



EMUG

The 9th Meeting of the
“European MELCOR User Group”

Organised by CIEMAT

In Support of the Cooperative Severe Accident Research Programme (CSARP)

will be held in

Madrid, Spain

6th – 7th April, 2017



With special thanks to EMUG’s permanent stake-holders:

United States Nuclear Regulatory Commission

Sandia National Laboratories

Paul Scherrer Institut (PSI)



Announcement and Call for Presentations

Deadline for hotel reservation	1 st February 2017
Deadline for registration to the meeting (including indication of presentation(s) title(s) and duration)	4 th March 2017
Presentation(s) in Power Point or in PDF format	At the meeting

On-line information is available at
<http://www.psi.ch/emug/>

1. ORGANISATION AND HOST

The 9th Meeting of the European MELCOR User Group will be held at CIEMAT in Madrid on 6th to 7th April 2017.

The meeting will start in the morning on the 6th and should finish before 18:00 on the 7th. Final details and a draft agenda will be sent to registered participants before the meeting. A meeting room will also be available during the meeting for any private discussions between organisations that may be required.

2. BACKGROUND OF THE MEETING

The MELCOR severe accident integral code is developed by Sandia National Laboratories (SNL) for the U.S. Nuclear Regulatory Commission (NRC) in the USA, and is provided to various European organisations through bilateral agreements under the 'Cooperative Severe Accident Research Programme' "CSARP" between US-NRC and the European organisations. The code has been used for many reactor safety applications by these organisations. Some of these organisations also continuously assess the code with data available from Severe Accident Research programmes. A few organisations have also developed models for certain critical issues, which appear in local versions of MELCOR for testing and with the goal of implementation in future releases from SNL.

The main interests in establishing the user group are to foster experience and information exchanges among the European organisations through organised annual meetings and to establish common needs on further model and correctional development of MELCOR. The first meeting of the EMUG hosted by PSI was held in December 2008. PSI is acting as coordinator of the group.

AIMS OF EUROPEAN MELCOR USER GROUP

- To provide a forum for the presentation and discussion of the experience gained by:
 - MELCOR assessment using integral and separate-effect tests leading to presentation of performance of models and related issues, including sensitivity to selected model parameters and model uncertainties,
 - Model development efforts,
 - Application of MELCOR for plant safety studies, including L2 PSA, which demonstrates weaknesses and strengths of MELCOR models in reproducing the individual severe accident phenomena, and interplay between them occurring in the nuclear and balance of plant systems, and the effect of operator actions on the accident progression through user input as introduced in the code input models,
 - Use of code with different compilers and operating systems.
- Prioritisation of user error correction and model development needs, to be transmitted to the code developers and the USNRC,
- To minimise the efforts required to obtain an adequate knowledge of optimum use of MELCOR, through sharing of experience,
- To support the gaining of MELCOR knowledge and experience, particularly concerning the younger and less experienced users.

3. SCOPE, CONTENT AND OUTLINE OF THE MEETING

The two days meeting is divided into three sections:

1 – NRC and SNL Presentations

About half a day will be devoted to presentations from NRC/MELCOR developers. Each of the following four topics could be given by one presentation.

- NRC MELCOR Activities
 - Code applications
 - Code perspectives, possibility of distribution to international partners, status and future areas of CSARP programme
 - New considerations of code development
- MELCOR input
 - New features of input conversion (M1.8.6 -> M2.1)
 - New input capabilities in M1.8.6 and M2.1
- Current MELCOR development thrust areas
 - Quality assurance
 - Code assessment work and regression testing
 - Code distribution and issue management
 - New MELCOR Models – discussion of new modelling and experience using new models
 - Current code development
- Applications
 - MELCOR best practices
 - Guidance for plant applications

2 – User Presentations

About three half days will be devoted to presentations from all of the European organisations. For those who would like to present their experience in plant applications of MELCOR 1.8.6 and MELCOR 2.1, the organisers of the meeting express their wish to see presentations not on specific aspects of the plant applications evaluating safety aspects of the plants in interest but the experience in use of the MELCOR models, input parameters, nodalisation aspects which have certain bearing on the performance of the code, as well as the quality of the code estimates.

Presentations will be grouped into the following 4 sessions:

- Group 1: User experience with nodalisation regarding simulation of different issues with preference to focus on RCS, core and RN inventory and release modelling,
- Group 2: Modelling features (early and late phase core degradation, corium pool formation, lower head behaviour, RN release, etc), new modelling efforts and nuclear fusion application.
- Group 3: Model development and assessment, integral assessment, sensitivity studies, code to code comparison (MELCOR to other code or MELCOR 1.8.6 to MELCOR 2.1), plant applications (link to uncertainty analysis, PSA L2 and PSA L3, etc.),
- Group 4: Post-processing of results (including possibility of sharing of tools developed by users), run time performance, and input conversion from MELCOR 1.8.6 -> 2.1.

3 – Discussion of all participants

- Feedback from the participants – user suggestions to further code development (it could be included in presentation)
- Organisational aspects: next meeting

Eventually, a panel session on an issue of interest of MELCOR modelling might be organised during the afternoon of the second day of the meeting.

4. PRACTICAL ARRANGEMENTS

Participants:

Participation at the meeting is open to experts of the European organisations actively using the MELCOR code in any of its versions or planning to joint CSARP*. The success of the meeting is very much dependent on the active participation of those present, especially by presentations on their own experience with the code.

**If you are not sure about your participation, please feel free to ask for further information. All the requests from non-CSARP members will be evaluated on a case-by-case basis.*

Registration:

All the participants should fill in the Meeting Registration Form that is attached to this document, including the title(s) of presentation(s), and send it before the 4th March, 2016 to:

E-mail: claudia.lopez@ciemat.es and rosamaria.jimenez@ciemat.es

Please note that your ID/Passport's number is required in order to access CIEMAT.

A registration fee will not be required. The participants bear the cost of travel and accommodation. Lunches on both days will be provided and sponsored by CIEMAT.

Arriving in Madrid:

Guests travelling from outside Spain may take advantage of the airport, Adolfo Suarez (previously named Barajas), or the train to Atocha (Madrid city center).

For those arriving to the airport there are several ways to reach Madrid city centre:

- the underground called "METRO", line 8.
- the railway network, called "Cercanias", line C-1.
- Taxi: there is a flat fare to/from the airport from/to Madrid city center: €30

Further information can be found at:

<http://www.aena.es/en/madrid-barajas-airport/public-transport.html>

The Conference Venue:

The conference venue will be hosted by CIEMAT. The address is:

CIEMAT,
Av. Complutense, 40
Madrid, 28040
Spain,

You have to register at CIEMAT's main entrance, you will be required to show your ID/Passport number, and a daily card will be given to you. Once you leave the CIEMAT you have to return the card.

The meeting will take place at Lecture Theatre in Building 1, it is placed close to the main entrance. A map is provided at the end of this document.

The office phone number: 913466236

It is a pleasant 15 minute walk between the closest metro station (Line 6: Ciudad Universitaria) and the conference venue. There is also a bus line (Line 82: Paraninfo-CIEMAT) that stops in the main entrance of CIEMAT.

Accommodation:

- A block of rooms at a discount conference rate has been set aside at *Hotel Exe Moncloa*. The discount will be available between Wednesday 5th April until Friday 7th April.

HOTEL EXE MONCLOA ****
ARCIPRESTE DE HITA,10
28015 MADRID
TEL: 34-91-7459299
<http://www.hotelexemoncloa.com/>

The cost for the accommodation is 129€ single occupancy, or 139€ double occupancy per night and includes all taxes, breakfast, WIFI, gym and sauna.

To make your hotel reservation, you should fill in the Hotel Reservation Form that is in a separate document, and send it back before **1st of February** to:

E-mail: Mineco.ciemat@halconviajes.com

- The following hotels are also close to CIEMAT. In this case, participants have to take care of accommodation themselves:

HOTEL COURTYARD MADRID PRINCESA
Princesa, 40
28008 MADRID
<http://www.espanol.marriott.com/hotels/travel/madcy-courtyard-madrid-princesa/>

HOTEL LEONARDO MADRID CITY CENTER ***
Alberto Aguilera, 18.
28015 MADRID
<https://www.leonardo-hotels.es/leonardo-hotel-madrid-city-center>

HOTEL LEONARDO BOUTIQUE MADRID ***
Vallehermoso, 65.
28015 MADRID
<https://www.leonardo-hotels.es/leonardo-boutique-hotel-madrid>

Transport:

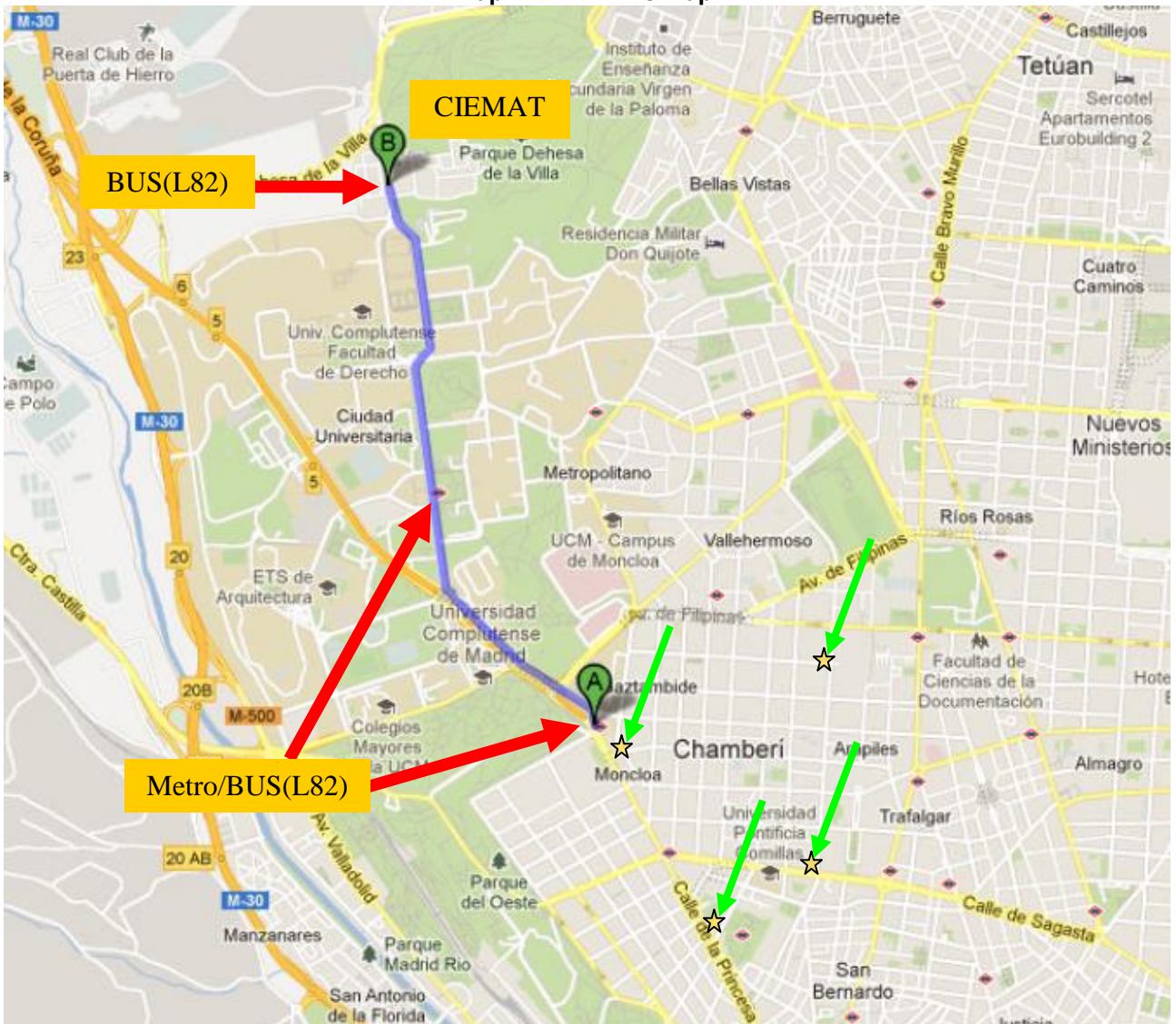
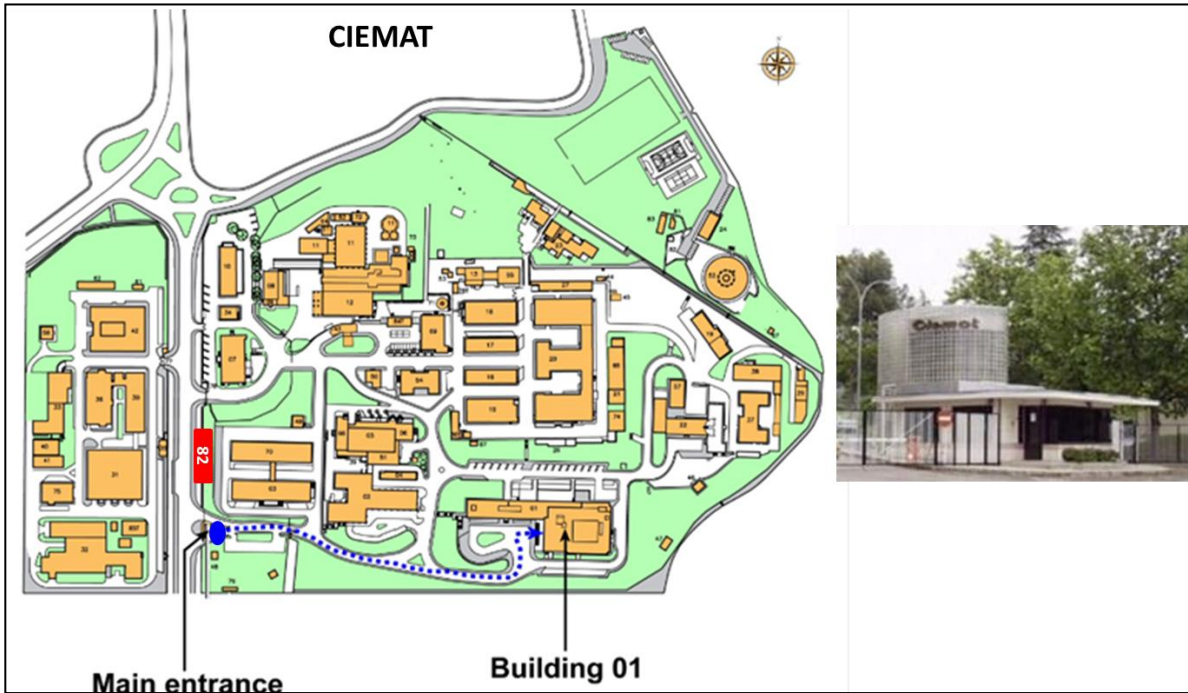
Please see the separate document.

Language:

All presentations and discussions will be in English.

Presentations:

Presentations (in MS power point or Acrobat pdf format), can be sent to claudia.lopez@ciemat.es. The presentations will be uploaded to the EMUG group website after the meeting.





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**The 9th Meeting of the
“European MELCOR User Group”
CIEMAT, Av. Complutense 40
Madrid, Spain
6th-7th April, 2017**

Meeting Registration Form

Surname (Family name)¹:

Given Name (s):

ID or Passport nbr²:

Title or Function:

Institution:

E-mail address:

Title (s) of the presentation (s):

Time needed for presentation³ -
(including 5 min for discussion):

Vegetarian food/other -
requirements on food (please
specify):

To be sent as soon as possible and in any case before 4th March, 2017, to

E-mail: claudia.lopez@ciemat.es and rosamaria.jimenez@ciemat.es

¹ (Please indicate whether Prof., Dr., Mr., Miss, Mrs.)

² It is required to access CIEMAT

³ If the time for presentation will have to be amended due to the schedule, the author will be informed.