

**1999**

**Report to the IAEG Council at the meeting in Kathmandu, Nepal  
(27<sup>th</sup> September 1999)**

The Aggregate Commission was decided in September 1998 in Vancouver, Canada. The Commission has a web site: [http://www.sgu.se/hotell/iaeg/iaeg\\_e.html](http://www.sgu.se/hotell/iaeg/iaeg_e.html)

Since then some work has been done to establish contacts in different countries. Many people from different countries who originally expressed their interest to take part into the commission work have later shown little or no interest, therefore others have joined. For the moment the Commission has contact persons from 24 countries. In the near future more countries will be added.

A Questionnaire has been sent to the contact persons and up till now replies from some countries have been received. Other countries have promised a reply in the near future.

In order to strengthen the organisation of the Commission, a vice chairman from a country outside Scandinavia will be appointed. As a suggestion from other members it will be an attempt to establish a regionally based structure with a person acting as a contact/coordinator for different areas, eg. each continent, in an attempt to collect information on what is happening in these areas and spread IAEG news.

A meeting will be organised in Sweden in April 27-28<sup>th</sup> next year. The meeting and workshop is planned to be held at the Swedish National Testing and Research Institute in Borås, Sweden, April 27-28<sup>th</sup>, 2000. Borås is situated about 65 km East of Gothenburg at the West coast of Sweden. The distance to Landvetter air-port, situated between the two cities, is approximately 40 km.

This international meeting will last 2 days and will contain lectures, workshops and an excursion to the Gothenburg area to look at the geology with special reference to the production of aggregate. English will be the meeting language.

Two main topics have been planned:

- Mineralogy, texture, petrographic analysis and image analysis vs technical analyses.
- Geological description of aggregate resources.
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A Bedrock Quality Map of the Gothenburg commune, compiled by the Geological Survey of Sweden, will at this time be published. The results of this map will as a part of the programme be presented as well as some of the localities visited in the field.

Further information will be given later.

Contact persons for this meeting are:

Lotta Carlsson/Björn Schouenborg, Secretary of IAEG Commission 17.

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In conjunction with the international meeting, the **Nordic Aggregate Research meeting** will be held in Gothenburg, April 25-26th, 2000. The Nordic Aggregate Research meetings have been held since 1992. The first meeting was in Helsinki, the following ones in Gothenburg, Oslo, Helsinki, Stockholm, Copenhagen and Oslo. Now it is time for Gothenburg and Sweden again. Unfortunately for foreign participants many of these lectures are held in Scandinavian languages but owing to the connections with the meeting mentioned above in Borås, more lectures than earlier will be in English and English summaries have been discussed. The Nordic Aggregate Research meeting starts at lunch time the first day (25<sup>th</sup>) and at the evening a boat trip is organised with a dinner somewhere outside Gothenburg. The meetings are continued the next day (26<sup>th</sup>) till about 1500.

The aggregate commission will be involved in Aggregate 2001 in Helsinki, Finland (<http://www.sgy.fi>).

Lars Persson  
Chairman  
Uppsala September 17<sup>th</sup> 1999-09-16

### **Minute of the Information Meeting in Kathmandu, Nepal (29 September 1999)**

This meeting was attended by approximately 15 people from 7 nations (Finland, Italy, Nepal, New Zealand, South Africa, Sweden and Turkey).



Information was introductory given of the work which has been going on since the Commission was decided in Vancouver, Canada 1998. Work has been done to establish contacts in the different countries. The Commission has contact persons from 24 countries but after the Symposium other countries like Nepal, USA and New Zealand will be added. The contact person list will also be enlarged.

An attempt will be made to reorganize the Commission. A vice chairperson from a country outside Scandinavia will be appointed. A regionally based structure with a person acting as contact/coordinator for different areas, eg. a continent, southern Europe etc., will be appointed

in an attempt to collect information and spread information in the different areas. A close connection with the IAEG Bulletin and IAEG News is desirable. People wishing to take part in these tasks are requested to express their interest.

Dr Bruce Riddolls, New Zealand, Vice-President for Australasia has agreed to receive all information and to be our link to the IAEG Board.

It was also decided that we shall work for a meeting/workshop in Borås, Sweden in April 27–28th, 2000. Two main topics have been planned:

1. Mineralogy, texture, petrographic analysis and image analysis vs technical analyses
2. Geological description of aggregate resources.

More information about this event will be delivered in late October.

Two main new tasks for the Commission was decided at the meeting in Kathmandu:

1. Important references concerning Aggregates will be published on the web site
2. Inventories and compilations concerning standards in different countries should be made for presentation on the web site. An international world-wide standardization of methods in the future is highly desirable.

The web site of the Commission will as soon as possible be reorganized. A new structure because of greater amounts of information is necessary.

Leon Croukamp from South Africa presented new geotechnical/resource (construction and building materials) maps from his country and the contents was discussed. Comparisons were made with the Bedrock quality maps presented in Sweden. Many countries are planning to introduce geotechnical/resource/risk maps in the near future.

Lars Persson

Chairman

Uppsala October 12<sup>th</sup> 1999

### **General information from the IAEG Commission (December 1999)**

A questionnaire was earlier sent out to the contact persons of the different countries. The questionnaire involved both questions concerning the exploitation of aggregates resources, technical analyses performed, environmental approaches and more general about the future work of the commission. The questionnaire is published on the web site [http://www.sgu.se/hotell/iaeg/iaeg\\_e.html](http://www.sgu.se/hotell/iaeg/iaeg_e.html).

So far written replies outside Scandinavia have come from Argentina, Canada, England, Greece, Italy, Japan, Portugal. The answers have been informing and will together with incoming new replies be presented later on (possibly on the web site). An information of the results will also be given at the meeting in Borås, April 2000.

One interesting point of view which is carried forward by many contact persons, as well as participants in the Aggregate information meeting in Nepal is to make the web site useful to members by listing key references and standards, with a view to working towards world-wide standardisation of assessment methods (cf. Bruce Riddolls, Article for "NZ Geomechanics News" and Australian Geomechanics", November 1999, IAEG Activities: From Nepal.

It is already possible to deliver information of key references and standards used in the different countries. All information is welcomed and will be published on the web site.

Lars Persson

Chairman of the Aggregate Commission

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**2000**

## **Report to the IAEG Council at the meeting in Rio de Janeiro, Brazil (August 2000)**

The Aggregate Commission was decided in September 1998 in Vancouver, Canada. The Commission has a web site: [http://www.sgu.se/hotell/iaeg/iaeg\\_e.html](http://www.sgu.se/hotell/iaeg/iaeg_e.html)

A report was made to the IAEG council at the meeting in Kathmandu, Nepal, September 1999 and another report giving results from an information meeting in Kathmandu (see web site). Work has been done to establish contacts in different countries. New members have joined. For the moment the Commission has contact persons from 24 countries. All countries are unfortunately not active. In the near future more countries will be added.

A Questionnaire has been sent to the contact persons and up till now replies from some 14 countries have been received. Other countries have promised a reply in the near future. A compilation of the main ideas concerning future tasks and the future work of the Commission is presented on the web site. Among the identified main tasks exist:

1. World-wide standardization of methods and international standard for the properties of rock
2. Valuable references library on the web site

In order to strengthen the organisation of the Commission, a vice-chairperson from a country outside Scandinavia has been appointed. Assoc. Prof. Atiye Tugrul from University of Istanbul, Turkey has accepted this task. As a suggestion from other members it will be an attempt to establish a regionally based structure with a person acting as a contact/coordinator for different areas, eg. each continent, in an attempt to collect information on what is happening in these areas and spread IAEG news.

An IAEG Commission meeting was organised in Sweden in April 27-28<sup>th</sup> this year. The meeting and workshop was held at the Swedish National Testing and Research Institute, SP in Borås, Sweden, April 27-28<sup>th</sup>, 2000. Borås is situated about 65 km East of Gothenburg (Göteborg) at the West Coast of Sweden. About 30 people took part and the meeting was successfully planned and organized by SP (Björn Schouenborg and Lotta Carlsson). An excursion to the Gothenburg area took part to look at the geology with special reference to the production of aggregate.

Two main topics was treated:

1. Mineralogy, texture, petrographic analysis and image analysis vs technical analyses.
2. Geological description of aggregate resources.

As a result of this meeting/workshop some papers will be delivered to the Bulletin of Engineering Geology and the Environment by agreement with editor Brian Hawkins. Hopefully the papers will be published all together in a special volume in the end of this year or the beginning of next year.

In conjunction with the IAEG Commission meeting/workshop was the **Nordic Aggregate Research meeting** in Gothenburg, April 25-26<sup>th</sup>, 2000. The Nordic Aggregate Research meetings have been held since 1992. The first meeting was in Helsinki, the following ones in Gothenburg, Oslo, Helsinki, Stockholm, Copenhagen and Oslo. Next time The Nordic Aggregate Research meeting will be integrated in Aggregate 2001 in Helsinki, Finland (<http://www.sgy.fi>). The aggregate commission will be involved. A cooperation between the organizers for Nordic Aggregate Research and the IAEG Commission meetings was suggested for the future. The next Nordic meeting is planned to be hold in Iceland 2002.

Assoc. Prof Atiye Tugrul will hold an information meeting in Rio de Janeiro, Brazil in August 2000 and Dr. Lars Persson a meeting in Melbourne, Australia in November 2000.

Uppsala June 26<sup>th</sup> 2000

Lars Persson, Chairman

Atiye Tugrul, Vice chairperson

Björn Schouenborg, Secretary

**Information Meeting in Rio de Janeiro, Brazil  
(10 August 2000)**

Riocentro Convention Center, Room A-3

**Agenda**

1. Opening of the meeting by Ass. prof. Atiye Tugrul
2. Presentation of participants
3. Approval of agenda
4. Information by the Chairperson of the Commission activities
5. Information by the attendants
6. Open discussion on activities of the Aggregate Commission (report to the IAEG Council meeting in Rio) and future duties
7. New business
8. Proposal for an Aggregate workshop during the symposium "Aggregate 2001 - Environment and Economy", Helsinki, Finland, 6-10 August 2001, organised by the Finnish National Group of IAEG and the Aggregate Commission of IAEG
9. Any other business
10. Next meeting

The meeting is open to any person interested in the subject

Lars Persson, Chairman

Atiye Tugrul, Vice chairperson

Björn Schouenborg, Secretary

**Minute of the Information Meeting in Rio de Janeiro, Brazil  
(10 August 2000)**

7 people from 7 nations attended the information meeting:

Tugrul, Atiye, Turkey, Vice Chairperson

Frasca, Maria Heloisa, Brazil

Jacobs, Patric, Belgium

Morfeldt, Daniel, Sweden

Regueiro, Manuel, Spain

Vallius, Pekka, Finland

Yaoru, Lu, China

Opening and welcome speech of the meeting was done by the vice Chairperson.

Information was given about Commission activities since the Commission was decided in 1998. The Commission has contact persons from 28 countries. A new contact person for Belgium will be added. The number of contact person will be improved.

After the presentation, the attendants gave information about aggregate resources in their country.

Report to the IAEG Council at the meeting in Rio de Janeiro, Brazil, by the Chairman about commission activities, was presented by vice Chairperson.

Information was given about future duties. On the web site the following will be introduced in the near future:

A Bulletin board

A reference list with key words on aggregates literature

A list on technical analytical methods used in the world

Dr. Pekka Vallius, Finland, President of IAEG Finnish National Group has given information about Aggregate 2001-Environment and Economy, 6-10 August 2001, Helsinki, Finland.

Discussion took place concerning a workshop which will be held at Aggregate 2001 in Helsinki, Finland. Dr. Lars Persson, Chairman of this Commission, proposed the following topics:

1. General geological description of aggregate resources before exploration and exploitation
2. Mineralogy, texture, petrographic and image analysis vs technical analysis
3. The description and investigation of a potential aggregate resource. What has to be done and with which accuracy?

Information about International Symposium on Industrial Minerals and Building Stones (IMBS'2003) organized by the Turkish National Group of IAEG, 15-18 September 2003, Istanbul, Turkey was given by Vice Chairperson. One of the main theme of the symposium will be aggregates.

Closing words by the vice chairperson with the announcement concerning the next meeting which will be held in Melbourne, Australia during the International Conference on Geotechnical and Geological Engineering (GeoEng2000), 19-24 November 2000.

Istanbul, August 28<sup>th</sup> 2000

Atiye Tugrul, Vice Chairperson

## **Information Meeting in Melbourne, Australia (GeoEng 2000)**

**(21 November 2000)**

Howqua Room 1

### **Agenda**

1. Opening of the meeting by Lars Persson

2. Approval of agenda
3. Presentation of participants
4. Information of the Commission activities
5. Information by the attendants
6. Open discussion on activities of the Aggregate Commission. Future duties and tasks
7. Workshop on Aggregates during the symposium "Aggregate 2001- Environment and Economy", Helsinki, Finland, 6 – 10 August 2001. Discussion of topics
8. Any other business
9. Next meeting

The meeting is open to any person interested in the subject!

Dr. Lars Persson, Chairman

### **Minute of the Information Meeting in Melbourne, Australia (21 November 2000)**

Representants from the following countries attended the meeting: Australia, Finland, Italy, Japan and Sweden, in total 7 persons.

Besides during the conference informal discussions were held with representants from eg. Hong Kong, Ireland, New Zealand, the Netherlands and USA.

The agenda is presented at the web site. A general information and discussion was held. Participants from Australia, Ireland and the Netherlands expressed their wish to get further information from the Commission. Information of the conference Aggregate 2001 next year in Helsinki was delivered. The Commission will have a workshop there and the subjects were discussed. The topic Engineering geological description is always of main interest for discussion and some Bedrock Quality Maps from the Geological Survey of Sweden were presented.

### **General ideas about the IAEG Commission works**

Commission work has been going on since many years within IAEG. There has been an ongoing discussion many years about the duties, responsibilities and work. The Aggregate Commission was started in the autumn of 1998, thus having been in work now for about two years. The work has been very interesting and encouraging but has also in some respects caused disappointments. The following experiences and opinions can be delivered which possibly can be of help and support for further discussions on the IAEG Commission works.

Before the establishment of a Commission some tasks and topics are presented. The work is supposed to go on for some years. The results with contributions from different countries shall then be delivered. After that the Commission is supposed to come to an end.

According to my experience many people express their sincere interest to take part but too many of them never answer questions, deliver information etc. This is no criticism because the fact is that many people today are working very hard, are very occupied and have a shortage of time. There is no possibility as chairman to force/convince anyone to deliver any material.

The yearly IAEG meetings and conferences are supposed to offer meeting and working possibilities.

According to my experience the IAEG meetings may provide possibilities for information, discussion and PR. No real work is possible, as new people appear at each meeting, thus there is no real continuity. Besides it is very difficult to attract people at a conference at the same time as lectures are going on. Special time must be reserved for all the Commissions at the IAEG meetings and conferences. The real work must take part by the use of Internet, e-mails etc. during the year.

### **The following can be summed up:**

-IAEG should have Commissions on all possible topics closely related to its activities (for the moment there are no Commissions on e.g. subsidence, karst, subsurface planning, seismic

risks etc. In some cases co-operation could be established with functioning Commissions in sister societies such as ITA, ISSMGE, and ISRM)

- The activities must be more flexible, i.e. possible to change during time. New questions and new problems are approaching all the time, such as for example quality and environmental issues nowadays

- The Commissions shall provide information on related topics and be easily reached, e.g. by Internet, web sites, e-mails etc. Exchange of information shall be possible. This also means that IAEG should have a web site with links to all commissions

- The Commissions shall arrange information meetings and workshops on related topics. Achieved material may be published in Bulletin of Engineering Geology and information in Newsletter

- The Commissions shall have the possibility to arrange meetings/give presentations during scheduled time at IAEG conferences and meetings when there are possibilities for all interested to take part

- Co-operation/common meetings should occur between the Commissions

- The Commissions are important for IAEG and thus should be more or less permanent in all cases if well functioning. The Commissions will be an advertising pillar and a PR body of IAEG. All people who want information on a certain subject shall know that IAEG or an IAEG Commission may provide that.

Dr. Lars Persson, Chairman

**2001**

## **Report to the IAEG Council at the meeting in Helsinki, Finland (August 2001)**

The Aggregate Commission was decided in September 1998 in Vancouver, Canada. The Commission has a web site: [http://www.sgu.se/hotell/iaeg/iaeg\\_e.html](http://www.sgu.se/hotell/iaeg/iaeg_e.html)

All reports to the IAEG meetings, agendas and reports from information meetings are collected at the web site. Thus, all information concerning the Commission can be found here. Work has been done to establish contacts in different countries. Some new members have joined. For the moment the Commission has contact persons from about 25 countries. All countries are unfortunately not very active.

A Questionnaire has been sent to the contact persons and so far replies from about 15 countries have been received. Other countries have promised a reply in the near future. A compilation of the main ideas concerning future tasks and the future work of the Commission is presented on the web site. Among the identified main tasks by the members exist (see below):

- World-wide standardisation of methods and international standard for the properties of rock
- Valuable references library on the web site.

In order to strengthen the organisation of the Commission, a vice-chairperson from a country outside Scandinavia has been appointed. Assoc. Prof. Atiye Tugrul from University of Istanbul, Turkey has accepted this task. As a suggestion from other members it will be an attempt to establish a regionally based structure with a person acting as a contact/co-ordinator for different areas, e.g. each continent, in an attempt to collect information on what is happening in these areas and spread IAEG news. This should be discussed at the information meeting in Helsinki.

An IAEG Commission meeting was organised in Sweden in April 27-28th 2000. The meeting and workshop was held at the Swedish National Testing and Research Institute, SP in Borås, Sweden.

Two main topics was treated:

- Mineralogy, texture, petrographic analysis and image analysis vs. technical analyses.
- Geological description of aggregate resources.

As a result of this meeting/workshop about 10 papers were delivered to the Bulletin of Engineering Geology and the Environment by agreement with the editor Brian Hawkins. The Commission for the moment does not know if all papers were accepted for publishing.

Because of the discussions concerning the role of the Commissions and their work, a short text relating some ideas and proposals of improvements was delivered to the IAEG Board and the text was later printed in IAEG News (Vol. 28, no 2, December 2000).

The Commission had an information meeting at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil in August 2000. Atiye Tugrul, Turkey chaired the meeting.

The Commission had an information meeting at GeoEng2000 in Melbourne, Australia in November 2000. Lars Persson, Sweden chaired the meeting.

A form has been added to the web site where it is possible to deliver information on important Aggregate literature to the Commission. This information will be stored in a database, Georegister, belonging to the Geological Survey of Sweden, SGU. There is a link to Georegister at the web site.

The Commission takes active part in the international conference Aggregate 2001 in Helsinki, Finland. In cowork with the IAEG Commission "Waste disposal" an excursion to Sweden is

planned. Wednesday, August 8<sup>th</sup>, 14 - 16, an information meeting will be held in Helsinki, Finland. Among other things the following topics will be discussed:

1. General geological description of aggregate resources
2. Mineralogy, texture, petrographic and image analysis vs. technical analysis
3. The description and investigation of a potential aggregate resource. What has to be done and with which accuracy?
4. The future of the Aggregate Commission. How to go on?
5. The organisation of the Aggregate Commission. How to go on?

Uppsala, April 2001

Lars Persson, Chairman

Atiye Tugrul, Vice chairperson

Björn Schouenborg, Secretary

### **Information Meeting in Helsinki, Finland (Aggregate 2001) (8 August 2001)**

#### **Agenda**

1. Opening of the meeting by Lars Persson
2. Approval of agenda
3. Presentation of participants
4. Information of the Commission activities
5. Information by the attendants
6. Open discussion on activities of the Aggregate Commission. Future duties and tasks
7. Important topics/future workshops:
  - a. General geological description of aggregate resources
  - b. Mineralogy, texture, petrographic and image analysis vs. technical analysis
  - c. The description and investigation of a potential aggregate resource. What has to be done and with which accuracy
8. Cooperation and research projects
9. Organisation of the Commission
10. Any other business
11. Next meeting

The meeting is open to any person interested in the subject!

Dr. Lars Persson, Chairman

### **Minute of the Information Meeting in Helsinki, Finland (Aggregate 2001) (8 August 2001)**

About 20 people from Albania, Brazil, Canada, Finland, France, Israel, Korea, Netherlands, New Zealand, Norway, Romania, Sweden, USA.

Lars Persson, Chairman

Björn Schouenborg, Secretary

Dr. Peter NW Verkholt, Netherlands

Peer. Richard Neeb, Norway

Maria Heloisa Frascá, Brasil  
Bruce Riddolls, New Zealand  
Dorian & Tom Kuper, USA  
Sven Lundqvist, Sweden  
Bill Langer, USA  
Vincent Lédée, France  
Prof. Defrim Shkupi, Albania  
Prof. Ass. Dr. Bashkim Lleshi, Tirana  
Cetean Valentina, Rumänien  
Peter Bobrowsky, Canada  
Pekka Vallius, Finland  
Asher Shadmon, Israel  
Georg Marshall  
Hyeong-Dong Park, Korea



#### 1. Opening of the meeting

Lars Persson (LP) opened the meeting and chaired the meeting. Björn Schouenborg (BS) was appointed meeting secretary.

#### 2. Approval of the agenda

The agenda was approved.

#### 3. Presentation of the participants

Round table presentation by everybody

#### 4. Information of Commission activities

The history of the Commission was shortly presented by LP. The original idea was that all work should be done during the meetings. However, this doesn't function in reality. One example is all the voluntary weekend works with the web site.

Activities so far in short:

- Provide a link to IAEG
- Meeting forum and promote and organise workshops
- Web-site
- Questionnaire on the Description and investigation of a potential aggregate resource.

Defrim Shkupi wanted that everybody acknowledged LP for the great work with the web site!

## 5. Information by attendants

Peer-Richard Neeb, NGU presented their web site: [www.ngu.no](http://www.ngu.no) and the database of aggregate quarries and sources. The database was placed on the web as of May 2001. A discussion whether the information from the Geological surveys shall be free or against a fee. No conclusion.

Bill Langer offered to supply any information concerning aggregates in the USA. He also offered members to have a Power Point presentation material. [www.aggman.com](http://www.aggman.com)  
A discussion about good literature. Bobrowsky's book was mentioned and the proceedings from a workshop in Nice in the early 1990 which has now been translated into English. The workshop covered unbound aggregates.

Shkupi wanted information about standards/regulations in different countries. This could help improve the situation in countries without such regulations or knowledge.

## 6. Open discussion on the activities of the Commission.

BS commented that C-17 has a tremendous potential being a worldwide organisation. Our influence and importance can be a lot bigger if we can organise the work more efficiently, engage more people and promote our work.

A discussion then followed about how to speed up the work and get people engaged. One proposal from the secretariat is to compile a book or report on specific topics. What is missing in existing books? See more under point 7, below.

In order to engage new members we need to define "What's in it for you".

### Objectives:

- Information: about activities WW, such as publications and meetings
- Statistics: e.g. production, export, import and ongoing R&D projects
- Promotion: of the aggregate use, the transfer to crushed aggregate, the use of local sources and the development towards environmental knowledge.
- Identifying important research areas/themes, e.g. assist the European Commission (EC) in these aspects.
- Collaboration with national and international producers organisations. Define interfaces and responsibilities.

## 7. Important topics/future workshops

A workshop shall be held during the next IAEG conference in Durban 2002. One proposed theme was Case studies of problems. This can be an easy way of learning.

C-17 will continue the work of "Ways to present the geology, classification of the bedrock for different purposes"; *sampling, choice of tests and ways of presentation*

Short courses and/or workshops should be arranged

The members shall promote the use of the Bulletin as a forum for exchange of information and publication. It will increase the importance and spread of the paper.

Some wanted quality control and maybe also information about regulations in different countries to be included. "How to extract and produce aggregates the best way without destroying the environment".

Book/report:

It was decided that the secretariat should produce a questionnaire on the subject and return with a compilation of the proposals. The draft title is "Geological material aspects for construction industry". The purpose is to highlight/demonstrate the importance of taking geological aspects into account when planning aggregate extraction and use in the construction industry.

- Geological aspects can be e.g. the influence of mineralogy and texture on the mechanical properties, geochemistry.
- It can also be to define crucial properties for improving the production control - Which product properties are influenced by which rock properties?
- Part of the presentation can be to define material characteristics that are crucial for the end use and for the understanding of the function of the end use, i.e. both intrinsic and produced properties.

**2002**

**Report to the IAEG Council at the meeting in Durban, South Africa  
(September 2002)**

**Commission Board:**

**Chairman:**

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**Web site:**

The Commission has a web site: [http://www.sgu.se/hotell/iaeg/iaeg\\_e.html](http://www.sgu.se/hotell/iaeg/iaeg_e.html)

**Date and venue of last meeting:**

The last meeting was held at Aggregate 2001 in August 2001 in Helsinki, Finland. The next meeting/"workshop" is planned to be in Durban, South Africa in September 2002.

**Activities:**

- Work has been done to establish contacts in different countries. For the moment the Commission has contact persons from about 25 countries. However, information about many occasions were also sent to hundreds of other interested people

- The communication with other persons has been gradually improving during recent years, making commission works more effective
- The Commission is consequently better known and well established, although much work remains to be done
- Owing to the establishment of the Aggregate Commission and improved contacts, papers on different subjects have been delivered to the Bulletin of Engineering Geology and the Environment and editor Brian Hawkins
- Further work is going on concerning the establishment of the Commission
- A regionally based structure with a person acting as a contact/co-co-ordinator for different areas, e.g. each continent is tried to be attained, in an attempt to collect information on what is happening in these areas and to distribute IAEG news. In this way William Langer, USGS, USA, (blanger@usgs.gov), and Maria Heloisa Barros de Oliveira Frascá, Brazil, (mheloisa@ipt.br), are responsible for North respectively South America
- A Questionnaire has earlier been sent to the contact persons and about 15 countries replied. A compilation of the main ideas concerning future tasks and the future work of the Commission is presented on the web site (see Appendix).

There are certainly difficulties in the handling of Commissions and a text with some ideas and proposals of improvements of the IAEG Commission work in general was earlier delivered to the IAEG Board. The text was printed in IAEG News (Vol. 28, no 2, December 2000) but is also available on the web site.

It is necessary to realise that the work has to take some time as all members and contact persons are busy and full-time working. Thus, much of the Commission work has to be done in leisure hours.

### **Meetings and workshops:**

- The Commission has had information meetings at all official IAEG meetings in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil, August 2000, at GeoEng2000 in Melbourne, Australia, November 2000 and at Aggregate 2001 in Helsinki, Finland, August 2001
- An IAEG Commission meeting was organised in Sweden in April 27-28th 2000. The meeting and workshop was held at the Swedish National Testing and Research Institute, SP in Borås, Sweden. Two main topics were treated: 1) Mineralogy, texture, petrographic analysis and image analysis vs. technical analyses, 2) geological description of aggregate resources. About 50 people took part
- The Commission took actively part in the IAEG meeting "Aggregate 2001", in Helsinki, Finland, August 2001. A meeting/workshop was held on 8<sup>th</sup> August
- A meeting/workshop is planned to be in Durban, South Africa, Friday 20<sup>th</sup> September 2002
- A meeting will be held in Istanbul, Turkey, 15-18<sup>th</sup> September, 2003 which is close to the activities of the Commission works. The theme is "Industrial Minerals and Building Stones", IMBS. The main themes are: Industrial minerals (Cement, Ceramic and Glass industries, Lightweight and Isolation materials), Building Stones (Dimension stone, Crushed stone and Aggregate, Construction and Restoration stone), the role of Engineering Geologists in Mineral industry and Future trends in Mineral industry.

### **Web site:**

A web site has been created in order to have a fast communication with all interested people. Besides, it is possible to communicate with the contact persons and others. The web site has for example the following contents:

- All reports to the IAEG about information meetings are collected at the web site
- News are currently published
- A geodiary is published
- A form has been added to the web site where it is possible to deliver information on important Aggregate literature to the Commission. This information will be stored in a database, "Georegister", belonging to the Geological Survey of Sweden, SGU. There is a link to the "Georegister" at the web site
- A table has been created to collect production statistics on Aggregates from different countries
- Important links are given to IAEG, other Commissions, Surveys, Societies, as well as to other sites giving information on bedrock materials, literature, databases etc.

However, much remains to be done. The quality of the web site is highly depending on the activity of the members and others. During one year the web site was visited about 2 500 times.

### **New planned publication/report:**

The work started in late 2001 after the Helsinki meeting. So far about 50 people from 25 countries have announced their interest. The work is planned to go on during 2002 and the first results will be discussed in Durban in September 2002. The planned structure of the report is the following:

#### **Title: "Geological Material Aspects for Construction Industry"**

**Part 1:** How to investigate and present aggregate resources (General aspects, Aggregate resources in different countries, Field investigations/methods, Geostatistics and spatial data analysis, Exploration and environmental aspects, Marketing and presentation of information)

**Part 2:** Case studies and research in a context (Working towards functionally related testing of aggregates, Material properties, Tests for construction acceptance, Petrographic description, Durability tests, Validation-case studies)

**Part 3:** Quality control and statistical evaluation of aggregate products and production (Introduction, Quality control systems in different countries, Production control-certification, Statistical evaluation of the production, Laboratory work, Conformity criteria-test results vs. requirements).

### **Further work for the next period:**

- Publishing of the report about **"Geological Material Aspects for Construction Industry"**
- Further work concerning establishment of the Commission works and contacts/members
- Further work on the web site
- Participating and arranging new meetings and workshops
- Concentration on new tasks

- A possible new subject to concentrate on could be "**Environment, Economy and Extraction of Bedrock Materials**".

As can be seen of the Appendix below a lot of work remains to be done.

#### **Appendix: Main results of the questionnaire sent to the contact countries:**

Question: Main tasks for the future of the IAEG Commission

(Within brackets: the country making the suggestion)

- Addressing all of the parameters listed on the web site (Canada, Romania)
- Presentation of thematic map of building material (sand, gravel and hard rock aggregates) for use in local planning (Norway, Romania)
- Holistic approach to aggregate research = breadth of topics (Canada)
- How to perform proper investigation, exploitation and use of various types of aggregates (Argentina, Greece, Turkey, USA)
- New technologies in mapping and laboratory tests (Brazil, France)
- World-wide standardisation of methods (Greece, Romania, Turkey, USA)
- International standard for the properties of rocks (Australia, Greece, Italy, Japan, Nepal, New Zealand, South Africa, Sweden, Turkey, USA)
- Valuable references library on the web site (Australia, France, Italy, New Zealand, South Africa, Sweden, Turkey, USA)
- New technological and methodological advances – homogenisation of data = improving the quality of material (Brazil, Romania)
- Reliable statistics of definitions, particularly sand and gravel (UK)
- Exchange of data on production statistics (UK, USA)
- The study for the life span of rock materials (Japan)
- Create connections for all professionals of aggregate studies=exchange of ideas (Argentina, Canada, France, Italy, Romania, Sweden, Turkey)
- Financial comparative analyses, cost analyses (exploitation, transportation, etc.; Romania).

Atiye Tugrul made contributions and approved to the text 2002-03-18, Björn Schouenborg 2002-03-25

Uppsala 2002-03-27

Lars Persson

### **Information Meeting in Durban, South Africa (9th IAEG Congress) (17 September 2002)**

Holiday Inn, Elangeni, Durban (Salle Congella/Umgeni)

#### **Agenda**

1. Opening by the chairman
2. Presentation of participants
3. Approval of agenda
4. Report/comments by the Chairman
  - Results and discussions from the Helsinki meeting in 2001

- Expression of interest, EOI, "AGREED" (how to proceed with the proposed network, comments on the contents, plan meeting during the autumn/winter to finalise a full proposal)
- The Web
- 5. Activities/organisation of work: **The Technical report** (Supporting documents: Overall structure, List of proposed contributors and titles, List of contributions so far, fix a final deadline and work scheme/assignment)
- 6. Proposals for future activities, especially workshops the forthcoming C-10 Meeting at IMB 2003 in Turkey, and the 32<sup>nd</sup> IGC in Florence and GeoEng 2004 in Canada
- 7. Any other business

The meeting is open to any persons interested in aggregates

## Minute of the Information Meeting in Durban, South Africa (17 September 2002)

1. Report by the chairman
  - Information about web site
  - Suggestion about delivering the materials
  - Statistics about production
2. No special comment concerning about "AGREED"
3. Technical Report
  - Information given by Chairman
4. Opinions
  - Statistical analyses should be applied
    - Cooperation with people's results for using in statistical analyses.
    - Best way is to use multivariate statistical analyses for classifying materials
    - Results of tests-Database
    - Everybody has different test results for database
    - Test on basic properties is important
  - Variation in different countries
    - Try standardization of test methods
    - A lot of test methods and different results (Peter Hudec will sent his ideas)
  - Standard for the construction is different. It is necessary to speak about type of construction.
  - Approach the report concerning sustainable development-concerning management in different quarry-concerning environment
  - Slovakia - List of quarries about active quarries and rock properties
  - Italy- Preparing something about big countries is very difficult.

-Pekka Vallius gave information about ERMI (Engineered recycled materials in infrastructure)

-Subcommissions on aggregates

-Putting on the web European standards and testing methods (CE)

-Network about researchers

Atiye TUĞRUL, Vice Chairperson

**2003**

**Report to the IAEG Council at the meeting in İstanbul, Turkey  
(September 2003)**

**Commission Board:**

**Chairman:**

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**Secretary:**

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**Date and venue of last meeting:**

The latest meeting was held in Durban, South Africa in September 2002

**Next meeting:**

Next meeting will be at IMBS 2003 in İstanbul, Turkey 15-18<sup>th</sup> September, 2003. The activities at this conference are close to the activities of the Commission works. The theme is “Industrial Minerals and Building Stones”

**Earlier meetings and Workshops:**

- The Commission had information meeting at all official IAEG meetings in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil, August 2000, at GeoEng 2000 in Melbourne, Australia, November 2000 and at Aggregate 2001 in Helsinki, Finland August 2001 and in Durban, September 2002.

- An IAEG Commission meeting was organised in Sweden in April 27-28<sup>th</sup> 2000. The meeting and workshop was held Swedish National Testing and Research Institute, SP in Borås, Sweden. Two main topics were treated : 1) Mineralogy, texture, petrographic analysis and image analysis vs. technical analysis, 2) geological description of aggregates resources. About 50 people took part
- The Commission took actively part in the IAEG meeting “Aggregate 2001”, in Helsinki, Finland, August 2001. A meeting/workshop was held on 8<sup>th</sup> August.

### Activities:

- Work is continuously done to establish contacts in different countries. For the moment the Commission has contact person from about 25 countries. However, information about many occasions were also sent to hundreds of other interested people.
- The Commission is well established, although much work remains to be done
- Further work is going on concerning the establishment of the Commission
- A regionally based structure with a person acting as a contact/co-co-ordinator for different areas, e.g. each continent is tried to be attained, in an attempt to collect information on what is happening in these areas and to distribute IAEG news. In this way William Langer, USGS, USA, ([blanger@usgs.gov](mailto:blanger@usgs.gov)) and Maria Heloisa Barros de Oliveira Frascá, Brazil, ([mheloisa@ipt.br](mailto:mheloisa@ipt.br)), are responsible for North, respectively South America.

There are certainly difficulties in the handling of Commissions and a text with some ideas and proposals of improvements of the IAEG Commission work in general was earlier delivered to the IAEG Board. The text was Printed in IAEG News (Vol.28,no 2, December 2000) but is also available on the web site. These problems are still a fact. Thus, it is necessary to realise that the work has to take some time as all members and contact persons are busy and full-time working. Thus, much of the Commissions work has to be done in leisure hours.

### Web site:

The Commission has a web site: [http://www.squ.se/hotell/iaeg/iaeg\\_e.html](http://www.squ.se/hotell/iaeg/iaeg_e.html)

This has been created in order to have a fast communication with all interested people. Besides, it is possible to communicate with the contact persons and others. The web site has for example the following contents:

- All reports to the IAEG about information meetings are collected at the web site.
- News are currently published
- A geodiary is published
- A form has been added to the web site where it is possible to deliver information on important Aggregate literature to the Commission. This information will be stored in a database, “Georegister”, belonging to the Geological Survey of Sweden, SGU. There is a link to the “Georegister” at the web site
- A table has been created to collect production statistics on Aggregates from different countries
- Important links are given to IAEG, other Commission, Surveys, Societies, as well as to other sites giving information on bedrock materials, literature, databases etc.

However, much remains to be done. The quality of the web site is highly depending on the activity of the members and others. During one year the web site is visited about 2500 times.

### **New planned publication/report:**

The work started in late 2001 after the Helsinki meeting. So far about 50 people from 25 countries have announced their interest. The work is planned to go on during 2002 and first results will be discussed in Durban in September 2002. The planned structure of the report is the following:

### **Title: Geological Materials Aspects for Construction Industry**

**Part 1:** How to investigate and present aggregate resources (General aspects, Aggregate resources in different countries, Field investigations/methods, Geostatistics and spatial data analysis, Exploration and environmental aspects, Marketing and presentation of information)

**Part 2:** Case studies and research in a context (Working towards functionally related testing of aggregates, Material properties, Tests for construction acceptance, Petrographic description, Durability tests, Validation-case studies)

**Part 3:** Quality control and statistical evaluation of aggregate products and production (introduction, Quality control systems in different countries, Production control–certification, Statistical evaluation of the production, Laboratory work, and Conformity criteria-tests results vs. requirements).

**Part 1** is under work and some editing has been made. It was sent to all members in the beginning of this year and answers (changes, additions) are required the first months of this year. However, the response has not been too impressing.

**Part 2** is also under work. Atiye Tugrul has updated the patron weathering. Vincent Ledee and others in France are working on the environmental aspects. Phil-Paige Green and Bill Langer are checking part 2 before sending it to all members.

**Part 3** has yet not started actively. Some contributions have been delivered. Björn Schouenborg is responsible for the work of this part.

### **Further work:**

An EOI was delivered last year to the EU: “Sustainable Development, Economy, Environment and Properties of Aggregates in Europe”, AGREED. Some discussions have been made in order to cooperate with other projects like ECMICS and MASSES. Björn Schouenborg is responsible for this work.

Atiye Tugrul made contributions and approved to the text 2003-04-10, Björn Schouenborg 2003-04-12.

Uppsala 2003-05-20

Last Persson

## **Information Meeting in İstanbul, Turkey (IMBS 2003) (16 September 2003)**

### **Agenda**

1. Opening by the Chairman

Presentation of participants  
Approval of Agenda

2. Approval of the Durban, September 17, 2002 minutes
3. General report by the Chairman on activities
4. General information by nominated C-17 members, National IAEG Group representatives and new attendants
5. Technical report, progress, continuation, discussion (Lars Persson, Björn Schouenborg and others)
6. AGREED, research project (Björn Schouenborg)
7. Further work, organisation, web site etc.
8. Preparations for next C-17 meeting in connection with the 32nd International Geological Congress in Florence, Italy, August 2004
9. Other meetings eg. EurEnGeo Liege 2004
10. Any other business.
11. End of the meeting

Uppsala July 2003

Atiye, Björn and Lars

### **Minute of the Information Meeting in İstanbul, Turkey (16 September 2003)**

Report from information meeting of the IAEG Commission Nr 17 on Aggregates in İstanbul, Turkey, September 16, 2003

13 people attended to this information meeting. They are;

Lars Persson, Sweeden, Chairman  
Atiye Tuğrul, Turkey, Vice Chairperson  
Björn Schouenborg, Sweeden, Secretery  
Morfeldt, Daniel, Sweden  
Raimo Uusinoka, Finland  
Eray Özgüler, Turkey  
Valentina Cetean, Romania  
Nalan Azizoglu, Turkey  
Yılmaz Ünlü, Turkey  
Sebastian Dupray, France

Asher Shadmon, Israel  
Ju-Yong Kim, S. Korea  
Pekka Vallius, Finland  
Pirjo Kuula-Väisänen, Finland

1. Opening and welcome speech of the meeting was done by the chairman. Information given about commission activities.

The participants, presented themselves

The agenda was approved

2. The Durban 2002 minutes was approved

3. Assessment report of the Aggregate Commission to the IAEG Council at the meeting in İstanbul was presented by the chairman.

4. The attendants gave information about researches on aggregate resources in their country.

5. The chairman gave information about Technical report: "Geological aspects of resource, quality, and performance assessment". Study is going on. The attendants decided to try to compile all material this year so that it could be circulated to all members/participants in the beginning of next year for completion. An electronic version shall be produced and later on a printed book, eg. in UNESCO Publishing.

Asher Shadmon, Israel, chairman of the IAEG Commission on Ornamental Stones agreed to make a short introductory contribution on cultural heritage to the report.

Björn Schouenborg will work on part 3 of the report. Bill Langer, USGS is working on part 2 and Vincent Ledee on the part concerning Environment.

Jorge Carvalho and Filipe Telmo Jeremias from Portugal will provide us information from Portugal to the Technical report.

Wim Dubelaar is contact person and has recommended Michiel van der Meulen to provide us with material to the Technical report from the Netherlands.

Anan Shuji agreed to be contact person from Japan and provide us with information to the Technical report.

Valentina Cetean presented the project of "Update of the manual on the use of rock in hydraulic engineering". He will provide new material from Romania.

Gèza Chikan and Erika Bodnár will provide material from Hungary.

6. Information given about further work, web site etc.

7. Björn Schouenborg made presentation about AGREED, research project. He said that an expression of interest (EOI) on "Sustainable Development, Economy, Environment and Properties of Aggregates in Europe, AGREED" was delivered to the European Commission, June 7th.

8. Closing words by the chairman with the announcement concerning the next meeting which will be held in Florence, Italy during the 32<sup>nd</sup> International Geological Congress August 2004.

İstanbul, September 16<sup>th</sup> 2003

Lars Persson, Atiye Tugrul and Björn Schouenborg

**2004**

**Report to the IAEG Council at the meeting in Florence, Italy  
(August 2004)**

**Commission Board:**

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**Vice chairperson:**

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**Secretary:**

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46 33 134516 fax  
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[bjorn.schouenborg@sp.se](mailto:bjorn.schouenborg@sp.se)

**Date and venue of last meeting:**

The latest meeting was held in Istanbul, Turkey in September 2003

**Next meeting:**

Next meeting will be at ILGC 2004 in Florence, Italy in August 2004.

**Earlier meetings and workshops:**

- The Commission has had information meetings at all official IAEG meetings in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil, August 2000, at GeoEng2000 in Melbourne, Australia, November 2000 and at Aggregate 2001 in Helsinki, Finland, August 2001, in Durban, South Africa, September 2002 and in Istanbul, Turkey, September 2003.
- An IAEG Commission meeting was organised in Sweden in April 27-28th 2000. The meeting and workshop was held at the Swedish National Testing and Research Institute, SP in Borås, Sweden. Two main topics were treated: 1) Mineralogy, texture,

petrographic analysis and image analysis vs. technical analyses, 2) geological description of aggregate resources. About 50 people took part

- The Commission took actively part in the IAEG meeting "Aggregate 2001", in Helsinki, Finland, August 2001. A meeting/workshop was held on 8<sup>th</sup> August.

#### **Activities:**

- Work is continuously done to establish contacts in different countries. For the moment the Commission has contact persons from about 25 countries. However, information about many occasions were also sent to hundreds of other interested people
- The Commission is well established, although much work remains to be done
- Further work is going on concerning the definition of the Commission organisational structure
- A regionally based structure with a person acting as a contact/co-co-ordinator for different areas, e.g. each continent is tried to be attained, in an attempt to collect information on what is happening in these areas and to distribute IAEG news. In this way William Langer, USGS, USA, and Maria Heloisa Barros de Oliveira Frascá, Brazil, are responsible for North respectively South America.
- New contact persons have been connected, e.g. from Serbia-Montenegro, Netherlands, Portugal, Columbia and Cyprus. Unfortunately we have lost contact with some.

There are certainly difficulties in the handling of Commissions and a text with some ideas and proposals of improvements of the IAEG Commission work in general was earlier delivered to the IAEG Board. The text was printed in IAEG News (Vol. 28, no 2, December 2000) but is also available on the web site.

#### **Web site:**

The Commission has a web site: [http://www.sgu.se/hotell/iaeg/iaeg\\_e.html](http://www.sgu.se/hotell/iaeg/iaeg_e.html)

This has been created in order to have a fast communication with all interested people. Besides, it is possible to communicate with the contact persons and others. The web site has for example the following contents:

- All reports to the IAEG about information meetings are collected at the web site
- News are currently published
- A geodiary is published
- A form has been added to the web site where it is possible to deliver information on important Aggregate literature to the Commission. This information will be stored in a database, "Georegister", belonging to the Geological Survey of Sweden, SGU. There is a link to the "Georegister" at the web site
- A table has been created to collect production statistics on Aggregates from different countries. It is updated as soon as statistics is arriving from the different members
- Important links are given to IAEG, other Commissions, Surveys, Societies, as well as to other sites giving information on bedrock materials, literature, databases etc.

From start the web site has been visited about 5 000 times.

#### **New planned publication/report:**

The work started in late 2001 after the Helsinki meeting. So far about 50 people from 25 countries have announced their interest. The work is planned to go on during 2002 and the first results will be discussed in Durban in September 2002 and then further results in Istanbul, 2003. Discussions have been held concerning the question how and where to publish the material (Bulletin, text book etc.). This has an impact on the editorial phase of the work. The planned structure of the report is the following:

## **Title: "Geological Material Aspects for Construction Industry"**

**Part 1:** How to investigate and present aggregate resources (General aspects, Aggregate resources in different countries, Field investigations/methods, Geostatistics and spatial data analysis, Exploration and environmental aspects, Marketing and presentation of information)

**Part 2:** Case studies and research in a context (Working towards functionally related testing of aggregates, Material properties, Tests for construction acceptance, Petrographic description, Durability tests, Validation-case studies)

**Part 3:** Quality control and statistical evaluation of aggregate products and production (Introduction, Quality control systems in different countries, Production control-certification, Statistical evaluation of the production, Laboratory work, Conformity criteria-test results vs. requirements).

**Part 1** is under work and some editing has been made. It was sent to all members in the beginning of this year and answers (changes, additions) are required the first months of this year. However, the response has not been too impressive.

**Part 2** is also under work. Atiye Tugrul has updated the part on weathering. Vincent Ledee and others in France are working on the Environmental aspects. Phil-Paige Green and Bill Langer are checking part 2 before sending it to all members.

**Part 3** has yet not started actively. Some contributions have been delivered. Björn Schouenborg is responsible for the work of this part.

### **Further work:**

An Expression of Interest (EoI) for and RTD-project was delivered last year to the European Commission. Some discussions have been made in order to cooperate with other projects like ECMICS and MASSES. Björn Schouenborg is responsible for this work.

### **Change of the chairmanship:**

A change of the chairmanship is prepared for the meeting in Florence, Italy.

Uppsala 2004-05-17

Lars Persson, Chairman

## **Information Meeting in Florence, Italy (32<sup>nd</sup> IGC) (24 August 2004)**

### **Agenda**

1. Opening of the meeting
2. Presentation of participants.
3. Approval of agenda
4. Information about Commission Activities
5. Information and proposals by attendants
  - Proposal by Maria Heloisa de Barros Oliveria Frasca from Brazil  
“Environmental management and recycling in the aggregates”
6. Open discussion on activities of the Aggregate Commission
  - Web site
  - Publication of the technical report
  - An Expression of Interest –EOI (R&D Projects) “Sustainable Development, Economy, Environment and Properties of Aggregates in Europe”, AGREED.

7. New business
8. Next meeting

## **Minute of the Information Meeting in Florence, Italy (32<sup>nd</sup> IGC) (24 August 2004)**

1. Assoc. Prof. Atiye TUĞRUL and Dr. Lars PERSSON opened the meeting.

9 people from 8 nations attended to the information meeting. The participants, listed below, presented themselves.

List of participants:

Tugrul, Atiye, Turkey, Chairperson  
Lars Persson, Sweden, Past Chairman  
Pekka Vallius, Finland  
Sebastian Dupray, France  
Giovanna Dino, Italy  
Asher Shadmon, Israel  
Ju-Yong Kim, S. Korea  
Defrim Shkupi, Albania  
Sei Sum Hong, Korea  
Jong Yeon, UK

2. Agenda of the meeting was approved
3. Information about commission activities were given by Past Chairman and Chairperson.
  - Information on Technical report
  - Information about web siteWeb site should be used in order to make fast communications with all interested people.
4. The attendants gave information about aggregate resources in their own countries.
5. Sebastian Dupray from France gave information about manual of hydraulic structures.
6. Proposals were given by attendants about future activities
  - A written suggestion by Maria Heloisa de Barros Oliveria Frasca  
"Environmental management and recycling in the aggregates"
    - Statistics about productions
    - Using the standards sometimes is different. It is necessary compiling information about the use of them.
    - Standard rules should be reliable for all countries
      - Network should be created between researchers for exchange of ideas and informations
      - Input the questions to the web site
7. Closing of the meeting

- Closing words by the chairperson with the announcement concerning the next meeting which will be held in Lyon, France during International Symposium on Geology and Linear Infrastructures (GEOLINE 2005) 23-25 May 2005.

İstanbul 2004-11-25

Atiye Tuğrul, Chairperson

## **Report to the IAEG Council at the meeting in Lyon, France (May 2005)**

### **Commission Board**

#### **Chairperson**

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#### **Past Chairman**

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**Coodinator, South America:**

Maria Heloisa Barros de Oliveira Frascá  
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**General Information:**

The Commission was established in Vancouver, September 20, 1998. This organisation encompasses members in over 35 countries. All members are encouraged to share their knowledge and contribute to the aggregate industry.

Objectives of the Commission are:

1. To increase the co-operation with other scientific fields, and of its role within the Association.
2. To enhance the role of Engineering Geology and its applications within the aggregate and construction industries.
3. To provide a source of continuous and uniform information of aggregates and environmental issues.
4. To foster the sharing of knowledge on research results and methodologies.
5. To facilitate cross-institutional and cross-disciplinary networks among researchers and practitioners around the world.
6. To increase opportunities for collaborative research

In order to fulfill these objectives we plan to undertake the following activities:

1. To publish the technical report titled “ Geological Material Aspects for Construction Industry”
2. To increase the use of the commission’s homepage that is readily available for up-to-date information.
3. To provide information of aggregates in the IAEG Bulletin.

4. To collect, correlate and publish data on the performance of various rocks with respect to their properties and end-use applications.
5. To produce harmonised international guidelines for investigation of potential deposits.
6. To assist the European standardisation body (CEN) with supporting activities and information for further development and improvement of standards.
7. To create international co-operation and new international projects.

#### **Earlier meetings and workshops:**

- The Commission has had information meetings at all official IAEG meetings, i.e. in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil, August 2000, at GeoEng2000 in Melbourne, Australia, November 2000, at Aggregate 2001 in Helsinki, Finland, August 2001, in Durban, South Africa, September 2002, in Istanbul, Turkey, September 2003, and in Florence, Italy, August 2004.

#### **Date and venue of last meeting:**

The latest meeting was held in Florence, Italy, August 2004

#### **Next meeting:**

The next meeting will take place in Lyon, France, 23 May 2005.

#### **Activities:**

- The new chairperson of the Commission was selected in August 2004. The new board was established in November 2004.
- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 35 countries.
- The new web site was activated.

#### **Web site**

The Commission has a new web site: [www.iaeg.info](http://www.iaeg.info)

This has been created in order to be able to communicate effectively, for example with the contact persons. The web site has following contents:

- Updated list of members of the Commission
- All reports to the IAEG from information meetings
- Latest news
- Information of international aggregate standards
- Aggregate glossary
- References related to aggregates
- Related aggregate links.

#### **Technical report**

The work started in late 2001 after the Helsinki meeting. So far about 50 people from 25 countries had announced their interest. The work was planned to go on during 2002 and the first results were discussed in Durban in September 2002 and further, in Istanbul, 2003 and Florence, 2004. This had an impact on the editorial phase of the work. The planned structure of the report is the following:

**Title: "Geological Material Aspects for Construction Industry"**

**Part 1:** How to investigate and present aggregate resources (General aspects, Aggregate resources in different countries, Field investigations/methods, Geostatistics and spatial data analysis, Exploration and environmental aspects, Marketing and presentation of information).

**Part 2:** Case studies and research in a context (Working towards functionally related testing of aggregates, Material properties, Tests for construction acceptance, Petrographic description, Durability tests, Validation-case studies).

**Part 3:** Quality control and statistical evaluation of aggregate products and production (Introduction, Quality control systems in different countries, Production control-certification, Statistical evaluation of the production, Laboratory work, Conformity criteria-test results vs. requirements).

It was decided to publish the technical report later on the web. Part 1 is under editing. A version of it has been sent to Veli Suominen, Mika Räisänen and Sébastien Dupray for reviewing. Sébastien Dupray is editing the first part and the report will hopefully be on the web as a pdf-file during the Summer 2005. Part 2 is reviewed by Bill Langer, USGS, USA. When he is ready it can be edited and put on the web as a pdf-file, hopefully this year. **Part 3** is managed by Björn Schouenborg.

**Project**

An Expression of Interest (EOI): “*Sustainable Development, Economy, Environment and Properties of Aggregates in Europe*” (AGREED) was delivered to the European Commission (EC) in 2003. Due to the change of the EC programme and objectives, the EOI was never submitted as a complete project proposal.

However, Björn Schouenborg and Lars Persson will continue to search for relevant EC calls where this and/or other aggregate related project proposals can be formed. Anyone who has a good idea can contact Dr. Björn Schouenborg.

Our next aim is to establish a good contact with the new ECTP (European Construction Technology Platform), which will probably be very important for the definition of future research project in our field of interest.

The web address of the text concerning AGREED is:

<http://www.sgu.se/hotell/iaeg/EOI,%20AGREED.htm>

Istanbul 2005-05-12

Assoc. Prof. Atiye TUĞRUL, Chairperson

Dr. Mika Räisänen, Secretary

**2005**

**Information Meeting in Lyon, France (Geoline 2005)  
(23 May 2005)**

**Agenda**

1. Opening of the meeting
2. Presentation of participants.
3. Approval of agenda
4. Information about Commission Activities
5. Information and proposals by attendants
6. Open discussion on activities of the Aggregate Commission
  - Web site
  - Publication of the technical report
  - Other activities
7. New business
8. Next meeting

**Minute of the Information Meeting in Lyon, France (Geoline 2005)  
(23 May 2005)**

1. Assoc. Prof. Atiye TUĞRUL opened the meeting.

6 people from 5 nations attended to the information meeting.

**List of participants:**

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2. The agenda of the meeting was approved.
3. The participants presented themselves, and gave a short description of their past and future activities. The contact addresses of the board members as well as active members, documents (e.g. aggregate glossary, reference list on aggregates, list of standards and reports) can be found at IAEG web site (<http://www.iaeg.info/>).
4. The chairperson gave information about activities performed by the commission.
  - The tasks of the new board were decided.
  - Özgür Öztürk and Atiye Tugrul emphasised the importance of local coordinators. Sébastien Dupray was signed as the European coordinator.
5. Information and proposals by attendants.
  - Özgür Öztürk suggested that we should improve the knowledge within the field of aggregates. The first step would be to conduct simple enquires through our web site. Through enquiring our active members in particular we can found out what are considered as important activities in the future and what we are expected to do.
  - Mika Räisänen suggested that we should aim at co-projects within C-17, which are organised by active members of C-17. These projects should be as simple as possible particularly at the beginning to make sure that concrete results are achieved. Hence, it is possible to increase the amount of work related to C-17 that can be done during office hours. This would create a good platform for international projects and information exchange in the future.
  - Lars Persson emphasised cooperation with active members. He also pointed out that we should aim at cooperation with a few good members and organising workshops with them. In addition, Lars Persson informed that IAEG wants to have concrete results each year.
  - Björn Schouenborg presented various possibilities to finance research, and suggested that we should aim at organising a conference that focuses on aggregates. This could be similar as the conference held in Helsinki 2001. He told also that we should strive at emphasising the same goal when contents and platforms of the new European Framework Programme 7 are discussed. Therefore, we should try not to fragment our resources but aim at including aggregates related topics to European Construction Technology Platform.
  - Atiye Tugrul suggested that the topic of one particular year could be about the quality and material problems as it could be environmental issues an other year, i.e. we should concentrate on some specific topics on yearly basis.
  - Sebastian Dupray pointed out that we should make some concrete future plans in order to be able to strengthen the position of the C-17.

6. Open discussion on activities of the Aggregate Commission.
  - Web site: It was noted that the new web site is going provide faster communication possibilities between members. However, the web site is not finished yet, and it needs to be improved, e.g. word documents should be transferred to PDF files so that they can be read also by other programs than those provided by Microsoft. More pictures are also welcomed.
  - Publication of the technical report in the web: Lars Persson explained why the publishing of the technical report is some how troublesome. Many have expressed their willingness to contribute to the report. However, it has appeared that most are busy and can't meet the deadlines. The publishing of the report has also suffered from the heterogeneity of the material. However, it was concluded that the heterogeneity of the material is a sign of the need for all kinds of activities within the field. The goal is to publish the report within the current year. Sébastien Dupray is editing Part 1, and Mika Räisänen is making additions to the environmental chapter. Part 2 is reviewed by Bill Langer, USGS, USA. Björn Schouenborg, who though is busy until October, manages part 3.
  - Lars Persson said that we should ensure that all information from the old web site is being transferred to the new one, and make sure that the old web site is not used any more. In order to make the new site more active it could consist information of ongoing projects, list of doctoral thesis, and short notices of activities etc.
7. New business
  - We need to concentrate on finding new ACTIVE coordinators and members.
  - In future it is possible to publish parts of technical reports as short papers, e.g. in the Bulletin. In these cases the technical report must be referred to correctly. The instructions for referring to it is given in the beginning of the technical report.
8. Closing of the meeting. Closing words by the chairperson with the announcement concerning the next meeting, which will be held at the 10th International Congress of IAEG (Engineering geology for tomorrow's cities) in Nottingham, United Kingdom 6-10 September 2006.

Atiye Tuğrul, Chairperson  
Mika Räisänen, Secretary

**2006**

**Report to the IAEG Council at the meeting in Nottingham, UK  
(June 2006)**

**Commission Board**

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**Secretary**

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**R&D Responsible**

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### **General Information:**

The Commission was established in Vancouver, September 20, 1998. This organisation encompasses members in over 35 countries. All members are encouraged to share their knowledge and contribute to the aggregate industry.

Objectives of the Commission are:

1. To increase the co-operation with other scientific fields, and of its role within the Association.
2. To enhance the role of Engineering Geology and its applications within the aggregate and construction industries.
3. To provide a source of continuous and uniform information of aggregates and environmental issues.
4. To foster the sharing of knowledge on research results and methodologies.
5. To facilitate cross-institutional and cross-disciplinary networks among researchers and practitioners around the world.
6. To increase opportunities for collaborative research

In order to fulfill these objectives we plan to undertake the following activities:

1. To publish the technical report titled “ Geological Material Aspects for Construction Industry”
2. To increase the use of the commission’s homepage that is readily available for up-to-date information.
3. To provide information of aggregates in the IAEG Bulletin.
4. To collect, correlate and publish data on the performance of various rocks with respect to their properties and end-use applications.
5. To produce harmonised international guidelines for investigation of potential deposits.
6. To assist the European standardisation body (CEN) with supporting activities and information for further development and improvement of standards.
7. To create international co-operation and new international projects.

### **Earlier meetings and workshops:**

- The Commission has had information meetings at all official IAEG meetings, i.e. in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil,

August 2000, at GeoEng2000 in Melbourne, Australia, November 2000, at Aggregate 2001 in Helsinki, Finland, August 2001, in Durban, South Africa, September 2002, in Istanbul, Turkey, September 2003, in Florence, Italy, August 2004 and in Lyon, France, May 2005.

**Date and venue of last meeting:**

The latest meeting was held in Lyon, France, May 2005

**Next meeting:**

The next meeting will take place in Nottingham, UK, September 2006.

**Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 35 countries.
- The new web site was activated.

**Web site**

The Commission has a new web site: [www.iaeg.info](http://www.iaeg.info)

This has been created in order to be able to communicate effectively, for example with the contact persons. The web site has following contents:

- Updated list of members of the Commission
- All reports to the IAEG from information meetings
- Latest news
- Information of international aggregate standards
- Aggregate glossary
- References related to aggregates
- Related aggregate links.

**Technical report**

The work started in late 2001 after the Helsinki meeting. The title of the report is "**Geological Material Aspects for Construction Industry**". So far about 50 people from 25 countries had announced their interest. The work was planned to go on during 2002 and the first results were discussed in Durban in September 2002 and further, in Istanbul, 2003, Florence, 2004 and Lyon 2005. This had an impact on the editorial phase of the work.

It was decided to publish the technical report later on the web. Part 1 is under editing. A version of it has been sent to Veli Suominen, Mika Räisänen and Sébastien Dupray for reviewing. Sébastien Dupray is editing the first part. Part 2 is reviewed by Bill Langer, USGS, USA. When he is ready it can be edited and put on the web as a pdf-file, hopefully this year. Part 3 is managed by Björn Schouenborg.

**Project**

Björn Schouenborg and Lars Persson will continue to search for relevant EC calls where this and/or other aggregate related project proposals can be formed. Anyone who has a good idea can contact Dr. Björn Schouenborg.

Our next aim is to establish a good contact with the new European Construction Technology Platform (ECTP), which will probably be very important for the definition of future research project in our field of interest. It is important that all European countries with an interest to work in this field establishes a National Technical Platform (NTP), a sort of mirror group to the ECTP. Information about the activities can be found on the homepage [www.ectp.org](http://www.ectp.org). To be able to assess all Focus Areas (FA) you need to be a registered user. That's without charge. Presently it is [wolfgang.dienemann@htc-gmbh.com](mailto:wolfgang.dienemann@htc-gmbh.com) that you may contact for the FA Materials. Björn Schouenborg is a registered member in the FA Materials and you can also mail him for more information ([bjorn.schouenborg@sp.se](mailto:bjorn.schouenborg@sp.se)). Dr Schouenborg is preparing a consortium for a new EU-project on totally crushed aggregates for concrete production. This will be presented at the conference in Nottingham. Another project proposal will focus on performance based requirement on alkali reactive concrete aggregates, a continuation of the PARTNER project ([www.partner.eu.com](http://www.partner.eu.com)), which is being finalised in 2006.

There is also another ETP related to IAEG-activities: ETP-SMR (Sustainable Mineral Resources). The national aggregate federations are associated to this and the European federation of national federations (UEPG). Hopefully we will have a close collaboration between both TPs. At this moment only ECTP is registered by the European Commission.

Istanbul 2006-06-12

Prof. Dr. Atiye Tuğrul, Chairperson  
Dr. Mika Räisänen, Secretary  
Dr. Björn Schouenborg, R&D Responsible

## **Information Meeting in Nottingham, UK (IAEG 2006) (9 September 2006)**

### **AGENDA**

1. Opening of the meeting
2. Presentation of participants.
3. Approval of agenda
4. Approval of the Lyon, May 2005 minutes
4. Information about Commission Activities
5. Information and proposals by attendants
6. Open discussion on activities of the Aggregate Commission
  - Web site
  - Publication of the technical report
  - Other activities
7. New business
8. Next meeting

## 9. Closing of Meeting

### **Minute of the Information Meeting in Nottingham, United Kingdom (Engineering geology for tomorrow's cities 6th-10th September 2006)**

1. Prof. Atiye TUĞRUL opened the meeting at 2 pm on September 9th.

13 people from 10 nations attended to the information meeting.



#### **List of participants**

*Atiye Tugrul (AT), Turkey, Chairperson*

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Figure 1. Participants of the information meeting held in Nottingham. From left: AT, SM, PPG, AS, TO, BS, AT, UÅ, MHF, LP, JYK and MR.

2. The agenda of the meeting was approved.

3. The participants presented themselves. The contact addresses of the board members as well as active members, and documents (e.g. aggregate glossary, reference list on aggregates, list of standards and reports) can be found at IAEG web site (<http://www.iaeg.info/>).

4. Minutes of previous commission meeting that was held in Lyon May 2005 were approved after Mika Räisänen presented them.

5. The chairperson Atiye Tugrul informed about objectives and activities of the Commission.

We discussed issues concerning future and annual activities, IAEG web pages, Technical report, and practical problems.

### ***Objectives***

- To increase the co-operation with other scientific fields, and to increase its role within the Association.
- To enhance the role of Engineering Geology and its applications within the aggregate and construction industries.
- To provide a source of continuous and uniform information of aggregates and environmental issues.
- To foster the sharing of knowledge of research results and methodologies.
- To facilitate cross-institutional and cross-disciplinary networks among researchers and practitioners around the world.
- To increase opportunities for collaborative research

### ***Web page***

Lars Persson explained the history of the old web pages and said that the information from these pages has been saved, but the pages have been terminated just before the meeting in Nottingham. There was a general concern about running the current IAEG web pages. Updating the current web pages can take some months, and this doesn't promote one of the main objectives about sharing knowledge and co-operation among members. Lars Persson postponed that Nick Rengers has promised to try to solve the problems related to the functionality of the web page. Björn Schouenborg and Atiye Tugrul said that it would be a good idea if we could update the web page by ourselves. If the web pages don't start to work better in the near future, our commission shall give suggestions how to improve the functionality of the web pages. Atiye Tugrul pointed out that in future we should provide pdf-documents to webmaster instead of word-documents.

The web pages contain the following information:

- List of members of the commission
- Reports related to the IAEG from information meetings
- Information of international aggregate standards
- Aggregate glossary
- References related to aggregates
- Related aggregate links
- Latest news

### ***Technical report***

Mika Räisänen explained the situation of the report. Sebastien Dupray has edited 95 % of the first part of technical report. Mika Räisänen and Hannele Kauppinen have finished the chapter of "Exploration, environmental aspects, and land use planning". Mika Räisänen sends this chapter to Sebastien Dupray to be attached to technical report. In the next stage 2nd and 3rd parts should be finished.

### ***Practical problems***

The problems are related to that our commission members meet only once a year. Therefore, it is difficult to work together especially due to the fact that many members are occupied with their ordinary positions, and lack time for other activities. In order to promote our future activities and the situation of aggregates within the field of IAEG we have to be more active and avoid giving promises that we cannot keep. IAEG web pages have an essential role in our attempt to develop our commission activities and promote cooperation.

We discussed regional coordinators and their importance. Björn Schouenborg suggested quitting the regional co-ordinators and replace them by national co-ordinators and this was accepted. The reason for this is that the contact to the board is mainly done through the national coordinators. However, it appears that also many national coordinators are inactive, and therefore, it is better to work with the active ones, and not only aim to increase the number of member countries. Active cooperation between national members and coordinators helps to develop the practical work of the commission.

### ***Future and annual activities***

We shall collect information of production amounts and other statistics, materials, standards etc. We also aim to give suggestions to improve current standards.

The technical report should be finished, because some data will get old if we do not publish it soon. It will be published in the web.

The aggregate sessions in the forthcoming congresses are very important future activities that we shall use to promote the importance of aggregate research and the importance of aggregates to the society. Our aim is to organise aggregate or construction materials sessions in International Geological Congress (IGC) to be held in Norway Oslo in 2008 and IAEG Congress to be held in New Zealand Auckland in 2010. In these congresses we shall arrange besides aggregate sessions also our commission meetings that include workshops where we discuss issues such as research, national situations, environmental issues etc.

### **6. Open discussion on activities of the Aggregate Commission.**

Lars Persson presented the International Geological Congress to be held in Oslo Norway 5th-14th of August 2008. Main organisers of the congress are the national geological committees of Nordic countries. Congress includes a vast variety of themes, and topics related to engineering and urban geology. The second circular of the congress shall be published in January 2007. Mika Räisänen told that Peer Richard Neeb has enquired if Björn Schouenborg, Mika Räisänen, and Sebastien Dupray could work as convenors of construction materials session in Oslo. Neeb is the coordinator of this session.

Asher Shadmon suggested that there would be a large session of construction materials rather than many smaller themes.

### **Other activities**

Björn Schouenborg presented some previous and ongoing cooperation projects (e.g. PARTNER projects that deals with alkali silica reactivity) and possibilities to finance research through the European Commission's 7th Framework programme (FP7). He postponed the mutual interests of participants and the importance of cooperation in order to promote future

activities and projects. He will send a questionnaire to some IAEG members and other people who work with aggregates, environment, or dimension stones.

In the questionnaire will be asked about previous (e.g. 2000 and onwards) and ongoing projects. Thus, it is possible to avoid performing same research at various institutions, and it is also possible to bring results of previous projects to international knowledge. This may give new initiatives for future research on aggregates, extraction, production, environmental issues etc. Results of this questionnaire, and links to publications will be published in IAEG home pages.

Björn Schouenborg informed about forthcoming European Commission's 7th Framework programme (FP7) and new initiatives under FP7. The time frame for the programme is 2007-2013, and the budget is ca. 50 000 million euros, and it is frontier research. Most of the financing is directed to a cooperation programme that includes nine themes. Themes include e.g. materials and environment. In previous years Framework programmes have financed 50 % of costs. It is possible that FP7 covers up to 75% of the costs. He told also that we should strive at emphasising the same goal when contents and platforms of the new European Framework Programme 7 are discussed. Therefore, we should try not to fragment our resources, but aim at including aggregates related topics to European Construction Technology Platform that already has been accepted as technology platform. Sustainable Mineral Resources (SMR) has not yet been accepted as technology platform.

### **Cooperation and publishing**

This topic gained a great deal of discussion, which were related to cooperation, work of the commissions, and especially when it concerned writing and publishing about aggregates.

Asher Shadmon suggested that we should try to generalise operational models and organisations of various commissions. He also mentioned that in future there would possibly be a person in IAEG who coordinates commissions.

Ju Yong Kim suggested that we could write technical papers or make a special paper of aggregates to Bulletin. He said that it would be a good idea to select some topics and then aim at publishing articles from these restricted topics.

Lars Persson said that we need to advertise and inform several persons, and possibly also to persons outside of IAEG. This suggestion gained positive response, because cooperation favours all participants. Lars Persson also emphasised the need for cooperation with active members even though their number is quite small.

Akos Török suggested that we should aim to publish books or volumes about aggregates possibly every second year, and give suggestions about some specific topics.

Maria Heloisa Frasca and others suggested that we could publish a book or proceedings in larger congresses that would contain articles about aggregates. After the discussions we decided to try to publish something in Norway and/or in New Zealand. However, if we want to succeed already in Norway, we should be active in order to find good topics, means and financing for this.

### **7. New business**

This topic was discussed in previous paragraphs.

8. Workshop: Presentations and discussions of national situations and research topics of aggregates.

Maria Heloisa Frasca gave a speech about aggregates in Brazil. She explained that environmental problems are the key issue related to aggregates in Brazil. Recycled aggregates and substituting materials are used more and more, but the amounts are still very small compared to the usage of natural aggregates.

Takehiro Ohta from Japan explained that the natural aggregate reserves are diminishing. Therefore, there are attempts to use more substituting materials, but there are many environmental problems and risks related to them.

Ju Yong Kim presented a power point presentation 'Geology, location and mechanical properties of crushed aggregate resources in Korea'. The demand of aggregate resources in Korea has increased with a rapid economic growth since the 1980s. About 20 % of the total aggregate production is derived from fluvial aggregates, 10 % from marine sands, 65 % from crushed aggregate, and the rest 5 % from old fluvial deposits. Plutonic and metamorphic rocks are typical aggregate materials produced in Korea are. < 5 % of aggregates are produced from substituting materials or recycled aggregates. Large quarries produce yearly 5-8 million m<sup>3</sup> of aggregates, and aggregates are produced under control of the government. Still, rehabilitation of quarries has been neglected too often.

Urban Åkesson from Sweden gave a power point presentation with the topic 'Microscope rock texture characterization'. He has used image analysis in various studies in order to classify and quantify texture, micro-fractures, grain size distribution, and composition of aggregates. He also used the methods of mechanical-physical tests, Scanning Electron Microscope, polarising microscope both in normal light as well as in fluorescent light. These studies can be used to assist in rock quality estimations, e.g. when rock aggregates for concrete are studied.

Silvina Marfil described the Argentinean aggregates. The principal aggregate production areas are in Buenos Aires Province where are main inhabited and industrial areas. Fine aggregates are mainly produced from natural sand formations, and coarse aggregates mainly from crushed rock. The sources of natural sands are fluvial, eolian and marine, and their compositions vary a great deal. Among the best are fluvial sands from Paraná River that are composed mainly of quartz. Some fluvial aggregates may contain chalcedony that may be deleterious constitute in concrete. Eolian sands are very fine-grained, and they are generally used in a mixture with marine sands of a larger grain size. Crushed rocks are mainly produced from quartzites, granites, granitic migmatites and in minor percentage of carbonatics rocks. In Patagonia (south of Argentina) and Mesopotamia (North east area) the principal source of aggregates are volcanic rocks. Volcanic rocks may contain rock interlayers, which contain volcanic glass, montmorillonite-type clays and cryptocrystalline silica. These constituents can be harmful in concrete due to their potential ASR-reactivity. Therefore, petrographic studies are needed to prevent deleterious reactions in concrete. Granites and granitic migmatites are generally the best material for concrete. However, some of them and some quartzites as well, may contain microcrystalline deformed or strained quartz, which can also promote ASR-reactions.

Lars Persson presented a yearly report of Sweden's aggregate consumption and resources. According to this report the total amount of sand and gravel, moraine and crushed rock (aggregates) extracted in 2003 was about 70.2 million tonnes, over half of which consisted of crushed rock. This report is very important, when aggregate resources in the future are estimated and it provides information to decision makers of the importance of aggregates for the society.

Akos Török gave a power point presentation about 'Aggregates in Hungary'. His resenatation was divided to 1. Geology of Hungary, 2. Aggregate resources, and 3 Environmental issues of quarrying. Main aggregate resources are situated in the following rocks: 1. Palaeozoic limestones, 2. Mesozoic dolomites and limestones, 3.Tertiary andesites, and 4.Tertiary to Pleistocene basalts. Topography of Hungary is quite low, and because of this, there are not too many good locations for aggregate quarries. Quarries in the edges of mountains cause visual pollution, and due to ground water and other environmental issue as well as rock quality, it is difficult to find suitable quarry sites. Another environmental issue of Hungary is that there are many quarries that are operating or have operated without proper quarry permits.

Phil Page-Green talked about South African aggregates. He said that it is difficult to give a reliable estimation of usage of aggregates, because aggregates are often exploited without valid extraction permits. Then he described some technical problems related to quarrying and especially related to 9-13 mm aggregates. The problem is that up to 85 % of original rocks can end up in crushing and processing procedure to < 9 mm aggregates. In some areas there are also problems with smectites, which volume increases due to moisture, and they are therefore, very poor aggregate materials. Furthermore, quarries of South Africa are often somewhat messy and not properly rehabilitated.

Mika Räisänen gave a power point presentation about aims to increase the sustainable use and production of aggregates. He also briefly explained other Finnish aggregate research projects. The Geological Survey of Finland is developing an accounting system for natural aggregate resources. This system will provide on-line information (Internet) about the location, quality, and the amount of available aggregates. Later, left-over materials will be linked with the accounting system of natural aggregate resources in order to accomplish a blanket system providing on-line information about aggregate resources and substituting materials. Aggregate reserve inventories from rock, sand, and gravel formations are the basis for the accountancy system.

Resource estimations include detail geological mapping done for existing quarries, but also to reserves. One part of reliable testing is understanding petrographical properties of rocks and understanding the behaviour of various materials in laboratory crushing and in mechanical tests.

This is essential in initial testing and quality assessment of aggregate raw materials. Other Finnish research projects are related to super quarries, left over stones from construction and dimension stone quarries, weathering of airfield aggregates due to de-icing liquids, city image and aggregates, and many environmental projects on dust and ground water.

9. The next meeting of C-17 was discussed. It was decided that the next meeting of C-17 is organised in Oslo in International Geological Congress 2008. The next Council meeting of IAEG will be arranged in Vale Colorado June 2007. Someone of our active members shall report activities of C-17 in Vale, or if noone of our members can attain this meeting we will

provide the meeting with an activity report.

10. Closing of the meeting. Closing words by the chairperson Atiye Tugrul.

Atiye Tuğrul, Chairperson

Mika Räisänen, Secretary

**2007**

**Report to the IAEG Council at the meeting  
in Vail, Colorado, United States (June 2007)**

**Commission Board**

**Chairperson**

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**General Information:**

The Commission was established in Vancouver, September 20, 1998. This organisation encompasses members in over 35 countries. All members are encouraged to share their knowledge and contribute to the aggregate industry.

Objectives of the Commission are:

1. To increase the co-operation with other scientific fields, and of its role within the Association.
2. To enhance the role of Engineering Geology and its applications within the aggregate and construction industries.
3. To provide a source of continuous and uniform information of aggregates and environmental issues.
4. To foster the sharing of knowledge on research results and methodologies.
5. To facilitate cross-institutional and cross-disciplinary networks among researchers and practitioners around the world.
6. To increase opportunities for collaborative research

In order to fulfill these objectives we plan to undertake the following activities:

1. To publish the technical report titled “ Geological Material Aspects for Construction Industry”
2. To increase the use of the commission’s homepage that is readily available for up-to-date information.
3. To provide information of aggregates in the IAEG Bulletin.
4. To collect, correlate and publish data on the performance of various rocks with respect to their properties and end-use applications.
5. To produce harmonised international guidelines for investigation of potential deposits.
6. To assist the European standardisation body (CEN) with supporting activities and information for further development and improvement of standards.
7. To create international co-operation and new international projects.

#### **Earlier meetings and workshops:**

- The Commission has had information meetings at all official IAEG meetings, i.e. in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil, August 2000, at GeoEng2000 in Melbourne, Australia, November 2000, at Aggregate 2001 in Helsinki, Finland, August 2001, in Durban, South Africa, September 2002, in Istanbul, Turkey, September 2003, in Florence, Italy, August 2004, in Lyon, France, May 2005 and in Nottingham, UK, September 2006.

#### **Date and venue of last meeting:**

The latest meeting was held in during IAEG Congress Nottingham, UK, September 2006.

**Last meeting**, in Nottingham, 2006, members and attendants gave reports covering the period since the Istanbul, Lyon 2005 meeting.

**Next meeting:**

The next meeting will take place in Oslo, Norway, August 6 – 14<sup>th</sup>, 2008 during the 33<sup>rd</sup> International Geological Congress (IGC).

The organization of the IGC congress has asked IAEG for assistance in defining a special theme/session for geological construction materials. The 2<sup>nd</sup> circular can be downloaded from the homepage of the congress:

<http://www.33igc.org/>

Björn Schouenborg and Mika Räisänen have defined the different topics as follows and encourage IAEG members to give input. The following proposals of themes and chairmen have currently been accepted:

1. General contributions to construction materials  
Phil Paige Green, Peer-Richard Neeb and Björn Schouenborg
2. Geology, prospecting and land use planning of aggregate and natural stone production  
Sebastien Dupray and Atiye Tuğrul
3. Classification systems, testing of aggregates and available production techniques  
Ju Yong Kim and Björn Schouenborg
4. Mineralogical studies versus performance of the product - Aggregates and natural stones  
Björn Schouenborg and Maria Heloisa Barros
5. Dimension stone – Assessment of stone performance in use  
Katarina Malaga and Paola Blasi
6. Environmental influences and reclamation of quarrying and processing – Sustainable development  
Ákos Török and Mika Räisänen
7. Waste and left-over materials from dimension stone and aggregate quarries and recycling of construction materials  
Mika Räisänen and William H. Langer

**Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 35 countries.
- The new web site was activated.

**Web site**

The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

This has been created in order to be able to communicate effectively, for example with the contact persons. The web site has following contents:

- Updated list of members of the Commission
- All reports to the IAEG from information meetings
- Latest news
- Information of international aggregate standards
- Aggregate glossary
- References related to aggregates
- Related aggregate links.

Özgür ÖZTÜRK is responsible for updating the web site. After IAEG webmaster will send him the instructions and give him the appropriate authorisation for our pages, then he can be able to edit our own pages at the IAEG website.

### **Technical report**

The work started in late 2001 after the Helsinki meeting. The title of the report is "**Geological Material Aspects for Construction Industry**". So far about 50 people from 25 countries had announced their interest. The work was planned to go on during 2002 and the first results were discussed in Durban in September 2002 and further, in Istanbul, 2003, Florence, 2004 and Lyon 2005. This had an impact on the editorial phase of the work.

It was decided to publish the technical report later on the web. There is still old information occurring on the Technical report in the IAEG papers. The reports Nr 1 and 2 are now edited by Sébastien Dupray and Mika Räisänen and it is depending on them when they will be put on the website as a pdf-file. Report Nr 3 has Björn Schouenborg as responsible but he is also waiting for report 1 and 2 to be able to go on.

### **Projects**

Björn Schouenborg and Lars Persson will continue to search for relevant EC calls where this and/or other aggregate related project proposals can be formed. Anyone who has a good idea can contact Dr. Björn Schouenborg.

Our next aim is to establish a good contact with the new European Construction Technology Platform (ECTP), which will probably be very important for the definition of future research project in our field of interest. It is important that all European countries with an interest to work in this field establishes a National Technical Platform (NTP), a sort of mirror group to the ECTP. Information about the activities can be found on the homepage [www.ectp.org](http://www.ectp.org). To be able to assess all Focus Areas (FA) you need to be a registered user. Presently it is [wolfgang.dienemann@htc-gmbh.com](mailto:wolfgang.dienemann@htc-gmbh.com) that you may contact for the FA Materials. Björn Schouenborg is a registered member in the FA Materials and you can also mail him for more information ([bjorn.schouenborg@sp.se](mailto:bjorn.schouenborg@sp.se)).

Dr. Schouenborg was invited as key-note speaker to Warsaw for the final meeting of ECO-SERV, and also to the IAEG conference in Nottingham and had the opportunity to speak about aggregate resources and how to deal with the future supply for concrete constructions.

The 7th Framework programme has just started and the first calls were published on 22nd of December and the first deadlines are now in May. The European Construction Technology Platform (ECTP) is recognized as an official TP by the Commission and has been able to influence the call in some way (see below). However, there is no specific call for aggregates. The Platform more related to the extraction industry European technology Platform - Sustainable Minerals Resources (ETP-SMR) never managed to get their platform officially recognized and have not been successful in influencing the contents of the calls. However, through the lobby work of ECTP it is likely that the 2nd call will contain some parts relevant for the aggregate industry.

Two areas included in the first call due to the work of ECTP:

- 1) Environmentally friendly building material production
- 2) Improve energy efficiency of buildings

The first of them could have included aggregates but the detailed Target Areas do not mention anything useful in this direction.

The only true aggregate EU-project active during 2006 was PARTNER which is now finalised and the final report soon to be made public in a slightly shortened version. Interesting in this area is also the "Petrographic atlas of the potentially alkali-reactive rocks in Europe" published by Royal Belgian Institute of Natural Sciences, ISSN 0378-0902, Main author is Gabriel Lorenzi. Another reference to this atlas is: Geological Survey of Belgium, professional paper 2006/1 - N. 302.

## **Events**

Björn Schouenborg attended to nordic aggregate seminar. He discussed about aggregate session during IGC in Oslo, Norway.

Özgür ÖZTÜRK was attended to UEPG Committee Meeting in Bucharest, Romania on 8-9 March 2007.

The main issues discussed at each single meeting is summarized below:

### **1. Health and Safety Committee**

- Social Dialogue Agreement (SDA) on workers health protection through the good handling and use of crystalline silica and products containing it
- Measuring dust, vibrations and noise
- Policy Group works

### **2. Environment Committee**

- Environmental Liability Directive (ELD)
- Soil Framework Directive (SFD)
- Sustainable use of natural resources

### **3. Technical Committee**

- Dangerous Substances (CPD ER 3)
- Recycled aggregates

- REACH for aggregates (Registration, Evaluation, Authorisation of Chemicals)  
*Regulation on chemical substances*

#### 4. Economic Committee

- *It is critical to put forward the significance of aggregates industry to economy*
- *Mineral waste should be defined; which % can be recycled?*
- *Taxation common to reduce production (England, Denmark, Sweden..)*

Istanbul 2007-04-27

Prof. Dr. Atiye Tuğrul, Chairperson

Özgür ÖZTÜRK, Vice Chairperson

Mika Raisanen, Secretary

Dr. Björn Schouenborg, R&D Responsible

**2008**

**Report to the IAEG Council at the meeting  
in Madrid, Spain (September 2008)**

**Commission Board**

**Chairperson**

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#### **Date and venue of last meeting:**

The latest meeting was held in during IAEG Congress Nottingham, UK, September 2006.

#### **Next meeting:**

The next meeting will take place in Oslo, Norway, August 9<sup>th</sup>, 2008 during the 33<sup>rd</sup> International Geological Congress (IGC).

#### **Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 35 countries.
- The main activity of the commission in the last period was to organise a special Symposium on “Geological Construction Materials” with C10. See Annex 2. of C10 Report to IAEG Council (<http://www.33igc.org/>)

#### **Web site**

The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

This has been created in order to be able to communicate effectively, for example with the contact persons. The web site has following contents:

- Updated list of members of the Commission
- All reports to the IAEG from information meetings
- Latest news
- Information of international aggregate standards
- Aggregate glossary
- References related to aggregates
- Related aggregate links.

### **Events**

- International Ready Mixed Concrete Congress was held in İstanbul, Turkey on June 19-21 2008. The effect of aggregates on concrete properties was discussed during this congress.
- Vice Chairperson Özgür ÖZTÜRK was attended to UEPG Committee Meeting in Dubrovnik, Croatia on 31 March – 1 April 2008.

The main issues discussed at each single meeting is summarized below:

#### 1. Health and Safety Committee

- EC Community strategy 2007- 2012 on Health & Safety at work
- Ensuring successful implementation of the Social Dialogue Agreement on Crystalline Silica
- UEPG Health & Safety statistical database – Results of UEPG enquiries
- Intensifying the involvement with the Atlantic Alliance – *Walter Nelles*
- Directive on the identification and traceability of explosives for civil use
- Promoting the use and extension of [www.Safequarry.com](http://www.Safequarry.com) – Recent Developments

#### 2. Environment Committee

- Presentation: Environmental policies of the Croatian Aggregates Industry
- Management of Extractive Waste Implementation
- Revised Waste Framework Directive
- Groundwater Protection Directive
- Soil Framework Directive
- Extraction in Natura 2000 areas: EC guidance paper
- REACH
- Biodiversity Task Force
- Marine Aggregates Task Force

#### 3. Technical Committee

- Construction Product Regulation
- Dangerous substances

- European Aggregate Standards in CEN/TC 154
- European Aggregate and Mixture Standards in CEN/TC 227
- Recycled Aggregates
- European Concrete Platform - UEPG involvement
- European Technology Platform on Sustainable Mineral Resources (ETP SMR)

#### 4. Economic Committee

- EU Raw Materials Supply Initiative
- Examples of restricted access to resources
- Recent report on the economic importance of the aggregates sector in Austria – macroeconomic view
- European Environment Agency – Aggregates Tax
- Aggregates and CEN TC 350 – Sustainability of construction works
- UEPG Sustainable Development Awards 2009 – Economic Pillar

### **Projects**

Björn Schouenborg (R&D Responsible) will continue to search for relevant EC calls where this and/or other aggregate related project proposals can be formed. However, there is no news about suitable calls in the FP7. However, the E2B may bring about a slightly better situation. It is a Joint Technological Initiative (JTI) focussing on energy in building. Many of us also want to include the production of building materials and products in this major umbrella project. If we are successful this can mean some aggregate Project.

### **Publications:**

Unfortunately, there is no special publication during the period 2007-2008.

### **Future Activities**

After the Aggregate seminar commission members will discuss on the new future activities on 9th August 2008

Istanbul 03.06.2008

Prof. Dr. Atiye Tuğrul, Chairperson  
Özgür ÖZTÜRK, Vice Chairperson  
Dr. Mika Raisanen, Secretary  
Dr. Björn Schouenborg, R&D Responsible

## **Information Meeting in Oslo, Norway (33rd IGC) (9 August 2008) Agenda**

1. Opening of the meeting
2. Presentation of participants
3. Approval of agenda

4. Short info of the previous meeting in Nottingham
5. Information by the Chairperson of the Commission activities
6. Open discussion on activities of the Aggregate Commission
7. New business
8. Next meeting

## **Minutes of the IAEG C10/C17 Meeting in Oslo, Norway (33<sup>rd</sup> IGC 2008) (9 August 2008)**

### **1. Opening and welcome**

- Chairmen Björn Schouenborg (C10) and Atiye Tugrul (C17) opened the meeting at 10:15
- The combined agenda of the meeting was presented and approved (Annex 1)

### **2. Presentation round table**

- Introduction of the participants
- 21 people from a total of 11 nations attended to the meeting (Annex 2)



### **3. Short info of the previous meeting in Nottingham**

### **4. Annual report for 2007**

- The Annual reports of 2007 were presented
- Technical report “Geological Material aspects for aggregate industry”
- The meetings in China (2009) and New Zealand (2010) were discussed briefly
- The activities and objectives of C17 (Atiye Tügrül)
- Challenges associated with the current work of C17 were summed: meetings are seldom and members are busy with many other tasks

### **5. The new C10; structure and allocation of responsibilities**

- The activities and objectives of C10 (Björn Schouenborg)
- The importance of active members
  - Contact persons, although important, are not active members

- Discussion on how the collaboration of C10 and C17 is best arranged and promoted
6. Home page update, short info
- easier access to the pages could promote gaining new members
  - Björn has still no access to updating the homepage of C10 but will contact the secretariate to change this
7. IAEG council meeting in Madrid
- The next council meeting will be held in Madrid, 14<sup>th</sup> September. Atiye, Phil and Björn will attend.
8. Publications from 33<sup>rd</sup> IGC/MRC-08 seminars, reviewers
- The goal is to have about 25 publications with Extended abstracts (5-6 pages) in the IAEG Bulletin of Engineering Geology and the Environment (and if not, possibly in Bull. Geol. Soc. London)
  - List of potential titles will be sent to Phil Paige-Green. Many persons have already submitted extended abstracts.
  - The deadline will be decided after discussion at the council meeting in Madrid. Phil (co-editor) and Björn will discuss the matter with Brian Hawkins in Madrid
  - Björn Schouenborg agreed to write the summary of the IGC seminar
9. UNESCO publications, Library, Asher Shadmon
- UNESCO publications of Argentina
  - C10 joint-project with UNESCO
  - On-line Asher's Building Stone Library
  - Angel Lopez and Maria Frasca offered help with contacts for review of the next publication about natural stones in Argentina
  - Next possible UNESCO publications
    1. Akos Török, East and Central Europe
    2. Maria Frasca with Asher Shadmon, revision of the Brazilian stone edition, probably next year
    3. Kim Young; Korean stone
  - Discussion on a newsletter proposed by Akos Török
    - Akos Török was suggested as possible editor
    - Published on-line and as hard copies for conferences
 Decision: Publish one newsletter with updated information about C10. To be ready before the next major event in New Zealand
  - List of publications on the web site
  - Glossary on the web-site
10. Discussion on C27 – “the World Heritage Stone”, Barry Cooper
- Barry Cooper introduced the concept (Annex 3)
  - Discussion on the inventory guidelines and terminology ( natural stone/cultural heritage)
  - Basile Christaras and Tom Heldal, C16, and Asher Shadmon (former president of C10) have been informed/consulted. C16 - Engineering Geology and Protection of ancient monuments and archaeological sites.
  - Co-operation between C10 and C16 is emphasized
  - It was recommended by the meeting participants that “The World Heritage Stone” shall start up as a subcommittee of C10. After a pilot-period of 12-18 months its status may be reconsidered (annex 3)
  - Volunteers for the new subcommittee were invited

- Björn Schouenborg and Rubina Bilgees will propose names from Sweden and Pakistan respectively.
11. Important stone and aggregate conferences
- IAEG 2010 New Zealand; Discussion about a C10/17 Workshop during the meeting:
    - Funding
    - Excursion
    - Local (New Zealand) contact person, who has knowledge of aggregates/natural stones
    - Ca 2 days program, workshop (decisions will be made in Madrid, September 2008)
12. Any other business
- The Natural Stone Literature Databases will be informed about on the homepage. A link to where they can be obtained will be provided. The databases contain more than 700 entries and have been created in the TEAM and I-STONE projects, with Bent Grelk (RAMBOLL) as creator and editor.
13. Chairman of C10 Dr. Björn Schouenborg and C17 Prof. Dr. Atiye TUGRUL thanked everybody for their participation and closed the meeting at 12:03. A group photo was thereafter taken and will be published on the homepage

#### ***Annex 1.***

##### **Agenda of the IAEG C10 AND C17 meeting in Oslo, 9<sup>th</sup> of August 2008**

1. Opening and welcome
2. Presentation round table
3. Short info of the previous meeting in Nottingham
4. Annual report for 2007
5. The new C10 , structure and allocation of responsibilities
6. Home page update, short info
7. IAEG council meeting in Madrid
8. Publications from 33<sup>rd</sup> IGC/MRC-08 seminars, reviewers,...
9. UNESCO publications, Library, Asher Shadmon
10. C27 "World heritage stone" Barry Cooper
11. Important stone and aggregate conferences

#### ***Annex 2.***

##### **List of participants**

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### **Annex 3.**

**Barry Cooper's summary of the "The World Heritage Natural Stone" –inventory discussed in the IAEG C10 and C17 committee-meeting in Oslo, Norway, 9<sup>th</sup> August 2008**

In the meeting it was decided to:

1. Appoint a working party to consider and, if necessary, take action on the formal designation of those stone resources that are of great importance in human culture
2. Ask Barry Cooper to form the working party in consultation with the C10 committee with the anticipation that it has a wide international / geographic spread of members
3. It is anticipated that the working group (subcommittee) will
  - a. Promote the concept of a global heritage stone resource designation and gauge opinion
  - b. Prepare rules/guidelines for the designation
  - c. Prepare draft citations

**2009**

**Report to the IAEG Council at the meeting  
in Chengdu, China, (September, 2009)**

**Commission Board**

**Chairperson**

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**R&D Responsible**

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1. To increase the co-operation with other scientific fields, and of its role within the Association.
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10. To provide information of aggregates in the IAEG Bulletin.
11. To collect, correlate and publish data on the performance of various rocks with respect to their properties and end-use applications.
12. To produce harmonised international guidelines for investigation of potential deposits.
13. To assist the European standardisation body (CEN) with supporting activities and information for further development and improvement of standards.
14. To create international co-operation and new international projects.

**Earlier meetings and workshops:**

- The Commission has had information meetings at all official IAEG meetings, i.e. in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil, August 2000, at GeoEng2000 in Melbourne, Australia, November 2000, at Aggregate 2001 in Helsinki, Finland, August 2001, in Durban, South Africa, September 2002, in Istanbul, Turkey, September 2003, in Florence, Italy, August 2004, in Lyon, France, May 2005, in Nottingham, UK, September 2006 and in Oslo, Norway, August 2008.

**Date and venue of last meeting:**

The latest meeting was held in during 3<sup>rd</sup> IGC 2008 in Oslo, Norway, August 2008. 13 people from 10 nations attended to the information meeting. Members and attendants gave reports covering the period since the 2007 meeting.

### **Next meeting:**

The next meeting will take place in Auckland, New Zealand, September 2010 during 11<sup>th</sup> IAEG Congress.

### **Activities:**

- The main activity of the commission in the last period was to organise a Special Symposium on “Geological Construction Materials”
- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 35 countries.
- The new web site was activated.

### **Web site:**

The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

This has been created in order to be able to communicate effectively, for example with the contact persons. The web site has following contents:

- Updated list of members of the Commission
- All reports to the IAEG from information meetings
- Latest news
- Information of international aggregate standards
- Aggregate glossary
- References related to aggregates
- Related aggregate links.

### **Publications:**

A special issue of Bulletin of Engineering Geology and the Environment will be published on building Stones and aggregates. Dr. Björn Schouenborg is responsible for this publication.

### **Projects:**

Björn Schouenborg (R&D Responsible) will continue to search for relevant EC calls where this and/or other aggregate related project proposals can be formed. However, there is no specific call for aggregates.

### **Events**

1. A special session for geological construction materials were organized during the 33rd IGC.

The themes of the special session are given below.

1. General contributions to construction materials
2. Geology, prospecting and land use planning of aggregate
  - a. and natural stone production
3. Classification systems, testing of aggregates and available
  - a. production techniques
4. Mineralogical studies versus performance of the product -
5. Aggregates and natural stones
6. Dimension stone – Assessment of stone performance in use
7. Environmental influences and reclamation of quarrying and
  - a. processing – Sustainable development
8. Waste and left-over materials from dimension stone and
  - a. aggregate quarries and recycling of construction materials

2. Atiye TUĞRUL was attended to UEPG Committee Meeting in İstanbul, Turkey on 16 March 2009.

The main issues discussed at each meeting is summarized below:

1. Health and Safety Committee

- The involment of ISSA
- Safer by design
- Reduce accidents/incidents due to poor/inadequate mobile plants
- Social developments and issues in the explosives sector
- Measuring dust, vibrations and noise

2. Environmental Committee

- Sustainable Development indicators
- Marine Aggregates
- European Minerals Forum
- UEPG Sustainable Development Awards 2010

3. Technical Committee

- Matters
- Construction Product Regulation
- European Aggregates Standards

- a. Railway balast, armourstone
- b. Revision of harmonised standards
- c. ASR
- d. Dangerous substance

#### 4. Economic Committee

#### **Coming Events:**

1. 11<sup>th</sup> IAEG Congress, 5-10 September 2010, Auckland, Aotearoa New Zealand.

**Website:** [www.iaeg2010.com](http://www.iaeg2010.com)

2. 2<sup>nd</sup> International Congress on Marble and Natural Stones, 2-4 February 2010, İzmir, Turkey.

#### **Themes**

- Economy of natural stones
- Geology of natural stones
- Mining for natural stones
- Project and finance sources for natural stones
- Strength, weathering and restoration of natural stones
- The use of natural stones in architectural projects
- Natural stones in antique period
- Aggregates

**Website:** [www.marble.jmo.org.tr](http://www.marble.jmo.org.tr)

Istanbul 2009-08-09

Prof. Dr. Atiye Tuğrul, Chairperson

**2010**

**Report to the IAEG Council at the meeting  
in Auckland, New Zealand, (September, 2010)**

**Commission Board**

**Chairperson**

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The latest meeting was held in during 3<sup>rd</sup> IGC 2008 in Oslo, Norway, August 2008. 13 people from 10 nations attended to the information meeting. Members and attendants gave reports covering the period since the 2007 meeting.

**Next meeting:**

The next meeting will take place in Auckland, New Zealand, September 2010 during 11<sup>th</sup> IAEG Congress.

**Activities:**

- The main activity of the commission in the last period was to organise a Special Symposium on “Crushed Stone” in İstanbul Turkey. Some specialist were attended from different countries.
- 2<sup>nd</sup> International Marble and Natural Stones Congress were organized on 2-4 February 2010 in İzmir, Turkey and there was special sessions about “Aggregates”. Some specialist were attended from different countries.
- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 35 countries.
- The new web site was activated.

**Web site:**

The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

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- Related aggregate links.

**Publications:**

A special issue of Bulletin of Engineering Geology and the Environment will be published on building stones and aggregates. Dr. Björn Schouenborg and Dr. Phil Paige Green are responsible for this publication.

### **Projects:**

Björn Schouenborg (R&D Responsible) will continue to search for relevant EC calls where this and/or other aggregate related project proposals can be formed. However, there is no specific call for aggregates.

### **Events**

There is a relation between the commission and the European Aggregates Association (UEPG).

### **Coming Events:**

1. 11<sup>th</sup> IAEG Congress, 5-10 September 2010, Auckland, Aotearoa New Zealand.

**Website:** [www.iaeg2010.com](http://www.iaeg2010.com)

Istanbul 2010-07-02

Prof. Dr. Atiye Tuğrul, Chairperson  
Dr. Mika Raisanen, Secretary  
Akseli Torppa, Vice Secretary

# **IAEG Commission Nr. 17 AGGREGATES**

**Information Meeting in Auckland, New Zealand (11th IAEG Congress)  
(9 September 2010)**

## **DRAFT AGENDA**

1. Opening of the meeting
2. Presentation of participants.
3. Approval of agenda
4. Information about Commission Activities
5. Information and proposals by attendants
6. Open discussion on activities of the Aggregate Commission
7. New business
8. Next meeting
9. Closing of Meeting

Prof. Dr. Atiye TUĞRUL  
Chairperson

Akseli Torppa  
Vice Secretary

## **Minutes of the IAEG C17 Meeting in Auckland, New Zealand (11th IAEG 2010) (9 September 2010)**

1. Opening and welcome
  - Chairperson Prof. Dr. Atiye Tugrul opened the meeting at 9:00
  - The agenda of the meeting was presented and approved (Annex 1)
2. Presentation round table
  - Introduction of the participants
  - 8 people from a total of 7 nations attended to the meeting (Annex 2)

### 3. Information about commission activities

- Chairman introduced the C17 activities and objectives
- The role of the web pages was emphasized

### 4. The contents and further development of the C17 web pages was discussed

- Chairperson introduced the current web pages and opened the discussion of the further development of the pages
- P. Paige-Green informed that the IAEG websites will be completely renewed in 2011 (a web-master team from Holland and Italy has taken the task)
- There will access-to-all pages and member pages
- The active members' contact information need to be up-dated
- It was decided that the Chairperson will contact the members by e-mail and ask their interest in the future participation to the C17 activities
- Members should also be asked for direct input of material to the web pages
- Björn Schouenborg mentioned that material (articles etc.) submitted to the web pages is often in national language only
- an abstract in English would at least be needed
- Chairperson introduced a document (in Turkish), with general information on what kind of problems different types of aggregates are expected to cause in practise
- this type of document (in e.g. excel spreadsheet) could be added in the web pages (volunteers to write this with Atiye: Akseli, Björn, Phillip, Silvina, Don Cameron from Australia [Coopers candidate]) ... Atiye makes a draft that the others can supplement
- Documents of projects going on in the member countries are wanted to the web pages (Björn's comment )

### 5. IAEG council meeting in Moscow, Russia 2011

- The next council meeting will be held in Moscow

### 6. Other issues

- Information of the quarry visit in Auckland

### 7. The chairperson closed the meeting at 10:30

**2011**

**Report to the IAEG Council at the meeting  
in Moscow, Russia, (September, 2011)**

**Commission Board**

**Chairperson**

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**Secretary**

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In order to fulfill these objectives we plan to undertake the following activities:

1. To publish the technical report titled “ Geological Material Aspects for Construction Industry”
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#### **Date and venue of last meeting:**

The latest meeting was held in during 11th IAEG Congress in Auckland, New Zealand, September 2010. 8 people from a total of 7 nations attended to the information meeting. Members and attendants gave reports covering the period since the 2008 meeting. An aggregate quarry in Auckland visited by the commission members.

#### **Next meeting:**

The next meeting will take place in Brisbane, Australia, during 34th International Geological Congress (5-10 August),

#### **Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 21 countries.
- The new web site was activated.

#### **Web site:**

The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

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### **Publications:**

A special issue of Bulletin of Engineering Geology and the Environment will be published on building stones and aggregates. Dr. Björn Schouenborg and Dr. Phil Paige Green are responsible for this publication.

### **Coming Events:**

1. EngeoPro-2011, 6-8 September 2011, Moscow, Russia.

**Website:** [www.engeopro2011.com](http://www.engeopro2011.com)

2. 1st International Sustainable Aggregate Management Conference, 20-22 September 2011, Ljubljana, Slovenia.

**Website:** [www.sarmaproject.eu/](http://www.sarmaproject.eu/)

3. 6th National Crushed Stone Symposium, Cumhuriyet, 6-7 October 2011, Sivas, Turkey

**Website:** [www.maden.org.tr/etkinlikler/kirmatas/](http://www.maden.org.tr/etkinlikler/kirmatas/)

Istanbul 2011-05-29

Prof. Dr. Atiye Tuğrul, Chairperson

**2012**

**Report to the IAEG Council at the Meeting  
in Brisbane, Australia, (August 2012)**

**Commission Board**

**Chairperson**

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#### **Date and venue of last meeting:**

Although we organized a meeting during EngGeoPro2011 in Moscow, Russia, anybody attended to the meeting because of the congress subject.

#### **Next meeting:**

The next meeting will take place in Brisbane, Australia, during 34th International Geological Congress (5-10 August),

#### **Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 21 countries.
- There is a good scientific relationships between UEPG (European Aggregates Association)
- The chairperson visited some aggregate quarries in Richmond and North Caroline in USA and gave information about commission's activities.
- The Chairperson attended to the "SARMa (Sustainable Aggregates Resource Management) International Conference", September 20 - 22, 2011 in Ljubljana, Slovenia and gave information about commission's activities. A new Project was submitted by South European Countries to European Community 7th framework programme. The title of the Project is "*SNAP-SEE – Sustainable Aggregates Planning in South East Europe*".
- "Concrete 2011" Ready Mix Concrete Congress was held on, 20-22 Ekim 2011 in İstanbul, Turkey.
- 6th National Crushed Stone symposium was organized by AGUB (Turkish Aggregate Producers) on 06 - 07 October 2011, in Sivas, Turkey.

#### **Web site:**

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### **Coming Events:**

1. 34<sup>th</sup> International Geological Congress 5-10 August 2012, Brisbane, Australia

**Website:** [www.34igc.org](http://www.34igc.org)

3. GLOBALSTONE Congress 2012, 16-20 July 2012, Alentejo, Borba, Portugal

**Website:** <http://globalstone2012.com>

4. 2nd International Conference on Civil Engineering and Building Materials (CEBM 2012),  
17-18 November, 2012, Hong Kong.

**Website:** <http://www.iasht.org/cebm/> .

Istanbul 2012-04-23

Prof. Dr. Atiye Tuğrul, Chairperson

**2013**

**Report to the IAEG Council at the Meeting  
in Beijing, China, (September 2013)**

**Commission Board**

**Chairperson**

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3. To provide information of aggregates in the IAEG Bulletin.
4. To collect, correlate and publish data on the performance of various rocks with respect to their properties and end-use applications.
5. To produce harmonised international guidelines for investigation of potential deposits.
6. To assist the European standardisation body (CEN) with supporting activities and information for further development and improvement of standards.
7. To create international co-operation and new international projects.

#### **Earlier meetings and workshops:**

- The Commission has had information meetings at all official IAEG meetings, i.e. in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil, August 2000, at GeoEng2000 in Melbourne, Australia, November 2000, at Aggregate 2001 in Helsinki, Finland, August 2001, in Durban, South Africa, September 2002, in Istanbul, Turkey, September 2003, in Florence, Italy, August 2004, in Lyon, France, May 2005, in Nottingham, UK, September 2006, in Oslo, Norway, August 2008, in Auckland, New Zealand, September 2010 and in Brisbane, Australia, September 2012.

#### **Date and venue of last meeting:**

Last meeting was held during 34th IGC in Brisbane, Australia, five members attended to the meeting.

#### **Next meeting:**

The next meeting will take place in Beijing, China, during The International Symposium & 9th Asian Regional Conference of IAEG (23-25 September).

#### **Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 21 countries.
- There is a good scientific relationships between UEPG (European Aggregates Association)
- The chairperson visited some aggregate quarries in Banff, Canada, Alentejo, Portugal and Brisbane, Australia and gave information about commission’s activities.
- A new Project is continuing, submitted by South European Countries to European Community 7th framework program. The title of the Project is “*SNAP-SEE – Sustainable Aggregates Planning in South East Europe*”.

- “Concrete 2013” Ready Mix Concrete Congress was held on 21-23 February 2013 in İstanbul, Turkey.

### **Web site:**

The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

The website of the commission is open to service and is being updated regularly. The web site has following contents:

- Updated list of members of the Commission
- All reports to the IAEG from information meetings
- Latest news
- Information of international aggregate standards
- Aggregate glossary
- References related to aggregates
- Related aggregate links

### **Coming Events:**

1. IAEG XII Congress, 15-19 September 2014, Torino, 2014.

Website: [www.iaeg2014.com](http://www.iaeg2014.com)

2. Global Stone 2014 will be organized in Antalya, Turkey. Special Aggregate Session will also be held in this congress.

Website: [www.globalstone2014.org](http://www.globalstone2014.org)

Prof. Dr. Atiye Tuğrul, Chairperson

**2014**

**Report to the IAEG Council at the Meeting  
in Torino, Italy, (September 2014)**

**Commission Board**

**Chairperson**

Prof. Dr. Atiye Tuğrul  
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**Secretary**

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Kuopio - FINLAND  
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Email: [akseli.torppa@gtk.fi](mailto:akseli.torppa@gtk.fi)

**General Information:**

The Commission was established in Vancouver, September 20, 1998. This organisation encompasses members in over 35 countries. All members are encouraged to share their knowledge and contribute to the aggregate industry.

Objectives of the Commission are:

1. To increase the co-operation with other scientific fields, and of its role within the Association.
2. To enhance the role of Engineering Geology and its applications within the aggregate and construction industries.
3. To provide a source of continuous and uniform information of aggregates and environmental issues.
4. To foster the sharing of knowledge on research results and methodologies.
5. To facilitate cross-institutional and cross-disciplinary networks among researchers and practitioners around the world.
6. To increase opportunities for collaborative research

In order to fulfill these objectives we plan to undertake the following activities:

1. To publish the technical report titled “ Geological Material Aspects for Construction Industry”
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#### **Date and venue of last meeting:**

Last meeting was held during The International Symposium & 9th Asian Regional Conference of IAEG in Beijing, China, six members attended to the meeting.

#### **Next meeting:**

The next meeting will take place in Torino, Italy, during “IAEG XII CONGRESS, Engineering Geology for Society and Territory” (15-19 September 2014).

#### **Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 21 countries.
- There is a good scientific relationships between UEPG (European Aggregates Association)
- The chairperson and a group of geologist visited some quarries in Beijing, China. She gave information about commission’s activities.
- A project will be completed at the end of October. This project was submitted by South European Countries to European Community 7th framework program. The title

of the Project is “*SNAP-SEE – Sustainable Aggregates Planning in South East Europe*”.

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The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

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**Coming Events:**

1. There is a special session on aggregates during IAEG 2014 Congress, 15-19 September 2014. During session on “Construction Materials” aggregates will also be discussed.
2. Global Stone Congress will be organized between 22-25 October in Antalya, Turkey. Special Aggregate Session will also be held in this congress.  
Website: [www.globalstone2014.org](http://www.globalstone2014.org)
3. A Special National Symposium on Aggregates will be organized by Chamber of Mining Engineers in Turkey on March 2015, in İstanbul, Turkey.

Prof. Dr. Atiye Tuğrul, Chairperson

İstanbul, 20 August 2014.

**2015**

**Report to the IAEG Council at the Meeting  
in New Delhi, India, (October 2015)**

**Commission Board**

After merging two commission (C17 and C27), we established new board.

**President**

**Prof. Dr. Atiye Tuğrul**

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**Vice President**

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**Secretary**

**Akseli TORPPA**

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Objectives of the Commission are:

1. To increase the co-operation with other scientific fields, and of its role within the Association.
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#### **Date and venue of last meeting:**

Last meeting was held on 18 September during IAEG XII Congress, in Torino, Italy.

#### **Next meeting:**

The next meeting will take place in South Africa during 35th International Geological Congress (27 August-4 September).

### **Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 21 countries.
- There is a good scientific relationships between UEPG (European Aggregates Association)
- A Project on Planning Aggregate Supply was completed by South European Countries which funded by European Community 7th framework programme. The title of the Project is “*SNAP-SEE – Sustainable Aggregates Planning in South East Europe*”.
- “XVII ERMCO2015” European Ready Mix Concrete Congress was held on, 4-5 June 2015 in İstanbul, Turkey.
- 7th National Crushed Stone Symposium was organized by AGUB (Turkish Aggregate Producers) on 05 - 06 March 2015, in İstanbul, Turkey.
- V. Global Stone Congress was organized in Antalya, Turkey on 23-25 October. One of the main theme of the Congress was Aggregate Industry.
- A technical visit was organized to two aggregate plant during IAEG XVII Congress.



Visiting aggregate plant by Commission members



Visiting recycling aggregate plant by Commission members.

### **Web site:**

The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

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Istanbul 2015-09-11

Prof. Dr. Atiye Tuğrul, President

### **Minutes of the C17 Committee Meeting in Turin, Italy (18 September 2014)**

President opened the meeting at 5:02 pm.

#### **1. Report by the President (5:03 p.m.)**

-Introduction to the previous and current activities of C17

- Information about the web site
- President brought out the challenges of C17: members are busy with several other duties, travelling is expensive, and only a small percentage of

researchers work on the field of aggregate research. We must be more active, keep our promises, and try and meet the deadlines

2. Introduction of the participants of the meeting (5:20 p.m.)

-*see. The list of participants*

-Akos Török volunteered as a Vice- President

3. General discussion about the activities of C17 (5:30 p.m.)

- President put forward a proposal for changing the committee's name to "Construction materials"

- Opinions for and against,
- Björn Schouenborg commented that the name change and combining of committees would first have to be discussed in C10

-Discussion about arranging a scientific seminar together with C17 and C10

- Big enough a seminar to cover a wide spectrum of research topics and to raise researchers and stakeholder's attention
- President proposed that also researchers from other fields of study could be invited; such as mining engineers, environmental researchers and architects

-Discussion about publishing a book about the activities of C17

- Discussion on the possible publishing mode (a printed book, an e-book, or just an extra volume in the bulletin,..),
- Discussion on whether the contents should be peer reviewed (conclusion: yes)
- Discussion about the potential target group(s) of the publication (geologists, engineers, stakeholders,..)
- Akos Török suggested that a table of content should first be drafted and sent around to the participants for reviewing and making complements (Akos Török volunteered to take the task). He also proposed that a letter paper, describing the outlines of the coming publication or a book, should be published in the IAEG bulletin in advance

-Free discussion about, e.g., the petrographic examination and its limitations

President closed the meeting at 5:53 pm.

Akseli Torppa, secretary of C17

## List of participants

<i>First/last name</i>	<i>Affiliation</i>	<i>E-mail</i>
Atiye Tuğrul (President)	Istanbul University, Turkey	<a href="mailto:tugrul@istanbul.edu.tr">tugrul@istanbul.edu.tr</a>
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Murat Yilmaz	Istanbul Univ.	<a href="mailto:yilmaz@istanbul.edu.tr">yilmaz@istanbul.edu.tr</a>
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**Aggregate Commission (C17) Report to the IAEG Council at the Meeting  
in Cape Town, South Africa, (30 August 2016)**

**Commission Board**

**President**

**Prof. Dr. Atiye Tuğrul**

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**Vice President**

**Akos TOROK**

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**Secretary**

**Akseli TORPPA**

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**Murat YILMAZ**

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**Objectives of the Commission are:**

1. To increase the co-operation with other scientific fields, and of its role within the Association.
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1. To publish the technical report titled “ Geological Material Aspects for Construction Industry”
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6. To assist the European standardisation body (CEN) with supporting activities and information for further development and improvement of standards.
7. To create international co-operation and new international projects.

#### **Earlier meetings and workshops:**

- The Commission has had information meetings at all official IAEG meetings, i.e. in Kathmandu, Nepal, September 1999, at the 31st IGC meeting in Rio de Janeiro, Brazil, August 2000, at GeoEng2000 in Melbourne, Australia, November 2000, at Aggregate 2001 in Helsinki, Finland, August 2001, in Durban, South Africa, September 2002, in Istanbul, Turkey, September 2003, in Florence, Italy, August 2004, in Lyon, France, May 2005, in Nottingham, UK, September 2006, in Oslo, Norway, August 2008 and in Auckland, New Zealand, September 2010, in Brisbane, Australia, August 2012, in Beijing China, August 2013, in Torino, Italy 2014.

#### **Date and venue of last meeting:**

Last meeting was held on 18 September during IAEG XII Congress, in Torino, Italy.

#### **Next meeting:**

The next meeting will take place in South Africa during 35th International Geological Congress (30 August 2016).

#### **Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested persons. Currently, the Commission has contact persons from 21 countries.
- There is a good relationships between UEPG (European Aggregates Association).
- “XVII ERMCO2015” European Ready Mix Concrete Congress was held on, 4-5 June 2015 In Istanbul, Turkey.

- EGU session on “Geomaterials in construction: resources, properties, performance, and environmental interactions” was organized, in Vienna, Austria, 17-22 April 2016,
- A special theme on Aggregates is organized during 35th IGC on 31 August 2016. President of Aggregate Commission will give a Keynote Address on “How to solve Aggregate resource problem for Megacities: An Example from İstanbul, Turkey. After the Aggregate Session, a technical visit is organized to an aggregate quarry on 31 August 2016.
- 8th International Crushed Stone Symposium is organized by Turkish Chamber of Mining Engineers on 13-14 October 2016, in Kütahya, Turkey.
- VI. Global Stone Congress will organize in Brasil, in 2017. One of the theme of the Congress will be on Aggregate Industry.

#### **Web site:**

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Prof. Dr. Atiye Tuğrul, President  
Istanbul 2016-07-08

### **Aggregate Commission (C17) Report to the IAEG Council at the Meeting in San Francisco, California, USA, (17 September 2018)**

#### **Commission Board**

##### **President**

**Prof. Dr. Atiye Tuğrul**

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##### **Vice President**

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**Date and venue of last meeting:**

Last meeting was held on 30 August 2016 during 35th International Geological Congress, Cape Town, South Africa.

**Next meeting:**

The next meeting will take place in San Francisco, California, USA, during XIII IAEG Congress, Engineering Geology for a Sustainable World, 17 September 2018.

**Activities:**

• A special Symposium on Aggregates and a quarry visit are organised during IAEG/AEG 2018 Congress in San Francisco, USA.

**Web site:**

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Prof. Dr. Atiye Tuğrul, President  
Istanbul, 2018-08-07

**Aggregate Commission (C17) Report to the IAEG Council at the Online Meeting  
(14 September 2022)**

**Commission Board**

**President**

**Prof. Dr. Atiye Tuğrul**

Istanbul University-Cerrahpaşa, Engineering Faculty

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## **General Information:**

The Commission was established in Vancouver, September 20, 1998. This organisation encompasses members in over 21 countries. All members are encouraged to share their knowledge and contribute to the aggregate industry. Commission on Aggregates (C17) and Environmental Aspects of Construction Materials (C27) were merged on September 2015.

## **Objectives of the Commission are:**

7. To increase the co-operation with other scientific fields, and of its role within the Association.
8. To enhance the role of Engineering Geology and its applications within the aggregate and construction industries.
9. To provide a source of continuous and uniform information of aggregates and environmental issues.
10. To foster the sharing of knowledge on research results and methodologies.
11. To facilitate cross-institutional and cross-disciplinary networks among researchers and practitioners around the world.
12. To increase opportunities for collaborative research

## **In order to fulfil these objectives, we plan to undertake the following activities:**

1. To increase the use of the commission's homepage, the website of the commission will be updated.
2. We will establish a group called "Aggregate Commission" in LinkedIn.
3. To provide information of aggregates in the IAEG Bulletin.
4. To collect, correlate and publish data on the performance of various rocks with respect to their properties and end-use applications.
5. To produce harmonised international guidelines for investigation of potential deposits.
6. To assist the European standardisation body (CEN) with supporting activities and information for further development and improvement of standards.
7. To create international co-operation and new international projects.
8. To enhance the role of engineering geological studies during reporting aggregates
9. To increase usability of aggregate and dimension stone quarry wastes
10. Contributing to digital transformation in aggregate mining
11. Greening the world aggregate industry such as a sustainable future, tackling biodiversity, air and water pollution, and climate change.
12. Emphasizing the importance of Engineering Geology researches and promoting using these studies in order to ensure responsible sourcing and responsible mining in the aggregate sector.
13. Increasing the role of Engineering Geology for Integrated Risk Management in Aggregate Mining

## **Earlier meetings and workshops:**

The Commission has had information meetings at all official IAEG meetings, i.e. in Kathmandu, Nepal, September 1999, at the 31<sup>st</sup> IGC meeting in Rio de Janeiro, Brazil, August

2000, at GeoEng2000 in Melbourne, Australia, November 2000, at Aggregate 2001 in Helsinki, Finland, August 2001, in Durban, South Africa, September 2002, in Istanbul, Turkey, September 2003, in Florence, Italy, August 2004, in Lyon, France, May 2005, in Nottingham, UK, September 2006, in Oslo, Norway, August 2008 and in Auckland, New Zealand, September 2010, in Brisbane, Australia, August 2012, in Beijing China, August 2013, in Torino, Italy 2014, in Cape Town, South Africa, August 2016, in Kathmandu, Nepal, November 2017, in San Francisco, United States, September 2018, in Athens, Greece, October 2021.

### **Date and venue of last meeting:**

Last online meeting was held on 8 October 2021 during 3rd European Regional Conference of IAEG in Athens, Greece.

### **Next meeting:**

The next meeting will take place in Chengdu, China, during IAEG XIV Congress 2023, 21-27 September 2023.

### **Recent Activities:**

- An essential task of the commission is to continuously establish new contacts in various countries, for example by sending information about aggregate occasions to potentially interested people. Currently, the Commission has contact persons from 21 countries.
- There is a good scientific relationship between UEPG (European Aggregates Association)
- In almost all congresses, a technical visit (aggregate quarry visits) has been organized.
- A new collaboration project entitled “Construction Raw Materials Demands (Aggregate/Crushstone) for Urban Transformation Under Earthquake Risk in İstanbul” has started with The Istanbul Metropolitan Municipality.
- As the aggregate commission, we attended many meetings. Some of recent activities are.
  - 8th National Crushed Stone Symposium was organized by the Chamber of Mining Engineers of Turkey and Dumlupınar University on 13-14 October 2016, in Kütahya, Turkey.
  - VI. Global Stone Congress was organized in Brazil, in 2017. One of the themes of the Congress will be on Aggregate Industry.
  - The aggregate commission members attended commission and scientific meetings in IAEG Congress
  - Special Aggregates Session was organized during IAEG Congress in 2018, in San Francisco.
  - 10th International Concrete Congress was held on, 02-04 May 2019 in Bursa, Turkey, Organized by Turkish Ready Mx Concrete Association.
  - Integrated Reporting and IFRS Statement 1, 10 September. 2021, Online Meeting, Organized by Good Governance Academy, Online Event.
  - ESG Inquisition Course, organized by Geological Society of South Africa, 10-11 August 2021, Online Event.
  - 6th International Stone Congress was held on, 24-27 August 2021 in İzmir, Turkey, Organized by Chamber of Geology Engineers.
  - Workshop Mineral Standard Reporting&Competent Person in the Mining Industry, Organized by The European Federation of Geologists (EFG), Pan-European Reserves

and Resources Reporting Committee (PERC), Italian National Council of Geologists (CNG) and AlpiConsult Stones, 24 June 2021, Online Event

- Responsible Raw Materials 2021 Conferences: ESG Toolbox for Responsible Sourcing, 10-14 May 2021, Organized by Satarla, Online Event
  - Responsible Mining and Sourcing of Materials Online Course, 16-17 May 2021, Organized by Satarla
  - Integrated Risk Management in Mining Online Course, 3-4 June 2021, Organized by Satarla
  - 9th International Crushed Stone Symposium was organized by Chamber of Mining Engineers on 25 - 26 March 2021, in Belek, Antalya, Turkey.
- The Commission chairperson (Prof. Dr. Atiye Tugrul);
    - gave a lecture titled "How to Solve the Aggregate Resource Problems in Megacities" at the 35th World Geological Congress, as invited speaker (September, 2016) in South Africa.
    - was invited to the World Engineering Geology Congress in San Francisco, USA (September, 2018) as the "Key Note Speaker" and made a presentation titled "The State of the Aggregate in the World Today".
    - was assigned as representative of Turkey in CRIRSCO. She is mainly working on reporting aggregates and dimension stone.
    - gave many invited lectures on aggregates in Turkey.

Commission activity planned for the next year or so.

- The next meeting will take place in Chengdu, China, during IAEG XIV Congress 2023, 21-27 September 2023.
- As the aggregate commission, it is planned to write books or special publications about aggregates in the following years.
- Commission Activities will be generally focused on green deal, responsible sourcing and responsible mining that mainly related with engineering Geological studies. Related with these subjects, an International Project is planned.

### **Web site:**

The Commission has a web site: [www.iaeg.info](http://www.iaeg.info)

The website of the commission is open to service. The web site has following contents:

- Updated list of members of the Commission
- All reports to the IAEG from information meetings
- Latest news
- Information of international aggregate standards
- Aggregate glossary
- References related to aggregates
- Related aggregate links

Prof. Dr. Atiye Tuğrul, President  
Istanbul, 10.08.2022