



Norges  
vassdrags- og  
energidirektorat

## TENDER DOCUMENT

Competition of the Public Procurement Act and the Regulations relating to public procurement part I (below NOK 1.300.000)

For

# A study on balancing- and redispatching strategies

Case no. 201836364

Submission date:

13.08.2018

13:00

Delivery date:

19.11.2018



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## 1 GENERAL DESCRIPTION

### 1.1 *Contracting authority*

The Norwegian Water Resources and Energy Directorate (NVE) is a directorate under the Ministry of Petroleum and Energy. NVE is the Norwegian energy regulatory authority. The mandate of NVE is to ensure an integrated and environmentally sound management of the country's water and energy resources, promote efficient energy markets and cost-effective energy systems and contribute to efficient energy use.

For more information about NVE, visit our website [www.nve.no](http://www.nve.no)

### 1.2 *Scope*

NVE would like to gather increased knowledge regarding different balancing- and redispatching strategies, interactions between the chosen balancing- and redispatching strategies, and pros and cons of the different strategies.

### 1.3 *Partial Tenders*

Partial tenders will not be accepted. Tenders for part of the agreement will not be considered.

### 1.4 *Pricing*

The offered price of this project is fixed, and firm. The fixed price is NOK 500.000 ex. VAT.

### 1.5 *Delivery date*

Delivery date: 19. November 2018

### 1.6 *Announcement*

The competition is announced in the MERCELL-database, Doffin-database and TED-database.

### 1.7 *Important deadlines*

The following deadlines will apply for this assignment:

Activity	Deadline
Submission of tender	13.08.2018, 13:00
Tender opening	13.08.2018, 13:00
Evaluation	Week 33/34
Notification of award	Week 34
Complaint deadline	10 days after award notification
Signing of contract	Week 34



Period of validity of tenders	1 month
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The deadlines after the tender opening are preliminary. An extension of the period of validity of tenders must be agreed with the supplier.

## **2 REGULATIONS FOR TENDER COMPETITION AND TENDER REQUIREMENTS**

### ***2.1 Procurement procedure***

The procurement is conducted in accordance with the Norwegian Public Procurement Act of 17 June 2016 (LOA) and Public Procurement Regulations (FOA) FOR 2016-08-12-974, Part I.

The contracting authority plans to award a contract without having any contact with the suppliers except for minor clarifications / corrections of the tenders.

Negotiations can still be completed if, after receiving the offer, the contracting authority considers it appropriate. In this case, the selection will be made in accordance with an assessment of the award criteria. It is emphasized that suppliers cannot expect dialogue about their tender and therefore they must deliver their best tender.

The supplier is strongly encouraged to follow the instructions given in this tender document with attachments, and eventually ask if something is unclear.

### ***2.2 Confidentiality***

The Norwegian Freedom of Information Act regulates the public access to the documents relating to a public procurement. The contracting authority and its employees are obliged to prevent others from gaining access to knowledge of information about technical installations and procedures or operating and business conditions that due to commercial importance are confidential, cf. FOA §§ 7-3 and 7-4 and, cf. the Norwegian Public Administration Act § 13.

### ***2.3 Period of validity of tenders***

Tenders shall remain valid for the period as specified in item 1.5.

### ***2.4 Communication***

All communication regarding this procurement shall take place via Mancell, [www.mercell.no](http://www.mercell.no)

Questions/inquiries that are received later than five (5) working days prior to the tender submission will not be answered.



### 3 QUALIFICATION CRITERIA

The suppliers have to fill in the electronic self-declaration form as a preliminary documentation that they fulfill the following qualification criteria.

#### 3.1 *Supplier's registration, authorization etc.*

Criteria	Documentation requirements
Supplier must be registered in a professional or trade register in the country where the company is established.	<ul style="list-style-type: none"><li>• For Norwegian companies: Firmaattest</li><li>• For foreign companies: Documentation that the company is registered in a professional or trade register as required by law in the country where the company is legally established.</li></ul>

### 4 AWARD CRITERIA

The successful vendor will present a well thought through work plan. NVE will emphasise qualifications of the personnel and specifically knowledge of the European and Nordic power market as well as knowledge of relevant European legislation, i.e. Network Codes and Commission Guidelines". In the vendor process, the following will be weighted:

Criteria	Weight	Documentation requirements
Problem description and execution plan	60 %	Substantive description of the research and methodology. Work plan should be properly described. (see project description)
Qualifications of personnel offered	40 %	Names and brief CV of the consultants (maximum 4 pages per CV): page 5 onwards will not be taken into account). Experience and knowledge of the European and Nordic power market, including knowledge of relevant legislation will be weighted.

### 5 TENDER SUBMISSION AND FORMAT

All tenders shall be submitted electronically and in English language via the Merzell portal, [www.mercell.no](http://www.mercell.no) by the tender deadline. Tenders delivered after the deadline will not be accepted. (The system does not permit tenders to be sent electronically via Merzell after the tender deadline.)

If you are not a Merzell customer, or you have questions regarding how the application functions, e.g. how to submit a tender, please contact Merzell Support at tel +47 21 01



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88 60, or by e-mail to [support@mercell.com](mailto:support@mercell.com). It is recommended to submit the tender in adequate time before the deadline. A minimum of 1 hour before the deadline is suggested.

If the authority should provide additional information that results in you wanting to change your tender before the deadline, you can access your offer, open it, make the necessary changes and send it again right up to the deadline. The last submitted tender will be regarded as the final one.

## **6 ANNEXES/ATTACHMENTS**

- Project specifications
- Project time line
- Tender letter
- NVE's General Terms and Conditions (uploaded in Mercell).

## Annex 1- Project specification

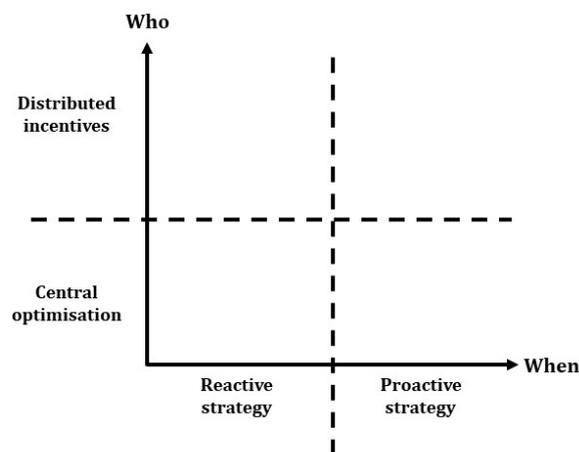
### Background

The COMMISSION REGULATION (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter “EB GL”) targets the harmonisation and integration of European balancing markets.

Although the European continental power system consist of a single synchronous area, the balancing of sub-areas of the synchronous area is within the responsibility of each national “Transmission System Operator” (TSO). For historical and technical reasons, each TSO ensures a balanced sub-area in different manners, and often operate individually. Even if the EB GL accommodates certain degrees of freedom at national level, a sufficient harmonisation is necessary to reach a level playing field. Different balancing approaches applied between the European countries could hamper the integration of balancing markets, with potential effect on the overall efficiency.

A balancing approach may consist of multiple dimension. Two of these dimensions are indicated in Figure 1.

**Figure 1: Dimensions in a balancing approach**



The dimension determining *when* the balancing is performed, can be categorised into proactive and reactive balancing strategies. This is depicted along the horizontal axis.

In a *proactive* strategy, balancing energy is activated before the actual imbalance occurs, with the purpose of preventing impact of a future imbalance. Consequently, TSOs applying a proactive strategy will assess the future balancing need by imbalance forecasts. In a *reactive* strategy, balancing energy is activated simultaneously/after an imbalance has occurred. The main distinction between a proactive and a reactive strategy is thereby whether the balancing energy is activated ahead of the balancing

need based on imbalance forecasts, or simultaneously/after the balancing need based on real-time data.

Closely related to when the balancing energy is activated, is whether the balancing is (mainly) based on central optimisation or distributed incentives.

In a *central optimisation* scheme, the TSO will distribute activation requests to balancing service providers to activate balancing energy. In a *distributed incentives* scheme, balancing responsible parties acts on imbalance data and price signals to maximize profit/limit costs in the imbalance settlement. The latter scheme may also be referred to as a “self-balancing” scheme. The degree of central optimisation versus distributed incentives could be indicated along the vertical axis in Figure 1.

The abovementioned general classification of balancing approaches indicate that there are dependencies between the applied strategy and key variables in the balancing market design and system operation. Examples are imbalance pricing, publication of system imbalance data, gate-closure times, control structures and congestion management philosophy, to mention a few.

Any given balancing approach is linked to the congestion management philosophy in the sense that the balancing process and congestion management process can be merged or separated. In either case, an activation of balancing energy must respect the available transmission capacity in the grid. In addition, the same resources could be used for both processes. Thus, the applied balancing approach (i.e. quadrant in Figure 1) affects how and when congestions are managed. For instance, it could be imagined that a reactive balancing strategy with distributed incentives would require larger reliability margins in capacity calculation, or that congestions are handled in time-frames prior to balancing time-frame.

In light of the vision for the future Nordic balancing cooperation (“Nordic Balancing Concept”), NVE would benefit from acquiring more knowledge of the implications of different balancing and redispatching strategies in the Nordic power system. In particular when taking into account characteristics of the Nordic congestion management principles (i.e. zonal market splitting) and the scalability of the different approaches to large geographic areas with different configuration of bidding zones, control areas and internal congestions.

### **Purpose**

The purpose of the study is two-fold. The study should give a qualitative overview of different approaches to balancing and redispatching arising from proactive or reactive balancing strategies in a selection of European countries. It should also address the compatibility of proactive and reactive balancing strategies in the Nordics, specifically

with regards to a multi-zonal balancing market, with particular focus on the interaction between the balancing and redispatching approach.

### **Scope**

The tasks listed below should be addressed with respect to current balancing and redispatching approaches in at least, but not necessarily limited to, the following set of countries:

- Netherlands
- Austria
- Germany
- France
- UK
- Italy
- PJM

### **Task description**

The consultant should perform the following tasks:

- 1) Describe and categorise balancing approaches in a selection of European countries, with particular focus on differences and commonalities between reactive and proactive balancing strategies
- 2) Describe and categorise congestion management approaches with particular focus on redispatching, and its interaction with the balancing mechanisms for the same countries, with regards to:
  - Short-term and long-term investment incentives;
  - The point in time the decision-making and execution of the redispatching orders are performed, and how and if they are updated;
  - The point in time when market participants must provide preliminary and final schedules;
  - The mechanism for selecting the of units for redispatching purposes;
  - The compensation mechanisms for redispatching measures;
  - Practical applicability of the redispatching approaches within the different balancing approaches.
- 3) Make a qualitative analysis of the pros and cons of the different balancing and redispatching approaches, taking into account the typical grid structure and the use of bidding zones
- 4) Make a qualitative performance analysis of different balancing and redispatching approaches with regards to the Nordic multi-zonal context,



taking into account the proposed future Nordic balancing approach. The performance analysis should address at least:

- Price incentives in a reactive or proactive balancing strategy, given both intra-zonal and cross-zonal congestions;
- Overall efficiency of a reactive or proactive balancing strategy within a multi-zonal market model, taking into account a well-functioning and market based redispatching approach and scenarios of demand side flexibility developments.

## **Annex 2 – Project time line**

Project duration 13 weeks after approval and signed contracts. In this period the following process should be followed (changes may occur):

- Week 1: start-up meeting (during week 36)
- Week 6: mid-meeting 1 (during week 41)
- Week 10: mid-meeting 2 (during week 45)
- Week 13: Presentation of final report from consultants and delivery (during week 48)



## Tender letter

Supplier shall complete the table below and sign under the table.

Company name:			
Company number:			
Address:			
Visiting address:			
Telephone number:			

Contact person:			
Telephone number:		Mobile number:	
E-mail address:			

The supplier hereby confirms that the submitted tender is in accordance with the terms and conditions that are given in the tender documents.

We stand by our tender until the date given in the tender document. The tender can be accepted by the contracting authority anytime up to the end of the period of validity of tenders.

We declare that we satisfy the competition's qualification requirements.

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Place

Date

Signature

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Name in block capitals