



NORDISKA KOMMISSIONEN FÖR GEODESI

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The NKG Steering Committee on the on-going sub projects for "NORDIC POSITIONING SERVICE"

**Minutes of the 22nd meeting
Gävle, January 24 - 25, 2006**

PRESENT

| | |
|----------|--|
| Denmark: | Casper Jepsen Lolita Bahl |
| Finland: | No representative |
| Norway: | Bjørn Engen (chair) Rune Hanssen Per Erik Opseth |
| Sweden: | Bo Jonsson Andreas Engfeldt (secretary) |



ITEM 1: OPENING OF THE MEETING

Bjørn Engen welcomed everybody to the 22nd meeting of the NKG Steering Committee on the on-going sub projects for “Nordic Positioning Service”.

The Steering Committee agreed to the following agenda for the meeting

1. Opening (Bjørn)
2. Minutes from the 21st Steering Committee meeting on 20-21 October in København and review of action lists from that meeting (see below) (Andreas / All)
3. Ongoing activities
 - Nordnet – the computer network (Rune, Bo, Casper)
 - Website (Rune, Bo, Casper)
 - NorDPOS (Bo, Rune, Casper)
 - NordRTK (Per Erik, Casper, Andreas)
 - The national GPS-services in each country (Bo, Rune, Casper)
 - The classification of the reference stations (Andreas)
4. Preparation for NKG General Assembly (Andreas, Bjørn)
5. Preparation for the next Presidium Meeting (All)
6. Preparation for the next Directors General Meeting (All)
7. DARC/Global Star (Bo)
8. Future activities (All)
9. RTK - tests and other stuff (Per Erik, Casper, Andreas)
10. Agreements (Casper, Bo, Rune)
11. EGNOS (Rune)
12. Prices for the lines between the control centres (Bo, Rune, Casper)
13. Road pricing (Lolita, Casper)
14. Other items (All)
15. Summary of action list (Andreas)
16. Next meeting and closing (All)

ITEM 2: MINUTES FROM PREVIOUS MEETING

Minutes from the 21st Steering Committee meeting on October 20-21 was approved.



REVIEW OF THE ACTION LIST FROM THE MEETING OF THE STEERING COMMITTEE ON OCTOBER 20-21

The agreed action list from the meeting in København on October 20-21, 2005 was reviewed:

| | Action | Responsible | Status | Important dates | Status 060124 |
|---|---|----------------------|----------------------|-------------------------------|--|
| 1 | Investigation if we can get better prices by Tele Danmark | Bo Normann Hansen | Not done | ASAP | Done, see ITEM 12 |
| 2 | The classification of permanent reference stations shall be sent on review to some experts | Andreas | Not done | ASAP | Done, see ITEM 3, Classification |
| 3 | Meeting in København (or Hønefoss) about Nordnet between Casper, Bo H, Søren, Per Erik, Rune, Mohammed, Andreas, Anders and Örjan | All participants | | On November 17 | The meeting took place as planned, see ITEM 3, Nordnet |
| 4 | Meeting between Casper or Bo H, Rune, someone from Radio Danmark and someone from BSD. | Rune | | When there is time | It will soon happen, see ITEM 3, DPOS |
| 5 | Netton should be contacted about the Norwegian interest of GlobalStar | Bosse | | ASAP | Done, see ITEM 7 |
| 6 | The report list shall be distributed to the Steering Committee | Andreas and Per Erik | | Before next telephone meeting | Done |
| 7 | The Norwegian-Swedish DPOS | Bosse and Rune? | Nothing will be done | Probably in mid 2006 | Nothing has happened, |



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| | solution in the northern parts of Norway and Sweden | | before the new Norwegian stations in the north will be up | | see ITEM 3, DPOS |
| 8 | Report about the Norwegian GLONASS / Geo++ tests in the Bergen area | Per Erik | The tests will be performed in week 43. | On next meeting | Has not been performed yet, see ITEM 9 |
| 9 | Report from Nordic Positioning Service on NKG General Assembly | Andreas | Not done | A draft will be presented on next meeting | A brief draft was presented, see ITEM 4 |
| 10 | More things about Nordic Positioning Service on NKG General Assembly | All of us | | We will talk about that on the second next telephone meeting | We have come up with nothing in particular, see ITEM 4 |
| 11 | Project A1 | Casper, Rune and Bosse | | We will talk about almost only that on the next telephone meeting | See ITEM 3, Nordic Web Portal |
| 12 | Distribution of the latest Norwegian agreements to the SC | Rune | | ASAP | Not done, see ITEM 10 |
| 13 | The Nordic solution | Bjørn, Bosse and Lolita | | Should be on the agenda for the next Presidium meeting | Probably done |
| 14 | Sweden will help Norway to get Gamit going | Someone in the Pos & Ref frame WG | Not done | When Norway wants | Martin Lidberg has been asked to help with that |
| 15 | Next NordRTK meeting | Per Erik | | Before next summer | See ITEM 3, NordRTK |



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|----|------------------------|---------|--|---------------------------|------|
| 16 | Next telephone meeting | Andreas | | On 31 October 2005, 09.30 | Done |
| 17 | Next meeting | Sweden | | On 24-25 January | Done |

ITEM 3: ONGOING ACTIVITIES

Nordnet

On November 17 there was a workshop in København about how to solve the problems concerning DEC/DES (Data Exchange Client / Data Exchange Server). The people who attended were Casper, Bo H and Søren Juul Møller from Denmark; Rune, Per Erik and Mohammed Ouassou from Norway; Anders Frisk, Örjan Zackrisson, Andreas and Bosse from Sweden. During the workshop many problems were solved and it was very successful.

Nordic Web Portal

At the 21st meeting we decided to investigate if we should continue with the resting sub-project about a common Nordic Web Portal. After discussing it in our organisations it was decided that we should restart the sub-project. From this common portal the user will be able to login with his national username and order data for postprocessing from the available stations (the available stations depends on what kind of subscription the user has). If the user is registrated in Norway he shall pay the Norwegian prices, if he is registrated in Sweden he shall pay the Swedish prices and so on. If the user is measuring in Sweden and has a Danish subscription, he is though not allowed to use the Danish prices but has to use the Swedish ones. This was determined in a written deal about exchange of data, signed by the Director Generals in September/October 2002.

In the end of December and in the beginning of January two meetings in this reformed sub group took place. The people who attended were Bo H, Frands Steffensen and Lars Hole from Denmark; Rune, Per Erik and Mohammed O from Norway; Anders F and Mats Westberg from Sweden. Still the specification of the Nordic Web Portal is not finished, a lot of text and the logo of Lantmäteriet is for example missing. The logo will be sent to Rune by Andreas as soon as possible after this meeting. The code of the Web site is not written either. There was a proposal that KMS will be responsible for that and they agreed to investigate possible resources for that. A new meeting in the sub group will take place on February 16-17, but before that Rune needs feedback on the document.



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NorDPOS

During the first half of 2006 the new DPOS stations in Kautakeino, Honningsvåg and Brønnøysund will be established. When that is performed the start of the NorDPOS sub project "NorDPOS in Northern Norway" can take place.

KMS has contacted a Swedish company who are responsible for the DAB solutions in Denmark. Casper or Bo H will try to set up a meeting with the company and Rune, themselves and someone from Radio Denmark.

Lantmäteriet announces that it is more interesting for them to test a NorDPOS service in the northern part of Sweden than in the southern part.

NordRTK

The next NordRTK meeting will be held before summer this year.

The national GPS services in each country

Sweden

The Swedish stations in the Network RTK establishing project "Position Mitt" (Värmland/Dalarna) are up since December 1. A recently planned station in Grövelsjön, which replaces Drevsjø, will be up in February. In April / May four stations on Gotland will be established in connection to the new Network RTK establishing project "Gute-RTK".

A combined GPS/GLONASS service will very soon be available for the users of SWEPOS Network RTK Service. A minor problem is that the present version of GPSNet doesn't offer RTCM 3,0 for GLONASS.

In the road construction project "Marieholmsförbindelsen" a practical test was performed in November with a road construction vehicle. The driver thought it worked well and the result was also good and passed all tolerance limits.

Norway

Some CPOS stations close to the Swedish border has changed their location due to the co-operation along the border. Two out of three stations are now up (Årnes and Flisa (Mysen is not ready yet)).

In the first half of this year there will be more new CPOS stations, this time in Trøndelag and Møre og Romsdal.

Denmark

Spidernet is now running in a few towns. In the summer it will probably be operational in the whole country. Then KMS will make test measurement to examine how good it is.



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When the network is up and running, which probably will be in the spring or in the early summer, there will be an upstart meeting which Casper will be responsible for. Per Erik and Sweden (Andreas or Daniel Johansson) are interested in participating in that meeting.

Classification of reference stations

The classification sub group has now received answers from all the experts except one of those the classification proposal was sent to. The comments from them will be taken into account and Andreas will make some changes in the document because of that. Andreas will also include all the things written during the sub group meeting on October 18-19 last year in the document and translate one of those documents (which was written in Swedish) to English. Then the new document will be sent to the rest of the sub group (Casper, Svein Ola Thorsen and Gunnar Hedling). After approval from them the document will also be sent to Finland (Markku Poutanen) for review. A final version will be presented at the next meeting of Steering Committee.

ITEM 4: PREPARATION FOR NKG GENERAL ASSEMBLY

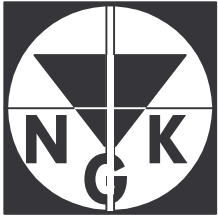
Andreas shortly showed a sketch of the presentation about Nordic Positioning Service he will hold at the NKG General Assembly. The rest of the Steering Committee gave valuable proposals about what to remove and what to add. The maps of all the Nordic governmental permanent reference stations will be included in the presentation and these need to be updated. KMS was responsible for creating them, so it was decided that KMS will create also the new ones. But that will be done first when Lantmäteriet and Statens Kartverk send the coordinates of their new stations. Andreas and Per Erik are responsible for sending the coordinates. The rest of the Steering Committee promised to help Andreas in getting all the information and pictures he needs for the presentation.

ITEM 5: PREPARATION FOR NEXT PRESIDIUM MEETING

There is no need for any prepared contribution for the next meeting of the Presidium

ITEM 6: PREPARATION FOR THE NEXT DIRECTORS GENERAL MEETING

The next meeting of the Directors General will take place in København at the same time (or at least almost at the same time) as the NKG General Assembly. Lolita agreed to check the agenda for that meeting until the next meeting of the Steering Committee



ITEM 7: DARC/GLOBAL STAR

DARC

Bosse had a meeting recently with Teracom, the broadcasting company of Sweden, and a few different solutions were discussed. He hopes that it soon will be possible to decrease the data size that will be sent out for Network DGPS. Otherwise broadcasting Network DGPS corrections via DARC won't be a cheap and good solution.

Global Star

Elsacom and Netton are at moment working with making the modem box smaller and more suitable for field work. There is an interest in Norway about Global Star and the Netton salesman briefly contacted Rune in the very end of last year.

Lantmäteriet hopes that someone in the new project area, "Position Mitt", will be interested in using Global Star and make some test measurements with it.

ITEM 8: FUTURE ACTIVITIES

PROJECT C1A - Test of distribution channels for RTK

See ITEM 7.

Postponed projects

C1B - Evaluation of available RTK algorithms

Nothing new in particular was mentioned here.

PROJECT A2 - An Automated Computation Service

Lantmäteriet is still developing a new solution of the automated computation service based on the latest version of the Bernese software. During this meeting Per Erik got information from Lotti Jivall and Anders Frisk about how this will be done. When it is finished Statens Kartverk and KMS are very keen on starting with a Nordic automated computation service. We decided to make this project an item on its own at the next meeting agenda.

ITEM 9: RTK - TESTS AND OTHER STUFF

Tests: The Norwegian GLONASS/Geo++ test has been delayed and will start in the Hønefoss area in a few weeks time. Per Erik will report about it on our next meeting.



ITEM 10: AGREEMENTS

Rune will send a copy of the latest types of agreements for SATREF users to the rest of the Steering Committee.

ITEM 11: EGNOS

The remaining time to get to EGNOS function is developed into three half year phases. The first one ends on January 27 and during that phase contracts shall have been written with all the station managers. The second one means getting the quality up to what they aim for and it will end on July 27. The third phase means that the system should be functioning as if it was operational.

ITEM 12: PRICES FOR THE TELECOMMUNICATION LINES BETWEEN THE CONTROL CENTRES

The present deal we have is not really what we aim for and the period of notice for quitting is three months. Bo H got a price proposal from Tele Danmark which was sent out to the Steering Committee before the meeting, but when we checked the price list at the meeting we found that something in it must be wrong. Casper then got the mission to check out what the correct prices are. On the workshop in København in November (see ITEM 3, Nordnet) Søren got an idea of a different solution for the telecommunication lines. When Rune was about to investigating the prices at Telenor he got an offer of yet another solution for them. We discussed the different solutions and what was decided is that we need a service description of all offers (we have one for Telenor but not for Tele Danmark) and that we should if possible exchange prices between each other within a week. What we should do about this will then be the main item on the next telephone meeting.

ITEM 13: ROAD PRICING

In København a new Mayor has recently been installed. One of her tasks/opinions is to remove the cars from the city of København by charging cars. Since long there has been fees to enter Oslo by car and since beginning of January tests with fees to enter Stockholm has been going on. Lolita was asking us if we knew any way to make a GPS solution with this, but no one of us had a good idea of how to do it. Lolita then got the mission to investigate if GPS has been used for this purpose elsewhere until next meeting.

Concerning this we also got the idea of having a brainstorm or discussion on the next meeting about new applications for our GPS services.



ITEM 14: OTHER ITEMS

RTCM

The RTCM committee will have a meeting in Bruxelles next week and Gunnar will attend. He gave an overview of what was going on in the committee. On the next telephone meeting Gunnar will report about what happened on the meeting.

ITEM 15: SUMMARY OF ACTION LIST

1. The computer solution and the prices of lines:
 - a) The Tele Danmark prices we got from Bo H seem to be somehow wrong. Casper checks out what the correct prices are.
 - b) Rune checks the prices from Telenor
 - c) From Telenor we got a service description, but from Tele Danmark we got no such. Casper tries to get one from them.
 - d) Limitations of the proposed Internet solution shall be highlighted. Casper and Rune are responsible.
 - e) The price proposals/offers of the lines should be exchanged if possible within a week.
 - f) This ITEM will be the main theme of the next telephone meeting.
2. Web site:
 - a) The logo from Lantmäteriet is missing in the document about the Web site. Andreas finds it and sends it to Rune.
 - b) There will be a meeting within the Web Portal group. A proposed date and place is February 16-17 in København. But before the meeting Rune needs feedback on the document about the Web Portal.
 - c) KMS investigate possible resources for the development of the code for the Web site.
3. NorDPOS: KMS contact the DAB distributor today and a meeting with the distributor, Casper and Rune will be planned quite soon.
4. Classification of reference stations:
 - a) The working group has got proposal of a few things to add in the classification document which was sent on review. These things will be considered and Andreas will put together one document of all the things the working group wrote on their meeting in October.
 - b) This document will then be sent on review to the other members of the working group and to Finland (Markku Poutanen).
 - c) When the document has been approved by the Steering Committee on the next meeting in May it will be published on the NKG homepage.
5. Geo++ test: It was delayed and will be performed quite soon in the Hønefoss area.
6. Spidernet test:



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- a) Early this summer the Danish Spidernet will be running. KMS will then make test measurements to find out how good it is.
- b) Casper will organise a Spidernet upstart meeting in the spring or in the early summer. Per Erik and Lantmäteriet (probably Andreas or Daniel Johansson) are also interested in attending.
7. RTCM: There will be a meeting in the RTCM committee next week, which Gunnar H will attend. Gunnar will then report about what happened at the next telephone meeting.
8. NKG General Assembly, May 29 – June 2 in København:
 - a) Andreas makes a presentation about Nordic Positioning Service. All the others in the Steering Committee shall help and support him about material.
 - b) Denmark are responsible for changing the maps over the permanent reference stations. But before they can do anything, Norway and Sweden must send the coordinates of the new reference stations.
9. Road pricing: In København there is a new Mayor who wants to have taxes for cars when they drive in the city. There could be a possible way to solve it with GPS. Lolita searches for what has been performed earlier with GPS for such purposes.
10. Agreements: Rune sends out the new agreements between Statens Kartverk and the CPOS users.
11. The automated computation service: This will be a subject of its own at the next agenda.
12. Other items: Maybe we shall discuss or brainstorm about new possible applications for our GPS services at the next meeting?
13. Next telephone meeting: Wednesday March 8, at 14.15.
14. Next meeting: Tuesday May 16 in Norway, at 08.30-17.00.

ITEM 16: NEXT MEETINGS AND CLOSING

The time of the next telephone meeting of the Steering Committee will take place on Wednesday March 8, at 14.15.

The next “real” meeting will take place in Norway on May 16, at 08.30 – 16.30, 2006. The location will be decided later.

Bjørn thanked all the participants for their contribution to a fruitful meeting.