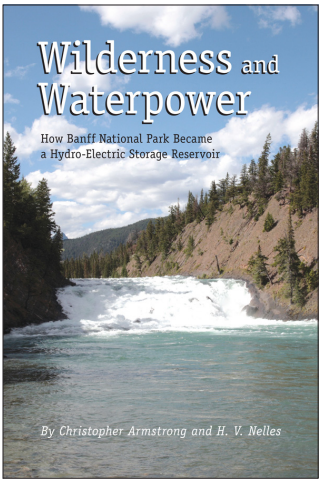

WILDERNESS AND WATERPOWER: HOW BANFF NATIONAL PARK BECAME A HYDROELECTRIC STORAGE RESERVOIR

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CHAPTER 4

Downstream Benefits

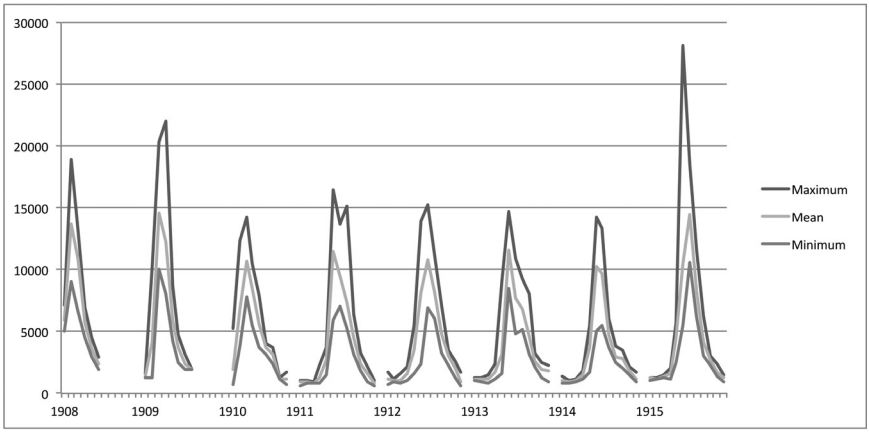
Connecting the lights and motors of Calgary to the turbines and generators on the Bow unleashed another powerful imperative: the need for technological efficiency. In order to be maximally efficient, hydroelectric installations must operate continuously and at capacity. For many months of the year, however, the Bow River provided only enough water to run the equipment at the Horseshoe and Kananaskis sites at a fraction of their capacity. Expensive capital equipment had to be paid for, even when it was not running: it could not be laid off like the human work force. Adding a second generating station provided some additional power but only doubled the scale of the efficiency problem. Paying the interest and principal on the debt required almost full plant utilization. Invisible filaments of financial obligation to investors across Canada and in Great Britain demanded that the Calgary Power plants be run at maximum efficiency: that is, continuously at their rated capacity day and night, year round. Not only did operating at optimum output make for a profitable corporation, but it also produced electricity at the lowest cost. Electricity consumers, therefore, as well as engineers and financiers, also had an interest in the efficiency of the Calgary Power system. Driven by this quest for technological efficiency, an alliance of consumers, producers, and capitalists conspired to make the river itself more efficient. Thus began a prolonged campaign of environmental modification for hydroelectric purposes that led to the redesign of the Bow River, and along with it, a national park.

The Bow River was anything but regular. A typical glacial river running off of mountains exposed to long, cold winters, the Bow was ill suited to the requirement of continuous operation of hydroelectric plants on account of its summer floods and its diminished flow in fall and winter. With full knowledge of the river's characteristics, the plants on the Bow probably would not have been built. No one else risked building other hydroelectric facilities on the rivers draining the front range of the Rockies in Alberta during the first half of the twentieth century.[1] But hydroelectric development of the Bow began with imperfect knowledge before the ups and downs of its flow were fully understood. As a result, the sunk investment had to be saved; Calgary needed the power.

The technological fix adopted to remedy the situation was upstream water storage. Dams in the watershed could impound water during periods of higher flow for release when the natural flow diminished. In that way, streamflow could be evened out: flood peaks could be shaved, and winter flows augmented. This, in turn, would increase the year-round capacity of the generating equipment and lower the cost of electricity. The concept was as old as the idea of the millpond. Canadian lumbermen had adapted the principle by building crude dams on upstream tributaries to augment spring freshets in order to create a surge strong enough to carry their cargo of logs downstream. The technique of upstream storage for hydroelectric purposes was already well understood, and the lakes and mountain valleys of the Rockies afforded many possible sites for storage reservoirs. The only problem was that the upstream watershed lay within Rocky Mountains National Park.

The original engineers promoting the project, lulled perhaps by years of above-average flow in the first decade of the twentieth century and spectacular summertime cascades, expressed more concern about the security of flow than its variation. Smith and Chace reassured investors that since the headwaters of the Bow River lay in a national park and were thus not at risk of being denuded of timber, the permanent flow of the river was more or less guaranteed. Nonetheless, the variability of the flow was a matter of common knowledge in Calgary. The developers knew it as well. Traven Aitken, in reporting on the street railway and electrical

Graph 4.1. Seasonal Variation in Streamflow on the Bow River 1908–15 (in cubic feet per second)



Source: Denis and Challies, *Water-Powers of Manitoba, Saskatchewan and Alberta*, 179–83.

situation in Calgary in 1908, reminded his brother Max of the seasonal differences.[2] Max Aitken's Western Canada Power engineer, called in to examine the Bow River situation in 1909, had warned of "poor water gauging" and "meagre supply at times."[3] Nevertheless, as we have seen, Max Aitken proceeded, not only on the advice of Smith and Chace but also, it must be said, on his own hunch that hydroelectric power would allow him to merge and monopolize the electric industry of Calgary.

Only after building had begun did the engineers and promoters discover, to their horror, the magnitude of their mistake. As noted earlier, the river displayed its extreme behaviour in 1910 when a flood washed out construction and in the subsequent winter when streamflow fell to a mere 600 cubic feet per second (cfs). The Horseshoe development had been built assuming a minimum streamflow of 1,000 cfs. Apprised of the seriousness of the situation by the developers, the Department of the Interior mounted an urgent scientific program to measure Bow River streamflow and to study the possibilities of upstream storage.[4] The chart above, compiled from data gathered by government waterpower engineers during Calgary

Power's construction of the Horseshoe Falls plant, documented for the first time the Bow's erratic nature and its unsuitability for hydroelectric development. The data, when analyzed in 1914 by C. H. Mitchell, Canada's leading hydraulic engineer, led to the following alarming conclusion: "The Bow River is peculiar, in that, in its natural condition, its summer flood discharge is upwards of seventy times its low water winter discharge, a condition which obviously renders its use, in its present state, unsuitable, inefficient, and commercially unfeasible for power purposes."[5]

Ironically, Mitchell was the engineer who, on behalf of Budd and Alexander, had first applied for the Horseshoe Falls waterpower. Meanwhile, the Calgary Power Company had installed generating equipment with a capacity of 19,500 hp at Horseshoe Falls and was in the process of adding equipment capable of producing an additional 11,000 hp at Kananaskis Falls. For much of the year – and especially during winter, when the city needed more power to light its streets, homes, and businesses – this equipment would lie idle. Engineers calculated that at best, the company could only produce on a continuous basis about one-third of its rated capacity.[6] In a dark moment, R. B. Bennett contemplated dumping the hapless company on its only likely purchaser, the City of Calgary.[7]

The predicament of the power company led the Department of the Interior to commission M. C. Hendry to undertake a serious study of the matter in 1911.[8] Data from his study, as it streamed in over the next several years, indicated that up to 280,300 acre-feet of storage could be created in the mountains. Engineers estimated that this could increase minimum streamflow at the power plants from 720 cfs to 1,500 cfs. The effect upon power production would be dramatic. Both the Kananaskis and Horseshoe continuous-wheel horsepower capability would rise from 3,820 to 9,545, almost a 250 per cent increase.[9] Calgary Power's first request to store water inside the national park was thus received sympathetically by the waterpower bureaucrats in Ottawa. By early 1911, the power company's attention had focused upon Lake Minnewanka, which lay just northeast of the Banff townsite and drained into the Bow through the Cascade River.[10]

This policy of upstream storage fit neatly with the hydraulic engineers' conception of "conservation." For them, conservation of natural resources

Lake Minnewanka, circa 1902 (Glenbow Archives, NA-4654-1).

Lake Minnewanka looking towards Devil's Gap (Glenbow Archives, NA-4654-5).

meant "wise use" and the avoidance of waste. The highest use of the Bow's falling water, they reasoned, lay in energizing the social and economic expansion of southern Alberta. They saw the river in its natural state as an inefficient producer of power – all of that energy going to waste in one season, when it could be usefully employed in winter. Thus, the conservation ethic of the hydraulic engineers regulating waterpowers harmonized with the financial imperatives of the promoters and the desires of Calgary's electricity consumers.

Chances of gaining permission to build a storage dam at Lake Minnewanka seemed good, because the Department of the Interior had already permitted the lake level to be raised by four feet in 1908 to accommodate the operators of steamboats that carried tourists on scenic cruises around the mountain-ringed lake.[11] In periods of low water, the steamers had been unable to land at the wharf, and the operators had persuaded the authorities to deepen the lake slightly. When local residents protested that raising the dam another dozen feet would ruin a prime tourist attraction and leave unsightly mudflats exposed for months while the lake refilled in the spring and early summer, the Interior Department's superintendent of forestry responded, "We would certainly like to save all the beauty spots we can, but if the development of the whole country demands the storage of some of the water supply I think we can hardly prevent it being carried out." All he could promise was that there would be a full examination of all possible storage sites before permission was granted.[12]

Parks Branch officials raised no serious objections to the proposal, a reflection of the attitude that they took toward development in Rocky Mountains National Park at that time. Parks officials themselves had been exploring the idea of developing their own hydroelectricity, both to supply the park and to produce revenue.[13] A memorandum entitled "Re Dominion Parks: Their Value and Ideals," composed by the new commissioner of parks, J. B. Harkin, soon after his appointment revealed his ambivalence.[14] Harkin began by asserting that "humanitarian" values were of the greatest significance:

> National parks exist for all the people. They are the people's share of that natural beauty of mountain, lake and stream. Their mission is to serve that innate desire of every individual to seek relief and repose and refreshment of mind and body in the open air and sunshine, among the flowers and trees and hills.

Most of this document, however, was taken up with analysis of the "commercial" value of parks, which "attract in ever-increasing numbers an enormous tourist traffic from other lands." Note that Harkin thought of tourists as coming from outside Canada, a traffic that created an additional form of national revenue: "The tourist leaves large sums of money in the country he visits, but takes away with him in return for it nothing that makes the nation poorer." In Harkin's view, national parks had this dual role, preserving natural beauty for popular enjoyment and developing a revenue stream to sustain park development and enrich the country. In order to flourish, national parks would have to demonstrate their utility, a goal later labelled "The Doctrine of Usefulness."[15] Provided that no great damage was done to major scenic attractions, the park authorities were quite willing to provide such modern amenities as roads and electrical service for the tourists, many of whom would be Americans. In view of this attitude, it is hardly surprising that the national park's authorities accommodated Calgary Power's initial request for more water storage.

Early in 1912, therefore, Calgary Power received permission to build a sixteen-foot-high dam at the outlet of Lake Minnewanka, raising the water twelve feet above its then current level. Anticipating an increase in its capacity, the company signed a revised power supply contract with the City of Calgary in 1913 to supply 5,000 hp of electricity per year; in addition, a contract was signed to supply bulk power to the Canada Cement Company.[16] Park officials also required the company to install a thimble in its dam to deliver 150 cubic feet per second (cfs) of water for their use should they decide to construct their own generating station to supply the Banff townsite, which currently drew power from a thermal plant owned by the CPR at its nearby Bankhead coal mine. By 1913, such a development was being considered, and the commissioner of parks observed, "If

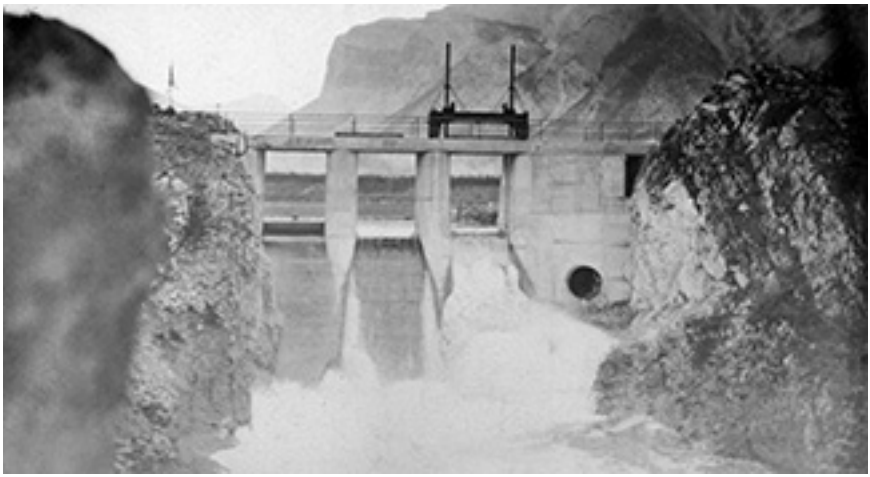
a feasible scheme was discovered it would not only provide revenue for the Park, but would, doubtless, also redound to the credit of the Department throughout the province."[17] In considering whether diverting water from Lake Minnewanka to a power plant on the Bow might affect the scenery adversely, Harkin was sanguine:

> It seems to me that the only policy for the Department to pursue is to have the plan of the power development end of the work laid out, with a view to eventually using all the power. I do not anticipate that there will be any trouble with respect to the scenic end of the park in consequence of this power development.

In any event, with the department in full control of the scheme, "if necessary, steps can be taken later on to guard against any damage to the lake or its scenery."[18]

When the new dam at Lake Minnewanka was completed, however, Calgary Power found that even with the additional water during the winter months, it sometimes remained unable to produce 5,000 continuous hp at its Horseshoe and Kananaskis plants (which had a rated capacity of 31,000 hp). Storage worked, but the results were not as dramatic as the engineers had predicted. Comparing the average streamflow of the first and last three months of 1911 and 1912, without benefit of storage, with similar months in 1913, 1914, and 1915, when the Minnewanka storage dam was in full operation, streamflow at Calgary increased by 49 per cent in January, 9 per cent in February, and 24 per cent in March. The October, November, December comparison showed positive differences of 7, 24, and 50 per cent, respectively. However, not all of this increase could be attributed to storage alone.[19] Only about 20 per cent of the water released actually reached the power plant headponds a few miles downstream; the rest was trapped in narrow channels choked with ice or sank into the deep gravel bed of the Bow, which only worsened the spring floods.[20] From the Parks Branch perspective, the dam raised water levels, making a larger, in some senses more attractive, and certainly deeper lake for boating.

Building the new dock at Lake Minnewanka, 1912 (Glenbow Archives, PD-365-2-10).



Dam at Lake Minnewanka, 1912 (Glenbow Archives, PD-365-2-81).

However, for many years, debris and floating logs from the clearance of the raised shoreline posed a hazard to navigation.[21]

Thus, at the end of 1914, an application was made to remove the old four-foot high navigation dam (which had been left submerged behind the new dam) and to excavate the bed of the Cascade so that the lake could be drawn down six more feet altogether, or two feet below its natural level. The Water Power Branch was quite amenable to this proposal, and the Parks Branch seems not to have raised any objection, but the proposal ran into stiff opposition from federal fisheries experts, who predicted that such low water would prevent the trout in the lake from spawning. The application was, therefore, turned down, and Calgary Power had to manage without further storage capacity.[22]

Because Calgary Power's hydroelectric plants were often unable to deliver the power required in wintertime, the city maintained its thermal generating plant to meet the peaks. The municipal authorities even gave serious thought to trying to purchase the hydroelectric plants, but the difficulties of raising the necessary money during the First World War rendered that impossible. Thus, when the contract with the company expired in 1918, the city simply exercised its option to renew the contract for a further five years at the same rates.[23]

It should be noted that bad luck for the region – the collapse of the Calgary boom in 1913 – was, in some respects, good fortune for the power company. As the economic bubble burst, the demand for electricity levelled off. Because the pressure of galloping consumer demand was to some degree relieved, the company did not have to scramble to put in place the generating capacity to keep pace. For a time – it turned out to be a decade – the company could concentrate on getting the most out of its existing equipment to meet a fairly steady demand.

After the war, a group of Montreal financiers tightened their control over the management and operations of Calgary Power. When Max Aitken decamped for England in 1911, direction of his Royal Securities Company fell to his protege, Isaac Walton Killam, another former securities salesman from the late John F. Stairs in Nova Scotia and New Brunswick. In 1919, Killam and his junior partner, Ward Pitfield, bought

control of Royal Securities from Aitken, now knighted and permanently ensconced in Britain. Along with Royal Securities came Calgary Power; two small Caribbean utilities in Camaguey, Cuba, and Demerara, British Guiana; and the Montreal Engineering Company.[24] Revived and restaffed in the postwar era, Montreal Engineering became not only prominent hydroelectric consulting engineers but also the effective manager of these three utilities. In a growing market for electricity in Calgary and southern Alberta, Killam's business strategy focused upon increasing production and making Calgary Power a more efficient and profitable hydroelectric power producer.

Calgary Power continued to face difficulties every winter in fulfilling its contracts with the city and large consumers like the cement plants, particularly in years such as 1920, when the flow of the Bow fell to only 60 per cent of the normal April mean. This required the Calgary municipal utility to retain a thermal generating plant with a capacity of 14,000 hp; the current that it produced was much more expensive than hydro (3.8 cents vs. 0.44 cents per kwh in 1919). When the war ended, the city renewed negotiations to buy out the company, in part to ensure service in the event of strikes by workers at the steam plant such as had occurred in 1919. Still, municipal officials were reluctant to take over the private utility without some guarantee that the city would secure adequate water storage to operate efficiently.[25]

When growth resumed in the 1920s, the company immediately sought to increase its generating capacity and, early in 1921, renewed its request to remove the old four-foot log dam behind its higher barrier at Lake Minnewanka and draw down an additional six feet of water. Once again, the Water Power Branch of the Department of the Interior gave its full support to the application. The hydraulic engineers argued that the additional water would produce at least 712 hp annually for Calgary and would allow the city to save $39,000 on steam plant operations. Not only that, but as the creation of Ontario Hydro had demonstrated, there were "the great indirect benefits which accrue to a community from an ample supply of cheap power." It was claimed that the lake would refill by the end of June in all but the driest years. If officials of the Interior Department

were given authority to manage the refilling operation, the physical appearance of the lake might be "materially bettered" during the early part of the tourist season.[26]

Branch chief J. B. Challies even contended that by having had a thimble installed for its future use in the dam at Lake Minnewanka before the war, the Parks Branch had made a definite commitment in 1913 to the principle of a sixteen-foot storage range on the lake in the interests of the departmental power project: "In view of the former commitment of the Parks branch to the principle of the increased storage range, it scarcely appears logical to reverse the decision in the matter when a private interest is concerned." He urged quick consent by Parks Commissioner J. B. Harkin, or else the additional flow would be of no value in the low-water months that year.[27]

By that time, however, Harkin and his staff had nearly a decade of experience with the effects of a power reservoir upon the scenic beauty of Rocky Mountains National Park, and they had lost all of their enthusiasm for permitting Lake Minnewanka to be used as a power reservoir. This was the only such reservoir in the national parks system, and nearly two decades after the decision had been taken to permit the dam, Harkin ruefully admitted, with all the clarity of hindsight, "That was an experiment, made at a time when probably nobody realized the importance of the principle involved."[28] Beginning in the early 1920s, the Parks Branch started to object to the power company's requests to increase storage capacity within the park. Not only would the scenery at the lake be ruined by mudflats visible even during the high point of the tourist season in July, but the deleterious effects on the fish population of lowering the water two feet below its natural level remained a serious concern. The commissioner dug in his heels and stalled until the time had passed when any increased diversion from Lake Minnewanka would be useful to Calgary Power in 1921. Despite strong pressure from the Water Power Branch, he refused to agree to any such scheme.[29]

Thwarted again, Calgary Power decided on a new tack during the summer of 1921, proposing to construct an entirely new power plant at Anthracite on the Bow using water diverted through a canal parallel to

the valley of the Cascade River, the natural outlet of Lake Minnewanka. When the final plans were submitted a year later, it was clear that this would be a major undertaking, involving a huge earthen dam to raise the water level forty-seven feet above normal to produce an average head of 320 feet for generators that could ultimately turn out 18,000 hp. The upper reaches of the Ghost River would also eventually be diverted into Lake Minnewanka to increase the supply of water.

Calgary Power was acutely conscious that the most serious objections were now likely to come from the Parks Branch:

> The only objection to the construction of this plant is the fact that it might be detrimental to the scenic beauty of the Park. This would have been a real danger had it not been kept in mind when the design was prepared, and every care taken to avoid disfiguring the scenery. The works are so laid out that they are mainly hidden from view, and each separate part is so designed that it will harmonize with the surroundings and in no way detract therefrom.

The power canal would be hidden in another valley to the west of the Cascade, whose flow out of Lake Minnewanka would be maintained during the tourist season. The powerhouse on the banks of the Bow would admittedly be visible from the road and the railway, but its "simple and dignified" design would conceal the switching equipment, and the 110,000-volt transmission line stretching eastward toward Calgary would be largely invisible to travellers, avoiding long vistas of poles.[30] Such care, concluded the engineers, had "entirely eliminated" the danger to the scenic beauty of the valley.[31]

Concerns about the appearance of the new storage reservoir were blandly dismissed:

> That Lake Minnewanka has never been regarded as an outstanding beauty spot is shown by the fact that the C.P.R. have never featured it in their advertizing [*sic*]. The reason is that the mountain lakes in the Rockies which are famous for their beauty, such as Lake

> Louise, are glacial cirques, while Minnewanka is only a flooded river valley. Although Lake Minnewanka is surrounded by lofty mountains, the general effect is spoiled by low-lying flats covered by stubby growth of stunted jackpine. By clearing these flats and raising the water levels as proposed, they will be submerged, and the general appearance of the lake very materially improved.[32]

The company argued that future industrial development in southern Alberta was dependent upon supplies of cheap hydroelectric energy, which would place Calgary on a footing to compete with other Canadian cities for economic growth. "Is the future of Alberta to be sacrificed to maintain the parks inviolate," asked Geoffrey Gaherty, the company's chief engineer, rhetorically, "or are the natural resources in the parks to be developed under restrictions which will adequately protect the scenic beauty? Considering the vast area of the parks and what a small part of it would be affected by any conceivable economic use, and the importance of such use to the community, there can be but one answer to such a question."[33]

The responsibility for dealing with the application fell ultimately upon the minister of the interior, who possessed very broad powers over the development of waterpowers on federal Crown lands. The reorganization of the department in the spring of 1912 had created a separate Water Power Branch headed by J. B. Challies, whose staff soon came to the conclusion that the 1909 regulations governing such projects ought to be revised.[34] The object was to sever the title to the waterpowers from the adjacent lands so that the federal government could continue to exercise control after the lands were alienated, whether to individuals or to those provinces in which they were located. In addition, the Interior Department aimed to regulate the rates charged to power consumers. H. W. Grunsky, the legal expert responsible for drafting the revised regulations, explained to Challies why these changes had become necessary :

> Public sentiment regarding the preservation of natural resources has grown rapidly in recent years. In particular, this sentiment has expressed itself strongly in respect of the water powers, which

> are so closely interwoven with public utility enterprises such as street railways and municipal lighting systems, that enlightened supervision and regulation on the part of the administrative authority has been demanded.[35]

After extensive consultation with waterpower experts in the United States and Canada during the First World War, Grunsky eventually drew up a set of new draft regulations.[36] In the end, it was decided to introduce a new piece of general legislation declaring all undeveloped waterpowers to be "works for the general advantage of Canada," thus ensuring permanent federal jurisdiction over them.[37] The Parks Branch, unhappy that the new legislation did not provide for special treatment of waterpowers located within the park system, evidently found itself outmanoeuvred. When the detailed regulations were finally proclaimed under the new act in October 1921, the Parks Branch complained that once the minister of the interior had given his approval to any hydraulic development inside a park, administrative control over the project passed entirely out of the hands of the commissioner of parks to the Water Power Branch, a situation the Parks Branch people viewed as "decidedly serious."[38]

Calgary Power's application in 1922 seemed to demonstrate the validity of these fears. The proposal set off some fierce bureaucratic infighting within the Department of the Interior between the Parks Branch and the Water Power Branch. J. B. Harkin and J. B. Challies vied for the attention and support of the deputy minister, W. W. Cory. The final decision had to be made, of course, by Cory's political superior, Charles Stewart, who held the Interior portfolio for the Liberals throughout the 1920s. As a former premier of Alberta, Stewart was well informed on the power situation in that province.

The staff of the Water Power Branch remained sympathetic to the company. J. T. Johnston, the branch's chief engineer, noted that careful study of the water resources of the eastern slopes of the Rockies in Alberta had revealed that there were few sites that could be used to store water for power purposes; the only ones that could be developed to provide a sizable block of power for Calgary at a reasonable cost were in the Bow River

watershed. Johnston accepted Calgary Power's contention that schemes like the damming of Lake Minnewanka were inevitable in the long run:

> Insofar as the power and irrigation phases are concerned both this [Water Power] branch and the Reclamation Service have consistently maintained that this is ultimately unavoidable, since the total runoff from the eastern slope of the Rocky Mountains in southern Alberta is very limited, and since over 37% of this runoff has its origins within the boundaries of National Park areas, and since, furthermore, 65% of total runoff of the Bow River above Bassano comes from the Park areas.[39]

Largely because of their experience with the dam at Lake Minnewanka, Harkin and his staff in the Parks Branch had radically altered their views from the pre-war period about the compatibility of large hydroelectric developments and scenic preservation. After studying the plans for the new power plant at Anthracite, Harkin warned the superintendent of Rocky Mountains National Park, "So far as I can see, this is a proposition which the Parks Branch should strongly oppose." The transmission line alone running eastward down the narrow Bow valley would be, Harkin noted, "a very great eyesore" from the road and the railway.[40] In a memorandum to Challies, he argued that a power plant "in the heart of our most popular and developed park cannot fail to detract from its scenic value and that the power development in view is consequently opposed to the best interests of the park."[41]

When the minister of the interior visited Banff in the summer of 1922, Harkin and the park superintendent took him to see Lake Minnewanka; they hoped that the evidence of his own eyes would be sufficient to convince Stewart. Moreover, they had discovered that the company intended to raise the water level in the lake thirty feet initially (sufficient to generate 9,000 hp) and only use the other seventeen feet of water storage when power demand required it. That would make it virtually impossible to landscape the shoreline attractively in the meantime.[42]

In case more ammunition was needed, estimates were prepared showing that over forty-five thousand people visited the lake annually: "The Lake Minnewanka drive is, taking everything into consideration, the most popular drive in Rocky Mountains Park. The existence of this drive … keeps tourists in Banff at least another half day." This generated revenues of $195,000 annually, making the scenic value of the lake, capitalized at 5 per cent per annum, $4 million. That information was fed to the Banff Citizens Council, which then registered a strong protest against the planned development.[43] This carefully orchestrated campaign had its effect, and the views of the Parks Branch carried the day with the minister on this occasion. In the fall of 1922, Charles Stewart announced that for the time being, no new concessions would be granted for power development inside the national parks and rejected Calgary Power's application to raise the Lake Minnewanka dam.[44]

An unvarnished episode of bureaucratic hypocrisy then ensued. To celebrate the victory in the combat with the company and its allies among the waterpower engineers in the Department of the Interior, the Parks Branch immediately announced plans to build its own 1,000 hp station on the Cascade River, since the CPR was going to close down its thermal generating station at Bankhead, which supplied the Banff townsite.[45] Not surprisingly, this proposal angered both Calgary Power and its backers in the Water Power Branch: it seemed simply to demonstrate the contradictions in the attitudes of Harkin and his staff toward development within the park system. What was forbidden to private entrepreneurs would be permitted to the Parks Branch itself.

Harkin's response to that kind of argument, of course, was that he and his men could be relied upon to protect the scenic beauty of the landscape as profit-oriented developers could not. The commissioner told company president V. M. Drury that "the established attitude of this branch is that the natural resources contained in the National Parks are more valuable in their natural state and attractiveness than they would be if developed for commercial usage." Calgary Power, by contrast, was "an ordinary commercial institution, and its aim is no doubt commercial not philanthropical. It is concerned in the wants of Calgary and district only insofar

as it sees revenue for itself. It is looking for the cheapest development it can find."[46] The town of Banff required power, and the CPR was no longer prepared to supply it. In Harkin's view, the only alternative to a small and discreet powerhouse inside the park was a transmission line running westward up the Bow valley from the Calgary Power Company's plant at Kananaskis. With the support of the Water Power Branch,[47] the company, anxious to avert the construction of a small plant at Lake Minnewanka that might impede its plans for future development, offered to supply power from Kananaskis; the idea was rejected by the Parks Branch because the transmission line would be "very objectionable from a scenic standpoint." Moreover, it was noted that Calgary Power already had perennial difficulties meeting its contractual obligations to deliver current to Calgary during the winter. Most importantly,

> … the Department has decided against the granting of power development concessions within the National Parks. In view of this stand the purchase of power from the Calgary Power Company would place the Department in an invidious position. The inevitable power shortage in Banff would be used by the Calgary Power Company as a means of exerting pressure towards obtaining further power concessions in the Park. As the power needs of Banff increased the Department would eventually either have to allow further power development within the Park by the Calgary Power Company or other private companies – in order to meet its own requirements – or build its own plant as is being done at the present time.[48]

Having won its battle in the bureaucratic infighting, the Parks Branch persuaded Charles Stewart to include in the Interior Department estimates for 1923 a vote of $200,000 to cover the cost of its new plant. Calgary Power lobbied as hard as it could to avert this, recruiting Liberal MP Walter Mitchell to put the case for the Minnewanka dam before the interior minister once more. On Mitchell's advice, the company did not seek

Power station built by the Parks Branch at Lake Minnewanka (Glenbow Archives, NA-841-396).

to arouse public opinion in Calgary about the possibility of power shortages but relied upon pressure behind the scenes.[49]

This procured the company one final hearing from Interior Department officials in the spring of 1923, followed up by a further plea to the interior minister from the company president. Noting that Stewart possessed "complete and almost dictatorial power" to approve or disapprove its application, V. M. Drury argued that rising power demand in southern Alberta would render the ultimate development of more power from the waters of Lake Minnewanka "inevitable." Calgary Power, he claimed, was earning only a small profit, and if the company was to develop more power and reduce its rates, it had to be permitted to add to its capacity at the lowest possible cost. The higher dam would actually improve the scenery at the lake by concealing the low-lying shoreline at the bottom end. Drury

tried to put the best face on matters by claiming that even when the reservoir was at low ebb, the vast expanse of mudflats along the shoreline would simply "resemble a bold seacoast at low tide."[50]

This kind of persiflage no longer carried any weight with the Parks Branch: "It is quite true that power engineers seem incapable of recognizing [that] the filthy mudflats and bare shores without a vestige of timber or flower growth destroy scenery. But the average person who has seen what the small dam at Lake Minnewanka has done will … hold a different view."[51] Stewart's visit to Banff had evidently been sufficient to convince him, and he stood by his refusal to permit the raising of the dam at Lake Minnewanka. Decisive victory seemed to have gone to the Parks Branch in this round of bureaucratic infighting. The deputy minister was even persuaded to order the Water Power Branch to cease all exploratory work within the national park system in light of the minister's decision to ban all further hydraulic development there.[52]

The rejection of Calgary Power's application to enlarge its dam at Lake Minnewanka was, of course, by no means the end of the contest between park bureaucrats and power developers. Calgary Power still faced a pressing need to procure larger supplies of water in winter, and Rocky Mountains National Park remained the only feasible location for storage reservoirs in southern Alberta. As the chief engineer of the Water Power Branch noted, "The portions of the Rocky Mountain slope outside Park boundaries … are very remote and inaccessible and do not possess known power resources of sufficient magnitude to meet the needs of Calgary or adjacent markets."[53]

In the decade following the construction of the Lake Minnewanka storage reservoir, policy within Parks circles had shifted, or hardened, in our terminology. Some aspects of the formerly accommodating policy of social and economic usefulness had, in the light of experience, come into disrepute, to be replaced by a policy placing state protection of natural beauty as the highest priority. Still, this remained an ambiguous and, in some cases, hypocritical policy: it permitted zoos, tourist facilities, roads, Wild West shows, but not private power facilities. Furthermore, while the commissioner of parks and his staff might be opposed to commercial

hydroelectric development within the national park system, that did not rule out development by the park authorities themselves.

Meanwhile, during its first full decade of operation, Calgary Power had managed to claw its way toward financial respectability. With more water in winter and new sales contracts with the City of Calgary and major power-using industries (mainly cement and milling), the company reported brighter financial results. These need to be taken with a grain of salt, however. The figures for gross income and net income are probably quite reliable, but the other numbers, especially the figure representing net surplus (profit), depend as much on accounting legerdemain as on performance. Nevertheless, the numbers support the view that the company became more profitable over time. Between 1912 and 1922, net income as a percentage of gross income rose from around 75 per cent to 82 per cent. Strict control over operating expenses left large sums of money available to pay interest on the debt, allow for generous depreciation charges, and reinvest in the property. The company's gross income, net income, and surplus rose over 150 per cent during the period. In the mid-1920s, the reported surplus surpassed 2 per cent of the book value of its assets. These better financial results, in turn, made it easier for the company to attract capital and to raise money at cheaper rates for expansion and renewals. Over time, the company's bonds and stock began to resemble the investment grade securities much sought after by insurance companies and other financial institutions. It might be said that in the 1920s, Calgary Power, its reputation redeemed, had become a fully paid-up member of the Canadian utilities club, which consisted of more than a dozen large operating companies in Canada and Latin America centred in Toronto and Montreal. The assumption of the presidency in 1928 by the now eminently respectable former protege of Max Aitken, Isaac Walton Killam, symbolically signalled the arrival of the company. No longer a frail supplicant, Calgary Power had grown into a powerful corporation in its own right, and with even more powerful friends holding its securities in the Canadian financial establishment.

In the process, the company established quite a different relationship with its local electricity market as well. After a renewal of its contract

with the City of Calgary in 1918, the company in effect took over supplying the baseload of the municipal utility. The city's Victoria Park steam plant, which produced electricity at much higher cost, reverted to standby and peak power duty. By the 1920s, Calgary Power had become deeply entwined with the economic life of the region. As Calgary became more heavily invested in the Bow River – through the company – for its electricity, Calgary Power's energy requirements became surrogate for the needs of the entire region. Calgary Power thus spoke no longer just for itself but with the implicit authority of the City of Calgary and thousands of electricity consumers. As such, the needs of the Calgary Power Company and its customers could not be cavalierly or permanently dismissed.

Renewal of the application for development rights in Rocky Mountains National Park was thus inevitable by 1923. The opposing forces – a bureaucracy with a more ideological notion of its mission and a company better established in financial markets and in the region – girded their loins for the next round in the contest of strength between them.