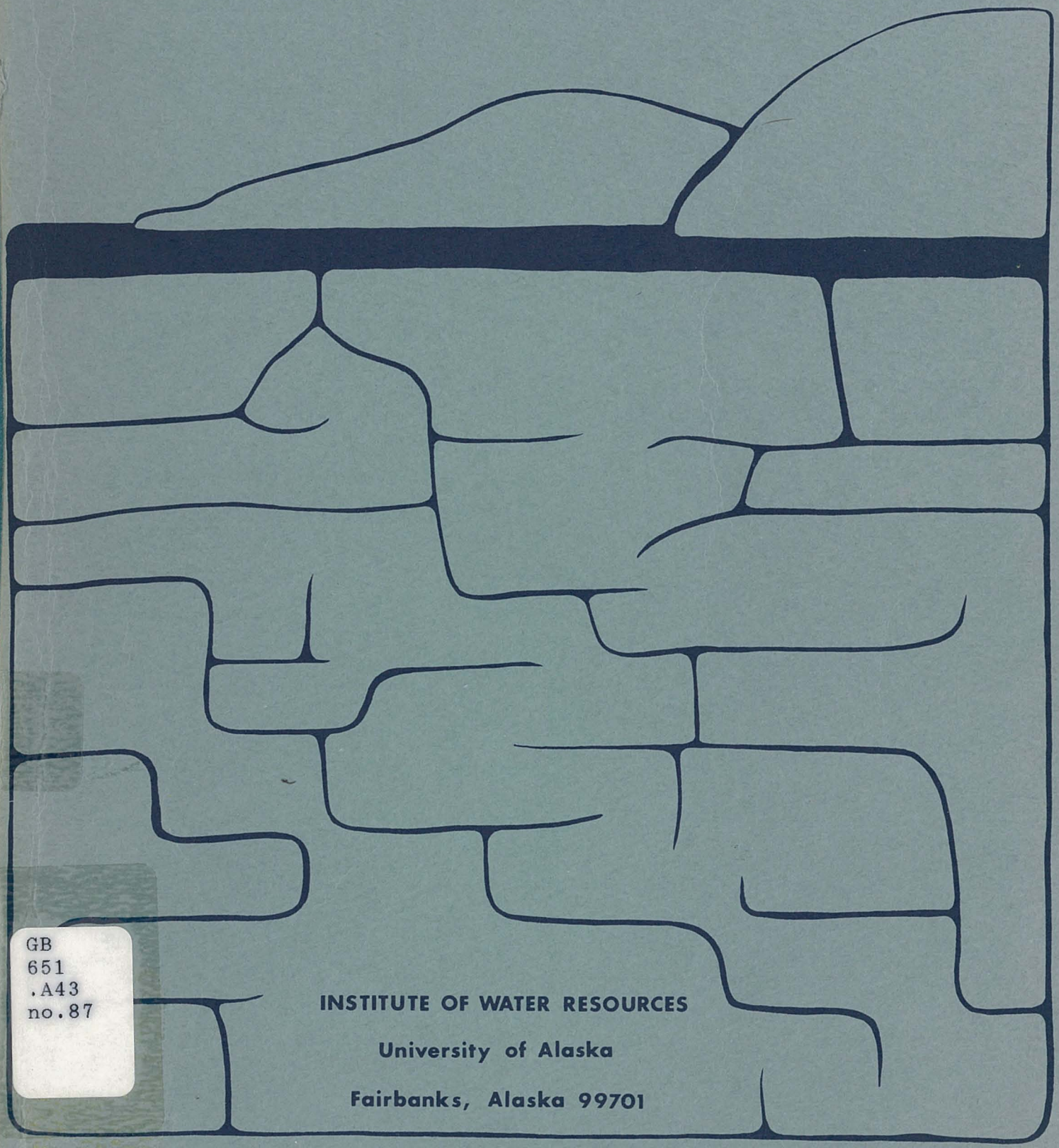
THE POLITICS OF HYDROELECTRIC POWER IN ALASKA: RAMPART AND DEVIL CANYON – A CASE STUDY



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The Politics of Hydroelectric Power in Alaska: Rampart and Devil Canyon--A Case Study

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TABLE OF CONTENTS

INTRODUCTION

Hydroelectric power in Alaska has had a curious history--and an instructive one. This study focuses on three separate projects: Eklutna, Rampart, and Devil Canyon. The Eklutna project functions today; Rampart was not constructed; and the Devil Canyon project is still in the planning stage. Yet for all their differences in location, goals, and fate, the projects were related; and, taken together, their histories highlight all the essential political elements involved in hydroelectric power construction. There is still a fourth project which is functioning today--the Snettisham installation near Juneau which is not considered in this paper.

A complex decision-making process determines the progress of such large projects. In following these three Alaskan projects, we can gain a better perspective on the roles of the several government agencies and the public; thus we can assess some of the inherent complexities. Such an assessment fully substantiates the conclusion that it takes more than moving dirt to build a dam.

EKLUTNA

In a historic sequence, the Eklutna power project deserves first consideration over Rampart and Devil Canyon. But, in this report, Eklutna's history has been placed in the appendix because its development varied so dramatically from that of the more recent projects. It is not that Eklutna is not important--after all, it is producing today, while Rampart and Devil Canyon exist only as dreams--but that its story reflects another era. In retrospect, we can see that the Eklutna project was developed with remarkable speed and ease, although its proponents chafed at delays at the time. There was nothing of the arousal of public opinion and competing forces over Eklutna as existed with Rampart and Devil Canyon. Thus it is better to include Eklutna's story as a reminder of other conditions, rather than as an introduction to very different events which have not yet been settled.

RAMPART DAM

In 1959 Congress appropriated money for an initial Corps of Engineers' study of the feasibility of Rampart Dam. Subsequently more money was made available and, over the next few years, the Rampart project occasioned a controversy whose size matched that of the proposed facility. The controversy exposed the problems associated with the construction of such vast public power projects; it revealed the concerns of opposing interested agencies and opinion groups; and, above all, it highlighted the time lag affecting such projects.

It is not the purpose of this study to show that Rampart was either a sound scheme, unfortunately aborted, or a foolish one, justly suspended. We wish, rather, to show the complexity of public response, and the relationship of the Rampart project to the planning of Devil Canyon.

The investigation of the feasibility of a hydroelectric facility at Rampart Canyon on the Yukon River originated with a resolution of the Senate Public Works Committee dated April 24, 1959. This memorandum requested that the Board of Engineers for Rivers and Harbors of the U. S. Army Corps of Engineers investigate and report on the project. A small sum, $49,000, was appropriated for the study.

Rampart Canyon, a narrow portion of the Yukon River near the town of Rampart about 100 miles northwest of Fairbanks, offered impressive possibilities for hydroelectric development. The corps's study indicated that the site could hold the largest dam in the world, one which would be backed by a reservoir larger than Lake Erie produced by the flooding of 10,000 square miles. Such a project's electrical power output would be commensurate with its physical proportions: five million kilowatts of power could be generated each year, fully two and one-half times as much as Grand Coulee Dam and twice that of any other dam in existence. These awesome statistics had been gathered prior to Congress's resolution of April 1959, so it was clear that the scope of the potential development was generally understood.

Sponsors of Rampart in the U. S. Senate predicted that the economic benefits of Rampart would be very great. At that time Alaska was not yet officially represented in the Senate and Rampart's proponents included

Richard L. Neuberger, an Oregon Democrat who had an abiding interest in Alaskan matters. As the corps prepared to investigate Rampart, Neuberger told Oregonians and others in September 1959 that Rampart was one example of a means by which the new state of Alaska could contribute to Pacific Northwestern prosperity. "Rampart dam on the Yukon River alone," Neuberger told realty board members from five Pacific Northwest states, "could support an aluminum industry which would dwarf even that in our own states of Oregon and Washington. Much of this economic progress is bound to spill over into the states which are Alaska's neighbors."(1)

The Corps Promotes Rampart

In October 1959, Governor William A. Egan of Alaska announced that work by the Corps of Engineers on a survey of the engineering and economic feasibility of Rampart had begun.(2) On the same date, a corps official, Harold L. Moats, chief of the civil works planning branch, described Rampart to the Anchorage Chamber of Commerce. Since the high cost of power was an endemic Alaskan problem, the chamber was cheered to hear that Rampart hydroelectric power could be produced for a mere two mills per kilowatt hour at the dam. Moats also explained that the experiences of Russians and Scandanavians indicated that Rampart power could be transmitted by ultra high voltage to Seward, Anchorage, and Valdez for only an additional mill per kilowatt hour. In fact, the Rampart area appeared to be the only place left in the United States where water power could be developed to electric power for less than four mills per kilowatt hour.

Moats suggested other benefits of the proposed 1.3 billion dollar project as well. The 470-foot dam would probably raise the mean annual air temperature of the area one or two degrees, perhaps making the surrounding territory suitable for agriculture. According to the press, Moats assured his audience that Rampart "would be justified by the amount of industrial development that would take place in its wake." But he warned his listeners that "it will be many years before the first kilowatt can be wrung out of Rampart."(3)

Congress's initial appropriation of $49,000 for the Rampart study in 1960 was supplemented for 1961 by a further $225,000 to the Corps of Engineers. Early in 1961 the Alaskan congressional delegation announced

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 enginecr; 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 Hanburger 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 580,000 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 by 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 sewspaper 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 utlizing 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 agrument 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 goverment, 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 aluminim 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 Assocation 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 killowatt-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 adminstrations 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, principaly 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 muddied the waters.

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 killowatt-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 hydroelectric 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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APPENDIX

EKLUTNA

In the 1930s Alaskan communities generated power from coal or oil and sometimes used small hydroelectric plants. One such installation had been built by private interests in 1929 at the mouth of Eklutna Lake which empties into Eklutna Creek. The latter enters Knik Arm from the Chugach Mountains some twenty-four miles northeast of Anchorage. The creek descends through a steep-sided, troughlike, glaciated valley about twenty-seven miles long. Rugged peaks up to 8,200 feet in elevation rise sharply above short valleys which are tributary to the creek. Eklutna Lake, seven miles long and one mile wide, located at an elevation of 868 feet, is the principal feature of the basin. It lies in a valley headed by a glacier and a snowfield. The lake overflowed through Eklutna Creek below the rock dam which was raised to provide a water supply for the small power plant near Eklutna Village, about eight miles downstream.

Reports had it that the initial structure was not overly successful because when the water level rose four to five feet above the natural barrier, the slightest leak allowed the water to escape. In order to remedy the situation, operators drove wood piles across the mouth of the overflow channel to permit the storage of water to a depth of three to four feet above the natural lake level.

In the fall of 1934, contractors built an earth- and rock-filled structure which incorporated portions of the original dam. It provided a more stable water supply to assure dependable generation of electricity. Finally, in 1943 the city of Anchorage purchased the operation from the private owner.(1)

Due to the increased demand created by World War II, Anchorage found it advisable to purchase a 600- and a 350-kilowatt generator from the Surplus Property Office for a price of $45,000. When this proved inadequate, the city sought to obtain a power barge, destroyer, or some other portable plant which might suffice until Congress approved a requested $7-million improvement bond issue from which $1.5 million was to be used for a new 5,000-kilowatt capacity power plant.(2)

This patchwork action kept Anchorage supplied with power, but the needs increased. The Corps of Engineers was powerless to expand Anchorage power-generating facilities located at Eklutna. The River and Harbor

Act of March 2, 1945, had provided for preliminary examinations and surveys of Cook Inlet to improve navigation, develop hydroelectric power, and to provide harbor facilities. A spokesman for the Corps of Engineers advised Alaska's delegate to Congress, E. L. "Bob" Bartlett, to introduce legislation which would authorize the construction of an Eklutna plant.(3)

After the war, Congress made available $150,000 for the investigation of the territory's power resources. An Alaska Investigations Office was quickly established and, under the able leadership of Joseph M. Morgan and his colleagues, an exhaustive investigation of Eklutna and other potential hydroelectric sites was made. Investigations determined that, as of the time of the study, the utility systems serving the Anchorage area and the Matanuska Valley had a production capacity of only 8,625 kilowatts--far short of the actual needs. Total Alaskan generating capacity from private plants amounted to 35,931 kilowatts and that of public plants to only 19,440 kilowatts for a grand territorial total of 55,371 kilowatts. The power production was woefully inadequate for Alaskan needs. On the floor of the House, delegate Bartlett asserted that federal policy had long and actively supported the development of the water resources of the west, while not "a thin dime" had been put into Alaskan water power development. The delegate argued that a "start should be made now" because plentiful power was a prime necessity for "a self-sufficient economy," which, in turn, "was essential for national defense."(4)

The ways of Congress, however, are elaborate and time consuming. Not until the fall of 1948 did the Department of the Interior prepare a measure which would allow the Secretary of the Interior "to construct, operate, and maintain hydroelectric power projects in Alaska." All executive departments commented favorably on the proposal, except the most important one--the Bureau of the Budget--which maintained an icy silence. Without the latter's approval, any measure was doomed but delegate Bartlett nevertheless submitted one which, predictably, died with the 80th Congress.

The new Congress, convening in 1949, offered a fresh start. By June of that year, the full House Public Lands Committee favorably reported a bill which called for the immediate construction of the

Eklutna project at a cost of $21,500,000. By the end of the month, the Bureau of the Budget had given its blessing with the reservation that the Federal Reclamation laws were not to be extended to the territory, nor were recreational facilities to be developed along with the project.(5)

The proposed Eklutna facility was to consist of a low dam which would raise the level of the lake by two feet, a tunnel four and one-half miles in length leading from the lake through the mountain to the north, a penstock of 1,250 feet, and a 30,000-kilowatt capacity power plant at the base of the mountain. Transmission lines would carry the electricity to the Matanuska Valley and to Anchorage. The proposed installation would save millions of dollars for the Matanuska Valley, Anchorage, the armed forces and various federal agencies over the 50-year payment period.(6)

Thanks to the prodding of Bartlett, the federal government had provided the first comprehensive and coordinated plant to meet the power requirements of the Anchorage region. Yet another year had passed without action, and in January of 1950, an editorial in the *Anchorage Daily Times* suggested that the Eklutna project had become entangled in the perpetual jurisdictional feud between the Bureau of Reclamation and the Army Corps of Engineers. The editor proposed that Eklutna be sponsored as a municipal improvement under the Alaska Public Works Act and that the entire matter be taken out of Washington hands and put into those of the General Service Agency where construction would begin promptly.(7)

Before the suggestion could be considered seriously, the Senate Committee on Interior and Insular Affairs favorably reported on the Eklutna project on February 20, 1950. The project was to be independent of the general Bureau of Reclamation program, although was to be built by it.(8)

The Eklutna measure came before the full Senate on June 8, 1950, but was passed over due to the objection of Senator John L. McClennan (D., Arkansas). Once again Alaska lost. McClellan had recently been president of the National Rivers and Harbors Congress, an unofficial body closely affiliated with the Corps of Engineers, which did not want

the Bureau of Reclamation building dams. Alaskans did not care who built the installation--the Bureau of Reclamation or the Corps of Engineers--as long as it was built. But, of course, bureaucratic rivalry existed and had the tendency to thwart development. Immediately after the bill was passed over, Senator Joseph C. O'Mahoney (D., Wyoming) told Bartlett that only the president, alerted by the Secretary of the Interior, could now save the measure. Secretary of the Interior Oscar Chapman complied with Bartlett's plea for help and wrote Senator McClellan that the need for the Eklutna project was critical. In 1947 power supply shortages had forced Anchorage to lease the stern half of a wrecked Liberty ship containing a diesel power plant, to supplement power supplies. Even then, though, brownouts were frequent. Eklutna was desperately needed.(9) A few days later Bartlett talked to Senator McClellan and received the latter's assurances that he did not want to be an "obstructionist" and indicated that he would have no further objections to the measure. Subsequently, the bill passed the Senate, went to the House which passed it with the Senate amendments asking for an appropriation of $20,365,400, and the president signed the measure into law on July 31, 1950.(10)

Authorization had been granted--now an appropriation had to be requested--and the Department of the Interior asked for $1.1 million to start construction and appointed Byron G. Felkner construction engineer. By September 22, the Bureau of Reclamation officially announced that initial plans and specifications were being expedited together with the $1.1 million appropriation in order to issue construction bids as soon as possible.(11)

By February of 1951, the Alaska District Office of the Bureau of Reclamation reported that the drilling contractor had employed two shifts of workers seven days a week. In the planning stage were twelve permanent homes for the employees at the power plant site as well as two ten-car garages, a warehouse, waterworks, roads, general utilities, and a 115,000-volt transmission line to Palmer. By September, Palmer Constructors of Omaha, Nebraska, a three-firm organization including Peter Kiewit and Sons, Coker Construction Co., and Morrison-Knudsen Co. had won the bid for building the four-mile long, nine-foot diameter transmountain water diversion tunnel and other facilities at Eklutna for $17,343,865. The bid called for the completion of the project within 1,050 days.(12)

It soon became apparent, however, that the bureau had underestimated the cost of the Eklutna project. A variety of factors, such as the defense construction program in Alaska linked to the Korean War, inflation, and structural engineering modifications had increased the costs.[13] H. F. McPahil, the assistant commissioner of the Bureau of Reclamation, blamed his organization's inexperience with Alaskan construction conditions for the cost overrun. Initially, the Bureau of Reclamation had estimated that it would cost 1.4 times more to build dams in Alaska than in the continental United States. Now, however, McPahil confessed the differential turned out to be nearer to 2.3 times over construction costs in the continental United States. Joseph Morgan, the Bureau of Reclamation chief in Alaska, questioned McPahil's figures. When Eklutna was first designed in 1948, construction had been divided into two phases, the second of which was to provide additional generating capacity. The first phase was to have cost the $20,365,000 which Congress authorized in 1950. The Korean War, however, interfered, and resulted in stepped-up defense activities, and, as a result, military as well as civilian power requirements had soared. Federal agencies located in Anchorage had informed the Bureau of Development that the second phase was essential and the full $35,000,000 was needed.[14]

Delegate Bartlett, as well as other members of Congress, was not pleased with the performance of the Bureau of Reclamation. Bartlett complained that the bureau had told the House of Representatives that the job would cost $20,365,400 and now, barely two years later, they discovered that the actual cost would be $33,000,000. Bartlett was convinced that..."the bureau knew darned well in '50 the job would cost more but merely wanted to get its head under the tent. I regard this as unexcusable." Members of the House Interior Committee considering the request for increased funding were similarly upset. Typical were Representative Fred L. Crawford (R., Michigan) who angrily remarked that "I would have no hesitation to kill this project dead if only to demonstrate to the people what silly asses we are," and Representative Wesley A. D'Ewart (R., Montana) who thought that Congress had made a mistake initially in authorizing the project.[15] Certainly, abandonment would have been an extremely effective demonstration of Congressional displeasure, but would have cost $11,729,000, the sum already expended,

as G. W. Lineweaver, the acting Commissioner of the Bureau of Reclamation pointed out. If postponed for six years, the loss to the American taxpayer would amount to $6,367,000 in addition to some $50,000 for annual maintenance of the property and construction facilities.(16)

Bartlett asked for additional monies and naturally was perturbed that several House committee members advocated abandonment. On April 30, May 14 and 15, and June 2, 1952, the House Subcommittee on Irrigation and Reclamation held formal hearings on Bartlett's measure to enlarge the authorization for Eklutna in an amount "not to exceed $35,000,000." The subcommittee, however, took no action, and instead asked the U. S. Attorney General and the General Accounting Office to determine whether or not the bureau, which protested its innocence, had violated any laws in granting contracts in excess of the amount Congress had authorized and the effect, if any, on the contracts already awarded. In due time, the former found no basis for any criminal action, while the latter decided that any contracts which exceeded the authorization were in violation of Section 3732, Revised Statutes, and were, therefore, null and void. The Bureau of Reclamation quickly complied with the ruling of the comptroller general and reduced the tunnel contract with Palmer constructors by some $3,574,355 and the power plant contract with Rue Contracting Company in the amount of $690,212--a total reduction of $4,264,567 which brought the face value of the awarded contracts to $19,358,131, approximately $1,000,000 less than Congress had authorized.(17)

In the meantime, however, things seemed to be looking a bit brighter on the Senate side because most members simply had not given much thought to it. After talking with Senator Carl Hayden (D., Arizona), Bartlett asked enthusiastic Alaskan supporters of the project not to send telegrams boosting the project to the Senate because it might raise questions where none had existed before.(18)

Actually, the Eklutna project was getting caught in rivalries between the Bureau of Reclamation and the Corps of Engineers, and perhaps more importantly, in a battle waged by Congress to recapture control of spending from the executive agencies. For years Congress had been trying to regain spending control by putting a dollar ceiling on projects rather than approving open-ended authorizations. In 1952 the House had almost succeeded in putting a ceiling on military expenditures. Agencies often had returned to Congress asking for more

money than initially authorized. Whenever Congress had balked at such requests, agency spokesmen had always persuasively shown that it was more economical to ante up more money finishing any one project than abandoning it. As the record shows, Congress has always opted for additional funds.(19)

Early in December of 1952, Bartlett asked Representative A. L. Miller (R., Nebraska), the man who most likely was to chair the important Subcommittee on Irrigation and Reclamation, for help on the Eklutna project. Early action was important for fiscal reasons, Bartlett pointed out, because of provisions in the present power plant and tunnel contracts. If not acted on by June 1, 1953, at the latest, the government would be unable to hold the contractors to the original bid prices. And on January 31, 1953, the delegate again introduced a measure to increase the authorization up to a ceiling of $35,000,000.(20)

At the same time, the Bureau of Reclamation informed Bartlett that a total of 124 contracts had been awarded with a face value of approximately $19,890,000. The construction of the tunnel and alterations to the existing dam were 34 percent complete, the power plant 8 percent, the Eklutna-Anchorage 115-kv transmission line 65 percent, while the Eklutna-Palmer 115-kv transmission line had been completed. If all went according to projections, Eklutna was to be finished by the end of 1954, while the first 15,000 kilowatt generating unit was to go on line in April of 1954, and the second and final one in August of that year.(21)

In early February, Bartlett, while talking to a member of the Subcommittee on Irrigation and Reclamation, discovered to his chagrin that Bureau of Reclamation personnel had submitted the latest cost estimate on Eklutna in the amount of $35,300,000, some $300,000 more than he had asked for in his recently submitted bill. He angrily told the bureau that their failure to advise him of that latest change left him, as the author of the bill, in a most uncomfortable position. Any bill dealing with Eklutna, he warned, will encounter much opposition. "To leave the author of the legislation in complete ignorance as to most recent developments is a somewhat novel approach to a final and satisfactory solution." Fred G. Aandahl, the Assistant Secretary for Water

and Power Development, tried to justify these latest increases. Water conditions encountered in excavating the tunnel had necessitated work shutdown in November of 1952. Engineers now thought it cheaper to dig a channel into the tunnel floor than to pump the water, thereby increasing the cost by $1,500,000.(22)

At the end of March, Bartlett doubted that his Eklutna measure would be approved by the House Interior and Insular Affairs Committee. On March 24, 1953, hearings had been held before the Territories Subcommittee. Subsequently, the committee went into executive session. Had a vote been taken then and there, the measure would have been postponed indefinitely. Instead, however, the committee decided to hold additional hearings. The delegate surmised that Eklutna had been selected as the "guinea pig" upon which long-building animosities within Congress against the Bureau of Reclamation has been concentrated.(23)

On April 2, the House Interior Subcommittee debated the Bartlett bill and made a number of recommendations--among them, that the total cost of the project be limited to $30,000,000; that annual operation and maintenance expenditures be restricted to $120,000; that electricity be sold at no less than 11.5 mills; and that the Department of the Interior negotiate with the city of Anchorage for the purchase of existing hydroelectric facilities and water rights at no more than original costs minus a reasonable depreciation. Until these stipulations had been met, and the Department of the Interior had negotiated with Anchorage, the full House Committee on Interior and Insular Affairs would not take up the matter.(24)

There the matter stood until the new undersecretary of the Department of Interior, Ralph A. Tudor, had found the time to familiarize himself with the Eklutna project. By the beginning of June, Tudor reported that the previous administration had been lax in that it had permitted a number of mistakes to be made, among them a serious underestimation of construction costs; the awarding of contracts in excess of total Congressional authorization; and the initiation of construction without a firm agreement with the city of Anchorage for water rights, so essential to operate the project. All was well, however, because the project could be completed for $33,333,000. Better yet, if energy were sold at approximately 11 mill per kilowatt hour hour the cost of the project would be amortized

within a fifty-year period. Tudor, therefore, recommended that Congress increase the authorization to $33,000,000 and appropriate $8,250,000 for fiscal year 1954. Bartlett, with a less modest estimate, in the meantime lobbied the Senate to include $12,791,000 in the 1954 Department of the Interior appropriation bill for the continuation of the Eklutna project.(25)

After more debate and the adoption of a number of amendments, among them a cost ceiling of $33,000,000 plus "such sums as may be necessary for the operation and maintenance of the project," the full House passed the Bartlett measure on July 30, 1953. Bartlett commended Congress for "acting wisely in lifting the authorization for the original Eklutna power bill." The delegate admitted that, regrettably, the project now costs $13,000,000 more than was originally anticipated. Despite this, however, Congress had invested wisely because the monies would be paid back within fifty years with interest. Futhermore, only the furnishing of cheap power would make Alaska's abundant resources available to the nation.(26)

The next hurdle to be overcome was the Senate. That body could either pass its own version, in which case the differences would have to be ironed out, or it could adopt the House version and pass it. In the end, the Department of the Interior appropriation bill contained a sum of $7,750,000 for the continuation of the project.(27)

At the municipal election on October 6, 1953, Anchorage voters approved an agreement between the city and the Department of the Interior. It provided that, once power went on line at Eklutna, Anchorage was to transfer its water rights at Eklutna to the department. In return, Anchorage was to receive some 16,000,000 kilowatts of firm power from Eklutna with monthly credits on the city's electric bill to be given until October 12, 1978, the date on which the license from the Federal Power Commission expired.(28)

Eklutna power for Anchorage had become a reality when the first 15,000-kilowatt unit went on line in January of 1955 and the second in March of the same year. Furthermore, the total project had cost $30,521,183, approximately $2,500,000 less than the amount authorized.

It had taken years to realize the Eklutna project, and its supporters felt that it should have been accomplished in a more timely manner. Finally, however, Anchorage received the electrical power it so urgently needed. From the perspective of the 1970s, it appears that the project had been completed with wonderful speed.

By the late 1950s, it became clear that, with the rapid growth of the Anchorage metropolitan area, power demand far outstripped the available generating capacity. City officials persuaded Senator Bartlett to introduce a bill which enabled the Bureau of Reclamation to accept from Anchorage whatever monies were necessary to raise the dam at Eklutna in order to convert some 20,000,000 kilowatt hour annual dump power to firm power. Anchorage would be allowed to purchase power at a discount rate for fifty years in return for its investment. At hearings held in May of 1960, the small, rural electric cooperative associations in southcentral Alaska opposed the Bartlett measure because it allowed Anchorage to purchase extra power at a discount rate at the expense of other consumers of Eklutna power. The Barlett bill subsequently died.(29)

On March 27, 1964, at 5:36 p.m. an earthquake, registering 8.5 on the Richter Scale, shook southcentral Alaska and devastated several communities. Eklutna suffered much damage to its power plant and appurtenant works. As soon as possible after the earthquake, the Bureau of Reclamation performed temporary repairs to restore the power plant and pressure tunnel to normal operations and insure an adequate supply of water.

On September 16, 1964, Senator Bartlett submitted a measure on behalf of Senator Gruening and himself which provided that any repair money spent on Eklutna would not be reimbursable from its revenues. The Senator reintroduced the measure in 1965, and the Department of the Interior favorably reported on it in April of 1966. The Bureau of Reclamation had since been forced to construct a new dam because repairs to the old one proved to be too expensive, and, for an additional $121,000 above repair costs, it had built the new dam. Bartlett asked that the $121,000 be reimbursable while the $2,870,000 estimated repair costs be absorbed by the federal government. Bartlett's measure was signed into law on September 26, 1968, saving Eklutna power customers $2,805,437.(30)

APPENDIX NOTES

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3. Conrad P. Hardy to Chas. A. Wilson, April 16, 1946, E. L. "Bob" Bartlett Papers, 81 Cong., Legislative Bill File, 1949-50, box 2, folder H. R. 940, Eklutna Hydro Power.
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5. E. L. "Bob" Bartlett to Robert Atwood, June 14, 1949, E. L. "Bob" Bartlett Papers, 81 Cong., Legislative Bill File, box 2, folder electric power project.
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*All such references in this list are to the Edward Lewis "Bob" Bartlett Papers, University of Alaska Archives, Rasmusson Library, University of Alaska, Fairbanks.

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12. Joseph M. Morgan to E. L. Bartlett, February 9, 1951, Bureau of Reclamation News Release, September 20, 1951, E. L. "Bob" Bartlett Papers, 81 Cong., Legislative Bill File, box 2, folder Electric Power Project.
13. J. W. Dixon, Bureau of Reclamation, to E. L. "Bob" Bartlett, May 2, 1952, E. L. "Bob" Bartlett Papers, 83 Cong., Legislative Bill File, 1953-54, box 1, folder Eklutna Power.
14. Anchorage Daily Times May 15, 19, 1952.
15. E. L. "Bob" Bartlett to Gruening, May 19, 1952, E. L. "Bob" Bartlett Papers, 83 Cong., Legislative Bill File, box 1, 1953-54, folder Eklutna Power; Anchorage Daily Times, May 15, 1952.
16. G. W. Lineweaver to Clair Engle, June 10, 1952, E. L. "Bob" Bartlett Papers, 83 Cong., Legislative Bill File, 1953-54, box 1, folder Eklutna Power.
17. Memo to E. L. "Bob" Bartlett from James K. Carr, Consultant on Irrigation and Reclamation, December 4, 1952, E. L. "Bob" Bartlett Papers, 83 Cong., Legislative Bill File, box 1, 1953-54, folder Eklutna Power.
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20. E. L. "Bob" Bartlett to A. L. Miller, December 8, 1952, E. L. "Bob" Bartlett Papers, 83 Cong., Legislative Bill File, 1953-54, box 1, folder Eklutna Power; H. R. 1374, January 31, 1953.
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22. E. L. "Bob" Bartlett to Michael W. Strauss, February 7, 1953, Fred G. Aandahl to E. L. "Bob" Bartlett February 1, 1953, E. L. "Bob" Bartlett Papers, 83 Cong., Legislative Bill File, 1953-54, box 1, folder Eklutna Power.

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