

**ASSOCIATION INTERNATIONALE DES TUNNELS
ET DE L'ESPACE SOUTERRAIN**

**INTERNATIONAL TUNNELLING AND
UNDERGROUND SPACE ASSOCIATION**

**Compte Rendu de la 34^{ème} Assemblée
Générale**

AGRA

21 – 24 Septembre 2008

**Report of the 34th General
Assembly**

AGRA

21 – 24 September 2008

The 34th meeting of the General Assembly of the Member Nations of ITA was held in AGRA on 21 and 24 September 2008 under the presidency of Martin KNIGHTS (UK), assisted by the Executive Members.

VOTING REPRESENTATIVES

SOUTH AFRICA	Tony BONIFACE
ALGERIA	--
GERMANY	Roland LEUCKER
SAUDI ARABIA	--
AUSTRALIA	Simon KNIGHT
AUSTRIA	Robert GALLER
BELGIUM	Willy DE LATHAUWER
BRAZIL	Tarciso CELESTINO
BULGARIA	Tzolo VOUTOV (vote by correspondence)
CANADA	Stuart THOMPSON
CHILE	--
CHINA	Bai YUN (Sunday) and Shanyun GUO (Wednesday)
COLOMBIA	--
SOUTH KOREA	Gye-Chun CHO
CROATIA	--
DENMARK	Jorgen HOLST
EGYPT	Dr. KRISHA
SPAIN	Miguel FERNANTEZ-BOLLO
UNITED STATES OF AMERICA	Brenda M. BOHLKE
FINLAND	Bjarne LILJESTRAND
FRANCE	Jean PHILIPPE
GREECE	Nikolaos KAZILIS
HUNGARY	Zsolt BALOGH
INDIA	V. K. KANJLIA
INDONESIA	--
IRAN	--
ICELAND	--
ISRAEL	--
ITALY	Adolfo COLOMBO
JAPAN	Hiroshi KOMORI
KAZAKHSTAN	Baibol A. UTEPBAEV
LESOTHO	--
MALAYSIA	-- (represented by Felix AMBERG)
MOROCCO	--
MEXICO	--
NORWAY	Ruth Gunlaug HAUG
NETHERLANDS	--
PERU	Winston Lewis DIAZ
POLAND	Wojciech GRODECKI
PORTUGAL	António PINTO DA CUNHA
ROMANIA	Sorin CALINESCU
UNITED KINGDOM	Donald LAMONT
RUSSIA	Vitaly UMNOV
SINGAPORE	Chun Nam OW
SLOVAKIA	Robert TURANSKY
SLOVENIA	Jakob LIKAR (by correspondence)
SWEDEN	Bernt FREIHOLTZ
SWITZERLAND	Felix AMBERG
CZECH REPUBLIC	Ivan HRDINA
THAILAND	Suchatvee SUWANSAWAT
TURKEY	Yücel ERDEM
UKRANIA	--
VENEZUELA	--
VIETNAM	--

Sunday 21 September 2008

1. Opening speech
2. Approval of the agenda
3. Approval of the minutes of the General Assembly 2007
4. Report of activity of the Executive Council – Comments from the Assembly
5. Minutes of the Training Session on Friday 19 and Saturday 20 September 2008
6. Progress of membership
7. Report from the Auditor – Comments from the Assembly
8. Report of activity of the Member Nations – Comments from the Assembly
9. Communication from Sister International Organizations
10. Financial report 2007 – Comments and approval of the accounts
11. Preparation of the election of an Executive Member and of the appointment of the Secretary General
12. Preparation of the other decisions of the General Assembly on Wednesday 24 September 2008
 - 12.1 Presentation of the invitations received for the General Assembly 2011
 - 12.2 Presentation of the budgets for future years
 - 12.3 Progress of the amount of the subscription fees

Wednesday 24 September 2008

13. Election of an Executive Member
14. Report of the Open Session on Tuesday 23 September 2008
15. Working Groups and Committees: Reports and projects of activity
16. Appointment of the Secretary General
17. Appointment of the members of the Committee of Nomination
18. Appointment of the Auditor on the conformity of the actions of the Executive Council
19. Preparation of the General Assemblies 2009 and 2010
20. Decision concerning the amount of the subscription fees
21. Draft budgets for 2008 and 2009
22. Choice of the place of the General Assembly 2011
23. Other business
24. Closing speech

A – ASSEMBLY ON SUNDAY 21 SEPTEMBER

1 – OPENING SPEECH

President KNIGHTS welcomed the delegates of the 38 Member Nations represented and the representatives of the three sister associations PIARC, ISTT and ACUUS; he thanked the President Rakesh NATH and all the members of the Indian Association for the preparation of the 34th annual meeting of ITA.

The President greeted the memory of Norman Schmidt, one of the very first Affiliate Members of the Association and initiator of the membership of South Africa.

2 – APPROVAL OF THE AGENDA

The President presented the agenda sent on 3 July 2008; it was approved without amendments.

3 – APPROVAL OF THE MINUTES OF THE GENERAL ASSEMBLY 2007

The minutes of the General Assembly 2007 were sent on 9 November 2007; they were approved without amendments.

4 – REPORT OF ACTIVITY OF THE EXECUTIVE COUNCIL

The President reminded that the report of activity was sent to the Member Nations on 23 April 2008 and asked for the comments from the Assembly. (Encl. 1)

The Secretary General briefly reminded the main items of the report and gave the latest news concerning the publication of TRIBUNE, the publication of the newsletter *ita@news* and the new website.

No particular remarks were expressed from the Representatives of the Member Nations.

The report, supported by the delegates from Austria and from the United Kingdom, was unanimously approved.

5 – MINUTES OF THE TRAINING SESSION ON 19 AND 20 SEPTEMBER "ENGINEERING OF TUNNELS"

Coordinated by Daniele Peila, Animator of ITA/AITES WG18 "Training", Piergiorgio Grasso, member of ITA/AITES Executive Council and Prof. Tiramamurthy, Chairman of the technical council of the ITA/AITES World Tunnelling Congress 2008.

200 participants, 40 of them outside India, attended the training course. Reports were presented by 16 lecturers from 12 countries, six of them ITA Prime Sponsor, and nine of them ITA Animators or members of the ITA executive council. The high class lecturers gave twelve hours of excellent presentations about conventional and (especially) mechanized tunnelling in long and deep tunnel and urban areas, both from the theoretical point of view and with the discussion of many relevant case histories. Engaged discussions showed the high interest of the participants.

6 – PROGRESS OF MEMBERSHIP

6.1. Member Nations

The Association registered the membership of two new Member Nations: KAZAKHSTAN and PERU.

The number of Member Nations therefore reaches 54. (Encl. 2)

6.2. Affiliates

6.2.1. Requests for membership

a) Corporate Members: 14

219	Lachel Felice & Associates, Inc.	USA
220	Adcos NV	Belgium
221	Thorn Europhane SA	France
222	Pöyry Infra Consultoria e Projetos Ltda	Brazil
223	Bergab	Sweden
224	Fundacion Transpirenaica	Spain
225	Institute for Dev. of Water Resources “Jaroslav Cerni”	Serbia
226	Interbiak SA	Spain
227	Jiangsu East China Construction Group	China
228	Perpetuity Bvba	Belgium
229	Hydromat Ltd	Bulgaria
230	Alliance Group of Companies	Russia
231	Nakheel	United Arab Emirates
232	M/S Ideb Projects Private Limited	India

b) Individual Members: 14

357	Mr. Carlos A. Jaramillo	USA
358	Mr. John William Townsend	USA
359	Mrs Raffaella Mellano	Italy
360	Mrs Raffaella Mellano	United Kingdom
361	Mr Paul Marinos	Greece
362	Mohammed A. Bahareth	Saudi Arabia
363	Turky A. Ezzat	Saudi Arabia
364	Mr. Harald Leiendecker	USA
365	Mrs Magdalena Vasilovska	Australia
366	Mr. Abdulaziz Jemeel Abu Alsaud	Saudi Arabia
367	Mr. Markus Thewes	Germany
368	Mrs Mary Molloy	Ireland
369	Mr. Richard L. Bullock	USA
370	Sobota Radoslav	United Kingdom

c) The voting delegates of the concerned Member Nations did not object and the General Assembly approved these candidatures.

6.2.2. Resignations

a) Corporate Members: 5

012	Skanska Sverige AB	Norway
080	RATP	France
094	Toa Construction	Japan
128	Kellogg LCC	USA
130	JF Shea Construction Co	USA

b) Individual Members: 16

007	Norman Schmidt	South Africa
085	Johann Schmieder	Germany
160	Peter C. Tatnall	USA
168	Stephen Robert Macklin	United Kingdom
177	Daniel Hanson	USA
179	Terence Mc Cusker	USA
204	Hobart Mac Pherson	USA
230	Morris W. Sykes	USA

236	François Vuilleumier	Switzerland
254	Christoph Goss	USA
277	George Teetes	USA
281	Patrick Stephens	USA
287	Marianne C. Ramey	USA
313	Hugh P. Caspe	USA
318	Salvatore J. Calvanico	USA
336	Robert Palermo	USA

6.2.3. Exclusions

The exclusions of Affiliate Members, pronounced for non-payment of the subscription fee for over three years, are the following:

a) Corporate Members: 2

131	Shotcrete Technologies Inc.	USA
142	Frontier Kemper Constructors Inc.	USA

b) Individual Members: 15

210	Patrick O. Shires	USA
226	Antonio Marinucci	USA
235	Luis E. Castaneda	USA
251	Randall F. Hafer	USA
252	Terry Karlsen	USA
256	Robert A. Reseigh	USA
261	Don Zeni	USA
269	Daniel Nowak	USA
274	Gregg Olsen	USA
280	Richard Wilson	USA
283	James D. Lake	USA
284	William H. Allan	USA
302	William F. Daly	USA
315	Gabriel Fernandez	USA
322	Wayne Warburton	USA

The delegate from the USA pointed out that the situation of the Affiliate Members from the USA should shortly be regularised.

6.2.4. The number of Affiliate Members therefore reaches 274 (Corporate: 147 – Individual: 127) (Encl. 3 and Encl. 4)

6.3. ITA-COSUF

The General Assembly did not present any remarks concerning the 12 additional organizations that have asked to become members of the Committee ITA-COSUF (Comité pour la Sécurité Opérationnelle des Ouvrages Souterrains); their candidature was approved as well as the resignation of two organizations. (Encl. 5)

6.4. ITA-CET

The General Assembly did not present any remarks concerning the 17 organizations that have asked to become members of the Committee ITA-CET (Committee for Education and Training); their candidature was approved.

7 – REPORT FROM THE AUDITOR ON THE CONFORMITY OF THE ACTIONS OF THE EXECUTIVE COUNCIL

As decided by the 2000 General Assembly, the Association chose to implement an action plan to reach the goals of the strategic scope of ITA becoming "the unquestioned leader of underground space".

In 2007 a motion on strategy adopted by the General Assembly reaffirmed the vision of the Association as "ITA, the Leader in Tunnelling and Underground Space" with four main directions as follows:

- a) To enlarge the geographical representation of ITA by increasing the number of its Member Nations;*
- b) To improve the relationship with International Organizations and Decision Makers, especially those contributing to the Sustainable Development by the use of Underground Space;*
- c) To improve the communication inside and outside of the Association;*
- d) To improve the Scientific, Technical and Training actions of the Association.*

As far as the Member Nations are concerned, the Ex-Co considered that five out of the twenty nations in contact with ITA could become ITA member nations in a reasonable time (Argentina, Ireland, Peru, Serbia and Kazakhstan). The Executive Council decided to nominate for the period 2007-2010 geographic experts outside the Ex-Co for the development of the Association in South America (A. Assis), in South Asia (K. Ono), in the Middle East (H. Wagner) and in Central Asia (M. Belenkiy); they organized with the Secretary General a programme of visits in these countries in order to try to convince them to join ITA. Contacts were made with Serbia and Saudi Arabia (H. Wagner) and Dubai (P. Grasso). The Ex-Co also tried to keep in contact with Australasia in order to promote the creation of a national group in New-Zealand.

M. Belenkiy's contacts with Kazakhstan were very fruitful and as a result the KTA (Kazakhstan Tunnelling Association) was formed with the prospect of becoming the 53rd ITA Member nation representative. The country is expecting a help from ITA for the preparation of the national standards to build tunnels. This is good news and more efforts are needed to bring into the family all nations interested in underground space technologies.

As a result of A. Assis contacts with Peru, the Asociacion Peruana de Tuneles y Obras Subterranas -APTOS (Peruvian Tunnelling and Underground Works Association) has also applied to become the 54th Member Nation of ITA.

The Auditor would also like to draw the attention on complementary actions needed to be undertaken in order to maintain inside the organization all the current members, as in line with the Ex-Co demand to the Secretary General to report on the status of the not so active Member Nations and to prepare a plan for revitalizing some of them.

*The Ex-Co followed on with planned actions with the **UNITED NATIONS** (a half-day workshop on the use of Subsurface Space in developing countries was held in NY on December 14th, 2007); furthermore H. Parker will develop the relationship with the Committee on Sustainable Development and with HABITAT.*

*On the perspective actions with the **EUROPEAN UNION** the Ex-Co decided to reactivate the Task Force "European Union" linked to the opening to the East as it concerns directly almost 30 countries. For ITA, it means: Training, Technological Development and Translation in official European languages of our website. Some actions were already started with Slovenia. The Task Force will have to prepare the list of actions to be proposed by ITA to the EU, the names of the people to meet inside EU and the current ideas on the means of actions.*

Good results and cooperation were continued also with all Sister Organizations.

ITA's newsletter is timely circulated and the issue of ita@news N° 24 was on line on June 19th, 2008, and distributed to more than 5.500 addresses; some Member Nations like Italy are preparing an alias allowing all their members to receive directly the ita@news.

The organization's Website was updated many more times but it seems that it will need a technical update and more things have to be inserted into its content in order to become more and more useful and attractive.

The Ex-Co position regarding communication matters were presented by P. Grasso in a report concerning the needs of ITA such as: better communication with the decision makers, a more strong professional review and better coordination. During these debates the Ex-Co identified two main players on topics regarding communication. On all matters regarding ITA issues such as Position papers, ITA reports, Workshops, Training Sessions, etc; the communication will mainly be done by ITA itself, but for matters regarding the preparation of the WTC the Host country will be fully responsible and the role of ITA is to prepare the Guidelines for helping that country, if needed, for preparing Press releases and to promote the country internationally.

Three ITA position papers are posted on the Website (PPP, Fire safety and Geo engineering) and more papers are currently being prepared on ITA-COSUF initiatives, ITA-CET initiatives and ITA-CUS.

New internet tools for communication inside the working groups were installed, consisting in mailing lists and ftp sharing space. Unfortunately only WG5 and WG12 are regular users of the mailing lists and the FTP was used only for WG 6, 12 and 19.

As a measure of achievement of the main goals for implementing the renewed strategic plan a number of performance indicators were set by the Ex-Co with the following results for the moment:

Membership drive by 2010:

- Member Nations (5 more): presently 2*
- CAM (140 more): presently 11 - 2 - 5 = 4*
- Supporters (25% of CAM): presently 1 possibly 2*
- Prime Sponsors (4 more): presently 1*

Website audience, daily number of visitors (presently 34,000/month), number of hits (presently 500,000/month), number of Kbytes downloaded (presently 110 Go/month), number of pages (presently 80.000/month), number of files (presently 300,000/month), number of countries concerned (presently more than 100).

Seminars: number per year (minimum of 2): 4 in 2008 (Amsterdam, Graz, Torino and Portoroz).

Training: Master Courses and Courses for young professionals.

Improvement and distribution of the ita@news: presently 5,700

As a conclusion the new strategy of the Association is well on track with multiple ongoing actions and a good performance system for survey that provide a good perspective for achieving the goals set by the General Assembly.

Internal Auditor : Sorin Calinescu, ROMANIA

The President thanked Sorin CALINESCU and reported that the Executive Council will examine the recommendations presented so as to follow them up in the best possible conditions.

The General Assembly unanimously approved the presented report.

8 – REPORT OF ACTIVITY OF THE MEMBER NATIONS

The Secretary General reported that the 28 reports of activity received for 2007 were integrated in the annual issue of TRIBUNE distributed in July 2008; he also reported that all the reports, including those that will be sent to him within the next few weeks, will be integrated in the website. He reminded that the Executive Council is at the disposal of all, and in particular of the Member Nations that did not send any report in the past two years, to help them develop their activity.

The President announced to the Assembly that the Executive Council chose the candidature of Olivier VION to hold the new office of Executive Director of the Association; he will take up his duties on 1st January 2009.

a) **South Africa:**

SANCOT continues to function as a committee of the Southern African Institute of Mining and Metallurgy (SAIMM). Please note the use of the word “Southern” – as the SAIMM has Branches in a number of neighbouring countries in southern and central Africa. The SAIMM are currently in communication with the Lesotho Tunnelling Society (LTS) with a view to their operating as a new Branch of the SAIMM thereby availing themselves of the administrative organization and facilities the Institute can provide, whilst allowing the LTS to maintain its independent membership of the ITA. This type of arrangement could apply to other neighbouring countries and the SAIMM is actively promoting this idea.

There is a number of forthcoming events which are described below:

- ‘TBM Forum’ 6th November 2008, Johannesburg
- Two day SANCOT Seminar - 7th/8th November, Ladysmith, Kwa-Zulu/Natal
- Two day ‘Shotcrete for Africa’ Seminar – 2nd/3rd March 2009, Cradle of Human kind (70km north-west of Johannesburg).
- Post Graduate Course in Tunnel/Raise Boring

b) **Australia:** The Australian representative reported that his country will be candidate for the organization of the Congress 2012 or 2014.

c) **Austria:** The Austrian representative confirmed the works in progress at the tunnel of Koralm (38 km), of Brenner (58 km) and of Lemming (27 km); he invited the members to participate in the 6th "Austrian Tunnel Day", on 8 October, and in the 5th conference of the Austrian Society of Geomechanics; he also reported the opening of a Master NATM by the Universities of Leoben and of Graz.

d) **Brazil:** The Brazilian representative announced the launching of the invitation for tender for the construction of lines 5 (11km) and 6 (22 km) of the metro of Sao Paulo, knowing that other works are in preparation as part of the World Cup of Football 2014.

e) **China:** The Chinese representative reported that his country will be candidate for the organization of the Congress 2012 or 2014.

f) **Egypt:** The Egyptian representative reported that his country has organised 10 forums in 18 months on underground works, and has applied with the universities of Turin, of Stuttgart and of Ljubljana for a project Tempus on an innovating training as regard Underground Works. He also reported that line 3 of the metro of Cairo is under construction and that the 12km construction of line 4 should be launched in January 2010. A new tunnel under the Suez Canal is under study.

- g) France:** The French representative reported that 80 recommendations have been produced; 40 in English language and 20 in French language are published on the new website; he invited the members to participate in the international congress of Monaco (6-8 October 2008) organised in partnership with the Italian, Spanish, Swiss and Belgian groups.
- h) Kazakhstan:**
The Tunnelling association of Kazakhstan is a young organization. Our main purposes are: educating and training of specialists in tunnelling, as well as attracting investors with breakthrough technologies and equipment for construction of different underground facilities.
Becoming a member of the ITA today, on behalf of the Tunnelling association of Kazakhstan, I would like to express great appreciation for help and support colleagues from Russian Tunnelling association and particular gratitude Claude Berenguier, General Secretary of ITA.
We are sure that the entering of Kazakhstan to the ITA certainly will give a great incentive for the development different underground facilities.
Let me wish you successful and fruitful activity for the welfare of you country and people!
Baibol A. Utepbaev, President of Tunnelling association of Kazakhstan.
- i) Norway:** The Norwegian representative reported that the next conference "Straits Crossings" will take place from 21 to 25 June 2009 in Trondheim; he invited all the participants to propose some papers for the conference.
- j) Peru:** The representative from Peru thanked ITA: *Thanks for the recognition of APTOS (Asociación Peruana de Túneles y Obras Subterráneas) to be a member of the ITA.*
Our Country is descended from Inca culture that also knew the use of underground space. In the name of APTOS, I also want to thank for their full support Dr. Assis and Mr. Claude Bérenquier with whom we started this project four years ago, and today it is a reality. I wish also to engage the Peruvian Tunnelling Association to work to take you all in our country in a near future in an event as important as this one.
- k) Portugal:** The Portuguese representative reminded about the seminar organised in May 2008 on underground structures achieved in Portugal; he reported that many developments are in progress in the fields of metros in Lisbon and in Porto, and in the field of energy.
- l) United Kingdom:** The representative from the United Kingdom invited the Member Nations to participate in the training day on Health and Safety in the construction of tunnels.
- m) Singapore:** The representative from Singapore reported that his country will be candidate for the organization of the Congress 2014; he reported that by 2020, the length of the Metro should move from 138 to 278 km.
- n) Sweden:** The Swedish representative reported that his country is committed in a 12-year investment plan which will include many rail and road tunnels; he notably pointed out the westbound bypass of Stockholm which will include a 16-km long tunnel with 2x3 lanes. He reported that the priority is also put on aspects concerning Safety in Operation; he reminded in this respect the success of the 3rd international symposium on Health and Safety organised in Stockholm with the support of ITA and which gathered 250 delegates from 30 countries.
- o) Thailand:** The representative from Thailand reported that his country will be candidate for the organization of the Congress 2012.

9 – COMMUNICATIONS FROM GUEST SISTER ORGANIZATIONS

a) World Road Association (PIARC)

On behalf of the World Road Association (PIARC), Pierre SCHMITZ, President of the Committee of Operation of Road Tunnels, presented the situation of the works of his Committee and of its relations with ITA.

The World Road Association held its 23rd World Road Congress from 17 to 21 September 2007 in Paris. This congress gathered over 3,000 congress participants and over 40 ministers in charge of transports. The Committee of Operation of Road Tunnels had presented two specific sessions there, namely:

- "Activities of the Committee of Operation of Road Tunnels over the period 2003-2007"
- "Management of Safety in Road Tunnels"; this latest session was organised jointly with the European Commission, the NFPA of the United States of America and ITA; Claude Bérenguier presented a lecture on the conception of the structure of tunnels and the safety of users there.

This Congress was the occasion to celebrate the centenary of PIARC and the 50th anniversary of the Committee of Tunnels.

The works of PIARC develop over four-year cycles. For the current cycle 2008-2011, twenty technical committees have been created and distributed in four strategic topics:

- A – Sustainability of the networks of road transport
- B – Improvement of the supply of services
- C – Safety of road networks
- D – Quality of road infrastructures

Topic C includes four technical committees among which n°4, called C4, is the committee "Operation of road tunnels".

There is also a committee of terminology and of aid to translation.

Up to this day, the committee C4 includes about fifty members and about fifteen correspondents each appointed by the first PIARC representative of their country.

Five associated members have also been appointed by PIARC and the committee including Claude Bérenguier and Willy De Lathauwer who represent ITA within the committee.

Finally, about fifty experts have been invited by the various working groups of the committee to participate in the works of these working groups.

All together, the committee will be able to rely on the expertise of 120 experts from 34 different countries.

The committee already held a first meeting in Paris in March, and will hold its second meeting in Montreal within 10 days. This meeting will be followed by a workshop during which the problems of operation met by the administration in charge of the tunnels in Montreal and in particular the La Fontaine tunnel, which should be the object of a deep upgrading, will be discussed. The specific problems caused by the great cold in tunnels will also be discussed. The third meeting is planned in March 2009 in Madrid.

At the beginning of each cycle, every committee receives the terms of reference for the activities it has to carry out during the four-year cycle which starts. Five stakes have been defined for the committee:

1. The first one aims at working to improve the operation and the maintenance of tunnels.
2. The second stake aims at considering the management and the improvement of the safety of tunnels.

3. The third stake requests to see how to act on the behaviour of the users.
4. The fourth stake concerns the optimization of ventilation and the fight against fire.
5. The fifth and last stake is new and requires to evaluate, structure, and communicate the knowledge on the operation and the safety of tunnels.

For each of these five stakes, a working group was formed.

It is too early to give the list of technical reports which will be worked out by the working groups during this cycle as this list needs to be discussed and made official at the next meeting in Montreal.

M. Schmitz took the opportunity of reminding the list of 11 reports produced during the latest cycle to point out that n° 4 of the list which deals with risk analysis for road tunnels is quite a sensitive problem for those in Europe who are faced with the implementation of the European guideline on safety in road tunnels.

He pinpointed the report before the last one which presents an evaluation of the fixed systems of fight against fire which is also a sensitive subject. These reports are available free of charge on the website of PIARC www.piarc.org. One just has to click on "Virtual Library" which appears on the home page.

After having presented the past activities and the activities in progress of the committee, M. Schmitz ended his report by the presentation of three concrete actions that PIARC would like to carry out in cooperation with ITA during this cycle.

The first action concerns the works of ITA-COSUF into which PIARC will keep on getting involved. At the first meeting of the committee, Didier Lacroix, who is known by most participants and who was the previous president of the tunnel committee of PIARC, was appointed as the representative of committee C4 of PIARC at the steering board of ITA-COSUF.

The second action that M. Schmitz' committee would like to carry out jointly with ITA concerns the 5th stake of the committee and more particularly the request which has been made to this committee to work out a handbook for the professionals of tunnels or a guide for non-specialists. As a matter of fact, it would be difficult to work out a work synthesis on equipments, the operation and safety of tunnels without mentioning, at one stage or another, the aspects of civil engineering and construction which underlie these fields.

M. Schmitz does not want to detail these aspects which come under the field of competence of ITA but he would like to associate ITA in the drafting or the approval of a synthetic text in which the essential elements of these constructive aspects which have or may have an important impact on the fields dealt with by PIARC and following the field of action of ITA should appear.

Lastly, the last action that PIARC would like to carry out with ITA concerns a transversal task which is requested from all the technical committees of PIARC. The committee of terminology and aid to translation has been working for several years on the technical terms used in the road world. These dictionaries are accessible free of charge on the website of PIARC. You just need to click on "Terminology – Dictionary" to accede to it.

Here is the list of about forty words which can be found in the subtopic "Construction of tunnels". PIARC would like to have the support of ITA at its disposal to help them validate the expressions currently translated and defined, and, if necessary, to propose some new ones.

PIARC would also like to pursue this initiative in a continuous way for all the new words which could be added in this subtopic.

b) International Society of Trenchless Technology (ISTT)

Ray STERLING, Past President, reminded about the 25 years of existence of the Society which includes 22 Corporate Members; the next meeting will be held in Toronto from 29 March to 1st April 2009 on the main topic of Tunnels for Sewers.

c) Association of Research Centres for Urban Underground Space (ACUUS)

Ray STERLING reminded that ACUUS has been organizing every 2-3 years since 1983 some conferences, and reported that the Secretariat has just been transferred to China; the next conference will take place in Shenzhen in November 2009. He reported that ACUUS would like to develop cooperation with the Committee ITACUS.

10 – FINANCIAL REPORT 2007

10.1. Closing of the Accounts 2007 - Report from the Auditor

- a) The financial elements were sent along to the Member Nations with the invitation to the General Assembly. (Encl. 6)
- b) The Treasurer commented the documents sent to the Member Nations, which include the balance sheet, the account of results, and the report of the Auditor.

10.2. Approval of the accounts

The report, supported by the delegates of Australia and Switzerland, was unanimously approved.

The General Assembly unanimously gave their quitus to the Executive Council and notably to the Treasurer and to the Secretary General for the financial situation and the management for 2007.

11 – PREPARATION OF THE ELECTION OF AN EXECUTIVE MEMBER

11.1. Offices to be provided and candidatures received

- a) The office of Executive Member left vacant by the end of term of Weining LIU.
The Executive Council received in due time the candidature of:
 - Bai YUN, presented by China
- b) The office of Secretary General that must be appointed by the General Assembly on the proposal of the Executive Council.
The Executive Council proposed the appointment of Claude BERENGUIER.

11.2 Procedure

The elections require, as usual, the majority of the votes of Voting Delegates present or represented, even if the number of candidates does not exceed the number of offices to be provided; in the opposite case, the office shall remain vacant until next year.

12 - PREPARATION OF THE OTHER DECISIONS OF THE GENERAL ASSEMBLY ON WEDNESDAY 24 SEPTEMBER

12.1 Presentation of the invitations received for the General Assembly 2011

Two candidatures were received in due time from FINLAND and from FRANCE.

The representatives from Finland and from France presented the candidature of their country for the organization of the annual meeting and of the General Assembly 2011.

The corresponding decision will be made at the Assembly on Wednesday 24 September.

12.2 Presentation of the Draft Budgets for future years.

The Treasurer commented the documents which were sent along to the Member Nations with the invitation to the General Assembly (Encl.7); this presentation gave rise to no comments.

12.3 Progress of subscription fees

- a) The Treasurer commented the documents which were sent along with to the Member Nations with the invitation to the General Assembly (Encl. 8).

The representative of the United Kingdom asked for precisions on the rate of inflation selected for this increase.

- b) The corresponding decision will be made at the Assembly on Wednesday 24 September.

B – ASSEMBLY ON WEDNESDAY 24 SEPTEMBER

13 – ELECTION OF AN EXECUTIVE MEMBER

a) Appointment of the Scrutineers

- Gye-Chun CHO Delegate from Korea
- PAKIANATHAN Delegate from Singapore

b) Voting Delegates

- Present: 34
- Votes by correspondence: 2 (Bulgaria and Slovenia)
- Vote by proxy: 1 (Switzerland for Malaysia)
- Absolute Majority: 19

c) Result of the election of an Executive Member

B. YUN 36 out of 36 votes expressed, elected unanimously.

14 – REPORT OF THE OPEN SESSION HELD ON TUESDAY 23 SEPTEMBER

Harvey PARKER presented the report of the Open Session:

The ITA Open Session was held on Tuesday morning, September 23, 2008. The session was chaired by Mr. R.V. Sahi and Co-chaired by Mr. Martin C. Knights, President of ITA.

The session was opened by Mr. Sahi who briefly outlined the enormous demand for tunnel projects in India especially in the hydroelectric sector. He then spoke of the importance of improving the science of geology and the need for significant improvements in contracting procedures which is the subject of this open session.

The session consisted of eight speakers discussing contractual practices from the various standpoints of the owner, engineer, contractor etc.

The first paper was presented by two authors. Mr. Barros presented the background of an investigation of the failure of Pinheiros Station on the São Paulo metro. The independent report was submitted on 6 June 2008 and consisted of 3 000 pages. Dr. Andre Assis followed up by presenting the geologic and geotechnical aspects of the project related to the failure and then concluded with an outline of the lessons learned and the recommended improvements of contractual procedures.

The second paper was presented by Mr. Heinz Ehrbar on contracting models and underground construction from the owner's viewpoint. He gave a brief history of some of the tunnels in Switzerland and then spoke about contracting aspects from the owner's standpoint. He emphasized that good contracts with fair risk sharing are essential for underground projects. However rapid response during construction is essential. He also gave recommendations for fair payment and recommended use of DRB's.

The next paper was presented by Mr. Yann Leblais who spoke of contracting practices from the engineer's viewpoint. He outlined the needs of both the Owner and the Engineer and showed how important it is to have good design early in the project in order to reduce costs to a minimum. He emphasized strongly the need for both the Owner and Engineer to be highly qualified. He illustrated the roles of the engineer in PPP projects and outlined the various responsibilities for both engineer and owner emphasize the importance of a positive partnership in contracting matters.

The next paper was by Mr. Genschel who spoke on Global Perspective of Contracts from the Contractor's perspective. He emphasized 1) Giving a reasonable time to bid, 2) Giving a clear definition of the Scope of Work, 3) Fair Risk Sharing, 4) The importance of coordination and participation by the Owner, 5) Fair resolution of Disputes, and 6) a Well defined rules for acceptance and takeover. He illustrated the value of risk sharing by a case history where the use of baseline concepts and risk sharing actually reduced the Owner's costs significantly. He recommended the use of DRB's and called for contract language written for engineers, not lawyers.

The next paper was by Mr. Arnold Dix who spoke about the importance of contracting practices, the development of contracting practices and ITA's contributions. He pointed out the fact that many countries have similar geologic hazards and problems from a tectonic standpoint. However, each country has its own issues regarding contracting. He recommended against forcing contracts from one country on another country. He then made a strong recommendation that countries develop their own contracting practices. Then he discussed the development of contracting practices specifically for India.

The next paper was by Mr. H K Sharma who reemphasized the enormous need for more tunnels in India especially in the hydro area. He spoke of the difficulties in site investigations and also on contractual practices in tunnel and underground works in India. He gave background of the hydroelectric industry here in India and discussed the importance of contracting practices by using a case history of a major hydroelectric project in India. He outlined the difficulties and lessons learned. He concluded by suggesting a bonus for early completion, having good faith among the parties, by treating the contractor as a partner.

The next paper was by Mr. DG Kadhada who spoke of the importance of contractual practices from the perspective of his five decades of experience. He emphasized the importance of maintaining a cash flow and suggested improvements to FIDIC. He described the new contracting procedures being developed by CAE which will improve contracting practices in India.

The session was then opened to the large number of interesting questions which resulted in lively discussions regarding contracting practices.

Finally Mr. Sahi gave an excellent summary of the session. He said that the contractor should be treated as a partner to develop cooperation not confrontation. He recommended strong site investigation be conducted but he noted that we can't predict everything so we need good contracting practices to share risks and to ensure that the risk is allocated to the party best positioned to manage the risk. He emphasized the great importance of rapid response to changes and rapid decision making. He endorsed alternative dispute resolution such as DRB's. He concluded by referring to the work being done by CEA in developing contracting practices for India.

Mr. Knights added the importance of all parties being highly skilled, the importance of Risk Management, and concluded with a call for Safe, Economic, and Good Quality tunnelling through improved contracting practices.

Mr. Sahi then closed the session.

15 – WORKING GROUPS AND COMMITTEES: REPORT AND PROJECT OF ACTIVITY

15.1 - ITA-COSUF: President: Felix AMBERG (Switzerland), Vice-President: Didier LACROIX (France), Tutor: Claude BERENGUIER – Report presented by the Chairman:

No meeting in Agra.

15.2. – ITA-CET: President: Andre ASSIS (Brazil), Tutor: Claude BERENGUIER – Report presented by the Chairman:

The ITA Committee on Education and Training (ITA-CET) held a joint-meeting with the ITA Working Group 18 (WG-18 Training) on 22 September 2008, on the occasion of the ITA WTC 2008, in Agra, India. The meeting had eleven participants, from eight different countries (Austria, Brazil, China, Japan, Norway, Portugal, Switzerland and Thailand). The meeting started by reporting the main points of the ITA-CET inaugural seminar, held at the Politecnico di Torino, Italy, on 20 May 2008, which was attended by 32 representatives of Education and Training Institutions coming from 15 different countries, from all continents. The inaugural seminar covered the following items: needs of training for the tunnelling community; status-quo of the current universities curricula regarding tunnelling; the ITA education and training products; and finally the presentation of the concept of the ITA-CET, which was unanimously accepted.

Other important matters followed, such as administration, organization, membership, possible education and training products of the Committee and future actions. It was decided to enlarge the number of interested institutions as much as possible, till the administration and organization matters will be finalized. Presently, ITA-CET has 20 members, from 14 different countries.

The next technical meeting was set to Frankfurt, on 05 December 2008.

The Animator of WG5, Donald LAMONT, would like his Group to be associated to the works of the Committee; President ASSIS pointed out that all the Working Groups are invited to participate in the works of the Committee.

The delegate from Greece asked if the Committee will endorse the Master Courses prepared by the Universities of the Member Nations; President ASSIS replied positively by pointing out that two types of Master Courses will be considered, those of a National nature and those of an international nature, and this, according to the number of teachers, to the teaching language, and to the curriculum of the course.

15.3. – ITACUS: President: Han ADMIRAAL (Netherlands), Vice-President: Ray STERLING (USA), Tutor: Harvey PARKER (USA) – Report presented by the Vice-President:

History and background

During the 33rd General Assembly in Prague, a recommendation made by the Executive Council on the creation of a ITA Committee Underground Space was accepted. The global objectives were outlined in the recommendation. A constitutive document was drawn-up during the Prague meeting in collaboration with ITA Working Group Number 20 (WG 20). A first meeting was held on the occasion of the Associated Centers for Urban Underground Space (ACUUS) conference in Greece on 11 September 2007. During the Madrid meeting of the Executive Council of the ITA on 3 November 2007, both the ITACUS Chairman and Vice-Chairman were confirmed in the persons of Professor Han Admiraal (NL) and Professor Ray Sterling (USA). They were charged with bringing together a steering board and developing a work programme for approval by the Executive Council.

ITACUS assisted in the organisation of and actively took part in the UN–ITA workshop on *The Use of Underground Space as an Unexpected Solution for Promoting Sustainable Development* at the United Nations New York Headquarters on December 14, 2008 under the auspices of the UN Organization ECOSOC. The inaugural meeting of the ITACUS steering board was held in Amsterdam on occasion of the international congress *Underground Challenges in Urban Development* on 27 January 2008 in the presence of ITA president Mr. Martin Knights. On January 28, 2008, ITACUS was officially launched during the opening session of the congress. Since then, the Steering Board met on June 20, 2008 in Sao Paulo, on the occasion of the 2nd *Brazilian Congress of Tunnels and Underground Structures* and the International Seminar *South American Tunnelling SAT 2008*.

Since the Chairman of ITACUS was unable to come to Agra, an informal meeting is being held during this World Tunnel Congress with a formal meeting of the Steering Board to be held at the beginning of next month (October 9 and 10, 2008) in Monaco on the occasion of a conference organized by the French Association for Tunnelling and Underground Space (AFTES).

Mission statement

The mission of the ITA Committee on Underground Space (ITACUS) is to advance the awareness and thinking on the use of underground space through the creation of a worldwide dialogue on the use of underground space. The committee will fulfil its mission in a proactive manner, furthering the cause of underground space use within the context of societal needs, environmental concerns, sustainable development and the climate challenge.

Work programme

Short-term objectives

The committee has established the following short-term objectives:

- To set up the committee, attract the interest of potential committee members, and to establish first contact for structured cooperation with other international relevant organisations, e.g.:
 - ACUUS – Associated Research Centres for the Urban Underground Space;
 - IFHP – International Federation for Housing and Planning;
 - UN – United Nations (ECOSOC, HABITAT, CSD);
 - ECTP – European Council of Spatial Planners;
 - ISOCARP – International Society of City and Regional Planners.
- To establish the committee as a forum for its members where they can discuss relevant issues, and to serve as official liaison between the ITA, ACUUS and other relevant international organisations in this field;
- To ensure that city planners, owners and other interested parties are aware of the possibilities of the use of underground space and see it as a valid solution for solving the demand on space in urban areas;
- To provide information on the use of underground space for the general public.

Organisation

The ITACUS Steering Board oversees all activities of the committee. The Steering Board consists of a Chairman, Vice-Chairman, Secretary-General and members. The membership shall reflect expertise in relation to the mission and objectives of ITACUS and due consideration shall be given to reflecting the international character of the ITA.

The ITACUS Steering Board as of January 1, 2008 consists of:

Officers and members

Professor Han Admiraal (the Netherlands), Chairman
Professor Dr Ray Sterling (USA), Vice-Chairman
Mr Jean Paul Godard (France), Secretary-General

Professor Qian Qihu (China), Member
Professor Tetsuya Hanamura (Japan), Member
Mr Ilkka Vahaaho (Finland), Member

Ex-officio members

Professor Markus Thewes (Germany), WG20 Animator
Dr Harvey Parker (USA), Executive Council Tutor
Ms. Annelies Schulten (the Netherlands), Executive Secretary

Membership development

ITACUS membership is open to organisations with an interest in the built environment that have an interest in the use of underground space. ITACUS realises that its success is dependent on the ability to interest city governments and their staff in joining the committee. In that sense, a special emphasis is placed on membership in the committee by city, municipality and port/airport authorities. Other interested organisations also are invited to participate to ensure a balanced membership and a worthwhile exchange of views.

15.4 - WG 2 – Research: Animator: Eric LECA (France), Vice-Animator: Chung Sik YOO (South Korea), Tutor: Soren ESKESEN (Denmark) - Report presented by C. YOO:

The Group met on Sunday September 21 and Monday September 22. These meetings were attended by nine participants representing seven member countries: South Korea, Denmark, Spain, United States of America, France, Czech Republic, and Thailand.

The activity of WG2 since the Prague meeting has focused on the preparation of three recommendations:

- "Strategy for site investigations of tunnelling projects";
- "Monitoring & Control of Underground Works";
- "Risk Management".

During the first meeting on September 21, a detailed review was completed of the draft document on "Monitoring & Control of Underground Works" that had been developed since the Prague meeting. The production of the recommendation is well advanced. Further work will be undertaken over the next few months to finalize the document with the aim of producing a final draft before the Budapest meeting.

A review was also completed of the action plan agreed in Prague regarding the preparation of the recommendation on "Strategy for site investigations of tunnelling projects", and a new set of actions developed for producing a revised draft of the document in the coming year.

The third document is meant to provide a reference manual that would assist in further bringing into practice the Risk Management approach described in the "Guidelines for Tunnelling Risk Assessment" issued by WG2 in 2004. It should include a summary of case histories of projects where the method has been successfully implemented, and address the impact of such elements as delivery models and associated contractual arrangements. An update of the work progress was completed during the meeting. It was noted that the training document on the "Guidelines for Tunnelling Risk Assessment" had been finalized and that the data collection works in relation to provided case histories of the implementation of risk management principles had been initiated.

The second meeting aimed at discussing future fields that could be investigated as part of the activities of WG2. It was noted that two new topics could be considered for future work:

- impact of depth on the approach to tunnel design and construction;
- impact of life cycle cost considerations and sustainable development on tunnel design.

It was noted that the former topic may be progressed concurrently with the joint initiative on "site investigations for rock tunnels" that is being currently discussed with the ISR.M.

15.5. – WG 3 – Contractual Practices: Animator: Arnold DIX (Australia), Vice-Animator: Martin SMITH (Switzerland), Tutor: Martin KNIGHTS - Report presented by the Animator:

Working Group 3 met for two afternoons and had a lively discussion surrounding core contractual issues and their challenges in underground construction.

The meetings were attended by ten Member Nations being – Hungary, Norway, Thailand, United Kingdom, Germany, Finland, Japan, Switzerland, Brazil and Australia. They were joined by their Tutor Mr Martin Knights of the UK.

A discussion took place as to what their mandate was from Exco and it was agreed that the mandate was for them to provide leadership and guidance on making decision for contracts in underground projects.

The group embarked on a new publication. It is a dot point list of issues that need to be addressed in underground construction contracts. The document is to form an objective basis to guide all users of underground tunnelling contracts on the matters which should be considered.

In the future it is hoped it will provide the basis for critically reviewing contracts in the market.

A good start was made on the document in the working sessions and work has been allotted to various members for completion over the next few months. It is the group goal to have the document ready for publication for the next meeting in Budapest.

A written review comparing the 25 current propositions with the ITIG Code has been finalised and reviewed and is now with the Tutor for publishing.

It was agreed in principle that the group would work cooperatively with Working Group 19 by reviewing a contractually related document that they are currently preparing and that the group would invite other working groups to produce subject matter expert documents on the subject of their choice using the contractual practices framework of the group as the objective basis for their input.

15.6. – WG 5 – Health and Safety: Animator: Donald LAMONT (United Kingdom), Vice-Animator: Martin VOGEL (Switzerland), Tutor: Vitaly UMNOV (Russia) – Report presented by the Animator:

Working Group 5, "Health and Safety in Works", met twice during the 2008 ITA General Assembly in Agra. Donald Lamont from UK was Animator with Martin Vogel from Switzerland in his first year as vice-Animator. Vitaly Umnov from Russia became the ITA Tutor.

Sixteen delegates from thirteen countries attended this year – Brazil, Germany, India, Norway, Portugal, Russia, Switzerland, Singapore, Spain, Sweden, Thailand, United Kingdom and the USA with apologies from Czech Republic. Only around half of those present had attended a WG5 meeting before, however this was a lively and productive meeting.

ITA Booklet - Safety in Tunnelling

WG5 is pleased to report that following the WG5 meeting in Prague, a Korean version of the booklet was received and the booklet has been translated into Hindi in time for WTC 2008. It is now available in nine languages. The Group would again ask any Member Nation which wishes to translate the document into their own language to contact Donald Lamont and on completion of the translation, to send a copy to him and to the Secretariat.

WG5 reviewed the content of the booklet and agreed to begin an update to reflect changes in tunnelling state of the art in recent years. This will require some funding from ITA.

Guidelines for Good Occupational Health and Safety Practice in Tunnelling

Following the meeting in Prague, this document was accepted by the Executive Council for publication on the ITA website as the first ITA "Report" in the new format. WG 5 reviewed the document in its new format here in Agra, and spent time sourcing photographs for the ITA Secretariat to use in illustrating the text.

Worksite protocols

The WG considered and supports current progress with this joint German/Swiss/Austrian paper on workplace protocols for health and safety.

Guidelines on the use of flexible ducts in tunnel construction

Last year, following an approach from duct manufacturers in a number of member countries WG5 agreed to a request to produce recommendations on essential safety requirements for the use of flexible ducts in tunnel construction. WG5 had prepared an initial draft text which was extensively reviewed here in Agra. WG5 will work on this text with the aim of having a text for final discussion when it meets in Budapest.

Training courses

WG5 was concerned to note that the 2008 ITA Training course, held last week, did not include any lecture on occupational health and safety in tunnel construction.

15.7. – WG 6 – Maintenance and Repair: Animator: Henry A. RUSSELL (USA), Vice-Animator: René van den BOSCH (Netherlands), Tutor: Weining LIU (China) – Report presented by the Animator:

The Working Group met on Sunday 21 September 2008. The meetings were attended by eight representatives from seven member nations, they were: Denmark, Finland, Germany, Norway, Switzerland, Thailand, and the United States of America.

The Working Group discussed the progress of the draft of the work on the development of *Guidelines for Structural Fire Resistance for Metro Tunnels*. This document is an adaptation of our recent work on Guidelines for Structural Fire resistance for Road Tunnels, which is on the ITA web site. This work required the inclusion of specific elements unique to a metro system and the development of new time / temperature curves for heat release from fires in a metro system. The Working Group believes that this is an important document to develop since there is very little information available on the subject. The Working Group anticipated to submit a draft of the document to the Executive Council for review later this year.

The Working Group is pleased to announce that the National Fire Protection Association, in their document, *NFPA 502, Standard for Road Tunnels, Bridges, and other limited Access Highways, 2008 Edition* has adopted our Guidelines and recommendations for structural fire protection for tunnel structures. This is a significant acknowledgement of the work performed by the Association and in particular of the member nations who participated in the development of the Guidelines.

Presentation was made to the Group by Mr. Fabbri, of Switzerland, provided an excellent presentation on the spray fireproofing for the Gotthard Base Tunnel. Mr. Leucker of Germany provided a report on the current research work on high capacity concrete for tunnel liners at STUVA. Mr. Palonen provided a report on the status of the nuclear waste project OLKO in Finland. The Animator presented a technical discussion on the comparison of various materials for fireproofing structures, and of emergency work performed on the Boston metro system in the USA.

The Group wishes to invite any members of the Association who would like to participate in the development of this report to contact the Working Group members or the Animator.

15.8. – WG 11 – Immersed and Floating Tunnels: Animator: Christian INGERSLEV (USA), Vice-Animator: Jonathan BABER (United Kingdom), Tutor: Yann LEBLAIS (France) – Report presented by the Animator:

The Working Group met on Sunday 21st September 2008. The meeting was attended by eight participants from six countries, namely Denmark, France, South Korea, Norway, United Kingdom and United States of America. A second meeting was held the following day with the same participants.

To better represent immersed tunnel knowledge world-wide, the Working Group would like to recruit members from unrepresented countries such as China, India, Japan, Mexico and Russia as well as new younger members. The Animator is Christian Ingerslev, the vice-Animator is Jon Baber and the Tutor is Yann Leblais.

At the meetings, the previous day's Animator meeting proceedings were reviewed, a report was made of the past year's activities, a work plan was established for the coming year, communications and the web site were discussed, information was exchanged on new and current projects and developments around the world, and four technical presentations were made. Progress during the past year was not as much as had been hoped; the Working Group agreed that progress should be made more visible, thus efforts would be made to publish on the web site data already in draft after review and acceptance. An effort would also be made to prepare further data already identified as required. It was decided that catalogue pages and sections of the Owner's Guide that were already drafted would be reviewed by Christmas, to be ready for upload to the web site before the next meeting in Budapest. The existing catalogue of utility tunnels would also be broken up into individual tunnel for uploading to the web site.

Of the 29 new catalogue sheets identified as needed to bring the 1997 immersed tunnel catalogue up to date, 14 are in draft form ready for review and then to be uploaded to the web site. A further 9 sheets have been assigned to members of the working group and may be also be ready in time for Budapest. Some of the remaining sheets are on hold, since the projects are in too early a phase (Figure 1).

Following the mission of the Working Group, to share and distribute knowledge of immersed and floating tunnels with the community, sections of an Owner's Guide are in preparation. It is intended that the guide will assist owners to understand immersed tunnels and will form a basic reference document. It was agreed that an introductory section and glossary would be added to the list given in Figure 2.

Country	Tunnel Name	Date	Use	Contributor	Draft
Saudi Arabia	Al Khobar water intake	?	Water	C Ingerslev	
Hong Kong	Lamma Power Station No. 3 Intake	1996	Water	?	
P.R. China	Jiaxing 2nd stage power plant	?	Water	Mr Ling	Yes
Singapore	Tuas Bay Cable Tunnel	1999	Utility	J Baber	Yes
P.R. China	Chang Hong, Ningbo	2001	Road	O Kiyomiya/Takahashi	Yes
Germany	Warnow tunnel, Rostock	2003	Road	C Ingerslev	
P.R. China	Shanghai outer ring road, Huangpu, Shanghai (Yangtze)	2003	Road	O Kiyomiya/Takahashi	Yes
The Netherlands	2nd Benelux Tunnel	2003	Road, rail & cycle	W Janssen	
Czech Republic	Prague - Metro line C, Vltava tunnel	2004	Rail	J Baber/ J Vitek	Yes
The Netherlands	Thomassen (Caland) tunnel	2004	Road	W Janssen	Yes
United Kingdom	New Tyne Tunnel, Newcastle	u/c	Road	J Baber	
The Netherlands	Second Coen, Amsterdam	u/c	Road		
Belgium	Oosterweel	u/c	Road		
P.R. China	Macau-Taipa	tender	Road	On hold	
Eire	River Shannon, Limerick	u/c	Road	J Baber	Yes
Greece	Thessaloniki seafront tunnel	u/c	Road	On hold	
Japan	Naha Port, Okinawa	u/c	Road	O Kiyomiya/Takahashi	
Japan	Second Kinuura, Aichi	u/c	Road	O Kiyomiya/Takahashi	
Japan	Yumeshima, Osaka	u/c	Road & Rail	O Kiyomiya/Takahashi	
Japan	Shin-Wakato, Kitakyushu	u/c	Road	O Kiyomiya/Takahashi	
Korea	Busan -Geoje	u/c	Road	C Paludan-Müller	Yes
Mexico	Coatzacoalcos	u/c	Road	W Janssen	
Norway	Bjørsvika, Oslo	u/c	Road	J Baber/I Markey	Yes
The Netherlands	Amsterdam North -South Line metro	u/c	Rail	T Slot	Yes
The Netherlands	A73 Roermond Tunnel	u/c	Road	J Baber	Yes
The Netherlands	Dordtsche Kil (HSL)	u/c	Rail	C Hakaart	Yes
The Netherlands	Oude Maas (HSL)	u/c	Rail	C Hakaart	Yes
Turkey	Marmaray, Bosphorus Crossing	u/c	Rail	C Ingerslev	
Vietnam	Thu Thiem, Saigon River, Ho Chi Min City	u/c	Road	Takahashi	Yes

Figure 1 : Additional Catalogue Sheets Identified

Presentations were given on the Limerick Tunnel in Ireland, Bjørsvika Tunnel in Oslo Norway, Marmaray (Bosphorus) Project in Istanbul Turkey and Busan-Geoje in Korea. There was some discussion about the potential Laajasalo tunnel in Finland that was discussed last year (which will be a bridge) and Submerged Floating Tunnels (SFT). Construction of The Qiando Lake, China, SFT test project discussed last year has not started, but the participation of the Italians has not been renewed. The Italians are seeking to have another SFT test project in Jakarta, Indonesia. As agreed, a White Paper on SFT was produced shortly after the last Working Group meeting, but seems to have stalled within ITA and has therefore not been published by ITA. A further White Paper on dredging is to be produced to assist in reducing fears and prejudices against using immersed tunnels due to environmental concerns.

Topic for development	Contributors		1st Draft
	Primary	Secondary	
Cathodic protection	C Ingerslev	O Kiyomiya, J Baber	
Concrete - concrete construction	W Janssen	J Saveur, C Ingerslev	Yes
Cracks - concrete construction	W Janssen	C Ingerslev	Yes
Steel - steel construction	C Ingerslev	W Grantz	
Dredging	C Ingerslev	W Grantz	
Durability	C Ingerslev		
Fire - protection and design	W Janssen	J Baber	Yes
Element construction / dry dock	OP Jensen		
Element transport & positioning	F van de Kerk	T Slot	Yes
Exceptional load cases	W Janssen		
Foundation/ Settlement/Backfill	OP Jensen		
Joints – closure	J Baber		Yes
Joints – element	J Baber		Yes
Joints – expansion	J Baber		Yes

Topic for development	Contributors		1st Draft
	Primary	Secondary	
Joints – land	J Baber		
Joint movement	J Baber		
Refurbishment	J Baber		
Compaction Grouting	WGrantz		
Ventilation/fire	C Paludan-Muller		Yes

Figure 1 Contents of Owner's Guide

15.9. – WG 12 – Shotcrete Use: Animator: Tarcisio CELESTINO (Brazil), Vice-Animator: Atsumu ISHIDA (Japan), Tutor: Eivind GROV (Norway) – Report presented by the Animator:

Present: Animator, Vice Animator, Tutor, and fifteen members of the WG.

State of the art report

This has been completed and is on the ITA website. At this stage it does not contain any photographic illustrations and members of the WG have been requested to submit suitable images for inclusion. This must be done by 1st December. Any errors in the text of the report can be corrected at the same time but other of revisions should be held over for a later overall revision.

Evaluation on fibre-reinforced sprayed concrete

Funding for the testing work at Hagerbach has been resolved. Details of the test programme had been discussed in sub-committee at Lillehammer and was finalised here in Agra. The programme would report on mechanical properties only. It was agreed that the interim results now available should be published without delay.

Sprayable mortars for fire protection

CETU have collated eight data sheets for various products providing fire protection. The details provided have been supplied by the respective manufacturers. They will now be put onto the ITA website, together with a blank form for other suppliers to make use of.

Nozzleman Certification

It was noted that there had been a meeting in Paris in August 2007 between the ITA, EFNARC & ASQUAPRO about the role of the ITA to promote the concept of certification. This requires follow up. EFNARC confirmed at the Agra WG12 meeting that their programme for accrediting sprayed concrete instructors has still to be finalised. They have undertaken to keep WG 12 abreast of developments in this regard. Agreed that WG 12 must disseminate information on international and local (national) forms of accreditation for instructors and operators.

Sprayed concrete curing and durability

International practice with regards to the curing of shotcrete and the testing of in-situ shotcrete for durability was discussed. It is intended to prepare a WG12 report on these subjects. Proper curing is considered essential for safety, and durability. Methods that can be employed include water spraying, humidity control, internal curing (using special additives or aggregates), and membranes. Routine in situ testing of in place shotcrete to confirm its durability is commonly done in North America and Southern Africa. It appears that it is not done in Europe with the possible exception of the UK.

Training: Interaction with WG18 Training

The ASQUAPRO didactic documents which are being translated from French into English will be forwarded to WG18 once it is available.

Glossary: A glossary (based on EN 206-1:2000) is available in about eight languages. It does not however provide definitions. Noted that the ASQUAPRO technical committee is currently preparing a new glossary with definitions in French. It should be available by the end of the year when it will be forwarded to WG12. Also noted that there is a Swedish glossary available. A further point noted is that the term 'Shotcrete' is not used in EN 144887-1 and that the accepted term is 'Sprayed Concrete'. Accordingly the ITA ExCo needs to be consulted with regards to possible need to change the name of WG12.

Recent events

Lillehammer, Norway, April 2008: Sprayed Concrete conference: Successful event but insufficient support from contractors. Pattaya, Thailand, 14-15 December 2007: Tunnelling for Urban Development Symposium: Included a series of papers on new technology for accelerators and other additives.

Future events

Shotcrete for Underground Support XI (Davos, Switzerland, 8-18 June, 2009): Dead line for papers is 1st November.

Australasian Shotcrete Conference (Queenstown, New Zealand, March 2010)

Shotcrete for Africa, Johannesburg, (2-3 March 2009)

Issues from the Animators meeting

The need to promote the visibility of the work of the WG by publishing papers at ITA events. Circulation of relevant papers within the WG12.

New topic for the next WG meeting

Behaviour of sprayed concrete under fire exposure.

Next meeting

For all members of WG12: May 2009, Budapest ITA conference.

For members interested in finalising the Hagerbach testing programme: Sunday 21st September 2008 (17:30-19:30)

15.10. – WG 14 – Mechanization: Animator: Lars BABENDERERDE (Germany), Vice-Animator: Felix AMBERG (Switzerland), Tutor: Katsuji FUKUMOTO (Japan) - Report presented by the Animator:

Participants: 11 Participants from 8 countries.

Opening and introduction of the participants.

Sub group works

At the conference in 2007 in Prague three sub groups were installed. The Animator presented the results of these sub groups.

The sub group dealing with "Risk Management and Insurances" had brought up an example risk register, elaborated by the Japanese Tunnelling Association, which will be supplied to the members of the working group.

The sub group "Training course and Promotion Activities for Young Engineers and Workers" remained pretty silent.

The sub group focusing on the "Benefits of Mechanised Tunnelling" submitted documents which have been circulated. A list was presented during this meeting with pros and cons for hard rock tunnelling by Arnulf Hansen, which will be circulated as well.

It was jointly agreed to suspend the sub groups and to move the tasks to the main group.

Support to the WG (action by LB)

The author explained that contact was made this summer to the University of Lausanne in Switzerland to appoint a doctorate engineer as assistant to the WG 14. Prof. Jian Zhao from EPFL in Lausanne agreed to allow such an involvement. It was highlighted that the topics and goals must be defined by the WG 14, the doctorate could only assist in the scientific support, for example research work. Animator will get in contact with the doctorate later this year once the way of communication and web site work is clear.

List of Challenging Projects (action by LB)

This list had last year no new entries. The Animator will check the status of the document within the ITA organisation to have it available for the web site as soon as possible. Projects older than 8 years will be deleted from the list. It was agreed that the tunnelling technology will advance decisively in this time span such that the old projects might not be a reference for cutting edge technology anymore. The Excel format for the list will be circulated to the ITA country representatives again to promote new entries.

Future work in WG

It was mutually agreed by the group that the topics should be reduced to a level which is more realistic to the capacities of the acting persons. Especially now in view of the remaining seven months until the next general assembly takes place in Budapest. Focus for the WG 14 work will be promotion of the mechanised tunnelling and being an information platform. The level of detail in technical point of view will be limited to allow faster results.

The group work until Budapest will focus on:

1. the pro and con list for mechanised tunnelling,
2. the List of Challenging Projects, and on
3. the revitalisation of the Web Site

Circulation of documents will generally be connected with a dead line for comments to expedite the process.

The following tasks were appointed:

- Pro and Con List Mechanised Tunnelling:
 - a) Addition of soft ground bullets (LL, LB / 30.09)
 - b) Circulation as pdf-document for comments (LB / 30.11)
 - c) Integration of comments (LB / 31.01)
- List of Challenging Projects
 - a) Check Status within ITA organisation (LB)
 - b) Deletion of projects older than 8 years (LB)
 - c) Send entry forms to country representative w/o deadline (LB)
- Manage Web site content
 - a) Check with ITA web site manager (LB)

15.11. – WG 15 – Environment: Animator: Jan RHODE (Norway), Vice-Animator: Jon KANESHIRO (USA), Tutor: In-Mo LEE (South Korea) - Report presented by the Animator:

The Working Group met on two occasions and was attended by seven representatives from seven Member Nations – Thailand, Italy, Singapore, Japan, South Korea, United States of America and Norway. In addition, the ITA President, Mr. Martin Knights visited the group to discuss our future works and status of final draft of the Working Group's report on "Environmental and Sustainable Development Reasons for Going Underground".

In summary, the working group has received three sets of comments from the Executive Committee including the ITA President. The comments are taken as advisory and will be incorporated in the final product as required.

The goals of the working group were discussed with the President, and our future goals as they relate to environmental and social impact are to communicate the following:

- Advantages and opportunities by going underground
- Challenges by going underground
- Environmental recommendations and guidelines when going underground

The first topic has been covered by our report and the present and future works are on the challenges, recommendations and guidelines for going underground. The group expressed its concerns about overlap with WG 20 and ITACUS. Consequently, the Animator and vice Animator attended the ITACUS meeting. Also, the Animators and vice Animators of WG 15 and 20 met on how to communicate and cooperate in the future.

The meeting had five presentations; one from Italy on the topic of environmental problems related to geological formations with asbestos fibres for the railroad tunnel between Turin and Lyon in terms of mucking, transport and disposal plus potential drainage of natural springs. The second presentation was from the USA on groundwater inflow impacts to the construction environment and the overall environment, impact of ventilation structures to the planned Interstate Highway 710 tunnel, estimated use of underground space in USA, benefits of water tunnels in California, Los Angeles County Tunnel Outfall muck disposal issues, and vibration issues for the International Linear Collider was presented. The third was a presentation from Norway on environmental issues of industrial waste caverns, groundwater inflow impacts to the environment from road and railway tunnels, environmental aspects related to tunnel construction works in urban and vulnerable areas, and summary of recommendations when going underground. The fourth presentation was from Thailand on the Bangkok Blue Line Extension and how they have dealt with constrained urban sites and the impacts to groundwater, settlement, and amount of muck volume generated for different subway station layouts. The fifth presentation was from Japan discussing environmental impacts of tunnels and how they are being handled throughout the world, including projects in China, USA, Sweden, and Japan. It was noted by Japan that in our future guidelines it is important to note that tolerable limits (e.g. noise, vibration, dust, etc.) will vary from country to country because of societal differences. Korea and Singapore shared their common experiences and thoughts on similar railway tunnels, underground storage of nuclear wastes, underground power plants, and considerations for master plan for use of the underground space.

The schedule for WG 15 is to compile the case histories shared from the 2006 to 2008 ITA World Tunnel Congress (WTC) meetings and create a draft manuscript on challenges, by the 2009 meeting in Budapest. A later draft for recommendations and guidelines will be prepared for the 2010 ITA WTC meeting.

The goal for the working group will be to disseminate information on sustainability of using underground space to planners and coordinated these efforts with WG 20 and ITACUS.

15.12. – WG 17 – Long tunnels at great depth: Animator: Gérard SEINGRE (Switzerland), Vice-Animator: Minoru SHIMOKAWACHI (Japan), Tutor: Piergiorgio GRASSO (Italy) - Report presented by the Animator:

The meeting was attended by seven members from 6 different countries: Canada, India, Italy, South Korea, Norway, and Switzerland.

All the attendees were former members to the working group.

Since the Prague meeting of last year, it was not possible to hold a meeting of the entire WG, but two small group meetings were organised to improve the update of the WG report "Long Tunnel at great Depth". After these meetings the updated draft was sent for comment to the group members. Two new chapters have been added to first version of the report:

- Special conditions for hydraulic tunnels;
- Special conditions for subsea tunnels.

The WG meeting was dedicated to the final lecture of the updated WG report.

The attendees work very efficiently. The discussion was sometimes animated but always constructive and of high technical interest. Finally, the updated report was approved by all members of the working group. It will be submit to the ITA board. Some pictures will be added to improve the report quality and legibility.

The goal of the working group to present a first draft of report on long hydraulic tunnels for the ITA WTC 2008 in India has been successfully reached.

At the end of the meeting, the group members have decided to focuses on case histories for the next meeting in Budapest on the Sunday 24 May 2009.

15.13. – WG 19 – Conventional Tunnelling: Animator: Heinz EHRBAR (Switzerland); Vice Animator: Robert GALLER (Austria), Tutor: François VUILLEUMIER (Switzerland) - Report presented by the Animator:

The WG 19 had two meetings during the ITA World Tunnel Congress 2008 at Agra.

Working Group Meeting, **Sunday 21st** September 2008:

14 participants representing 13 nations attended the first meeting on Sunday afternoon.

The activities of the working group since the last World Tunnel Congress at Prague concerned the finalisation of report on conventional tunnelling and the discussion about the new project, the guidelines on contractual practices in conventional tunnelling.

The report on conventional tunnelling should now be ready for publishing and was sent to the ITA Secretary.

In October 2007 members of the working group met at Salzburg to discuss the new project of the guidelines on contractual practices in conventional tunnelling. The represented nations agreed to present their national solutions during the WTC 2008 at Agra.

Presentation of Austria

The Co-Animator Robert Galler gave an overview over the Austrian Standard ÖNORM B-2203 - Part 1, Underground Works – Conventional Tunnelling. He showed the key issues of this code as they are :

- the 5 steps of the geomechanical design – procedure,
- the contents of the geotechnical report
- the contents of the baseline construction plan
- the geotechnical safety management plan
- the definition of the excavation classes using classification matrix

The standard contract in Austria is the unit price contract.

In a vivid discussion the working group members gave their comments. According to the opinion of several delegates the Austrian code is not applicable for soil and seems to be a conservative solution with low risks for the contractors. There was the opinion, that the very precise definitions can hinder innovations and will lead to loss of flexibility.

According to Robert Galler the Austrian approach is very flexible in the daily business and did not cause problems until now. He announced also that the codes will be available in English very soon.

Presentation of Norway

Gisle Alexander Fossberg showed the Norwegian solution. In Norway the contractor takes the decision on the temporary support. The owner has only the responsibility of the permanent support. Nevertheless the owner is always represented at the tunnel face. There is a special 100%-rule, which means that the unit prices remain unchanged as long as the used quantities do not exceed 100% of the forecast.

There are standardised performances for the different activities during the excavation cycle. They will be used for the calculation of the real construction time.

According the delegates opinion the Norwegian solution seems to be more flexible. It considers the special ground conditions of Norway. The presentation was attended by an interesting discussion.

Presentation of Switzerland

Heinz Ehrbar showed the Swiss contractual solution based on the most recent codes for underground construction in Switzerland, which will be available in English within a short time. The Swiss codes give standard solutions if the contract does not foresee project specific definitions for risk sharing, of the payment of the excavation and of the evaluation of the construction time.

The payment for the equipment is done by global prices. Excavation, support, inner lining etc. are paid by unit prices according to the daily measurements.

The most important parameter is the support class. The contractor has to offer the performance and the excavation price for each support class. The real construction time will be calculated according to offered performances based on the effective quantities of each support class.

Also the Swiss contracts for underground construction with conventional tunnelling use the unit price contract.

Presentation of Czech Republic

Mr. Otakar Hasik gave a short overview on the payment method and how to deal with the problem of the overbreak in the Czech Republic.

The delegates took the decision to meet again on Monday 22nd September for the definition of the working schedule until the next meeting at Budapest in May 2009.

Working Group Meeting, **Monday 22nd September 2008:**

Seven participants represented seven nations in the second meeting.

Heinz Ehrbar could inform the delegates, that he spoke to Arnold Dix, the Animator of Working Group 3, "Contractual practices". Both agreed that it will be of interest for ITA if the working group 19 is dealing with the special aspects of contractual aspects in conventional tunnelling. Nevertheless certain rules have to be respected. WG 19 will inform the WG 3 about the progress of the work and their documents to avoid different opinions on the same items. On the other hand Arnold Dix gave his input over the already existing 25 ITA documents relating with contractual practices.

According to the discussion the following topics should be discussed during the next WTC:

- Risk sharing in conventional tunnelling
- Contract models
- Special items (overbreak, time for excavation)
- Responsibilities (site organisation)
- Evaluation of the construction time
- Evaluation of costs
- Dispute resolution

Contributions from the member nations should be sent to the Animator until end of January 2009.

15.14. – WG 20 – Urban Problems – Underground Solutions: New Animator: Amanda ELIOFF (USA), new Vice-Animator: Wout BROERE (Netherlands) and Vice-Animator: Junji NISHI (ACUUS); Tutor: Harvey PARKER (USA) - Report presented by the Animator:

Working Group 20 with the topic “Urban Problems – Underground Solutions” met twice on Sunday and Monday. The meeting was well attended with 14 participants from 9 countries: Australia, Czech Republic, Finland, France, Germany, Japan, Netherlands, Thailand, and the USA.

The group elected both a new Animator and vice-Animator. The team leaders are now:

- Animator: Amanda Elioff, USA
- Vice-Animator: Wout Broere, Netherlands
- Vice-Animator: Junji Nishi, Japan (representative of ACUUS, not present, excused)
- Tutor from the Executive Council: Harvey Parker, USA

As reported previously, the WG-report will be directed to planners and decision makers to provide creative and efficient ideas for the solution of urban problems and will serve as a decision aid. The focus of this product will be somewhat less on technical details but more on strategic aspects of urban planning, may they be of social, economical, ecological or aesthetical background.

The group progressed towards its objective of creating an overview of the typical challenges of urban city planning and the solutions which are offered by the underground space. The second draft of the working group's first product (a report on urban problems, underground solutions, and key decision factors) was reviewed among the group.

Included as an appendix to the report will be a collection of 20 to 25 worldwide case history examples that will provide illustrations of notable underground solutions to urban problems. Projects for these case histories were reviewed for a comprehensive overview of underground solutions. Additional projects were identified and responsibilities for providing additional case histories were assigned.

The meeting also included presentations on the Master Plan for Underground Space of the City of Helsinki, Finland, by Ilkka Vähäaho, and the about the recently completed Prague Metro by Vaclav Vales.

The final part of the meeting included a discussion with members of the steering board of ITA-CUS, the Committee on Underground Space, and Working Group 15. It was acknowledged that these groups work in related fields and will closely cooperate with each other. For example, the groups will have to coordinate their efforts on the issue of subterraneous city planning.

16 – APPOINTMENT OF THE SECRETARY GENERAL

Claude BERENGUIER, presented by the Executive Council for the period 2008 - 2011, was unanimously appointed.

17 – APPOINTMENT OF THE MEMBERS OF THE COMMITTEE OF NOMINATION

In accordance with the procedures approved since the General Assembly 1993, the committee in charge of preparing the future elections is composed with:

- the retiring president H. PARKER, President of the Committee
- the past president A. ASSIS
- the honorary president A.M. MUIR WOOD

18 – APPOINTMENT OF THE AUDITOR ON THE CONFORMITY OF THE ACTIONS OF THE EXECUTIVE COUNCIL

The General Assembly unanimously confirmed the choice of S. CALINESCU proposed by the Romanian Committee for the year 2008.

19 – PREPARATION OF THE ASSEMBLIES 2009 AND 2010

a) Assembly 2009

On behalf of P. KOCSONYA, who could not attend for medical reasons, Z. BALOGH, Vice president of the Organizing Committee, presented the progress of the preparation of the Congress 2009 in Budapest; this presentation did not give rise to any remarks from the Member Nations.

b) Assembly 2010

On behalf of Dean BROX, who could not attend for medical reasons, Stuart THOMPSON presented the progress of the preparation of the Congress 2010 in Vancouver; this presentation did not give rise to any remarks from the Member Nations.

20 - DECISION CONCERNING THE AMOUNT OF THE SUBSCRIPTION FEES

- a) The Secretary General reminded the proposals country by country.
- b) The General Assembly unanimously approved the proposals.

21 - BUDGET: DRAFT BUDGETS FOR 2008 AND 2009

- a) The draft budget for 2008 and 2009 ([Encl. 9](#)), sent to the members with the invitation to the General Assembly, were presented and commented by the Treasurer.
- b) The General Assembly unanimously approved the draft budgets thus presented.

22 – CHOICE FOR THE PLACE OF THE GENERAL ASSEMBLY 2011

The vote gave the following results:

- Finland: 21 votes
- France: 16 votes

Finland will organise the Congress and the General Assembly of the Member Nations in May 2011 in Helsinki.

23 – OTHER BUSINESS

- a) The President reported that the next plenary meetings of the Executive Council will be held:
- in GUANGZHOU (China), on 22 and 23 November 2008, on the occasion of the Congress of the Chinese group;
 - in Johannesburg (South Africa), on 28 February and 1st March 2009, on the occasion of a seminar on Shotcrete which will be organised by the South African group;
 - in Budapest (Hungary) in May 2009, on the occasion of the annual meeting 2009 of the Association.

Other ad hoc meetings will be organised according to the offers of the Member Nations.

- b) The press release will be available at the beginning of the afternoon at the Secretariat.

24 – CLOSING SPEECH

Speech by President Martin KNIGHTS

Well, that concludes the formal General Assembly Session for this year.

It has been 16 months since our previous General Assembly and it has been unusual for the Executive Council and National Members to have such a long period of time in between World Tunnel Congresses. I hope this does not happen again because to be able to meet regularly every 12 months does help with continuity. On the plus side however, it will only be seven and a half months before we meet again in Budapest.

Once I would like to thank our Indian hosts, the Tunnelling Association of India, and the organising committee under the Chairmanship of Mr. Rakesh Nath, and the Secretary General of the TAI, Mr. V. K. Kanjlia, supported by Mr. Sunil Sharma.

Hosting the General Assembly requires a lot of attention to protocol and details and the Executive Council in particular expresses its grateful thanks to you gentlemen and your colleagues of TAI. Thank you.

As I said earlier, it will mean that only a few months of progress by Working Groups, Committees and Executive Council will be available in our busy schedules because most of us have full time professional jobs to do as well! However, it will be my pleasure to greet the General Assembly at the GA in Budapest. Hopefully we may have even increased the number of Member Nations yet again with the help of the Secretary General and the new Executive Director.

Ladies and Gentlemen, I now formally declare the General Assembly closed, but I see some of you again in the remainder of our WTC and at tonight's Gala Dinner.

Thank you the General Assembly 2008 is now closed!!! – See you in Budapest.

The President

The Secretary General

M. KNIGHTS

C. BERENGUIER