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Internal workshop on loop flows

High Level Conclusions

Ljubljana, 21 June 2013

1. The Agency for the Cooperation of Energy Regulators (“Agency”) and National Regulatory Agencies (“NRAs”) observe that unscheduled flows (comprising loop flows and transit flows) have further increased in 2012 compared to 2011. It is concluded that in most cases these flows are a threat to a secure and efficient functioning of the Internal Electricity Market (“IEM”).
2. The Agency and the NRAs urge TSOs to provide full transparency on all aspects and impacts of these types of flows including the security precautions taken (e.g. higher reliability margins) and the violation of the security criteria as well as an assessment to what extent this is caused by these flows.
3. The Agency and NRAs agree that exact definitions on different types of flows are crucial in order to define the origins of problems and potential set of solutions for them. An appropriate basis for defining the flows has been provided by ENTSO-E and these definitions will be further updated and agreed. For the purpose of these conclusions, the Agency and NRAs recognize the following categories of flows¹:
 - a) With respect to the origins: scheduled, transit and loop flows;
 - b) With respect to planning timeframes: planned and unplanned flows.
4. With respect to the unplanned flows, the Agency and NRAs agree that implementing the forthcoming Network Code on Operational Planning and Scheduling shall encourage TSOs to be as accurate as possible in the operational planning and thus minimise the amount of unplanned flows. The negative impact of unplanned flows shall also be significantly reduced with an efficient congestion management (capacity calculation and allocation) closer to real time (intraday and balancing timeframe).
5. In order to improve transparency and possibly to cope with transit flows in Europe, the Agency and NRAs shall invite all EU TSOs to develop an EU-wide methodology for calculating physical flows resulting from cross-zonal exchanges. The purpose is to distinguish between the transit flows and loop flows. The option to align scheduled exchanges with physical flows resulting from cross-zonal exchanges should also be considered. The Agency and NRAs also agree that

¹ Provisional definitions (for explanation purposes) are provided in ANNEX to this High Level Conclusions.

implementing an efficient flow-based market coupling in day-ahead timeframe will provide an appropriate framework to reduce the problem of transit flows in highly meshed networks. Therefore, they urge relevant TSOs to implement appropriate flow-based market coupling in the day-ahead time frame as soon as possible.

6. The Agency and NRAs agree that loop flows can be addressed by measures that:
 - a) Decrease the volume of loop flows. This may include redefinition of bidding zones and investments in the network, including phase-shifting transformers;
 - b) Compensate for or avoid the externalities of loop flows. This should take the form of a redistribution or compensation scheme for network losses costs, redispatching costs and preferably avoidance of the net loss of social welfare due to the impact of loop flows on cross-zonal capacities.
7. The Agency and NRAs agree that the compensation for the costs of network losses is the component of the current ITC mechanism. Thus, the future ITC mechanism should in the current or improved manner compensate for the costs of losses caused by all hosted flows, including loop flows.
8. The Agency and NRAs agree that a framework is needed for sharing redispatching costs and avoiding loss of social welfare - the latter is due to increasing trend of loop flows that (further) cause reductions in cross-zonal capacities on some borders². The following framework is suggested:
 - a. Enduring solutions shall comprise of allocating redispatching costs to the origins of loop flows to the extent they are identifiable and avoiding the loss of social welfare induced by loop flows;
 - b. Interim solutions shall be pursued until enduring solutions are implemented. They shall consist of ad-hoc and fast-implementing agreements among TSOs on arrangements such as virtual phase-shifting transformer, minimum cross-zonal capacities (for NTC) or minimum flow margins on critical network elements (for FB).
9. The Agency and NRAs agree that appropriate solution for loop flows is urgently needed to facilitate electricity market integration. However, if the solution could not be established, the efforts to decrease the volume of loop flows (referred to in 5.a) will need to speed up. To that end, the Agency and NRAs shall request TSOs to investigate possible implications of large-scale deployment of phase-shifting transformers or non-market based operated DC lines on market integration, efficiency and transparency as well as the implications of a lack of coordination in their operation.

² Here only loop flows are considered, because solutions to tackle the problems of transit flows are contemplated in point 4 of these conclusions. In fully coordinated capacity calculation and allocation, transit flows (if they will still exist) will be fully controlled/coordinated and will not cause overloading/redispatching or loss of social welfare.

ANNEX

Provisional definitions (for explanation purposes):

Schedule – a declared flow resulting from a scheduling process, subject to an exchange between two different control areas and/or bidding zones.

Unscheduled flow – a difference between a schedule and a physical flow.

Transit flow – a difference between a physical flow over other third bidding zones caused by an exchange of which the origin and destination are located in two different bidding zones and a schedule accompanying this exchange.

Loop flow - a physical flow caused by an exchange within one bidding zone.

Planned flow – an expected physical flow calculated based on congestion forecasting process. Planned flow can be either transit flow or loop flow.

Unplanned flow – an unexpected physical flow calculated as the difference between planned flow and realised physical flow. Unplanned flow can be either transit flow or loop flow.



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