

# Nec4 Vs Bespoke Contracts

## Challenges in Project Management

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# Professional Profile & Key Achievements

Over 20 Years of international experience in **Construction Project Management and Subcontracting** of large-scale Projects in the Energy and Oil&Gas Sectors



snamprogetti



## Brief Curriculum and some Main Projects achieved:

- **Technip Energies (UKOC)** – Head of Subcontracting Department - NZT Teesside Project
- **Maire Tecnimont** – Head of Proposal Construction Estimating
- **Artic LNG 2 Project - NOVATEK (Russia)** – Construction Manager
- **Yamal LNG Project - NOVATEK (Russia)** – Construction Manager
- **Dunkerque LNG Project - EDF (France)** – Construction Manager
- **LPG/LDHP/UTBS Projects - SONATRACH (Algeria)** – Construction Superintendent



# Agenda:

- **Introduction & Context**
- **NEC4 Option E: Key Contract Principles**
- **Bespoke Unit Price: Structure and Logic**
- **Defining Quantities: The Turning Point**
- **Risk Allocation & Commercial Implications**
- **Advantage and Drawbacks Compared**
- **Interactive Quiz 😊**

# Introduction

- **Purpose:** To compare the main challenges in managing projects under NEC4 Versus Bespoke contract approaches
- **Focus:** Application in the UK versus Continental Europe
- **Key points:** Contract structure, risk allocation, definition of quantities, cost control

# NEC4 Contract: Key Features

## General Principles

- Widely used in the UK (public and private sectors)
- Promotes collaboration transparency and fair dealing
- Strong focus on early warning and proactive risk management
- Emphasis on time and cost predictability
- Encourages flexibility (different options for different project needs)

## NEC4 Contract Options:

- Option A: Priced contract with activity schedule (Lump Sum)
- Option B: Priced contract with bill of quantities
- Option C: Target contract with activity schedule
- Option D: Target contract with bill of quantities
- Option E: Cost reimbursable contract
- Option F: Management contract

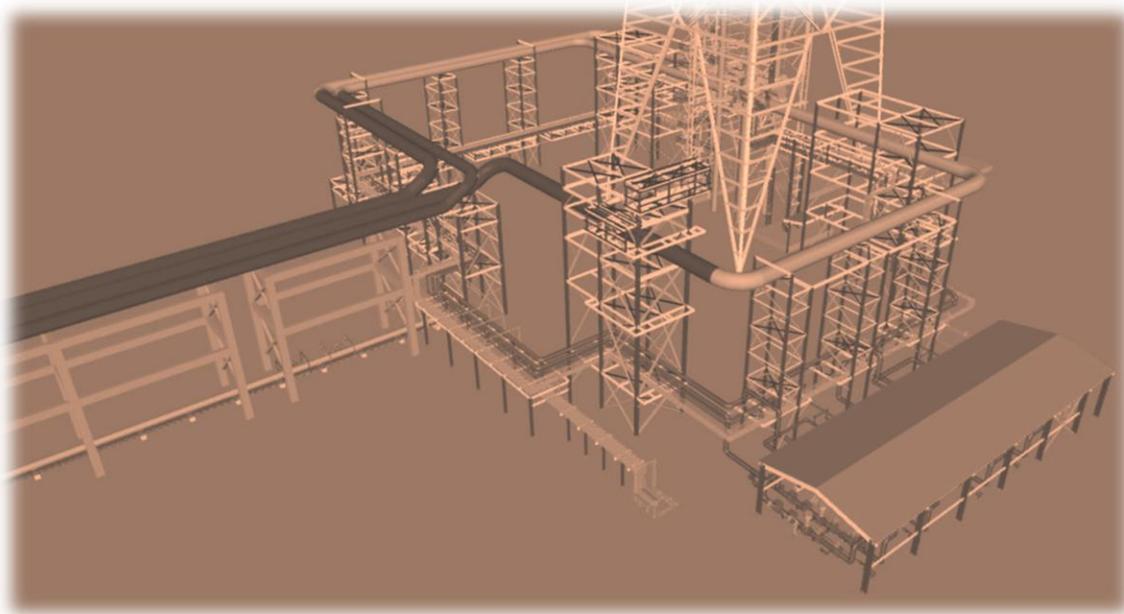


# Bespoke u.p. Contract: Key Features

- Widely used across **Europe** 🌍, especially by **Main Contractors** (outside the UK)
- **Payment** 💰: based on actual installed quantities × agreed unit rates
- Typically **less collaborative** 🤝, with higher potential for adversarial claims
- Require **detailed engineering quantities** 📝 to be defined upfront

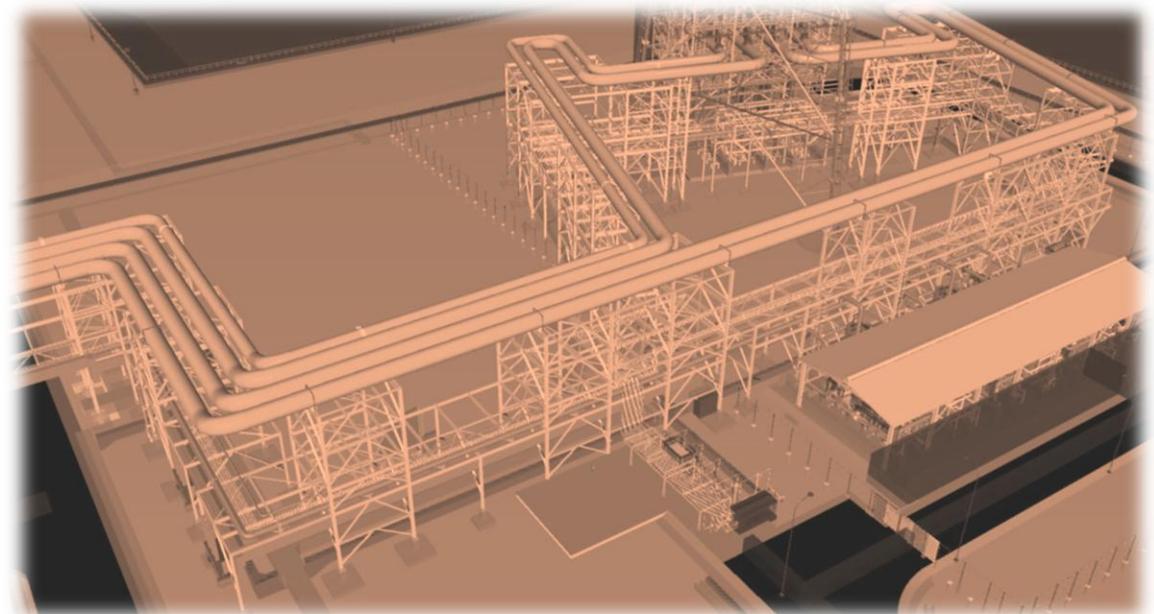


# Spot the difference: Project A vs Project B



**Project A**

**Steel Structures:** ~ 700 tons  
**Piping:** ~ 500 tons



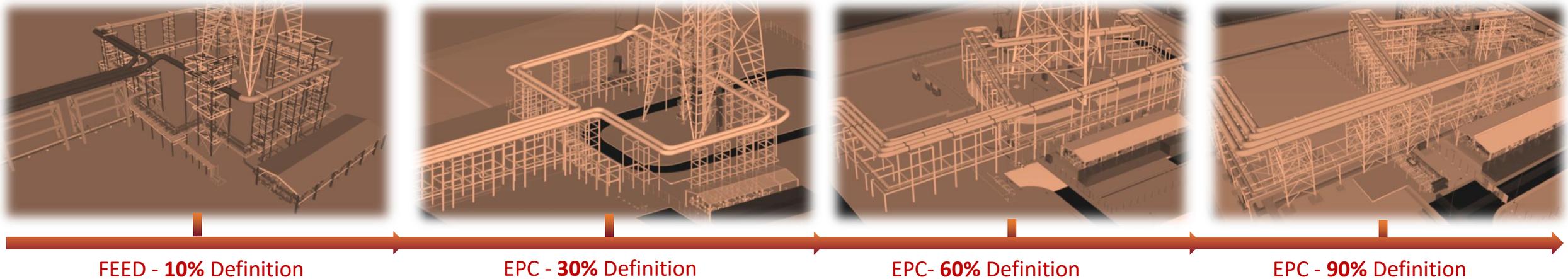
**Project B**

**Steel Structures:** ~ 2.200 tons  
**Piping:** ~ 1.600 tons

**SAME PROJECT  
FEED VS EPC 90%**



# Engineering Maturity across Project Phases



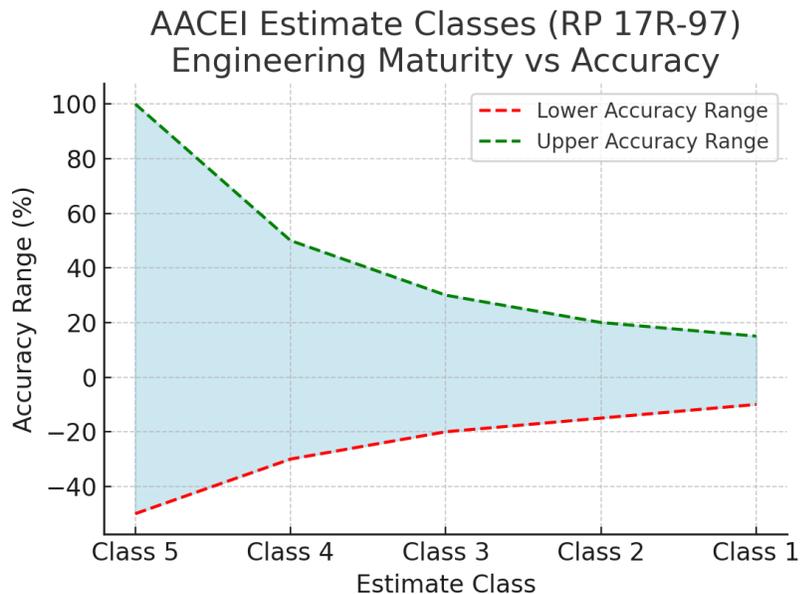
- FEED 10% -> Conceptual design, High uncertainty
- EPC 30% -> Preliminary definition. First material take-off
- EPC 60% -> Detailed design, more accurate quantities & costs
- EPC 90% -> Finalized design, execution-ready

**Higher engineering maturity = Better definition, better cost accuracy, reduced risks**

# Role of Quantity Definition

Ref. AACEI RP 17R-97

- **NEC4** -> indicative quantities acceptable (Class 4–5 estimates)
- **Bespoke** -> requires accurate BOQ (Class 2–3 or higher)



ESTIMATE CLASS	Primary Characteristic	Secondary Characteristic			
	MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical +/- range relative to index of 1 (i.e. Class 1 estimate) <sup>[a]</sup>	PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 <sup>[b]</sup>
Class 5	0% to 2%	Screening or feasibility	Stochastic (factors and/or models) or judgment	4 to 20	1
Class 4	1% to 15%	Concept study or feasibility	Primarily stochastic	3 to 12	2 to 4
Class 3	10% to 40%	Budget authorization or control	Mixed but primarily stochastic	2 to 6	3 to 10
Class 2	30% to 75%	Control or bid/tender	Primarily deterministic	1 to 3	5 to 20
Class 1	65% to 100%	Check estimate or bid/tender	Deterministic	1	10 to 100

Notes: [a] If the range index value of "1" represents +10/-5%, then an index value of 10 represents +100/-50%.  
[b] If the cost index value of "1" represents 0.005% of project costs, then an index value of 100 represents 0.5%.

Table 1 – Generic Cost Estimate Classification Matrix

# Comparative Summary Nec4 Vs Bespoke Contract

Feature	NEC4 (Option C/E)	Bespoke U.P. Contract
Geography 🌍	UK	EU (non-UK)
Payment Mechanism 💰	<b>Reimbursable + Target</b>	Unit rate x quantity
Risk Sharing ⚖️	<b>Shared</b> (gain/pain formula)	<b>Contractor bears risk</b>
Quantity Definition 📏	Less detailed (Class 4)	Detailed (Class 2–3)
Engineering Maturity 📐	Early involvement encouraged	Often post-engineering
Collaboration 🤝	<b>High Collaboration</b>	Low to moderate
CAPEX Impact 📊	Flexible budgeting	<b>Cost certainty, early freeze</b>
Flexibility vs Certainty 🔍	<b>High flexibility</b>	High cost certainty

➤ **NEC4** -> Flexibility, collaboration, shared risk

➤ **Bespoke U.P.** -> Cost Certainly, traditional approach, Contractor bears risk

# Risk allocation in Nec4 Vs Bespoke u.p. Contracts

Risk Category	NEC4 (Option C/E)	Bespoke U.P. Contract
Quantity Risk	Shared – target/gain-pain adjustments	Contractor bears deviations
Design Changes	<b>Early warnings &amp; Compensation Events (CE)</b>	<b>Client risk</b> , may cause disputes
Productivity Risk	Shared incentives	Contractor responsibility
Market/Price Escalation	Shared (Compensation Events possible)	Contractor risk unless clause
Scope Uncertainty	<b>Flexible</b> – allows partial design maturity	High risk if BOQ not mature
Claims & Disputes	Reduced by <b>collaboration</b> & risk registers	Higher likelihood, rigid BOQ

# When to Use NEC4 or Bespoke u.p. Contract

- **NEC4 Contract:**
  - Complex, evolving projects
  - Early contractor involvement
- **Bespoke u.p. Contract:**
  - Defined scope
  - Detailed BOQ
  - Competitive tender



**How to choose: Depends on project phase, maturity and client priorities**

# Final Thoughts 1/2

## NEC4

- Promotes collaboration
- Early contractor involvement
- Flexibility in adapting project changes

## Bespoke u.p approach

- Offers greater cost predictability and transparency
- Reduce disputes on quantities



**Contract choice depends on scope maturity, risk profile, objectives!!**

# Final Thoughts 2/2

## Risk Allocation

- NEC4 tends to share risks among parties, while bespoke u.p. contracts often transfer more risk to contractors.

## Engineering Maturity

- Early phases (Class 4–5 estimates) benefit from NEC4 flexibility;
- Later phases (Class 2–1) suit unit-price clarity.

## Collaboration vs Control

- NEC4 encourages alliancing; bespoke UP emphasizes commercial discipline.



# UK NEC4 Applications by T.EN

- NZT – Net Zero Teesside (in Execution)
  - 800 MW CCGT
  - 2 Mtons CO2 Capture:
  - complex, evolving projects
  - early contractor involvement
  
- Uniper Connah's Quay - low carbon power (FEED)
  - 1.38 GigaW CCGT (2 Trains)
  - 2 Mtons CO2 Capture
  - detailed BOQ
  - competitive tender



# Quiz Time! 😊



# Q&A - Stay Connected

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**Thank  
You**