OPITO

Tick Safety
not Boxes

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Tick Safety not Boxes:

Competency and Compliance
in the oil and gas industry

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Executive Summary

This paper details the results of an independent study, conducted by Aberdeen Business School at Robert Gordon University and commissioned by OPITO. It sought to explore the primary goals of organisations in the oil and gas industry in addressing compliance or competence issues; companies' compliance and/or competence drivers in relation to license to operate, workforce skills, competence and safety; and the extent to which organisations' compliance management systems integrate with their competence management systems.

This is a timely study given the high priority placed on these issues in recent years by organisations such as Step Change in Safety and the International Association of Oil and Gas Producers.

The study drew on in-depth qualitative telephone interviews with leaders in 43 companies with a wide geographic spread.

Conclusions drawn from the research include that:

- There is a clear realisation that merely being compliant is not appropriate if the goal is to continually improve workforce safety and skills.
- Respondents felt that their company approach and the UK compliance and competence regimes are exemplars.
- There is an appetite for greater consistency and global standards in competence management to be established.
- There is a desire for greater openness and sharing across the industry in terms of competence management.
- Certification does not equate to competence and more attention needs to be paid to the outcomes of training programmes.
- Industry needs are changing with clients increasingly demanding proof that workforce competence is delivered.
- Major issues emerged about companies' confidence in their contractors' delivery of compliance and competence.
- Ownership of competencies must be embedded more deeply in companies.
- There is no sense of a natural home for competence in companies, nor agreement on the ways in which competence is measured.
- There is a lack of consensus and common understanding of what competence actually is and a need for definition.
- The robustness of assessment and the validity of processes were questioned.

Introduction and background

Safety is a topic that has been accorded a very high priority in the oil and gas industry in recent years. Oil and Gas UK introduced its Step Change in Safety programme in 1997 and there have been similar initiatives in many countries. However, despite the recent publication of improved safety performance statistics in the industry by the International Association of Oil and Gas Producers (OGP, 2010), the Gulf of Mexico disaster in 2010 placed the industry under the scrutiny of global media and political attention and saw it branded as:

> *emblematic of a failed philosophy that regards all regulation with hostility….. one of the lessons we've learned from this spill is that we need better regulations, better safety standards and better enforcement … but a larger lesson is that no matter how much we improve our regulation of the industry, drilling for oil these days entails greater risk.* (President Obama. June 15th, 2010)

While previous academic and professional research on health, safety and emergency response issues has been somewhat sporadic, a number of commentators have discussed the links between health and safety and competence: for example, Fitzgerald and Breen (2010), discussing the oil and gas industry in Australasia, claim that *'poor standards of competence and supervision continue to be the root cause of a number of accidents and incidents.'* In contrast, Read *et al.* (2011), in a case study of a Central European E&P company, argue that *'when you look into the detail more, you find that in the large majority of safety cases, the problem did not result because of competency or skills issues.'*

There are, however, a variety of definitions of 'competence'. For example, at the corporate level, Prahalad and Hamel (1990) provide an authoritative definition of core competence as consisting of a diverse collection of skills and technologies which a company must possess holistically in order to deliver a competitive service; while, on an individual level, McConnell (2001) distinguishes between 'competence', a person's capacity to perform effectively, and 'competency', their actual performance in a particular situation. In terms of health and safety, one of the clearest and most comprehensive definitions of competence is recorded on the HSE website:
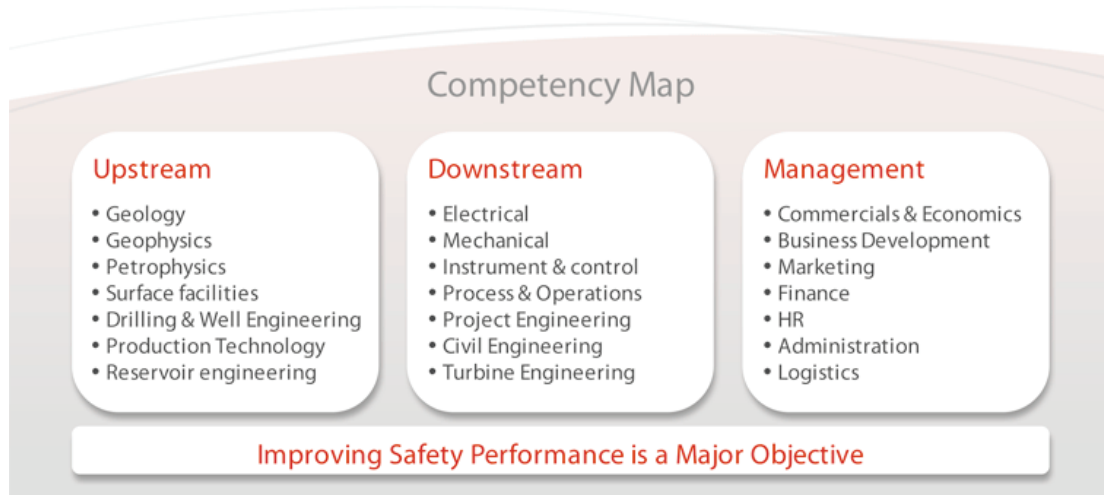
> To be competent an organisation or individual must have:
>
> - sufficient knowledge of the tasks to be undertaken and the risks involved
> - the experience and ability to carry out their duties in relation to the project, to recognise their limitations and take appropriate action to prevent harm to those carrying out construction work, or those affected by the work
>
> Competence develops over time. Individuals develop their competence through a mix of initial training, on-the-job learning, instruction, assessment and formal qualification. In the early stages of training and experience, individuals should be closely supervised. As competence develops, the need for direct supervision should be reduced. (HSE, 2007)

In the oil and gas industry specifically, Step Change in Safety (2010) define competence as 'the ability of every director, manager and worker to recognise the risks in their operational activities and then apply the right measures to control and manage those risks.'

Daher et al. (2011) argue that, in the energy sector, competency management is 'crucial and at the base of every learning and development program.' They, and other authors (e.g. Waterfall et al., 2006; Hayes and Novatsis, 2008; Demski and Lero, 2010), provide case studies of how E&P companies worldwide have designed and implemented general or safety-specific learning and development plans and competency frameworks within their organisations. Tharaldsen et al. (2008), in a comparative study of HSE culture on the Norwegian and UK Continental Shelves, found that UK workers reported higher levels of safety competence than their Norwegian counterparts. In Egypt, meanwhile, OGS (2008) have developed a competency map for the oil and gas industry, which is set out below:

Competency Map

Upstream	Downstream	Management
• Geology	• Electrical	• Commercials & Economics
• Geophysics	• Mechanical	• Business Development
• Petrophysics	• Instrument & control	• Marketing
• Surface facilities	• Process & Operations	• Finance
• Drilling & Well Engineering	• Project Engineering	• HR
• Production Technology	• Civil Engineering	• Administration
• Reservoir engineering	• Turbine Engineering	• Logistics

Improving Safety Performance is a Major Objective

A number of factors that adversely affect competence levels in the energy sector are also identified in the literature. These include the introduction of newer, more sophisticated technologies required to find and extract unconventional reserves (Daher et al., 2011); cost-cutting strategies, whereby E&P companies 'hire and fire' employees on a cyclical basis (Daher et al., 2011) or award projects to smaller, less-resourced contractor organisations (Fitzgerald and Breen, 2010); and, perhaps most significantly, the 'Big Crew Change' (Waterfall et al., 2006; HSE Offshore Division, 2009; HSE Wells Group, 2010) caused by the retirement of older, long-serving staff, and a lack of experienced (or interested) younger employees to succeed them.

Project Aim

The current research was commissioned by OPITO International, as part of its aspiration to improve global safety and competency standards in the oil and gas workforce. The study was an exploratory and independent piece of research, the focus of which was to generate an in-depth understanding of:

1. The primary goals of organisations in relation to addressing compliance or competence issues;
2. What the compliance and/or competence drivers are for organisations in relation to license to operate, workforce skills, competence and safety;
3. The extent to which organisations' compliance management systems integrate with their competence management systems.

Research Methodology

In order to gather rich data from a wide range of oil and gas companies, the project took a qualitative approach drawing upon a series of extended semi-structured telephone interviews. The target population consisted of senior managers in national and international oil companies, major players in the extended contractor base and supply companies. In the first instance an email was sent to individuals drawing upon a number of company databases held by the University and OPITO International, as well as through professional bodies. Interviewees were asked to identify other potential participants in a form of snowball sampling. It was felt this approach was justifiable given the interviewees' expertise and industry knowledge. This convenience sampling also enabled the team to extend the geographic spread of the sample internationally. The team continuously reviewed representation to ensure a spread across countries with differing maturity in the oil and gas industry. Named individuals with an extensive knowledge of HS/ER issues from a strategic and/or organisational development perspective were the target of the email request for participation.

The scheduling of interviews presented some challenges, because of both the international time zone variations and the dynamic nature of employment in the sector. For some interviews translation was required and thus native speakers conducted certain interviews.

Companies represented covered the full spectrum of sizes. They were headquartered in the UK, US, Canada, Europe, the former Soviet states, the Middle East, Africa, India, Australasia and the Far East. They were typically operating in multiple locations globally, with no oil and gas producing region unrepresented. Types of company included: exploration and production; drilling; construction; oil field service providers; operational support; consultancies; and training providers. Interviewees were primarily senior leaders in the organisation with responsibility for HS/ER and training issues, comprising: Chief Executive Officers, Managing Directors, Global Training/Competency Managers, Senior HR Managers and Corporate HSE Managers.

Overall the respondent group was deemed to give a fair representation of the population studied and the strategic role of interviewees ensured that the participants had a high level of expertise in and understanding of the subject.

A semi-structured interview schedule was developed from the brief provided by OPITO. This was reviewed by a number of industry experts to further refine the questions and ensure that resultant data would be meaningful. Finally two pilot interviews were carried out with senior HSE personnel working in the industry in the UKCS, resulting in minor modifications being made. In total, 43 companies with headquarters and operations across the globe took part in interviews lasting from thirty minutes to over one hour. These interviews were recorded with the permission of the interviewee, transcribed verbatim from the tapes, and then analysed to identify common themes which were subsequently coded. All participants were guaranteed anonymity in any output arising from the research.

The interviews were highly revealing with the majority of respondents prepared to talk openly about issues within their organisations and the industry as a whole. The willingness of senior managers to participate in the research project testifies to its timeliness and relevance for the industry.

Research results

Compliance

Company approaches to compliance

For **all** companies, without exception, compliance was an issue of strategic concern and high on their corporate agenda, as well as being of significance generally for the oil and gas industry, both in terms of legal requirements and in achieving international standards and as an essential component of doing business: '*complying with international standards is becoming more important in the bids and proposals for new business'*.

Many viewed compliance as a legal issue, where companies must seek to comply with the law in the jurisdiction within which they operate: *Compliance for us is the making sure that we are complying with national laws and within requirements so that's what fuels that particular programme.*

A point that was frequently made related to the challenge of seeking to comply with the variety of local or national standards when operating was, in an international context. Often national documentation could be prohibitively complex. Some companies seek to set an internal standard that goes beyond local/national requirements and satisfy - or for many exceed - all international standards. Some respondents identified low compliance expectations in certain geographic locations as a major challenge, while one respondent observed that shortcuts were commonly taken in remote areas, in line with the results of research carried out by the authors in 2010. Similarly some respondents identified varying expectations – legislative, geographic and client expectations – as a major concern. Clients demand compliance and expect international standards to be met.

> It [compliance] *tends to be regionalised because it's only then that it makes sense. You can't compare for example West Africa and the North Sea and talk about compliance in the same terms because the requirements in the North Sea are way more stringent.*

Some interviewees spoke of compliance as a philosophic over-riding approach, deeply embedded in the company with a number making statements like '*we try to go above and beyond complying*', '*it's part of our day to day operations'* and '*our company philosophy is that if you see non-compliance then you must intervene'*. One company spoke about seeking to share knowledge of best practice in compliance with their partners. Another defined compliance as being '*about developing lifesaving rules*'.

The primary goal of the majority of companies, in addressing compliance issues as **employers**, is unsurprisingly that staff be compliant first and foremost. However, almost half spoke of keeping operations safe and a significant number spoke of the education of staff as their primary goal in terms of compliance. One respondent made the point that compliance is about '*ensuring that we send the right people on the job'*. For others there was a focus on ensuring compliance with company procedures, meeting company KPIs and enhancing company reputation. For a small number ensuring that accreditation and certification are kept up to date was paramount, for some through third party accreditation. A number made the point that company reputation, gaining licences and winning business were all dependent on compliance. For one interviewee a primary goal was '*ensuring that compliance is on our partners' agenda'*.

Senior management commitment to compliance

When asked specifically about senior management commitment to compliance, there was quite lively debate and responses fell into three distinct groups: (1) the majority who felt that senior management drove compliance issues forward; (2) those who felt that that the degree of commitment varied across their senior management team; and (3) those who categorically stated that senior management were not driving compliance, focusing more on profit and loss or were '*detached'*. A number of respondents spoke of a '*tick-box'* mentality amongst senior managers. As in earlier research there is evidence of a gap between what senior management think is happening and the reality operationally.

> *Whereas the top brass in the companies will think, well compliance is a good thing ... that's not what these guys are targeted on ... they're targeted on production of oil and gas. So there is a commitment gap between what the top brass expect is happening and believes to be happening, and what is actually happening on the ground.*

One interviewee argued that performance would be improved by greater delegation of responsibility for compliance: '*I think sometimes they forget that if they gave more ownership down to the lower level … your roughnecks, your welders, your plant general maintenance people, down to the bottom end … if they had more ownership and more involvement in the process, I think they would be able to bring about change more quickly'.*

One respondent also raised questions around senior management understanding of compliance: '*I don't think some of the senior management are actually as aware as they could be of what they need to comply with, it's getting better but there are some places where we do find that'.* The financial imperative also continues to be significant and some felt that they delivered as much as they could within their sometimes tight resourcing constraints:

> *…it also varies on budget… the recession in the last couple of years, they looked at, cut the budgets and the first budget they tend to cut is training … some managers are fully on board like "let's spend money on training, let's get people up to our standards so they are compliant" and some organisations might be well "we haven't had a problem yet so why should we spend money?" so it does vary from company to company.*

One interviewee noted the difficulty of '*driving compliance with contractors'*, while a second noted that commitment could be highly variable across companies:

> *Unfortunately, in some of the companies, the smaller companies especially in [country], their senior management are not committed and basically their program is not successful because there's no management commitment.*

However the ultimate responsibility was clearly on senior management: '*so if they allow it to slip then, well they are accountable and have to answer to why it hasn't happened and it may have personal implications for them'.*

The drivers for compliance

As one might expect, legal requirements are a major/essential driver at the core of compliance, although, as noted above, these may be regarded as a starting point rather than an ultimate goal. One interviewee noted: '*at the base level you have to be able to comply with legislation - so before you do anything else that's what you have to do'.* Some respondents noted that the drivers related rather to the potential impact of failure to comply with legislation, such as intervention, fines and loss of licences, with consequent cost to the company commercially and reputationally as well as to people and the environment. Again some respondents felt strongly that their internal standards frequently exceeded local requirements:

> *…. from a Health & Safety Standard point of view we actually have a higher level of standard and best practice from industry rather than the actual legal requirements so we feel that our management systems and processes are of a high standard. So although we ensure that compliance is met, we focus more on the competency side, because the competency side fulfils the industry standards and the best practices and that's what we want people actually working to.*

In particular, it was thought that certain regional standards could set lower expectations than those required in the West: '*for example [a country's] standards in relation to health and safety are nowhere near as stringent as UK or Europe so we adopt UK/Europe and that's the company standard'.* Another interviewee made the point that national oil companies can be resistant to international training standards: '*in some cases they don't want to give employees training that is crossed over to other parts of the world for fear that they could work for a company in another country'.* The sheer myriad of regulations with which companies operating internationally must comply was also an issue for some.

Insurers' expectations are regarded as much less influential and '*not a main driver'* by the majority of respondents, although some felt that these could heighten the importance of compliance for management – at least amongst our respondents, some of whom may be less involved in this aspect of contracts and licenses. It was also believed that companies had less clarity about the insurance perspective: '*I think that that is a softer driver…, because with the legal requirement you're in or you're out, basically. With the insurance requirement, it's kind of much more difficult, maybe the target is a bit more fuzzy'.*

Company policy was regarded by the majority as a very important driver, although its impact was at times overridden by the client's expectations or focus on revenue streams. Company policy was seen to be key to establishing internal common standards and expectations amongst staff. This was also where the commitment gap between senior management and operational levels was most keenly perceived. There were many who noted that the influence of company policy was determined on the ground in operations and the impact might therefore wane.

> *This is the commitment gap. Very often the company policy is set by the directors of the company, because that's where policy comes from. But, they issue targets, they think that just by saying 'Thou shalt…', that this will happen. And it possibly doesn't because down through the business, and the bigger the businesses are the longer the chain of command, down to the guys who come and see me, they're sometimes either not aware or they have different targets to meet, and they will meet their targets rather then meet the requirements of the board.*

For many this commitment gap could be critical:

> *If you're not in compliance with the policy, the company policy which specifies our compliance to our legal requirements, client requirements as well as our company policy - if you don't meet these three - you can have some undesirable consequences that will follow*

Company compliance systems and measurement of effectiveness

The majority of respondents have compliance management system in place, although five respondents described this as a set of policies and procedures rather than a system, four managed compliance through a wider management system and one company monitored, verified and carried out audits. A small number reported that documentation existed but was poorly implemented.

A very wide variety of methods are used to measure compliance attainment and these are set out in Table 1.

Table 1. Methods used to measure compliance attainment			
Method	**No.**	**Method**	**No.**
Audits	22	Leading/lagging indicators	2
Assessment against standards (e.g. ISO)	11	Regulated/inspected by authorities	2
Audits by external agencies and peer review	10	Review certification	2
KPIs/Scorecards/Matrices and company objectives	7	Gap analysis	1
Benchmarked against matrix	6	Government endorsement	1
Client audits and feedback	5	Learning management systems	1
Internal benchmarks	5	Management systems	1
Close-out/measures of non-conformance	4	Observations	1
Safety inspections	4	Routine sampling	1
Management reports	3	Safety case regimes	1
Assessing against legislation	2	Staff feedback	1
Incident investigations	2		

Most companies reported more than one method of measuring compliance and some recognise failings in the measurement in place which they are trying to address:

> *We recognise that our measurement of compliance and training is weak and we've invested a great deal of time, money and effort to completely close that off and ensure that we can measure compliance. And I think that tells its own story that a business could have quite happily continued but have said well the information is weak in its authenticity, we need to invest significant amounts of time and money to correct that and to put that house in order.*

Ultimately one respondent argued that measurement of compliance may perhaps present insuperable problems: '*fundamentally you can't really tell whether you are truly, truly compliant until such times as you probably test the system and your goals and your objectives are tested - and unfortunately those tend to be tested through accident and incident investigation'.* It would be interesting to further debate whether this rather negative view prevails more widely or whether there are ways in which systems of measurement can be improved.

Table 2 indicates by whom the compliance measurement is undertaken, with the first column listing external agencies and the second internal responsibility for measurement.

Table 2. Responsibility for compliance measurement			
External responsibility	**No.**	**Internal responsibility**	**No.**
External agencies (wide range)	12	Internal teams	8
ISO	7	Each business unit	7
Clients	3	HSE Department	6
External consultants	3	Company OD/Training/HR	4
Industry bodies	2	Senior Management/HQ	4
		Compliance system/team	2
		Legal department	2
		A 'Safety Champion'	1
		Company safety officer	1

The majority of companies could identify who was responsible for measurement, tended to use more than one method of measurement and used a mix of external and internal resource to undertake the measurement. It is interesting to note that there are very different approaches taken internally in terms of where the responsibility for measuring compliance sits. One respondent observed that a failing of many compliance measurement systems was that internal checks cannot be objective, while another noted that whistleblowers have been known to '*lose their jobs if they flag up problems*'. Equally, there were respondents who felt that there were still cracks in the system, particularly when responsibility for measurement was delegated locally:

> *… so if a manager chooses to ignore compliance then to be fair he's pretty much self-managed. We can flag it up from the centre but there's no audit, there's no kind of check to ensure that we're compliant. Managers have got that responsibility themselves.*

Compliance versus complacency

When asked if a focus on compliance could lead to complacency, over two thirds of respondents felt that it could (see Fig. 1).
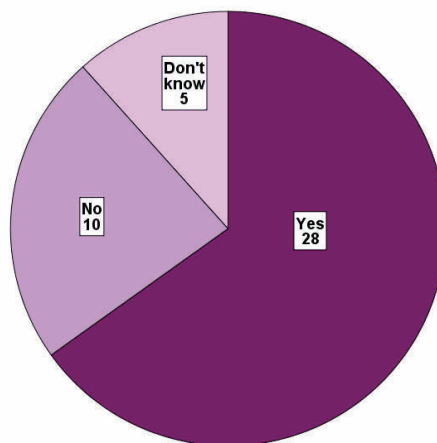
Figure 1. Can a focus on compliance lead to complacency?

This question elicited a lot of discussion amongst respondents, who described a tension in a variety of ways, some of the most interesting of which are set out below.

> Of course it does. It's a feel-good factor that you've been compliant; my hands are clean because I've done what I was legally required to do, doesn't mean that somebody's actually benefited.

Some noted a short-term approach might prevail, with a focus on detail rather than the bigger picture:

> I think that's the problem is that people are so focused on getting certificates and ticking the boxes and going through various regimes and processes that, it's like they say, when you're up to your backside in crocodiles you forget the original intention was to drain the swamp.

It was recognised that the myriad of regulatory regimes can engender complacency rather than encourage compliance:

> Yes it can lead to complacency because they get swamped with so much legislation and so many requirements of box ticking that when it actually comes down to it safety can be compromised by too much of a safety regime

Another agreed that the sheer scale of activity taking place can lead to complacency: 'they think that the paper and the odd training program and tool-box talk and various other tools that they use have the desired effect, but I think it comes down to the pressure of working, the expectation of individuals to perform at high levels and that's when errors take place.'

Concerns were also expressed about the importance of currency and updating:

> Safety management is a classic one, yeah we have done that, but actually when you get down to it you did it once but you need to keep it active, things like that, they can comply but not actually keep managing what they are complying with.

Again a gap was noted, this time between HR and operations around what is seen as the priority.

> You've got to say there is complacency in there and there may be that disconnect between the HR and the operating staff, whereby HR think it wants compliance but the operations staff they're just doing their day to day routine stuff of making the products and getting the money coming in. So there will be that complacency … people getting ticks in the boxes, as long as we're getting the ticks in the boxes nobody's hassling us and companies will say… well there weren't any issues this year, so yes we are compliant and just tick, tick, tick the boxes.

Another interviewee commented that having procedures did not necessarily ensure implementation: 'we have procedures but the problem is the implementation of the procedure - it is very important to do some analysis on compliance just to make sure you are actually meeting the standards and the procedures'.

The impact of compliance on operations

Respondents were then asked to give positive or negatives examples of the impact of having to meet compliance requirements. A number identified where compliance checks and failures had put in place real improvements in operating safety: 'the safety of site was compromised due to a failure to comply with regulations, identified when regulatory body did a spot check and new procedures brought into place to address this'. Other positive examples included: setting a minimum expectation which must be attained; practice for real situations which might be encountered had real benefit and raised confidence; a drive for compliance had identified some real gaps in operations that might otherwise have been missed; effective systems had been developed that mapped all employees' training to required standards; refresher courses had been undertaken; having to meet higher expectations in new countries had led to higher quality and standards in company; compliance was driving higher attendance rates in training; achievement of ISO standards had raised the company's profile and ability to secure new contracts (two respondents); proven compliance has helped to win business; and improved training had improved staff employment opportunities. One interviewee described ceasing production of a product, elements of which no longer complied and thus eliminating the risk to their company's reputation. One respondent had found complying with environmental expectations had been a positive experience for a company and its staff.

Equally a number of negative examples included: management systems had been developed purely to avoid fines for non-compliance; training provided lacked realistic exercises which would chime with participants' working environments; compliance systems failed to address required competencies; a focus on compliance had had a negative impact on an installation's culture as a result of tension with the management regime; refresher courses were regarded by many as a free day and an escape from the real job; it was a waste of resource to be required to demonstrate compliance with regional requirements that were lower than the company's own (point made by several respondents); problems were encountered in rolling a compliance management system internationally; unless monitored rigorously, managers took shortcuts in signing off achievement, in a tick box mentality, with no robust assessment; qualifications had been fast-tracked in a substandard manner in order to meet compliance requirements; some systems mapped staff achievement of compliance standards before they are signed off in terms of health and safety; an increase in disciplinary actions as a result of failure to observe, for example, permit to work systems; training providers' standards dropped after they achieved accreditation/approval from relevant external bodies.

Complying by passing a test does not necessarily make you safe.

One respondent spoke of the challenges presented in seeking to verify instructors' qualifications and in *'bringing them up to standard'*, while another noted the lack of realism of much training:

So anybody trying to develop training to actually deliver those competencies can quite easily miss what is actually required in real terms and what I mean by real terms is what you're supposed to actually do on the ground at your job. So you have this wonderful system which is all about compliance but does it actually achieve anything on the ground.

Two separate respondents gave as an example the lack of reality of lifeboat training:

Look at lifeboat training. If you actually look at what's required on paper, the workers have to be able to demonstrate that they know how to get into a lifeboat, that they can drive it but the way the training is actually carried out, they all go along, jump into a lifeboat … So the boat gets lowered into a pond like conditions and then the team drives it round the harbour and then back again and that is it and they all get a certificate. The reality in an offshore installation emergency is vastly different.

There was an installation on fire, about two or three years ago, when they launched I think five lifeboats, and three broke down. On one, the guy couldn't actually get it started because it was different to the boat he'd been trained on and he'd never been in the lifeboat before. That's frightening, that's really where the complacency led by the compliance is dangerous.

The cost of failure to meet compliance requirements can, of course, be very high, in human, environmental and of course commercial terms. One respondent spoke of a situation where not following compliance requirements had resulted in jobs having to be revisited and restructured at huge cost to the company.

Competence

Approaches to competence management

But to be fair I go back to what I said originally that we do it more to avoid being fined than actually to achieve any meaningful competency

In talking about their approach to competency management, respondents reported some concerns. Some felt that competence is not well understood: *'a lot of organisations don't understand what competence is; they tend to mix it up with training - "he's done the training course, he's competent to do the job". Far from it.'* Another felt that there was a lack of real conviction and understanding:

I think some companies don't take it as seriously as they should, but the culture now in the industry is to have competence systems in place. Some companies get mixed up - what's training, what's competence, and can't separate the two. Training is providing skills and knowledge, and competence is measuring that, skills and knowledge in the work place.

Another respondent argued that a competence management system should go beyond simply recording if staff had participated in learning opportunities:

It's a difficult one because there are two types of systems, there's a learning management system and a competency management system and there's a distinct difference between them. The learning management is just for people to generally learn, the competency management system is really testing their learning knowledge and testing their competency on the job 'cause competency is all about demonstrating their ability to carry out their task, learning is just a case of I've read something, I've learnt it and I've taken a test on it, so they're not actually demonstrating their knowledge in a practical aspect.

Competence management systems

Table 3: Does the company have a competency management system?	
Yes	25
A variety of systems are in place	6
A simpler system is in place	3
Currently in development	3
Part of a wider learning management system	2
Training matrices are used	1
No system in place	3

Two thirds of the companies responding have a competence management system in place, while some expressed concerns about the robustness of systems:

One of the problems that we've basically got is that we all know how it works because we've all been through it. We don't actually have a document that explains how it works. So we don't have a system because we don't have the documentation that's behind it.

These systems include a very wide range of elements, with respondents identifying fifty types of content with very little agreement as to what a competence management system should consist of. The authors have sought to rationalise these a little and they include: identification of core competencies/skills required mapped against jobs or job specific domains of learning (14); mapping of work activities required on site (5); HSE compliance (3); professional competencies and qualifications (8); recruitment and selection processes (5); training specifications (6); packages of learning (4); training simulations and scenarios (3); task/competence demonstrations (3); mentors/coaches and staff supported (2); employee portfolios if evidence (3); job profiles (2); training needs analysis (4); breakdowns/checklists of safety critical tasks/operations (4); competency/capability assessment files or management reviews for staff (5); on the job and online training modules (6); competence assessment profiles for specific posts (3); observations (1); identification of safety critical operations (1); assessment against best practice (2); legislative requirements (1); shift planning (1); qualifications catalogue (1); practical assessments (3); competency assurance system (1); task/competency demonstrations (2); OPITO standards (3); and training matrices (2); SQA training for assessors (1); people management skills (1); electronic site sign in (1); supervisors (1);personal development plans (3); links from competency grading to project management manuals (1); shadowing records (2); national exams, e.g. NVQs (2); ISO standards (1) .

These systems appear to be used to store and manage a very wide variety of data and content falling into three broad categories – information about staff achievement and demonstration of competence; information about the competence standards required; and information about and even the content of training packages.

The goals of and drivers for competence management

> *Our primary goal is if we can't demonstrate a competent workforce we need to switch off the lights and go home.*

Respondent companies' primary goals in addressing competence were identified by respondents as: to ensure that all staff can undertake their roles competently and safely (20); to ensure workforce efficiency (2); to improve profit margin (2); to develop staff and ensure they have the skills to carry out roles (5); to motivate staff (1); to select the right person for the job (4); to identify the competencies required of specific roles (1); to increase workforce flexibility (1); to meet legal requirements (1); to continuously improve systems (1); to win contracts and avoid losing business (5); to enhance competency (2); to spread best practice in new geographic domains (1); to reassure clients that contracting staff are competent (1); to assure standards for external assessors (1); to prevent and mitigate hazards; to manage subcontractors and assure their competency (1); to meet KPIs (1); to adhere to company policy (1). One interviewee talked of the use of the competency system as a way of *'identifying what competencies staff actually need'*.

> *If our workforce is safe and efficient we operate more safely and more efficiently which would build our reputation, which fuels our business which allows us to gain more work because we operate more safely.*

While competence management might seek to serve a variety of goals, some saw the primary goal as that of reputation: '*a lot of people will say competence is important financially … for us, it's creditability … customers won't come back.*' Others saw competency management as a way of evidencing company capacity to deliver:

> *I think we've got to be able to satisfy ourselves that the people we're sending offshore are right to deliver the job that we're doing and there's also a huge client pressure to be able to demonstrate that the people that we provide are competent and it's all very well going through the whole recruitment processes and having to find the competence criteria but there's a huge pressure on us at the moment to be able to demonstrate that the individuals that we've got in place, from an onshore point of view, particularly with the engineering, from an offshore point of view we can demonstrate through records that they really are competent and that's a huge thing in industry at the moment.*

One interviewee made a plea for competence management to be considered in its widest sense: '*people do not generally make mistakes that hurt and injure themselves and anybody else because of their lack of technical competence or experience - experience occasionally but generally it has a human factor and a behavioural based end point'*.

Senior management commitment to competence management

When asked to what extent the competency management agenda is driven by senior management, 25 respondents said that this was the case and indeed it was noted that this was essential if competency enhancement was to take place: '*If the boss doesn't have a competency culture, the workers won't either'*. Again some noted a gap between what senior managers thought was happening and the operational reality, while one respondent observed that senior management commitment had been high in early stages but that enthusiasm had dwindled. A number of respondents thought that there was variability across the senior team.

Two companies' senior management delegated responsibility for competence management, while a number of others felt that HR, H&S and Training Managers respectively were taking the lead.

Six respondents, however, felt that senior management were failing to deliver or not very engaged until issues were highlighted, while another described increasing (but still deficient) senior management involvement. One respondent felt that middle management was more committed to driving the competence agenda in the organisation and another that it was actually front line workers who did so.

Some respondents also expressed very strong views about the reality of this commitment even where it was expressed: *I do training in [county] and the [organisation] is quite happy for me to give the students certificates of course completion even though they only attended one day out of five.*

It's about making sure we can put our hand on our hearts and demonstrate that competency [has been achieved]. That's the thing that people miss about competency, they think competency is training, but that is a very small part of it. Competency is about demonstrating the ability to do the task within the workplace.

The drivers for competence management

In terms of the drivers impacting on competence management development, the following table illustrates the degree of influence of a number of drivers.
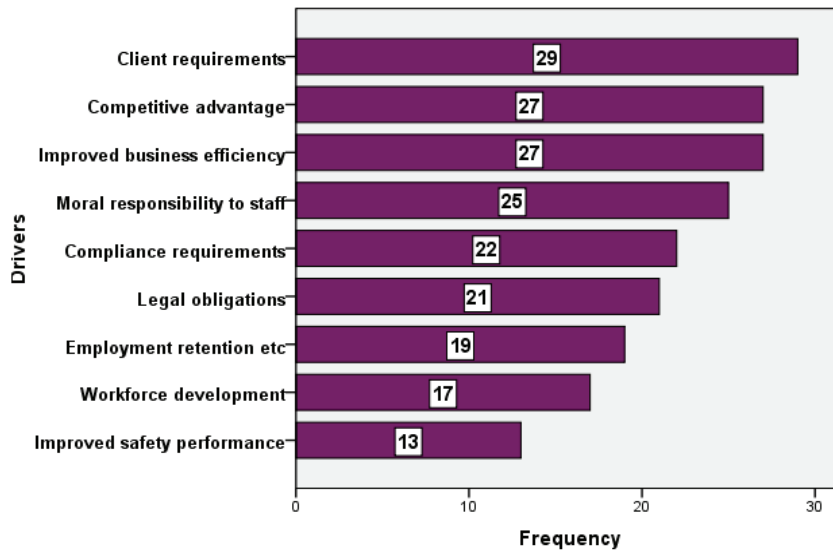
Figure 2. Drivers for competence management

Client expectations were regarded as a 'massive driver' by over two thirds of respondents, while very few, chiefly operators and exploration and production companies, did not regard this as significant. For contractors, clients are demanding competence requirements be met, measured and evidenced. Not to do so could result in loss of future business at the least. Critically for our respondents, clients are setting targets based on competencies. Equally, no respondent who regarded client expectations as a driver felt that it was anything less than hugely significant and influential.

I don't think in this region we are bound by legal requirements; contractual requirements, yes. That's a show stopper; if you don't have a minimum competency for a certain position the client will not accept them. That's a show stopper.

Legal requirements are regarded by around half of the respondents as a key driver, while many noted that the significance of legal requirements varies internationally and that legislation tended not to define competencies. This question elicited much discussion amongst respondents, which the following quotes illustrate:

The only thing is that when people are doing these activities actually at work we have them do further training because our levels of competency are much more detailed and much more in line with industry standards which the actual [country] laws are not really evolved enough to the same levels.

There are all sorts of legislation, health and safety legislation in particular that applies to the offshore industry and it's massive, absolutely massive. And as I say I think the danger is that somebody will get so embroiled in the legislation and in the legal framework that they can't see the wood from the trees.

A number of respondents called for greater controls:

> OPITO needs to be more demanding and needs to be more forward thinking in the way they do their job … at the pinnacle of the industry and actually driving it forward in modernising how people become competent to meet the legislation and allowing the legislation to drive the competence.

Some feel there are no effective controls:

> Today there is absolutely no control, no governmental control or control from the authorities in whether people will learn something, whether they will be competent after they have completed a well control course … one good thing from BP and the Macondo accident, would be that we focus more on competencies instead of compliance.

Another interviewee reinforced that there was too little power amongst the regulators: 'I think having random inspections and evaluation by an independent authority that has power and teeth; I think that's the problem, there's no power or teeth in the regulators and there never has been'.

Again for over half of the respondents there was a need to have a competence management approach in order to assure compliance, while for some this was of minimal importance. One respondent felt that competence management should be mandatory across the industry. Another saw competence management as a way to 'avoid fines'. One respondent (see below) thought that compliance itself lacked clarity of meaning and that industry required good guidance on how to achieve competence.

> I think that compliance with legislation is one thing where the certificates that people require to demonstrate that they comply with the law. But I don't think there is behind that a requirement per se for a competency framework. How they [companies] actually get to the point where they are legal is very much a matter for people like OPITO to give those guidelines as to what is and what isn't a good way of being competent in the industry.

The majority felt that competence management enabled the company to deliver its moral responsibility to employees by ensuring that they were fully supported to undertake their duties. Interestingly operators and exploration and production companies almost invariably described this as a key driver. Two respondents commented that 'good companies will have this as a driver'; while another noted this 'should be a driver but [is] not always the case'. Interestingly five respondents stated that this was not a driver and some others felt that financial and legal imperatives were more compelling drivers.

> It's just a case of what can you afford in terms of being responsible to your worker.

One respondent noted changing moral imperatives in operating in new regions: It's a real driver now and that's one that we've noticed that's coming in more and more is duty of care to its employees … it used to be, you didn't do that because it was Africa, now that's no longer acceptable … if someone's flying in the North Sea and is flying the same plane in Africa there's no reason that he should accept a lower standard of compliance or whatever you want to call it there when he's at home.

Competence management was thought to lead to improved business efficiency by the majority of the respondents. However, again there were some who felt that this was of minimal importance and that companies were seeking just to assure that they met current requirements rather than to improve. Another acknowledged 'we are not good at workforce development'. However, where competence enhancement was being delivered, it was felt to reduce the need for staff supervision and hence to lower costs.

The introduction of competence management was felt by over two thirds of respondents to have been driven by a desire on the part of companies to secure competitive advantage. This tended just to be stated as a fact and was not subject to much further explanation or theorising by respondents.

Fewer respondents thought that employee satisfaction, retention and development were drivers of the development of competence systems, though a number felt that it should be, and that it would be in 'good' companies. One respondent felt that employee satisfaction was not 'as important as it should be', others that it was a 'minimal driver'. The point was also made that it was important that meaningful and transferable skills were delivered. Another respondent highlighted that competence approaches help to make staff 'feel safe', while a second suggested that motivation was improved. However, one interviewee

observed that companies are often torn between a desire to up skill employees and a reluctance to make them too attractive to other employers.

> We have been developing [in ways] which are recognised across the industry, so it provides transferable qualifications to the workforce. Others view that as a negative because they don't want a workforce who can move around the industry. They want a workforce who they have captured in the company.

When asked what other drivers influenced competence approaches, several respondents mentioned the importance of competence management as an aid to staff recruitment, while small numbers mentioned other influences such as financial imperatives, the importance of accrediting qualifications independently linked to competencies, linking competence management to employee incentive schemes, assurance that a national workforce was developing to global standards and as a support for succession planning, particularly in light of the demographics of the oil and gas workforce. One respondent made the point that the development of effective competence management systems has the potential to 'win the hearts and minds' of staff, while a second felt that it demonstrated that senior management valued employees. Another emphasised the point that the challenge of competence management was exacerbated in small companies. One other respondent felt that it was all about company reputation. Finally asset integrity was identified as a driver of the competence agenda for one company.

Interestingly, only thirteen respondents felt that competence management was being delivered to improve safety performance; the least rated of all of the drivers in the open questioning. Three respondents felt that 'safety is a by product of compliance and not a driver'. Others reported that the goal of safe operating did drive compliance but it would be interesting to explore further the inter-relationship between the two.

> It's the same in the offshore industry, it's no different from shipping - that there is classroom training and there is a bit of a practical. There's nothing in the middle, there's no simulated bit where people can practice the high-risk activities in a safe environment. So the first time they meet a high-risk situation it is in real life.

This comment illustrates a real dilemma for the industry in terms of how to replicate the high risk scenario without the actual high risks thus ensuring that competence is not given its first true test in real life.

Counter-intuitively, despite the fact that safety had been rated by many as not a key driver of the competence management agenda, when respondents were asked to state which driver is the most significant for their companies the majority rated it as the most important (see Table 4).

Table 4: Most significant driver of competence management agenda	
Driver	**No.**
Keeping the organisation safe – improving safety performance	14
Client requirements and quality of service	8
Ensuring the competency of contractors	4
Financial concerns and increased productivity	4
Staff satisfaction, development and morale	4
Assuring compliance	3
Duty of care to employees	3
Company reputation	2
Competitive advantage	2
Internal knowledge of competence levels	1
Meeting industry standards	1
Meeting international standards	1

Who owns competence management?

Within companies competence systems tend to be owned by HR/OD departments (18), training departments (9) and HSE departments (9). Only three companies have specific competence departments. In five companies competence was owned by the operational functions and another delegated responsibility to country managers. In one company competence management was led by what was described as the 'technical department'. In seven companies there was no particular ownership of competence or at least not

one that could be identified by the interviewee. One respondent argued the need for objective, independent and fair ownership:

> *For me I would get competency profiles through recruitment and selection and everything else outsourced. I wouldn't deal with it within an organisation because there's too much nepotism.*

Another argued that there is no single natural home for competence:

> *The problem we've had with competency over the years is that it doesn't sit neatly within any part of the business therefore no part of the business is being willing to pick it up and run with it. So what you'll get is you'll get the three main departments; so you'll have your HSE who, yes it's got, a big element of it is safety but it's not just about safety. Then you've got your training department who, yes a bit element of it is related to training but it's not just about training, it's about safety as well. And then you've got the operational piece, operations who ultimately should take responsibility but they'll say it's a safety/training issue so the ball's being passed from one to the other for a number of years without anyone saying "Right, this is what we are going to do".*

Measuring the effectiveness of competence management

The effectiveness of the competence system is measured in a variety of ways. For around half of the companies participating there is no measurement involved, it was not measured effectively or '*we're not strong in this area*' (16): a significant number indicated that they didn't know how this was measured suggesting deficiencies. One for example commented '*I don't really believe we monitor the systems once they're in place*', another that '*it's managed in a reactive way*'. For another significant proportion (14) the effectiveness of the competence is measured by company wide audits, which are the most commonly utilised tool. One specifically mentioned client audits and two spoke of customer feedback as a measure. However, respondents also mentioned tools such as training matrices (3); management assessments (4), staff feedback (2), certification/audit by external bodies (2), annual staff assessments to ensure currency (2), review of how a crisis is managed, review of projects, numbers of staff being promoted, progress reports, quarterly review, assessments against best practice, KPIs/scorecards; progress reports (2), incident/accident rates (2), HSE audits (2), buddying system (2) and the achievement of set objectives by staff. Two respondents mentioned FPAL reviews.

One interviewee made the point that the review data gathered as a result of an investigation could be usefully disseminated beyond senior management, thereby ensuring that lessons are really learned throughout the company: '*By someone senior coming in and explaining "we've had an independent review, there's a number of things and we want to share them with you because we don't want it happening again." To me that's high value*'.

> *There's a lot of good talk about competency, but in terms of meeting competencies they're not really measuring it on an ongoing basis. You know, is this man competent to do this work? If he's not, then he should come back and do some retraining, for instance. We never, ever see people coming back, in advance of the due date.*

In many companies measurement of competence systems is undertaken by unspecified internal teams (9) and whether internal or external measurement is carried out, this can be by a surprisingly wide range of agencies; by external auditors (6), line managers (8), external awarding bodies (4), clients (2), HR departments (3), quality, health and safety departments (7), training departments (3), competence assessors (2), installation managers (1) and senior management (2). One respondent made the point that '*it's the responsibility of everyone to measure it*'. However, some respondents were sceptical: '*I don't believe people really monitor the systems once they're in place*'. Certainly, the emphasis in response to this question was overwhelmingly on internal measurement of company systems. There were also a significant number who simply did not know who was responsible.

When asked if they had confidence that companies were effectively managing the competence of their staff, less than half were confident that this was the case (17), while others did not have confidence that this was the case across the company (6), felt that there was room for improvement (8), felt that there was variability geographically (2), felt the system was ineffective (1), too general (1) or simply did not know (5), which in itself suggests lack of confidence.

Another interviewee expressed uncertainty about measuring competence, a view that emerged again and again throughout the interviews: '*you can get somebody through a test, as you probably know, and think they are competent, when really they aren't competent'.*

One respondent raised an issue with the short term nature of employment, contracts and projects in the oil and gas industry:

> *I think most of the problem is getting the time to be able to demonstrate that competency, especially when the workforce is only on the job for a couple of weeks or a couple of months.*

How does the competence system demonstrate staff competence?

Table 5 sets out the kinds of data held systems which could be used to demonstrate the competence of staff.

Table 5: Types of data held in competence management system	
Data types	No.
Competency assessment files/profiles for staff	6
Details of assessment processes/records and certifications	5
Training and certification records (pass/fails)	5
Highlighting staff who are not competent (training gaps)	4
Observation records	3
Supervisor competency and performance management reviews	3
Accident improvement records	2
Numbers of non-compliances	2
Onsite signing off for manual handling of equipment	2
Recruitment records – qualifications held	2
Task completion rules	2
Team working records	2
Customer complaint figures	1
External advisors' feedback	1
Improvement/enhancement records	1
Occupational standards mapped against roles	1
Peer reviews of staff competency	1
Records of ability to complete simulation exercises	1
Regular refreshment exercise records	1
Speed of movement between levels of competency	1
Staff feedback	1
Technical skills mapping	1

This is a somewhat surprising spread of respondent awareness of the content of competence management systems and of the kinds of data that can be stored therein, and indeed some respondents simply reported that they did not know. It suggests a need for a generally agreed set of information that should be held and which may be useful in measuring and monitoring achievement.

> *One thing that we also bear in mind is just because it's [assessment] been completed that doesn't necessarily mean that they maintain that competency level in one, two, five years' time, so the high criticality tasks are something which are reassessed on an annual basis, the low criticalities are reassessed on a three year basis.*

There was an equally surprising mix of responses when respondents were asked which external bodies were involved in accrediting or approving the qualifications or training outcomes of staff. A significant number had no such external accreditation or did not know of it, although very interestingly another group reported that they were looking to accredit through external agencies in the future and considering which route to take. This would suggest that there is room for some debate around both the value of external accreditation and the ways in which this can be best affected to maintain quality standards and a proven robustness in the future. Those who reported external accreditation mentioned universities, ISO, OPITO, IiP, NOCs, City and Guilds, local bodies and the SQA.

This question also raised issues for some around the validity of certification for individuals: '*some of the certification of competency of knowledge of an individual may not be of such high validity.*'

Evidence of the effectiveness of the competence system

This section of the interview sought to find out what evidence companies hold which demonstrates the effectiveness of their competence management system. A very significant number could not give any evidence. The responses were highly individualised again around data such as certification of approval from clients and external bodies, improved accident records, their ability to identify those not competent, improved skill set of staff, staff achievement and maintenance of training certificates, data on non-conformance and gaps in competence, assessment against best practice, the number of assessments carried out annually, that staff skill sets were improved, that electronic systems were faster to access, that they now had greater visibility of records and performance and finally the company's ability to transition from an expatriate to a nationally managed workforce. One interviewee saw the high and rising level of engagement with the system by staff as an indicator of effectiveness. Some respondents gave very specific examples of enhancements such as, the '*introduction of tests based on recaps at the end of the day ... increased retention of knowledge*'.

Respondents also identified some evidence of competence management systems not being effective, such as the Gulf of Mexico incident, situations where competence fell far short of the minimum legislative requirements, staff dissatisfaction with the training provided and a system where changes to documentation had failed to be propagated to all references. One respondent gave an example of a failing earlier system which had been overly complex and had sought to accomplish too much. Manual systems were also believed to be prone to errors. One respondent raised questions about what was actually being measured:

> *I think that is one of the dangers of the competency system that you can get a guy who is very good at being assessed at ticking boxes, but not so good at retaining information we deliver on a daily basis.*

Another criticised '*competency programmes based on attendance only [which] don't measure exactly what attendees have been doing*' and which do not test outcomes of the learning.

Barriers to competence management

The major barriers to companies in developing more effective and efficient competence systems are set out in Table 6 below. They are dominated by resource issues.

Table 6. Barriers to developing more effective competence systems	
Barrier	**No.**
Shortage of resource/finance/time	18
Lack of senior management (and wider staff) commitment	10
Lack of understanding of competence and of benefits associated	6
High proportion of contract agency staff	3
Local restraints and cultural barriers	3
Lack of partnership amongst training governing bodies	2
Technological deficiencies	2
Developing a single competency system to meet all roles and business units	1
Dynamic change in training methods	1
Failure to recruit	1
Implementation of systems in remote or offshore environments	1
Inconsistency of standards	1
Lack of ability to assess competence internally	1
Meeting the needs of stakeholders	1
No external or peer review	1
Quality of assessors	1
Staff resistance to assessment	1
Tracking a global workforce	1

A significant number of respondents indicated barriers in terms of buy-in and understanding of competence:

The main barriers to having an effective competency system are that people have no idea what competency means. The word just gets thrown around and people just think they have a great understanding of how to achieve it and we spend a lot of time putting together competency assurance processes that just don't have any meaning and don't achieve anything.

Another interviewee noted a need for a radical shift with industry taking a leading role: '*making it fit for purpose in a modern industry. And I don't think that's happening. I think everybody's waiting for everybody else to take the first step and people are just carrying on doing the old training courses, the old competencies'.*

Contractors and competence management

Where companies use contractors and service companies, these are almost always expected to have a competence system in place (see Table 7 below).

Table 7. Are contractors expected to have a competence assurance process?	
Yes	27
No	6
An issue in emerging markets	2
Contractors use the company's system	2
This is encouraged	2
Don't know	4

Although such systems are expected to be in place, there are some issues in terms of their reliability:

Of course we do and that's where most of it falls down because the agencies, the staffing agencies and so on, manning agencies that have competency structures in place, they are not worth the paper they are written on.

Another respondent made the point that this can be difficult to manage in new markets and with new contractors.

In the majority of instances companies audit or verify the effectiveness of contractors' competence systems post award. They also check certificates and accreditations and carry out work visits and observations. In one company a review of company information is carried out. In some instances an end of project audit is carried out. Three respondents made the point that contractor audit was '*not carried out very well*'. However the system is also very influential pre-contract award and the requirement tends ever more frequently to be seen as a criterion as part of the procurement process and forms part of the contractual Terms and Conditions. In two instances respondents emphasised the extent to which companies evaluated tenders very carefully in terms of the description of the competence management system. However, there was a recognition that post award, systems could deteriorate:

Unfortunately what happens is as they start to changeover staff, they lose staff and bring more people on that's when the system starts to fail because they just don't apply it anymore and it requires a lot of constant monitoring to keep on top of the contractors and to make sure that they keep employing and bringing on trained and qualified people.

Some companies considered contractor competence as a risk and monitored and reported accordingly.

Some felt that when the contract has been signed, then the contractors have the legal obligation to provide competent staff. However, others argued that the obligation remains with the contracting company, which must ensure that competence is delivered to as high a standard as for its own staff.

If there is a major accident in the industry you can't point at your outsourcing agent and say "Well they gave me the wrong people". It doesn't work like that. Competency is corporate and it rests with the body that actually employs these people, not with the agents that provided them.

A significant number of companies responding described contractors as failing to deliver competence, with poor levels of staff competence, relying too heavily on the contracting company to provide training in, for example, permit to work, not taking competence requirements seriously and not understanding how to evidence robustly that they are meeting competence requirements. One expressed the opinion that '*further down the contracting chain staff are not always as competent as they need to be*', a second noted '*concerns as to how effectively they [the contractors] are assessing their own systems*', with two others reporting concerns but '*not having the resources to so anything about it*'. It was thought that in particular technical competence could be lower than anticipated. Another reported deficiencies in quality of assessors, while a second felt that the process was working only where contractors were using external verifiers/assessors. The point was made that where there were concerns assessments should be carried out by third parties. Overall, the relationship with contractors was one of the areas where respondents expressed greatest scepticism about the ways in which things were working: '*there can be inconsistencies between what the companies say they can do and what is actually the case*'.

> *We have contractors who are following our permit to work system and they have agreed to follow our permit to work system in terms and conditions yet they expect us to teach their workforce how to follow our system and in fact the obligation is on them to train their own workforce. We have got a vested interest in making sure their company understand how to follow our system, but it is not up to us to teach their workforce, so achieving competency is a matter for them.*

Another interviewee illustrates a frequently stated concern around the importance of currency and updating in competence management and the need for it to be ongoing:

> *It's always difficult to manage that because that is like getting an MOT. If we look at one of our contractor companies and we say well "we want to look at how you manage your competence", they can say "look at that, isn't that great?" But that's on that particular day. If you go back six months later, have the two new guys that have started, have they been through that system? Have they even started the process? That is very difficult for the client to manage, and it is one of our major concerns.*

A second reinforced this view: '*competence is potentially fleeting and it's really really difficult to hold.*'

The relationship between compliance and competence

A significant number of respondents (17) felt that compliance is a product of a high quality, robustly assured competence system, seven felt it was not, while six saw compliance and competence running in parallel, five respondents felt that competence was only one aspect of compliance and the others did not know. For around half (21) their competence system had not been developed from a compliance regime, but rather had been developed in response to industry technical standards, in order to be able to map staff career progression, because of client expectations and because of what was perceived as the industry shift toward competency. For around a third (9), however, there was a belief that their competence system had been developed purely in order to be meet compliance requirements.

When asked which came first, compliance or competence, the majority stated that basic compliance was the prerequisite (22), while a little fewer (13) felt that competence should come first.

However, conversely in response to a subsidiary question, when asked whether it was more important for companies to bring their workforce to a place of compliance or to develop competence to do the job, respondents tended to report a swing in the other direction in terms of those who thought competencies (20) more important and those who felt it more important to be compliant (11). One interviewee sought to illustrate their view in a real life context: '*I want to send somebody to go into a confined space, I think it's important that they are competent to do that first then we'll understand the compliance behind that*'.

A significant number felt that they were equally important or could not prioritise one above the other. These questions illustrate a tension around the relationship between compliance and competence which should be the subject of further industry debate.

> *Compliance should not be the only [goal] for competency [systems] but it should be something you eventually derive from the competency system.*

Again there was some disagreement as to the extent to which the Macondo incident had resulted in more pressure being placed on companies to move from a compliance based model to a competence based one. 20 agreed that it had, while 8 felt that it had not, and a number argued that the event had resulted in the significance of both being highlighted (4) or simply stating that they did not know (5). Most companies (18) responding had made no direct changes to compliance and competence approaches as a result of GoM, although some had carried out a health check of systems as a result, drawn from lessons learned and a number of others acknowledged a greater rigour in implementation and heightened awareness of the need for very robust processes to be in place. Some companies had increased and widened the scope of employee review, made equipment changes and developed new methods of project leadership as a result. One company had focused specifically on 'competencies to do with oil spill response' and another had 'adopted new safety training requirements which came out of America', in the aftermath of the incident.

> Yes major incidents do add a lot of pressure, it is not negative pressure. People understand that competency is important but having examples of where it's failed where unfortunately people have been killed because of it but this provides you with motivators to make people understand why it is very important they learn and do competency.

Another interviewee observed that such incidents made companies more critically reflective 'Is there anything around the corner for us?". However, another felt that such high profile events could also result in an attitude of ''Thank God it wasn't us'.

In many companies (19) the compliance and competence systems are not integrated and where they are, they could be regarded as partial (3) or inefficient (3). Generally competence systems stand alone and some respondents felt that they did not need to integrate (2). Others (6) reported a growing recognition that they need to integrate the two, although there was also some uncertainty on the part of respondents as to how the two interrelated, even when it was felt that there would be value if they were:

> I don't know to be honest. I wouldn't be 100% convinced to say that's what happens. We've got the tools but whether they are linked, they are not linked formally together but whether there is a people link between them I would hope there is but I'm not, there are sort of if you like owners of the particular segments who are managing the competencies within that and I would hope that they look at these things. But I'm not 100% convinced.

Enhancing competence management

Respondents were asked to grade their current status in terms of competence management and to consider future enhancement. While some respondents regard their system as achieving a high level of performance, respondents tended rather to group towards the positive end of the spectrum.
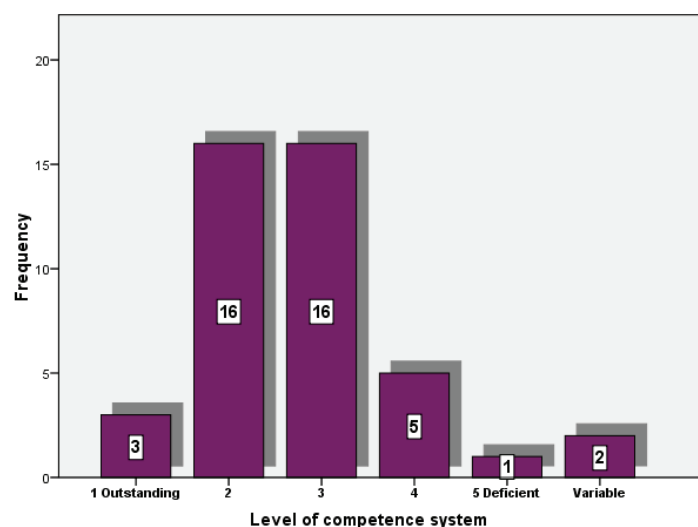
Figure 3. Level of competence system currently

One respondent argued the importance of continual enhancement of competence management as an ethos:

> *The importance is keeping on top of it, managing it and continually improving it. There are always ways and means to improve.*

While respondents recognised the benefits of their existing systems, they were also able to identify potential enhancements:

> *We're pleased with the system that we've got but going back to what we spoke about earlier about complacency it might tick all the boxes for now but we need to make sure that it really is fit for purpose … we need to keep an eye on that and bear in mind the feedback that's coming in from the various stakeholders and hopefully keep improving on it.*

One of the major areas where respondents sought enhancement in competence systems related to the systems themselves, for these to be simplified, flexible, to enable knowledge sharing and to be capable of easy analysis of data. In particular in terms of knowledge sharing there was a call for the capture of content on which to base competences. A number raised the complexity of systems as a real challenge. While there is a desire for more knowledge sharing across the industry, respondents also noted that the industry was a highly competitive one and that competence management was an area of potential competitive advantage.

> *As much as Step Change and Oil and Gas UK do a fantastic job in trying to share learnings, get people together and get one way to work on things like permit to work or emergency response … it will never work that way because people are pushing out to say "we do that, but we do that bit extra and that's what makes us the better person to use". Although it would be nice to get to that place, there's a clear understanding that people are always looking to have that competitive advantage.*

Systems should be able to clearly link training to demonstrable and tested competence and should also clearly signal the currency of competence. In terms of the overall outputs of the system, these should be capable of evidencing continuous improvements. There was a frequent plea for more robust assessment processes and compulsory external review. Often the award of certification was felt to be less than meaningful, suggesting that certification is only a step on the way to becoming competent.

> *I do training around the world and you can train people and they get a certificate of completion, they get a certificate saying they've done the training course but you know there's only sort of one out of ten of them who would know anything about it if anything happened.*

A significant number of respondents commented on the need for competencies to be meaningful, to be linked to occupational standards and for there to be a return to more '*face to face*' rather than purely technology delivered training. Yet conversely there were those who called for more digital resources to support competence development. Some interviewees called for more interaction with or involvement of staff who work on the job in delivery of competence programmes.

Two respondents called for an empirical and scientific way of assessing competence management to be developed, while another felt that their usage could be improved by giving '*ownership of competence systems to the workers*'. In a related point, another interviewee felt that more could be done '*to include everyone in the organisation in the system*'. This is reinforced by another respondent who felt that it would be possible to create better buy in from all levels of the organisation. Another noted that the system should be able to demonstrate that '*we have got things right*'. This would indeed appear to be the core requirement of such a system.

Finally there were calls for less focus on documentation and process and more on behaviours. The notion of continuous improvement was thought by some respondents to be little understood.

When asked to give examples of successes and failures in competence systems, respondents gave a rich variety of examples. Some spoke of the creation of evidence portfolios signed off by external assessors and the development of a highly professional attitude amongst staff; others felt that staff were increasingly developing competencies as a way of developing their careers.

People are actually using it, not necessarily just as a stand-alone program that it was sometimes seen as, but looking at it from a personal development point of view … We've seen quite seismic changes within our competency program within our organisation, slowly mind-sets are starting to change because as little as just four years ago people would see it as a compliance issue.

One respondent felt that the competence system had helped the company to maintain quality in emerging markets, while another spoke of winning an award for their system, thereby enhancing company reputation. One respondent noted that '*competency is slowly starting to become part of the organisation's culture*' and a second that '*success is how all local managers have bought into competence systems*'. Some companies had reduced accidents and two reported incidents where they had seen '*lives saved due to the competence that other members of staff had*''. Another described a case where the company had seen '*an unexpected failure due to staff not being competent*'.

One company evidenced competitive advantage through having put in place a system, where the '*existence of [a] competence system allowed us to win business from a competitor*'.

In terms of failures, respondents had encountered problems with contractors taking responsibility for delivering the necessary training for staff, contractors fielding incompetent staff, individuals shortcutting the system, crews signing off competencies too readily for familiar colleagues, lack of ownership of systems in operational units. One interviewee called for greater monitoring and assessment to take place on the shop floor. Rather unexpectedly, one respondent spoke of the difficulty in '*getting senior technical individuals (not management) to understand the need for competence*'.

Several respondents spoke about failure in emerging markets, where one spoke of the challenge of bringing employees to the level of competence required due to varying educational backgrounds, another of the lack of training tools to deliver in emerging markets, a third of the inability to demonstrate competence and finally one argued that the systems were overly complex for emerging markets. One respondent described a bespoke system that was incompatible with industry guidelines. Another described what was felt to be over-assessment of individual elements of roles. The ability and independence of assessors was called into question quite frequently:

For me the biggest risk is the competence of the person doing the assessing … they've no formal qualifications of being an assessor and sometimes maybe not even have the technical knowledge to assess that person. So I'd not just look at was the assessment completed but who did it and what makes them competent to do it.

Rather sadly one respondent noted that '*our organisation is still just ticking the boxes*'.

The impact for companies of enhancing competence systems was described in varying ways with much of the impact naturally focusing on compliance, avoidance of penalties and the company's moral obligation to staff. However around a third of respondents identified ways in which the company have increased their ability to evidence capacity to prospective clients, heightened reputation, won more business, satisfied clients and stakeholders, respond more swiftly and dynamically to emergencies and changes in the external climate and deployed their workforce more efficiently. Finally there were recognised benefits for staff, in terms of greater satisfaction, flexibility, transferability of skills and career prospects. The company would also be better able to select the right staff.

Raising competence management standards

In terms of the ways in which companies could raise standards in competence management, the most frequently identified single enhancement proposed that the oil and gas industry could learn from other sectors and this is a theme which also emerged from another piece of research carried out by the authors into health and safety information systems earlier this year. It was thought that governing bodies could do more in this area to drive improvements and that there could be more collaboration amongst industry bodies to take the debate forward. One respondent called for standards to be piloted.

The actual systems used to manage competence were felt to be capable of significant improvement, in terms of their cost, their visibility, their ease of use and their complexity. The call to simplify was one that was very frequently made. Internally companies reported a need for more time to be dedicated to competence management and for it to be taken more seriously in particular for non-core roles, with one

respondent proposing an individual should be appointed to lead on competence. This was also expressed as a need for '*staff to take greater ownership of competence*'. Others noted their company need was to roll out the system across the whole organisation and '*to get everyone in the company to use the same system*.' Some respondents felt that companies needed to invest more in their competence systems, another that the company needed to demonstrate '*more perseverance … to implement successful systems*'.

One respondent argued that companies need to evaluate suppliers more robustly, and that theme certainly was supported in the data reported above. Another felt that competence should be better embedded in recruitment processes. One respondent suggested that a fuller evaluation of competence management systems could identify shortcomings upon which enhancement might focus for the industry as a whole. It was felt too that this was an area that required more time and effort devoted to debate in the industry, potentially involving external advisors. One interviewee issued a plea that there should be greater clarity around what is necessary to comply. One felt that training could be improved across the sector, that standard minimum training could be agreed based on best practice and a second that instructors could be given more operational experience by industry. One interviewee argued that companies need to continue to embed competence management as part of their company culture. A number noted the ageing workforce and the current very real challenge of skills gaps in the industry and the pressures this places on enhancing competence. Finally it was felt that more could be done to explore the views of the workforce.

The future and potential industry wide enhancement of competence management

Companies reported a variety of ways in which they were planning to improve competency in their workforce. A number were seeking simply to build and strengthen competence in key areas. There was a focus on strengthening the existing system for some or for rolling it out fully across the company and ensuring that procedures for using the system were further developed and well documented and that all appropriate staff could use these procedures. For some there was some work still to be done in defining and mapping competencies against both roles and training courses, particular when individual elements of safety critical performance had been identified. One interviewee argued the importance of seeking to ensure that any further enhancement add value more broadly to the organisation. Again some respondents mentioned the need for greater external accreditation and better assessment. One respondent felt that an area that had been missed was that of customer facing staff, with a competence focus too much on technical skills. Another respondent echoed this arguing the importance of '*expanding the system to include all members of staff and not just engineering*'. Another felt that an area of future enhancement should be that of succession planning and the use of competence systems to underpin this.

One interviewee made the point that competence management should not be an end in itself:

> *We say what we want is trained people and not people on training as we have so many people who work out here who just want to get hundreds and hundreds of contractors through the training, ticking the box, so their work activities are not delayed and there doesn't appear to be any real sort of concern as to whether the people can actually do the job at the end of the day.*

Again the importance of objectivity and consistency was raised:

> *I think as we move to global standards it is going to be much easier for external and internal auditors to verify compliance because we do have common standards. It'd be very easy for companies to have internal standards that they think are fine and dandy but with deeper investigation perhaps they are falling short. So I think as we move to global standards that is going to be one huge step forward for the industry.*

Finally, it was felt that understanding of competence needed to deepen and move away from its interpretation purely as training:

> *Most people think competence is training, it's not, and that's one of my biggest problems: "I've got this certificate, I'm competent" But that's not the way it works. Or "it's okay to do this" but they can't verify that compliance. They can't close the loop that says "we've checked that and they're compliant." It's something that you have to continually do, some people do the exercise once, tick the box and think that they're done.*

When prompted for further improvements across the industry as a whole, a very significant number spoke of the need for more openness about the whole subject of competence and sharing of good and bad practice. A significant number also called for a uniform competency system and standardisation of systems across the industry. This standardisation was also thought possible in terms of identifying standard ways in which people could become competent. It was thought that the industry could be more at the forefront of competence management, both in benchmarking against other industries and in adopting new technologies.

There were also a large group who argued that industry should stop paying '*lip service'* to competence and seeing it as '*just something which has to be done'* and that there should be a move from seeking purely to be compliant towards a greater recognition of the value of competence management. In the words of one respondent, the industry should '*stamp out the tick box approach to competence development'*. There was a call for industry to carry out skills analyses as a base for company systems. A significant proportion argued for recognised, agreed, global minimum standards and greater consistency:

> *There's so many differences place to place and rig to rig, it's really complicated when you're working for a service company and you go to one rig and the rules are X and you go to another rig and the rules are Y.*

There was also a plea for standard ways of assessing and testing that staff were competent, for better assessment that clearly evidenced competence, better understanding of the ways in which staff becomes competent and acquire specific competencies and more emphasis on practice on the job.

> *It would be nice if we were able at certain stages to be able to say, "Ok, the job of a driller, right what does that entail? Well here's a common industry standard that everyone's working to, that everyone agrees on and we are able to take that off the shelf and say that's what we are going to assess to" and they either might get common assessment tools and processes to come alongside … it also means that you've then got this global acceptance … and you can measure the individuals to that standard but there's not enough of that in the industry.*

One interviewee called for the investigation of '*the human side of competence'*. However another called for the establishment of '*rigid'* accrediting bodies, a view reinforced by a second who reported a need for much greater '*rigour in accreditation and testing that standards were being achieved'*. This was reinforced by the observation that '*competency standard setters need to be more rigorous in checking of standards/ compliance'*. Rigour was a concept that cropped up frequently across the interviews.

One respondent argued that the industry labours under '*too many priorities'*, while another felt there '*were too many definitions of what competence means'* and too little agreement about what it is and how it can be achieved. This was a theme echoed by others throughout the current research. It is illustrated in another observation on the lack of guidance and clarity in the competence arena: '*you will not find from a global perspective a number of different legislative acts that tell you "you must assess everyone" or "everyone must be competent".'* Again, the call for a deeper understanding of competence was made:

> *Inherently one of the biggest problems we have in a global organisation is what competence is seen as being. Competence in Europe is something completely different to competence in North America. The competence in North America is more about training and the training matrix.*

Equally there were comments around the plethora of regulations and standards and it was felt that workers and indeed the industry as a whole remained confused about what it needed to do and how competence management could help to deliver to this agenda.

One very pragmatic proposal was for a single body to be established to deal with all issues relating to competence across what is recognised as being a very transient workforce in the oil and gas industry.

Additional industry wide comments suggest a greater concern with compliance than competence, with an industry becoming ever more prescriptive. One respondent noted a role for the established oil and gas nations to help emerging regions to improve standards and build competence, while a second noted that competency means different things to different cultures globally.

Overall it was felt that the industry as a whole could dedicate more attention and resource to this area and that it was just '*waking up to the need to drive competence more effectively'*. One interviewee actually felt

that '*compliance and competence skills had fallen across the industry*'. Another expressed a view of the significance of both:

> *For me it's a given that you're compliant. It's your licence to operate, it's why you can stay in business, and it's why you get new business. Competency is the demonstration that you can lead that.*

Conclusions

There is a clear realisation that merely being compliant is not appropriate if the goal is to continually improve workforce safety and skills. Over two thirds of respondents felt that too great a focus on compliance does lead to complacency.

Many respondents felt that their company approach and the UK compliance and competence regimes are exemplars which could be translated into industry wide standards. There is overall an appetite for greater consistency and global standards in competence management to be established.

There is also a desire for greater openness and knowledge sharing across the industry in terms of competence management: however, it was also acknowledged that this would be difficult when it was regarded by many companies as providing a competitive edge. This might include specifications of competencies for roles and standards on competence levels and assessment.

It is recognised that certification does not equate to competence and more attention needs to be paid to the outcomes of training programmes.

Industry needs are changing with clients increasingly demanding proof that workforce competence is delivered and not just through policy and a compliance approach.

Major issues emerged about companies' confidence in their contractors' delivery of compliance and competence.

Ownership of competencies must be embedded more deeply in companies, overcoming what is currently seen to be a gap between management and operations and a lack of buy-in.

There is no sense of a natural home for competence in companies. There would be merit in agreeing commonalities in the ways in which competence is measured and owned.

There is a lack of consensus and common understanding of what competence actually is and an appetite for definition and specificity around what it means for core roles in the oil and gas industry. One interviewee phrased well the concern that had emerged throughout the interviews about the lack of common industry understanding of competence:

> *We do not have a definition of what competence or managing is, we have a safety case regulation, we don't have a definition for competence. We've no idea what competence is in this industry and we can look to other industries like construction downstream and rail, where they've gone and done work in that area and in many ways they are ahead of us.*

Finally a theme which emerged throughout the interviews was that of robustness particularly of assessment and the validity of processes, with many calling for greater rigour and objectivity. There is a lack of confidence in the measures in place for competence and in the objectivity with which competence is measured:

> *You could have all of these fantastic systems and everybody's ticking boxes but how effective are they at the end of the day. I think somebody going around measuring effectiveness is the only way you are going to know if they work*

Acknowledgements

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