

IWCF Operations Limited



IWCF Level 5 Programme Guidance

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1. Programme Objectives and Structure

The IWCF Well Control Level 5 programme is aimed at experienced and knowledgeable candidates who play a critical role in well design and the approval of well designs. The programme must recognize the impact that design, planning and programming of well operations can have on well integrity assurance throughout the life cycle of the well. Key engineering and technical authority positions in drilling or well intervention operations who already hold a Level 4 certification are strongly encouraged to attend an IWCF Well Control Level 5 course.

The programme puts the employer together with the training provider in charge of the detailed content which should follow the course outline presented with this guidance note.

IWCF Well Control Level 5 should become an aspirational course for well related discipline engineers to enhance their knowledge and skills in planning and performing safe well design and/or intervention operations to ensure well control and well integrity is maintained throughout the well life cycle.

The course should contain information and updates on recent loss of well control and well integrity events with particular focus on what new knowledge has been gained. Candidates must demonstrate their ability to apply this information in the design, planning and programming of well operations.

Practical scenario training and/or desktop exercises is a vital part of the course and candidates must be able to identify and specify well control actions that can be taken when stepping outside the normal operating envelope.

The detailed content of the course is decided by the employer together with the training provider and should follow the course outline presented with this guidance note. It must include the following;

- An element of pre-course work. This can be well design and/or well intervention related e.g. tubing stress analysis, cementing, well logging etc
- Information on recent well control and/or loss of well integrity events
- Case studies – these should be submitted and approved as part of application. These should be real life but sanitized if necessary
- Relevant region specific standards and regulatory authority requirements
- Actively encourage participants to share their own experience
- Relevant practical activities both desktop exercises and simulator based
- The candidates completing a case study project that together with the written assessment will count towards the final mark.

2. Course structure and length

IWCF stipulate the course must be a minimum of 32 hours duration including classroom training, practical exercises and case studies but excluding the written assessment. Modular programmes will also be acceptable if they together meet the required minimum course duration.

The assessed case study project can be initiated during the training course but candidates are expected to complete the project report in their own time and submit this within 14 days of completing the written assessment.

As per IOGP 476 the course should be a one discipline specific training for well operations i.e. drilling and well intervention disciplines are encouraged to actively participate together in a single IWCF Well Control Level 5 training programme.

Maximum allowable class size will be as per IWCF rules but at no time must the class exceed 12 candidates.



3. Candidate Requirements

Ideally candidates must have successfully completed and hold a current IWCF Level 4 certificate in either Drilling Well Control or Well Intervention Pressure Control.

Candidates not holding an IWCF Level 4 (or IADC equivalent) certificate will have the opportunity to apply for exemption but will only be granted based on evidence of previous training and experience gained documented by certificates. IWCF evaluates and approves exemptions based on the recommendation provided from the employer.

Candidates must already have basic well design and/or well intervention knowledge gained through a combination of formal training and work experience documented by certificates.

4. Application

An employer and/or a training provider (centre) can apply to accredit their programme;

- IWCF Well Control Level 5

More information and further guidance on the application can be provided by emailing specific requests to level5@iwcf.org

The training provider must submit all training materials electronically to IWCF in MS WORD format for initial approval a minimum of 30 working days prior to the commencement of the IWCF Well Control Level 5 course. More details on the required format are provided in section 5: Quality Assurance

5. Quality Assurance

The training provider must meet specific quality assurance requirements before being awarded IWCF Well Control Level 5 accreditation. Specifically:

The syllabus content for an IWCF accredited Well Control Level 5 programme must be selected in accordance with the specifications in IOGP 476 Appendix C dated August 2016.

Training providers who wish to seek IWCF Well Control Level 5 accreditation must initially be approved according to IWCF Accreditation Application document AC-0016.

Training materials developed for IWCF Well Control Level 5 accreditation must be submitted as follows:

- Course syllabus to be in compliance with the IWCF model template
- Course description including learning objectives in compliance with the IWCF model template
- Course outline (programme) in compliance with the IWCF model template
- Lesson plans for each individual lesson of maximum 2 hours duration in compliance with the IWCF model template
- Written exercises, group activities, handouts, simulator exercises etc in compliance with the IWCF model template.

Note: Exercises and any worked examples used in the training course must not be similar or identical to test questions used in the final written assessment.

Course lessons delivered must use a specified variety of tutoring methods and training means that must be described in the lesson plans. Examples of tutoring methods includes PowerPoint presentations, dialogue, written exercises, table top exercises, homework, group work, case studies and cause findings, simulator exercises, demonstration of hardware, use of animations, hardware models etc.



Training providers must explain in their accreditation submission how they ensure IWCF Well Control Level 5 training material is reviewed and updated as a minimum annually. The review and update of content must take account of recent industry trends and knowledge of well control and well integrity events.

IWCF Well Control Level 5 instructors must be IWCF accredited, demonstrate a thorough knowledge of the subject matter and have a well engineering background. The Instructor CV supplemented by relevant certificates must be submitted and approved by IWCF.

Simulators used in the IWCF Well Control Level 5 course must be of the full-scale type and include all installations and features according to IWCF Simulator Model Check List document AC-0062. The simulator environment must include means for communication between the instructor control room and the simulator. Surveillance with recording and playback should also be included.

The training provider must produce a minimum of 40 acceptable IWCF Well Control Level 5 exam questions for inclusion in the IWCF Well Control Level 5 exam question bank. The exam questions must be in compliance with IWCF Guidelines and Procedures for Question Writers and provided using the IWCF model question template. The exam questions must be directly related to the syllabus supplied and be evenly distributed across all subjects. Every test question will have the same points weighting.

Use of the IWCF logo in training materials can only take place after provisional accreditation approval has been granted.

IWCF Well Control Level 5 programme will be subject to an initial audit and final accreditation only awarded following a successful outcome.

All course participants must submit a Course Evaluation Form to IWCF in compliance with the IWCF model template.

6. Case Study Project (Applicable to Level 5)

IWCF Well Control Level 5 candidates must demonstrate their ability to apply the concepts covered in the course programme. A case study project report will form part of the candidate final assessment.

The employer together with the training provider must submit a proposal for the case study project to be covered. For example this could be:

- a single well section well control plan including contingencies and relevant emergency response
- or
- a plan to proactively manage the well integrity risk during a particular phase of the well life cycle.

The submission must include details of how the case study project is administered, how it is introduced in the class, what resources are available to candidates, a description of the project, report format and any other guidelines presented to candidates.

The case study project report must be submitted to the training provider within 14 days of completing the IWCF Well Control Level 5 course and written assessment.

Training providers must submit copies of the documentation to IWCF which is used to record and score each element of the candidate's case study project report.

The final case study project report mark must account for 50% of the overall IWCF Well Control Level 5 mark.



7. Written Assessment

The written assessment comprises of IWCF Well Control Level 5 test papers. Normal IWCF procedures will apply when arranging the assessment.

All IWCF Well Control Level 5 assessments will be administered and controlled by IWCF. An IWCF Invigilator will be in attendance during the written assessment.

An IWCF Well Control Level 5 test session schedule can be arranged via the IWCF online administration system, FORUM. All required documentation must be submitted via FORUM at least 10 days prior to the assessment.

8. Certification

The candidates will be awarded an IWCF Well Control Level 5 certificate for the written assessment and case study project report if both components are passed. Both components require a 70% pass mark. Normal IWCF re-sit rules apply in the event of a candidate not achieving the required pass marks.

The certificate issued to the candidates will state the IWCF Well Control Level 5 Course was attended.

9. Repeat Frequency / Renewal

IOGP 476 does not stipulate a repeat frequency for Level 5 Well Control but recommends continuous learning refreshers. IWCF endorse continuous learning but also recommends Level 5 candidates attend suitable repeat training and assessment every 5 years as a means of demonstrating continual well integrity assurance in well design and operations.

10. Programme Outline / Content

IWCF endorse the contents provided in IOGP 476 Appendix C which provides the base content for a minimum industry standard IWCF Well Control Level 5 course.

Further, IWCF expects the employer and training provider to collaborate on the programme content to ensure the training objectives meet current and future well planning requirements. Additional contents or more in-depth analysis of the recommended content is encouraged to ensure the programme is “fit for purpose” and is recognised for its aspirational value among the well engineering audience.

The following examples of other specific contents in addition to that detailed in IOGP 476 Appendix C may be included:

Engineering approach to geological concepts relevant to well control programme planning

Heal rates and stress domains

Wellbore stress (formation vs wellbore pressure)

Implications of FIT vs LOT

Dealing with unexpected results from FIT-LOT and the impact on the well operations plan

MAASP and dynamic pressure exposures when drilling, running casing etc.

Kick intensity and tolerances

Zonal isolation within the well barrier envelope

Further life cycle considerations in design for well control

Casing Load Cases

Discussion on local/regional regulatory requirements

Plug & abandonment / suspension considerations

Material selection for hi-risk areas



Other barrier integrity assurance considerations

Rig and well control equipment selection

Human factor limitations in particular recognising and dealing with anomalies

Organisational issues in combatting well control

IWCF will periodically review and update this specific content list in light of new knowledge and information on well integrity assurance becoming available.

More information and further guidance on the above specific content can be provided by IWCF during the application for accreditation process.

11. Disclaimer

Due to the approach taken for the IWCF Well Control Level 5 programme, IWCF takes no responsibility for the accuracy and accuracy of the contents of the syllabus and the submitted training subjects given by the operator or training providers. Nor does IWCF take any responsibility for consequences resulting in using such training in practice.

12. Reference

[IOGP Report 476: Recommendations for enhancements to well control training, examination and certification.](#)