



# NORDISKA KOMMISSIONEN FÖR GEODESI

**Chairman**  
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## MINUTES

### 74<sup>th</sup> NKG PRESIDIUM MEETING

Time: 19 December 2018.  
Place: Room Venus, Pasila, Finland

#### **Item 1) Opening of the meeting**

Markku welcomed us all to Pasila, and especially new members of the presidium including the observers from the Baltic countries.

Since Niels could not participate in the meeting, it was decided that Markku will chair the meeting until the election of chairman. In the absence of Mikael, Martin was appointed as secretary for the meeting.

#### **Item 2) Presentation of participants**

There are some new members of the NKG Presidium since the General Assembly in September, and there are also observers from the Baltic countries present. A short presentation of each present person is therefore done:

Ola Øvstedal: National representative for Norway. Assistant Professor focused on GNSS and Reference Frames, University of Life Science (NMBU), Ås, Norway

Dagny Lysaker: W.g. chair for Future Height System and Geoid. Specialized in gravity and geoid. Kartverket, Norway

Per-Erik Opseth: National representative for Norway. Director of Geodesy Division, Kartverket, Norway

Þórarinn Sigurðsson: National representative for Iceland. One of few responsible for geodesy at Landmælingar, Iceland

Pasi Häkli: W.g. chair for Reference Frames. Specialized in geodetic reference frames, FGI (Finnish Geospatial Research Institute) within the National Land Survey of Finland

Holger Steffen: W.g. chair for Geodynamics and Earth Observation. Specialized in geophysics and GIA (Glacial Isostatic Adjustment) modelling, Lantmäteriet, Sweden

Janis Kaminski: Observer for Latvia. Since 10 yrs at the University of Riga, also representing Latvia Academy of Science, Latvia

Ivars Liepins: Observer for Latvia. Director of Geodesy at Latvia Geospatial Information Agency, Latvia



Markku Poutanen: National representative for Finland. Director of Geodesy and Geodynamics at FGI, National land Survey of Finland

Martin Lidberg: Substitute for Mikael Lilje at the meeting as national representative for Sweden. Head of the section for Reference frames at Lantmäteriet, Sweden.

### **Item 3) Election of chairman**

According to the tradition within NKG the position as chairman used to rotate between the counties and following this principle Finland is next and propose Markku as chairman. But since other possibilities could be discussed, proposals for other candidates have been asked to be announced in advance (e-mail from the NKG Secretary Mikael Lilje, November 10). No proposals for alternative candidates have been announced.

**Markku Poutanen** is elected as **NKG Chairman** for this NKG period.

### **Item 4) Election of secretary**

The position as secretary is discussed. Mikael has announced that he is happy to hand over the position to a new secretary, but is also prepared to continue if there are no other candidates. No other candidate has been announced in advance, and there is no candidate at the meeting prepared to volunteer.

**Mikael Lilje** is elected as **NKG Secretary** for this NKG period.

### **Item 5) Election of manager of the Coordinating Board and members to the Board**

The Presidium have suggested, and NKG General Assembly accepted, the installation of a Coordinating Board.

The Coordinating Board (CB) is discussed in various aspects. It is concluded that the coordinating board will have the possibility to meet more often than the Presidium and thus have a more frequent contact and follow up of the projects. Meetings will mostly be by video meetings (e.g. skype or similar). The tasks for the CB is to follow the progress in on-going projects, coordinate between projects and allocate necessary resources - and sometimes also conclude that requested resources are not available and therefore adjust the schedule and/or ambition of a project (i.e. "Portfolio management"). The task for the CB is most administrative project/portfolio management, rather than technical issues.

Discussion on the relation between the Presidium, the CB, and the WG:s. The Presidium should have the strategic view and the CB the more operational view. In principle, it is still the Presidium that decide on starting and ending projects. But the CB assists in preparing the proposals.

Despite that Denmark did not have the possibility to be present at the meeting, it was decided to establish the CB, in order to keep momentum and have the activities within NKG running.



**Per-Erik Opseth**, Norway, is elected as **Chairman for the Coordinating Board**.

Then each country, and sometimes each organization, report their representatives:

- Finland: Hannu Koivula (group leader for reference frames)
- Iceland: Þórarinn Sigurðsson
- Norway: Per-Erik Opseth
- Sweden: Martin Lidberg
- Denmark: "to be decided"

Estonia, Latvia and Lithuania are invited as observers in the CB if they like

- Latvia announce that they accept the invitation and that Ivars and Janis represent their respective organizations.

It is concluded that the relations between the Presidium, the WG:s, and the CB should be further discussed and developed at coming meetings of the Presidium.

A first meeting of the CB is proposed for some time early February 2019.

**Action Item 1:** For ML (Martin and Mikael) to send e-mail to Denmark, Estonia and Lithuania for representatives in the Coordinating Board.

## **Item 6) Resolutions and its implementations**

The resolutions from the General Assembly are reviewed and it is discussed how to proceed. (The complete text of the resolutions has been distributed in an e-mail from Mikael, November 30, and are not repeated in these minutes).

### *Resolution 1 (on Dynamic Reference Frames, DRF)*

It is concluded that this is something that is worked on also by other groups and countries. So, following what is done elsewhere, and also contribute from us to others seems fruitful. DRF is further discussed at Item 7 on the agenda.

### *Resolution 2 (NKG bylaws)*

It is discussed that the deadline for completing the task is by next General Assembly, but since these tasks need consideration and usually take some time, it is better to start the process soon. Since the current bylaws are written in Swedish, a first step is to get an English version of the bylaws.

**Action Item 2:** For ML: Make sure that there exists an English version of the bylaws for the next Presidium meeting.

### *Resolution 3 (Relation to the International Height Reference Frame, IHRF)*



The resolution is discussed. Basically, it asks NKG and WG Future Height System and Geoid to follow the developments of IHRS and IHRF, achieve a Nordic/Baltic realization of IHRS to a relevant version of IHRF, and derive transformations between IHRF and the Nordic/Baltic height frames.

Related is also the up-coming new European realization of EVRS, EVRF2019 (EVRS/EVRF - the European Vertical Reference System/Frame). For the moment there are some uncertainties to what extent EVRF2019 will follow the system definition of EVRS especially regarding the “zero tidal system”, or that there will be two versions of EVRF2019 where one follows the system definition as a zero tidal system, but with a mean tidal system in addition. (The IHRS is decided to be a mean tide system). Since most of our countries do have introduced new national height frames following the EVRS as strictly as possible (the “Baltic Levelling Ring” adjustment, or extensions of EVRF2007), it could be problematic if new official realisations of EVRS would follow a modified system definition.

Related is also geoid determination (which is an important tool for the current methodology to realize IHRS), as well as the developments of high accurate clocks and the methodology to determine difference in equipotential based on relativistic theory.

Discussion on the possibility to write a letter from the NKG to EUREF on the issues related to EVRS and EVRF2019.

**Action item 3:** For MP and ML: Write to EUREF that we consider it to be important for the upcoming EVRF2019 to keep the existing current system definition of EVRS, including the zero tidal system.

*Resolution 4 (Long-term support for the fundamental geodetic observatories)*

It is concluded that this resolution is very important.

The resolution has already been used in Latvia as a base for a proposed project Festival – Fostering VLBI in Latvia.

It also includes the current issue on correlation of VLBI recordings. There is a limitation in capacity on global level to correlate the recordings from the new VGOS telescopes. This is a sincere “bottleneck” since the new twin-telescopes established at Onsala and Ny-Ålesund (and VGOS at Metsähovi?) cannot be utilised to its full capacity. For Ny-Ålesund it also prevents the completion of the transition of the VLBI activities from the old telescope to the new VGOS twin telescope. This has also significant economic consequences.

IVS seems a bit reluctant to consider the issue on correlator capacity. However, there are an initiative on European level towards VGOS correlator including Norway, Onsala, Yebes and Finland.



**Action item 4:** For MP: Write a letter from the NKG to the IVS on our concern regarding capacity of correlators for VGOS.

## *Resolution 5 (Future positioning services)*

It is a large resolution with much text, but it is also well formulated, so the WG Future Positioning Services and Applications should consider the resolution together with the “NKG Structure” and vision and goals for the WG.

Also mentioned are issues on jamming and spoofing.

**Action item 5:** For MP and ML: Contact with colleagues in Denmark to make sure that the WG are established and can start the work.

## *Resolution 6 (Outreach)*

The topic is discussed. This is an important subject that NKG have been dealing with since many years. Somehow there has been a feeling that the progress has been limited. On the other hand, the geodetic community have successful regarding the UN resolution on GGRF where especially Norway have had a leading position, but also other colleagues have provided substantial contribution. In that perspective, “our” ability in outreach achievements are not so bad. Thus, we have some ability to build upon!

Subjects for outreach is discussed:

- Correlators for VGOS – put some pressure in the IVS
- EUREF regarding EVRF2019
- Dynamic Reference Frames; Per-Erik would like to reach EUREF regarding DRF so it is considered in the new strategy for EUREF

It is noted that each organization also need to work on outreach for its own needs and purposes. Here some exchange of outreach material and also experience from outreach activities would be beneficial.

**Action item 6:** For all: Inventory of examples of outreach activities and material.  
We also have the AI 3 and AI 4.

## **Item 7) DRF project**

Per-Erik presents the “DRF activities in the NKG area 2019-2022” (DRF-NKG-for-Presidiet.pptx), and the proposal are discussed. It is concluded that the DRF-group has done good work in preparing the proposal.

It is asked for the definitions of the terms on “static”, semi-dynamic” and “dynamic” reference frames. The understanding of especially “semi-dynamic” is somewhat different in various



publications, but the NKG DRF activity have described how it is understood in its presentation and proceeding paper from the GA.

The Presidium decides to start the DRF NKG 2019 project according to the presentation by Per-Erik.

## **Item 8) Status Working Groups**

### **a) Reference Frames**

Pasi presents a short status report (WGRF\_report\_December2018.pptx). There is good progress in the activities including the NKG GNSS Analysis Centre and the ITRS-ETRS89 transformation project.

Since some of the tasks and activities of the WG that is also described in the DRF project, Pasi raise the issue on coordinating these activities and to what extent the leadership should be from the WG or form the DRF project. There is no real conclusion, but it may be discussed by the CB.

There is also a short discussion on how to organise the WG meetings this year and the option to have a “science week” or joint workshop has been mentioned. The conclusion is that since there are several new chairpersons it is for the moment good that each WG have the possibility to establish the group and get familiar with its tasks. Therefore, larger gatherings are postponed.

### **b) Future Height System and Geoid**

Most or all activities from previous period is completed, so there is not so much running. Delivery of gravity data for EGM2020 is in progress (or is this completed??)  
WG meeting is preliminary planned for week 11 and will be coordinated with WG GEO (as usual).

### **c) Future Positioning Services and Applications**

Anna Jensen has sent an e-mail, asking for members of the WG. Each country is asked to respond to Anna.

### **d) Geodynamics and Earth Observation**

The “Visions and goals” for the WG are reviewed.  
WG meeting is preliminary planned for week 11.

## **Item 9) National reports**

There are no presentations of national reports due to time constraints.



## **Item 10) Other Business**

Markku presents has been contacted by Richard Gross, chairman of the GGOS Coordinating Board, on the possibility for NKG to become a “GGOS Affiliate” (See presentation GGOS\_Affiliate.pptx). In short, it would be to consider NKG as a regional implementation of GGOS.

Martin asks for some discussion on strategy from NKG regarding how to work together with the various initiatives like GGOS, EPOS, UN-GGIM GGRF/UN-GGIM Europe, EUREF etc (where the visions and goals are often in the similar direction). Such discussion however needs to be postponed to a forthcoming Presidium meeting.

## **Item 11) Next meeting of the Presidium (All)**

Discussion on next meeting. It turns out to be time consuming and costly to meet in Iceland, and for Icelandic members of the Presidium the costs for travelling to Scandinavia is similar compared to organizing the meeting in Iceland. It is therefore proposed to still have Presidium meetings in Iceland, but not so often.

It is concluded that next meeting (no 75) should be held in **Sweden**. Date and place to be decided, but after week 11 and probably in April.

**Action item 7:** For ML to send out a doodle for possible dates for next Presidium meeting.

Markku ended the meeting by thanking all participants for a good meeting and wish everyone a safe trip home.



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## Invited:

Finland:	Markku Poutanen, NLS Pasi Häkli, NLS
Iceland	Thorarinn Sigurdsson, LMI
Norway:	Per Erik Opseth, Kartverket Ola Øvstedal, NMBU
Sweden:	Martin Lidberg, LM (Substitute for Mikael Lilje, Secretary) Holger Steffen (LM)
Latvia:	Ivars Liepins, IGIA Janis Kaminski, RTU

## Apologies

Søren Fauerholm Christensen, Niels Andersen, Anna Jensen (Denmark), Jarkko Koskinen (Finland), Gudmundur Valsson (Island), Mikael Lilje, Jan Johansson (Sweden), Artu Ellmann (Estonia), Ausra Kalantaite (Lithuania).