

Slido Q&A - IOGP-JIP33 Industry Event Norway (Day 1)

Questions	Answers
David Harris	
What is the final attendance number? Excited to hear how many people from how many companies are here.	200 over the 2-days of the event from 80 different companies
Can you reflect on how standardization helps us with risk understanding and risk acceptance on portfolio level?	Standardization reduces uncertainty through less clarifications and clarity of requirements through the digitization process. Standardization of quality interventions (in the QRS) should help improve product quality over time and thus reduce operational risk. I think taking variance out of any system helps improve the integrity of it. We are still a long way off having quantified operational reliability data of JIP33 equipment to demonstrate this.
How do you make sure to remove biases coming from any active organization or specific application? Could some particular applications be underrepresented ?	The JIP33 requirements are reviewed and agreed by 12 SMEs and now published with justification statements, so the peer review process (including external stakeholders in Public Reviews) means biases should not make it through shaping and alignment. JIP33 specifications are not intended for every application but should be applicable to most. This is reviewed by the same SMEs when we define the scope of the specification during framing. Scope can be commented on during Public Review if you feel it does not cover significant applications.
What about the Equipment Hub development ?	The Equipment Hub development is being reviewed by the Digital Platforms Expert Group underneath the IOGP Digital Transformation Committee. The DPEG will report into the Engineering Leadership Council in 2024.
Terese Kvinge / Arild Gjerstad - Equinor Nils Arne Sølvik - Aibel Silje Skarstein / Øystein Danielsen	
Do you have a clear idea of the #of upstream and downstream projects where the jip33 specs have been used so far and for the projects in the pipeline?	
How do you plan to push the standardization mindset within the operator organizations so that suppliers/EPC's are met with JIP33 requirements?	
Will Equinor replace TR' specs at some point and only use JIP33 or will JIP33 be additional to TR' specs for your suppliers?	
How are IOGP and JIP33 approaching cross industry standardization for systems and solutions that are used in building smart, wind, solar? Or are we "so special"	
Has Equinor manager to purchase a 100% JIP33 Purchase order or still some additional Equinor /TR requirements are added on top of JIP33?	
What are the top 5 Equipment types being bought as JIP33?	
To Aibel: Could you please share approx. % engineering hours saved through implementation of JIP33? How much does it represent vs. total hours on the project?	
Is JIP33 working with the SDOs to improve the base standards based on the JIP33 specifications - hence reducing the need for additional overlaying requirements?	
How to implement feedback from operation? Operating in Norwegian environment will be different from Brazil or Guyana with different cost impact on package.	
Does the JIP33 vision include future digitisation of JIP33 data sheet and IRS as they are xlsx formats? Could digitisation be an enabler to link the documents	
From a supplier's perspective, how should we tackle the challenge of double specs/requirements.	
What's the relation of JIP33 and NORSOK specs?	
If IOGP's intention is to make simpler material selection, why not use the already existing IEC standards instead of introducing a new spec?	
How is stakeholder engagement with relevant PSAs facilitated?	
Risk evaluation. Who is taking responsibility and liability if the defined and given JIP33 standards for a product or system fails for an unforeseen reason ?	
Is the route for feedback from vendors on JIP-33 specifications going through EPC contractors and operators or is there a direct route to IOGP JIP-33 ?	
How to avoid golden plated requirement on long term and basically control cost increase?	
Is Troll West electrification project done on basis of JIP33 specs.	No

Fact from experience: Nothing is more different than two identical systems. How do you consider technological improvements over the product or system lifetime ?	
When you implement a JIP33 specification does it include all parts or partial (technical spec, data sheet, Information and quality requirements)?	
Does JIP-33 specification move more responsibility and risk from EPC to suppliers from what it is today?	
What is your stand point in relation to digitalization aspect of JIP33?	
EPC contractors have to bring the CAPEX down meanwhile operators want OPEX down. Both objectives may leads to different requirements. What is JIP33 philosophy?	
Will JIP33 be implemented solely for Norwegian projects or all international projects as well?	
Regulators and societies of classification (DNV/ABS etc..) . Are they onboard and supporting the implementation throughout their requirements? any conflict?	
Can the JIP33 team commit to written answers to these great questions and posting on the website?	
Any example on status on how a JIP33 Spec may be transferred into International Standard (Ref Unified standards in IS	
Many of IOGP standards have issues of interpretations that contractor or operator may struggle to settle with vendor. What's the channel to clarify with JIP33?	
When is the due date for implementation on all projects ?	
What is the basis for the content of JIP33 specifications (I.e. coating specs) - is it NORSOK, TR, DEP, or a combination of various specs?	
Regarding major upgrades/electrification projects towards CO2 reductions, is the renewable green power gen infrastructure ready to handle increased demand? Tks	
We have had industry standards all the time, IECs, ISOs, NORSOKs, etc. What is it that really sets JIP33 apart?	
Based on questions here. There seems to be a fundamental misunderstanding and lack of awareness on how the JIP33 procurement specifications work. How to fix?	
During implementation phase will data be collected by operators or JIP33 to measure impacts on operating availability or process safety	
How to handle if local standards prevail JIP33 standards?	
When are you exactly planning to implement the JIP33 in to TRs?	
Any analysis on why ending up with overlaying when using JIP33 specifications? Not complete, poor quality specs, preferential engineering by operator/EPC etc?	
Will JIP33 be truly digitized in the future? Like specification portals, straight to 3D print files, digital bidding and bid handling, generating 3D models etc?	
What about the other operating companies such as AkerBP and ConocoPhillips. What Are they doing reg JIP-33?	
How is new Technology affecting the need for updated JIP33specs or are the Specs Functional oriented to cover such?	
It becomes clear that also actuators can no longer be seen as a simple mechanical commodity, as they are actuated valves main drivers. Is S707 review on hold?	
Is JIP33 only for technical streamlining or also for standardization of industry work processes, because that is where we can really align and be effective.	
What does the panel see as opportunities for future JIP33 specifications	
Valves are one of the major 5 topic for JIP33. Can standardization drive to buy a component always from the same supplier and decrease competition?	
How do the end customers plan to reuse the jip33 data sheets. Today it seems that the not all end users do not have a base setup of the data sheets.	

With JIP33 implementation we will also have specific assessments to qualify those suppliers who have the ability and resources to comply to the spec?	
Is JIP33 working on updating specifications program? For example S-562 is based on API 6D code: does JIP33 plan to split from API standard?	
Dario Lo Monaco - Saipem	
Will the presentations shown be shared after the event?	Yes, it is available on the JIP33 website under past events
Will SAIPEM share the cost savings due to JIP33 Implementation to OpCos?	We can now hardly assess a "saving" due to market conditions. We share the aggregated spent amount of JIP33 Spec Commodities with IOGP.
What are the packages / equipment types that Saipem has bought as JIP33?	Mainly Mechanical Equipment, Electrical Equipment, Valves
Can you reflect on a big success and a disappointing fail that you experienced with applying Jip33 and what we can learn from them	Success is when we implement and we have positive feedback on managing the PO process and follow up with Vendors. Failure when we struggle to accommodate overlay as per contract requirement and spend effort on comply with overlaid requirement (another customization effort which include Also IOGP + other Opco requirements)
What is the main business driver for EPCs with regards to implementation of JIP33 standards?	The EPC follows the contract negotiated and awarded by the Opco. Implementation is according to the Contract Requirement with the material eventually being part of the end user facility.
What is Saipem's opinion when it comes to need for long term collaboration with suppliers in order to secure full implementation of jip33? Is this a must?	JIP33 is an enabler for long term collaboration. Without standardization it is hard for an EPC to have Agreements for non-standardized products.
What is your experience in supporting small scale vendors in term of implementation of JIP33? This leads a high impact for the vendor to implement on own terms.	We encourage them to subscribe to JIP33 and get acknowledged with specifications for their commodity before receiving an inquiry from an EPC. This is to be prepared for Engineering and their Supply Chain in advance.
Is the success in implementation from Saipem on projects for customers with or without internal technical specs? (example Equinor TRs or Total GSs)	OpCos are always assigning EPC contract based on own specs. In the EPC phase it is complex to Implement different specs as it become a Management of Change to the main contract.
Have Saipem also implemented the Quality Requirements Specifications (QRS) and what is the experience?	On the Contract in Execution the OpCos are adopting the STD Quality Control (traditional). This is mainly because of "transient" conditions
Being an international supplier, are JIP33 solutions applied also elsewhere? Or a new set of "standards" is needed on different market/regions?	JIP33 solutions are expected to be valid for O&G and Low Carbon Project worldwide. Expanding the use of standards will help adoption and implementation.
Are the cost savings (in part or in whole) passed on to end user or absorbed via the value chain?	It is premature (and hard to market conditions) to detect cost savings related to implementation of IOGP specs
What are key learnings from training/creating awareness in the technical disciplines?	Engineers are keen to receive a deep dive discipline wise. (I, e. focus on Mechanical, E&I, Piping)
Based on project executed by Saipem with jip33, which type of material have been purchased : bulk or itemised equipment ?	Both itemised and bulk.
Regarding cost savings (Life cycle costing ...CAPEX, OPEX, LOSTREV), what is Saipem view on use of JIP33 Spec for related New Technology subjects?	A standardized product can be the basis for New Technologies as well (as long as they are not the Mnfr. STD Core Design for Technology/Licensed products)
Are energy providers planning to add the Jip33 specs in the New contracts with their suppliers?	We hope so. New Contract are implementing JIP, but slim implementation - no overlay - is encouraged.
What are the top 3 commodities considered challenging to standardize?	Packages: Process, Utilities, Fired Heaters
Implementation. What's your view. Project by project or full alignment at corporate level (procurement/ engineering)?	The challenge and ambition is corporate. It is currently at Project level as all projects are tailored.
Elvin Feng - Neway	
Will questions not Time to be answered be Responed by JIP33/ speaker later? Many Good questions ...	Yes, they will be collated into a spreadsheet and made available on the JIP33 website
What % of valves are being sold as pure jip33 vs client specifications?	In our total revenue right now is about 1% of valves as pure JIP33 spec, however for one end user who is actively adopting JIP33 spec the spending with us per JIP33 spec has already reach over 50% for ball valves and over 80% for gate valves.
There's a lot of excitement about Additive Manufacturing. Are you seeing moves towards standardisation for valves and additive manufacturing applications?	Generally speaking the standardization may not help the additive manufacturing, as additive manufacturing is more applied/suitable in small quantity, customized/special spec and urgent delivery cases. But moves towards standardisation for valves will help mass production and process management for traditional valve industry. And in valve industry, now we see 3D printing is more used in special parts like cage of control valves. For making whole valve parts, we have done the research and testing, technically 3D printing works but not commercially competitive yet.
What is your experience with datasheet, QRS and IRS?	With the more standardized datasheet, QRS and IRS will help to reduce a lot of manhours in technical/quality communications during quotation or execution stage. The more standardized QRS and IRS will also help manufactures to build more consistence of process management and quality control practise.

So... Chicken or Egg?	As introduced in my presentation, JIP33 specification is harmonized with most industrial & end-users spec to reduce variations, from the engineering point of view as it's still been treated as a new/special spec, therefore the cost is higher than industrial standard. But with more adoption of JIP33, the cost will be reduced significantly due to the scare effect of manufacturing and it will also bring a lot of manhour savings for the business transitions for the whole industry.
Will there be any savings if IOGP is broadly adopted amongst end users, but all of them are still adding their own layer of "additional req. to IOGP req."?	Yes, this will also bring savings if IOGP is broadly adopted amongst end users even still adding their own layers of additional requests. Because, IOGP spec has reduced a lot of variations already but still leave some optional/very special requirements for end-users/projects to decide accordingly, this will build a more standardized foundation for the products, but leave very special and cost impactful items as option will be more practical, otherwise may push the basic standard too high and too costly.
How do you measure quality - is your graph a mix of delivered quality and in use by operator ?	Yes, it is a mix of delivered quality and in use by operator.
Do you think that the requirements of Project specific Datasheets can reduce/mitigate the benefits of JIP33 standardization for manufacturers?	Yes, project spec most of the time is customized specs and takes more manhours during the business transactions. Most of the time the design, documents, procedures, ITPs cannot be used for other projects, the costs of these efforts cannot be shared in other jobs. With more JIP33 adoptions, the core set of standard design which can meet major users needs, will largely reduce engineering man-hours and a lot works can be repeatedly used. And more important is that the adoption level of one same standard will bring a massive scare effect benefits to the whole industry and reduce a lot of repeating and wasting.
Fantastic presentation and perspectives!!	Many thanks.
Very exciting and inspiring presentation!! This should be a reality check for everyone!!!	Many thanks.
Does JIP 33 improve safety results in production?	Yes, The more standardized specification will help manufactures to build more consistence of process management and quality control practise, this will reduce a lot of safety risks comparing with always manage customized/changing specification and process. In addition, with more standardized production and process management, we can apply more automation which will reduce safety risks further.
Does Neway view datasheet option selections as "customized" or still as "standard" ?	We still review as "standard", because standardization doesn't mean every item should be only one option, the controlled/standardized option selections can still reduce significant variations.
Would Neway consider manufacturing JIP-33 valves in anticipation of PO/contract, so valves would be available off the shelf ?	Yes, we are willing to manufacturer JIP33 valves as inventory spec, as long as more end-users/customers can accept JIP33 spec as an option.
What is your Operational Feedback from operators when your equipment is in use, e.g. OPEX reduction ?	At this moment, there is no clear cost reduction yet, as explained in my presentation, our view is that with more adoption of JIP33 which will bring a scare effect and make a big cost reduction and value to the whole industry.
You mentioned API++ specs. Don't you get also JIP33++ specs? What happens then?	That's a very good question, for sure it will happen with JIP33 ++ specs, it's also necessary for JIP33 to continuously standardize/deal with the new requests and practises. Per my understanding the main purpose of IOGP is to standardized industrial standards and operators practises to reduce variations as much as practical and cost effective levels, but still leave option/special specs for different projects.
Is Equinor buying 100% jip33 valves already? Or still some additional requirements? Any reflection Equinor?	Till now Neway hasn't get 100% JIP33 valve orders from Equinor or Equinor operated projects yet.
Do you have a preference API data sheet or JIP33 data sheet?	Yes, we have done the comparison of both API and JIP33 specs. NEWAY was invited to give suggestions and comments on reviewing S-562 and S-563 specifications since year 2016.
To what extent were your comments to the IOGP specs taken into account?	Our comments is mainly from a manufacturer perspective, and especially as a industrial valve manufacturer. But most of the manufacturers dealing with many different customized specification or standards may have the same issues and comments.
Mark Davies - IOGP	
Which languages is the tool working with? Only English?	Jama connect and QV scribe currently only works with English language.
Are jama versions of jip33 available for the suppliers? Or just paper copies of jip33?	REQIF output versions can be made available, let us know if you would like to use it and help us write an import guide for the system you are using
standard can capture requirements to minimize capex or opex for same functionality. What is the philosophy of the JIP 33?	This is unclear to David and I. Best guess, JIP33 considers both the immediate procurement of the item and its full life cycle when developing the specification.
Have you tried to exchange data between JAMA and other ALM software? (Polarion)	Yes, this has been done successfully with a number of Requirements Management Tools of which Polarion is just one. We use the REQIF format as a basis that can be ingested by most modern tools once some basic mapping of the data model has been done
Tom Shortall - Shell	
Do you implement from JIP33 to Shell specs every time there is an update in JIP33 specifications?	That is our normal approach. There can be a delay if we have to wait for a publication window or we want to combine multiple JIP33 specifications into one Shell spec.

Do you think SDOs will ever allow digitisation of their content for augmentation?	Yes. As with any technological change, there are leaders and laggards. Some SDOs have already converted their content to digital, while others are still using restrictive pdf. We still need to work out the legal and commercial framework for using digital standards in our requirement management tools to make it work now
Why did you mention the intention to implement parent standards' into the specs if the standards are still to be complied with entirely?	Industry standards can cover a much wider scope than the specification in question so it helps to narrow down. The standards often have options, purchaser-defined content, recommendations and other sources of ambiguity, it is never as simple as saying 'comply with the standard' so we would like to pull together the relevant content from the standard to an integrated specification.
Has SHELL adopted also QRS and information requirement from JIP33?	Shell adopts them into the technical specifications and we have some basic guidance on their application but are still at early stages of getting full value
Do you sometime exclude some jip requirements when integrating the jip requirements into shell spec?	We try to do 'clean adoption' with no changes but some of the adoptions need additions or deletions to deal with the scope that we are using them for, to define options that we consider necessary or unacceptable and to connect to other project specifications.
Have you seen any cost impact when procuring equipment after of implementing JIP-33 (positive or negative)?	It is difficult to get data to allow like-for-like comparison and there is a lot happening in the market place that drives the outcome. Overall we believe we are seeing significant cost reduction to the engineering effort and to the supplier. The standardisation also delivers significant lead-time reduction, particularly in electrical systems and better operational performance from consistent, predictable products. Some of the earlier specifications were heavy in places and the maintenance process has been really helpful to align on the essential requirements.
Is the traceability "hell" a hell or is it manageable?	It is as detailed as you want it to be. Since the requirements are replicated into a project workspace, the user can choose to only look within the project or to drill-down to source content and past history. Most of the time, it is simply a background but the detailed traceability is there if you need it.
How much (approx. % value) of JIP33 standards requirements are being amended with DEP overlays?	More than half of the adoptions have zero change. For the rest, we are usually single digit number of changes, although a handful of early specifications have more than that. Noting that all changes are not bad - sometimes it is clarifying an allowable option or linking to other project standards or specifications that are essential to deliver. Others are to enable the specification to be used for a wider scope in Downstream, Chemicals and midstream
Do you manage project deviations with your RMS tool?	Each project has a management of change process to control changes and deviations. The requirements management tool is used to define the engineering specification, including deviations or changes from source content.
Does more digitisation expose the organisation to more cyber security risk. How do you mitigate in the supply chain	The requirements management tool is currently quite limited in the transfers across boundaries, most of the access by other supply chain participants is into a defined work area with controlled access. Other digital platforms dealing with more extensive data transfer and connection are probably more of a concern for cyber security
Do you forward your digital specification to EPCs and let them continue to use Polarion?	Current approach is to allow EPCs into specific workspaces to report back on verification and delivery.
If I understood correctly- you have visualized The IOGP requirements in Jama together with The additional Shell requirements. Is that possible in Polarion?	We get a REQIF export from the IOGP Jama Connect tool and import it to the digital tool we are using. This has been done successfully for different requirement management tools. Within Shell, the imported content is placed inside the Shell design and engineering practice, word-for-word, in the requirement management tool. Any changes are additional (keeping the original text) and focus mainly on guidance.
How is Shell addressing quality in How making concise operating procedures to minimize human error ? For JIP33 Spec equipment	Operating procedures are not part of the JIP33 scope or delivery. What we can say is that reducing variety and bespoke engineering makes it easier to optimise maintenance and operations
Can you clarify if the project teams have access to Shell's standards through your Requirement management tool or only through pdf?	Both. Sometimes it is easier and quicker to glance at a pdf. If developing a specification, it is usually easier to work on the requirements management tool directly.
Will you be reviewing old JIP implementations which have overlays?	Yes, we have already been through the early adoptions and are feeding the learning back into the revisions and maintenance that is happening now,
Did JIP33 result in any underlays?	Yes we have done some underlays to the JIP33 content when we adopted for certain applications. We don't want to have underlays (they are similar to overlays as being a source of difference and confusion). so we challenge every one and require sign-off by the global head of the technical discipline. Many of our JIP33 adoptions allowed us to simplify and reduce the Company requirements that we previously had in our system.

Slido Q&A - IOGP-JIP33 Industry Event Norway (Day 2)

Questions	Answers
Michel Myhre-Nielsen - Equinor	
Are the projections shown based on the latest International Energy Agency World Energy Outlook report or other sources	Yes. IEA historic data are used in our scenarios, and updated as IEA update their historic data.
Please share the presentation	Will be shared.
When referring to hydrogen how do you plan to produce non brown or grey hydrogen types.	For hydrogen used as an energy carrier (additional to existing hydrogen used in refineries and petrochemicals) it is a mix of green and blue.
Have you plotted a 'most likely' projection between wall and bridges?	See answer below.
Which scenario would you believe most in?	We do not assign probabilities to our scenarios, or other thinkable scenarios for that matter. The reader/interpreter should make up their own mind about what they believe the most in based on the criteria for the different scenarios.
Did you take into account the large amount of energy necessary to build all the wind and solar power generation plants in your scenario?	It lies implicit in the scenarios.
Is use of synthetic fuels like e-fuels taken into consideration? (biofuels are mentioned)	Yes - primarily through the share of hydrogen in the energy mix as a proxy.
what will be the estimated break even cost for a kWh in the future without the fossil energy	That is not a level of detail we go into in building up the scenarios.
Why is not nuclear shown as an alternative	It is part of other, but both scenarios sees a substantial growth in nuclear towards 2050 (see answer below).
What about Green H2 development ? Expected less demand than solar and wind plant ?	Not clear to me what the question here is - but we do have a mix of green and blue hydrogen in both scenarios - and then of course the major volume of hydrogen in general being seen in Bridges.
Any thoughts on what contribution nuclear energy will have in future?	Walls sees a 40% and Bridges a 65% increase towards 2050.
Could you reflect on how the scenarios have evolved compared to the scenarios which were presented some years ago?	Bridges, being a 1.5degC scenario, has to be adjusted every year in terms of the speed and scale of measures needed to stay within the carbon budget. That means, for every year that goes by without a large enough transition happening, that will influence what such a scenario would have to look like. For Walls, being based on what we see of actual developments but also policy signals and technology changes, is adjusted to align with those developments. In general, Walls today is "greener" than it was some years back, primarily based on real implementation of climate politics.
Any plans for hydrogen production on rigs offshore with power from wind mill farms	Not an area we're looking into as far as I know. In terms of choosing to develop solutions that are as cost effective as possible first, such concepts probably won't be on the top of the list.
Has the population increase (ca. 10 billion people by 2050) been taken into account in the calculations of energy demand?	Yes - hence a need for massive energy efficiency improvements to offset the population increase's effect on energy demand.
What is your view on white hydrogen role in global power balance ?	Not an area I would have any meaningful insight on.
On both scenarios CO2 emissions are decreasing. Do we see emissions already peaking or is it still a forecast?	Actual data do not indicate that global CO2-emissions have peaked. Walls suggests that a peak will be seen during this decade.
How is speed of Technology Qualification processes considered to enable Affordable (safe, reliable and cost efficient) solutions i	In Bridges specifically, a lot is assumed about technologies being matured and implemented very fast. That has to happen if you at all are to believe that the Bridges scenario can actually play out.
How do we build bridges to the developing economies with limited awareness in those parts of the world?	That is the million-dollar question. The Bridges scenario assumes a world where the rich part of the world transfer wealth to emerging economies to enable them to close the inequality gap while transitioning their energy systems. That does not happen in the Walls scenario.
Nick Ashworth - IOGP	
Besides scope 1 & 2, are you also looking at scope 3 & 4 emissions?	Current focus is Phase 1 and Phase 2.
Is JIP33 Technical committee already considering "sustainability" as a criteria for evaluating supplementary requirements? Any example?	JIP33 focus is the standardization of procurement standards, particularly technical requirements. Supplementary requirements such as "sustainability" usually fall under specific local requirements and legislation.
Is jip33 making priority in development of specs for equipment present in new energies asset and not in traditional O&G? Any plans?	Battery Energy Storage Systems is an example of an item that JIP33 has started. JIP33 is driven by what the participating companies wish to develop.
Low Carbon project is low CAPEX project... should Jip33 be revisited based on non oil&gas standard ?	One of the concepts behind JIP33 is "essential minimum". It may be that as JIP33 specifications are updated that requirements are challenged to see if this concept still holds equally for low carbon and traditional oil and gas projects.
Is the term Low Carbon Operational Efficiency meant to be alike the Production Efficiency (PE) as defined amongst operators in ISO/TS 3250:2021? Or	No - the definition of production efficiency in ISO/TS 3250:2021 is the "ratio of production to production potential over a period of time". The name Low Carbon Operational Efficiency for the IOGP committee is meant to cover decarbonizing, GHG emission reduction and energy efficiency activities.

How can JIP33 ensure that BAT principals are applied to new technical standards?	BAT means "best available technology". JIP33 focus is the standardization of procurement standards, particularly technical requirements. The participating companies have to be careful to avoid anything that might be considered the selection of one technology (or vendor) over another.
Will you consider a climate or emission rating for products and services in the future making supplier or solution provider selection easier?	There are no current plans for this - JIP33's aim is to only produce procurement specifications.
Will the IOGP be renaming itself?	There are no current plans for this.
JIP33 = standardized procurement specifications & energy transition directorate = "themes" systems /facilities. Who's looking at supply/demand equipment?	The participating companies in JIP33 review anticipated demand and capital spend when proposing or voting on topics for development.
Is or how is quality in cost Estimation for new Lower Carbon Technology addressed to robust Decisions	We see cost estimation for projects as outside the remit of JIP33.
Daniel Prentice - bp	
What were the biggest challenges you faced internally during initial adoption and development JIP33?	Sufficient focus on adoption is needed during the development phase. This includes sufficiently networking internally and clearly articulating views on clauses to avoid adding overlay.
How do you integrate BP lessons from project & OPS now that BP standard specs have been replaced by JIP33 specs managed by the IOGP, not BP?	JIP33 procurement specifications replace our internal document for the equivalent scope with a bp document number front sheet. The document number allows tracking versions, distribution, comments and learnings capture, and record deviations in our existing systems. Learnings are provided back to IOGP JIP33.
Do you use all JIP33 specifications directly without BP overlays?	No. As a minimum the document will carry a bp front sheet which includes the JIP33 logo and definitions which translate the generic terms into specifics, e.g. Company defined as BP Plc. The number of documents with bp overlay has reduced over time. We support the principle that the most value in the specification comes when they are published and used with no overlay.
Can you elaborate on the adaptations needed for the valve specs to be applicable for CCS and should IOGP take a role in this adaptation?	Not in detail - but as discussed in the room this is typically in material selection and addition to testing requirements, such as those to demonstrate fugitive emissions.
Why are not electrification mentioned in your strategy?	Electrification is covered in the second and third pillar of our strategy - EC charging (under convenience and mobility) and Renewables and power (under low carbon energy). Electrification opportunities are also assessed for the conventional oil & gas elements of the portfolio too. [LINK - bp strategy]
Understand mission on new low carbon projects. What about implementation on existing assets? During services, upg or modification?	Electrification opportunities are also assessed for the conventional oil & gas elements of the portfolio too.
Thank you for your reflections around mental health!! That was courageous!	WHO mental health day linked in this cell. Please take a moment to reflect on the presence and strength of your own support network - reinforce it with a conversation, and keep an eye on your friends, family, and colleagues.
How do you see specifications i.e. JIP33 developing for clean energy to ensure efficiency	No differently to that of conventional oil and gas application - through the commoditization of the product streams.
Can you talk to organizational strategy /structure influences to adoption... top down vs bottom up	JIP33 aligns with bp's overall hardware journey started in 2013 to standardize equipment specifications across projects this is endorsed by Senior Engineering leadership across our organization.
How should we handle technology step-out and new scale of equipment that will be required in the Low Carbon market when no current design standard exists?	Start with the desire for a common standard from the outset. This could be influencing collaboration between SDOs in the initial development, providing input into a specification that would be adopted by the SDOs, or working with existing standards for harmonization. Much of the equipment in the low carbon space is common to conventional oil & gas application - however the operating parameters and risk profiles are different - as such the requirements set needs to be reviewed and potentially adapted.
Adopting and implementing JIP33: Is it sufficient awareness of the different parts of each specification; the Procurement Datasheet, Supplementary, IRS and QRS?	Within our organization, the JIP33 suite of documentation is adopted collectively - TRS, IRS, QRS, and PDS. However, there is additional integration work required in taking the IRS & QRS into our procurement process. The formation of the JIP33 information and quality networks - who provide guidance and governance on those elements of the specification suite - has eased this integration.
Are there any regional Energy Industry differences /issues you might comment upon - Ref Energy Transition speech this morning	Some of our overlay is aimed at supporting harmonization between regions. For example overlays in our implementation of IOGP S-741 for NEMA PE 5 include, requirements that align it with IEEE 519 and IEC 62485-2.
Could you mention couple of commodities subjected to BP overlays and reflect on why?	An example for us is instrument tubing - where we have expanded the specification to cover medium and high pressure.
How do you leverage suppliers frame agreements on projects with EPC and other "integrators" in between?	EPCs and integrators typically procure on our behalf.
How do you think the OPCOs should work together to minimise overlays to realise the original intent of JIP33 of having harmonized stds	bp supports the continuous improvement in specification development to minimize overlays and support activities in the IOGP JIP33 program to continue harmonizing specifications.

Some type of equipment are covered by JIP33 , and some not. How do you deal with possible inconsistencies within your procurement/ engineering process?	We use the same process for procurement regardless of the supporting procurement specification. We have been creating standardized procurement specifications with standardized information and quality requirements before we joined IOGP JIP33, so the process is no different - just the attachments/requirements.
Ivar M Stapnes / Hanne Foss - Equinor	
What is your definition of "clean hydrogen"? And can you give example of a green h2 project concept?	Definition not aligned within industry and countries - List of Equinor low carbon projects available on Capital Market presentation for 2023: https://cdn.equinor.com/files/h61q9gi9/global/4f657cc565efdde0a3103fb055b6c7b5374b601e.pdf?2023-cmu-all-presentations.pdf
Can you tell us about expected ROIs estimated by Equinor on it's renewable project portfolio?	Equinor's aim is to achieve high value growth in renewables. We will not pursue uncompetitive projects.
Where is your focus for participating and writing standards for new energies? Global ISO, regional CEN or national NORSOK?	We have to work on all arenas
Can you comment if there are additional competencies/training need for traditional O&G project engineers on new energy projects?	Commercial awareness - contract competence - margin mindset
What CO2 price is being used in Terms of reduction of CO2 by 7million tonnes	The projects have to deliver solutions being competitive towards CO2 quota cost for the emitter industry. The climate quotas and the separate fee Operators have to pay, means that in practice it costs about NOK 1600-1800 for every tonne of carbon dioxide emissions (per 2023)
Is there enough green energy to supply the electrification demand for all projects shown?	Depends on all the other industrial ambitions demanding power from grid supplied by hydropower and wind. Regardless of electrification on the Norwegian Continental Shelf, it is important that the government facilitates increased power development, while the Norwegian Water Resources and Energy Directorate (NVE) and Statnett must ensure sufficient grid capacity.
How is the onshore grid capacity regards to the future power from shore projects?	Norway generally has a fairly strong grid, but there will always be weak links needing additional robustness
Also how the reliability of the electrified supply compares to traditional power gen offshore?	Both sources very reliable, production efficiency (PE) for the power transmission net with power from shore expected to be in line with PE by use of turbine generators
Do we have enough power in the existing land grid to supply all the planned projects?	Depends on all the other industrial ambitions demanding power from grid supplied by hydropower and wind. Regardless of electrification on the Norwegian Continental Shelf, it is important that the government facilitates increased power development, while the Norwegian Water Resources and Energy Directorate (NVE) and Statnett must ensure sufficient grid capacity.
Is the 2030 timing forcing excess cost, rush and risk, supplier bottleneck? What timing would be optimum for technical confidence?	Equinor will always aim to ensure adequate quality in the decision basis for all investment projects.
Has Equinor looked at the availability and provision of green electricity within Norway to power these facilities?	Depends on all the other industrial ambitions demanding power from grid supplied by hydropower and wind
Is remote operation feeding into your plans for electrification and lower emissions?	Equinor implements remote operation where possible balanced by acceptable technology risk. For existing installations, remote operation might require larger upgrades not possible within 2030 ambition
Will presentation be shared ?	Yes
By 2030 will be enough renewable power available to electrify with no scope 1 -2 emissions all these platforms??	Depends on all the other industrial ambitions demanding power from grid supplied by hydropower and wind. Equinor supports increased power production in Norway, and will contribute with increased power production. In Norway Energy Hub, Equinor has recommended national development of 10 GW (45 TWh) of offshore wind by 2035. Together with other measures, this can provide Norway the power we need in the decades to come
Will Equinor as forward leaning as Shell and BP wrt replacing your company TR's with JIP33 specifications.	Equinor have implemented JIP33 into our TR's and replaced requirements that are covered by JIP33. Some equipment have just a few additional requirements within JIP33 scope and others have more additional requirements. The goal is to limit additional requirements to a minimum
Have considered to use or generate hydrogen on offshore installations?	This has been looked into - given the nature of hydrogen it is very demanding to design inherently safe when modifying existing installations
I saw H2 and ammonium on your slides but not SAF production. How does Equinor see the commercial viability of these (and CCS) projects up against each other?	Blue and Green hydrogen, with derivatives and low emission fuels, together with CCS, all represents new business opportunities relevant for Equinor
Is there sufficient building/construction capacity available on the market to meet the ambitious target?	For the energy industry as a whole in relation to traditional oil and gas and the energy transition - most likely there will be adjustments to the ambitions for companies and countries. We are working close together with relevant parties to assess the market and to discuss solutions to be able to deliver on our ambitious target
Any plans to have wind farms connected to these platforms as on Hywind Tampen	All sources of low/zero emission power will need to be evaluated to achieve the ambitions
Do you see the commercial driver as big enough to scale up CCUS, H2, ammonium and SAF projects?	Equinor has a strong belief that these projects will be important to battle the climate challenge and hence need to be profitable enough to turn it into a major new low carbon industry
Long term will Equinor own the wind and hydrogen assets you are planning on developing, or sell them off once installed?	Equinor is an industrial developer and operator with a long term perspective on our assets

With gas demand stable and top Equinor profits in 2022, planning electrification of all these platforms will reduce current production?	Electrification should free up fuel gas for additional gas export to Europe
Have you considered stand alone offshore wind platforms as an alternative or compliment to land based electrification?	HVDC solutions may trigger need for additional hubs to transfer large volumes of wind power. All sources of low/zero emission power will need to be evaluated to achieve the ambitions
Danielle Guccione - Siemens	
Do you believe jip33 is properly implemented in companies frame agreements with Siemens Energy?	I am not aware of any current frame agreements that reference or call-out JIP33; however, it is something Siemens Energy would be interested in exploring with our clients as existing frame agreements are renewed/updated or new ones are put in place. I would encourage our clients to ensure it is a point of discussion.
What would you like us to work on to improve / develop?	Making JIP33 compliance a requirement rather than optional.
We talk about supplier solutions - what change is needed to truly deliver?	Making JIP33 compliance a requirement rather than optional.
Would Siemens Energy look to prioritise sub suppliers who fully implement JIP33	As I am not in Supply Chain/Procurement, I have limited authority in this area; however, I would be happy to connect any sub-supplier with our Procurement and Engineering teams to discuss "preferred vendor" status tied with JIP33.
Do you get requests to apply JIP33 on equipment type other than the presented case on gearbox? If yes, which are the most common ones?	In our JIP33 program, we currently have 12 workstreams overseeing implementation of the most commonly applied/requested JIP33 specs, based on our equipment/scope: 1. S-704 HV Motor 2. S-713 Gearbox 3. S-710 Air-Cooled HX 4. S-700 Coupling 5. S-733D LV Motor (IEEE Std 841) 6. S-733D LV Motor (IEC 60034-1) 7. S-619 Pressure Vessels: Unfired, Fusion Welded 8. S-614 Shell & Tube HX 9. S-705 Welding 10. S-716 Small Bore Tubing & Fittings 11. S-563 Materials 12. S-715 Coating & Painting
Between package suppliers and end users we often have an EPC. How do you see EPCs work with JIP33 and do they add overlays?	We currently receive very few requisitions from EPCs utilizing JIP33. We continue to primarily receive requisitions with end-user specifications, project specifications, and EPC specifications. This makes the process incredibly time and labour intensive (especially when we are working with several EPCs for a single project), and is another reason to make JIP33 compliance a requirement rather than optional.
Do you expect improvements on lead times as broader adoption kicks in among your suppliers?	Yes
What is current experience Feedback from operators on How S-713 Spec'd equipment put in Operation perform? Less OPEX? Less failures	The first project we've been awarded specifying JIP33, Project X, is currently moving through execution, so at this point in time we do not have any feedback on its operation/performance in the field.
In project X do you think the additional quality requirements improved performance or safety of the equipment? Or from the 'we need to verify everything' camp	Since Project X hasn't been installed in the field yet, we currently do not have any data related to its performance or safety stemming from the additional quality requirements selected by the client. As JIP33 is still in the implementation phase, it is understandable clients may elect additional quality checks and requirements for "first-time" projects or special applications.
Miguel Sanchis - ABB	
Do you think language barrier (other than English) is limiting adoption? Do you think the intention to use JIP33 is there otherwise?	We don't see the language as a barrier. English is the normal language of conducting business for us and we are OK at all ABB manufacturing sites. Our EPC customers are also proficient in English. The intention to use JIP33 is not always in the mind of all players. And when using it not always as the only Specification, which creates a conflict and trouble for clarifications.
For the "advanced" case: Could you (with customer permission) provide the aggregated overlay you see for discussion in the specification maintenance?	Unfortunately we can't disclose the overlays of our customers.
Will be beneficial for Abb if EPC start using the jipp33 data sheet while working on implementation of the s-560 spec? Will it be a good start?	Not really. The Datasheet is build in conjunction with a functional specification. They work one one. Furthermore I don't see why someone would want to adopt the Datasheet but not the Specification.
Copying the question to Siemens: What is your reflections on how EPCs work with JIP33 (S-560) and do they create overlays?	It's quite mixed, but sometimes EPC put on top of the End Customer spec (S560 or other) additional requirements to make their technical proposals according to their knowledge and experience.
Should we do joint supplier / EPC / owner engineer training for best use? Video or webinar	That is a good proposal which we from ABB are happy to support and contribute.
Are you more competitive (in price) when using only JIP33? This would help "educating" your customers	Normally the S560 can be a bit more competitive than most of the 'sophisticated' legacy O&G OPCOs
In order to reach accelerated deployment How would you spilt (%) success means wrt Knowledge - Skillset - Attitude?	Attitude 51%; Knowledge 24.5% Skillset 24.5%

Does ABB's document that describes how to implement the spec include instructions how to use the QRS (CASLevels) and IRS?	Not so far, but this is something we definitely need to explore.
What type of overlays do EPC add?	There is not a recognizable pattern therefore so not simple to say. The best example is that for a project in bid stage, the RFQs from different EPCs are not comparable most of the times. Some times is based on engineering principles but not always.
How important is for you as a supplier that the operators overlay requirements are in the same document as the IOGP requirements?	Having it in the same document always help to make sure it does not get missed, but the most important is that the overlays are absolutely compatible with the base S560.
Can the specification S-560 be used without modifications in renewables? I.. wind farms	Yes, I don't see any problem.
Are you already challenging all your sub-suppliers to implement JIP33? Or are you still in the 'classic' mode?	For Low Voltage Switchgears, there is very little impact from S650 that is cascaded to sub suppliers, since our main materials are steel, copper, electrical components (where we manufacture everything) and wires. There is not much development of the supply chain needed.
When bidding, do you offer a clean S560 alternative to show the cost/schedule benefit?	No because typically is a waste of resources since experience says that the Spec Required is not possible to be changed. In some cases (particularly state owned OPCOs) there is even a legal requirement that spec can't be changed.
In your presentation - did you say ABB has or has not received an IRS or QRS?	Yes we did receive, but in a very little portion of the cases where S560 is required
Do you see a risk of the JIP33 spec becoming obsolete based on currently foreseen product innovation roadmap?	No, product development for the upcoming years will not interfere or conflict with S560.
Thanks for the great presentation. This was engaging and fun!	Love this message :-) !!
Gilbert Huber - Petrobras	
Great amount of data. What are your plans for working with your teams to reduce the requirements sent to suppliers?	<p>We have several actions underway regarding our specification and procurement practices, some geared to JIP33 and others broader based. The learnings from participation in JIP33 have been instrumental in introducing internally a more critical appreciation of issues pertaining to specification quality and the interplay between technical specifications and procurement processes.</p> <p>We are holding internal workshops on technical writing, critical review of some of our specifications, especially where we have adopted JIP33 specs with overlays, and are assessing how to handle the conflict between our use of JIP33 specs and contract annexes which result in overlays to the JIP33 specs as received by suppliers.</p> <p>As a NOC there are a number of constraints to our procurement processes that do not apply to IOCs and that result in our use of additional technical requirements where others might use commercial ones. This practice compromises our desired level of standardization and we are seeking ways to achieve this end through other means.</p>
Do you prioritize EPC that are compliant with jip33? Do you put experience with jip33 as part your vendor evaluations?	<p>We do not yet prioritize EPCs that are compliant with JIP33. JIP33 adoption is progressing rapidly, but there is still some way to go before there is an understanding of what a JIP33 compliant EPC would be (e.g. number of specs adopted? Pushback against OpCo overlays to JIP33 specs?)</p> <p>We have held talks with our EPCs and charterers about the use, value, and perceived issues with our, their, and suppliers' use of the IOGP equipment specs, but experience with JIP33 is not yet part of our vendor evaluations.</p>
Feedback on QRS adoption across your project?	In our early JIP33 spec adoptions we included the QRS, but we have since rolled this back because of nomenclature confusion between our internal scale, which applies to all our specs, including for equipment that JIP33 has no intention to address, and the JIP33 QRS scale. We don't yet have a clear view of the way forward on this issue.

<p>To what extent did you use the same EPC's across these FPSO's and what opportunities and challenges did this represent?</p>	<p>We have awarded contracts for more than one unit to some suppliers. It appears to us that the suppliers allow significant room for different teams to chart their way through the project processes. We have had conversations with one supplier where one unit was proactively adopting JIP33 specs, even beyond those we used, and to the point of having category managers coming to Brazil to incentivise that local equipment suppliers adopt the specs as a means to facilitate their compliance with our local content requirements, while the other unit of the same supplier was practically unaware of JIP33.</p> <p>In a slightly different vein from the question as asked, we have had feedback from different equipment manufacturers about the differences and issues they perceived from different handling of the same starting equipment specs by different EPCs.</p> <p>We expect our interaction with our EPCs will improve how both of us handle the use of the JIP33 specs over time. At this time we are still at the very early stages developing channels for this communication to occur.</p>
<p>In your internal requirements, are you highlighting the overlay requirements for the suppliers to see which are not IOGP req?</p>	<p>Our adoption of the IOGP requirements is not uniform across disciplines. This was a conscious option to facilitate adoption. Part of our current thrust on this front is to make the IOGP spec adoption more uniform across different disciplines and equipment types. In some cases the overlays are readily identifiable: our "internal spec" is presented as an overlay to the IOGP spec. In other cases the IOGP requirements have been absorbed into our spec among our own requirements, which is not ideal as this makes them difficult to identify.</p>
<p>Any reflection about IRs from your operations team? Aligned with their expectations?</p>	<p>There were some adoption related IRs from operations. They are generally supportive of the JIP33 initiative. Our cranes SMEs were very enthusiastic, then a little dismayed as they saw what happened as S-617 went through the procurement process layers until arriving at the crane manufacturers. This was not aligned with their expectations and is a clear pointer to things we must improve.</p>
<p>Mohd Khairil Mohd Hatta - Petronas</p>	
<p>Where is Petronas when it comes to jip36 implementation?</p>	<p>We have representatives in JIP 36 who has already incorporated CFIHOS requirements into a project and implemented the CFIHOS standard data model in our system. We are committed to intensifying engagement both internally and externally to raise awareness</p>
<p>Do you write JIP33 into your EPC contracts?</p>	<p>We incorporate the necessary provisions to ensure compliance with the technical requirements outlined by IOGP JIP33 specifications within our Invitation to Bid (ITB). This practice is consistently applied to all relevant equipment involved in the project.</p>
<p>Very clear presentation. Thank you. Are you planning more MOUs for regional engagement?</p>	<p>In terms of our regional engagement strategy, we have effectively conducted this through several means, which include organizing Industry Days, actively engaging with EPC (Engineering, Procurement, and Construction) partners, and hosting a series of productive meetings and discussions. It is worth noting that no formal Memorandum of Understanding (MOU) is deemed necessary for these interactions. This approach not only fosters a collaborative environment within the industry but also ensures that our regional engagement efforts remain agile and efficient in addressing the specific needs and opportunities of the region.</p>
<p>Has PETRONAS adopted the JIP33 specs already?</p>	<p>We have adopted 47 IOGP JIP33 Specifications in multiple projects groupwide.</p>
<p>Do you have advice for purchaser from EU or USA to understand adoption of JIP33 by manufacturers in Malaysia, Indonesia, Korea, China,</p>	<p>In capital projects, it's normally for the equipment purchaser to be the EPC (Engineering, Procurement, and Construction) contractors and it can come from EU and USA as well. Their extensive experience in equipment sourcing extends across diverse regions, including Europe, Asia, and the Middle East. The adoption of IOGP JIP33's standardized specifications can make the sourcing process less complex. Given that we already employ these standardized specifications, purchaser can leverage on geographical advantages of the project location. They can optimize the delivery process by purchasing from vendors closer to the project location which can reduce lead time</p>
<p>How to get rid of the «Napoleons» ?</p>	<p>By continuous engagement for awareness and top-down instruction for mandate</p>
<p>Any advice on QRS - IRS implementation?</p>	<p>The most practical advice is to begin using QRS and IRS right away. You'll discover that these are in line with your prior practices regarding testing requirements and the list of documents needed from vendors. The key difference is that JIP33 has standardized these processes for the sake of simplicity and consistency, making it easier for everyone involved.</p> <p>Also, JIP33 have published ad implementation guide for the QRS and will work on one for the IRS in2024. There are videos for both QRS and IRS implementation in the JIP33 section of the IOGP library.</p>

I very much liked the way awareness is raised amongst stakeholders through the interactive sessions. Question: how are these sessions structured? Thanks.

Our sessions are designed with a clear focus on addressing the unique needs and challenges of each stakeholder group. Operating Companies (OpCos), for instance, often prioritize their existing specifications and the task of persuading management about the value these specifications can create. On the other hand, EPC (Engineering, Procurement, and Construction) companies tend to be more concerned about how these specifications can affect their project bids. Meanwhile, manufacturers and suppliers are primarily interested in how these changes may impact their production processes. To address these distinct concerns, we tailor each session to explore and understand the issues at hand. This approach enables us to work collaboratively to identify strategies for addressing these challenges and gather valuable suggestions for potential solutions.