



## **Circumpolar Infrastructure Task Force**

### Aviation Experts Meeting



Final Report to the Arctic Council and the Northern Forum

February 25-27, 2002  
Anchorage Alaska

## **Executive Summary**

The Circumpolar Infrastructure Task force is officially conducted as an activity of both the Northern Forum (regional governments) and the Arctic Council (national governments). The declaration of the Senior Arctic Officials of the Arctic Council requests the following from the US/CITF:

- That the CITF convene a network of aviation experts to discuss a range of topics in Arctic aviation, including links between Arctic regions and nations.
- That the CITF continue to work with the Finnish Ministry of Transport and Communication to refine and improve the document they presented on Arctic transport
- That the CITF will consult, communicate and report with the Senior Arctic Officials which will enable them to make recommendations to the Ministers.
- That the CITF will begin considering Arctic telecommunication problems with an approach resembling the aviation experts meeting

In accordance with these requests from the Arctic Council, the CITF held a meeting in Anchorage, Alaska in February 2002. The meeting was attended by strong delegations from the United States, Canada and Russia. Finland and the United Kingdom were also represented. The following topics were on the agenda:

- Aviation in the Arctic regions with particular focus on the United States Arctic, Alaska
- Inter-regional aviation between the US Arctic, the Russian Far East, and the Canadian Arctic
- Circumpolar Arctic aviation and global connections (transpolar air routes)
- Aviation and recent developments in telecommunications and information technology

Two separate working groups discussed these issues, for the purpose of accomplishing the following tasks:

- To arrive at a common understanding, terminology/definitions, and guidelines concerning the infrastructure/transport effort by a network of experts.
- Formulate recommendations to the Arctic Council and the Northern Forum whereby nations and regions can jointly bring about improvements to northern aviation and the links between us.
- Proceed with the US/CITF effort of establishing a database of Arctic aviation experts
- Enlist the identified network of aviation experts in the study of Arctic aviation issues

### **The major thrusts of the recommendations were as follows:**

- There was unanimous agreement that the CITF approach was warranted and a real and accessible aviation experts network would be useful
- A “vision statement” for Arctic aviation, with long-term goals in regional and international cooperation, should be developed and adopted as a goal by the sponsors of CITF
- Immediate discussions should begin between nations of the Arctic Council to see whether mail between our nations can be directed to support the creation of more direct air routes between our Arctic regions (taking into account these routes may reduce mail

- times and costs between us while also increasing the availability of cargo and passenger service)
- Regional joint tourism marketing between Canadian territories, provinces and Alaska might be expanded to include joint marketing with Russian regions, or a circumpolar tourism marketing initiative.
  - A number of issues concerning cross-polar air routes demand attention as they relate both to the safety of international air routes but also the provision of infrastructure in Arctic regions which will directly benefit Arctic residents.
  - There is a lack of information including market analysis and cost/benefit analysis. The experts agreed to develop an outline for a feasibility study to promote additional air links between arctic regions, and hold discussions with industry, host governments, and international financing institutions about funding for the study.
  - The development and application of new technologies is very important, and immediate benefits to Arctic residents can be gained by sharing existing advances, such as the U.S. CAPSTONE project.

## Participant List

### *CITF Team:*

Walter Parker, CITF Interim Chairperson  
[wbparker@gci.net](mailto:wbparker@gci.net), (907)-333-5189

Peter Wilkniss, CITF Executive Director  
[pwilkniss@aol.com](mailto:pwilkniss@aol.com), (907)-278-2085

Mead Treadwell, Managing Director, Institute of the North  
[meadwell@alaska.net](mailto:meadwell@alaska.net), (907)-343-2400

Charlene Derry, FAA, Office of International Aviation  
[Charlene.derry@faa.gov](mailto:Charlene.derry@faa.gov), (907)-271-5534

Elizabeth Beiswenger, CITF Technical Coordinator  
[elbeiswenger@gci.net](mailto:elbeiswenger@gci.net), (907)-343-2443

### *Other Participants:*

#### *United Kingdom:*

Keith W. Hill, Senior Research Associate, Scott Polar Research Institute  
[Keith.hill2@btinternet.com](mailto:Keith.hill2@btinternet.com), 44-20-7581-1261

#### *Canada:*

Jim Winsor, Director of Airport, Government of the Northwest Territories  
[Jim\\_winsor@gov.nt.ca](mailto:Jim_winsor@gov.nt.ca), 867-873-7725

Don Brownie, PROLOG Canada, Inc.  
[dbrownie@shaw.ca](mailto:dbrownie@shaw.ca), 403-294-1200

Dr. David Malcolm, Director, Canadian Circumpolar Institute  
[David.malcolm@ualberta.ca](mailto:David.malcolm@ualberta.ca), (780)-492-2857

Raymon Kaduck, Aeronavigatsia Consulting, Inc  
[kaduck@policyshop.com](mailto:kaduck@policyshop.com), 613-860-5335

Bill Blahitka, Director, Aviation and Marine Branch, Yukon Government  
[Bill.blahitka@gov.yk.ca](mailto:Bill.blahitka@gov.yk.ca), (867)-634-2440

John Burdett, Transport Canada

Mike Barbeau, Transport Canada

Bill Chubaty, NavCanada

Mike Paslawski, NavCanada

*United States:*

John Doyle, President, 64<sup>th</sup> Parallel International, LLC  
[Parallel64@gci.net](mailto:Parallel64@gci.net), (907)-243-6964

Richard Bartow, FAA Anchorage ARTCC  
[Richard.bartow@faa.gov](mailto:Richard.bartow@faa.gov), 907-269-1801

Jeff Martin, FAA Airway Facilities Division  
[Jeff.martin@faa.gov](mailto:Jeff.martin@faa.gov), (907)-271-3298

Elliot Barske, National Weather Service  
[Elliot.barske@noaa.gov](mailto:Elliot.barske@noaa.gov), (907)-266-5116

Brian Staurseth, FAA, Regional Specialist, International Operations  
[Brian.e.staurseth@faa.gov](mailto:Brian.e.staurseth@faa.gov), (907)-271-6543

Ginger Washburn, Vice President and CMO, World Communication Center  
[Ginger.washburn@wcccp.com](mailto:Ginger.washburn@wcccp.com), (480)-857-6656

Tandy Wallack, Circumpolar Expeditions  
[wallack@arctictravel.net](mailto:wallack@arctictravel.net), (907)-272-9299

Sharon McKenzie, Circumpolar Expeditions  
[sharonmc@alaska.com](mailto:sharonmc@alaska.com), (907)-677-2615

Walker Gusse, AFAA, UAA  
[Night\\_man2@hotmail.com](mailto:Night_man2@hotmail.com), (907)-694-2964

Rosario Nostowy, Alaska Future Airspace Architecture Project  
[Asrem8@uaa.alaska.edu](mailto:Asrem8@uaa.alaska.edu)

Phil Bray, Director of Fixed Wing Operations, ERA Aviation  
[pbray@eraaviation.com](mailto:pbray@eraaviation.com), (907)-266-8315

Jeff Berliner, Alaska Division of International Trade  
[Jeff\\_berliner@dced.state.ak.us](mailto:Jeff_berliner@dced.state.ak.us), (907)-269-8131

Einar Pedersen  
[Snowgoose63@msn.com](mailto:Snowgoose63@msn.com), (907)-

Felix McGuire, Alaska Aviation Coordination Council  
[fmaguire@acsalaska.net](mailto:fmaguire@acsalaska.net), (907)-342-8401

Karen Casanovas, Executive Director, Alaska Air Carriers Association  
[aaca@ptialaska.com](mailto:aaca@ptialaska.com), (907)342-8401

Natalie Novik, The Northern Forum  
[nnovik@northernforum.org](mailto:nnovik@northernforum.org), (907)-561-3280

Priscilla Wohl, The Northern Forum  
[Pwohl@northernforum.org](mailto:Pwohl@northernforum.org), (907)-561-3280

*Russia:*

Afanassi Maximov, Deputy of the State Assembly of the Republic of Sakha  
[yakoll@mail.ru](mailto:yakoll@mail.ru), 7-4112-254060

Vladimir Jouravlev, Director of Transport and Communications, Khanty-Mansiysk  
[transcon@nsmail.ru](mailto:transcon@nsmail.ru), 7-34671-30881

Vladimir Demkine, Deputy Director, "Tyumenaviatrans"  
[Tat\\_air@wsnet.ru](mailto:Tat_air@wsnet.ru), 7-3462770374

Elena Berendeeva, Khanty-Mansiysk Autonomous Okrug  
[uvs@admhmao.ru](mailto:uvs@admhmao.ru), 7-3467192172

*Finland:*

Yrjo Makelo, Ministry of Transport and Communications, Finland  
[Yrjo.makela@mintc.fi](mailto:Yrjo.makela@mintc.fi), 358-9-1602473

## Background

The Finnish Ministry of Foreign Affairs began their chairmanship of the Arctic Council in 2000, and a new priority was to encourage projects that promoted economic and social development. As is stated in the program, “In the promotion of Arctic circumpolar development it is crucially important to improve traffic and transport infrastructure.....At the first stage, views will be exchanged on different ways of developing transport in the Arctic.” (Program for the Finnish Chair of the Arctic Council 2000-2002, Section 6)

The Finnish priority is supported by the following problems:

- The existing infrastructure is reaching the end of its useful life in many instances and is in dire need of costly maintenance or replacement.
- The Arctic lacks infrastructure; the region’s economy and the welfare of its people depends on a fragile network of transportation systems that is vulnerable to disruption by natural disasters, accidents, intentional acts, and effects of climate change.
- Improvements to the existing Arctic infrastructure are closely linked to Market Based Models for Financial Risk and Investment Decisions. These risk factors will likely be the main drivers of the cost of capital and access to capital.
- Currently, the lack of reliable economic ranking and the evaluation of financial risk are the principal hurdles in financing large-scale energy projects in the Circumpolar Arctic, not the lack of technical and economic feasibility studies.
- “Political, Economic and cultural differences or outright enmity has prevented mutual consideration of the infrastructure of the circumpolar region by Russia, the United States, and other high-latitude nations.<sup>1</sup>

To address these problems, the Arctic Council requested that the US Circumpolar Infrastructure Task Force examine areas of infrastructure in the Arctic that need improvement. The CITF’s focus during its efforts has been mainly on aviation infrastructure as suggested by the SAOs.

---

<sup>1</sup> Anadyr Aerodrome Project

## **A. Introduction to Aviation Experts Meeting**

The declaration of the Senior Arctic Officials of the Arctic Council requested the following from the US/CITF:

- That the CITF convene a network of aviation experts to discuss a range of topics in Arctic aviation, including links between Arctic regions and nations.
- That the CITF continue to work with the Finnish Ministry of Transport and Communication to refine and improve the document they presented on Arctic transport
- That the CITF will consult and communicate with, and report to the Senior Arctic Officials, which will enable them to make recommendations to the Ministers.
- That the CITF will begin considering Arctic telecommunication problems with an approach resembling the aviation experts meeting

In accordance with these requests from the Arctic Council, the CITF held a meeting in Anchorage, Alaska in February 2002. The meeting was attended by strong delegations from the United States, Canada and Russia. Finland and the United Kingdom were also represented. The following topics were on the agenda:

- Aviation in the Arctic regions with particular focus on the United States Arctic, Alaska
- Inter-regional aviation between the US Arctic, the Russian Far East, and the Canadian Arctic
- Circumpolar Arctic aviation and global connections (circumpolar and crosspolar air routes)
- Aviation and recent developments in telecommunications and information technology

Two separate working groups discussed these issues, for the purpose of accomplishing the following tasks:

- To arrive at a common understanding, terminology/definitions, and guidelines concerning the infrastructure/transport effort by a network of experts.
- Formulate recommendations to the Arctic Council and the Northern Forum whereby nations and regions can jointly bring about improvements to northern aviation and the links between us.

- Proceed with the US/CITF effort of establishing a database of Arctic aviation experts
- Enlist the identified network of aviation experts in the study of Arctic aviation issues

**The agenda was as follows:**

- Introductory plenary session led by CITF team (Endeavor Room)  
 Dr. Walter Parker- Introduction of CITF team  
 Mr. Patrick N. Poe, Regional Administrator, FAA Alaskan Region-  
 Opening Remarks  
 Dr. Peter Wilkniss- Discussion of Objectives
- 10:00-12:00 Break Out Sessions
- Session 1: Alaska/Russian Far East Aviation  
 Alaska/Canada Aviation (Endeavor Room)**  
 Moderators: Priscilla Wohl and Mike Barbeau
- Session 2: Global & Polar Aviation Issues (Resolution Room)  
 Telecommunication and Information Technology**  
 Moderators: Charlene Derry and Ginger Washburn
- 12:00-1:00 Luncheon sponsored by the CITF  
 1:00-3:00 Break Out Sessions Continue  
 3:00-3:15 Break  
 3:15-5:00 Conclusions and Recommendations

**A. Definitions**

The aviation experts at the February CITF meeting used the following definitions and terms of reference:

**Arctic:** The North Polar Region and the adjacent regions connected by aviation

**Aviation:** All aspects of aviation from large passenger planes to small, “bush,” planes.

**Infrastructure:** The basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communication systems, water and power lines, and public institutions including schools, post offices etc.

**Aviation Experts Network:** A group of credible aviation “experts” for continuous review of existing aviation infrastructure and for developing

recommendations for improvements to the Arctic Council. The network will focus on common issues in aviation to further safety, efficiency and coordination in the Arctic. The aviation experts network will consider the following tasks:

- Arrive at a common understanding, terminology/definitions, and guidelines concerning the infrastructure/transport effort by a network of Arctic aviation experts.
- Proceed with the US/CITF effort of establishing a database of Arctic aviation experts and transportation and telecommunications infrastructure
- Enlist the identified network of aviation experts in the study of Arctic aviation issues
- Agree on a mechanism by which the findings and recommendations from the aviation experts are transmitted by the Task Force to the Arctic Council
- Establish needs and priorities for specific development of infrastructure

## **B. Arctic Aviation Networks**

Aviation networks in the Arctic do exist, and an example of such a network is the Alaska Aviation Coordination Council (AACC).

### **The AACC.**

Vision: That Alaska will enjoy an air transportation system that has safe, efficient, and reliable access to population centers and other areas of general and commercial interest. This same transportation system would enhance the health and welfare of residents and visitors alike, while serving as a vehicle for commerce throughout the State.

**AACC Background:** There are numerous aviation related organizations in Alaska dedicated to advancing aviation causes. The Alaska Aviation Coordination Council's purpose is to pull together these various organizations to focus on common issues to further safety, efficiency and coordination in the state.

### **Member Organizations:**

**AACA** – Alaska Air Carriers Association

**AAAI** - Alaska Airmen's Association Inc

**AASF** - Alaska Aviation Safety Foundation

**CAP** – Civil Air Patrol  
**EAA** - Experimental Airplane Association (Local Chapter)  
**NAAUG** –Northern Alaskan Aviation Users Group  
**SPA**-Seaplane Pilot’s Association  
**University of Alaska** – Aviation Technology Division Anchorage  
**Affiliate Organizations:**  
**FAA** – **Federal Aviation Administration**  
**NWS**- - **National Weather Service**  
**Military**  
**Municipal Airports**  
**AK DOTPF** – **Alaska Department of Transportation and Public Facilities**

**AACC Function:**

- Member organizations listed above will hold a public forum bi-monthly. Affiliate members and public are encouraged to participate.
- Designated representatives of member organizations and selected affiliate executives will meet quarterly.
- Member organizations may, when necessary, meet in closed session to consider actions separate from affiliate organizations
- Special meetings will be called as required.

The AACC reflects one of many organizations working in Alaska to further aviation safety and infrastructure and coordinates among these organizations. The AACC also:

- Deals with the federal government and legislative issues regarding aviation. An example of this is work with the military on training issues, and work with the government on homeland security.
- Works with the state government on international issues. An example of this is the work done with the FAA to improve international Air Traffic Control.
- Coordinates on new technology like CAPSTONE and developments in Search and Rescue (SAR).

- Promotes the health of general aviation and the special requirements of aviation in rural Alaska.

#### **D. Findings**

The Aviation Experts Meeting focused on the most important problem inherent to Arctic travel—that is, East-West air routes. It was clearly demonstrated at the meeting that East West connectivity is wanting and even declining. Specifically in Alaska, travel to the Russian Far East has declined significantly since 2000. There used to be 4 airlines with routes to the RFE, Alaska, Reeve Aleutian, Mavial and Aeroflot, but now there is only one, Mavial.

A number of factors are responsible for the lack of East West connectivity in the Arctic:

- Political
- Economic
- Operational
- Technological
- Safety

These factors are major impediments to providing safe, practical, efficient and useful circumpolar aviation, which serves the economic development and social well-being of Arctic communities.

In a presentation made at both the CITF Edmonton Workshop and the Aviation Experts meeting, the CITF found that East-West commercial air routes in the Arctic are not common and not reliable.<sup>2</sup> An experiment was done to ascertain the feasibility of flying around the Arctic using commercial air service. The inquiry had these preconditions:

- Circle the Arctic North of 60 degrees
- Use only commercial air transport
- Cross international borders at established points of entry
- See as much of the Arctic inside the countries
- Report on opportunities and obstacles specific to each region.

---

<sup>2</sup> “Around the World at the Top” Presentation by Elizabeth Beiswenger. [www.institutenorth.org](http://www.institutenorth.org)

The CITF concluded, and the aviation experts at both meetings concurred, that each region within the circumpolar north had specific impediments to travel. For example:

- Traveling from Alaska to Russia. In this region flights are rare and expensive. The cost of maintenance for the existing flights is high and causes problems. (Example: in Nome, Alaska, the past practice has been to fly in customs and immigration officials for flights arriving from Russia. This practice is extremely expensive and time-consuming.) There is also an extreme lack of communication and knowledge between Russia and Alaska, which causes flight delays and customs problems.
- Traveling within the Russian Arctic. The main impediment to travel here is the lack of economic development and investment in the Russian Arctic. Coupled with this is the rapidly growing cost of transportation. Another problem is that the population within the Russian Arctic is widespread and many locations are inaccessible. It is almost impossible to find data and information on commercial air routes in the Russian Arctic, making it hard to ascertain the level of access. Also, the established points-of-entry into the Russian Arctic are limited and highly controlled, which makes travel and entry difficult. This problem is further compounded by the strict visa requirements.
- Travel within the European Arctic. This area includes Finland, Norway and Sweden. While this area has the most advanced system of infrastructure and commercial air is the most highly developed, there are still problems. Getting from the European Arctic to the North American Arctic is still difficult and is mostly seasonal. The same problem can be seen in Europe-Russia travel. Again, it is mainly seasonal and the points-of-entry are limited.
- Iceland-Greenland Travel. Travel within this region is very expensive and rare. The routes are almost all North-South and are mainly charter flights. The flights that are commercial are seasonal and limited. Like in Russia, the points-of-entry are few. A recent development in this region has cut Greenland-North America travel completely.
- Canadian Arctic Travel. The population in this region, like in Russia, is very widespread. Along with the inaccessibility, the costs of travel

are increasing rapidly. Further, there are a limited number of airlines that fly within this region.

**However, the following would help with potential improvements:**

- External forces could improve aviation linkages in the circumpolar north. E.G. Postal, cargo and tourist traffic
- International agreements between northern regions could be expanded. E.G. the bilateral between Alaska and Russia.
- Data on arctic aviation is becoming increasingly accessible, but the coordination of schedules is still a problem
- International points-of-entry, while still limited, are increasing. (Example: Tromso-Murmansk on Aeroflot) These points-of-entry, however, are still not hubs and often do not connect with other hubs
- Some other opportunities for growth can be seen coming from outside sources such as the postal authorities and those involved in tourism.
- There are also opportunities in the coordination with other modes of transport such as rail, ferries, and shipping.
- Since the end of the Cold War new opportunities have been emerging for economic and cultural integration within the RFE and for economic and political collaboration linking Eastern Russia with its East Asian neighbors and the United States.<sup>3</sup>

In summary, the major findings of the CITF Aviation Experts meetings were as follows:

- 1. Intra-Arctic aviation infrastructure is in need of improvement. Especially East-West air routes.**
- 2. Customs and INS regulations between Arctic Regions, especially between regions and the Russian Arctic, are confusing and outdated.**
- 3. East-West within the circumpolar regions is difficult and confusing.**
- 4. New noise and emission regulations make it difficult for Russian aircraft to travel into other Arctic Regions (excluding Alaska, who is exempt from such standards) especially the European Arctic.**

---

<sup>3</sup> Anadyr Aerodrome Project

## **E. Recommendations from the Experts to the Senior Arctic Officials**

Among the major thrusts of the recommendations to improve East-West connectivity in the Arctic developed by the experts are:

- There was unanimous agreement that the CITF approach was warranted and a real and accessible aviation experts network would be useful and would support the goal of sustainable development
- A “vision statement” for Arctic aviation, with long-term goals in regional and international cooperation, should be developed and adopted as a goal by the sponsors of CITF
- Immediate consideration should begin between nations of the Arctic Council to examine whether mail between the Arctic nations can be helpful in the creation of more direct air routes between our Arctic regions (taking into account these routes may reduce mail times and costs between us while also increasing the availability of cargo and passenger service)
- Regional joint tourism marketing between Canadian territories, provinces and Alaska might be expanded to include joint marketing with Russian regions, or a circumpolar tourism marketing initiative.
- A number of issues concerning cross-polar air routes demand attention as they relate both to the enhancement of safety of international air routes but also the provision of infrastructure in Arctic regions which will directly benefit Arctic residents.
- There is a lack of information including market analysis and cost/benefit analysis. The experts agreed to develop an outline for a feasibility study to promote additional air links between arctic regions, and hold discussions with industry, host governments, and international financing institutions about funding for the study
- There was much enthusiasm for the potential of aviation to meet the sustainable development needs of the Arctic
- The development and application of new technologies is very important, and immediate benefits to Arctic residents can be gained by sharing existing advances, such as the U.S. CAPSTONE project.

**F. Relevant developments since the Experts meeting that are of interest to Arctic aviation:**

- The recent U.S. Russia bilateral agreements. From Alaska Governor Tony Knowles press release, “Scheduled air service between Alaska and three cities in Chukotka was authorized by U.S. and Russian transportation officials meeting in Moscow last week, Gov. Tony Knowles announced today. The State of Alaska has been working closely with the U.S. State Department to win approval of the new air routes to Anadyr, Provideniya and Lavrentiya as part of a new two-year bilateral aviation agreement between the U.S. and Russia.”
- A crisis in the Alaska fishing industry, the competition of farmed salmon with Alaska wild salmon prompted U.S. Senator Stevens to suggest the creation of a system of regional airports that will ensure rapid access to transcontinental and international transportation for all fish products.
- Aviation is severely affected by the lack of affordable terrorism insurance, which they are required to obtain. Rates have skyrocketed since September 11, 2001, or terrorism insurance is not available at all. Alaska general aviation, already suffering from high insurance rates because of increased risk in bush flying, faces additional burdens.
- The CITF Team of Chairman Walter Parker and Coordinator Elizabeth Beiswenger, traveled to Finland and Moscow as a follow-up to the Experts Meeting. Below are the results of the May trip.

**Helsinki, Finland**

*May 6, 2002—Meeting with Markku Heiskanen, Chairman, The Finland-Northeast Asia Trade Association*

Mr. Heiskanen sponsored the Eurasian Railways Forum in February, which was attended by Mr. Parker. Among the things discussed at this forum and at the meeting with Mr. Parker and Mr. Heiskanen were:

- A railway proposal linking Finland with Northeast Asia through Pyonyang, North Korea. It was mentioned that the Japanese and the South Koreans are now becoming interested in this proposal.
- Most of the cargo from Northeast Asia is now shipped from Asia to America, then transported across North America and shipped to Europe. The proposed route, which would link with the Trans-Siberian railroad, provides a more economical route.
- Such a proposal would strengthen infrastructure throughout Russia and Finland, which is concurrent with the goals of the CITF.

Mr. Parker also mentioned the US West Coast Russian Far East Ad Hoc Working Group and their work in the area of Russian transport. Mr. Heiskanen requested information on this group and details of their meeting in Anchorage in September, 2002.

Mr. Heiskanen gave the CITF a copy of an editorial, which had been published in Helsinki's primary newspaper outlining the Northeast Asia-Finland railroad proposal, and noted that the interest expressed by North America in this proposal was mentioned. He credited Mr. Parker with bringing the American Arctic's interests to the Forum and expressed his willingness to cooperate with the Task Force by providing us with information as the project progresses.

*May 7, 2002—Lunch Meeting with Kari Lampela, Division Manager, the Finnish Environment Institute, and Jorma Rytönen, Group Manager at the VTT Technical Research Center of Finland.*

Mr. Rytönen of VTT Technical Research Center briefed the CITF on a meeting in June regarding sustainable development and Arctic Infrastructure. The organizers are looking for American participation, and Mr. Parker suggested Lawson Brigham or Gary Brass of the US Arctic Research Commission.

This conference will be the first of four conferences devoted to sustainable development, and with the primary goal of encouraging the European Union to concentrate more funds on the "Northern Dimension" of the EU. (We should attach the program or add more information)

Mr. Lampela suggested to Mr. Parker that he meet with Seppo Saarelainen, an expert at VTT who works on Arctic roads and permafrost issues.

*May 7, 2002—Meeting with Kaj-Peter Mattsson and Yrjö Mäkelä of the Finnish Ministry of Transport and Communications*

Major points of the meeting:

- Whether or not the Finnish Ministry would like to continue working with the CITF after the Chairmanship of the Arctic Council switches to Iceland
- The wish of the CITF to continue efforts to demonstrate the CAPSTONE program in other Arctic Nations in cooperation with the FAA
- The interest of the Finnish Ministry in the area of telecommunications and how the CITF can contribute to further research and development in Arctic telecommunications by continuing the work on an evaluation of Arctic telecom needs
- The Ministry stressed that the circumpolar Arctic cannot be considered as a unit, and that there are extreme regional differences that need to be considered. By this they were referring to culture, natural resources, and existing infrastructure
- The need to continue a dialogue on telecommunications even if aviation is not a top priority of the Finnish Ministry
- The Finnish Ministry stressed that the Barent's Council is their top priority and gave a recent paper focusing on the Ministry's priorities in the Barent and Baltic regions
- They also presented the team with a paper written by the Ministry on Arctic waterways in the Baltic Sea
- They also mentioned that the Finnish president was in Washington to meet with officials; they hope this meeting will strengthen the ties between the two nations and further Arctic cooperation

Regarding the meeting in Anchorage of aviation experts, which was attended by Mr. Makela, the Ministry expressed their disappointment that none of the other Scandinavian countries were represented. Mr. Makela said that the meeting mainly dealt with North American and Russian aviation, and in order to work with the Finnish Ministry, the CITF would need to bridge the divide between America and Northern Europe.

Mr. Parker suggested that we keep in very close contact with the Ministry regarding our work in aviation and telecommunications, and develop a set of suggestions on ways we can work together. Mr. Parker asked for the Finnish Ministry's help in conducting a thorough survey of Arctic telecom, especially in Russia. The CITF has experienced difficulty in getting information in this area, and the lack of infrastructure and data in the Russia Arctic makes it difficult to analyze the structure of the existing telecommunications.

The issue of increased postal traffic in order to strengthen aviation in the Arctic was discussed briefly, and the Ministry agreed to consider such an option. They gave the CITF team a new contact in the Finnish Post Office: Petri Aaltonen (358-204-51-4676)

Mr. Miettinen stressed that there are ways that the United States and Finland can work together in aviation, and compared the Alaska-Russia region to the Finland-Russia region. Problems between these regions are comparable,

and therefore solutions or suggestions could be beneficial to both areas. He also mentioned the problems that have developed because of the new European Union noise emission standards for Russian aircraft, and how these new standards have become an impediment for increased aviation between Finland and Russia.

These impediments have resulted in the loss of trade and communications between the two countries. It was pointed out that Finnish businessmen who wish to conduct business with Russia face many problems due to the barriers to trade. It is difficult to break down the cultural, economic, and geographical impediments to trade.

The meeting concluded with an agreement that the Finnish Ministry and the CITF will continue to work together and exchange relevant research and documents. The Ministry pointed out that an important step in the development of infrastructure is the identification of common problems in order to increase the attention paid by the national governments to the regions of the Arctic.

*May 8, 2002--Meeting with Seppo Saarelainen, Senior Research Scientist, VTT Technical Research Center of Finland*

Mr. Parker began the meeting by telling Mr. Saarelainen of the meeting the previous day with the Finnish Ministry of Transport and Telecommunications. The CITF and the Ministry agreed upon a joint strategy of cooperation and information exchange in order to facilitate the development of infrastructure.

Mr. Parker then went on to brief Seppo, who is an expert on Arctic roads and frost engineering, on his current project on permafrost. Mr. Parker would like to establish permafrost as a marker of global change on the same scale as Arctic sea ice. So far, the importance of permafrost has been overlooked. Seppo agreed and said that it is not only an important marker, but research into permafrost could shed light on the problems it causes for the building and maintenance of Arctic roads. Seppo then mentioned that the VTT Center is so concerned about this problem in the Arctic that they are sending a representative to the Cold Regions Workshop in Anchorage.

He then went on to explain what VTT does and how it could work with the CITF in the area of land infrastructure. VTT works for the government of Finland and the private sector to better the technological and economic capability of Finland. There are 3,000 employees associated with the Center, and it works in conjunction with the Finnish Technical University. They receive 30% of their funding from the government and the rest from the private sector. They aim to build stable relationships with private sector clients and use the research to educate the students at the Technical University.

Seppo mentioned that one area of major concern for his section working on Arctic roads was the expansion of the thaw layer, which tends to break up roads and create maintenance problems. Global warming has increased the length of the thaw period, which increases the road problems. In America, this problem is limited to Alaska, so it is important for Alaska to work with the other Arctic nations to find solutions to the thaw problem. VTT has done a substantial amount of research in this area, and Alaskan road builders could benefit from what they have already learned.

VTT has also done work on the effects of frost heaves and heavy snows on Arctic roads. They have developed simulators for testing roads and their ability to withstand the harsh Arctic temperatures. One such simulator developed is called the “Heavy Vehicle Simulator,” which follows the normal flow of vehicles and tires on the roads. He stressed the importance of sharing such technologies and results, and mentioned that the simulator has been used in Sweden and is ready to be shipped to Poland next year for testing. VTT has also been in contact with Chinese road builders on the slopes of northern Tibet, and have mentioned their research to the Russian Road Administration and other countries in the European Unions’ “Northern Dimension.”

VTT is currently trying to extend their research beyond surface conditions to those that happen far below the road. Mr. Parker pointed out that the problems of permafrost, thaw layers, frost heaves and heavy snows also pertain to airstrips in the Arctic, and this area could also benefit from the research being done by VTT. At the Aviation Experts Meeting many airport operators from Canada are interested in permafrost research.

Mr. Parker promised to pass on the information through the CITF to the Senior Arctic Officials and the Northern Forum, and to work further with VTT in the area of Arctic roads and permafrost research.

## **Moscow, Russia**

*May 10, 2002—Meeting with Vladimir Etylin, National Duma Representative of the Chukotka Autonomous Okrug*

Mr. Etylin was briefed on the CAPSTONE project by Mr. Parker, who explained what it was, how it worked, where it is being utilized, and how it could pertain to Russian Civil Aviation. The CITF, in cooperation with the FAA, has suggested that CAPSTONE tests be conducted in areas of rural Canada and the Russia Far East, especially Chukotka. Mr. Etylin seemed very interested in the project, and open to possible testing in his region.

The possibility of laser runway lights being tested was also discussed.

The other area that the CITF team focused on with Mr. Etylin was the importance of telecommunications, especially telehealth. In Alaska, there is currently a project being tested in 185 villages where health care and information are transmitted from the village to the hospital over the wire. Mr. Etylin requested from the CITF a project report on these tests when they are available.

In conjunction with the telehealth issue, long-distance education was also discussed at length. Its application to Chukotka is obvious, since the rural structure of Chukotka resembles Alaska very closely.

Mr. Parker mentioned that the main impediment to the implementation of these initiatives was the lack of information from the central Russian government on the existing structure of telecommunications in the Russian Far East. There is also an extremely high cost for these programs, which the poverty-stricken villages of Chukotka will have to work to afford.

Mr. Parker's main question to Etylin was whether or not information could be obtained on the levels and numbers of geo-stationary and low-earth orbiting satellites in Russia. He mentioned that this problem (the lack of information) was discussed at the Joint EU-Russia-United States workshop in Brussels, with Arthur Chilingarov leading the Russian delegation. Mr. Chilingarov will also be leading the Russian delegation to the sustainable development meeting in June, where Mr. Parker will talk with him about obtaining information from the central government on the existence of satellites in the Russian Arctic.

Mr. Etylin stressed that the hardest obstacle to overcome in obtaining this information is getting the right contacts in the center. Questions that have anything to do with space or satellites are difficult to talk to the central government about since security in these areas is especially tight. Mr. Etylin suggested that we develop and maintain a relationship with the Russian Ministry of Transport, who could possibly act as an intermediary and also establish contacts with people who could provide telecommunications information.

Mr. Parker and Mr. Etylin discussed the CITF's relationship with the satellite company Iridium, and Mr. Etylin said that there had been interest from Iridium in Russia, but the problem was that the Russian Far East had few satellites available for commercial use.

Mr. Parker then briefed Mr. Etylin on the recent US-Russia bilaterals regarding aviation, which were held in Moscow in April (?). Both sides expressed satisfaction with the approval of the new routes from America to Russia and were hopeful that there will soon be flights. Mr. Parker said that the main impediment to these routes would be the lack of sufficient airport facilities in Chukotka. Mr. Etylin then mentioned the current reconstruction of the Anadyr Airport to establish it as an international airport. The reconstruction is being done by a

Yugoslavian company, and with the complete support of the Chukotka Administration.

Mr. Etylin was also briefed on the postal issue, and was encouraged by the CITF's efforts in this area.

The meeting ended with an agreement that the CITF would keep the administration apprised of our efforts, and with an agreement from Mr. Etylin that he would assist us in making contacts and obtaining information wherever he could.

*May 11, 2002—Meeting with Alexander Borodin, the Administration of the Chukotka Autonomous Okrug*

Mr. Borodin, who works very closely with the Governor of Chukotka, Roman Abramovich, was briefed by Mr. Parker on the efforts of the CITF in the Russian Far East. The CITF's priorities in aviation and telecommunications were also mentioned.

Mr. Parker again mentioned the importance of the recent bilaterals between Russia and the United States, which were conducted by the Governor of Alaska's office. Mr. Borodin was very interested in the approval of the new routes by the Russians, and asked for any information the CITF could provide regarding these meetings.

The CAPSTONE project was also discussed, and Mr. Borodin agreed that a test in the Chukotka region would be beneficial to all parties, and agreed to speak with the governor about the possibility.

Mr. Borodin briefed the CITF team at length about the new Anadyr Airport reconstructions, and mentioned the importance of permafrost to the construction of the new runways and facilities. Mr. Parker concurred, and offered to send Mr. Borodin information on the people working on permafrost issues in the United States and Russia.

Along with the permafrost issue, Mr. Borodin also mentioned the postal traffic issue. He said that the main problem before the reconstruction with bringing mail in to the Chukotka region was the dire state of the airport. It could not handle international traffic or large planes, which made any effort to bring mail in to Chukotka from Alaska a lost cause. Now that the airport will be up to international standards, the Governor is very encouraged that the postal issue could be a feasible proposal, and has written a letter outlining this proposal to the Russian Post Offices' International Division.

He agreed that the CITF's efforts in this area were very important, and could be a possible way for the administration to work directly with the Task Force.

*May 13, 2002—Meeting with Nariman Sukhanov, Member, the Northern Forum Academy, Deputy Head of Town-Building*

Mr. Sukhanov, who has worked with the CITF on previous occasions, briefed the team on the difficulty of making contacts in the central government, which was similar to what Mr. Etylin said. He provided the CITF with the names of two officials in the Civil Aviation Authority in Moscow who had agreed to work with the CITF and exchange information:

Vitallii Kuzmich Pavluk—095-155-5728  
Sergei Vassiliev Seskutov—095-155-5263

An attempt was made to set up a possible meeting while in Moscow, but due to time constraints, it was not possible.

Mr. Sukhanov, whose specialty is social infrastructure, believes that transport is essential to town-building, permanent settlement, and the stabilization of the economy. He is therefore very excited about the efforts of the CITF, and believes that the CITF's work in transport could be beneficial to the whole country of Russia, rather than just the Arctic.

He mentioned his work in permafrost as related to town-building and engineering, and briefed Mr. Parker on the existence of a permafrost institute in Yakutsk. The institute in Yakutsk focuses on the problems created by permafrost in the field of engineering. He was very interested in the work being done by Mr. Parker's group in the United States.

Both agreed to work together, specifically on the problems of permafrost, and exchange information between their two working groups in order to share new information. Mr. Sukhanov encouraged the Institute of the North, which is the home to the Secretariat of the CITF, to join the Northern Forum Academy, and agreed to help with the application if the Institute was interested.

He thinks it is important to publicize the work being done by the CITF, and suggested that the team write an article and try to publish it in Russia. He will assist in this effort and also distribute the Aviation Experts Meeting Report to his colleagues in the Ministry of Transportation.

## **Oulu, Finland**

*May 13-16, 2002—Senior Arctic Officials Meeting and Progress Report of the CITF*

On May 14, Chairman Parker presented the CITF report to the Sustainable Development Working Group (SDWG) of the Arctic Council. The results of the Aviation Experts Meeting were presented in writing and orally. It was emphasized that there was strong support for continuation by the Canadian and Russian delegations. Connections between the Russian Far East, Siberia and North America were identified as needing the greatest attention since the service is so poor now that it definitely hampers economic development in the Russian Far East and Siberia, especially for any North American participation in that development. The role of the U.S. Federal Aviation Administration's CAPSTONE project in regional aviation was discussed at length. The efforts to develop postal service directly between North America and the Russian Far East were explained and the role the postal payments as a stable underpinning of the air route structure was explained. The role of tourism in supporting more frequent and reliable service was also discussed and the SDWG program on tourism was indicated as an area for strong cooperation with CITF.

The role of CITF in telecommunications was presented. Unfortunately, there was no presentation by Finland to explain what their telecommunications priorities were. It was emphasized that a strong Russian participation was necessary since that is where most of the problems are. A workshop of telecommunications experts, similar to the aviation experts meeting, is necessary and it was conveyed that there was some funding available for such a meeting. Our desire to have a workshop on marine transportation was also brought forward.

On May 16, the same presentation was made to the Senior Arctic Officials with considerable more time available than had been given to us at SDWG. The Chairman of the Arctic Council, Peter Stenlund, has always been supportive as he was at this meeting. After the presentation, the next national Chair of the Arctic Council, Iceland, approached Mr. Parker to ask us to participate in a workshop on telecommunication and information systems with them in 2003. He indicated that was something we would be glad to consider. Chairman Stenlund indicated in his summation of the presentation and responses that CITF should continue as it has been doing and that this would be the report to the Ministerial in October 2002.

Secretary General Walter Hickel of the Northern Forum was asked to open the meeting of the SAOs on May 16 and he relayed to them his discussions with the United Nations Secretariat two days previously. The discussions focused on the role of the commons in the upcoming Rio+10 meeting in Johannesburg in August and the report was received with intense interest by the nations and permanent participants around the table.

Northern Forum participated strongly throughout both meetings and with strong support by Chairman Stenlund, a strong alliance was created at this meeting between the Arctic Council and the Northern Forum. This was cemented by a

dinner where the SAOs and the Executive Committee of the Northern Forum met and formally indicated their desire for the closest possible cooperation.

## **G. References**

“Program for the Finnish Chair of the Arctic Council 2000-2002”  
[www.arctic-council.org](http://www.arctic-council.org)

“Arctic Council Aviation Experts Meeting White Paper.” Peter Wilkniss

“Around the World at the Top.” Presentation by Elizabeth Beiswenger,  
[www.institutenorth.org](http://www.institutenorth.org)

“Workshop Report.” CITF Edmonton Meeting, [www.institutenorth.org](http://www.institutenorth.org)

“Anadyr Aerodrome Authority, Feasibility Planning Proposal.” Prepared by  
RISE Alaska, LLC/ (907)-276-8095

“Air Transport of the Khanty-Mansiysk Autonomous Okrug.” The  
Government of Khanty-Mansiysk

“Northern Canada-Alaska-Russian Far East Air Service Feasibility Study.”  
Don Brownie, PROLOG Canada