



Press Release

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Bundesnetzagentur publishes report on the situation in the electricity grid in winter 2011/2012

Homann: "Technical measures cannot replace network expansion"

Maintaining high security of supply was only possible through major interventions by transmission system operators

The Bundesnetzagentur today published the "Status report on grid-based energy supply in winter 2011/2012".

The situation in the electricity grid during the winter of 2011/2012 was very tense. In hindsight, the load scenarios that the Bundesnetzagentur presented in August 2011 in its "Report on the impact of the nuclear power exit on transmission networks and on security of supply" proved to be realistic and the proposed precautionary measures to be necessary. The gas supply shortage in February 2012 represented an unexpected incident which created an additional burden on the electricity grids and required additional measures on the part of the transmission system operators (TSOs) to maintain system stability.

"The tense grid situation is also reflected in the number of interventions undertaken by the TSOs, both in the power plant schedules as well as in the feed-in of electricity from renewable energy installations during the past winter. Whereas in the winter of 2010/2011, there were only 39 incidents requiring intervention in renewable power generation that had their causes in the transmission network, the number of such mandatory feed-in reductions increased during the last winter to 197. The majority of these interventions were in the 50Hertz control area, as well as in the federal state of Schleswig-Holstein in the control area of TenneT," explained Jochen Homann, President of the Bundesnetzagentur, on the situation during the past winter.

"There was also a significant increase in redispatch measures, by which electricity production is adjusted on the basis of contractual agreements. The need for redispatch measures increased dramatically on the most severely affected stretch of power line between Remptendorf in the state of Thuringia and Redwitz in Bavaria. On this power line, on which expansion measures have been delayed for years, grid overload required redispatch measures totaling 2,140,997 MWh. By comparison, in the winter of 2010/2011, the redispatch volume on this power line (which during this period was also the power line with the largest redispatch volume) was only 100,150 MWh," according to Homann.



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Due to a non-scheduled outage of the Gundremmingen C nuclear power plant, it was necessary, already in December of 2011, to use operating reserves including those of cold reserve power plants in Austria, with a maximum capacity of 935 MW.

In February 2012, the unexpected interruption of gas deliveries from Russia and the fact that several natural gas-fired power plants could not produce to full capacity due to interruptible capacity contracts between power plant operators and gas TSOs again made it necessary to rely on back-up power plants in Germany and Austria, as well as on emergency reserves abroad for several hours.

During this period, there was not only a very high load on the power lines, but also a massive short portfolio of balancing groups. This means that significantly more electricity was consumed than had been forecasted and thus actually produced. Given this shortfall in the system balance, the TSOs had to temporarily exhaust the system balancing energy, which is kept in reserve and is meant to provide short-term balancing capability for load fluctuations and power plant outages. In order to avoid the necessity of disconnecting electricity consumers from the grid, the system balancing energy was supplemented using back-up power plants. To this end, up to 1.295 MW of cold reserve capacity was secured, of which 360 MW came from Germany and 935 MW from Austria; also, emergency reserves amounting to several hundred megawatts had to be secured from abroad. Furthermore, the TSOs acquired considerable amounts of electricity at the exchange, and in two cases, used compulsory measures to require power plants to provide feed-in power.

The causes of this shortfall of the balancing groups are complex. Although investigations have not been concluded, they suggest that the discrepancies can neither be blamed on certain parties alone nor on consistent patterns of wrongdoing. Even though it cannot be excluded that individual cases of arbitrage transactions by balancing group managers have occurred, the high cost of balancing energy in the relevant time periods would not have made such transactions financially lucrative, and in addition could certainly not be the sole cause of such discrepancies. The distribution system operators' differential balancing groups, for example, were facing significant shortfalls – an indication that the TSOs, within the framework of standard load profiles for household customers, had not taken into consideration extremely low temperatures such as those that occurred in February of 2012. Furthermore, TSOs have stated that there is still significant need for improvement of the balancing group managers' forecasts for renewable energy installations that sell their electricity directly through the TSOs.



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"The situation in February of this year showed that the security of the energy supply must be looked at from a holistic standpoint, and that system security must be ensured across sector boundaries," Homann explained. "The communication between electricity and gas network operators must be intensified. In the event of a gas supply shortage, the uninterrupted supply to gas-fired power plants must be guaranteed. Additionally, the system of balancing energy pricing must be revised. Even though the causes of the massive shortfalls in the balancing groups that occurred in February of last year have not yet been conclusively determined, there must be greater economic incentives for balancing group managers to operate their balancing groups in a more evenhanded manner. So that such a system can already be established by this year," declared Homann, "the Bundesnetzagentur initiated a determination procedure in March of this year that aims at the further development of the current accounting system for balancing energy."

The Bundesnetzagentur expects that the situation in the electricity supply grid in the winter of 2012/2013 will be similar to that of the past winter. But there is currently no reason to expect new shortages in gas supply.

The announced shutdown of power plants, in particular in Southern Germany, is a major concern, as this would lead to an unacceptable drop in security levels. This concern is also reflected in the Bundesnetzagentur's recommendation to the TSOs to contract reserve capacities amounting to around 2,150 MW for the winter of 2012/13. This represents an increase of 505 MW compared to the past winter. How much is actually needed depends in particular on the extent of power plant shutdowns in Southern Germany. If the shutdowns are postponed, that amount can be significantly reduced.

"A decline in the generating capacities in Southern Germany cannot be accepted. A possible shutdown of power plants in Southern Germany must be compensated by the availability of back-up power plants, as the existing transmission network cannot handle the required power transport. This situation once again underlines the urgency of rapid network expansion. There are no valid technical alternatives to network expansion," Homann emphasised.

The report on the status of grid-based energy supply in winter 2011/2012 is available at www.bundesnetzagentur.de (in German).