

FMC User Group

Online meeting (MS Teams)

16 September 2026, 4.00-5.00PM

Present

Online: Tom Bertenshaw (TB), Shiva Bhat, George Connolly, Aled Davies, Mark Dennis (MD), Baptiste Gauthier (BG), Yann Gelebart, Ray ten Grotenhuis (RtG), Katherine Kirk, David Lines (DL), James Plested, Andreas Schumm, Sylvain Viggianiello, Paul Wilcox (PW, chair).

Chair's update

Common file format

PW gave a brief update on the EPRI-coordinated effort to create a common file format for NDE data, ONDE, summarising the governance structures (user group and technical committee) and the current position which is receiving user feedback on version v0.91, in advance of the formal release of v1.0.

Database of benchmark FMC files

Motivated by the increasing adoption of vendor-agnostic open-file formats (e.g. MFMC and soon ONDE), PW proposed the creation of a community-curated, open database of benchmark FMC files. This would support:

- Research and development
- Validation of imaging/processing implementations
- Quantitative assessment and comparison of new imaging/processing methods

The database could include:

- Experimental measurements from
 - standard test blocks
 - samples with known defects (ideally with independent characterisation, e.g. by X-ray CT or progressive sectioning)
 - real components or site inspections where data sharing was permitted
- Simulated measurements from
 - Direct numerical simulation (e.g. finite element) codes where ground truth is controlled and precisely known

The group was in favour of the proposal with TB, MD, BG, RtG, and DL all expressing support and several noted that it would also be a useful source of data for those looking at applying machine learning to raw FMC data. To the question of where to host the data, BG suggested something like Zenodo, MD said EPRI were in the process of building some data sharing infrastructure that could potentially be suitable, and PW noted that there might be an option to do it within a university.

ACTION: PW to investigate how such a database could be hosted and to flesh out the plan.

Date of next meeting

As agreed at the previous meeting, it was agreed to plan a date for the next one as soon as possible to maintain a regular cycle. Subsequent to the meeting, PW proposes **Wednesday 24 February 2027, 4-5PM (GMT)**.

ACTION: Please respond to PW within the next 14 days if the proposed date clashes with any events that are likely to impact the FMC community, e.g. national holidays, NDE conferences etc. If no responses received, a calendar placeholder invitation will be sent.

Presentation “Fuel Channel Inspections at OPG”

Ray ten Grotenhuis gave the above-titled presentation to the group on the ongoing development of a device for inspection of zirconium fuel channel tubes in CANDU reactors. The device contains 4x512-element curved arrays to provide complete circumferential coverage using a sliding 256-element aperture, as well as on-board radiation-hardened electronics for transmission control and multiplexing of received RF waveforms onto a fibre-optic connection for remote processing.