

# Long-term subsidence study in the Wadden Sea Region

## Bestuur

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**To:** NAM, Steering Committee members  
**From:** B. Orlic  
**Date:** 24 April 2013  
**Subject:** Kick-off meeting minutes, Amsterdam, 18-19 April 2013

**Filename:** [01-Minutes-01-SC-meeting-18-19April2013-public.docx](#)

=> Action points NAM

## Distribution list:

**NAM:** Antony Mossop, Pieter van de Water, Dirk Doornhof, Ruud van Boom

**Steering Committee Members:** Hessel Speelman, Ramon Hanssen, Patrick Baud, Robert Zimmerman, Ryszard Hejmanowski, Rune Holt, Adrian Houtenbos, Bogdan Orlic

**State Supervision of Mines:** Jan van Herk, Hans de Waal, Annemarie Muntendam-Bos

**Wadden Academy:** Klaas Deen

## Attendance:

Patrick Baud and Robert Zimmerman could not attend the meeting (apologies received). Other 4 members of the Steering Committee attended the meeting.

## Meeting objectives

- Day 1: 18<sup>th</sup> April  
The kick-off meeting was held to present and discuss the Steering Committee tasks, organizational setup and procedural issues, and to receive information considering the status and background of the Research programme proposed by NAM.
- Day 2: 19<sup>th</sup> April  
This meeting was held to present the Steering Committee tasks, organizational setup and procedural issues, and to present and discuss the NAM's research proposal with the State Supervision of Mines, nature conservation organizations and other stakeholders.

## Agenda

- The kick-off meeting was held on Thursday 18 April from 11:00 to 16:30 in the building of the Royal Netherlands Academy of Arts and Science (KNAW) in Amsterdam.

Agenda:

11-12	Meeting of the Steering Committee members Getting to know each other, procedural issues
12-13	Lunch
13-16:30	Technical meeting Presentation of the Research programme by NAM and discussion.

- On Friday 19 April another meeting was held to present the NAM's Research programme to the representatives from the State Supervision of Mines (SodM), Dutch nature conservation organizations and other stakeholders (Waddenvereniging, It Fryske Gea, Staatsbosbeheer, etc).
- The presentation given by the chairman of the Steering Committee is given in: [02-WA-Steering-Committee-meeting-public.pdf](#).
- The NAM's research programme presented at the meeting is given in: [03-NAM-research-program-public.pdf](#).

## Study objectives and ambition

Joint ambition of the researchers conducting the study (NAM and other parties on behalf of NAM) and the Steering Committee for the long-term subsidence study in the Wadden Sea Region is to realize a state-of-the-art scientific study that provides an improved understanding of the production induced subsidence process, built from, and supported, by objective evidence and sound fundamental scientific principles. This can provide the foundations of a subsidence modelling, monitoring and prediction strategy that provides clear and verifiable subsidence predictions within well defined uncertainty bounds. Such a strategy needs to be based on demonstrable physical principles and accepted statistical analyses and is open to external review, and hence provides confidence to regulatory and scientific authorities that NAM understands and can control induced subsidence related to its production operations.

## Main recommendations

The main recommendations on the NAM's research programme made by the Steering Committee are as follows:

- Include a clear and concise statement of the problem that will be addressed by the research programme.
- Broaden the study scope to include a limited number of fully depleted gas fields, with good quality geodetic data, located outside of the Wadden Sea Region. Spatio-temporal analysis of the subsidence process in these fields can help to discriminate the key factors that have led to anomalous time-dependent subsidence in the Wadden Sea Region.

## Comments on the research program

Written comments are received before and after the meeting:

- Supporting the overall research program.
- Requesting a problem analysis, widening the scope of the study and expressing the concerns that the present study will not be able to meet the societal needs. Changing the scope of the study is, however, not possible. The study was ordered by the Minister and the Terms of Reference prescribed by the State Supervision of Mines (SSM). The SC is geared to the scope as prescribed by SSM. Any other study scope as parallel to this study, or as a follow up to this study, could be discussed and requests could potentially be incorporated in other studies.
- Supporting the experimental program planned to be executed on core taken from the boreholes in the Wadden Sea area.

- Requesting more details on the type of experiments, testing conditions etc.
- Requesting a more detailed problem description.
- Supporting the view that the geodetic data had sufficient quality and temporal sampling from the beginning of the production phase in the Wadden Sea area.
- Requesting more technical information on the Wadden gas fields.

### **Requests and Action points NAM**

=> NAM is requested to provide information package with the existing key technical documents to the Steering Committee, to familiarize themselves with the problem. This information will be made accessible through a sharepoint arranged by the Wadden Academy.

=> NAM is requested to consider the questions that fall within the scope of the Subsidence study raised in the written comments and provide its response before 1 June 2013.

=> NAM is requested to provide a progress report to the Steering Committee 4 weeks before the next meeting (before 1 October 2013).

### **Next meeting**

The next meeting is planned on 28 and 29 October 2013 in the Netherlands. The meeting objectives are to:

- Review the study progress.
- Hold a technical workshop on production-induced time-dependent (anomalous) subsidence, with active involvement of the Committee members invited to give a presentation on a topic relevant to the long-term subsidence study.