



ISO/TC 67/SC 7  
Offshore structures

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**N 768 8.2 WG3 SC7 Update March 2015**

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Committee URL: <http://isotc.iso.org/livelink/livelink/open/tc67sc7>

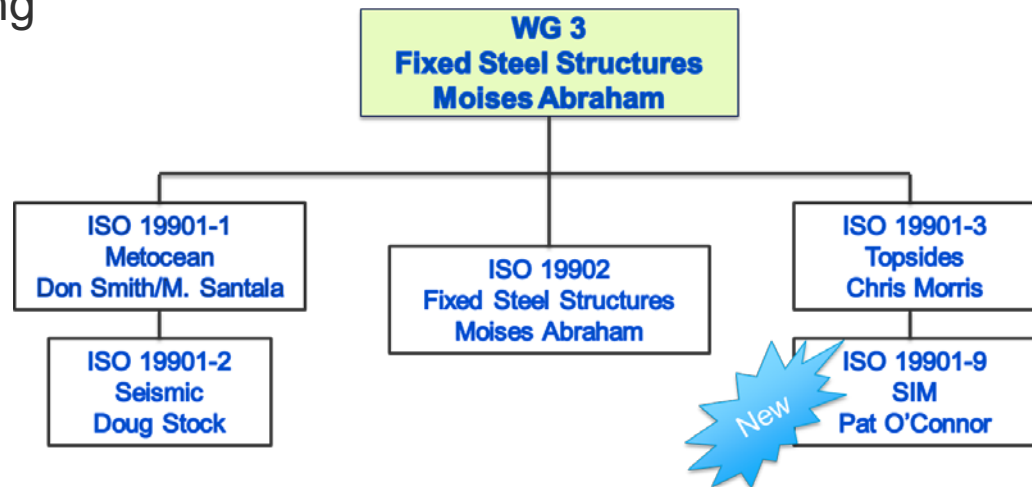
# Work Group 3 – Fixed Steel Structures



Convenor: Moises Abraham, Chevron

36th ISO/TC67/SC7 Meeting

Delft, March 2015





# ISO 19901-1 Metocean



Revision Project Leader: Don Smith, ENI

Co-Leader: Markku Santala, Chevron

# Status



- ISO 19901-1 (2<sup>nd</sup> Ed) FDIS was submitted to ISO for voting on 10<sup>th</sup> of February 2015.
- The FDIS ballot starts April 2<sup>nd</sup> 2015 (estimate).
- Closing of balloting 2 months later.
- Authors had to remove the USA regional annex from the document, as they could not get approval to use the new API 2Met document in time.
- Authors replaced the outdated USA regional annex with “*see API RP 2MET*” references.

# ISO 19901-2 Seismic Design



Revision Project Leader: Douglas Stock, Digital Structures

## Panel Composition +Activities



- 5th & 6th meetings – Oct, Nov 2014 Houston and London
  - at least 6 participants in each including a few call-ins
  - 4 to 6 hour meetings
  - hosted by ABS and DNV-GL
- Draft version out to panel mid February 2015
  - surprisingly received about 40 **new** comments from panel
  - working to resolve comments with smaller panel groups
  - trying to have resolution within the month of March
  - will retain any unresolved comments until later
  - rejected one comment about changing “collapse should be avoided” to “collapse shall be avoided”
- Anticipating having draft to panel/OGP early April 2015

## Annex B - Seismic Map Update



- End of Feb received 1st draft contract from API for 50% mapping work funding. Have responded to their “exclusive” clauses to make terms acceptable/sharable. Awaiting their response.
- Have just submitted funding request to OGP, assuming their terms and response can be resolved relatively quickly.
- Have initiated contract talks with mapping contractor.
- Hoping to be over contractual issues and be able to start work April 1 (+/-).

# ISO 19901-3 Topsides



Revision Project Leader: Christopher Morris, BP



# ISO 19901-3 Topsides of Fixed and Floating Platforms



- The 2nd Edition of ISO 19901-3 was published in 2014.
- Chris Morris to present NWIP for 3<sup>rd</sup> Ed. to SC7 in Delft.

INTERNATIONAL  
STANDARD

ISO  
19901-3

Second edition  
???

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**Petroleum and natural gas industries —  
Specific requirements for offshore  
structures —**

**Part 3:  
Topsides structure**

*Industries du pétrole et du gaz naturel — Exigences spécifiques aux  
structures en mer —*

*Partie 3: Superstructures*

□

# ISO 19902 Fixed Steel Structures



Revision Project Leader: Moises Abraham, Chevron

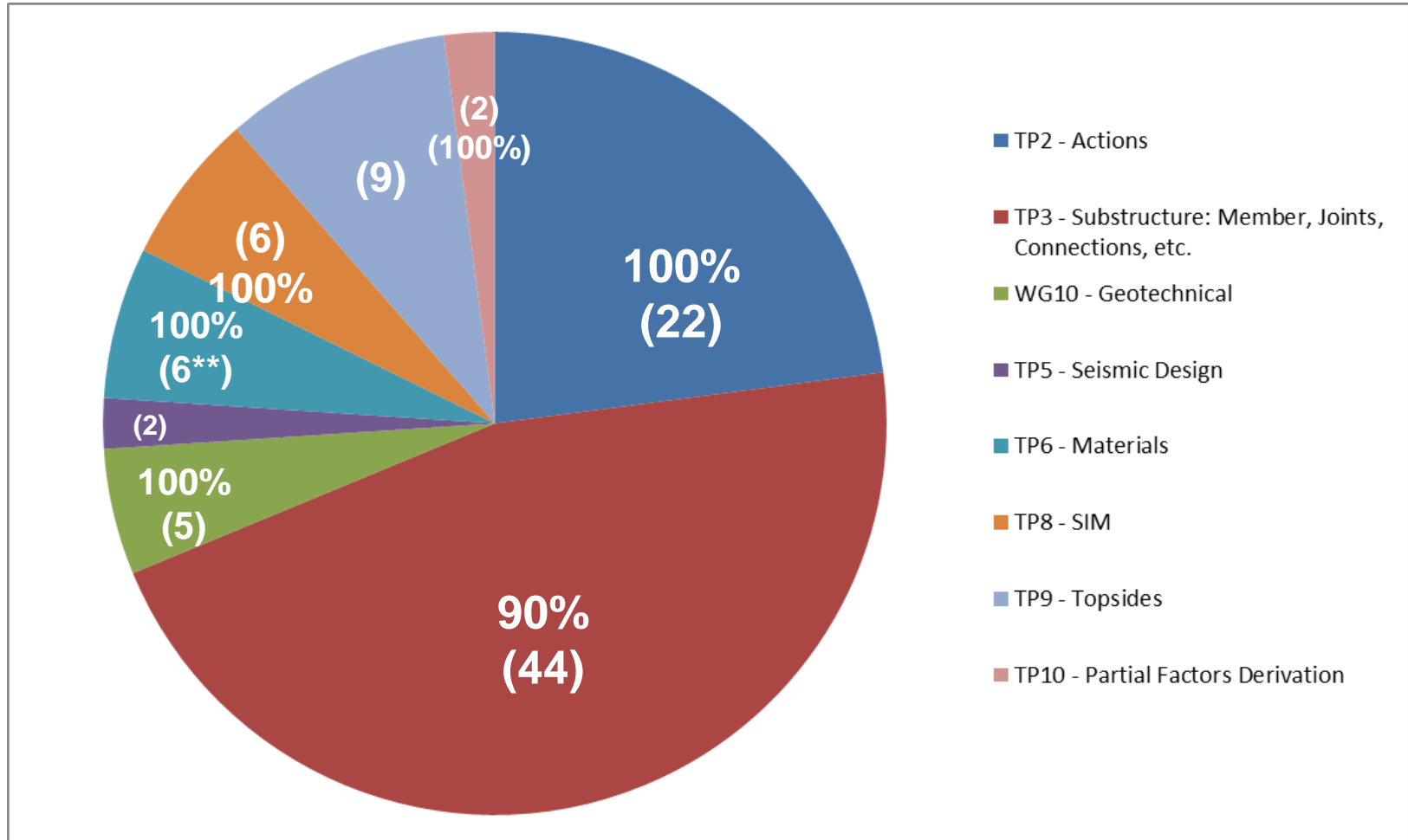
# Status of ISO 19902 2<sup>nd</sup> Edition



## Major Accomplishments:

- **N 749** “Clarification of the intent of the existing text in ISO 19902 Annex A.9.9.3.3” was published in October 2014.
- One WG3 Meeting – Houston, September 2014.
- Two Editing Panel Meetings – Houston and London, September and December 2014.
- One TP10 Meeting – Delft , March 2015:
  - Partial Factors Proposal and Decision
  - Path Forward on target Pf in clause A.9.9.3.3
- Draft of 2<sup>nd</sup> edition is 60% complete. Two key items remain:
  - Resolution of Materials Technical Panel inputs and
  - Alignment of ISO 19902 and ISO 19901-6 (Marine Operations).

# Technical and Editorial Comment Database: (92) Technical and Editorial Comments



\*\* A meeting with TP6 to be organized to resolve disagreement between Editing Panel and TP6

# Small Technical Studies



- Parametric Study to Validate the Effects of Chord Load on the Strength of X-joints in Tension
  - *Champion: Justin Bucknell*
  - *Status: Complete and results incorporated in 2<sup>nd</sup> Ed.*
- Update ISO 19902 Tubular Member Strength Formulae, Extend Yield Strength Limit
  - *Champion: Paul Frieze*
  - *Status: Complete and results incorporated in 2<sup>nd</sup> Ed.*
- Methodology Statement of Load Factor Used in Offshore Platform Design
  - *Champion: Albert Ku and Moises Abraham*
  - *Researcher: Bob Gilbert, Lance Manuel (UT)*
  - *Status: API funding approved. Waiting for proposal from UT.*

## Work Group 3 – Fixed Steel Structures

### Next Steps:



- ISO 19902 Editing Panel to meet in March and August to incorporate final input from TPs.
- ISO 19902 2<sup>nd</sup> Edition DIS complete by September 2015.
- Next WG3 meeting – St John’s, Canada, September 2015
  - ISO 19902 2<sup>nd</sup> Edition DIS will be discussed in WG3 meeting.



# OGP Offshore Structures - Development of a Global SIM Standard (Potential ISO 19901-9 SIM)

Project Leader: Pat O'Connor, BP

# 19901-9 SIM – Status (March 2015)



## **SCHEDULE:**

- Original Plan - Rough Draft available for SC7 March Meeting
- Current Plan - Rough Draft available end of March 2015

## **STATUS:**

- Document Layout complete – attached for information
- Updated draft sections from Task Groups (TGs) overdue

## **ISSUES:**

- TGs require more time for updates, due next week
- Significant drafting required after receipt of TG updates
- Additional working meetings required to resolve issues
- Potential issue around GoM vs. N. Sea interpretation of performance standards based on calibrated failures vs. analytical failures experience
- Additional working meetings across TGs required.



# 19901-9 SIM – Meetings to Date & Planned



## **SIM Committee Meetings** (*worldwide locations*)

2013 – 2014: (*London; KL Malaysia; Houston; Copenhagen, London; Aberdeen, Houston and Singapore* )

2015 Planned: (*Houston, March 18<sup>th</sup>; Houston, June 4<sup>th</sup> and London , late June/ early July, location and time TBD*)

## **SIM Leadership (LT) Meetings** (*BP office and Lync call-ins*)

2014: - 4 total (*every 2/3 months*)

2015 Planned: 3 total (*Feb 11<sup>th</sup>; April/May and June/July*)

## **SIM Additional Planned Meetings** (*BP office*)

- Evaluation / Strategy TG working meeting (*March 17<sup>th</sup>*)
- Chair + TG Meetings as required

# 19901-9 SIM – Committee Task Groups (TGs)



## TASK GROUPS:

- Data - Riaz Khan and Salvador Vargas
- Evaluation - Ramsay Fraser and Kaisheng Chen
- Strategy - Justin Bucknell and Abe Nezamian
- Program - Dan Gallagher and ? (need to confirm)
- Topsides - Doug Angevine and David Galbraith
- Floating Systems - Paul Frieze and Dan Gallagher
- Management System – Hugh Westlake and Gerhard Ersdal
- Decommissioning & Re-Use - Rudy Hall and Frank Buescher

**NOTE:** TGs to use SharePoint Site to Store Shared Information

[https://ogpinterimsolution.sharefile.com/.](https://ogpinterimsolution.sharefile.com/)

# 19901-9 SIM - Existing 19902 Section 23



## In-service inspection and structural integrity management

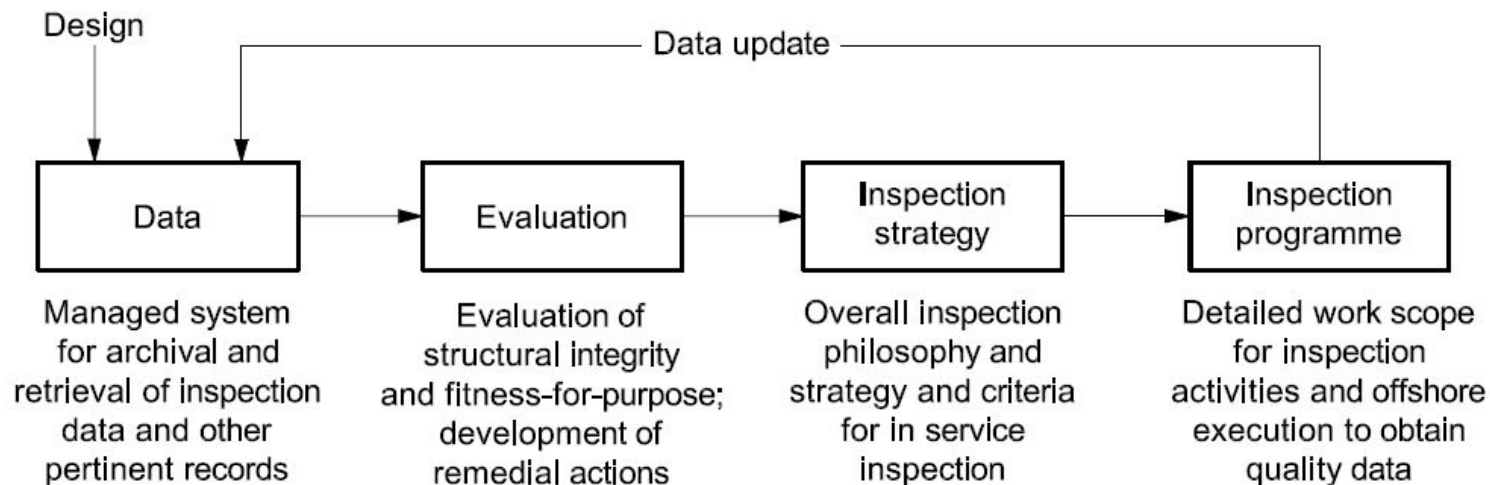
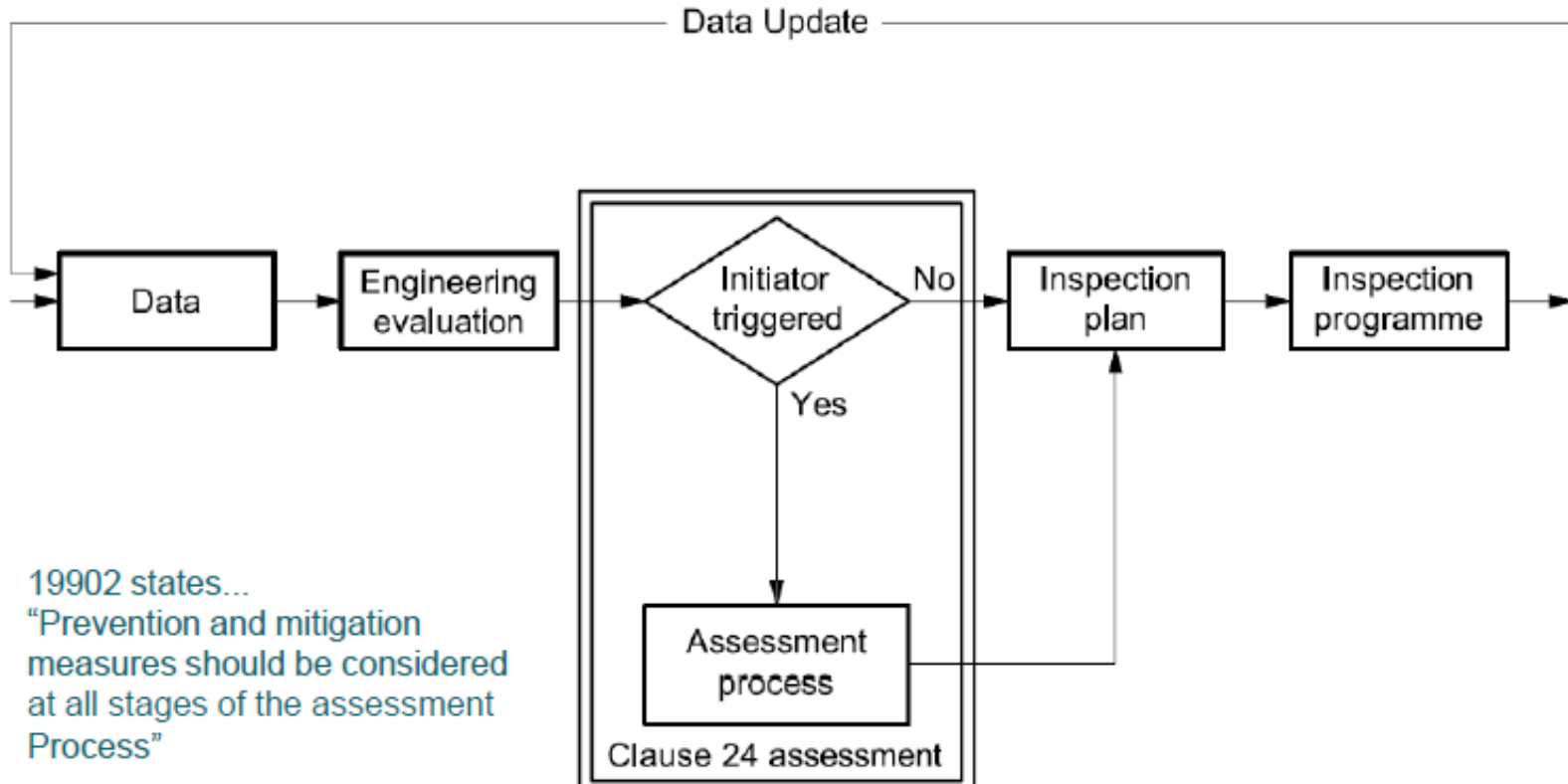


Figure 23.1-1 — Phases of a structural integrity management cycle

# 19901-9 SIM - Existing 19902 Section 24



## In-service inspection and structural integrity management



# 19901-9 SIM - Combines both Sections 23 & 24



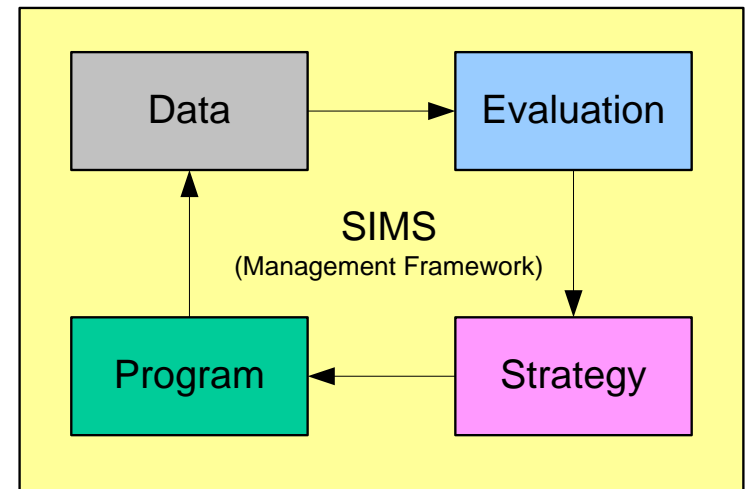
Existing Information in Sections 23 & 24 maintained, but laid out to align with the SIM process. Also added new content on Management Framework; Decommissioning and Floating Systems (placeholder only).

## SIM Process:

- Data Recording what we have.
- Evaluation Assessing and prioritizing the risk.
- Strategy The plan to manage the risk.
- Program Inspection, testing, and repairs.

## Management Framework:

- Organization
- Competency



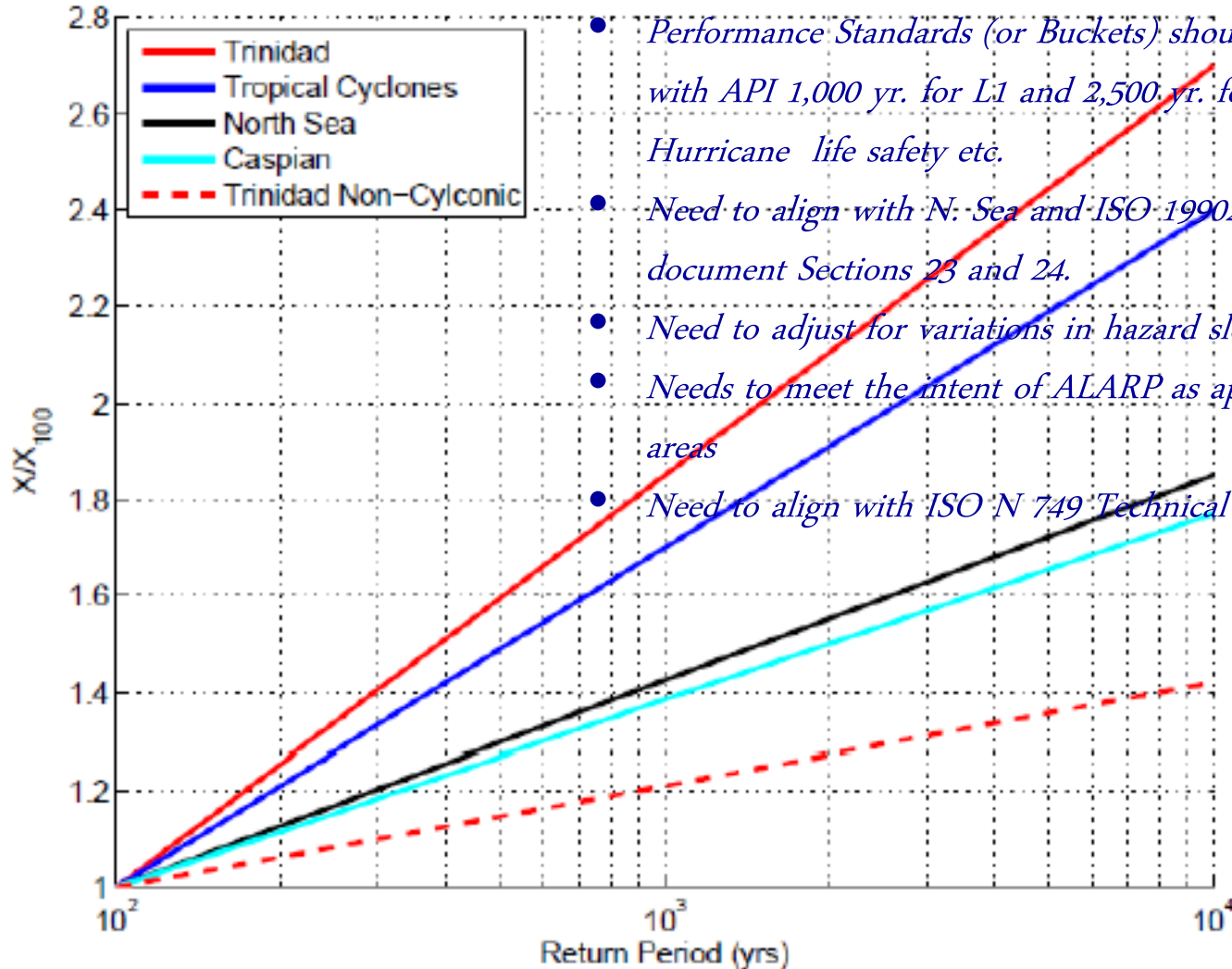
# 19901-9 SIM - SIM Process (Some Key Issues)



## Structural Integrity Management (SIM) - Overview

- 4 Step SIM Process
- Some Important Factors for Aging Structures
  - *Fatigue and Corrosion (Share Data Worldwide?)*
  - *Robustness (understand system strength and behavior ?)*
  - *Performance Standards (need to define for “fit for purpose” ?)*
  - *Performance Standards (need to be applicable worldwide ?)*
  - *Topsides (Fixed & Floating), to Include Fabric Maintenance ?*
- Worldwide Consistency (Return Periods vs RSR's, or Both ?)

# 19901-9 SIM - Worldwide Hazard Slopes



- *Need to align with API RP 2SIM calibrations for GoM*
- *Performance Standards (or Buckets) should be consistent with API 1,000 yr. for L1 and 2,500 yr. for Sudden Hurricane life safety etc.*
- *Need to align with N. Sea and ISO 19902 existing document Sections 23 and 24.*
- *Need to adjust for variations in hazard slopes worldwide.*
- *Needs to meet the intent of ALARP as applied in some areas*
- *Need to align with ISO N 749 Technical Note.*

# 19901-9 SIM - Summary



- First Rough Draft complete by end of March 2015.
- Rough Draft to be Circulated to whole SIM committee for Comment
- Rough Draft to be Issued to WG3 and SC7 for further Distribution & Comment
- Chair to hold Working Meetings with TGs and Individuals to expedite DIS version
- First Working Meeting to be held with Evaluation and Strategy TGs , March 17th
- Three More SIM Committee Meetings Planned for 2015 (Houston & London)
- Need ISO update of “N 749 – Technical Note, Clarification of 19902”
- ISO 19901-9 SIM DIS Document to be Complete by end of July 2015