

Practical experience of rolling out process safety competency assessments across a large multinational company

Graeme Ellis, Group Head of Process Safety, Johnson Matthey plc, Royston UK

Assuring the competency of staff in process safety critical roles is a key requirement on high hazard sites to ensure that the management system requirements are complied with effectively. This paper describes practical experiences of carrying out competency assessments across a large multinational company, based on published guidance from the ISC (IChemE Safety Centre, 2018).

The first stage involved a pilot study on two UK sites using an external Consultant followed by sampling on other global sites to provide benchmarks. The ISC tool required some modifications to the generic roles and minor changes to the proof point wording to meet the company organisation and terminology. Otherwise, this tool proved to be very effective and allowed a demonstration of relevant good practice for competency assessment against an external standard.

The pilot assessments were carried out from Site Manager to Team Leader/Supervisor level with approximately 60 assessed in total. People were required to complete pre-work on the 18 topics followed by a verification assessment with a competent independent assessor, typically taking 3 hours per person. Competency gaps were identified where the competency level, ranging from Basic Awareness, through Developing and Proficient to Expert, was below that required for the generic role. In these cases, suitable training and development options were identified that were discussed and agreed with their Line Manager.

Feedback from Site Leadership on the assessment process was positive and a decision was taken to rollout to other sites, with an initial focus on high hazard sites within the company. The pilot assessments provided helpful learning that is covered in this paper along with learning from the initial rollout to high hazard sites.

1 Johnson Matthey

Johnson Matthey (JM) is a British multinational speciality chemicals and sustainable technologies company headquartered in London, with over 200 years' experience in the refining of precious metals. There are approximately 50 sites in the Group that operate 'applicable processes' with the potential for significant process safety incidents, located in Europe, North and South America, South Africa, Russia, India, China, Japan and Malaysia. Hazards are varied and range from the use of chlorine as a raw material, bulk usage of strong acids and alkalis, wide range of reaction hazards including metal-acid reactions generating hydrogen, to explosive atmospheres in drying ovens and molten metal eruptions. The sites have been ranked as high, medium, or low hazard based on the overall inventory of hazardous materials and process systems, and this is used to prioritise process safety interventions from the Group EHS Process Safety Centre of Expertise (CoE) team.

2 Introduction

Companies in the Process Industry operating hazardous processes are required to implement a Process Safety Management (PSM) system with a number of key elements. These are needed to ensure that major accident hazard (MAH) scenarios have been identified, suitable and sufficient risk control barriers have been implemented to reduce the risks to a tolerable level, and that these human and hardware barriers are maintained as fit for purpose throughout the lifetime of the facility. In order for these management systems to be effective it is essential that people with key roles throughout the organisation are competent to carry out their duties.

The UK HSE (Health and Safety Executive, 2016) has defined Competency Assessment as a core topic, and states this is about MAH prevention/mitigation and applies to all levels of the organisation, from Board members to front line staff. There is a requirement for competency standards to be set at all levels with training and development (T&D) where gaps are identified against these standards.

JM has implemented a Process Safety Risk Management (PSRM) system with 20 elements based on the system published by the US Center for Chemical Process Safety (CCPS), which in turn is a development of the US OSHA-PSM standard from the early 1990's. In common with modern PSM systems the PSRM system includes an element for process safety competency, defined by JM as "the combination of training, skills, experience and knowledge that a person has and their ability to apply them to perform a task safely".

The key competency requirements in the JM PSRM system include;

- A statement on the requirements for competency for all persons involved in the use, maintenance and inspection of plant and equipment.
- Required levels of competence for employees and contractors, including the senior site manager, operations personnel, engineering/maintenance personnel and EHS.
- Operators of hazardous processes must demonstrate competence in the MAH scenarios and the systems in place to prevent, control and mitigate potential incidents.
- For personnel replacements a suitable process should be defined and followed to ensure competency and skill level requirements are maintained.

3 ISC Guidance

JM did not have a consistent global standard in place to define competency requirements for the range of roles on a typical site from Site Manager to Plant Operator. The preferred approach by JM is to use published methods wherever possible to ensure that this meets external regulatory requirements to demonstrate 'relevant good practice', and to allow benchmarking with peer companies in the chemical industry.

Having researched a number of possible options it was concluded that the process safety competency model published by the ISC (IChemE Safety Centre, 2018) provided a suitable framework for JM's needs.

The ISC model has the following 24 generic organisational roles;

- Front Line: Operator, Maintainer, Supervisor.
- Engineering: Integrity/reliability, Technical Authority, Project, IT.
- Support: Process safety advisor, Process safety lead/manager, EHS Site, EHS Corporate, Operational authority, QC, Corporate Assurance, HR, Finance, Procurement.
- Management: Manager/ Superintendent, General Manager / Site Manager.
- Executive: Leaders/MDs/ CEOs, Directors, Board Chair, Safety committee chair, Process safety specialist board member.

There are 18 competency topics under the following 6 elements, many corresponding with the 20 elements in the JM PSMR system;

- Culture
- Knowledge & competence
- Engineering & design
- Human factors
- Systems & procedures
- Assurance

Competency requirements for roles are defined against the following 4-tier system;

- Awareness: Has knowledge of the theory and displays conceptual understanding. Actively participates in discussions regarding the skill. Performs routine tasks with significant supervision. Learns how to do things.
- Basic Application: Performs fundamental and routine tasks. Requires occasional supervision. Increased functional expertise and ability. Works with others.
- Skilled Application: Independent contributor. Integrates work with other disciplines. Frequently mentors or coaches' others. Assesses and compares alternative options.
- Mastery or Expert: Advanced experience in the particular skill. Applies creative solutions to complex problems. Defines and drives critical business opportunities and needs. Represents the organisation internally and externally on critical issues. Sets standards within the organisation. Recognised as a subject matter expert.

The ISC model defines the required competency level for each of the organisational roles. For example, a Site Manager is expected to be at 'mastery' level for process safety leadership but only at 'basic awareness' level for hazard identification and risk assessment. This reflects the need for the Site Manager to set the safety culture on the site through strong leadership whilst relying on technical specialists for conducting risk assessments, with the Site Manager demonstrating a basic awareness to ensure these programmes are working effectively.

The ISC tool provides word models or proof points for each of the 18 competency topics at each of the 4 levels, for example people at 'awareness' level for process safety leadership need to demonstrate the following;

- Aware of the importance of visible safety leadership.
- Aware of and participates in the company safety programmes.
- Demonstrates knowledge of workplace safety culture.
- Engaged and owns safety responsibilities and accountabilities.

4 JM Guidance

A JM Group EHS guide titled "Process Safety Competence Assessment" was developed setting out the methodology for conducting competency assessments on 'applicable process' sites in JM. This was largely based on the ISC tool and in particular retained the ISC proof points, and otherwise provided the high level methodology to meet specific JM requirements.

An example of the need for tailoring was the ISC generic role for a Supervisor. In JM there are Supervisors or Team Leaders in both the Operations and Maintenance teams, and the ISC Supervisor role was therefore split into these two generic roles and the competency levels adjusted accordingly. For example, an Operations Supervisor is expected to be at Practitioner level for managing major emergencies, whereas a Maintenance Supervisor is required to be at Basic Application level.

The expected competency levels for each generic role in the ISC tool were otherwise left unchanged, e.g., to reflect the actual role being performed by the person. Any differences were noted during the assessment process, and if gaps were found for topics judged less relevant to the actual role, this was taken into account when discussing the required T&D with their Line Manager.

To provide a clear focus, the assessments have been limited to site based staff from Site Manager level downwards and to people in process safety critical roles. Sites are required to assess all people on site in such roles, where substandard performance could significantly contribute to the risk of a major accident. These people are likely to be carrying out the following types of task;

- Where an error could initiate or fail to mitigate a significant LOPC incident.
- Related to the identification of unsafe conditions, e.g., inspection/testing of SCE.
- Related to the detection and management of emergency situations.
- Specific process safety related tasks, for example; hazard studies, reaction hazard assessment, developing site PSRM system.
- PSRM system tasks such as managing site PTW or MoC activities.

The pilot study stage described later included a sample of Operators and Maintainers who in the ISC model are mostly limited to the Awareness and Basic Application levels. This is a large group of people within the organisation and the value of extending the assessments to this level needed to be tested. It was concluded that competency at this level is best achieved using existing training arrangements within the PSRM system to ensure people are competent to operate and maintain the processes safely. In addition, JM has rolled out PSM for Operations (PSMO) training meeting the UK Cogent standard for approximately 4,000 staff in the last few years. This will be followed by refresher training to ensure that operations based staff retain vigilance towards process safety hazards.

Assessments are required for all existing staff in safety critical roles, plus recruited staff and staff promoted into a new role with different competency requirements. Where significant gaps are identified, their Line Manager is required to develop a Training and Development (T&D) plan to close these gaps, with progress regularly assessed as part of the annual personal review process. If there are significant gaps in competency identified during the process then a re-assessment of the relevant topics should also be considered following a period of further T&D.

For recruitment into senior site roles there is a requirement for candidates to carry out a self-assessment using this tool followed by an interview with a Process Safety specialist to check and verify their claimed experience, as part of the recruitment process.

The Group EHS guide is limited to the Process Safety competency assessment process but makes reference to the need for this to be done within the overall site Competency Management System (CMS), which needs to include the following features;

- Defining the process safety critical roles on the site.
- Ensuring that Job Descriptions include key process safety responsibilities and the required experience, skills, and knowledge.
- Describing the processes for recruitment and promotion into process safety critical roles, including the determination of process safety T&D plans as part of the induction process.
- Requirement for attending relevant Process Safety training courses for the role.
- Processes to ensure that T&D initiatives have been effective in improving competency.
- Processes to mitigate serious gaps in process safety competency for individuals or groups.
- Arrangements for maintaining performance through routine monitoring and periodic reassessment, typically as part of the annual personal review process.
- Arrangements to address substandard performance and initiate corrective actions when appropriate.
- Maintaining suitable records of competency assessments to provide audit trail demonstrating closure of significant gaps in competency.
- Carrying out periodic reviews of the quality and effectiveness of the competency assessment programme.

5 Assessment Methodology

A spreadsheet tool was developed to record the competency assessment that includes the following tabs;

- Personal details with contact details, current role, education, previous employment, and process safety related training attended.
- Assessment record with ISC proof points for the 18 competency topics and 4 competency levels, evidence of experience for each topic provided by the person being assessed, the current competency level (Awareness etc) as determined by the Assessor, plus notes/findings from the Assessor and initial ideas on further T&D needs.
- Development record with summary of assessed competency level versus expectation for the role, plus calculated competency gap where this is 0 if the expected level is fully met. Where there is a gap in competency this is shown as a negative gap, for example, a gap of -1 if assessed as Awareness level where the role requires Basic Application level. This tab also includes the T&D activity against each topic where needed, as agreed following a meeting with the Line Manager.
- Sign Off sheet to show completion of the assessment process, signed by the individual, independent Assessor, Line Manager and HR Representative.

Following the pilot studies as discussed later in this paper, it was agreed to develop a set of questions for each of the proof points in the ISC model to aid the Assessor and provide a more consistent approach. These consisted of a few questions for each of the 18 topics and 4 competency levels, typically looking for a check of understanding at the lower levels (Awareness, Basic Application) and examples of application at the higher levels (Practitioner, Expert). The questions are shown as relevant to either all staff or more relevant to specific roles such as management or engineering.

The assessment must be carried out by a Group EHS approved Assessor who is a Process Safety specialist and independent from the operational site. The Assessor could be an external Consultant or a JM employee and these options are explored in more detail later in this paper.

For the person to be assessed, the appropriate generic job role is selected in discussion with site representatives to understand the actual job being performed, as this is often not clear from the job title alone. The assessment tool is then marked up to show the required competency level for the role, typically by highlighting the relevant proof points in yellow, so the person understands the competency level they will be judged against. The assessment tool is then sent to the person at least 2 weeks before the assessment session and they are asked to complete the personal details tab and add detailed evidence of their experience against each of the 18 topics.

The assessment sessions are in the form of an interview between the Assessor and the person being assessed. These typically last 3 hours and have been successfully conducted virtually on MS-Teams, although they are better done face-to-face where possible. The Assessor starts by introducing the assessment process and providing assurance that the objective is to identify gaps in understanding that will lead to further T&D opportunities. It is important at this stage to allay any fears people may have about their job being at risk following the assessment.

The Assessor then goes through the personal details tab to understand the experience the person has from the current role and any previous employment, plus any training attended, with further details added where this is relevant. Spending some time at this stage is valuable to gain a better understanding of the person and their current role, which may be different from the generic role being used for the assessment. It may also be found that they have considerable experience of process safety from a previous employment that can be considered during the assessment.

Most of the assessment time is spent going through each of the 18 competency topics and the Assessor using the following steps;

- State the topic being assessed and the required competency level for the role.
- Review the experience provided by the person being assessed as part of pre-work.
- Select and ask a relevant pre-set question for the topic, usually at a lower level than required to put people at ease. Allow the person to respond and explore further to verify answers.
- Repeat the above step with questions at higher competency levels until the Assessor is satisfied that sufficient evidence has been gained to allow the current competency level to be determined.
- Inform the person being assessed of the competency level and where a gap exists discuss the relevance to the current role and for significant gaps state any T&D options for further discussion.
- Move onto next competency topic until all 18 completed. It is convenient to move from topic 1 to 18 in turn, but another option is to focus on the topics with higher competency level first to ensure these are fully covered in the time available.

At the end of the assessment the Assessor should give a summary of the findings, point out strong areas of competency and highlight any gaps where further T&D is required. The next steps including meeting with Line Manager should be outlined and the assessment should end on a positive note with thanks for their time.

After the assessment session the Assessor completes the record and makes it available to the person assessed and their Line Manager. A meeting with the Line Manager is arranged, ideally within 2 weeks of the assessment, where the findings are discussed, any gaps found assessed for significance, and T&D options agreed to close any significant gaps. In this respect T&D should consider a range of options, typically with a split of 70% on-the-job activities, 20% learning from others, and 10% as formal training. This stage completes the assessment process with any agreed T&D actions then progressed by the person and their Line Manager as part of their personal review process.

The competency assessment process is not intended to be Pass/Fail, but it is possible that people may be identified with serious gaps in their competency levels for process safety critical roles. Management should decide if the individual has the required background understanding for the current role and willingness to address the gaps identified in their competency. Along with other evidence, the competency assessment may then be used to conclude that the individual is not competent to continue in their current process safety critical role, in which case the appropriate processes should be followed with support from a suitable HR professional.

Consideration needs to be given to the assessment record containing sensitive personal data with suitable restrictions provided on access. In JM a SharePoint site has been developed to store all competency assessments records, with access restricted to the person assessed, their Line Manager, the Assessor and limited people within the business HR team. Data from the assessment process is then presented at site and work group level such that performance is not attributable to an individual.

6 Pilot Study

JM operates approximately 50 sites globally with process safety hazards, so it was important to carry out a pilot study on this new initiative before implementing more widely. This allowed the methodology to be tested and experience gained on how the process works in practice and what could be improved.

The first step was to gain senior management support for an initiative that would require significant resources and commitment from people at all levels in the organisation. A series of engagements with senior operations directors was arranged to build a case and explain what would be required from operational sites. The topic of Competency was clearly highlighted in all communications for the strategic Process Safety project to get buy in and awareness. Briefing documents were developed with HR to ensure that the key messages for the initiative were clearly understood, i.e., to improve competency of existing staff rather than putting their jobs 'at risk'.

Two high hazard sites in the UK were selected for the pilot study, both regulated as COMAH sites by the UK HSE, and therefore under scrutiny for applying relevant good practice to prevent and mitigate MAH's, including the need for an effective competency management system.

At this stage JM did not have people judged competent to conduct the process safety competency assessments, so external Consultants with proven experience in this area were employed to assist with developing the methodology and carrying out the pilot assessments.

All staff on the selected sites in process safety critical roles from Site Manager to Team Leader/Supervisor were included in the assessment process. The first site had a total of 26 people for assessment, with 16 Team Leaders in Operations and Maintenance split across the operating units on the site. The second site had 19 people in total for assessment with a similarly high proportion in the Team Leader category.

Following the pilot assessments on these two sites, other sites were selected for a sample assessment of around 6 people at each site. These sites and individuals were selected to provide further benchmarks of expected performance and practical experience in different regions, including a high performing COMAH site in the UK and high hazard sites in China and the US.

The pilot study raised a number of key findings that were used to further develop the process before rolling out more widely in JM;

- It is important for Site Management to reinforce the message that the intention for the assessments is to improve competency using targeted T&D, to avoid rumours developing that people will be put at risk for their jobs if they 'fail' the assessment.
- The assessment session is time consuming requiring ~3 hours each to allow time to explore fully people's experience. When scaled across the 50 sites in JM with high numbers on each site, it was decided that developing internal competent Assessors was needed.
- Given the in-depth nature of the assessment process it should be done in the native language for the person being assessed, which gives challenges in having a team of Assessors fluent in the full range of languages in JM.
- There is valuable learning at work group level with common findings that suggests a sampling approach may be suitable to limit the scale of assessments required. For example, on one site Team Leaders were found to have significant gaps on process safety understanding as the site had not at that time rolled out the PSMO training programme.

- With different Assessors there was inconsistency of approach in determining the current competency level. This finding resulted in question sets being developed for each ISC proof point as described earlier in this paper, to ensure that consistency is maintained with a larger group of Assessors.
- It is important to provide timely feedback to the person after the assessment session to avoid concerns developing. This has been addressed by better planning with Line Manager meetings required within 2 weeks of the session.
- The style of the Assessor is important to the success of the process, they need to be good at building rapport with the person being assessed, and aware of potential barriers the person may have to understanding technical terms.

7 Developing JM Assessors

A key finding from the pilot study was the large scale of the assessment programme across JM and the need to control costs and provide better flexibility by developing a pool of JM Assessors. A number of Process Safety specialists in the Process Safety CoE were identified as potential Assessors based on their broad understanding of PSRM requirements. These individuals are highly experienced in leading teams for hazard studies and carrying out auditing activities on sites but did not have the softer skills to carry out process safety competency assessments.

A suitable course titled “Workplace Competence Assessor” provided by the UK Cogent Skills organisation was identified. This course is primarily targeted at Assessors operating in a workplace environment to ensure that people are carrying out tasks correctly, using a range of techniques including observations, oral question, written questions, and witness testimony. It was felt this course could be effectively adapted to meet JM’s needs for process safety competency assessments, and in particular for having a structured process and developing the soft skills needed to conduct assessments.

The Cogent course Leader was provided with the JM competency assessment guide and used this to adapt the course to meet JM requirements. In addition to detailed training on the process required for assessments, the course included practical sessions where people had the opportunity to role play the Assessor using the JM tool, and get feedback on what went well and what could be improved. This approach was very effective in developing the soft skills for the assessment process.

After the training the Cogent course Leader attended actual assessment sessions with the newly trained JM Assessors as part of the rollout programme. They observed the performance of the Assessor and provided written feedback that was discussed with the Assessor to agree areas for improvement. On successful completion of this mentoring stage the Assessor was signed off as competent to continue with assessments as an approved Assessor. All Assessors felt this independent checking was a valuable part of their development and provided them with re-assurance on their competency to do this critical role.

The 2-day course provided an ideal opportunity for the JM team to better understand what was needed to effectively conduct the assessment programme, with structured improvement actions raised at each stage of the process, including the following;

- Develop a question set for each ISC proof point as discussed earlier.
- Develop a PowerPoint presentation covering all steps in the assessment process and key learning points for the Assessor as identified in the training.
- Regular meetings of JM Assessor team to share experience and learnings throughout the assessment process.

8 Rollout to High Hazard Sites

Following the pilot studies and JM Assessor training, plans were developed to rollout the Process Safety competency assessment programme across JM, using a risk based approach to focus initially on the approximately 40% of global sites rated as high hazard.

On these sites people in process safety critical roles were identified involving the local leadership teams and a list of people prepared with total of ~180 assessments required. These were shared out roughly equally between the 6 JM Assessors, taking into account the need for independence from the site and the geographical locations.

As this initiative involves a significant investment in time for both the Process Safety CoE and people involved on the sites, there was a need to provide briefings to senior management to justify the cost, including Operations Leaders and Sector EHS Directors. With approval to proceed a webinar was conducted to all affected sites, introducing the importance of Competency in PSRM systems, the methodology in JM guidance for conducting assessments, and the proposed plan for rolling these out across JM.

The assessment process at each site was commenced by holding a Kick-off meeting with the Assessor and Site Manager, also attended by other key members of the site leadership team and others involved in the assessment process. This is an important opportunity for the Site Manager to reinforce the importance of this initiative and the need for all involved to give their full commitment to the process. The objective to identify competency gaps and T&D opportunities should also be stressed, to allay fears of the process putting people at risk for their jobs. A Briefing Points note prepared by the Process Safety CoE gives key information on the process and was available for sharing across the site.

Arranging dates for the 3 hour assessments and Line Manager follow up meetings within 2 weeks is a significant task and needs to take account of shift patterns for some of the roles to be assessed. Learning from the process shows good practice to identify a site Administrator who can act as a main liaison point between the site and the JM Assessor who is carrying out the assessments.

The assessments carried out to date have been subject to Covid restrictions and all conducted virtually using MS-Teams. This has generally worked well for these one-to-one meetings, given suitable breaks from what is a fairly intense process. Ideally the assessments should be carried out face-to-face and in future this approach will be used when practical.

Experience from the pilot study showed that for the Operator level assessments, these were best conducted in the workplace where the person is more likely to feel at ease and able to refer directly to examples of their experience. Although JM has decided to exclude the Operator level assessments, the on-site approach should be considered by other companies if they choose to include Operator level assessments.

The final stage of the process at each site is to carry out a Feedback meeting with a summary of the key findings, aimed at the Site Manager and the leadership team. This gives a table with the gaps identified for each competency topic, for the full group assessed and then by work groups, e.g., operations, engineering, management. For this assessment any positive gaps where competency is above the expected level are scored as 0, so the summary gives a clear indication of which topics have negative gaps that need attention at site level. The main findings in terms of T&D are outlined, experience has shown that these are often common issues for the whole site or certain work groups, rather than T&D aimed at individuals.

Key learning at this stage of the competency assessment programme was as follows;

- The question sets developed for ISC proof points have greatly assisted the process and helped to maintain consistency.
- JM Assessors can typically carry out 5 assessments per month without having excessive impact on other duties, such that with 6 active Assessors the high hazard sites with ~180 people for assessment have taken ~6 months to complete.
- Fortnightly meetings of the JM Assessor team have been effective to identify and resolve any issues and to share good practices in conducting the assessments.
- Many common gaps in competency across most sites have been identified, including understanding of Human Error types and awareness of Legislation and applicable codes/standards that apply to the process operated at the site. This improved understanding of gaps in understanding provides the opportunity for targeted programmes at Group level to improve competency as a more efficient and consistent approach.
- It has been helpful to manage the progress of the assessment programme on a spreadsheet on a SharePoint site accessible to the Assessor team. Each person identified for assessment has key details including their name, current role, and Line Manager, plus status of assessment which progresses from; Outstanding > Planned > Assessed > Complete (following Line Manager meeting).

9 Rollout to Remaining Sites

Plans are currently being made for assessments on the remaining medium and low hazard sites in JM. These are mostly smaller sites with lower inventories of hazardous substances and process equipment, but still capable of having significant process safety incidents capable of causing major harm to people and the environment. There is however an expectation that the number of people in process safety critical roles will be lower on these sites.

Experience from assessments on the high hazard sites has shown a high workload on the Process Safety CoE Assessors as detailed above. It has been decided to train a further 4 Assessors to take the total of JM Assessors available to conduct assessments to 10. This will provide extra resource and also meet the requirements to have Assessors in the main regions where JM operates, such that face-to-face assessments are more practical. A similar approach will be taken to the original training of Assessors to ensure that these people are competent, including working alongside the experienced group of JM Assessors.

The plan will provide a running order for the sites to be assessed, avoiding an issue in the previous stage where multiple sites were attempting to progress their assessment programme simultaneously. This approach plus having just one Assessor for each site meant that the programme was drawn out over many months for each site, with risk of the process losing focus. The intention going forwards is to provide sufficient Assessors for each site to ensure that even the larger sites are completed within approximately 2-3 months duration from Kick-off meeting to Feedback meeting.

10 Conclusions

This paper has described how JM has been implementing a process safety competency assessment programme since 2019 based on the methodology in the ISC guide. This process is aimed at demonstrating that JM staff in process safety critical roles, from Site Manager to Team Leader levels, are competent to carry out their duties within the site PSRM system. The assessment process is being extended to include the recruitment of staff, either externally or internally involving a change of role, and periodic 3 yearly reviews for existing staff to ensure that competency is being maintained.

Where gaps in competency are identified, options for further targeted T&D can be progressed at either individual or work group levels to close these gaps. In some cases where the gaps are significant and the individual lacks the background understanding for their current role or willingness to develop themselves, the assessment may influence a decision taken with full support of HR to re-deploy the person into a more suitable role.

For sites that are externally regulated, the process developed by JM provides a demonstration that people are competent, by applying the 'relevant good practice' contained within the ISC guide, related to their role in implementing the prevention and mitigation systems to effectively manage the risk of a Major Accident Hazard.

The work to date has included developing the methodology from the ISC guide, carrying out pilot studies on selected sites using external Consultants, developing a team of competent JM Assessors, and rolling out the assessment process on high hazard sites. The key learning from all these stages has been outlined in this paper, and the process is being further refined for rollout to medium and low hazard sites in JM over the next 2-3 years.

The assessment process has been well received by Operations Management despite concerns expressed in the initial stages of development. It has been very effective in demonstrating the importance that JM places on process safety competency in addition to highlighting some key areas for further development of individuals and work groups on operational sites. People being assessed have mostly played a full and positive part in the process and expressed that following the assessment process they better understand their strengths and where further work is needed on their weaknesses related to process safety.

References

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