

Aim

Based on the recommendations of the first two phases of this project, Phase 3 will produce qualitative guidance that allows a suitably qualified person to make a judgment on the severity of damage to, and aging of, PFP, with respect to loss of fire performance and other functions.

The output shall be useable with existing guidance (such as publications from the HSE and the EI, or a company's own processes) by providing a higher level of detail as to the severity of any anomalous condition or defect. It shall also provide a means of identifying generic systems and providing information on whether the historic designs of PFP systems can mitigate up-to-date design fire scenarios.

Background information

The background information is provided in the Phase 2 output document, that should be read in conjunction with this invitation to tender.

Output: “Guidance on the severity of damage and aging of PFP”

Aims

The guidance note should enable:

- A surveyor to identify the generic type of a PFP system, in the event of project records being unavailable.
- A suitably qualified person to make a judgement on the adequacy of a “legacy” PFP design to mitigate a current design fire scenario.
- A suitably qualified person to make a judgement on the severity of damage, or changes in material properties due to aging, with respect to fire resistance and non-fire functions (specifically loss of substrate integrity due to corrosion) provided by the PFP.
- Facility owners and operators to prioritise inspection, maintenance and repair using their own risk assessment methodology, using the expert judgement described above.

The project outputs will be of use to facility owners and operators, survey and inspection companies, maintenance and repair companies, regulators, and insurers.

Scope

The guidance note shall cover:

- the severity/implications of various types of damage to a range of PFP materials and systems on a range of structures, elements, or equipment with respect to fire performance,
- the severity/implications of various types of damage to a range of PFP materials and systems with respect to corrosion and other non-fire functions, such as insulation,
- the effect and consequences of aging of PFP materials and systems,
- the suitability of a legacy PFP design to mitigate a modern design fire scenario.

The guidance shall be divided by product types and technologies. These shall include:

- concrete,
 - cementitious spray applied PFP (SFRM),
 - epoxy intumescent,
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- phenolic and other wet-applied systems,
- composite systems (e.g. wet applied PFP over dry-applied insulation),
- jackets,
- boxes/removable castings,
- panel systems,
- other dry fit systems including shrouds, insulation materials with cladding,
- penetration seals.

Recommendations shall be supported by evidence, where possible, and with qualifications and descriptions of uncertainties added as applicable where direct evidence is not available.

The guidance shall define levels of severity and enable a user to assign a level of severity to the noted PFP system to reflect the impact of the damage on fire resistance performance. It is recommended that this aligns with existing severity notation in HSE IS 12/2007 (which has 3 severity levels).

Note the guidance should expand on existing guidance such as those published by the HSE and the Energy Institute, however it should not include a methodology for risk assessment – the project focus is on the impact of damage or age on the fire resistance performance, not on the consequences of any change to performance.

Tasks

The qualitative guidance will be divided into product types and technologies, with expertise required from those who understand the system design/chemistry, those with experience of installing/applying the system, and those with experience of inspecting and/or maintaining the systems.

Working groups of experts shall be assembled to provide written guidance on the nature of damage typically seen in industry and to provide judgement on the expected consequences of the damage. This shall be supported by evidence, where possible, with qualifications and descriptions of uncertainties added as applicable. The effect of aging shall be addressed in a similar manner.

The design of systems for different design fire scenarios shall also be addressed, with guidance given on typical features. The limitations of old designs with respect to jet fires shall be specifically addressed. This aspect of the work will also feed into a future phase (a product register) of this plan.

Note the TSC shall be responsible for suggesting experts for working groups, however the primary contractor shall be responsible for assembling working groups.

The primary contractor shall:

- contact the experts suggested by the TSC and supplement this list with their own contacts, where possible.
 - arrange and facilitate the working group meetings, taking minutes and circulating output
 - act as the primary author of the document, using information developed in the working groups.
 - give a presentation on the project progress at the PFPNet conference
 - undertake a review of the document following comments received from PFPNet members
 - be responsible for delivery of the final document.
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Information to applicants

PFPNet invite bids of up to £20,000 to undertake the above work.

Applicants shall have demonstrable knowledge and track record in the field. CVs of those involved should be provided with bids, highlighting related activities. PFPNet welcome applications from individuals or companies. Joint bids are also welcomed.

Bids are to be returned to ian.bradley@pfpnet.co.uk no later than July 5th.

The tender will be awarded in accordance with the PFPNet tender scoring process (available on request), as scored by the Aged & Damaged PFP technical subcommittee and confirmed by the PFPNet steering committee.

The project shall commence July 15th, with the successful applicant notified no later than July 12th.

The project shall run for 8 months, with key deadlines as follows:

- **first working group meetings to be arranged for September**
- written progress update to TSC: mid-October
- **presentation at the PFPNet conference 21st /22nd October**
- further working group meetings through October
- **draft guidance document due: December 6th**
- deadline for comments and feedback from PFPNet: Jan 10th
- **final draft due: April 18th**
- finalisation (including PFPNet editorial review) due: May 2025

For more information please contact ian.bradley@pfpnet.com

Working group costs

The working group meetings are likely to incur expenses that will be covered by PFPNet. A high level of participation is key, and it is recognised that a face-to-face meeting may be beneficial. Provision of meeting rooms, supported by incidental expenses incurred by attendees (e.g. lunch/dinner), shall be covered by PFPNet up to a cost of £6,000. This is separate to the reimbursement of the primary contractor outlined above. Note that such costs shall be agreed with PFPNet in advance of expenditure.
