

XXV ATCM

WARSAW September 10-20, 2002

WATER SAMPLING OF THE SUBGLACIAL LAKE VOSTOK

Terms of Reference for the Intersessional Contact Group (ICG) for reviewing the Draft Comprehensive Environmental Assessment (CEE) submitted by the Russian Federation

This Draft CEE has been submitted by the Russian Federation for continuation of drilling until contact with the lake surface in the season of 2006/07. These terms of reference have been developed for the ICG that has been set up for reviewing the Draft CEE as part of the CEP's process for providing advice to ATCM on the activity. The ICG will address the generic terms of reference set out in Annex 3 of the CEP III Final Report, viz.

- The extent to which the CEE conforms to the requirements of Article 3 of Annex I of the Environmental Protocol.
- Whether the conclusions of the draft CEE are adequately supported by the information contained within the document.
- The clarity, format and presentation of the draft CEE.

The following more specific concerns should also be addressed:

- The likelihood of accidental contamination of the lake (for example due to rapid diffusion of drill fluid through the ice, failure of the ice below the drill bit, uncertainties such as ice properties or thickness below 3673m or transfer of non in-situ micro-organisms down the drill hole).
- The ability to manage emergency situations such as accidental penetration of the lake or sudden change in drill-hole fluid pressure when ice-lake contact is being approached.
- The likelihood and consequences of deformation of the drill hole when it encounters the east edge of the lake basin, and methods of preventing consequent possible contamination of the lake by drilling fluid.

The review process will work to the following timetable:

09-13, 2002	Announcement of the setting up of the ICG
11-15, 2002	Deadline for comments from ICG participants
12-15, 2002	Circulation of First Draft report by Convenor for comment
01-15, 2003	Deadline for comment on First Draft Report
02-15, 2003	Circulation of Second Draft report by Convenor for Comment
03-15, 2002	Deadline for comment of Second Draft Report
04-10, 2003	Submission of Final Report by the convenor as a Working Paper to CEP VI

Notes: Although the Draft CEE as submitted records that the drilling of an additional 50 m (from the point 3623m down to 3673m) planned for 2002-03 is "not formally part of the activity under consideration", discussion of the drilling of this interval makes it difficult to separate clearly from the deeper drilling. This point of potential confusion is being addressed in two ways.

- i) The Russian Federation has advised that it will produce an IEE for the additional 50m.
- ii) The Russian Federation has also advised that it will submit a revised Draft CEE in which it is clear that it concerns only the drilling from 3673 m to 3753 m (the ice-water interface).

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CEP V Final Report

Extract

4b) Consideration of Draft CEEs forwarded to the CEP in accordance with paragraph 4 of Article 3 of Annex I of the Protocol.

(1) The Russian Federation presented Working Paper (XXV ATCM/WP19) dealing with water sampling of the subglacial Lake Vostok. This was listed by the Russian Federation as a draft Comprehensive Environmental Evaluation (CEE), but not submitted in accordance with Article 3 of Annex I to the Protocol. The Committee agreed that the draft CEE would be formally considered at CEP VI.

(2) SCAR presented Information Paper (XXV ATCM/IP55) giving a progress report on their consideration of exploring subglacial Antarctic lakes. SCAR pointed out that there is as yet no international consensus among the scientific community on appropriate lake sampling or on drilling methods to penetrate into the lake. SCAR recommended that additional studies should be carried out before further drilling towards Lake Vostok is undertaken using the existing The Russian Federation drill hole. A SCAR group of experts will discuss the risks of deeper drilling at Lake Vostok, and SCAR will provide a report to CEP VI.

(3) Several delegations expressed their concern about the possibility of accidental penetration and contamination of Lake Vostok as a consequence of deeper drilling by the Russian Federation expedition.

(4) The Russian Federation emphasized the potential benefits of further drilling activities for scientific research.

(5) Following discussion the Russian Federation advised that it now intends to do the first additional 50 m drilling in the 2003/2004 season, and that it will produce an Initial Environmental Evaluation (IEE) for this drilling. It further advised that it will submit a revised Draft CEE concerning the drilling from 3673 m to 3753 m (the ice-water interface), which is intended to start in 2004/2005 and that drilling will continue until contact with the lake surface in the season of 2006/07.

(6) The CEP established an intersessional contact group convened by Jean Jacques Reyser from France (jjreyser@ifrtp.ifremer.fr) to consider and advise on the draft CEE at CEP VI with the following terms of reference:

The ICG will address the generic terms of reference set out in Annex 3 of the CEP III Final Report, viz:

- The extent to which the CEE conforms to the requirements of Article 3 of Annex I of the Environmental Protocol.
- Whether the conclusions of the draft CEE are adequately supported by the information contained within the document.
- The clarity, format and presentation of the draft CEE.

The ICG should also examine the extent to which the draft CEE addresses the following issues:

- The likelihood of accidental contamination of the lake (for example due to rapid diffusion of drill fluid through the ice, failure of the ice below the drill bit, uncertainties such as ice properties or thickness below 3673m or transfer of non in-situ micro-organisms down the drill hole).
- The ability to manage emergency situations such as accidental penetration of the lake or sudden change in drill-hole fluid pressure when the ice-lake interface is being approached.
- The likelihood and consequences of deformation of the drill hole when it encounters the east edge of the lake basin, and methods of preventing consequent possible contamination of the lake by drilling fluid.