American Petroleum Institute

XX_SR3_CPMA_Ch20p4

FM-3002

Standards Resource & Research Request (SR^3) Form
Committee on Petroleum Measurement

Revision: 2.0
Date: 4/5/2023

Document Information

Standard Designation:	**MPMS Ch. 20.4**																				
Title:	**Phase Behavior Applications in Upstream Measurement**																				
Edition:	**Second**																				
Budget Year:	2024																				
Committee/Subcommittee: (check all that apply if a joint project)		**COPM**			**CELE**			**COLM**			**COGFM**			**NLDC**							
	x	**CPMA**			**COMA**			**COMQ**			**COMET**										
Priority Matrix Ranking: (to be completed by API Staff)		**Priority 1 (Rank 10-15)**			**Priority 2 (Rank 7-9)**			x	**Priority 3 (Rank ≤6)**												
API Climate Action Framework (To be completed by API Staff) Should be filled out before policy committee approval	x	**#1 Accelerate Technology & Innovation**			**#2 Mitigate Emissions from Operations**			**#4 Advance Cleaner Fuels**			**#5 Support GHG/Climate Reporting**										
UN Sustainable Development Goal (to be completed by API Staff)		**#7 Access to Energy**			**#8 Economic Growth**		x	**#9 Resilient Infrastructure**			**Other**										
API Energy Excellence Program (to be completed by API Staff)		**Yes**		x	**No**																
Proposed Action:		**New Standard**					x	**Revise Current Standard**													
		Withdraw Current Standard						**Research Only**													
Proposed Funding Type:		**Budget Request**						**Special Solicitation**													
Total Funding Request (Parts A & B)**:**	**$**	**0**																			
Name of Submitter(s):	Ramesh Kini																				
Date:	October 2024																				

Part A – Resource Plan

I. Background and Information:

1. **Explain the business need for the proposed action.** Indicate potential cost savings to industry where possible.

In Aug 2016 the API published MPMS Draft Standard "Application of Hydrocarbon Phase Behavior Modeling in Upstream Measurement and Allocation Systems" as a prospective standard for provisional application with a two-year review period. In March 2018 the CPMA Ch. 20.4 WG met to collate and discuss industry feedback on the Draft Standard and concluded the following:

1. Industry feedback on the Draft Standard content was beneficial and would contribute to improving the document but was limited to only a few commenters.
2. Industry feedback indicated that the Draft Standard Scope was too limited, focused only on PSM/EOS applications for allocation. The need to expand the Scope to include other applications of phase behavior in upstream measurement was identified, as these additional phase behavior applications are not addressed in other industry standards.
3. A WG recommendation to CPMA on how to proceed with the Draft Standard (vote up or down on a full standard status) did not seem appropriate in 2018 without an opportunity to collect more industry feedback (addressing #1) and evaluate the document's potential Scope expansion (addressing #2).

The WG requested and received CPMA/COPM approval in March 2018 for a two-year extension on the Draft Standard and subsequently reached consensus to revise the Draft Standard to include expanded scope addressing a multitude of industry phase behavior applications relevant to upstream measurement.

2. What is the scope of the standard?

Current Draft Standard Scope: This document provides requirements and guidelines for the application of hydrocarbon phase behavior modeling in upstream measurement and allocation systems. The requirements and guidelines apply to the development, implementation, and performance management of a process simulation model (PSM) incorporating an equation of state (EOS) description of phase behavior. This includes functional specifications, validation, and maintenance of the PSM, EOS specification and implementation, and fluid compositional specification and validation.

Proposed MPMS Ch. 20.4 Scope: This document provides requirements and guidelines for the application of phase behavior (i.e., pressure, volume, temperature, or PVT fluid properties) in upstream measurement. The requirements and guidelines address the development, implementation, performance management, and reproducibility of phase behavior representation used to calculate PVT fluid properties applied in the following upstream oil and gas applications:

- Theoretical quantity determination for allocation using PVT fluid properties;
- Theoretical quantity determination for allocation using a process simulation model;
- Multiphase and wet gas flow meter configuration;
- Fluid sample and PVT fluid property quality assurance;
- Flow modeling (virtual flow metering);
- PVT fluid property interpolation to alternate process conditions.

The phase behavior representation guidelines include fit-for-purpose model selection, fluid component definition, and calculation validation.

3. Is this standard on the work program of another standards development organization (SDO)?

Yes		No	x

If yes, specify SDO and standard designation/project title/contact

If yes, is the work being coordinated with the appropriate group? Are there special circumstances that would justify independent API initiation of the proposed action?

4. Are a volunteer chair and group of experts available to perform the proposed action?

Please include names and company affiliation and indicate chair, if available.

Ramesh Kini (Chevron) - Chair
Robbie Lansangan (TechnipFMC)
Robert Webb (Hess)
Beth Poindexter (BLM)
Amin Amin (LHG)
Murat Semiz (ConocoPhillips)
Joe Landes (SPL)
Dale Erickson (Wood)
John Nighswander (Schlumberger)
Pamela Chacon (Chevron)
Brandon Buquet (Oxy)
John Frey(Exxon Mobil)

5. **Is there a need to commit resources to supplement the development of the draft? Would a paid content specialist accelerate progress on the development/revision? Is there a readily available content specialist?**

   No

6. **Are there special format requirements for final document, i.e. knowledge of ISO template required), significant graphics, photos or equations) required that would need extraordinary resources?**

Yes		No	X

   If Yes, please provide details:

7. **Please provide any other information that is pertinent to the proposed action.**

8. **What are the implications of not initiating the proposed action?** Include potential safety, reliability, environmental and financial impacts that may arise.

9. **Is there research proposed to accomplish the proposed action?**

Yes		No	X
If yes, complete Part B of this form.			

II. Project Timing

Proposed start date:	11/1/2024	**Proposed date draft will be ready for letter ballot:**	2/1/2025
TG/WG: (estimated number of volunteers needed)	Current WG	**Content Management:** ($ amount "if needed" or volunteer)	

PART B – Research Plan

I. Background and Information

1. **Proposed Research Title:**

2. **Proposed Project Scope:**

3. **Research Amount:**

$	

4. **What is the business need for the proposed research?**

5. **Is the proposed research edition-specific for a single standard or will it result in technology enhancement for multiple standards?**

Yes		No	
If multiple standards, please cite the standards effected:			

6. **Research Timing:**

	Research is necessary prior to scheduled revision.		Research can be done concurrent with revision.

7. **How does the research support the proposed action identified in Part A?**

8. **Is a joint industry project (JIP) a possibility?**

Yes		No	x
If Yes, with whom?			

9. **Are there opportunities for leveraged research with other organizations?**

Yes		No	
What organizations?			

10. **What are the implications of not performing the proposed research?**

II. Dates and Funding:

Estimated Completion Date	Prior Research Funding Requested		Anticipated Future Research Funding Needs					
	$		Year 2: $		Year 3: $		Year 4: $	

PART C – Proposal Feedback/Approval Information

For API Use ONLY

SC comments to Proposer/WG:	
Date approved by subcommittee:	
COPM comments:	
Date approved by COPM:	
Date entered into API Publications DB:	