

# Final Investment Decision and the SEC Interpretation

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# Disclaimer

Opinions expressed in this presentation are of the authors alone; on SEC issues they represent neither the opinions of the Securities and Exchange Commission nor of its staff members.



# A Trilogy

- **SEC and PRMS Proved Reserves: Why Differences Still Exist**, by E. Morales, and W. John Lee. Presented at the Unconventional Resources Technology Conference held in Houston, Texas, USA, 23rd-25th July 2018. URTeC 3003052
- **Analysis of Reasons for Differences in Proved Reserves Estimates with PRMS and SEC Regulations**, by E. Morales and W. J. Lee. Virtual meeting SPE ATCE Denver, Colorado, USA, October 5<sup>th</sup>-7<sup>th</sup>, 2020. SPE 201583
- **SEC and PRMS Proved Reserves: Differences Due To Varying Interpretations of “Final Investment Decision”**, by E. Morales and W. John Lee. SPE EUROPEC and 82<sup>nd</sup> EAGE Virtual Annual Conference and Exhibition, Amsterdam, The Netherlands, Dec. 1st-3rd, 2020. SPE 200626



# Setting the Scene

*Note: **Bold wording**, **red color** and underlining have been added for emphasis*

*Presentation and discussion focus on Proved Undeveloped Reserves (PUDs) or Approved for development and Justified for Development projects in PRMS)*

*Based on research done during 2018 and 2019*



# The Issue.....

“FID” is not mentioned in the 2009 Final Rules. However; In the October 26<sup>th</sup>, 2009 Compliance and Disclosure Interpretations (C&DI) the SEC stated the following:

**Question 131.04:** “ The definition of “undeveloped oil and gas reserves” requires that a company have **adopted** a development plan with respect to the reserves. **What constitutes adoption of a development plan?**”

**SEC Answer to Q 131.04:** “The mere intent to develop, without more, does not constitute “adoption” of a development plan and therefore would not, in and of itself, justify recognition of reserves. **Rather, adoption requires a final investment decision.** [Oct. 26, 2009] ”



**What did the SEC mean by “final investment decision” ?**



# What Does Final Investment Decision (FID) Mean ?

- PRMS 2007 did not have a definition of “FID”
- Neither the SEC 2009 Final Rule nor the October 2009 C&DI provided a definition or clarification on what “FID” mean
- O&G Companies have their own definition of FID, not in the public domain (i.e., start of Execution stage)
- Public references define FID as: “**FID marks the start of cutting steel and project execution !**”
- PRMS 2011 Guidelines state that “**Justified for development projects**” do not yet have FID
- 2018 PRMS “FID” Definition: “**Project approval stage when the participating companies have firmly agreed to the project and the required capital funding**”
  - In “Approved for development” projects: “The project decision gate is the decision **to start investing capital in the construction of production facilities and/or drilling development wells.**”
  - In section 2.1.3.5.5 “**Justified for Development Reserves** are reclassified to **Approved for Development** after a FID has been made”



Justified for Development projects do not yet have FID

# Industry References- Summary

In essence, all references/definitions in the industry and PRMS are aligned as to what “FID” means



This definition is considered to be a literal view and interpretation of “FID”. **Is this definition what the SEC meant by “FID”?**



# Implications.....

- If it is assumed that the SEC reference to “FID” in October 2009 means the same as in the O&G industry, then the SEC “FID” would reflect the **literal view of “FID”** and “**Justified for development**” projects in the PRMS would not have SEC reserves, and would explain some statements made in the public domain, such as:





# Presentation at the SPEE in London in September 2017 (in SPEE website)

## Development Intent 2

- What does this mean?
- Illustrated with respect to the PRMS maturity sub-classes

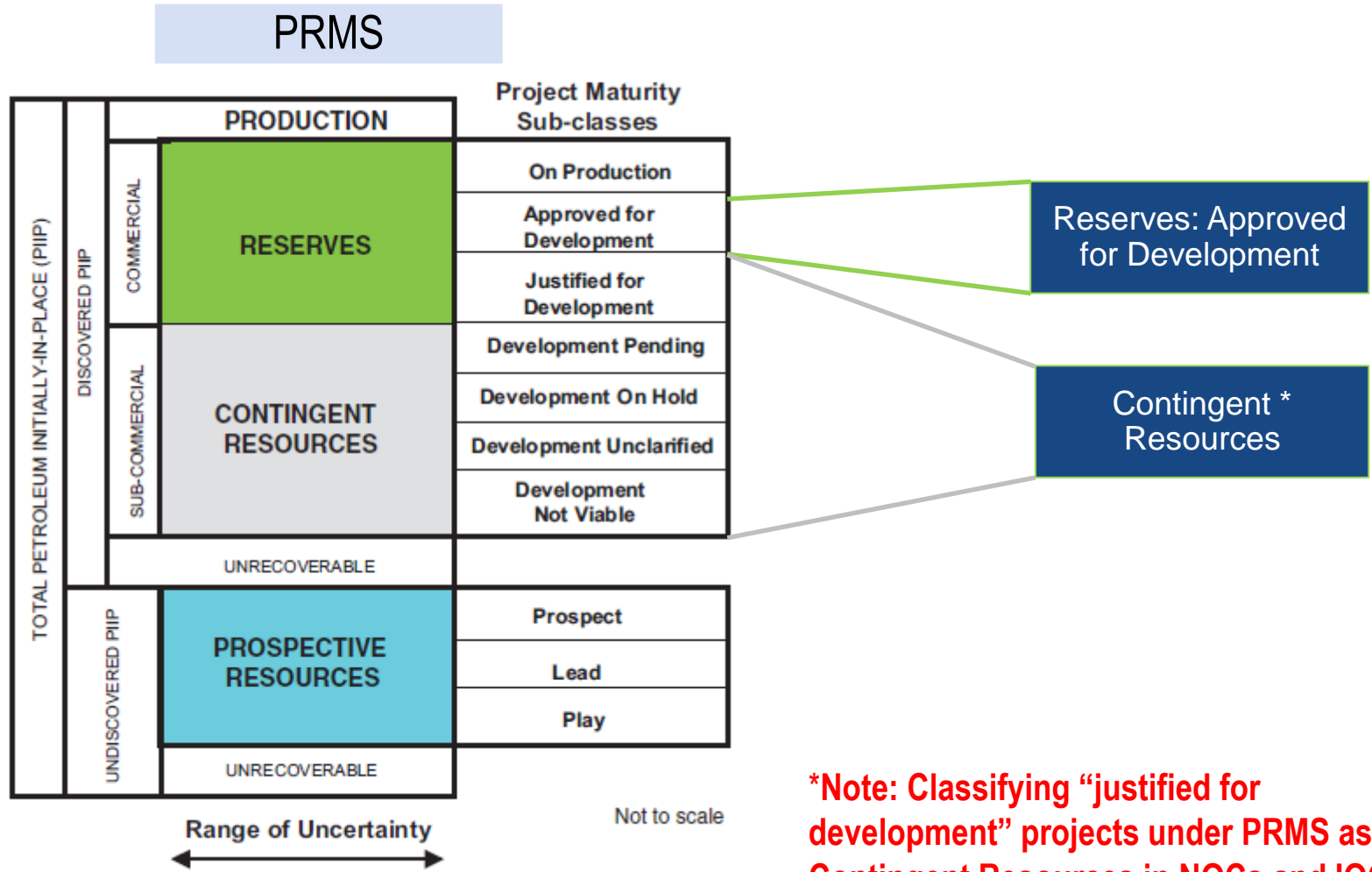
	SPE-PRMS	COGEH	SEC
Reserves	On Production	On Production	Developed Reserves
	Approved for Development	Approved for Development (1P)	Undeveloped Reserves
	Justified for Development	Justified for Development (2P & 3P)	
Contingent Resources	Development Pending	Development Pending	Resources <i>Cannot be Disclosed as part of SEC Filing</i>
	Development Unclassified or On Hold	Development Unclassified	
	Development On Hold	Development On Hold	
	Development Not Viable	Development Not Viable	
Unrecoverable			
Prospective Resources	Prospect	Prospect	
	Lead	Lead	
	Play	Play	

SPE Reserves classes  COGEH Reserves but  SEC reserves

 PRMS "Justified for Development" Projects (with no FID yet) do not have SEC proved reserves

# Presentation at the SPE PRMS ATW in London (September 2018)

## NOC's and IOC's - Example Applications



**\*Note: Classifying “justified for development” projects under PRMS as Contingent Resources in NOCs and IOCs is mixed**



# Therefore.....

- If PRMS “**Justified for Development**” projects (with **no “FID” yet**) do not have SEC Proved reserves, then a major mis-alignment between SEC and PRMS projects with reserves would exist, leading to less undeveloped projects being included in the SEC PUD reserves than under PRMS standards **unless obvious issues, outside the FID issue, are the cause of differences (URTeC 3003052)**



# Reality or Different Interpretations?

- Is the SEC “FID” the same as the accepted O&G Industry “FID”?
- Is there a real misalignment between the SEC and the PRMS reserves class or is this an interpretational issue of a project’s commercial maturity ?



# Focus of Review

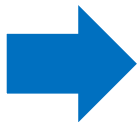
**To address these questions let's review:**

- **Reserves definitions**
- **SEC 2009 Final Rule statements regarding PRMS**
- **SPE Papers and other Sources on SEC and PRMS Reserves differences**
- **SEC views expressed in SEC presentations and speeches**
- **SEC views expressed in exchanges of comment letters regarding “FID” and other related terms**



# Reserves Definitions in SEC and PRMS

- **Reserves**
  - ❑ **Similar definition (except economically producible vs. commercially recoverable)**
- **Proved Reserves**
  - ❑ **Similar definition (except economically producible vs. commercially recoverable)**
- **Reasonable certainty**
  - ❑ **Same definition - Applies to quantities technical confidence (SEC and PRMS) = High degree of confidence, or at least 90% confidence if probabilistic methods are used**
- **Reasonable Expectation**
  - ❑ **Same definition – Applies to project commercial confidence (SEC and PRMS), sometimes the SEC also uses “reasonable certain” when referring to commercial issues. E.g. in comment letters when referring to the delivery of the development plan within five years of first booking, etc. = High degree of confidence**



**Note that Reasonable certainty and reasonable expectation do not have different levels of confidence (both have a high degree of confidence)**

## In Summary....

- **Similar definitions**, with justified differences for some issues (e.g., prices/costs, 5 year rule, etc.: URTeC 3003052, SPE 200626 and SPE 201583)
- Note that the reasonable certainty required for the reserves **quantities** is not absolute certainty or 100% confidence
- Note that the Reasonable Expectation required for a **project** to have reserves is not absolute certainty (100% commercial maturity as Approved for development projects have)



# SEC 2009 Final Rules' Statements Regarding the PRMS

## In the 2009 final rules the SEC states:

- "We are adopting a definition of the term "reserves" that **more closely parallels the PRMS** definition of that term."
- " Many of the definitions **are designed to be consistent with the Petroleum Resource Management System (PRMS)**"
- " We have revised our proposals so that the final definitions **are more consistent with terms and definitions in the PRMS** to improve compliance and understanding of our new rules"
- " Our proposed language was not intended to change the level of certainty required to establish reasonable certainty. **However, we agree that the use of terminology that is consistent with the PRMS will assist in the understanding of those terms.**"
- " Other commenters also supported the **proposed alignment of the definitions of those terms with the definitions in the PRMS definitions**"
- " **Again, we agree that consistency with PRMS would improve compliance with our rules**"
- " **Again, we agree that consistency with PRMS would be beneficial in this instance** and have deleted that phrase from the definition"
- " **Most of these supporting terms and their definitions are based on similar terms in the PRMS.** "
- " **One notable difference between our final definition of "reserves" and the PRMS definition is that our definition is based on "economic producibility" rather than "commerciality"**
- " **Again, we agree that consistency with PRMS would improve compliance with our rules**"
- " **Again, we agree that consistency with PRMS would be beneficial in this instance** and have deleted that phrase from the definition"
- " **Most of these supporting terms and their definitions are based on similar terms in the PRMS.** "





# SEC 2009 Final Rules' Statements Regarding the PRMS (Ct'd)

**Based on the above SEC statements in the final rule document, would we expect a major misalignment between the SEC and PRMS PUD reserves class ?**



# SPE Papers and other Sources on SEC and PRMS Reserves Differences

- **SPE Mapping:** SPE reserves mapping (in 2005 and 2009), basically shows alignment between the PRMS reserves and the SEC reserves and does not mention any mis-alignment of projects having reserves under PRMS but no reserves under SEC regulations (apart from issues well known)
- **Companies' Annual Reports:** In statements from companies disclosing (both) PRMS and SEC reserves, no mention is made that “justified for development” projects under PRMS do not have reserves in the disclosures to the SEC.



# SPE Papers and other Sources on SEC and PRMS Reserves differences (Ct'd)

## ■ SPE Papers:

- Nothing found in SPE papers published after 2009 referring to a potential and significant mis-alignment
- On the contrary, available papers (e.g., Lee 2009 SPE 123793, Etherington 2009 SPE 124938, World Oil 27/7/2018, Weijermars 2012 SPE 160927), Courses on Managing your business using PRMS and SEC standards, SPE ATWs, etc. indicate alignment between the PRMS and the SEC reserves. E.g., SPE 123793 paper stating:
  - **“The new rules entitled “Modernization of Oil and Gas reporting” were published in the Federal Register on 14 January 2009 (NARA pp. 2158-2197). The new rules include revised reserves definitions, which are now broadly consistent with the SPE Petroleum Resources Management System (PRMS) definitions (although important differences remain).”**



# Evidence so Far.....

- **Definitions:** (apart from the well known differences), **no mis-alignment in reserves classification seems to exist**
- **2009 Final Rules:** If anything, the SEC stressed significant alignment between the new regulations and the PRMS, and except for economic vs. commercial mentioned in the final rule and the five year rule rule, **no mis-alignment in reserves classification was raised by the SEC**
- **SPE mapping, published SPE papers and most SPE events:** There is alignment between the SEC and PRMS reserves (except in some well-known issues as previously mentioned), and **no-mis-alignment in reserves classification seems to exist**



# Where are we so far?

**Previous discussions do not yet address the view the SEC has on “FID” and what the SEC really meant by “requires a final investment decision” in the 2009 C&DI?**



## **Review of SEC Presentations/Speeches between 2009 and 2019**



# SEC Views Expressed in SEC Presentations/Speeches

## Taking place at:

- IQPC- Global Reserves Summit- 24/11/2009
- UNECE- 28/04/2010
- UNECE -11/04/2011
- Hanson-Wade REU Meeting- RECAP by J. Lee of SEC speech - 19/08/2013
- SPEE Annual Meeting- 09/06/2014
- SPEE Annual Meeting 2015- On PUDs- 08/06/2015
- SPEE Annual Meeting- June 2016
- SPEE Annual Meeting- Reserves Reporting Overview- 03/06/2018
- Ryder Scott reserves conference – 13/09/2018
- SPEE Annual meeting- 10/6/2019
- Hanson-Wade –Reserves Estimation- 18/6/2019



# SEC views expressed in SEC presentations

**None of these SEC presentations/speeches clarified what “FID” means to the SEC, and only 2 of the 11 presentations/speeches referred to “FID” when Question 131.04 of the C&DI of the C&DI was referred to (verbatim)**

**However; some clarification has been provided when referring to the existence of a development plan and the requirements around it**

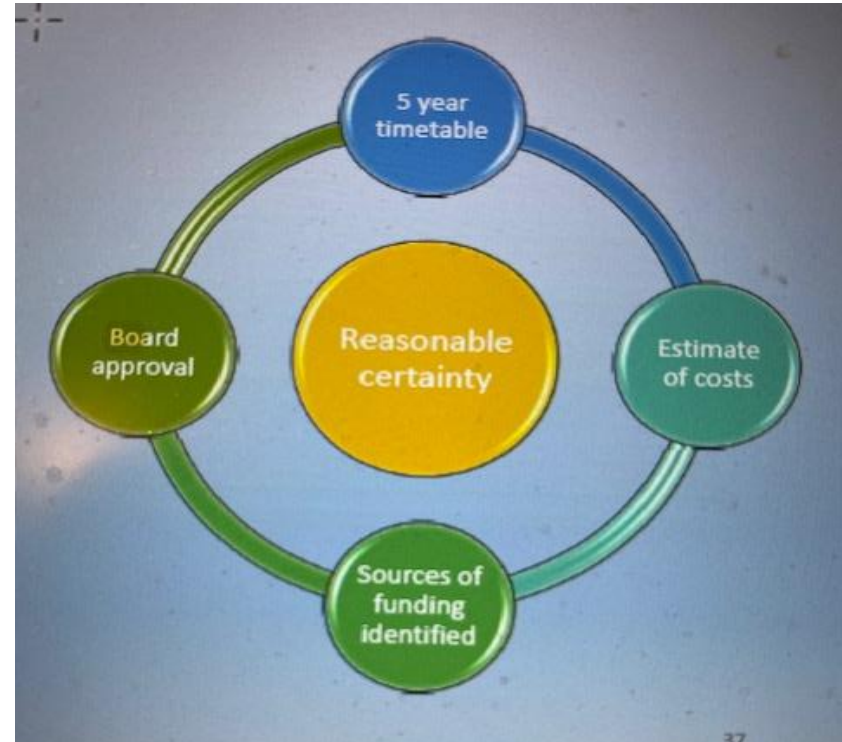




# SEC Reserves Requirements: PUDs (R. Schwall (SEC) presentation of 13/09/2018)

## 2. Has to be a development plan

- Not just thinking about it
- Timetable
- Estimate of costs
- Financing is reasonably certain to be available
- The Board has approved the plan



# Review of Comment Letters

- **Covering disclosures from end 2009 to end 2019 containing the words:**
  - FID or Final Investment Decision
  - Adopted Development Plan
  - Development Plan
  - Commitment to Develop,
  - Drilling Plan

**With SEC views expressed in these exchanges regarding “FID” and other related terms**



# Information Coverage

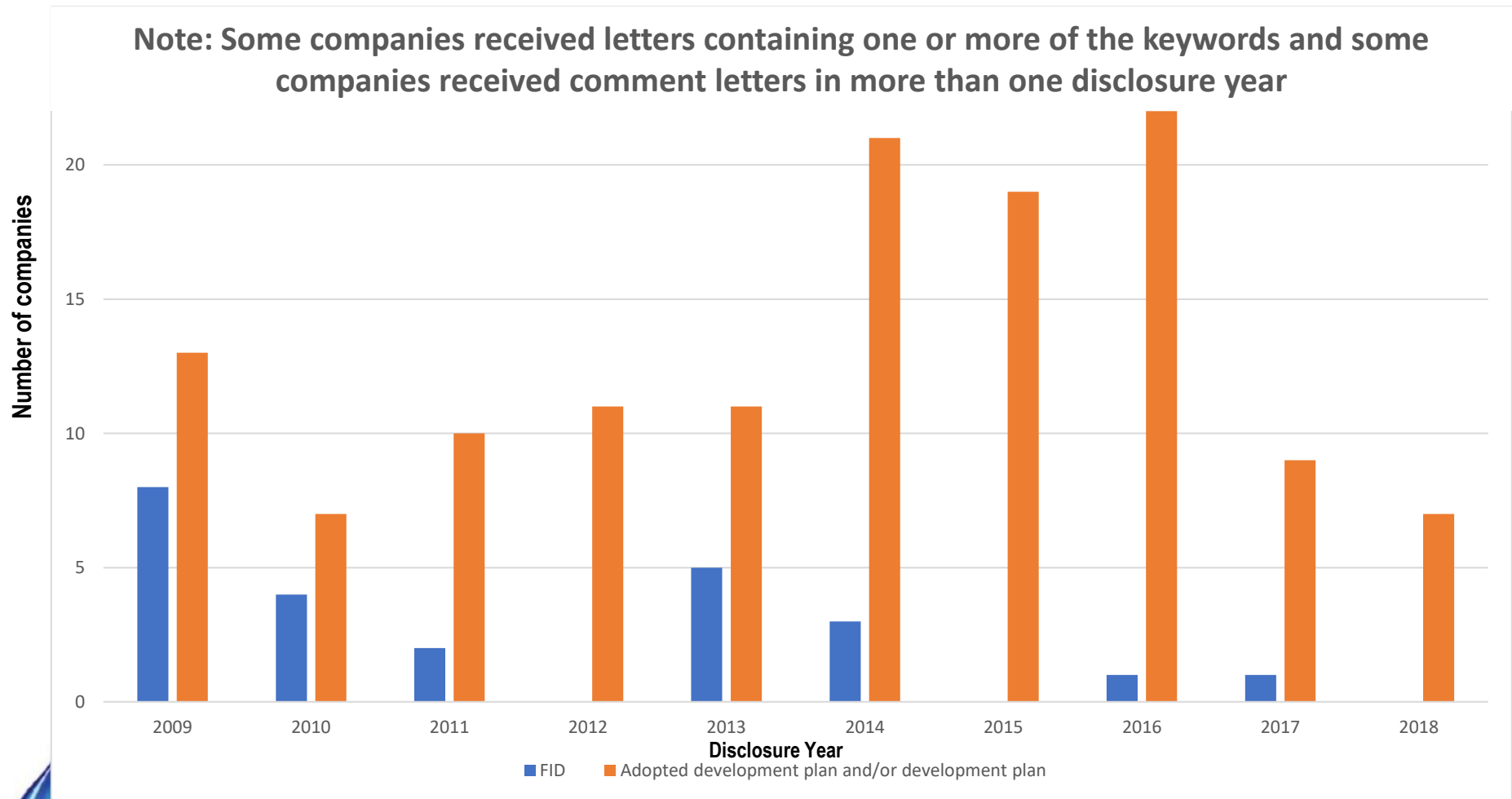
- **110** companies and more than 400 comment letters were identified where these keywords were mentioned in the context being researched
- Of these **110** companies, 30 companies have disclosed in some detail their annual reserves booking process (after being asked by the SEC to do so)



# Historical overview of Comment letters with keywords (110 companies)

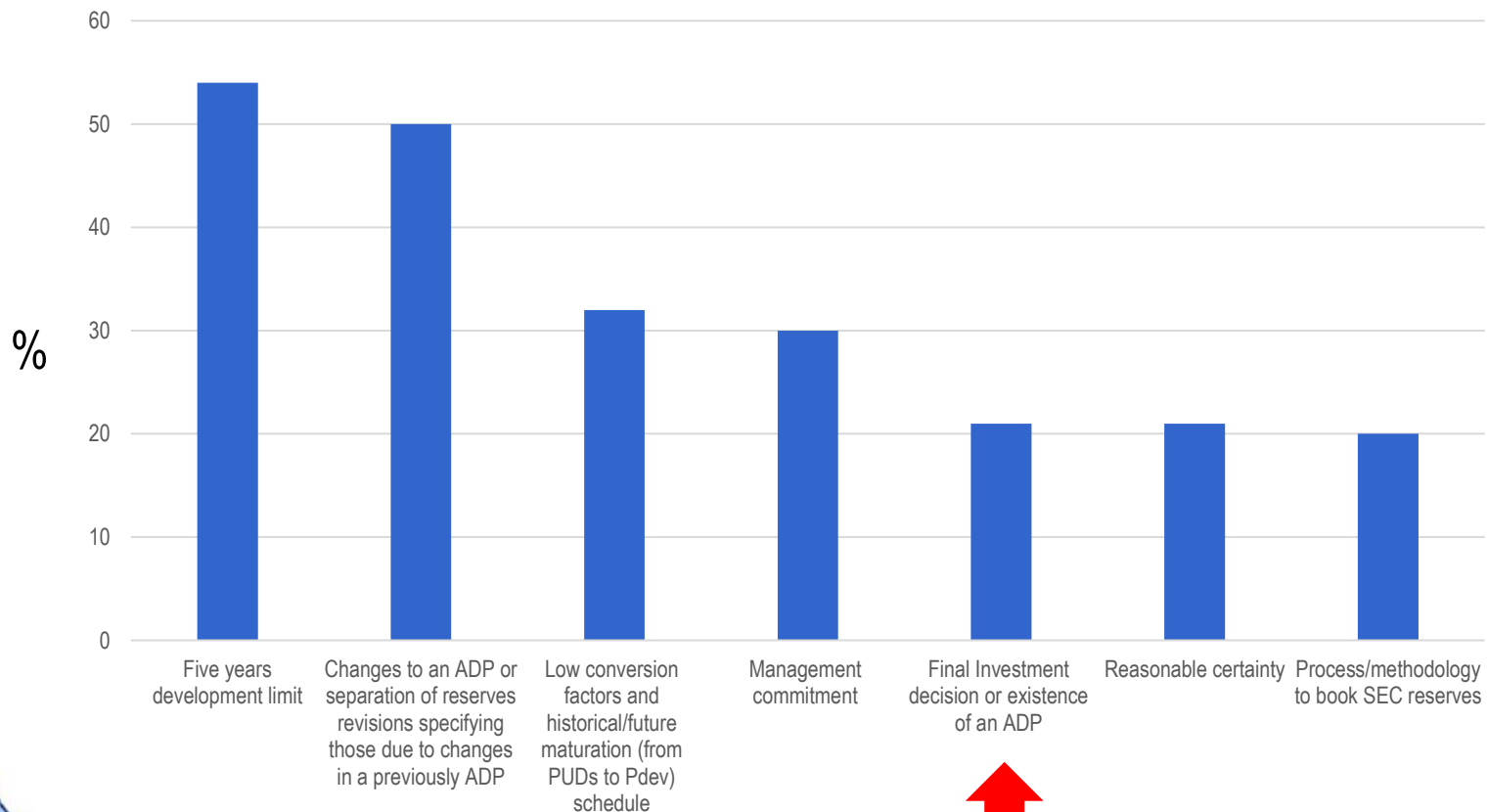
Number of Companies with FID or with Adopted development plan/development plan mentioned in the exchanges of comment letters

Note: Some companies received letters containing one or more of the keywords and some companies received comment letters in more than one disclosure year



# SEC focus in Comment Letters (in 110 companies)

## % of companies receiving questions on a specific topic



# Reserves Booking and Disclosure Focus

- SEC questions on “FID” are more frequent in letters issued on 2009, 2010 and 2013 disclosures. Not much after 2014.
- When “FID” is brought up by the SEC it is in the context of management/board approvals, related to an adopted development plan
- When dealing with companies where FID/ADP/DP issues are raised, the SEC focus is on what is perceived to be important (by the SEC) in meeting SEC requirements. More than 95% of the questions are around:
  - **The ADP and the compliance to the five-year rule** (more than half of the 110 companies received questions on this issue)
  - **Changes to a previously ADP and separation of the annual reserves revisions to provide clarity on revisions due to changes in a previously ADP** (half of the companies received comments on this issue, specially in the last 3 years focusing on the separation of the root causes of reserves revisions)
  - **Low annual PUD to Pdev conversion rates** (32 % of the companies)
  - **Management and Board commitment/approvals of the ADP** (30% of the companies)
  - **Reasonable Certainty of execution of the ADP** (21% of companies)
  - **Process/procedures to disclose SEC reserves** (20% of companies)



# Learning

- Understanding the SEC questions and replies provides a valuable source of clarity on what the SEC means by “FID” in their 2009 answer to Q 131.04, especially the comment letters where the **annual reserve booking process**, considered compliant with the SEC requirements, is described



# Typical Questions Asked by the SEC on Reserves Bookings Process

- **“Describe for us the procedures that are routinely undertaken in the course of preparing your reserve estimates that are intended to ensure PUD reserves are only claimed for locations where a **final investment decision** has been made, and where you are able to demonstrate that the **reasonable certainty criteria** has been met”**
- **“Provide us with a description of the process through which changes to your development schedule are determined by management and approved by the Board of Directors.....”**
- **“Describe for us the processes through which changes to previously adopted PUD development plans are taken into consideration in determining that current year PUD volumes meet the **reasonable certainty criteria**.”**
- **“Expand this disclosure to describe the internal controls that are used in your reserves estimation effort to comply with Item 1202(a)(7) of Regulation S-K.”**





# Typical Questions Asked by the SEC on Reserves Bookings Process

- “ **Tell us the steps routinely taken to review your development plan annually** and to evaluate interim and annual changes in the development schedule **to determine whether your PUDs continue to meet the requirements for disclosure**”
- “**Describe those aspects and qualities of the investment decisions** that are necessary in order to establish compliance with the reserve definitions.”
- “We would like to understand the **level of certainty** inherent in your decisions to adopt development plans and the **reasons you believe your procedures indicate more than intent to proceed**“
- “... In view of these reoccurring factors, expand your disclosure **regarding the internal controls used** in estimating your reserves to describe the **steps taken by management to ensure that there is reasonable certainty of proceeding with your development plans .....**”
- .....



**What did the companies reply?**

**The coverage would make this issue a presentation by itself**

**A couple of replies follow**



# Examples of Company's Answer on Reserves Booking Process

- *“Annually, beginning in November of each year, our engineers, working with management, begin the process of assembling our 5-year development plan. This plan, when assembled, is approved by management, and the resulting annual capital budget is approved for the upcoming year by our board of directors. During each of the referenced periods, we confirm that our 5-year development plan was an adopted development plan that satisfied the requirements of a final investment decision described in Question 131.04 of the Commission's Compliance and Disclosure Interpretations.”*
- *“... during the fourth quarter of each year we prepare our annual budget for the subsequent year. This also includes updating and reassessing our forecasted spending in the five-year development time frame of our LRP, of which the annual budget for the subsequent year is a component. Together these constitute our LRP. Many variables factor into the LRP process, including current and forecasted cash flows from operations, the adequacy of current and forecasted liquidity, our financial resources and related availability, current and projected commodity prices, well economics, anticipated drilling schedules and lease terms. This LRP is then presented to and discussed with the Company's Board of Directors (Board), and the LRP is formally approved by the Board. Based on this approved LRP, we incorporate the selected undeveloped locations (both proved undeveloped and probable) into our budget. We record PUD reserves only after this formal Board-level approval which evidences a final investment decision has been made by the Company.....”*
- *“Each year, the Company adopts a five-year development plan in accordance with the requirements of Rule 4-10(a)(31)(ii) of Regulation S-X,”*



**Many more similar replies exist**

# Summary of Comment Letters

Following the review of all comment letters where 30 companies described their annual process, common themes were identified, with a **common denominator emerging** regarding the interpretation of the SEC “FID” by the companies disclosing their annual proved reserves disclosure process.



# Common Denominator in Annual Process to Disclose SEC Reserves (From Companies Disclosing Details of their Annual Process)

- **Annually**, companies **internally develop, review, update and challenge a five year\* business plan**
- Companies **determine the producing fields and PUD projects that meet SEC requirements** which are a subset of the full plan (business plan) and which will make up the "SEC so called" Adopted Development Plan (See next slide on specifics)
- Companies **endorse/approve the business plan** (and by default the "SEC" adopted development plan) **via the relevant authority levels within the company, including, if applicable, the reserves governance/assurance group, senior management and the Board of Directors**

\* Some companies use a shorter time horizon



# Specifics of Companies' Reserves Annual Process

## The annual reserves process:

- Ensures, through the relevant responsible, governance and assurance groups that:
  - The projects with SEC PUD reserves in the ADP used for SEC disclosures will be **developed within five years** from first booking, unless specific circumstances justify a longer time. If not, projects are excluded from the disclosed reserves in 20-Fs or 10-Ks
  - The company has a **reasonable expectation** that the projects in the ADP will be **executed as planned** (from PUD reserves to Pdev reserves), including available funding
  - The reviewed/updated business plan (and by default the ADP for the SEC reserves) has a budget and a financial plan associated to it, with the **following year's budget being firmly approved** and with the remaining years, which, although also **approved in principle by the Board or other relevant governance groups**, is subjected to changes and further firm approvals in subsequent years
  - A **robust reserves governance and assurance process** exists, properly addressing key SEC areas, risks and controls

**Above aspects are intertwined and should be seen in a holistic and integrated manner and not independently**

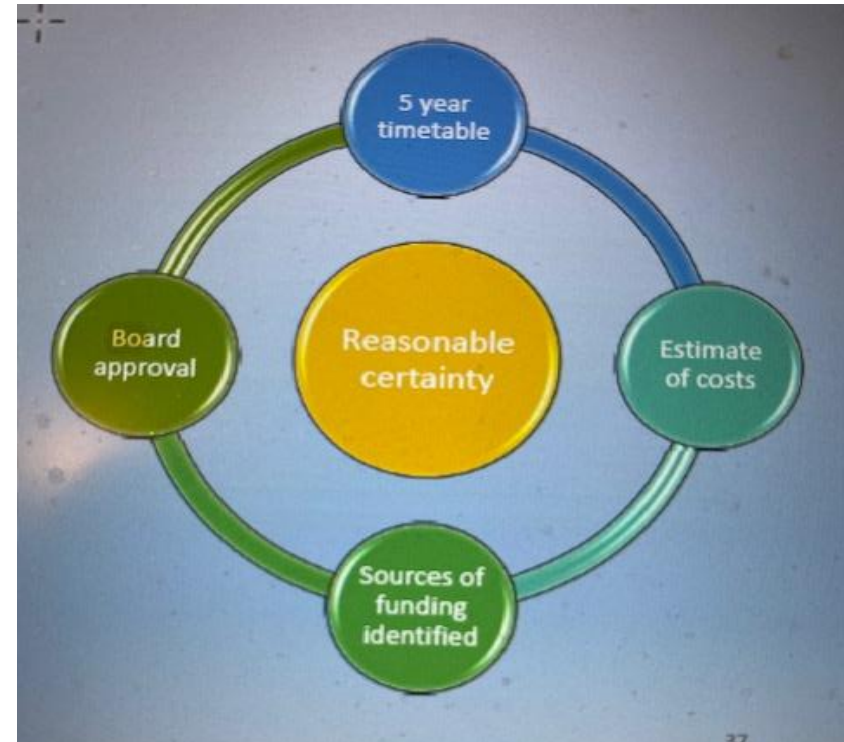


# Is this aligned with SEC reserves process?

## SEC Reserves Requirements: PUDs (09/2018 SEC presentation)

Has to be a development plan

- Not just thinking about it
- Timetable
- Estimate of costs
- Financing is reasonably certain to be available
- The Board has approved the plan



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**There is alignment** between companies' views as to what the 2009 C&DI reference to "FID" means (without calling it FID) and the SEC public comments, all revolving around the reasonable certainty of the ADP



# Annual Reserves Process and FID

- The management approval (including board of Directors, if required) of the “ADP” generated from this annual process, is considered to be more than a “mere intent to develop”, and equivalent to “requires a final Investment decision”, that the SEC refers to in their 2009 C&DI

The SEC did not object to this conscious and liberal view of “requires a final investment decision” as described by the many companies disclosing their annual process

- This conscious and liberal view is consistent with “principles based” rather than prescriptive (literal) rules- a stated objective of the 2009 sec rules





# Bottom line

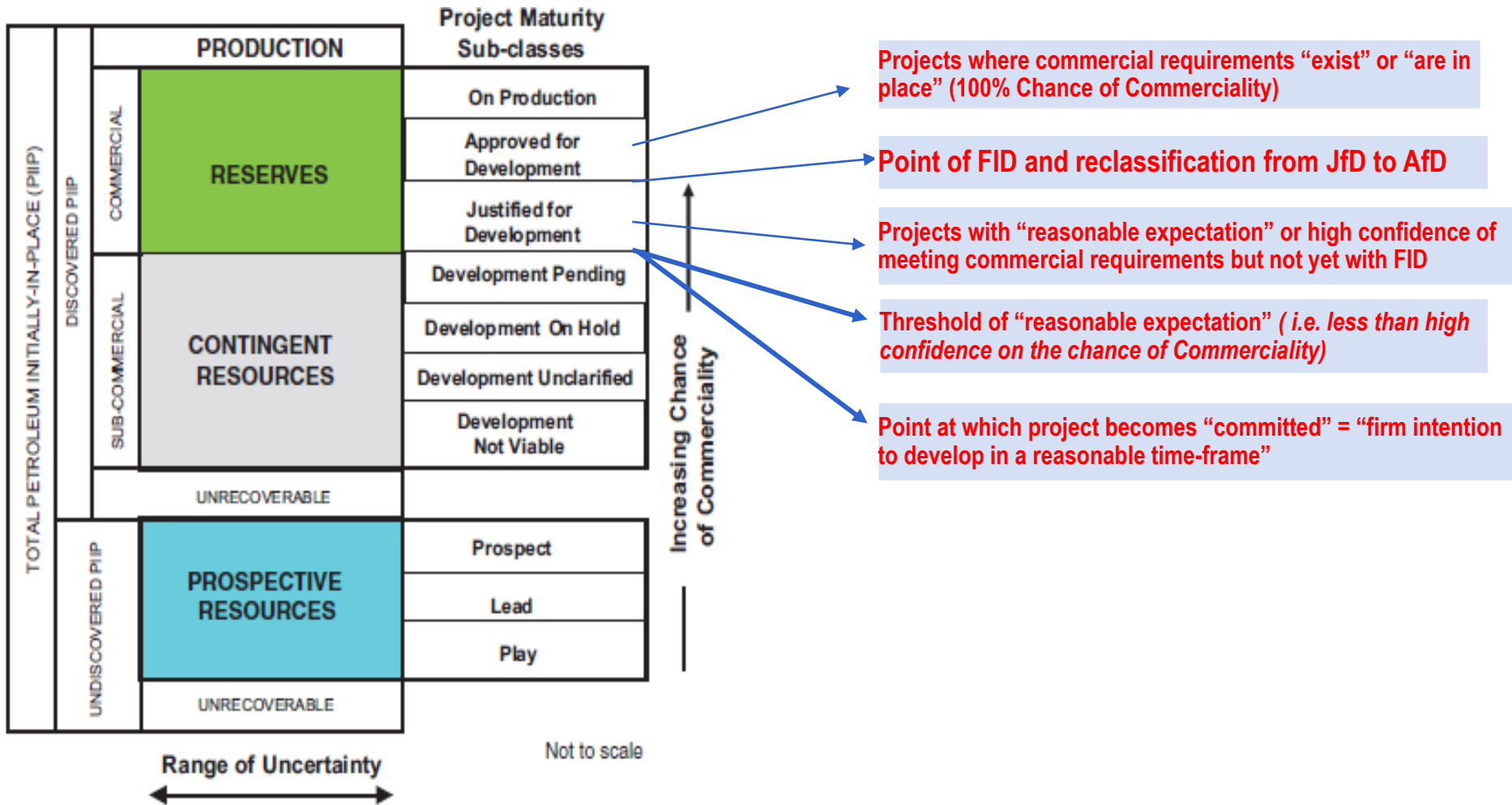
The key issue the SEC has truly challenged is the proper intertwining and understanding of:

- The ADP and its high degree of confidence of being delivered (i.e. commercial maturity and track record of projects execution), as planned, in conjunction with the **five- year** development limit, (not to be mixed up with the high degree of confidence the reserves quantities must have).
- **Schedule, budgets and funding of the ADP and their reasonable expectation, if they are not yet in place,**
- **Management approvals** being in place and,
- **A holistic and properly integrated planning and reserves governance and assurance process by the relevant bodies**

**Properly understanding, addressing and integrating these issues is what the SEC considers as “requires a final investment decision”**



# Summarizing the PRMS Resources Subclasses Matrix



Projects where commercial requirements “exist” or “are in place” (100% Chance of Commerciality)

Point of FID and reclassification from JfD to AfD

Projects with “reasonable expectation” or high confidence of meeting commercial requirements but not yet with FID

Threshold of “reasonable expectation” ( i.e. less than high confidence on the chance of Commerciality)

Point at which project becomes “committed” = “firm intention to develop in a reasonable time-frame”



# Mapping SEC and PRMS PUD Projects – Chance of Commerciality

## Mapping SEC Reserves to PRMS PUD Reserves sub-classes

SEC		PRMS	
<p>In Reserves 210.4-10 (a)(26): ".....In addition, <b>there must exist</b>, ....., the legal right to produce or a revenue interest in the production....."</p> <p>In proved reserves 210.4-10 (a)(22): " The project to extract hydrocarbons <b>must have commenced</b> or the operator must be ....."</p> <p>References to markets (p.22 of NARA 2008): " However, in order to claim reserves for that hydrocarbon product from a particular location, <b>there must be a market</b>, ....., for that product.</p>	<p>Adopted Development Plan and 5 year development limit for PUDs. Par. 210.4-10 (31)(ii)</p>	<p><b>Approved for Development:</b> "All necessary approvals <b>have been obtained</b>, capital funds have been committed, and <b>implementation of the development project is under way</b>"</p> <p>" Final Investment Decision (FID): Project approval stage when the participating companies <b>have firmly agreed to the project</b> and the required capital funding."</p>	<p>"While 5 years is recommended as a benchmark, a longer time frame could be applied where justifiable"</p>
<p>IN Reserves: 210.4-10 (a)(26): ".....In addition, ....., <b>or there must be a reasonable expectation that there will exist</b>, the legal right to produce or a revenue interest in the production....."</p> <p>In proved reserves 210.4-10 (a)(22): " The project to extract hydrocarbons.....or the <b>operator must be reasonably certain that it will commence the project within a reasonable time</b>"</p> <p>References to markets (p.22 of NARA 2008): " However, in order to claim reserves for that hydrocarbon product from a particular location, ....., <b>or a reasonable expectation of a market</b>, for that product."</p>	<p>Adopted Development Plan and 5 year development limit for PUDs. Par. 210.4-10 (31)(ii)</p>	<p><b>Justified for Development:</b> " A development project that has reasonable forecast commercial conditions at the time of reporting <b>and there are reasonable expectations that all necessary approvals/ contracts will be obtained</b>"</p> <p>" <b>Committed Project:</b> Project that the entity has a firm intention to develop in a reasonable time-frame. Intent is demonstrated with funding/financial plans, <b>but FID has not yet been declared</b> (See also Final Investment Decision.)"</p> <p>"2.1.3.5.5: Justified for Development Reserves are reclassified to Approved for Development <b>after the FID has been made.</b></p>	<p>"While 5 years is recommended as a benchmark, a longer time frame could be applied where justifiable"</p>

Projects with absolute certainty= All in place and FID = 100% confidence of Commerciality

High confidence of project becoming "Approved for Development" (ca. 90% confidence but not yet 100%)



# Summary

- **Two views** and interpretations of the SEC “FID” exist in the industry:
  - **A literal one**, reflecting industry definitions given at the beginning of the presentation (a sufficient condition but not necessary to book SEC reserves). This **literal view** of the SEC reference to “FID” may result in an under estimation of the true company’s growth potential and value if qualifying projects are left out
  - **A conscious and liberal one** described in many exchanges of comment letters and other SEC references **and to which the SEC has not objected**
- Based on available evidence, the **conscious and liberal** view used by many companies is considered to be aligned with the SEC “FID” guidance provided in 2009
- Companies’ practices (where annual process has not been disclosed) may vary, depending on how a company deals with a literal, conscious or a hybrid interpretation of “FID” for:
  - Large, medium or small projects
  - Projects with GSA or SPA (e.g., LNG)
  - Green vs. brownfield projects
  - Wells vs. infrastructure projects
  - Etc.



# Summary

- The issue should not be so much about FID or not, but more about why a, “Justified for development” project under PRMS standards would not have proved reserves under SEC regulations.
- The SEC PUD reserves are considered by the authors to be aligned with the PRMS PUD reserves class, and “Justified for Development” PRMS projects can have SEC PUD reserves, provided that other (outside the FID interpretation) SEC requirements are met (e.g., economics, prices/costs, five-year rule, etc.)
- Waiting too long to book PUD projects under SEC regulations, if they truly are “Justified for Development” projects under PRMS, could result in:
  - Too low R/P,
  - Large volumes annually maturing from Contingent Resources or from projects with probable/possible reserves and no proved reserves, to proved developed reserves,
  - Underestimated portfolio of Undeveloped projects (with under estimated disclosed proved reserves),
  - Large ratios of contingent resources to reserves,
  - Other undesirable consequences.
- Excluding “Justified for development” projects from an SEC reserves assessment (unless justified reasons exist) will result in underestimating a company’s future growth potential and value, and in a misalignment between SEC and PRMS proved reserves.



# QUESTIONS & DISCUSSION



# Thank you

