

EPS Software Engineering AG

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Software Engineering AG

Intercompro AG

ISPEN - Secure Power Network

Instant Security Probing of Electrical Networks

by Intercompro, lead by Dr. Ingemund Nordanlycke, who has designed network simulation and modelling software for more than 30 years.

One of your main tasks as transmission system operator is to guarantee high availability of the power network that means security of supply.

You can achieve this by monitoring the current state of security, simulation of planned actions, using accurate online data of your own and of your neighbor's networks. Take a step towards a secure power network with ISPEN, a family of tools and solutions.

ISPEN

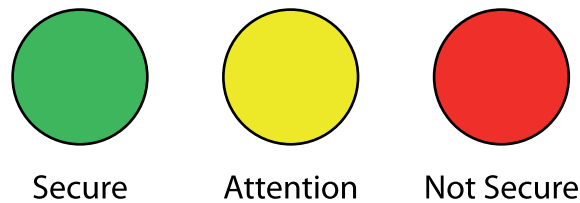
For Your Secure Power Network

Your Power Network

The security of supply is one of the main responsibilities of a transmission system operator, who has to fulfill the Multi Lateral Agreement of the UCTE. It is a challenging task to do that in a complex environment with interconnected networks, with independent traders and producers.

How Secure is Your Power Network?

To answer this question you need a security monitor, displaying relevant security indices. If these indices show, that your network is not secure, it is helpful for you to have more information about the overloaded elements and the causers of the overload condition.



ISPEN/OCD is our online contingency diagnosis tool giving you accurate information about the $n-1$ security and $n-k$ security (cascading risk) of supply in a few seconds.

Planning an Action

If you plan to switch off a branch or change the topology, the question is if the network will be secure after that action.

ISPEN/IPFA is an interactive power flow simulation tool enabling you to answer the question mentioned above.

Your SCADA/EMS System is Out Of Service

If your SCADA/EMS system is out of service, you have no information about your system and you do not have a chance to control it. You only have planning data available (e.g. for production, topology). If the planning data is accurate, why not use them instead of no data.

Based on selected ISPEN functions we develop your customized **ISPEN solution** building virtual power networks. You can use it for controlling the network or for monitoring the security.

Integrating Neighbor's Online Networks

In order to control your power network its near real time data are displayed on your SCADA system. And your neighbors also have a similar environment, but up to now, you can not integrate their data in a large online network.

The best base for control and security monitoring is an online network including the online data of your neighbors.

Having access to the estimated data of your neighbors, **ISPEN/MON** can merge them to a large online network und gives you a new dimension in network control and security monitoring.

Proper DACF Files

The Day Ahead Congestion Forecast files (DACF) in the UCTE format are widely used. For the user of the DACF files as well as for the producer of them it is important that the DACF files are proper.

ISPEN/UFA is an analyzer of files containing data in the UCTE format. It not only analyzes the syntax but also checks the plausibility of the values by calculating the power flow.



Consulting

Applying simple best practices results within a more secure network. We are proud on our 30 years' experience in the field of estimation, power flow calculations and security monitoring. Rely on our Consulting services to meet your requirements.

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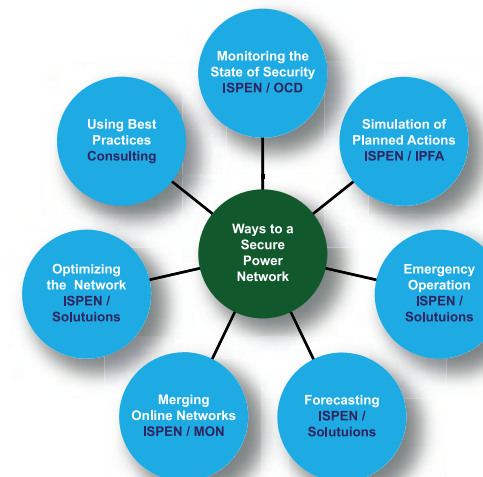
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Converting Files

It is often necessary to convert files from one format to another one. An example is our converter from the DVG format to the UCTE format.

ISPEN/CON is the solution for that task.

Ways to a secure power network



Optimizing the Power Flow

On customer request, it is possible to perform optimization (OPF) based on operational objectives.

For customer specific **ISPEN solutions** ISPEN functions will be used