



## TERMS OF REFERENCE

### NAFEMS Simulation Governance and Management Working Group (SGMWG)

#### Mission

The SGMWG shall provide a vendor-neutral, end-user driven consortium that promotes advancement of the technology and practices associated with all aspects of managing engineering simulation processes and techniques. It will support the mission of the international NAFEMS organization, namely:

- To facilitate international industry, academia, government, and vendor collaboration, that leverages unbiased multi-disciplinary expertise dedicated to the engineering modeling, analysis, simulation, and systems engineering communities.
- To improve engineering product and process simulations.
- To have a positive impact on quality, profitability, schedules and safety for engineering companies.

#### Vision

Engineering analysis and simulation processes, procedures, and best practices for ensuring quality and reliable simulations are recognized as strategic business assets within all companies utilizing virtual engineering product development techniques.

#### Scope

The focus of the SGMWG is to champion and improve best practices that relate to engineering analysis and simulation. It will promote and enrich simulation management practices aligned with the rapidly-developing technologies in advancing the productivity and quality of virtual product development processes. This includes the development and promotion of requirements and standards that will have general benefits to the international engineering analysis and simulation community.

The SGMWG will not be directly engaged with the development of specific techniques and methodologies that might underlie the engineering analysis and simulation processes. However, the SGMWG is specifically chartered by NAFEMS to be:

- a. the NAFEMS focal for interpreting engineering Simulation Governance and Management including Verification & Validation (V&V) and Quality Assurance,
- b. the NAFEMS focal for interpreting the overall role of Uncertainty Quantification (UQ) in performing engineering simulation,
- c. the primary link between NAFEMS and the ASME V&V committees,

and to capture and share knowledge & guidelines related to:

- a. Engineering simulation governance, management and best practices,
- b. Engineering analysis quality assurance procedures,
- c. Engineering modeling and simulation quality management standards aligned with ISO 9001,
- d. Verification & validation of engineering simulation methods and models,
- e. Planning engineering simulation projects and tasks,
- f. The overarching roles and assessments of Uncertainty Quantification associated with engineering



- simulation processes, and
- g. Competency requirements related to simulation management.

### **Members & Roles**

The members of the SGMWG:

- a. should preferably be industrial users of engineering simulation technology.
- b. should be such that two-thirds of its membership are also current members of NAFEMS. A check on the consistency of the working group will be made following the release of each NAFEMS annual report.
- c. shall include the NAFEMS Technical Officer or an appointee thereof.

Potential new members should submit a CV to the SGMWG Chair indicating their knowledge and experience of industrial analysis and simulation as related to the working group. This will be reviewed by the SGMWG members and if approved by at least a two-thirds majority of the SGMWG members, the person will be invited to meetings and will be provided access for a maximum of 6 months to the WG Collaboration Tools. After that, either the candidate member or the SGMWG can decide to invite full membership or walk away. The term of membership shall be until the individual resigns his/her position as an SGMWG member, or when the individual does not meet the required participatory levels as defined elsewhere herein.

**Election of the SGMWG Chair.** The responsibilities of the SGMWG Chair shall include leading the SGMWG in creating a working roadmap for the team and ensuring that the planned deliverables of the team are met accordingly.

The candidate for chair receiving the largest number of votes shall become the Chair. In the case of a tie vote, the membership shall be repolled until the tie is broken. The term of office shall be three years or until he/she resigns the position as the SGMWG Chair, whichever occurs first. The SGMWG Chair may stand for reelection. In any case, the SGMWG Chair shall be a current member of NAFEMS, either directly or by their represented company, and if that membership ceases, the Chair shall stand down and a new Chair should be elected. It is desirable that the SGMWG Chair represents an industrial user of the technology represented by the SGMWG.

Members of the SGMWG shall nominate an individual already serving on the SGMWG to be the new SGMWG Chair. Each nomination shall be supported by at least two seconds. A nomination period shall last no longer than five business days. Nominations shall be submitted by email to the NAFEMS Technical Officer or an appointee thereof. Self-nominations are not permitted.

Upon closing of the nomination period, nominees will be contacted by the NAFEMS Technical Officer to either accept or reject the nomination by phone or email. The nomination acceptance period shall last no longer than five days. If a nominee does not respond to the NAFEMS Technical Officer within the five-day period, the nominee will not be considered for the election.

If there is a single candidate for chair, that person shall become the chair.

Upon closing of the nomination acceptance period, the NAFEMS Technical Officer will send an email containing the list of nominees to all SGMWG members. The election period shall last no longer than fourteen days. The election results will be based on submitted votes.



Upon closing of the election period, and within a 72-hour period, the NAFEMS Technical Officer shall send an email to all members of the SGMWG to announce the newly elected Chair.

**Required Participation.** Members of the SGMWG are expected to make regular contribution to the Group. If a member does not contribute for more than 9 months, they will be warned by the NAFEMS Technical Officer that their SGMWG membership may be terminated. Termination will occur after 12 months of non-contribution at the discretion of the SGMWG Chair.

### **Meetings**

The SGMWG should plan to meet on a regular basis throughout each calendar year and should aim for an aggregate of twelve hours of meeting time per year. Additional meetings of the SGMWG may be called by the SGMWG Chair as needed to address issues of importance in a timely manner.

The forum for SGMWG meetings may include teleconferences, interactive web sessions, or face-to-face discussions. To accommodate participation in the meetings by the international SGMWG members who are geographically dispersed, it is expected that most of the SGMWG meetings will be conducted virtually. In all cases, notice of any meeting of the SGMWG should be given at least five business days in advance to each SGMWG member by email, phone, or other reasonable means of communication.

**Quorum.** A quorum is not applicable for SGMWG meetings because their intent is to focus on discussions and proposals; they are not intended to result in team decisions. Any decision making and voting by the SGMWG shall be conducted according to the process described elsewhere herein.

**Communication.** The SGMWG Chair will provide the following to the SGMWG members: 1) an agenda for the next working group meeting, at least one week prior to the upcoming meeting, 2) an overview of the working group's priorities, and 3) input to their future deliverables plan.

The NAFEMS Technical Officer shall keep the NAFEMS Technical Liaison Group abreast of the overall charter and ongoing activities of the SGMWG, and shall bi-laterally share and collaborate ongoing efforts in which multiple NAFEMS working groups are engaged.

**Compensation.** Participation in the SGMWG shall be on a voluntary basis, where NAFEMS Ltd. will pay for reasonable expenses related to the WG meetings. These expenses are limited to fees associated with teleconferences, web sessions, meeting facilities and refreshments, pending the approval of the NAFEMS Technical Officer. Other expenses that might be incurred by specific projects of the SGMWG will be considered, pending approval of the NAFEMS Technical Officer.

**Minutes.** Minutes will be taken to record discussions and proposals that result from a physical or virtual SGMWG meeting and will be typed and circulated within two weeks after any such meeting. The scribe shall be either a NAFEMS representative or a member of the SGMWG who has agreed in advance of the meeting. The SGMWG members shall be identified in the minutes as having attended, contributed, apologized, or no communication.

### **Decision Making & Voting**

Decisions made on behalf of the SGMWG shall be conducted via electronic means to collect votes from the "legal" members of the SGMWG. "Legal voters" shall be identified as those SGMWG members who have participated in two-thirds of the SGMWG meetings (discussions) during the previous nine months. The SGMWG shall strive to reach consensus when deciding on issues and proposals discussed by the



working group. When consensus is not possible, the following process will be used.

- a. A two-thirds majority of the legal votes shall identify the winning option.
- b. The result of any decision or vote shall be recorded in follow-up minutes of the SGMWG, with each vote being associated with the name of a working group member.
- c. Abstentions shall not be included in calculating a final vote.
- d. Any negative vote shall be counted as such only if the vote is appended with a rationale that includes a proposed alternative to the issue being decided; otherwise it is not included in the final vote.

### **Amendments**

These Terms of Reference may be altered, amended, or repealed, and new terms may be adopted by the SGMWG provided that the proposed changes are approved by the SGMWG as per the decision-making process described elsewhere herein. Any changes to the Terms of Reference by the SGMWG shall be reported to the NAFEMS Technical Officer.