

[Page 4 - Wreck Cove Hydro-Electric Investigation](#)

ISSUE : [Issue 9](#)

Published by Ronald Caplan on 1974/10/1

reservoirs, and the tunnel will be about 8 or 8 1/2 feet in diameter • very close to 3 miles. There will be 3 canals from Cheticamp to Gisbourne Lake. These canals are just excavation in rock, overburden and rock. I don't know if we can say right now the exact depth because we don't know enough of the topography yet....It may be up to 40 feet deep. In between Wreck Cove Lake and Surge Lake you'll have another tunnel: 2000 feet of 12 feet diameter. From Surge Lake you've got the Intake that comes onto the Powerhouse, and the water will come through one Penstock of 12 feet diameter. Half of it would be concrete-lined and half of it would be steel-lined. The water falls to the Powerhouse. Here we've got about 1200 feet of head • height of water falling on your turbine. The centerline of the generator will be very close to zero elevation • it will be at 8 feet above sea level. The water will just fall in a pit and goes to the tailrace • that is another 5000 foot tunnel approximately 22 feet wide. The slope of the tunnel will be very, very low • probably 3 feet in a 1000. Just for the water to go out. The top of the pipe, at the sea, will always be above high tide. And to go inside the Powerhouse, you'll have a 2000 foot Access Tunnel. The Switch-house will be located as close as possible from the entrance to the tunnel • where you've got your distribution. High Tension Transformers. In our project here the Transformer will be located inside in a tunnel off the Powerhouse tunnel • but the distribution with all your disconnect, your power transformer, lightning arresters, breakers • all this will be located outside. The electricity coming out of your generator is only 13,000 volts. You don't carry a lot of power at low voltage, it's too costly. You have to step it up as soon as possible. That's the reason why you have your Powerhouse right here and your Transformer right here • as close as possible. You'll have these power cables that will run in the Access Tunnel, in a small gutter there • then they go to the Switchyard, a sub-station located outside. (Is that the sort of thing you see heading north after you cross the Causeway?) Yes. There is a small sub-station right there. From the sub-station here you will have your transmission line going down to probably Sydney. • • I imagine they will run the inland about 1000 feet. They will find the best way, out of the big hills. Sometimes they use hills to jump from one hill to another one. It will be seen • it has to be • it will cross roads. At St. Ann's they'll go right across the water I imagine. I don't think they'll go underwater. It's too expensive. And not safe I don't think. Rock Poulin, Resident Geologist: You should look at what we're doing as if we're filling a tub. It's a tub we're making. If you fill this tub and there's an indentation in this tub, well you come along and put a little bit of cement or something and you fix that where the water is coming out and the water will raise until it starts overflowing again. And you keep building the sides of your tub, each place where water overflows. You will increase the volume of water. So you have a tub. Then you take this tub and you make a drain like your bathtub. And through this drain you carry the water out. So the water's rushing down. The moving water is a force, it's work • so you make your water work for you. So you put a little turbine at the bottom. The water is working for you, turning that turbine.



The water is hitting the spoons of the turbine and it's turning the thing. There's a shaft that is turning there. Now if you hold the shaft with your hand, if you hold it very lightly • you will feel that it's turning. But the tighter you hold it, to try and stop it, the more you are going to hurt your hand. That's how you make electricity. You have magnets and you try to stop turning that shaft; and the more you try to stop the shaft the more power you will create, by magnets. So you have a big tub, a drain, and in the bottom of the drain a wheel; this wheel the water turns and you try to stop that wheel. But you let it turn just enough so it's burning your hands. In other words, by putting strong current on the magnet, making it very strong, to the point of stopping that shaft • that is where your electricity will be formed and piped into wires and onto the grid and so on. And that will happen here, every day, forever, as long as water is coming down. It looks flat but topographically you will see it's already a tub. It's all there. We're not creating anything up there. All we're doing is fixing the tub, a tub that nature has broken up. Nature has made and has broken up by erosion. So we're coming back after nature and saying. Okay, you busted the tub, we'll fix it again. What is this project? Is it a big project? No. But it's a project that you will not find anything new on a big project. That's what is nice. We go around, take James Bay for instance, in the first stage there they will be producing 15,000 megawatts. Here we are producing 200. So you say one guy's peanuts compared to the other guy. But what we have here; we're blocking rivers, we're making earth-filled dams 120