

March 7, 1947

Mr. W. C. Broughton
General Electric Company
Thomson Road
Syracuse
New York

Re: The Troy Record Co.
Troy, N.Y.

Dear Bill:

The other day in New York I told you briefly what I had learned from John Barron's office in Washington relative to the final transmitter site which was approved by FCC and made the basis for its final CP.

The new site is about 9 miles to the east of Troy and is located on a country road in sparsely inhabited territory about three miles off of a state road. It is 1430 ft. above sea level and the over-all with a 90 ft. tower and 6-bay antenna is roughly 1580 ft.

Radial "C" from the site points in a bee line to Cohoes and thus is a bit to the north of the Record's headquarters at Broadway and 5th Avenue. I believe I told you of two distinct intervening elevations between the proposed transmitter site and the Record Company building - one of 500 ft. and another of 600 ft. While I am not positive about the interference of the 600 ft. elevation which is somewhat to the north of Radial "C" near the Tomohanock Reservoir, the 500 ft. elevation does interfere with line of sight to down-town Troy.

Thus with this 500 ft. pinnacle in the way and the fact that immediately to the north is a sharp cliff atop of which RPI University is situated, line of sight is definitely not possible as far as can be determined without actually working with instruments.

It is possible that the use of a hundred foot pole on top of the Record Building (something after the fashion of a Police Emergency antenna) on which we could mount a directive HF transmitting antenna pointed at the radiating structure of the 6-bay antenna, may conceivably give us line of sight or perhaps close enough to take the signal without effective power loss. I quite agree with you that the only way we may have of finding out whether or not such line of sight would meet the requirements for

satisfactory ST service would be to erect such a structure and experiment with it.

I had a preliminary discussion yesterday with the local telephone people in Troy and also with the Albany representative of A T & T who handles hi-fidelity wire line service in this part of the state. They have no service closer to the site than at the junction of the state road and the country road on which our site is situated. They frankly told me it would take two weeks perhaps to do their engineering research incident to definite findings of what can be done to serve my client. I gave them July 1 as our dead-line.

Therefore, with the prospect of not getting a wire line to the site without heavy expenditure, may preclude entirely the likelihood of using anything but an ST relay system. I was hopeful that the wire line would solve the problem. Until I hear from the telephone people my fingers will be crossed.

I believe I told you of having contacted the Fred M. Link Company on a tentative proposal for an emergency and temporary ST link for use on a borrowed television frequency of somewhere between 100 and 200 megacycles. The cost of the 50 watt ST transmitter, the ST receiver and the antenna array is roughly \$2750. I am not too sure about the quality of their equipment and would hesitate to use it without knowing more about it. However, in view of General Electric's situation on ST development at the permanent frequencies between 940 and 960 mc, the use of Link equipment temporarily may be the answer if nothing better is available.

Russ David mentioned recently that GE were trying to work out some temporary ST equipment along the same line with a very low power transmitter and making use of a standard 88/108 mc receiver translated to higher quality fidelity. I believe Russ said the frequency would be about 87 mc in the television band. Have you any idea when such equipment will be available?

John Barron left us holding the bag on two serious situations with respect to the site he selected, - wire line service unavailability and an intervening elevation where ST relay service is questionable without going high into the air at Troy for line of sight over this obstruction terrain. As a matter of fact the same bag contains another serious problem of power source.

The nearest power availability is a single phase line at the same road juncture previously related - and the power company told me yesterday it is loaded to the gills. Close to our site is a high tension power line which is a main carrier line feeding into New England lines to the east. This line cannot be tapped to give us three phase service which is what we will need for a 3 KW FM transmitter.

Involved in supplying us with three phase current may mean erection of a special service line. The power company is starting immediately to determine what can be done to meet the situation and I hope to have a report shortly.

I recall some time ago talking with several of your group on the matter of producing 3 KW transmitter for single phase operation and I understood such a possibility was being studied by your engineering department. The New York Power & Light Corporation serving this area may conceivably be able to work out something for us with a single phase line capable of carrying 25 Kva. This is only a guess at best and a bit of wishful thinking. What is this situation insofar as giving us a single phase transmitter is concerned?

If I could get single phase current to the site, we might be able to provide interim 250 watt service pending development of a three phase line. We could file such a declaration with FCC in view of the existing situation beyond our control. This may be one way out in connection with the power problem.

I have given you a picture of the problems facing us so that we may have the benefit of your thinking and assistance. Had John Barron given more careful consideration to these matters when making his site selection, we would not be out on the end of a limb with problems of this magnitude. From experience we all know that this is not the first instance where a propagation consulting engineer has done an incomplete job of site selection and left his client hold the bag.

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We are stuck with the site and its up to us to work our way out of it the best we can.

I'll probably know the answers by the end of the coming week or sooner, I hope.

Meantime, please start thinking. Maybe the combined thinking of your group may turn up something practical to meet these situations. We may conceivably put our studios up in the Besman Park section or even Sycaway if that may help us get line of sight for an ST link if it develops that the wire line service to our site proves impractical or impossible. I prefer to avoid this procedure only as a final recourse and every avenue must be explored before we move the studio location outside of the Troy business environment area.

I plan to be in Syracuse Tuesday morning and will bring with me a copy of the engineering report together with the contour maps and profiles so that you will get an accurate picture of our problem.

Best regards.

Sincerely yours,

Ernest A. Darbeau

Mr. W. G. Broughton
General Electric
Syracuse

CC- Mr. F. L. York
The Troy Record Company
Troy, N. Y.