

NORTHERN IRELAND ELECTRICITY SERVICE

ENGINEERING DIVISION

GENERATION AND TRANSMISSION OPERATIONS GROUP

ENGINEERING POLICY MEMORANDUM NO.1

OPERATIONAL STANDARDS OF SECURITY OF SUPPLY

Issue No.2

Date: 30 June 1980

GENERAL POLICY:

The following General Rules concerning the NIES System operation and supply to distribution points of supply under normal and maintenance conditions shall apply:

1. The NIES System shall be operated as far as possible under both normal and maintenance conditions so that it can withstand satisfactorily the loss of any circuit on the system.
2. Supplies given to the Distribution System shall be secured as far as possible under both normal and maintenance outage conditions against a fault outage of a single circuit.

(It must be acceptable that concurrent fault outages of two circuits including two circuits which have overhead lines strung on the same towers, will cause an interruption in supply. Security plant will not be run out-of-merit to safeguard against two concurrent fault outages).

N.I.E.S. SYSTEM:

1. The NIES System shall be operated as far as possible so that at all times in the event of a fault outage of

(i) An overhead line or cable circuit

or (ii) A 275/110kV transformer

or (iii) A 110/33kV transformer

there shall not be

- (a) An interruption of supply
- (b) A loss of export from a power station or section of the system of sufficient magnitude to cause a permanent change in frequency on the system below 49.5 Hz.
- (c) Unacceptable high or low voltage conditions which cannot be immediately rectified.
- (d) System or generator instability

2. The running arrangements in substations should provide the maximum cover for switchgear faults. It is however not necessary to run generating plant out-of-merit for this purpose only.
3. In order to meet the requirements of 1., generating plant shall be run out-of-merit where required. It may be necessary to cancel long term arrangements made for plant to be "cold" in order to meet these requirements.
4. The short circuit and overload capability of transmission equipment continuous and cyclic shall be considered in deciding the extent of out-of-merit operation of generating plant.
5. These operational standards of security shall apply under both normal conditions and pre-arranged outage conditions on the system.
6. Generating plant and transmission plant outages shall be coordinated for security requirements and economic operation of the system.
7. Exports from a section of the system need not have regard to the temporary or permanent speed rise expected in the event of the section of the system becoming detached from the main system, provided that satisfactory operating drills are established to ensure that the frequency on the isolated section can be rapidly reduced to within statutory limits.