

1 **FOR GENERATIONS**

2 Transcription Series: **Columbia River Treaty Lectures (SFU 1974)**  
3 Transcription File Name: CRT #4, Dr. Gordon Shrum (1974)  
4 Speaker / Lecturer: Dr. Gordon Shrum  
5 Speaker Title / Position: ex-President, BC Hydro  
6 Lecture Location; Date: Simon Fraser University; 20 February 1974  
7 Original File Source: SFU Archives, Audio cassette, converted to digital .wav file.  
8 Transcribed by: Dania Robinson  
9 Release Date: January 2011 (50 years after Treaty signing)  
10 Document Word Count: 16,043 words

11 *Disclaimer: This material was transcribed by BC Hydro from 35 year old cassette tapes that*  
12 *contained highly variable audio quality. While significant effort was expended to render these*  
13 *transcripts as accurate as reasonably practical, many comments, questions and responses were*  
14 *unclear or inaudible. As a result, the enclosed transcripts are not a full disclosure of the Jan –*  
15 *April 1974 lectures, and may contain transcription errors. Readers that require the most*  
16 *complete understanding of these lectures are advised to review the originating tapes themselves,*  
17 *and/or the digital conversions which were requested and funded by BC Hydro. These audio files*  
18 *can be reviewed in the SFU Archives located at the Burnaby Mountain campus.*

19 **CRT Lecture 4: Dr. Gordon Shrum**

20 See all this contraption here? I told Professor Cook I needed a very high lectern, because I  
21 haven't given a lecture that I have read for years. But this is a little bit important if it's going to be  
22 recorded and since I was going to give the history. I thought I'd better be pretty careful to have my facts  
23 correct and to stay on the topic because the other night I was introduced as humor speaker. I explained to  
24 them that the fellow made a mistake. I wasn't a humor speaker... I was a long winded speaker. But if you  
25 have it written out, it's a little easier to stay on the subject.

26 Now I also have to clarify my position because I'm a relative newcomer into this controversy on  
27 the Columbia River Treaty. As the chairman pointed out, until 1958 I was a physicist, and I was asked to  
28 chair a royal commission on British Columbia power. This is a big argument that took place between Mr.  
29 Bennett and the BC Power Commission and Authority, the general manager of the BC Power  
30 Commission, Mr. Lee Breaks. The president was away at the university then, I consulted the vice  
31 president, he said whatever you do, don't touch that subject. I asked a few other friends at the university  
32 what they thought about it. And they said, "Oh you shouldn't accept that". Well I went ahead and  
33 accepted the job, and quite a few things flowed from that as a matter of fact. Later I became Chairman of  
34 BC energy board, and later as pointed out, when the government took over the BC Electric in August 1  
35 1961, I was asked to be president and chief executive officer... although I hadn't had any business  
36 experience, wasn't an engineer, and had very few qualifications probably for the job. But in any case, that  
37 was in August 61.

38 In March 62, March the 29th, the government formed the BC Hydro and Power Authority. Now I  
39 never liked that word “authority”. I think it causes a lot of trouble. Nobody likes to get notices or  
40 instruction from an “authority”. Well I wasn’t consulted with regards to the name, so I haven’t anything  
41 more to say about that. And when this was set up, this BC Hydro and Power Authority, Dr. Keenleyside  
42 and I were made co-chairmen. And remained co-chairmen until 1969, when he retired and then I carried  
43 on as chairman until 1972, when there was a change in government. So I had one more year seniority,  
44 well more than a year seniority than Dr. Keenleyside who’s coming on your program, because I got  
45 involved in this business in 1958 as a royal commissioner, and he was appointed chairman of the BC  
46 Power commission in 1959, one year later.

47 Now the take-over of the BC Electric Company ended any argument between private and public  
48 power in British Columbia. Now this had been settled earlier in most parts of Canada, especially in  
49 Ontario; the argument between private and public power was settled way back in 1906, when the Ontario  
50 Hydro Electric Commission was formed. But Quebec became public power sometime after the take-over  
51 here, ‘64, ‘65 some where’s around there. And Alberta still is, one has both private and public power, but  
52 mostly private power in Alberta... which is the only province in Canada. Now in the United States, this  
53 controversy between public and private power is still going on. It’s going on very actively in the Pacific  
54 North West and in most areas in United States.

55 It was a nice set up the BC Electric had here, because the BC Electric controlled the generation  
56 and transmission distribution of power in the thickly settled areas, Greater Vancouver, Fraser Valley up to  
57 Chilliwack, over in Vancouver Island, and Victoria south of Duncan. And the BC Power Commission had  
58 the rest of the province, where the populations were small and the distances were great and so on. So that  
59 when BC Power Commission hadn’t been in existence a long time, they purchased a number of these  
60 small utilities and they extended lines into areas that hadn’t been served before, and by the time of the  
61 merger of the BC power commission, and the BC Electric, there were a few pockets that hadn’t yet  
62 become public power: Prince Rupert, Kimberly, Creston, Cranbrook, Kitimat, and still one has the area  
63 served by the West Kootenay Power and Light, which is Kelowna, Princeton, Penticton, Trail, up in there  
64 Castlegar. And then of course New Westminster is a special case. They buy power from BC Hydro,  
65 formerly BC Electric, and distribute it in the city of New Westminster.

66 Now the power commission, not talking about the power commission, I’m talking about the  
67 public power in British Columbia, was working on the Columbia, before the government took over the  
68 BC Electric in August ‘61. After the takeover, it was clearly understood that the government would  
69 follow the Energy Board’s recommendation, and develop both the Peace and the Columbia, and develop  
70 them simultaneously. The Columbia was assigned to the BC Power Commission, and the Peace, to the  
71 government-owned BC Electric. It was only BC Electric for a few months if I remember from August till  
72 March the 29<sup>th</sup>, 1962. Now I don’t believe it was the government’s intention to merge these two bodies. In  
73 fact I’m certain it wasn’t. I think the government thought it’d be a good idea to have them operating both  
74 public power but Mr. Bennett probably was somewhat more favorable to the Peace project than he was to  
75 the Columbia project and the Peace project was assigned to the BC Electric or former BC Electric, that

76 part of the BC Power and Authority, Hydro and Power Authority. And the Columbia was assigned to the  
77 BC Power Commission.

78 This was quite a good arrangement as far as I was concerned because when we merged and  
79 became co-chairmen, I sort of looked after the former BC Electric areas and the Peace, and Dr.  
80 Keenleyside had the Columbia, and these outside areas, but particularly the Columbia. And there were  
81 obviously going to be more problems with the Columbia than there were with the Peace. Well in any case  
82 the government merged the two bodies in March '62, and their reason for that, was that the lawsuit forced  
83 the government's hand.

84 When the government took over the BC Electric Company, the shareholders formed a committee,  
85 and one of the vice-presidents, who is now Mr. Justice Bruce Robertson, entered the suit against the  
86 government in regards to the takeover. I think that Mr. Bennett was afraid that the shareholders might get  
87 a judgment, turning the BC Electric back to their original owners. And this would have caused a great  
88 deal of difficulty, so what he decided was to, I believe that he would merge the two bodies and they  
89 would become so entwined, or entangled, or whatever word you want to use, financially and otherwise  
90 engineering point of view, by the time the courts could bring down a judgment, you know it takes quite a  
91 while for the courts to bring down a judgment, that no judge would be able, or have the courage, to  
92 disentangle the arrangement. I think that was the reason that suddenly these two bodies which were  
93 proceeding more or less parallel, were suddenly merged.

94 What turned out was Mr. Bennett was pretty close to being right on this occasion, as he was on a  
95 number of other occasions, because the judgment did go in favor of the shareholders. And Mr. Justice, the  
96 late Mr. Justice, Chief Justice Sherwood found that the BC Hydro and Power Authority was an illegal  
97 entity, that was the term he used, an illegal entity, and if they wanted to exist, they'd have to make a deal  
98 with the shareholders. Mr. Bruce Robertson, who was representing them, and so Mr. Bruce Robertson  
99 said, "Alright, we don't want to disturb the thing, it's pretty much entangled now, give us a extra 25  
100 million dollars for the shareholders", and it was one thing Mr. Bennett said he never would do was the  
101 day before the takeover, the senior officers of the BC Electric Company, voted themselves some  
102 handsome benefits, incentive benefits. And Mr. Bennett said he would never pay that... instructed me that  
103 this should never be paid under any circumstances. Well when we lost the lawsuit, Mr. Robertson said  
104 that in addition to the 25 million, you pay us the incentive benefits as well which amount to very  
105 handsome amounts of money.

106 But the merger remained and the takeover remained in spite of the adverse lawsuit. Now the  
107 government could appeal it I think, there were good grounds for appeal, but appeal would also involve 3  
108 or 4 years of legal battles and in the meantime both Ottawa and Victoria wanted to get on with the Peace  
109 and Columbia projects, and it wouldn't be possible to borrow the money that was needed and so on if  
110 they were still involved with the lawsuit. So I don't think the provincial government, I had practically  
111 nothing to do with it, had no alternative but to make a deal with the shareholders. A better deal. Whether  
112 it was a good deal in the first place or not, I don't think it depended so much on the Columbia Treaty, if  
113 anybody wants to ask that question, I could answer.

114 Now then as soon as the merger was effected, negotiations with the United States and Ottawa  
115 regarding the Columbia Treaty were intensified. The Peace was already under construction. The take-over  
116 took place in August 61, and in September 61 I had Mr. Gaglardi building the access roads to the site up  
117 there. I was a little disappointed. I came up the drive at night to see it's now called Simon Fraser way  
118 because, I can say this for Mr. Gaglardi, up there he, and his men, they were very loyal, they did a great  
119 service to me because my first trip to the Peace, they were building the access road and it was about a 20  
120 mile road to get into this wilderness site, and one of the foreman said to me. He said "you know Dr.  
121 Shrum", he said "do you want us to put this road where it shows on the plans we have, or do you want us  
122 to put it where it should be, or where it should go?" I said you put it where it should go.

123 Well that was a lucky decision because where the plans indicated it went around the base of a silt  
124 cliff that would have forever been sloughing down and blocking the road and causing us trouble, whereas  
125 Mr. Gaglardi had the same sort of amount of equipment that he had here when he built this road. He went  
126 right through this mountain of silt you see, instead of scurrying around it. Made the road shorter, made it  
127 better in every way. It was a lucky thing for me. Well in any case that was the road. Before the first of  
128 December, we let the contract, for, the first contract and that was for the bridge over the canyon because  
129 where the work was to start, one had to go up to Hudson Hope from Fort St. John and then get over on the  
130 other side of the Peace canyon. And the first bridge and we had all the details of the cost of every item on  
131 this job started because the Energy Board had a detailed list. We had engaged 2 firms of English  
132 consultants to do this... had it all out in detail. And there was a price in there for the bridge. It wasn't a  
133 big one, 350 thousand dollars or something of that sort.

134 Well when the first tender came in, and you have to remember I was a university professor with  
135 no experience with this sort of things, setting out the bill for a project that was going to cost 700 million  
136 dollars, and knowing how other projects escalate in price, thinking that this might go to over a billion  
137 dollars or something you know. And I was wondering what part of South American would be the best  
138 place for me to go when this all happened, the very first contract was the bridge. And when the bids came  
139 in, they were twice what we had down in the estimate. Well I said there it is you see. 700 million will be 1  
140 billion 400 thousand before I'm finished. I was, I was very depressed. So I went to Dominion Bridge  
141 Company here and I said, "Look, what about this? I'm really distressed that the very first contract is twice  
142 the estimates. He said if you, I hope there are a few engineers here tonight because I don't want to say this  
143 behind their backs. He said you know if you let us design that bridge instead of those engineers of yours,  
144 he said we can build it for you the price that was estimated. Well I said alright you give me that kind of  
145 bridge, which they did, at the price, the only thing that turned out after they got it built was that it was a  
146 one way bridge, cost half as much.

147 Somebody wrote over to Mr. Bennett and told him that Shrum made a tremendous mistake, his  
148 first contract he'd built a one-way bridge. Well you know it turned out that's all we needed a one way  
149 bridge, because we had to put a guard on it anyway to keep people from getting over there and so it turned  
150 out. But I am ever grateful to Mr. Bennett because he never said a word to me about it. You know, he  
151 never wrote over. I knew he had this letter because the Deputy Minister told me, but he never wrote over  
152 and criticized or anything, he just said well I suppose, but it turned out not to be a mistake.

153 Well I'll go on, we built, had the pilot tunnel, this was an interesting story, but I haven't time to  
154 tell you either, it was just about as interesting. Two very distinguished English engineers, Sir Andrew  
155 McTaggart, and another fellow had advised me that I should have a pilot tunnel; my own engineers had  
156 advised me that we didn't need one. Well I had taught engineers at the university for 36 years at that time,  
157 and I knew that great number of them passed with 50 percent. They knew half of how to build a bridge or  
158 something you know, so I took the advice of these people because they were from far away and I built a  
159 pilot tunnel, that saved us on the first contract about 10 million dollars, building the pilot tunnel because  
160 we found that all the borings up to that time had been wrong and on the main tunnel it saved us a good  
161 deal of money. Those are just fortuitous circumstances.

162 Now then I was a member of the negotiation team for the Columbia Treaty. And this consisted of  
163 course of Dr. Keenleyside, Mr. Bonner, Mr. Williston is going to be on your program, and I don't know,  
164 there were four of us, and people from Ottawa. And I was on this team, went to Ottawa, Washington, and  
165 meetings here. But then in 1963, about in May 1963, I was asked to build the Simon Fraser University, I  
166 was also involved in this 700 million dollar job at the Peace to help me negotiate this Treaty, and then  
167 asked me to build a university and have it ready in September '65. When Mr. Bennett phoned me in May  
168 '63 and asked me if I would be chancellor, I was quite surprised. And build it! And he said, and he said he  
169 wanted it in '65, maybe you'll want a little time to think it over? Well I said if I have to have it by 65, I  
170 won't have any time to think it over, I'll say yes right now. Because I got so involved in Simon Fraser and  
171 the Peace, I didn't have much time to carry on as negotiator on this Columbia Treaty. So I sort of dropped  
172 off the committee, although Senator Martin continued to consult me.

173 Senator Martin was one of the fellows that Mr. Bennett had a great deal of confidence in. But Dr.  
174 Keenleyside took over mainly negotiation on the Treaty. So since I played a minor roll in the final  
175 negotiations, I have no particular reason to be biased in favor of the final terms of the agreement. So what  
176 I wanted to make clear myself, is to say that in my estimation it was a mutually beneficial treaty, and  
177 neither BC nor Canada was skimmed. Now I don't care what other people say on the program, I'd be glad  
178 to come back and debate that with them. Now except for a few minor details, which only later assumed  
179 great importance, and I'll mention them later, I declare that a more favorable treaty to Canada and BC  
180 could not have been negotiated at that time. Now then, in some ways it was surprising that BC came out  
181 as well as it did because none of the BC negotiators, Mr. Bonner, Mr. Williston, Dr. Keenleyside, had any  
182 engineering, scientific, electric power experience, or business experience, and the federal members who  
183 were on the committee were more or less in the same category.

184 Now the Americans had very experienced backup people on their team; from the United States  
185 Corps of Engineers, and from the Bonneville Power Administration... first class people. One of the senior  
186 men of Bonneville Power Administration was Charles Louis, who later became equivalent of a Deputy  
187 Minister in Washington DC, and then later was head of the New York Edison Company and had a  
188 background of legal experience in the power business and was very politically astute. Now there was one  
189 man who directed the negotiations for BC and mainly from behind the scenes: And that was Mr. Bennett.  
190 He had no engineering, scientific, or power experience, but he had had successful business experience,  
191 and this was a great asset at that time.

192 Now it is true that our negotiators and their advisors overlooked... these are the two points that  
193 can be raised against the Columbia Treaty: A) any provision for escalation of cost due to inflation, and;  
194 B) the fact that the Americans decided later, whether they knew at the time or not they were going to do  
195 this but our people should have anticipated I think that they were going to convert Grand Coulee which  
196 was only 1.9 million kilowatts at the time, into the largest dam in the world from the view of installed  
197 capacity. Something like 9 million kilowatts. The largest dam I think is in Russia the Krasnoyarsk is 6  
198 million. But after the treaty was signed and so on within recent years, they converted this, and some of the  
199 other plants down the way. But I still maintained that maybe if we had even tried to take advantage of  
200 these points, we still couldn't have had a better treaty. I don't know because there's one thing that's I  
201 think Mr. Bennett squeezed out of the Americans all that could be squeezed at the time.

202 Now there's one thing that's frequently overlooked in the argument with the Americans about  
203 these treaties. I have this map here, unfortunately I don't have a large one or copies, but I'll pass it around  
204 and you can look at it quickly so it can get all around. But this orange colored area is the basin, the  
205 drainage basin for the Columbia River. See, I don't know if you can see it, but it's practically covers the  
206 whole map you see. Now here's the Canadian boarder. So the drainage basin in Canada is a, I don't know,  
207 eighth or so of the total drainage basin of the Columbia. So the Americans couldn't get the power that  
208 they could by dams in Canada, but they could do a great deal to control the flooding down here at  
209 Portland by building dams in the drainage basin you see. So they had alternatives that they could turn to.  
210 We didn't have all the cards. The best card we had was the card that Mr. Bennett had was that he was  
211 going ahead with the Peace, it was on the way, and we didn't need the Columbia if the Americans didn't  
212 want to go along with the Columbia, we didn't have to go along with it. If you pass that around quickly,  
213 they can get an idea.

214 Now then, now one of the problems that plagued Mr. Bennett in his development of the two river  
215 policy, which I shall refer to later, and limited the possibility of maneuver for our negotiators both federal  
216 and provincial, was the federal governments firm stand against the export of power to the United States.  
217 Now unfortunately, to understand this I'm going to have to take a little time Mr. Chairman. To understand  
218 the background of this you have to go back about 60 years to about 1907. Canadian's are among the  
219 worlds most prolific traders. Per capita we export a greater body of raw and semi-processed materials  
220 then any other people in the world. Canada is or has been well endowed with water power. Why is it then  
221 that Canada's exports of electricity, especially hydro electric electricity, has been limited to a very small  
222 fraction of the countries total output of hydro electric energy? Hydro developments are capital intensive,  
223 and very sensitive to an economy of scale. There have been many occasions, especially those outside  
224 Ontario and Quebec could have developed larger and more efficient and lower cost plants, if they could  
225 have exported the surplus until their own loads developed.

226 BC is a good example. BC Electric never had a really large scale development until the Peace,  
227 and therefore no cheap power. The Bridge River plants were expensive and designed only to meet the BC  
228 Electric loads, they didn't even include the BC Power Commission, the BC requirements to help make the  
229 load larger. There was little or no cooperation between the BC Electric and the BC Power Commission  
230 unfortunately. I'll say something more about that later. They wanted to build their own hydro plants, and

231 the province only had less, at that time, 1.6 million, and to have 2 different organizations, each trying to  
232 build hydro electric plants in which the size of the plant is very important in respect to the cost for the  
233 power.

234 Now then, to understand the thing, I said to go back 60 years, now I want to go back a little  
235 farther than that. You have to go back to the beginning of this century, when electricity was the  
236 technological marvel of the age. It had only been developed in the 1880's on a commercial scale and then  
237 mainly only for lighting. Water power was the only source in which it could be produced in quantity, and  
238 at a reasonable price. All utilities in Canada are called hydro. You don't find this in any other part of the  
239 world: BC Hydro, Manitoba Hydro, Ontario Hydro, Hydro Quebec, New Brunswick Hydro... all Hydro.  
240 Because all electric energy generated in Canada, until recent years, came from hydro electric plants. It  
241 could be produced from coal, but only in small inefficient plants, at very much higher prices. Now this is  
242 back in 1905, 1906 around there. Furthermore the industrial heartland of Canada, Ontario and Quebec,  
243 had no coal and had to depend upon hydro. Oil wasn't even considered in those days. Now in the first  
244 decade of the century, the advantage of electricity became evident... not only for lighting, and driving  
245 industrial motors, but also for electro-chemical processes: Industries, manufacturing particularly cars,  
246 abrasives, fertilizers, aluminum, pulp, and the treatment of metal ore.

247 Back then, the largest and most convenient source of hydro electric power in North America was  
248 Niagara Falls. I was born down there and went there on Sunday school picnics every summer. They had  
249 no reservoir. They had Lake Erie, Lake Huron, Lake Michigan, Lake Superior was their reservoir for the  
250 hydro electric power at Niagara Falls. A beautiful drop, some 300 feet or so and no dams to build you see.  
251 Just imagine a tremendous hydro electric plant with no dams. This is, they were very fortunate. In those  
252 days power could not be transmitted very great distances. And the large industrial complex's developed  
253 along the Niagara River between Buffalo and Niagara Falls. If you've ever been down there, between  
254 Buffalo and Niagara Falls, and a little bit beyond Buffalo, west of Buffalo, a tremendous industrial  
255 complex. Most pollution industries... all kinds of smokestacks and dust coming up from these abrasive  
256 plants and so on and so forth. Canada was at least a hundred years behind, well not a hundred years, but  
257 25 or 50 years behind the United States in this industrial development. So on the Canadian side there were  
258 no plants put in, and the net result is from Fort Erie, which is on the Canadian side opposite Buffalo to  
259 Niagara Falls, its one complete park all the way. Now I'm sure environmentalist must be very happy  
260 about this, that there isn't a single industry on the Niagara River, on the Canadian side between Fort Erie  
261 and Niagara Falls.

262 By the time the Canadian's did want to build some plants, it was possible to transmit the power  
263 some distance, and those plants are at Welland, and Merritton. I mention Merritton because my second  
264 name is Merritt, and Merritton's right down there. But that's not a very beautiful place. As far as I know  
265 it's nothing but one solid industrial plant. I don't know where people live. Any case, this was a situation  
266 now by 1906 more than half the water which could be readily diverted from the Niagara River had  
267 already been allocated to half a dozen newly formed metallurgical other power producing utilities. And  
268 the plans were underway to develop as much of the remainder as would not hinder the natural beauty of

269 the falls. Nearly all of this was for industrial development in United States. Canada had no demand for  
270 such for plants.

271 There were companies in Canada like the Ontario power corporation, sounded like a Canadian  
272 company it wasn't, it was a completely American-owned company that developed power on the Canadian  
273 side, and sent power across the line. Canadian's became alarmed and about 1907 and so on what was  
274 going on, and demanded some exclusive rights for the remaining power, which was only 1/3 what was  
275 left on the Canadian side. Similar developments are taking place on the St. Lawrence farther down from  
276 Niagara Falls. And that was to provide power for United States and New York states further towards the  
277 east. Now the governments of Ontario and Quebec offered only limited opposition to this because they  
278 were interested in the taxes and other revenues that came from these power companies. So it was only the  
279 federal government that was really concerned about what was going on. The provincial governments were  
280 only half hearted in any opposition.

281 The projects were large by the standards of those days, and could only be financed by long term  
282 sales contracts. For example in 1904, the Ontario Power Company, the United States company called  
283 Ontario, had business export of 45,000 horsepower for 99 years. Montréal Light and Power Corporation  
284 1912, tried to sell 75 thousand horsepower for 19 years. By 1910, all electricity produced on the United  
285 States side and 2/3 generated in Niagara River in Canada, was being consumed by United States industry  
286 between Buffalo and Niagara Falls. The crown-owned Hydro Electric Power Commission of Ontario  
287 became alarmed, and raised quite a bit of opposition to this, so that in 1909 the Laurier government  
288 appointed a national commission on conservation under the chairmanship of Sir Clifford Sifton, also a  
289 Minister of the Interior.

290 Now Sir Clifford in his first report he stated the suggestion that power can be generated on the  
291 Canadian side and exported to the United States and that thereafter, when it is required in Canada, the  
292 company can be ordered to deprive the United States customer's of the power, and deliver it to Canada is  
293 entirely elusory. He continued, should power be exported to the United States, the vested interest which it  
294 would create there would prevent its subsequent withdrawal to meet the future needs of Canadian  
295 industries. Now we hear the same arguments today used to oppose the export of water. I think this  
296 situation may not be comparable because anybody who talks about the export of water, at least when I  
297 talk about it, I'm talking about export of any water that we would have surface for the foreseeable future.  
298 And furthermore, we look forward to desalination plants coming in so that one couldn't say there was no  
299 other source of water that they could obtain. But at that time, certainly, there was no other source of  
300 power at a comparable cost. So that when they sent this power to the States, it was quite a good argument  
301 for not letting us have it back again.

302 All this led to the passing of an act, and this was entitled 'An act to regulate the exportation of  
303 electric power and certain liquids and gases'. And it was dated April 17, 1907. And that act prohibited the  
304 exportation of power except under government permit, and these were to be licenses subject to review  
305 every 12 months. Now with minor modifications in 1925, and 1955, that act governing the export of  
306 power continued to enforce until 1962 when Diefenbaker repealed it. You see all the time that the



307 Columbia negotiations were going on, 1959, '60, '61, '62, up to that time, there was this prohibition on  
308 the export of power. So if British Columbia was developing more power then it could use with the two  
309 river policy, there was no possibility of exporting it to the United States, not likely especially since the  
310 government in Ottawa was opposing the two river policy.

311 Now then I'd like to say one thing more about this because, the other speakers may not cover it, I  
312 don't know. The most explosive situation developed during World War 1, in 1917 as a matter of fact. I  
313 really thought Mr. Chairman, that's when it started until I started to prepare this course. I'm indebted to  
314 you for it, asking me to look into this because I would have stated in 1917, because this is when the most  
315 explosive situation occurred, and this is the one I was familiar with. Canada wished to undertake large  
316 scale, this was in the wartime you see, well into the war, where at the stage of the war where Canada was  
317 getting into munitions production and we're very loyal, we sent a great number of troops over-seas.

318 But we also wanted to make as much money out of the war as we could by making munitions.  
319 But don't think this as being disloyal in anyway, we wanted to help the war effort. The large scale  
320 production of certain electro-chemicals, vital of manufacture of munitions. Now more power was needed  
321 and Ottawa said get it from Niagara Falls. We haven't used our share down there you see. And the  
322 imperial munitions board went to Niagara Falls and they found that export commitments together with the  
323 already-inflated demands of industrial and other users in Canada have absorbed practically all the existing  
324 capacity at Niagara Falls. So then the government became alarmed at the situation. And whenever  
325 governments become alarmed they appoint a Royal Commission. So they appoint a Royal Commission  
326 this time Sir Hennery Drayton. The other time it was Sir Clifford Sifton. Sir Hennery Drayton Chairman  
327 of the Board of Railway Commission to investigate, and if possible, to repatriate some of the energy from  
328 the United States. That was his job. That was a big job.

329 His report in 1919, after the war was over, really emphasized that the Americans were most  
330 cooperative but the vital point was furtherance of the allied war effort, not Canada's war effort, the allied  
331 war effort. The Americans were also in the war on our side. Furthermore, Canada's proposed production  
332 of cyanide was on order with the United States Department of Defense, so the power we wanted to bring  
333 back was to produce munitions for the United States, which they were already producing in their country,  
334 we shut them down. So that nothing could be done at that time. The Canadian government got very upset  
335 about this. No question. And there are all types of stories, but I haven't found any confirmation of this,  
336 that there were very nasty letter sent between Washington and Ottawa about this. But some historians  
337 may dig those out and write a thesis about it, but I couldn't get my hands on it, or any details on it, but  
338 I've always understood that this situation was very, very explosive at the time. But any case they decided  
339 nothing could be done. But the general conclusion was with Sir Hennery, was that Canada should never  
340 again export firm power. And all parties in the federal Government supported this and continued to do so,  
341 until 1962.

342 Now it is interesting to note that war, and other industries on both sides of the boarder down in  
343 Ontario, were plagued in 1917-1919 with a shortage of coal. Rationing resulted, and this caused  
344 hardships, real suffering occurred at all levels, war industries, home owners, commercial establishments

345 had to get along as best they could. Sir Hennery investigated this and this is an interesting point. He found  
346 that the American coal administrators were studiously fair and Canadians shared more or less equally  
347 with Americans when it came to allocating this scarce coal from the mines of Pennsylvania and Western  
348 Virginia. Now ladies and gentlemen, I think we might compare this with the Acts of our own provincial  
349 government, and some federal politicians last fall, when there was a shortage of natural gas. Thought  
350 there was going to be a shortage of natural gas in British Columbia, we said if there is any shortage, it  
351 shall not affect the people in British Columbia, we will cut off the supplies to the United States, even  
352 though we had a contract to supply that gas to the United States.

353           Unfortunately that incident has had a very serious effect I think on Canada-United States relations  
354 so far as building a gas pipeline down through McKenzie Valley. Now then, McKenzie King, Mien, R. B.  
355 Bennett, all supported the no-export of firm power, even on a one year license basis; firm power. You  
356 could send secondary power on a one year license, but not firm power. But in spite of this, power  
357 companies, and to some extent, with the concurrence I believe, of the governments of Ontario and  
358 Quebec, they own the resources, they'd like to get the revenue from it. They tended to make long term  
359 commitments to their customers even though they only had a license for 1 year. McKenzie King was very  
360 annoyed about this, and he tried to make a power export a decision of parliament, not of the government,  
361 but the Senate let the measure die on the order paper.

362           This no export order delayed the building of the St. Lawrence River Seaway during the boom  
363 years in the 1920's when it could have been built at low cost during the depression years. Would have  
364 been a great boom to our economy and to employment at that time. Why was it effect? Because power  
365 was an important byproduct, as it was in 1950, when the St. Lawrence Seaway was built. In those days  
366 750,000 now it's more than that. And Canada could not absorb her share of that power in the 1920's and  
367 since she couldn't absorb her share of the power, and the export would not permitted to sell any to the  
368 United States until they could absorb their own share, they couldn't build the St. Lawrence Seaway. So  
369 you see it was quite an important self denying ordinance Canadian's have at that time.

370           Now over the years, and more specifically, the provinces suffered form this export ban. Normally  
371 any larger power company has available from time to time, power resources which may be sold to  
372 advantage on a short term basis, on an inarguable basis, on a strictly on a will basis. And these  
373 possibilities may arise from a desire to take advantage of economy of scale a necessity to make firm  
374 power commitments a number of years in advance of expected requirements impossibility of estimating  
375 accurately the future power needs the expected low growth may not materialized and so on, reserves for  
376 contingencies could be lessened if arrangements could be made to exchange power and take seasonal  
377 variations and so forth. And so long as any export ban existed, it tended to prevent north-south interties  
378 being built. Which would have been good for our economy.

379           BC suffered particularly because its consolidated mining and smelting company had surplus  
380 power in the 1950's that it couldn't sell; it had to spill the water because of the export ban. The whole  
381 business though of course became quite illogical when Canada approved long term contracts for the  
382 export of natural gas right here in British Columbia. They take this natural gas to California and generate

383 electric power with it. Now natural gas is subject in depletion. Hydro electric power is renewable. So we  
384 had a ban on hydro electric power, but we did export natural gas under a long term contract... and they  
385 used that to generate electric power.

386 Also there were proposals in New Brunswick, and also here in British Columbia, under the  
387 Columbia River Treaty, to control water in British Columbia, so they could release it so they could  
388 produce more power in the United States. Now there's a ban on exporting power, but not on controlling  
389 water so that they can get the power that way or by gas, they got the power that way. Well the whole thing  
390 became a bit ridiculous, and in 1962, mainly I think under the pressure, intensified pressure, who was  
391 most anxious to sell power in United States, in order to get the Peace and Columbia going. Mr.  
392 Diefenbaker in 1962 amended that power export regulation.

393 Now we can get back to British Columbia. In the late 1950's, I'd say about 1956 a Social Credit  
394 government became interested and they came into power in 1952 as you remember, because interested in  
395 developing northern British Columbia. Diefenbaker in 1957 wasn't it, he had this vision of the north, well  
396 Mr. Bennett also had a northern dream, but there's more in the north of British Columbia than there was  
397 in the north in resources then in the north that Mr. Diefenbaker had in mind. Not only this northern dream  
398 of Mr. Bennett and the Social Credit government, and that was mainly Mr. Bennett by the way, the  
399 Wenner-Gren people appeared on the scene. Now the Wenner-Gren was certainly a large multinational  
400 cooperation if there ever was one, with headquarters in Sweden and they came into the picture.

401 This didn't help the government too much because the government was encountering a great deal  
402 of opposition anyways, and Wenner-Gren wartime activities were a bit suspect... a question that he  
403 worked for both sides, this I can't verify. He was very good to me when I went to Stockholm to visit him  
404 because he thought I had something to do with power I guess in British Columbia. Any case, you'd be  
405 surprised how cordially you can be treated when you go to New York to borrow 50 million dollars, or go  
406 to Sweden to talk about developing power in British Columbia. But in any case they received a permit  
407 from the government to explore the Rocky Mountain Trench. Now that Rocky Mountain Trench is a very  
408 interesting geographical feature. It starts way down in Montana, runs up through British Columbia, way  
409 up into Alaska. And they got a permit to explore this for timber, minerals and power.

410 They spent quite a bit of money, well I don't know, it never came out exactly how much they  
411 spent but I would say between 1 to 2 million. Now some people dispute this figure. But they didn't find  
412 any minerals, and the timber was too far away, but they did get interested in power development. This  
413 looked very attractive. And so they proceeded to look for sites for the power plant, power development.  
414 Now it's very interesting the Rocky Mountain Trench, the Finlay River runs south, the Parsnip River runs  
415 north. And where those two rivers meet at Finlay Forks, that's the origin of the Peace River. Normally a  
416 river starts at some little rivulet way up in the hills someplace, but the Peace River starts with a bang,  
417 where the Finlay and the Parsnip meet, that's the Peace. And it flows eastwards through the Rocky  
418 Mountains; it's the only river in North America that flows eastwards through the Rocky Mountains. And  
419 it flowed through the Rocky Mountains, apparently when the mountains were being formed because there  
420 are no canyons in the mountain. The slopes are very gradual on either side. There were no good power

421 sites through the mountains, only when you get out in the foothills on the other side where it cuts a  
422 channel down in through the plains was there a good power site.

423 Well the difficulty was that Wenner-Gren people couldn't sell power to the United States, and the  
424 BC Electric wouldn't give any commitment to purchase, so they were pretty much stymied. And this  
425 annoyed Mr. Bennett very considerably, there's not doubt about it, because he was anxious to develop the  
426 north. And I'll show you why a little later.

427 Now then, as I said earlier this is where about I came into the picture in 1958, just about the time  
428 the Wenner-Gren people were making this exploration. I remember we gave them a luncheon out at the  
429 university. I don't know what all those promises out there, got them recorded, but in any case it looked  
430 very attractive. But in any case he did as you know in Stockholm build a tremendous institute at the end  
431 of the main street in Stockholm one of the main feature of Stockholm is this tremendous institute he built  
432 there for professors from different countries to come and work together.

433 But in any case, I was appointed Chairman of this power study in 1958 because Lee Brigs who  
434 was Chairman of, General Manager of the BC Power Commission, and he was supported by certain  
435 newspaper people, and others who didn't like Mr. Bennett. You have to keep in mind that all this  
436 discussion that the 4 dailies, metropolitan dailies, The Times, The Colonist, The Province, and The Sun,  
437 were all antigovernment. Now Mr. Bennett used this quite successfully for many years to get elected  
438 because if all the four papers are against you, it must be something wrong with the papers, he used that.  
439 And you know Mr. Barrett did the same thing. He had all four papers against him in 1962 here, and Mr.  
440 Bennett had them supporting him... I guess that's why Mr. Bennett lost. You know if he could have had  
441 them against him too it would have given Mr. Barrett a better run probably I don't know. In any case, that  
442 was the game.

443 Now then what you suppose the argument was about? Well this was the time Mr. Bennett wanted  
444 to make the province debt free. Now Mr. Barrett when he was in opposition, they used to poke a lot of fun  
445 at the government for claiming they were debt free. But I'll wager dollars to doughnuts that when the last  
446 time Mr. Barrett was in New York talking to financial people, he emphasized the fact that British  
447 Columbia was debt free. You see? Otherwise he would never retain this triple A rating for BC bonds. Any  
448 case, that's aside from the point. I'm no economist, but some of you are, to be debt free, you can't have  
449 unsatisfied debts or something. He'd been advancing money to the BC Power Commission, and money  
450 got everything got everything cleaned up well.

451 In order to be debt free, the Power Commission owed him this money but they didn't have bonds,  
452 now if he could get those converted into bonds, then he could show that this wasn't a debt you see, but  
453 otherwise it was a debt. So he had borrowed this money, they'd borrowed the money from the  
454 government, but they had only given a note or something for it, and it had to be converted into bonds in  
455 order to be debt free. Now then, you've got to give me bonds for this and those bonds have to be at 3.5%  
456 interest. Victoria, Times, the newspapers, and Mr. Brigs said this is scandalous, 3.5 %. 3% is all we'll  
457 give that's usury 3.5 % you see. So I was called in to settle this argument. Whether it should be 3 or 3.5.

458 we compromised for 3.25, it didn't take very long to do that, that didn't require very much intelligence  
459 you know. But you know, BC Hydro still has some of those 3.25% bonds when you stop to think about it.

460 I had two millionaires on the panel with me, and they, and I used to argue with them, you know  
461 you'd be surprised how Royal Commissioners fight with each other, used to argue with them that 3.5 %  
462 was a reasonable percentage because we were going to be building nuclear plants, automotive factories,  
463 airplanes and everything, and there is going to be a great demand for money, and these fellas who were  
464 very clever at making money, ooh you're all wrong, 3.5 % is a high interest rate. Any case that's aside  
465 from the point. We settled that, so we didn't have too much else to do and we wanted to draw our fee. So  
466 I extended our terms of reference a little bit, you know, without any permission particularly, and looked  
467 into the cooperation between the BC Power Commission and the BC Electric.

468 I don't know how we got away with this, in any case in doing this we found that there was no  
469 cooperation. Here as I said earlier, only 1.6 million people in the province, 2 different power corporations  
470 and neither of them big enough to build a big economical plant and their not working together, so we  
471 recommend it. And this, I quote from the report: "A body to control and direct the generation,  
472 transmission and distribution of all power in British Columbia. And further that it should establish an  
473 overall policy for the development of the energy resources in the province based upon a careful evaluation  
474 of needs and resources."

475 Now Mr. Bennett accepted this Royal Commission report, and he acted immediately and set up  
476 an energy board, and I was appointed Chairman in December 1959. And Bob Strachan, who is on your  
477 program this week, he sent I think the first communication, memorandum, was from Mr. Strachan who  
478 was then Leader of the Opposition in December 14<sup>th</sup> 1959, and I will say it, it's a very good one, I think I  
479 have it here with me but the day December 14<sup>th</sup> 1959. Now then, let's get a little closer I've only 3 pages  
480 out of 18 to go yet. But these are going to take longer unfortunately.

481 The Columbia Treaty was signed in January the 17<sup>th</sup>, 1961. Now maybe you were as naive as I  
482 was. I thought when a Treaty was signed that was it. But that isn't, that's only the beginning of the  
483 argument because then the Treaty has to be ratified, and it's the ratification of the Treaty you get involved  
484 in all the troubles with the United States Senate and Parliament in Victoria. So this Treaty ran into a pretty  
485 rough going and they decided to make a protocol. Now this is a curious kind of protocol that didn't  
486 change the fundamental terms of the Treaty, because if it had, it would have had to go back to United  
487 States Senate, and they would have probably thrown it out. So it was a protocol that stated specifically  
488 that it wasn't changing any fundamental ideas, but only making some minor modifications which isn't  
489 true, but that's what it stated and therefore didn't go to the Senate, and it could be settled by the President.

490 Now you have to bear in mind that this is a, the Protocol was signed, was prepared in 1963 and  
491 approved by both governments and then the ratification of the Treaty took place in 1964. So it took from  
492 '61 to '64... half the Treaty was signed January 17, 1961 to 1964 before the Treaty was finally signed.  
493 And it and the controversy raged during that period... Mr. Bennett favoring the Peace, and Ottawa  
494 favoring the Columbia. There was a great deal of emphasis on the lowest cost of power; which one of

495 these two projects would produce lower cost power. And Mr. Bennett, Mr. Davie Fulton came out and  
496 said the Columbia could be built for 3.77 mills. Larrett Higgins on your program said that the Peace  
497 would be twice that. Well any case he was very wrong on that point. But any case Mr. Bennett, he turned  
498 this over to the Energy Board, we hadn't done very much except set up a staff. I was still on the staff at  
499 the university. I wasn't giving too much time to it, but he turned it over to the Energy Board to find out  
500 and compare the costs of the two, the Peace and the Columbia.

501 Well, the Columbia Treaty thing had been going on for 25 years. As I said, I was a newcomer, I  
502 came in, in '58. But General McNaughton and these people, they had been studying, and the Americans  
503 weren't too anxious to get on with the Treaty because they felt that Canada would have to develop the  
504 dams in Canada anyways. And if we did they'd get the downstream benefits automatically, you see. So  
505 they weren't pressing for any Treaty particularly. But when Mr. Bennet started the Peace going, and we  
506 started building bridges and so on, and told them we won't need the Columbia for another 15 or 20 years,  
507 and there had been a disastrous flood on the Columbia, and which, I think 18 people were drowned, and  
508 millions of dollars damaged, they became a little more anxious to get on with the Treaty.

509 So the Board, everybody had been in the act around Canada pretty well so we brought two firms  
510 of consulting engineers from Great Brittan, I always believe in having more then one, you know to have  
511 one against the other. So we brought these two firms and said, give us the price on the Peace and the  
512 Columbia. Well they got together, worked together a bit, that wasn't the original intention, but turned out  
513 to be a good idea. Any case as they were working on it, I went over to see how they were getting along in  
514 June 1961.

515 Now I knew Mr. Bennett was strongly in favor of the Peace, and that he maintained the Peace  
516 wouldn't be any more expensive than the Columbia. And Wenner-Gren were in the background ready to  
517 go ahead with the development of the Peace. And I went over to see how they were getting along. And I  
518 found that their computations indicated that the Peace was going to be very much more expensive then  
519 the Columbia. Well this would have been nuts and raisins to Davie Fulton and all the other people who  
520 had been fighting Mr. Bennett and Mr. Higgins and others. And well I didn't know what to do that night,  
521 I didn't sleep. I wondered whether to go to South American, or Africa, or come back to British Columbia  
522 because I knew how terribly disappointed Mr. Bennett was going to be. I had to come back and report  
523 that I was going to bring in a report in which he was all wrong you see, and he wouldn't be able to go  
524 ahead with the Peace. Because it was pretty well got down to the stage in the controversy which one was  
525 cheaper.

526 So I went back the next day to see Mercer McCullen people. And I said show me the figures.  
527 How is it that it comes to be so much more expensive? I couldn't understand it. And they didn't know  
528 exactly, but worked over the figures, and by the next day, so they could explain to me why it was more  
529 expensive. And I told you earlier, hydro power is very capital intensive. You require a great deal of  
530 capital, not very much operating cost when you want to get the thing built.

531 Now capital, if you use public financing, is a lot less costly than private capital, where the private  
532 people have to produce a profit. They pay more for their money and so on... they couldn't get it at  
533 government rates you see. So that accounted for the difference. So I said to Mercer McCullen, "Well  
534 work out the Peace, rework the Peace on the basis that the same interest rates, that is public power, the  
535 same as the Columbia is going to be. See the Columbia, there were never any question about any private  
536 people developing the Columbia. Work it out on the same basis." So they worked it out after a couple of  
537 days, they came that the two were indistinguishable on cost. They were so close that you couldn't say  
538 which was cheaper and so on. Well that was settled that point.

539 Well then being Chairman of an Energy Board, not a Royal Commission, this time I thought it  
540 might be a good idea to extend the terms of reference a little bit unilaterally. So we extended our terms of  
541 reference to see what we should recommend to the government... which project should go ahead when  
542 their both the same cost.

543 Well I was convinced, not because Mr. Bennett was convinced; I was convinced that the Peace  
544 was the one that we should go ahead with. It gave us good bargaining power with the Americans, and it  
545 developed the north country. But Dr. Keenleyside he'd been working on the Columbia quite a bit, he was  
546 very anxious to get on with the Columbia, so we compromised, and said alright, lets build the two of  
547 them, the Peace and the Columbia, and that the power from the Columbia, we'll have to sell it  
548 downstream. I'll come to that in a minute what the downstream benefits are, and we'll sell that power  
549 downstream, and use the power from the Peace in British Columbia.

550 So we put in this recommendation to the government. And that became the basis of what was  
551 known later, involved a tremendous amount of criticism later on, as the government's two river policy. It  
552 was a recommendation of the Energy Board. Now the Press was particularly hostile at that time,  
553 especially the four metropolitan dailies, and the criticism was directed almost entirely at the Peace. They  
554 also criticized the Energy Board. They criticized me to some extent, because they said that I had cooked  
555 the figures... the Columbia was still cheaper than the Peace, that we hadn't added in on the Columbia all  
556 the benefits that could be obtained from the Kootenay River, and some flood control benefits and so on  
557 that hadn't been properly counted for.

558 Well I haven't much time, but I'd like to read to you two editorials; One from The Times,  
559 November 6, 1962, this is a year and a half after the Energy Board report, and the decision to go ahead  
560 with both. And it was just after I'd invited all the newspaper reporters up to the Peace to have a look at it.

561 *"In recent weeks a number of representatives of the Press have been taken on a tour of the*  
562 *government's Peace River power project near Hudson Hope. They have come away impressed... it is*  
563 *always an exciting sight to see whole mountains being moved, and hard rock miners drilling 2500'*  
564 *tunnels to divert fast running waters. In their enthusiasm for the visible manifestations of progress,*  
565 *however, the visitors returned to two basic questions. Who will put up the whopping sums of money*  
566 *variously estimated at 400-450 million for the first phase of development needed to bring the power*  
567 *online, and who are the potential costumers? How many are expected to gamble hundreds of millions of*

568 *dollars on such a venture when no market has been defined, and no firm price set? Mr. Bennett to be sure*  
569 *has won an important victory in persuading Ottawa, at least 3 parties in Ottawa, to permit the export of*  
570 *power. But this too is meaningless unless he can find markets to guarantee the tremendous outlays of*  
571 *capital needed to complete the project. At this writing, the Peace Dam remains a gigantic gamble. The*  
572 *great fear of many thoughtful British Columbian's is that future generations may find themselves saddled*  
573 *with an immense debt, the price of their Premier's venture into the wilderness."*

574           And The Sun, November 7, the next day. They must have read that editorial and got the same  
575 idea. You can put this in the press if you like:

576           *"There is a genial smoothness to Dr. Gordon Shrum's call for an end to political bickering over*  
577 *the Peace River power project. For bickering he will substitute national pride in the undertaking. As for*  
578 *the Peace project, it was conceived in politics, born under a political banner, nourished as a political*  
579 *asset, and is kept alive by public funds. Its advisability, its practicability, and its ultimate success are yet*  
580 *unproven. They are debatable. For citizens of BC, it will be a relief and a joy if the Peace project does*  
581 *become a subject for national pride."*

582           Well in spite of these gloomy predictions of the press, the Peace turned out to be a great success.  
583 It opened up the North, pulp mills in the north, some 10 pulp mills as a result of Peace power. If we relied  
584 on the power from the Columbia, and transmitted that power to Prince George, would have been an  
585 expensive business, and the mines developed along highway 16, were as a result of Peace Power. Show  
586 you the prospectors saying, this mine can go ahead provided we get electric power within two years and  
587 so on. It opened up the north, the cost of the power turned out to be exactly what was estimated by the  
588 Energy Board in 1961. And you can tell Mr. Higgins when he comes, that it's approximately one half of  
589 what the Columbia Power is going to cost.

590           Now I'm not saying that in a derogatory way because there are reasons why the Peace turned out  
591 to be cheap, and the Columbia more expensive. That doesn't mean to say that the Columbia won't be  
592 cheap as well, but it's twice as expensive as the Peace. Everything went through. Today 60% of all  
593 electricity we use is coming from the Peace, and if we had any surplus that they were worrying about, the  
594 Americans would love to buy it. You know, you can sell it any place between here and San Diego without  
595 any problem. Everything went through on schedule. And the overall cost, even today, overall cost, not  
596 just power cost, was as we predicted in 1961. Now that isn't because I was any genius. I can explain that  
597 if you are interested, but the success of the Peace in 1967 before the first power came in at 86, the preset  
598 tax all stopped. Hadn't had any preset tax on me or the Peace since '67. They then moved over towards  
599 the Columbia and they started taxing the Columbia, which still doing that today to some extent.

600           Now then, why did the government, this I think is important to you people, why did the  
601 government take over the BC Electric? Bennett had warned Ottawa in February '61, that if they didn't  
602 pass back to him the taxes, the corporation taxes they put on the BC Electric, he would take them over,  
603 and there wouldn't be any BC taxes. Because you see, Ontario and these other provinces were getting  
604 cheaper power, because they were public power, but they pay no taxes you see. And he said, I don't mind



605 leaving the BC Electric, but you must turn back to us the taxes. Which the government does now to  
606 Alberta... they give them back the corporation taxes.

607 Well that was one thing, but that wasn't the main reason why he did it. The BC Electric would  
608 not give Wenner-Gren a contract for the power from the Peace so they were completely stoned in many  
609 cases. That annoyed Mr. Bennett. This is rather the real reason why the government could follow the  
610 Energy Board report... was the reason, the real reason he took over the BC Electric: So that he could  
611 follow the Energy Board report and he could go ahead with the Peace because then he'd have a market for  
612 the Peace you see. And he could go ahead with the Columbia because he was insistent upon selling the  
613 Columbia across the line. And do the two simultaneously.

614 Neither Wenner-Gren nor the BC Electric could have developed the Peace and compete with the  
615 Columbia cost. I don't know if the Energy Board hadn't recommended public financing the Peace, I don't  
616 know where it would have ended up because it would have been quite expensive power developed by the  
617 Wenner-Gren people. And the market would have been small, and it would have taken a long time to  
618 develop. Now it's difficult to envision what would have happened if the Wenner-Gren people had been  
619 able to get a contract from the BC Electric. There wouldn't have been the same argument for taking over  
620 the BC Electric.

621 The other thing that caused a great deal of discussion at the time was that Dal Grauer who was  
622 chairman of the BC Electric was a popular figure. He was a Rhodes Scholar from the University of  
623 British Columbia and he died of cancer, leukemia, and he was buried on the day that the government had  
624 this special session. Because this special session had to be called a few days in advance and he died  
625 between the time session was called, and he was buried on the afternoon that the BC Electric was taken  
626 over. So you can see there were traumatic angles to this whole thing.

627 Now then, I brought a few prints here, I didn't bring nearly enough. I took them off the cover of  
628 that book I'm passing around. I'll pass around the number that I have. Now this gives you the key, maybe  
629 one per table could do for awhile. Send them back quickly because I want to get on with it. Look this is  
630 sort of an artist, it came off that cover of that book that's being passed around, but here's the Columbia  
631 River, here's the Canada United States boarder. Now the Columbia River originates up here at Columbia  
632 Lake, in the ice fields in the arctic, in the Rockies, ice fields in the Rockies and if flows north to come to  
633 the Big Bend, and then it turns and goes south changed its mind, and up there is where the Mica dam is.  
634 Comes down through the Arrow Lakes, that's where the Keenleyside is, here's a tributary the Duncan,  
635 that's where the Duncan Dam is. Over here is the Kootenay River. And on the Kootenay River is the  
636 Libby dam. And the Kootenay River flows, originates up here, right near where the Columbia originates  
637 you see. Right together almost. The Columbia goes north, the Kootenay goes south. Then the Kootenay  
638 changes its mind and goes north again you see, and comes back up into Canada and flows into the  
639 Columbia.

640 Now, the important thing about this is look, look here, here's the Grand Coulee. I don't know, I  
641 can't name all these but there's 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 shown on this map. I don't know if this is up

642 to date, probably is, I'm not sure there isn't one more. 11 dams on the Columbia you see. Now the  
643 Columbia is a very rambunctious river. The difference between maximum flow and minimum flow is  
644 greater than any of the great rivers in the world. So that what happened in the Columbia, the water comes  
645 from the ice fields. Now the ice fields that gives the maximum flow in June and July when the sun is hot  
646 and the ice is melting. So the Columbia floods in the summer time. But the load in the Pacific North West  
647 is in the wintertime you see. So here they were, all summer long, these, spilling water that they couldn't  
648 use, they couldn't sell the power. Now if Canada would build dams up here, and control that water, and  
649 put it down in the winter time instead of the summer... that would be a tremendous benefit. And that's  
650 what they call down stream benefits you see.

651 And the contribution General McNaughton made was this. This had never been done before. This  
652 sort of thing occurs in many parts of the world where a river flows across an international boundary. But  
653 General McNaughton said when a river flows across an international boundary, and he got the IJC to  
654 agree to this, that the upstream country can produce benefits, civil works the term they used. Dams up  
655 here can produce benefits down here, and the upstream county should be entitled to some of these  
656 benefits. He not only got them to agree to that but he got them to agree that the upstream country would  
657 be entitled to half the benefits you see. Not half the power, half the benefits they would get, you see, that  
658 they wouldn't get if they didn't have the dams. And that's where this half of the benefits come in.

659 Now the original Treaty envisioned taking all this back up here and bringing it into Canada. Now  
660 if Mr. Bennett agreed to that, there would have been no market for the Peace, he couldn't have gone  
661 ahead with the Peace. I as chairman of the Energy Board interpreted that this was not exporting power.  
662 This was not exporting power. This was power that was generated in the United States. Now it was a nice  
663 argument. Whether it is or not that's another matter but in any case before it had to be settled the  
664 government in Ottawa changed the Act so that we could have exported and we could sell it anyways. So  
665 this power is sold.

666 Now that's a lot of the criticism of the Columbia Treaty. A lot of uninformed people say look, we  
667 sold this cheap power down across the line. It wouldn't have been cheap. It wouldn't have been any  
668 cheaper than the power we're getting from the Peace. If we had brought it back, we would have had to  
669 build transmission lines, and then there would have been no development in the Peace at all. Not till  
670 another 10 years from now probably, when the cost are very much higher and so on.

671 So that now I think I better quit. I just want to say finally that I think that I still want to maintain  
672 that the difficulty is that as far as the Columbia is concerned, that the costs exceed the promises. Mr.  
673 Bennett is guilty of saying that the Columbia is going to be much cheaper than it turned out to be: The  
674 inflation caught them. Nobody anticipated that inflation would be as serious as it turned out to be. These  
675 are problems. But I want to say this, the Columbia Treaty is a fine example of international cooperation in  
676 the development of rivers flowing across international boundaries, and it will be used as a model in a  
677 great number of similar situations in other parts of the world. Thank you.

678 **Audience:** [Inaudible question]

679 **Dr. Shrum:** If I were doing it over again, I would do it exactly the same way because I think the  
680 Williston Lake is you have to bear in mind this, that when we started the Peace project, they didn't even  
681 fight forest fires in the Williston Lake area. That was a wilderness area and it, nobody used it. So they  
682 didn't even fight forest fires up there; didn't bother. By the time Williston Lake will be used for  
683 recreational purposes or needed for recreational purposes, the material will be out of there. It's mostly  
684 floating debris, and It wouldn't have been 1/10<sup>th</sup> I suppose, I, this figure I couldn't say, 1/4 or 1/10<sup>th</sup> of  
685 that floating debris, if it hadn't been that the public opinion forced us to go into the reservoir area and take  
686 the timber out.

687           Now we took the timber out at a cost more than the timber was worth. Now it's a nice question  
688 whether in a province where you have forests that hadn't been developed, where you have forests with  
689 trees becoming decadent because they are not taken out, that you should go in and salvage timber, that  
690 costs you more money, or if we could have flooded it and left it under there, it would have been 200 feet  
691 under the water and it never comes it, it doesn't rot you know underneath there, that's the strange part of  
692 it, and one of the difficult parts. Now on the Columbia, I mean on the Peace, we took down most of the  
693 timber that would show up through the reservoir area, but there's a lot of floating debris.

694           But there is a control of this floating debris going on. Hydro is spending a great deal of money  
695 every year corralling this and burning it. Now I don't know whether they'll ever catch up because if the  
696 loggers move in there and keep on cutting forests in the area, maybe more of it will flow down, but it will  
697 flow down into a lake the same as into a reservoir. But I went up there two years ago in a motor boat way  
698 up in the top of Finley River and we saw large bodies, it sort of looks like a log boom. It all gets in one  
699 big mass and then it'll move with the wind one way or another.

700           There's lots of open water, the difficulties about the Columbia, I'm sorry the difficulty of the  
701 Peace reservoir more than the floating debris on there, is the storms, the wind. I don't know whether even  
702 when it's clear, whether it will ever be safe for anybody but experienced people in boats because a lot of  
703 wind flows through the Rockies there, and these come up very suddenly. And so from this point of view,  
704 but there's lots of recreational area down near the dam site. And when they build the site, the next dam  
705 down, there will be 14 miles of a reservoir that's where there will be no rising and falling of the reservoir,  
706 it will always be at constant level which will be an excellent recreational area.

707           But certainly Hydro will never build reservoirs that flood trees and leave them sticking through  
708 the water because they never break off up at the Peace, there were some arguments that it would freeze  
709 and when the ice went out in the spring, it'd break the trees off. Well what happens is that when it starts to  
710 thaw in the spring, the sun gets a little hot, all around the trees the ice melts so the trees don't get dragged  
711 away the ice breaks and leaves them. Now on the Columbia, all the, the whole reservoir has been cleared  
712 so that the area that will be exposed by flowing, but they left the trees in the bottom of the reservoir. Most  
713 of those trees were decadent cedar in any case. But they were below the lowest level of the reservoir.  
714 Does that answer your question sir?

715 **Audience:** The charge was made in some of the writings that the funds from the sale of Columbia power

716 were essential to the financing of the Peace. Now in terms of the financial market, and the fact that the BC  
717 take over, BC Electric take over was in the courts, would there have been difficulties in raising the funds  
718 to work on the Peace until such time as the BC Electric matter had been finally disposed of and  
719 confidence finally restored to the financial market had lets say funds not been made available for all of  
720 British Columbia?

721 **Dr. Shrum:** Well I think that the BC Electric court case was over before the funds were made available  
722 from the Columbia. Funds were made available from the Columbia on I think it was June or August 1964.  
723 But no money from the Columbia was used to finance the Peace in any ways whatsoever. Now the money  
724 from the Columbia did help to finance the Columbia. If the government hadn't receive this lump sum  
725 from United States, and if they'd receive it as one of the proposals in the Treaty so much a year for 5  
726 years or something of this sort, this might have made it more difficult because no doubt the government to  
727 some extent was strained to finance the Peace and they couldn't finance the Columbia if the money hadn't  
728 been made available. Now the money made available doesn't look very big, but you have to bear in mind  
729 that money was put in the bank the afternoon. Well it was a phony check they used down here down at the  
730 border. The day the check was handed here three hours before and the time that was deposited in the  
731 account in New York and was drawing short term interest. And that money and that money drew interest  
732 long before it was spent. So the total amount came up to 400 million or something. Even then it didn't  
733 turn out to be enough to do all the Columbia projects.

734 Now Mr. Bennett had hoped and had stated that this would be enough to do all the three dams and  
735 to install the units in the power house you see. It turned out not to be enough. He shouldn't have made  
736 that, there was no point in making that statement, but in any case, inflation had a good deal to do with it.  
737 Now the Peace, the reason the Peace came out so well was is with this very interest problem. Even though  
738 interest went up, wages went up, everything went up, equipment went up, not so much as wages and  
739 interest rates, the Peace went through with the estimate back in 1961. But in 1961 it was estimated that  
740 the Peace wouldn't be completed until 1983. Now every dollar for the Peace was borrowed, didn't come  
741 out of operating costs of Hydro at all, and people say it added to our power costs, and every dollar from  
742 the Peace was borrowed. And all the borrowing accumulating interest, so a good deal of a couple hundred  
743 million dollars of the Peace has to do with interest you see. Well now if you bring the project in 1968, and  
744 you get the whole thing, all the power that you can generate at the Peace by 1971, instead of 1983, look at  
745 the interest you save. You've got the money on the, you have to build a whole dame and the power lines  
746 and so on. And so that we saved because of the boom in the economy, we saved enough interest to offset  
747 the inflation and so on.

748 Now in the Columbia they couldn't do that you see, because the Columbia was set of a schedule  
749 and there was no way. They brought in the dams a few months ahead of time and got some bonuses as  
750 laid down in the Treaty, but this was a small amount. Didn't nearly do enough to take care of the  
751 inflation. But the saving on interest because of the boom, because of the building of pulp mills and the  
752 building of these dams, I mean mines, every tonne of ore requires 1 kilowatt of power and these mines  
753 produce 30,000 tonnes per day. Every tonne per day requires 1 kilowatt, every pulp mill 515,000  
754 kilowatts, every paper mill every 30,000 kilowatts. So what's what saved the Peace as it were you see...

755 and kept the cost exactly the same as estimated in 1961. Otherwise I didn't want, I, glad your giving me  
756 the chance to give the explanation. Because I didn't want anyone thinking I was a genius, a financial  
757 genius.

758 **Audience:** What would be your answer to the inflation costs that have been incurred? Who should pay up  
759 for this on the Columbia?

760 **Dr. Shrum:** The people that have to pay for it are the people in British Columbia: Either taxpayers or  
761 customers of Hydro. I don't know who will pay it. I expect it will be the customers of Hydro and that...  
762 who's everybody, pretty well.

763 **Audience:** A few days ago, when Mr. Green was here, he suggested that the federal government should  
764 have offered to make or arrange an agreement with the city to wave the costs. What do you think of that?

765 **Dr. Shrum:** Well I don't think it's necessary. I think even with these added costs, the power from the  
766 Peace delivered down here is going to be 6, 7 mills something of that sort. And you can't get power at  
767 that cost today. So you know, you'd have a difficult time if you went down to Ottawa and said, "Look.  
768 Help us, this is costing us more then we expected you see." And they say, "How much is it costing you  
769 per kilowatt hour?" And you say, "6.5 mills". And they say, "You're damn lucky... people down in  
770 Ontario are paying 8 mills for their power." Peace is costing more than they expected but

771 **Audience:** Columbia?

772 **Dr. Shrum:** Columbia I mean, but politicians were too, what is the word, yeah. Any other questions?

773 **Audience:** On the Columbia itself, what sort of firm production do they expect out of Mica? I gather  
774 Mica is going to be installed at 1.78 million [kilowatts]. Somewhere in that range?

775 **Dr. Shrum:** 2.7 [million kilowatts].

776 **Audience:** 2.7, is it 2.7?

777 **Dr. Shrum:** Between 2.6 and 2.7 million kilowatts but the load factor is going to be about 48%. Now the  
778 Peace is 2.35 million but the load factor is 65 and 70% which is the system load factor of BC Hydro you  
779 see, that is the percentage, when you're talking about the load factor, that is the percentage of your total  
780 installation that you use on the average. And there is one other weakness on the Mica.

781 **Audience:** Why is it low to begin with, why is it low relative to the Peace?

782 **Dr. Shrum:** It's not. They're putting in this extra, and they say this will be peaking, can be peaking  
783 power. But the point is, there are two arguments against this for peaking power, one is it's a long way  
784 away. Well you can't push that too hard because they're putting in 8, 9, 10 units at the Peace which will  
785 be more or less peaking power and it's just as far away you see. The other argument about the Mica is that  
786 it's not purely peaking power because we have to take that power whenever the Americans want it for

787 peaking power. And their peak might not coincide with ours. It's very close to ours, but it's not exactly  
788 ours you see. So we don't have 100 percent control of that peaking power. Now that depreciates the value  
789 a little bit. But not, I mean I wouldn't be able to say how much because the Americans have been very  
790 cooperative. The Treaty requires them to, if we want to change the flow of power from our reservoirs, and  
791 a different, different pattern from what they request. If we can show that this doesn't damage them in any  
792 way, we have the final say, but if it is going to cost them more money, or they lose something on it, then  
793 we have to make that up, or give it the way they want it.

794 Now there's one thing that a lot of the opponents of the Peace, the Columbia, you don't quite, not  
795 100 percent, some people you know get sort of sold on their own ideas, and that is this Mr. Bennett has  
796 stated and other people that what we lose in this first 30 years, we'll make up in the next 30 years. Well  
797 there may not be a next 30 years because it's only downstream benefits that we can get you see? And if  
798 United States here, in Pacific North West, and now they have built 4 tremendous interties with the South.  
799 If they ever reach the stage where they can absorb all this even without us... shut down nuclear plants or  
800 thermal plants and use this power you see, or sell it in California, so that they don't need our storage, then  
801 we won't collect anything in the next 30 years.

802 So how much we get in the next 30 years will certainly be less than we get in the first 30 years  
803 because they're going to have to build a lot of thermal plants. Now with a thermal plant, you've got a cost  
804 of fuel and you can shut the thermal plant down you see, and use your hydro, and therefore you don't  
805 have the same benefit from the storage. It isn't as valuable to you, so I don't know how much benefit it  
806 will be. The Treaty, the financial arrangement is for 30 years you see, and then the Treaty is for 60 years  
807 you see. So the next 60 years, the next 30 years will depend on what the benefits are. But we only get  
808 credit for downstream benefits. That's the one thing you have to remember.

809 **Audience:** The initial Treaty was that these downstream benefits would be calculated annually or  
810 something so these changes would be taken into account?

811 **Dr. Shrum:** Yes.

812 **Audience:** Now in terms ...

813 **Dr. Shrum:** I think they're calculated on a 5 years basis... I'm not sure

814 **Audience:** Now in terms of the Mica you say the load factor is going to be so low. If Arrow can serve as  
815 a regulating reservoir, would the load factor have to be that low, or is it likely that the ability to pass  
816 through Mica without sending it all the way downstream and holding it at Arrow is not a significant factor  
817 in terms of meeting your load requirements?

818 **Dr. Shrum:** No I don't think so because the level in Arrow is also determined by the Americans.

819 **Audience:** Right.

820 **Dr. Shrum:** And I don't think there is enough storage there to be able to help very much on that. But I

821 don't know. It's a good point, but I'm not, I don't have enough data to be able to answer.

822 **Audience:** I would like to offer a comment, one of the things limiting on the co-factor arrangement is the  
823 natural stream flow. [The natural which?] The natural stream flow. There's only so much water that can  
824 come down, and once that's been generated each year, that's it. That's one of the limitations is the actual  
825 run.

826 **Dr. Shrum:** Yes.

827 **Audience:** May I ask you about the second of the two factors of which you say that Mr. Bennett  
828 overlooked the first being the estimation costs due to inflation? That was the fact that the Americans later  
829 converted Grand Coulee into the largest power dam in the world producing 900 kilowatts. There's  
830 something to take from S.J. Bartholomew and as I understand it, he's saying to me is that that is precisely  
831 what they should have proceeded because it was all laid out very clearly in the reports of the Corps of  
832 Engineers study on the Columbia. That's what the whole thing was about. Do you have any comments to  
833 make first?

834 **Dr. Shrum:** Well I'll say this. First of all, you shouldn't blame Mr. Bennett for this. This was where our  
835 technical advice was. I don't think you can blame me or blame Dr. Keenleyside because we're not  
836 engineers. The one thing that the negotiation committee failed to do and that was have competent, well to  
837 have thoroughly experienced staff, advisors you see. They didn't use, they didn't use the engineers from  
838 BC Electric. They only used the engineers from the BC Power Commission. Well the BC Power  
839 Commission didn't have the experience even with dams the size of Bridge River and I think that this was  
840 over-looked. As long as I was on the negotiation committee, nobody ever pointed this out to me. I never  
841 heard this discussed, I never heard us say to the Americans well now look, you must give us more for this  
842 because here's something you can do with this when we regulate the water. You can convert this into a  
843 peaking plan you see.

844 But you have to bear in mind that in those days people weren't so much thinking about nuclear  
845 energy and thermal plants as we are now, because thermal plant, a nuclear plant first of all is a base load  
846 plant... can't be used for peaking. You can't push up the power of a nuclear plant and drop it down easily.  
847 You have to keep it going. So you need something else to take care of the peak load on top of it. And the  
848 best thing to take care of a peak load is hydro plant you see, because all you have to do is pull that old  
849 switch and the power goes up or down and there's no question of heating or poisoning of the fuel...  
850 something with even a thermal plant. A big coal fire plant is a very complex thing and it's very difficult to  
851 bring it on quickly and let it cool off again and so on you see. So as you build these nuclear plants in the  
852 Pacific North West the demand for peaking power goes way up you see.

853 And the, well I don't know, you ask Dr. Keenleyside about this because he took part in all the  
854 meetings of the negotiating committee, I took part in only the early ones but I never recall this point  
855 coming up as to or used as a bargaining point. But I wouldn't blame Mr. Bennett, and I don't think I  
856 would blame Dr. Keenleyside. This is something that the technical experts, advisors should have brought  
857 out. I certainly wouldn't blame Mr. Williston, or Mr. Bonner you see, or Liang or any of these people for

858 this sort of thing. If I blame them for anything, I would say, well you should have had better consultants  
859 you see. I think the Energy Board when we, the consultants we had were the best we could get in the  
860 world probably you see. And they gave us good advice. Nobody ever criticized the findings of the Energy  
861 Board. They criticized our consultants: Mercer McCullen, Sir Alexander Gabenhower. But they did  
862 criticize us to some extent. Said we didn't interpret their findings correctly. But they never criticized their  
863 findings. They were right. They made an estimate of all the various costs of the Peace. And they were  
864 right.

865 **Audience:** Grand Coulee when it was first built was developed as a three phased operation and certainly  
866 that was no secret to Canada. I worked on Grand Coulee and we discussed it.

867 **Dr. Shrum:** Well I don't know about that. Well I don't think you are right, but what they did on those  
868 dams was they put in extra foundations to put in extra units. But those extra units were to generate  
869 power... not merely for peaking, I don't think. And the Grand Coulee didn't, some of the other dams  
870 lower down that had this extra foundation. I don't know if they had any extra, I think they had to build an  
871 entirely new powerhouse at Grand Coulee.

872 **Audience:** But that was also in the plan.

873 **Dr. Shrum:** It may have been, I don't know. I wouldn't, in any case. I would say this, that even if we had  
874 known this, we probably couldn't have gotten any better deal out. Because I've been in meetings in the  
875 BC Hydro building there where we would break up the meeting hardly speaking to each other the  
876 Americans and us you know, because we were so far apart, something like labour negotiations, and there  
877 were no mediators unfortunately. They... all the people were mediators. It was like throwing sand into  
878 gears more than mediating. Mr. Bennett never attended the meetings, but he had quite a bit of influence  
879 on them. Senator Paul Martin was a real pro I enjoyed sitting in on Ottawa and hearing him. He would sit  
880 back there and I guess he'd had a lot to do with External Affairs, and he was a real pro. When it came to  
881 negotiations with the Americans, he was as good as anybody they had on the political side, anybody they  
882 had.

883 **Audience:** [Inaudible question]

884 **Dr. Shrum:** I don't think he agreed with everything Mr. Bennett said. Mr. Bennett got along pretty well  
885 with Donald Fleming too. The people he couldn't get along with were the MP's from British Columbia  
886 who were in Ottawa. That included Arthur Liang and Davie Fulton, and these people who he thought  
887 were letting us down, you know. He thought it was alright for the federal people to take a federal view,  
888 but he felt that representatives from British Columbia should support British Columbia's point of view,  
889 not the federal point of view. And certainly Davie Fulton didn't.

890 Davie Fulton lost a lot of votes up in the Peace River Project because when he was campaigning,  
891 one election campaign up there, and he went and gave a talk at Fort St. John and he came back down at  
892 Prince George and gave a speech and asked him, and they were expecting, everybody went to see the  
893 Peace project, not only politicians, but everybody else, went from all parts of the world to see it. Why he



894 didn't go into the Peace project. He said nothing going on there... Mr. Bennett just bluffing up there.  
895 Well if you've got 2 or 3 thousand men on a job who are doing a good job, and a politician comes along  
896 and they're not doing anything, their just bluffing?... this is not a very helpful attitude to take. Mr. Bennett  
897 was fighting a battle; as it turns out he was right.

898 To sell the power downstream was the only thing that could be done and practically everybody  
899 opposed him on this you see. Except the Energy Board, I'm not certain that his own negotiators were very  
900 strong for this. Most of them thought it couldn't be done. He said they were going to get 5 mills for it.  
901 Well 5 mills at that time was a very high price, people said. Well he wouldn't back down on the 5 mills,  
902 and I was just reading a document this afternoon how the negotiators worked it out to satisfy him that he  
903 was getting 5 mills. They put in everything they could think of to make the price look better so he would  
904 agree to this. They were still within... they couldn't have gotten any more out of the Americans, out of  
905 the thing anyways.

906 But I think it would have been a shame for the Columbia to have been abandoned. I didn't say  
907 anything about diversion on this thing here. You see how easy, how easy it would have been to divert the  
908 Kootenay River into the Columbia? And instead of this water going down here through the Libby Dam, it  
909 would have gone through the Columbia, and through the Mica. Well then he also proposed that over here,  
910 Revelstoke up here, between Revelstoke and Downey, that you diver the Columbia into the Fraser as well  
911 and build dams on the Fraser. Well of course everybody considers General McNaughton 100% right on  
912 everything, well you will be told this before the course is over, but let me tell you this, he would have  
913 never have been able to build any dams on the Fraser anyways. I've tried that and I know how difficult  
914 that is.

915 And the second is that he would have diverted a lot of ice cold water from the Columbia into the  
916 Fraser, and the change of temperature would have upset the fish even if you hadn't built the dams. So that  
917 was not a practical proposition in any sense of the term. He was also going to develop it in the Fraser, and  
918 pump it back over the mountains and into the Prairies. But this other idea over here wasn't so bad, he was  
919 going to put a dam down here at, I have forgotten the name of the dam down here, and another one up  
920 here, and make the Kootenay flow the other way and put it into the Columbia. But this would have been  
921 quite an expense and wouldn't have generated a great deal of power here at Mica anyways.

922 You people, I don't know whether to say this or not because if you say anything very ridiculous,  
923 get the headlines and get your picture in the paper. Well this isn't ridiculous what I'm going to say, I'm  
924 thinking of this because we had a fellow here the other night who made some ridiculous statements. Not  
925 here I mean, in the city. But in any case, some of you wonder flooding the Skagit Valley. You ought to go  
926 up and look at the flooding that's taking place in Canada from the Libby Dam. Flooded up in here 40  
927 miles... quite good farmland. Acres, very, very much greater then anything down there at the Skagit  
928 Valley, down here. But this is a long way away. Newspaper people don't go down that far. They can get  
929 down to the Skagit and write a story. I've always been amazed that there hasn't been... now it's too late  
930 now. The dam is built and it's flooded. I was up there when it was being flooded and I was really  
931 surprised at the good farmland and so on.