

REAL-TIME INFORMATION EXCHANGE

Contents

1	Introduction.....	2
2	Information required from the Customer concerning the management of system security in the main grid.....	2
3	Information supplied by Fingrid to the Customer	3
4	Nature of information exchange	3
5	Interfaces of information exchange.....	3
5.1	Operation and control systems	3
5.2	Other information exchange methods.....	4

1 Introduction

This instruction shall be applied to the real-time information exchange related to the management of system security, to the definition of the scope of information exchange and to its technical implementation.

The Customer shall provide, or the Customer shall require a third party connected to the Customer's network to provide, the necessary information to Fingrid.

The Contracting Party responsible for delivering real-time information shall be responsible for the specification, procurement, maintenance and telecommunication costs of information exchange up to the interface conforming to article 5.

2 Information required from the Customer concerning the management of system security in the main grid

The detailed information to be exchanged shall be agreed upon separately with each customer to the extent that Fingrid requires the information in the management of the system security of the main grid and in disturbance management.

- If a substation is located along a main grid transmission line and the substation is equipped with remote control, the status information on a switching device located closest to the connection point must be delivered.
- If the electricity network can be connected to parallel operation with the main grid, the status information on the switching devices of the electricity network shall be delivered of those switching devices through which the parallel connection is established.
- Active power, reactive power and voltage measurement information shall be delivered on an electricity network with a rated voltage of at least 110 kV to the extent agreed upon separately with the Customer.
- Active power and reactive power measurement information as well as status information on switching devices shall be delivered on power plants with a rated power of at least 10 MW. The measurement information shall primarily be delivered as a net measurement¹⁾. Moreover, voltage measurement information shall be delivered on that voltage on the basis of which the power plant controls voltage when operating in constant voltage control.
- Active power and reactive power measurement information as well as status information on switching devices shall be delivered on power plants with a rated power of 1-10 MW. The measurement information shall primarily be delivered as a net measurement¹⁾. If so agreed upon separately, the information may be provided as a producer-specific sum information if power plant specific information cannot be provided. In this case, wind power production and solar power production shall be delivered separate from other types of production.
- Real-time information does not need to be delivered on power plants of below 1 MW.
- Active power and reactive power measurement information as well as status information on switching devices shall be delivered on energy storage facilities with a rated power of at least 1 MW. Such an energy storage facility is for example an electric battery that is capable of charging or discharging its charge momentarily at an electric power of at least 1 MW.

¹⁾ The net measurement of a power plant is determined by deducting from gross production the own consumption energy as defined in Decree 309 by the Finnish Ministry of Trade and Industry, issued on 11 April 2003, or in a replacing decree.

3 Information supplied by Fingrid to the Customer

Fingrid shall provide the Customer with the following information upon the Customer's request to the extent that the Customer needs the information for the management of the operational security of the electrical equipment that is in its responsibility and for disturbance management:

- Real-time active power and reactive power measurement information and status information on the Customer's connecting bay.
- Status information on switching devices at Fingrid's transmission line bays, bus voltages and status information on the circuit breakers of compensating equipment at that Fingrid's substation to which the Customer is connected.
- Alarms²⁾ related to the management of system security to the extent to be agreed upon separately.
- If the Customer is connected to Fingrid's grid through a transmission line connection, the above information on substations located at the ends of the transmission line shall be supplied.
- If the measurements requested by the Customer contain third-party information directly or indirectly, the Customer shall acquire and present a permission from the third party to Fingrid before the implementation of the information exchange.

The control possibilities of switching devices at the Customer's connecting bay shall be agreed upon separately.

²⁾ The substations of the main grid employ automation technologies of different ages, which is why the alarm information has variations both in content and quality. Fingrid is not responsible for the quality or correctness of the alarm information provided to the Customer. If the delivery of alarms has been agreed upon with the Customer, Fingrid shall provide the information to the Customer, but the Customer is responsible for the use of the information.

4 Nature of information exchange

The update interval of real-time information exchange shall be 60 seconds or more frequent.

In fault situations, that Contracting Party which finds a fault in the information exchange shall inform the other Contracting Party of the situation. The Contracting Party in charge of providing the information shall take care of correcting the fault in co-operation with the other Contracting Party.

5 Interfaces of information exchange

The information exchange methods mentioned below shall be used in the exchange of information between Fingrid and the Customer.

5.1 Operation and control systems

The real-time information exchange between the Contracting Parties' systems shall mainly use the FEN network. The protocols to be used in real-time information exchange are Elcom (TASE.1) or ICCP (TASE.2). Moreover, Fingrid can receive real-time information using the IEC 60870-5-104 protocol.

5.2 Other information exchange methods

The methods specified under article 5.1 shall primarily be used for information exchange.

Subject to separate agreement, other methods of information exchange, such as ones based on mobile network solutions, are also possible. The methods used shall be technically reliable and cost-effective, and their use shall be justified taking into account the relevance of the information exchanged in terms of the system security of the electricity system.

In exceptional cases, remote terminal units may be used to transfer specified operation control information from a substation. The exchange of information between the remote terminal units shall be agreed upon separately, and in this case the Customer is responsible for all costs of implementing and maintaining the information exchange. At substations in the main grid, both Contracting Parties may have their own remote terminal units or a shared remote terminal unit provided with separate telecommunication links and, if necessary, specified for different information.