

The transmission interconnections between areas presently serve two purposes:

1. Provide backup, or replacement power to an area when large generating units within the area must be off line for maintenance.
2. Provide emergency power to an area when generating units within the area are subjected to forced shutdown.

Good electric service has become an integral and essential part of modern American living. Customers of the Florida group expect good service, and they get it, because each individual member of the group has kept pace with the rapid changes that characterize the territory.

After the Northeast power failure, on re-examination of the Florida interconnected power systems and evaluating the report mentioned above, the Florida Public Service Commission reported, "The study confirms confidence in the stability of our State's integrated systems and discloses arrangements, conditions and safeguards in Florida which apparently were absent in the Northeast.

"The members of the Florida group have developed a variety of safeguards against a widespread power breakdown in the State and are continuing their efforts to further strengthen these safeguards." Key safeguards cited were:

1. Adequate generation and reserve power within the systems and spinning reserve at least equal to the largest generating unit in operation. This reserve is distributed among units on a statewide basis to assure quick response to emergency demands.

2. Sufficient generating capability within the State to make dependency on out-of-state assistance unnecessary.

3. Generation of power near load centers, so that power does not have to be transmitted over long distances.

4. Underfrequency relays—devices which sense an emergency and automatically shed load so power plants can operate without damaging overloads. This helps prevent a systemwide failure if the loss is greater than reserve power.

5. Excellent communications and cooperation between dispatchers of the five organizations.

"These are among the measures which have enabled the Florida companies to meet emergencies time after time so effectively that customers seldom knew an emergency existed," the Commission reported.

I will now address myself to the inquiries in your letter, and will undertake to answer separately, and in order, the nine questions you have asked.

1. Aspects of the failure which are of the greatest concern to you and to the interconnections or pools to which you belong.

The most important aspects of the failure from our standpoint are as follows:

(a) Transmission of large blocks of power over extreme distances may not be as beneficial as it is generally thought to be. This is not to say that interconnections and transmission lines are not in the interest of economy and continuity of service, but a super-grid system of EHV transmission lines superimposed on the Florida transmission system and supplying service from remote out-of-state super power plants, is not, in our opinion, feasible for Florida because of frequent hurricanes.

(b) The importance of installing underfrequency relays is emphasized by the Northeast power failure. Had such relay protection been available the failure may not have been so widespread. Fortunately, we have extensive protection of this type in peninsular Florida and installation of more such equipment is under study now.

(c) The Florida systems maintain adequate spinning reserves, at least equal to the largest unit running in the five systems, and for years have spread this reserve among all the systems and in practically all the plants. Need for adequacy and proper distribution of spinning reserve was emphasized by the report on the Northeast power failure.

(d) The magnitude and duration of the Northeast outage is, of course, a matter of great concern. It appears, however, that with the safeguards we have described, the Northeast power failure might not have been so widespread or lengthy.

2. Your internal responses to points raised in question No. 1.

Because of the hurricanes experienced in Florida, the systems have never depended on transmission lines to the extent experienced in many areas. We must be able to continue operation in each area of the State even though a hurricane interrupts the transmission ties between areas. Consequently, Florida Power & Light Company installs adequate generation to supply its own needs plus proper reserves, and normally does not depend on other suppliers.