

# Workflow Design of Casing Running Operation (Onshore) Based on API Q2

Austin Mah; Imsu Lee; Mohammad Sajjad; Wei Hng; Yi Li  
Schulich School of Engineering, University of Calgary

## ABSTRACT

•Our team, acting as a casing company has setup and design a detailed workflow of the casing running operation specifically for onshore wells located in Alberta. One of the highest standards that the industry recognizes is the American Petroleum Institute (API) standard, which is implemented in this project. The workflows of the casing running operation that conform to API Q2 are risk assessment and management, contract review, personnel competency and training, casing design and metallurgy, well construction, casing running procedure, casing integrity, purchasing, PMITP (preventive maintenance, inspection, and test program), control of TMMDE (testing, measuring, monitoring, and detection equipment), internal audit, improvement, and management review. Documents, and forms that include instructions, procedures, and requirements required by API Q2, ISO standard, as well as AER which act like a completed manual for Alberta onshore casing running operations are created to ensure safety and reliability of casing running operation can be achieved.



## CONTACT

William Hng  
Email: Wei.hng@ucalgary.ca  
Phone: 403-472-9987

## INTRODUCTION

• API approval is an important factor in the industry and is likely to be sought after by many companies. Companies that do not have API certification may find it more difficult to secure contracts and maintain credibility in the industry. The purpose of our project is to design an API workflow based on API Q2 specification to help small and medium companies to get API approval.

## METHODS AND MATERIALS

• In the making of this manual, we used API Q2 standards as a guide. Our manual not only reflects API Q2 standards but also goes beyond in some cases to ensure safe and reliable operations.

• All kind of forms are created for each procedures to ensure the requirement from API Q2 specification, as well as AER are followed.

## REFERENCES

1. API Specification Q2. (2021). *Quality Management System Requirements for Service Supply Organizations for the Petroleum and Natural Gas Industries*. Washington: American Petroleum Institute (API).

## RESULTS

1. Risk Assessment and Management Manual
2. Personnel Competency and Training
3. Contract Review Manual
4. Well Construction Manual
5. Conductor Casing
6. Surface Casing
7. Casing Design and Metallurgy Manual
8. Casing Running Procedure
9. Purchasing
  - Casing
  - Equipment
  - Purchase Order
  - Supplier Approval
  - Supplier Evaluation
10. Quality Management
  - 1. Casing Integrity on Site
  - 2. Casing Inspection
11. PMITP
12. Internal Audit
13. Improvement
  - NCR
  - Internal Audit
  - Management Review
14. Management Review

## CONCLUSIONS

• Oil & Gas Industry in Canada has been recognized as the most advanced and safest compared to other countries in the world. This accomplishment can be brought to a brand-new level, starting by getting certification from API for casing operations.

• More projects from different countries can be taken over by your company, after receiving the API certificate!

