluga.

The complex would use a process followed in conversion plants around the world to turn Alaskan coal into a usable, clean-burning methanol fuel. The liquid could be used to power automobiles and other vehicles, as well as electric power generating plants on the West Coast.

Announced Friday, the Energy Department application was made in response to a request by the federal agency for test projects to see whether technology exists for production of synthetic fuels. The objective is to reduce the nation's dependence on foreign oil.

The process would require an estimated 20,000 tons of coal a day to produce 54,000 barrels of methanol. Proponents say that production level would reduce U.S. oil imports by about 14 million barrels of oil a year.

The test project at Beluga has the support of Gov. Jay Hammond, who said in a letter to Energy Secretary Charles Duncan that the project "clearly meets the Congressional intent" and demonstrates the growing importance of Alaska as a major energy supplier to the Lower 48 states.

Roy Huhndorf, president of Cook Inlet Region, said in a prepared statement that current studies give insight into the potential of the Beluga lands.

"We hope that a federal award as part of the synfuels program would demonstrate a way in which this important national resource can be developed for the benefit of our shareholders and other citizens of Alaska, while addressing the critical energy needs of the West Coast."

Placer Amex has been exploring and conducting engineering work on its Beluga coal leases for more than 10 years, according to Alan G. Horton, president of the firm.

He said the work shows the Beluga field contains in excess of one billion tons of low-sulfur subbituminous coal, which can be mined by

surface methods.

Huhndorf said the proven coal reserves have the advantage of lying close to Cook Inlet, where there is a plentiful water supply in addition to an existing pipeline and tanker transport system.

"Many of the potential hurdles to development have been cleared," he said, "because the proposed project lands are held primarily by our corporation and the state of Alaska."

The plan is to use pre-constructed modules, delivered to the site by ocean-going barges from the Pacific Northwest, he said.

"Good environmental and construction conditions, strong public support and the existing product transport system are all factors which will support project feasibility," Huhndorf said.

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4/26/80



Susitna study said to need 'overhaul'

By SUSAN FISHER
News-Miner Bureau

JUNEAU—A special consultant's report says the Acres American Inc. study plan of Susitna hydropower needs a "major overhaul" if it is to be the base for deciding whether to go ahead with the project.

The draft report by Arlon Tussing and Associates Inc. was handed late last week to Reps. Hugh Malone, D-Kenai, and Brian Rogers, D-Fairbanks.

Malone and Rogers, members of the House Power Alternatives Study Committee, hired the Tussing firm to analyze Acres' study plan.

Tussing's report says Acres' plan of study for Susitna, released in February, "still needs major changes before it can remotely be considered" the basis for an informed state decision on the project.

Study costs alone are pegged at \$29 million, but \$16 million of that would not be spent until after a power alternatives report is finished. That "cannot help but be a powerful incentive for the study team to arrive at a favorable conclusion" to recommend Susitna, Tussing's report says.

"As it approaches construction, the Susitna project will become more rather than less controversial. If the project is indeed the best alternative for the Railbelt, an inadequate information-base or patently biased decision-making process will not make the project any easier to sell," Tussing's report says.

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Power "demand forecasts are notoriously inaccurate," the report claims. Other "uncertainties" are cost overruns in construction, delays in completion, the rate fuel costs rise and the great number of federal permits and licenses needed.

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4/21

Susitna study said to need 'overhaul'

By SUSAN FISHER
News-Miner Bureau

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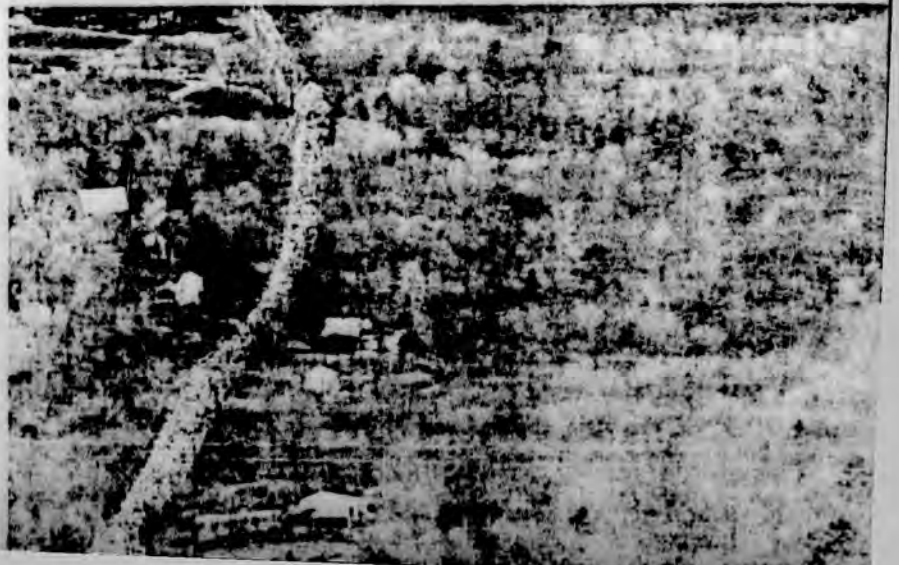
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...and Egypt supply the country with half of its oil. Israel must extract the rest from the erratic

...to ex-
The Export Administration Act, which passed Congress this fall, forbids exporting North Slope oil.

But the president can overrule the Act:

But the president would have to justify his decision to Congress, which would have veto power over it.

In May, a U.S. delegation will visit Israel to discuss the question of exporting Alaskan oil to Israel.

ew of report

SUSITNA ...

(Continued from page 1)

the planning commission and will continue to do so as long as his report is pending."

"The morality and character of each commissioner and the planning commission is as a whole beyond reproach," Lantz said. "As the chairman, I have no intention of allowing the commission to be further maligned by Mayor Carlson's report without the benefit of the commission's rebuttal, and am confident that after review, the matter can be satisfactorily resolved. It is my intent to prevent delays."

Lantz asks the commission to make the file open to the public once a decision is reached. He asks that if the APOC findings show no violations, the "case be closed."

City Clerk Kay Day to retire June 1

City Clerk Kay Day, who has held that post since 1973, has announced that she will retire June 1.

City employees are eligible for retirement when they reach age 55.

"I have sincerely enjoyed these years of service in many ways," Day said. "I will look forward with sincere interest, as an observer in retirement, to the continuing progress of our city."

Day, a Fairbanksan for 29 years, started with the city in the Finance Department in 1964. In 1966 she moved to the clerk's office.

alternatives, but concludes that the customers may begin paying a full decade before the power is on line.

That could mean by rough calculation, "... in the case of the Susitna project it is likely to double or triple the average cost of electricity to Chugach Electric Association customers over the entire period of 10 years or more before they begin to receive Susitna power."

The report says those costs would come down after the facility is on line because much of the capital cost would have already been paid, "but we believe that the public acceptability of such an arrangement is virtually nil."

In discussing the eight major utility companies now serving the Railbelt, conservation and conversion are two major immediate future factors for the two Fairbanks utilities.

Golden Valley Electric Association is being encouraged to convert waste heat, and conservation efforts are being encouraged to meet immediate and

near-future demand, the report says.

A Railbelt inter-tie, a power line linking Fairbanks, Anchorage and the areas between, "might alter GVEA's reading for the need for a Susitna dam project, if wheeling and reserve spinning capacities were more available through an inter-tied system."

Fairbanks' Municipal Utilities System "is perhaps the most influenced by the boom-bust cycle of all Railbelt utilities." But the report adds that mid-to short-range power plans cannot be made on the basis of short bursts of activity.

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West Valley Choir

Author of Susitna study ponders reply to critics

News-Miner Bureau

JUNEAU—Acres American Inc. and the Alaska Power Authority are considering replies to a report critical of the Acres study plan on the proposed Susitna hydroelectric project.

A draft copy of the report, prepared by the consulting firm of Arlon Tussing and Associates Inc., was given to legislators late last week.

Reps. Hugh Malone, D-Kenai, and Brian Rogers, D-Fairbanks, members of the House Power Alternatives Committee, hired the Tussing firm to review Acres' study plan.

Jim Landman, coordinator of the Acres Task One effort, said Monday that Acres' Anchorage office had just received a copy of the Tussing draft report that day.

Landman said copies would be circulated to main offices in Buffalo, N.Y., and Columbia, Md.

"I don't know that we will respond formally. I don't know whether the content of the report will change the direction of our study," Landman said.

"This is something we will have to discuss among ourselves and with the power authority," he added.

If Acres does respond, Landman said it probably would not be until later this week or early next week.

Eric Yould, executive director of the APA, was in Juneau Monday, and had not seen the Tussing report.

He said he knew the report was out,

and added, "I had heard that the report was critical." Yould said he would read it and respond.

The Tussing review, prepared by Arlon Tussing, Lois Kramer and Barbara Morse, says Acres' study plan, released in February, needs substantial revision if it is to serve as the basis for an informed state decision on whether

to go ahead with the Susitna project.

The report focuses on the need to strengthen the early studies in areas such as power alternatives, cost, risk, financing and consumer demand.

Three copies of the draft report, which is subject to revision, have been mailed to the Fairbanks Legislative Information Office, 101 College Road.

15 persons seeking seats on new Court of Appeals

ANCHORAGE (AP)—Five Superior Court Judges and the U.S. attorney for Alaska are among 15 persons who have applied for seats on the state's new three-member Intermediate Court of Appeals.

The court was established by the Legislature to relieve the workload on the Supreme Court. The new court will deal initially with criminal cases.

The Superior Court judges who submitted applications to the state Judicial Council before the filing deadline Monday were Thomas E. Schulz of Ketchikan, Roy Madsen of Kodiak, Warren W. Taylor of Fairbanks, and James K. Singleton and Ralph E. Moody of Anchorage.

U.S. Attorney Alexander O. Bryner, and the state's chief prosecutor, Daniel Hickey, also applied.

The other applicants included four assistant attorneys general and four lawyers in private practice.

The assistant attorneys general are Peter Michalski and Charles Merriner of Anchorage, Susan Burke of Juneau and Robert Coats of Fairbanks.

The four lawyers are Robert N. Opland, D. Ralph Stemp and A. Lee Peterson of Anchorage and Thomas F. Keever of Fairbanks.

The Judicial Council will screen the applicants and submit the names of two or more for each judgeship to the governor. The governor must appoint the judges from the among those nominations within 45 days of receiving them.

Low-interest loan program out of funds

ANCHORAGE (AP)—The Alaska Department of Revenue says all \$105 million committed to the state's emergency low-interest mortgage loan program has been allocated.

The program had been scheduled to last three months, but an agency spokesman said Monday that applications for the loans already exceed available funds.

(Related story on Page 7)

Dick Alexander, the state's mortgage investment officer, said financial institutions have been advised not to send any more applications to Juneau for processing.

He also said an estimated \$10 million worth of applications already in Juneau will have to be rejected because of a

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NATIONAL WEATHER SERVICE
Fairbanks, Alaska



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Consultant urges state revamp oil leasing policy

JUNEAU (AP)—A consultant has told legislators that the state should eventually replace the oil industry's traditional role in exploration and development of petroleum resources by separating the process.

Dr. Michael Tanzer, whose New York firm evaluated various oil leasing methods, advances the idea in a report to Rep. Joe McKinnon, D-Anchorage, that was distributed to legislators this week.

McKinnon chairs the House Leasing Policy Committee, which last year studied what type of leasing method should be adopted for the Beaufort Sea oil and gas lease sale. The sale was in December, and despite hesitation by some administration officials, the net profits system was adopted.

Under that system, oil companies win leases based on the percentage of their production profits they offer to the state, instead of winning by the amount of cash they offer or how much oil they offer to share with the state.

Tanzer said the complicated monitoring and accounting setup the state needs with net profits leasing lays the groundwork for it to contract first for oil and gas exploration and then for production.

"It makes little sense to pay a high rate of profit to a company for its combined exploration and development effort, when the risky part of the investment is only a small part of the total," Tanzer said. "For example, in Prudhoe Bay, exploration amounted to only about \$100 million, or about 3 percent of the field development costs of over \$3 billion."

Tanzer suggested the state should consider one of three ways to explore and develop petroleum resources:

- The state would award a contract to an oil field explorer based on the lowest bid on what the expected profit on the

explorer's investment would be. The explorer could be paid out of future production revenues.

- A contract for exploration would be awarded based on the lowest expected share of future production by the explorer, in royalty or perhaps a share of net profits bid by the eventual developer.

- A contract for exploration would be awarded to the bidder asking the lowest share of cash bonus money, if the state decided to award bids for production on a cash bonus basis.

If no oil is found, the explorer would lose.

Tanzer reasons that the state probably would get higher offers for production if the bidders know the size of the oil deposits.

"With service contracts, the state has complete control of the pace and character of development of an oil field found," he said. "Thus, the state can choose among the various possible rates of production that which is best suited to its fiscal needs."

He added, "With service contracts, the state can directly determine what 'trade-offs' are to be made between economic and environmental considerations, rather than indirectly trying to force the companies to make environmentally sound decisions which may not be profitable to them."

Legislation aimed at "two-stage" leasing has been introduced since 1975, but has met stiff resistance from the oil industry.

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The board members' communication utility giving



Power Boom Over

The Cheers Have Stopped for BPA

Few people know what it does, but the Bonneville Power Administration supplies a great deal of the Northwest's electricity — and determines what people pay for it.

This article concludes a series on the federal agency and its influential boss, Bonneville Power Administrator Sterling Munro.

By Joel Connelly

The Bonneville Power Administration was an agency with a populist mission when it was created by Congress in 1937.

Its task was to distribute — indeed, to find a market for — the abundant hydroelectric power from federal dams then being built on the Columbia River.

For many years, the BPA was part booster and part Santa Claus. It promoted dams and helped establish public utilities — doing battle with private power companies — and campaigned to bring the aluminum industry to the Northwest.

Nowadays, however, the cheering has stopped. Power is no longer abundant. Its price is soaring. And the BPA, as the key supply agency, is under fire.

"It has an impossible responsibility. The BPA is physically hooked up to everyone using power in the Northwest, which

speech.

The BPA has recently engaged in a year-long fight with WPPSS staff over how closely the federal agency could oversee construction of the nuclear plants.

A settlement was reached, but it left some bruises. WPPSS officials took "an extremely defensive, bomb shelter mentality" toward the negotiations, according to Munro.

There is no indication that closer supervision by the BPA can control WPPSS' soaring costs. A U.S. General Accounting Office report last September said that Bonneville was "not adequately prepared" to oversee nuclear construction.

"There has been a tremendous institutional friction between the BPA and WPPSS," said Seattle's Deputy Mayor Bob Royer, who oversees the city's participation in WPPSS.

The reason, according to Royer, is that WPPSS — which is building a total of five nuclear plants — once had ambitions to supplant the BPA as the Northwest's power marketing agency.

"It was like two big bureaucratic monsters confronting each other out in the field, with the earth shaking, to determine who would be master of the power lines," said Royer.

WPPSS is no longer so ambitious. Its nuclear program has nearly quadrupled in cost; the nuclear plants are running five to six years behind schedule; and the Supply System is the target of legislative probes.

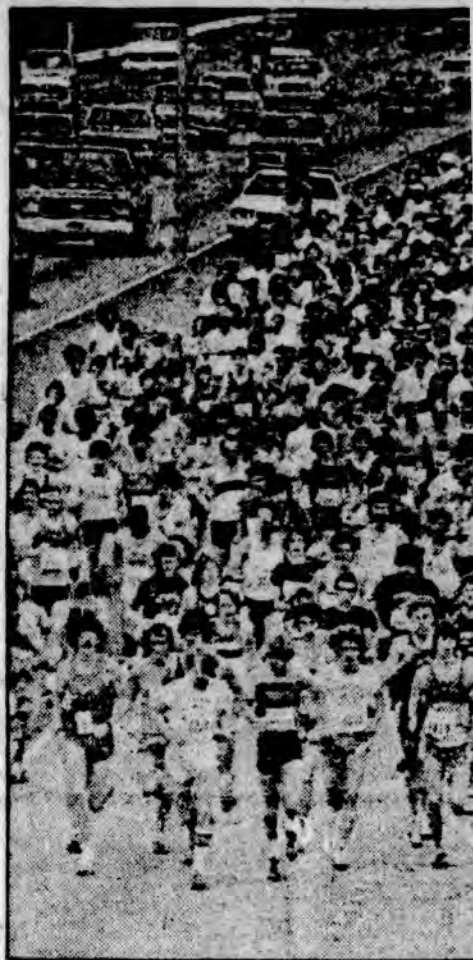
Such battles demonstrate how agencies can develop minds and goals of their own. In the opinion of some critics, that has happened to the BPA.

"The BPA was set up to help the consumer, but when they speak of 'our customers,' they mean utilities," said Sierra Club Northwest representative Jim Blomquist. "From talking to them, you get the impression that the Bonneville Project Act was written for the aluminum companies."

The criticism is echoed by PUD spokesman Boldt. "A couple people who work for Bonneville have been very close to the aluminum producers and the private utility sector," he said.

It would appear to be an unfair charge, since the BPA has said it cannot supply power to aluminum plants in the future. But the agency has made some controversial moves to make sure aluminum producers keep getting power at present.

Last year, the BPA loaned 800 million kilowatts of power to aluminum plants — at a time when Oregon's Trojan Nuclear Plant was shut down, and BPA officials were warning of a serious electrical short-



Su

THE EXPRESS LANES of Interstate 5 through Seattle experienced a different kind of rush-hour traffic yesterday afternoon as more than 3,000 competitors

Citywide

By John O'Ryan

All they needed at Casey's during the basketball game yesterday was a couple of cheerleaders, and you'd have thought you were in the Coliseum.

Fans at the Olympic Hotel were seated at tables in a great oval around the life-size TV screen, their eyes riveted on the action, their hands gripping glasses and their ears deaf to cocktail waitresses.

Each Sonic basket was greeted with a rousing cheer that seemed to shake the house. If it was a spectacular basket, the patrons gave the team a standing ovation.

Things were the same all over Seattle during the final game of the Sonics-Bucks playoff series. People were glued to TV sets in taverns and lounges, street traffic was sparse, and transit patrons were waiting for buses with transistor radios to their ears.

Around the intersection of Third Avenue and Union Street, patrons of Denty's Tavern were watching TV, at The Turf they were listening to a radio, and at the RD Cafeteria the game blared from a radio set up in the kitchen by

The old days of building dams and providing cheap power to eager consumers are over

makes it politically responsible to everyone," said Jim Boldt, executive director of the Washington Public Utility Districts Association.

Under federal law, some of the BPA's customers are entitled to get power before others — but everyone is hurting.

In 1973, the BPA cut off firm power supplies to private utilities such as Puget Power. The private utilities now get only surplus power, when it is available.

But Bonneville has also told public utilities — its preference customers — that the agency can no longer meet growth in their electrical demands after 1983.

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The aluminum industry, which uses 25 percent of the BPA's power, has received the worst tidings. Bonneville has said it cannot renew the industry's long-term power contracts, which expire between 1984 and 1988.

The BPA is also raising its rates. It increased wholesale power charges an average 88 percent last December. Seattle City Light, which generates part of its own power, saw rates go up a whopping 112 percent.

The BPA plans four more rate increases during the next five years, which are expected to total an additional 45 percent over pre-December rates.

The rate increases which come out of the BPA's computers in Portland are felt in the electrical bills paid by every household in the Northwest.

The BPA's wholesale increase is expected to account for at least half of the 30 percent-plus rate boost that Seattle City Light customers will probably be paying this fall.

Recently, the Snohomish County Public Utility District — which gets all its power from the BPA — raised rates 39 percent for residential customers and 75 percent for business and industry.

The reason behind the BPA's steep rate increase is something known in utility jargon as "net billing." It translates into the high cost of nuclear power.

In 1971 and 1973, after authorization by Congress, the BPA agreed to purchase the full output of two nuclear plants and 70 percent of a third — regardless of what the electricity would eventually cost.

The estimated cost of those three nuclear plants has since zoomed from \$1.55 billion to \$7.8 billion. The trouble-plagued plants are being built at Hanford and Satsop by the Washington Public Power Supply System.

The BPA's Munro is understandably defensive about the nuclear deal. Congressional authorization for purchase of the nuclear plants' power was backed by Sen. Henry Jackson and was passed while Munro was Jackson's administrative assistant.

"The BPA purchased the capabilities of these nuclear plants because those plants were the least costly resources available to meet the region's increasing demand for power," Munro said in a recent

statement. But down the road, BPA officials were warning of a serious electrical shortage in the Northwest.

The BPA's power loans "show that Bonneville has been and still is an operating arm of private industry . . . The agency is simply not serving the public in the Northwest," charged Oregon's U.S. Rep. Jim Weaver, a frequent agency critic.

Earlier this month, the BPA restored a large chunk of its interruptible power supply to aluminum producers, even though a below-normal water year is forecast for the Northwest.

(About 25 percent of the industry's power supply is interruptible, meaning it can be cut off in low-water years when the Northwest is short of power.)

The strongest protests against the BPA have come from California, which gets about 7 percent of its power from the Northwest. But Californians stand last in line, and do not get power if this region's utilities or industries need it.

California doesn't like its last-in-line position. Its utilities must burn oil — at enormous cost, and contrary to national energy policy — when surplus supplies from the Northwest are cut off.

"They've been telling us energy is in short supply and then turning around and giving it to the aluminum industry," said Dan Richard, special adviser to the chairman of the California Energy Commission. In response, Munro points to the BPA's legal obligation to give preference to aluminum producers. "We're kind of fussy," he said. "We have to obey the law."

California has also been forced to pay much higher price increases than the BPA's customers in the Northwest. The BPA is charging Golden State customers as much as 500 percent more for power. California has appealed the new rates to the Federal Energy Regulatory Commission.

But anger to the south has not fazed Munro, who argues that the BPA exists first and foremost to serve the Northwest. "Regionalism has been a valid and important component in resource development," he said.

The BPA is not shrinking from criticism. In fact, the agency is promoting a vastly expanded role for itself in the Northwest's energy future.

The agency currently supplies about 50 percent of the Northwest's power, its prime customers being public utilities and aluminum plants.

But under regional power legislation — currently pending in Congress — that percentage would go up. The BPA would provide power to homes and farms served by private utilities. It would also underwrite construction of whatever additional nuclear and coal-fired power plants are needed in the Northwest.

The BPA has seemed to recognize that its actions — whatever they are — are bound to stir up controversy. The old days of building dams and providing cheap power to eager consumers are over.

In a recent talk, Munro commented: "Once people cheered when ground was broken for a new power plant of any kind — be it a hydro plant in the Northwest, an oil-fired plant in Manhattan, a coal-fired plant in Pittsburgh, a nuclear project on the outskirts of Chicago — whatever, and wherever. Today the common thread is conflict . . ."

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Susitna study said to need 'overhaul'

By SUSAN FISHER
News-Miner Bureau

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Tussing's consultants take a premise that Alaska will enjoy an economic boom in this decade because of the gas line and potential petrochemical industries.

But the Tussing report says that unless a major petrochemical industry is built, there probably will be an economic decline by the early 1990s, when Susitna could go on line.

Buildings constructed before the end of this decade will continue to be built with oil or gas heat, the report predicts.

Tussing's firm discounts cheap energy as highly speculative in terms of attracting new industry.

Even with a major power source such as Susitna, higher costs to build in Alaska would mean that a plant would have to face energy costs outside equal to at least 60 per cent of its fixed capital costs "before even 'free' energy in Alaska would offset" construction cost handicaps.

About the only industry that would meet the criteria of benefits would be aluminum refining, the report states.

Power "demand forecasts are notoriously inaccurate," the report claims. Other "uncertainties" are cost overruns in construction, delays in completion, the rate fuel costs rise and the great number of federal permits and licenses needed.

"Traditional sources of direct and third-party guaranteed loans to Alaska utilities are drying up," the report says. It discusses various financing

(See SUSITNA, page 3)

SUSITNA ...

(Continued from page 1)

alternatives, but concludes that the customers may begin paying a full decade before the power is on line.

That could mean by rough calculation, "... in the case of the Susitna project it is likely to double or triple the average cost of electricity to Chugach Electric Association customers over the entire period of 10 years or more before they begin to receive Susitna power."

The report says those costs would come down after the facility is on line because much of the capital cost would have already been paid, "but we believe that the public acceptability of such an arrangement is virtually nil."

In discussing the eight major utility companies now serving the Railbelt, conservation and conversion are two major immediate future factors for the two Fairbanks utilities.

Golden Valley Electric Association is being encouraged to convert waste heat, and conservation efforts are being encouraged to meet immediate and

near-future demand," the report says.

A Railbelt inter-tie, a power line linking Fairbanks, Anchorage and the areas between, "might alter GVEA's reading for the need for a Susitna dam project, if wheeling and reserve spinning capacities were more available through an inter-tied system."

Fairbanks' Municipal Utilities System "is perhaps the most influenced by the boom-bust cycle of all Railbelt utilities." But the report adds that mid-to short-range power plans cannot be made on the basis of short bursts of activity.

See Back Page, PARKER

duplex. See story on back page.

Consultant blasts Susitna hydro plan

By SARAH MOTT

Daily News correspondent

In the wake of severe criticism in a consultant's report to the legislature, major changes will be made in the proposed Susitna dam project, planners said Tuesday.

A report released Tuesday by Arlon R. Tussing and Associates blasted the current hydroelectric power plan as "consistently superficial," and requiring a "complete overhaul." Tussing made eight recommen-

dations for additions to the study, additions which would cost an estimated \$1 million.

Tussing said that with the "incomplete or defective information" planners will use, the findings will be "rubbish" and "no use whatsoever in making an informed decision on Susitna."

In reaction to the study and recent public meetings held throughout the railbelt area, the Alaska Power Authority will meet with the legislature later this week to request funds for the further studies. Robert Mohn of the authority estimated

the request will be between \$500,000 and Tussing's \$1 million mark.

Mohn said Tussing "tends to use extreme language to get a point across," but he conceded many of the recommended changes in the proposed power project for Southcentral Alaska are good ones.

Tussing's review of the plan of study cited two broad-based inadequacies:

A decision on the project's practicality would not be based on either economic or

See Back Page, SUSITNA

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See Bac

Susitna

Continued from page A-1

financial feasibility, and,

- The substance and sequence of planning work implies that those involved have already decided the Susitna dam is the best energy alternative for the railbelt area.

Tussing contended the "gravest defect" demands an "overhaul of the organization and scheduling of the project as a whole."

His report charges that Acres International — the firm doing the planning — does not equally compare the costs and risks of Susitna and alternative energy sources. Costs and risks for alternative sources will be examined early in the planning, while similar studies for Susitna won't be done until much later.

Tussing's report also questions the reliability of power requirement forecasts, claiming the forecasts are based on uncertain assumptions.

Contrary to speculation by proponents and critics alike, Tussing concluded that

cheap power sources do not by themselves attract industry.

Moreover, Tussing's report predicts the most likely scenario for the railbelt is a peak in activity and electricity demand in the late 1980s, which will then "fall sharply for at least several years." Those several years coincide with the end of the dam construction and the availability of all its power.

Tussing's report also says marketing and financing of the proposed project are not being adequately considered, particularly with the existence of a bad market for revenue bonds and without the support of one of the proposed users of the electricity, Chugach Electric Association.

The Acres financing plan discusses generating "the necessary degree of infectious enthusiasm" rather than market strategy, leading Tussing to conclude "it is conceivable that the authors are not referring to

selling electricity at all, but only to selling the project."

While Tussing's report notes that the plan of study does not explicitly presume the Susitna project is feasible, the substance of the work indicates a decision has already been made. Lack of funds, insufficient time and inadequate economic comparisons are cited as flaws in the alternative energy studies, which are scheduled to end in December.

The eight recommendations by Tussing include providing funds for alternative energy studies "as thorough and reliable as those for Susitna itself," and preliminary cost, risk and scheduling comparisons.

Mohn acknowledged Tussing makes a "good point" in condemning the alternative source studies and expects some major changes to take place in that area of the plan.

SE:hh#

wwwos

Susitha Power Study

415.956.7070

5/30/80 1pm

Craig Kirkwood - WW Clyde

prime responsibility to Acres
so must be careful

background - contacted Dick Firth, Anchorage office

- A) quick proposal put together, given to Acres
- B) After Acres rec'd contract, began to work on
WW contract - Acres wanted very narrow
(OGP-5 model) work for computer model -
cost #s, load demand curves, env. impact support
work.
- C) caused concern - wanted ~~independent~~ overexcessive
detail, given info, too narrow a view - focused
on cost estimates of generation
Ignored risks of supply expansion alternatives
Impacts - social, economic
- D) Still no agreement on scope of work - starting
work on supply

Tussing -
concentrated
on markets
Socio-economic
impact questions
are also significant
as electrical
engineers concerned
about having large
portion of supply -
one facility

- 1) alternatives - no agreement yet
- 2) supply - ISEK review
- 3) " - derive load duration curves
agree w/ Tussing criticism, but
- 4) look at av. impacts of project alternative
(1.05) by Dick Firth's

Acres expect. to get best-cost alternative for OGP model,
+ env. - social impact analysis

What's wrong w/ Acres - need integrated look - instead have ISEK
piece - but ISEK forecasts are significantly lower - needs to
see how their assumptions fit in w/ rest of planning alternatives.

\$ or scope of work.

Since there are no immediate problems, take time to do a decent study job.

Quiet

- Hiring report - for additional \$ - WWC can forward w/all new proposal. Some AEs members were supportive - but APA got different proposal - no real organizational change, despite radical change proposed by WWC -

need realistic evaluation of risks

need " at decision-making

never a decision yes or no - just a question of what to pursue aggressively

IFX's forecast - risks different if high or low prices - risks of excess & is. inadequate capacity

need realistic assessment

don't want to be blackened by Sunita story - may back out of the rest of the work.

Hugh + Brian -

- 1) ISEK will formulate range of demand scenarios, with policy guidelines spelled out for legislature - about 7-10 scenarios. Will select 3 for APA/Acreo to use for running load curves, selection of alternatives
- 2) Peter Sandor, Acreo demand economist, said that estimating power demand for a place like Alaska is not much better than educated guesswork. He said building a multi-billion dollar, capital intensive project like Susitna should be a matter decided politically, since it has to be made on policy, not technical, grounds.
- 3) C. Debelius wanted to know if ISEK felt that their work would stand up to criticism; both high + low
- 4) Perry Siobanski (WWC) stated that he was unsatisfied with the quality of work + effort considering the size of the project. However, he said that he didn't see what more could be done. He was disturbed by how much lower the new ISEK pop. estimates are compared to previous work.
- 5) The only new, good information will come from the census in 1981 - can be used to check our final ISEK report.
- 6) Space heating will be important for electric demand - electric heat expected to increase

7) ~~partly~~ ISEK could use a couple weeks of slave labor from someone

- 8) we need to focus a public debate
- 9) report progress - ISEK, Erickson, Tuck
Feed, Alvirg, Fryer, select

10) future - geo oversight
critique of Acreo Alternatives comparison

(10) Gas! - Chugach connection

Scott

Purposely optimistic - not based on projection
high range estimate

wanted high bias on demand estimates

Demand assumptions workshop - 14

BR

R. Munn

Tuck

Ed Phillips

Barbara Withers

David Leane

Bob Richards

Care Dawell (Dawer)

Clyde Popping BLM

Tom Singer

ork
J. Rhade
Singer

6.7405

~~to Bob Cross~~

Sig
F. H.
Leane

Huoring work - additional work would not be cost effective

Ed Phillips for quoting

2256
Ed Park / royalty accountant

Susitna
checks!

SEISMIC

⇒ Siltation

streamflow

2/19

Susitha -

1) What makes us uncomfortable?

seismic
fisheries

cost of power - cont. overruns -
market demand,
transmission / backup power utility rates

have good report done on all uncertainty

2) \$ & Gov's office

w/ conditions -



projections for various sizes

minimum & maximum

cost, cost of power, excess capacity
of cash

3) TVA or revenue bonds -

project should pay for itself -

when will utilities commit?

Hudson
Wentworth

gas & oil

raw gas → Italy or Belgium
use gas or coal

low efficiency

methane, CO₂ recalc = 75%

instead of 50% efficiency

fuel grade methanol

coal in agitator tanks - slurry for fuel

Ethane not oil ranges
for purposes of
regulation

methanol

Alberta Chemical

Can you bill consumers?

fairly cost?

— delays, arena

no equity owner,

cost if

System not built

ISER

expected draft March 1 -

instead will have draft of final report

would run moderate case - business as usual

Econ projections, household model, regional allocation

Mike Scott

new
innovation

Energy Probe

suggested

(housing supply)

given pop., how
many households

end use models
(fuel use)

comm/industrial

{ Dan Baxter - Project Engineer Oversight
Gloria (auditor)

USGS - hydrology - stream flow measurements

Swan survey - soil conservation service

Acres engineers analyze

Eric oversees hydrology

independent Boards

seismic geotechnical (engineering)

biological subcommittee

Procedures manuals being developed for data collection.

Million dollars for review of cost estimates, seismic

Bd will be selected by Acres / APA

Corps plan vs. Alternatives

review by Acres of Corps cost estimate

11/80 report out - decision in Jan. + Feb. 81

Public Comments - will be assigned for immediate
answer by Acres

send Bob Mohr Small Hydro report

GE Voice activated computer system

Chugach auditor - feeds information to
network computerized

immediate answer

a large # of electric utilities are using this
to answer

load management - homes - don't have discipline here
utilities

Water heater, dishwasher + dryer - not on at same time
doesn't have cost

not peak management

flat rate - anathema - PUC ordered

load duration curves - 52% in typical system

w/out tremendous social changes

went to high use customers - what social changes would accept?

Wash - after 8 pm

water heater only on part-time etc.

alternative - pay 3 times as much - would do

Chugach - "would be criminal" to force small utilities
to carry out any load management thing

Audits - Followups, most have done nothing
Will only hit major things

City - wanted to get in and out of audits

about \$25 / audit - cool to Chugach,
no charge

→ Fed \$ already available to municipalities

Can't offset demand curves

Adams - if they want to do something
use gas & oil instead of heating
gas - cheapest for
Switch - 4 or 5 times

Chugach has gas in its possession

→ subsidized fuel rate in utility operation
wholesale level

\$4/barrel heating fuel - in bush

no equity
Could ^{use} Slope royalty gas by exchange
or gas like to Anchorage

connecting large use area w/ large source

Pad NG - buy gas from Alaska producer
big in influence

5 party agreement

expected subsidy proposal to cut down cost of energy

B. Schoultz proposed plan to Quintan

Chomela
at
new capacity
to be
gas
to AGAS.

Bradley / HEA

Susitna - will cause firing of whole
Chugach later form

will be largest project for smallest
market price

exemption possible

Susitna

ALA - can't talk about costs to utilities when dan
goes on line.

Burden & Law - Susitna price costs 87/m.b

Chugach investment in Switna - would have to
be 3 billion.

Power Adam. - would market power

(dump) secondary power - cheaper than
existing power -

would be placing more efficient, less costly units at
idle capacity.

No facts behind

Chugach has ^{all} power requirement for HEA

Bradley - further down list

* - hydrology #s for marketing -

→ Rutherford #s have always been 100% by

Cooper - 50 million - Peter

get 27 million

Shouldn't you do more on hydrology?

Certainly that water will be there?

costs ÷ two hrs. the

Mark Enger

12/28 inter - 50%
ge - 60%
w. lat. - 30%
solid waste - 30%
wind - 75%
wood - 25% - draft
small hydro - 20%
solar - 20%

complete
draft due by 1/20

1/11 - Select - 30% solar done

interim report

tentative conclusions

- ① serious env. questions -
small hydro, wood
wind - limited
policy, economic
regulate
- ② economic incentives needed
- ③ move CL programs
rural Alaska
- ④ Thorough inventories needed
- ⑤ small, efficient, weathering power generators
- ⑥ highly efficient, maintainable small hydro

Eric Myers

~~1/16-76~~

Cons. Bureau

Gould 1.25.80

N. Ca. firm - "Biomass" small gasifier for demonstration
Yuba City 200 - 250 KW (Hodges, AVEL)
\$150,000 in FCC (Sumner, Sackett) feasibility study due next month
if acceptable, will demonstrate in Yuba, test in Anchorage,
move to Nulato (wood, peat, possibly coal)
must reduce moisture content to 30%
First US prototype - needs better fuel handling system
- needs better scrubber
How does this relate to the CQ's money for coal gasification
looking for DOE \$ to work on the project

EDI tidal power project in SE - current motion machine
Angoon - 6 kW riptide
gasification unit perfection
→ fluidized bed technology - working - lower cost - but size
but needs good quality control MHD

space heat
Fb now - oil
1985 - gas
1995 - elec. heat
} when should people switch? Economics of
various types of space heat?

Indertic - Lee Wareham - Susitna Now - ① Want interconnect
② Fish hatchery on the Susitna

→ superficial geology / duplication of effort / but training

(faults & lineaments question (Susitna fault)

but - are they active - Corps took superficial map

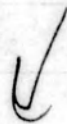
minerals mapping isn't redundant

have David Stone work with Gould on the project

AKPIRG should work with Acres

Susitna -

① detailed work on cost overruns



② paper analyzing how costs should be studied
discounting, etc.

marginal costs

1-20-80

Anti - Susitna Arguments / from Lovins

(A) We need to spend \$ on:

- (1) liquid fuel for transport, etc. (34%)
- (2) heat (58%)
- more than electricity (8%)

power stations are too expensive, and produce energy of a much higher quality than what we need.

(B) Conservation + alt. energy investment, usually take less than a year to implement, less than ten to repay. Power stations take 10 yrs to build, more than 30 years to repay.
2/3 of typical rate bills go to pay for new construction

Susitna - 4 billion ÷ app. 100,000 rate payers
4,000,000,000 ÷ 40,000 per ^{household} over 50 years
~~1000~~ \$800 per year for Susitna!!
does this include interest costs?

(but fuel generation of elec. power would be more expensive)

We need a good economist to work over this for
Susitna vs. gas vs alt. energy vs. conservation
- part of the post-April work

with some recognition of Lovins-type
considerations

→ marginal costing