

HERA has started public consultations on the ten-year plan of development of Croatian transmission network (2015-2024). The consultation will last from 10th to 25th November 2014th.

The plan was developed with the expected electricity price on the market of about 40 € / MWh, with maintaining the current gas price of about 30 € / MWh, why it is expected to be continued the high electricity import in the Croatian power system with reduced production of TPPs which use gas even in cogeneration mode, and stable production of NPP Krsko and TPP on coal (Plomin 1 and 2), with a variable production of hydro power plants depending on the current hydrological situation and renewable energy (primarily wind power plants) depending on current climatic conditions.

The total investment needed for the development of the transmission network in the period 2015th-2024th year are estimated on the amount of about 1, 07 billion or an annual average of 107 MEUR. Transmission master plan has been prepared on the basis of last year's requests for user connection to the transmission network. Therefore the plan provides that the following production facilities or new or replacement units in existing power plants might be found at the network: BE-TO Koprivnicki Ivanec, EL-TO Zagreb, TPP Sisak C, KKPP Slavonski Brod, KKPP Osijek, TPP Plomin C, TPP Belisce, HPP Zapresic, HPP Ombla, HPP Dubrovnik 2, TPP Ploce, HPP Kosinj, CCGT Miklavija, HPP Precko, HPP Senj 2, TPP Rijeka, RHPP Korita and VHS Osijek.

It is planned decommission of 308 MW of existing manufacturing facilities by 2020th and another 169 MW from 2021st to 2025th. Special item in the plan is the integration of new wind power plants in the system.

In recent years, HOPS has received a number of requests for connection of new wind farms, with a total output of more than 2000 MW. Given the size and characteristics of the Croatian system, especially regarding the possibility of power and frequency regulation, it is estimated that currently it is not possible to integrate VPP with total connected load of more than roughly 400 MW (quota).

Transmission investment plan is determined by assuming the increased quota to 600 MW by 2020th and 800 MW in 2024th. HOPS expected to be possible to ensure adequate reserve of secondary and fast tertiary P / f regulation within the specified period, which primarily depends on implementation plans for construction of new conventional generation facilities (CCGT, RHE). Significant integration of VPP in Croatian power system implies a significant increase in costs for balancing energy and ancillary services.

With the integration of an additional 400 MW from wind power plants, compared to the existing quota of 400 MW, it can be expected additional 100 GWh - 200 GWh of necessary regulatory power in the system, depending on the level of forecast errors in wind power generation. With the integration of 400 MW from wind power in the power system it can be expected extra cost control system in an amount from 1.04 to 2.5 MEUR / per year

depending on the quality of forecasts of wind power generation. With the integration of 600 MW of wind power in the Croatian power system it can be expected an additional cost between 2.6 to 5.6 MEUR / year, and with the integration of 800 MW of wind power in the system it will appear the additional costs from 4.4 to 9.5 MEUR /per year. If mentioned funds be distributed with the expected wind power we will get an additional “cost” of wind power generation in the range 1.19 to 5.4 MEUR / MWh.

In the case of greater integration of VPP than it is assumed in this plan, it is anticipated to be achieved the connection mainly by applying the principle of zone connection. The zone connection provides the formation of a new network node 400 (220) / 110 kV in a limited area that includes several VPP with the basic task of acceptance (connection) of all covered VPP, or a new 110 kV line if it is not necessary to connect networks of different voltage levels. The manner of establishing such a zone and the financial obligations of investors in WPP will be defined by the new Regulation of the Croatian Government on the connection conditions and issuing energy consent. In the case of VPP construction of total output of up to 800 MW or 600 MW by 2020th, as it is assumed in this plan, it will not be necessary to additionally reinforce the transformation between 400 kV and / or 220 kV network and 110 kV network at which at which most of VPPs should be connected.