

Workshop – AI and NEC

4 Dec 2023

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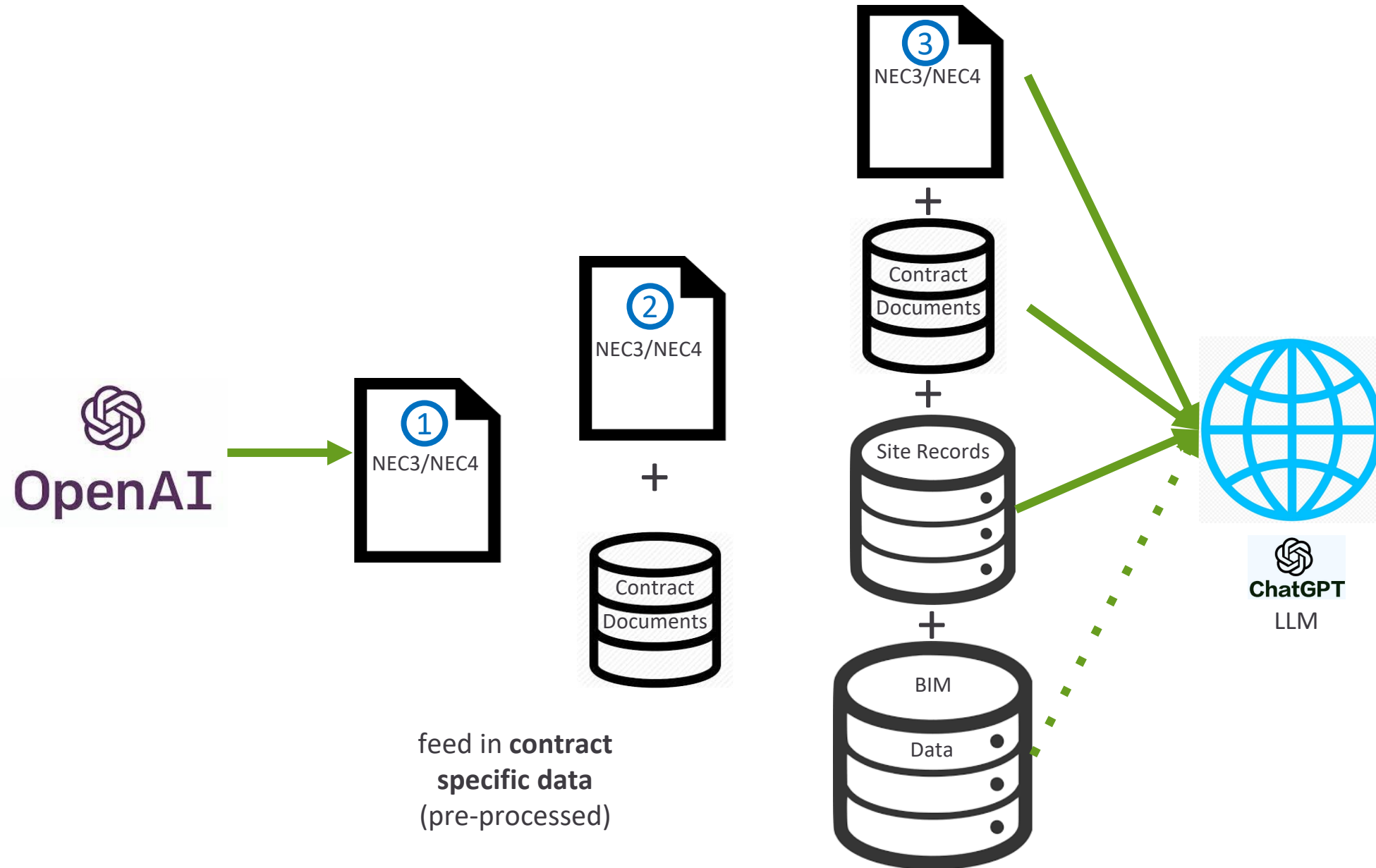


Topics

- 1. Use of AI for NEC*
- 2. How to run NEC*
- 3. Sharing of NEC DBOC*

1. AI for NEC

What dRoW is providing on AI consulting :



Set up of dRoW Chat:

So, we have a virtual contract expert. How should we interact with it to ensure that its answers align more closely with your expectations?

- 1. Prompts - Be specific**
- 2. Include contextual Information**
- 3. Engage actively with the application**

1. Prompts

When you give specific guidelines or prompts, the model can better comprehend what kind of answers you're looking for.

Example:

“I would like to consult with an expert on the NEC4 ECC Option C. As an expert, could you please provide me with information and answer questions related to NEC4 ECC Option C? Please include any relevant details, clauses, and considerations specific to this contract option.”

2. Include Contextual Information

Offering background information or specifying the context in which you want a response will help narrow down possibilities and make sure that the chat bot provides relevant responses

Example:

“In our current project, we are using the NEC4 ECC Option C contract for the construction of a commercial building. The project involves the design and construction of a fifty-story office complex with associated site works. The employer is a private company, and the contractor is an experienced construction firm.

The Target Price for the project has been set at \$100 million, representing the forecasted cost of the works. The Activity Schedule submitted by the contractor outlines the key activities, durations, and resources required for each phase of the construction process.

Throughout the project, we have encountered several compensation events...”

3. Engage actively with the application

Continuously interacting with the model by asking questions or requesting clarifications encourages it to consider user feedback and adapt accordingly.

Example:

User: In our project running NEC4 ECC Option C, we've encountered a compensation event due to an unforeseen design change requested by the employer. How would we go about assessing the impact of this event on time and cost?

Chatbot: When assessing the impact of a compensation event in NEC4 ECC Option C, you would follow a specific procedure. First...

User: What factors should we consider when reviewing the contractor's quotation for the design change?

Chatbot: ...

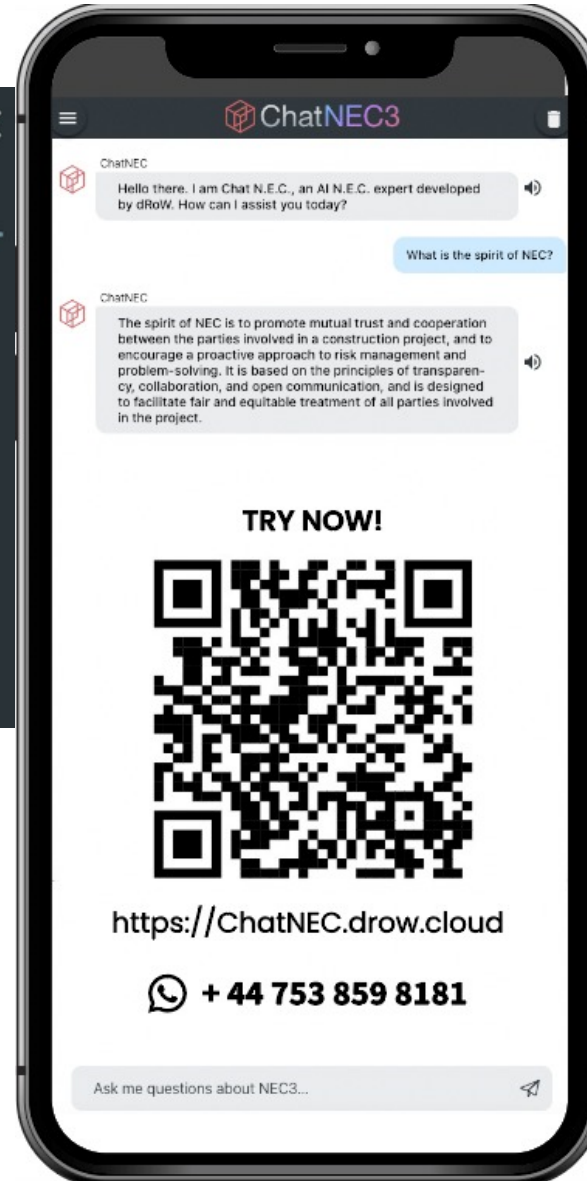
User: How should we proceed once we have reviewed the contractor's quotation for the design change?

Chatbot: ...

User: Thank you for the guidance. Can you explain how the gainshare/painshare mechanism works in NEC4 ECC Option C?

Launch of ChatNEC developed by dRoW Limited

“I am an
NEC3 expert”
→



Sample questions:

What is the spirit of NEC?
Under what conditions a reply can be extended?
Who can notify early warning?
Who revise and record the early warning register?
Can the Scope be changed?
Who decides the completion date?
When to submit first programme?
What are the reasons for rejection of programme?
Is acceleration allowed in NEC?
What are included in the quotation for acceleration?
How to handle a Defect?
Who pays for the test of investigating a defect?
What are the procedure to search/accept a defect?
What are the procedures to assess payment?
What is defined costs?
When should the Final Assessment be released?
List the 21 justifications for notifying a Compensation Event.
Will the notification of compensation event be time barred?
When the PM must respond to quotation of compensation event?
Is Proposed Instruction allowed?
What are the procedure to terminate a contract?
Please list the items for People/Equipment/Design ... in the
Schedule of Cost Component
What is Defined Cost for Option A/B/C/D?

Workshop on AI :

Prompt and Question ...

Set up of dRoW Chat

An AI expert tailor-made for your project

- We can train an AI expert for your project
- More specific NEC Option with only relevant clauses
- CD1, GS, PS documents can be fed to the AI and trained
- Pre-prompting the bot to guide its behaviour

Result: An AI bot that provides much more helpful answers and opinions

Contact us for more details!

2. Learn how to run NEC in 45 minutes

Poll

Will the following lead to Compensation Event? :

- Q1. Early Warning by PM
- Q2. Early Warning by *Contractor*
- Q3. Notification of Inconsistency and Ambiguity
- Q4. *Contractor's* Submission
- Q5. Programme Submission
- Q6. Notification of Weather Conditions
- Q7. Notice of Defects
- Q8. Others



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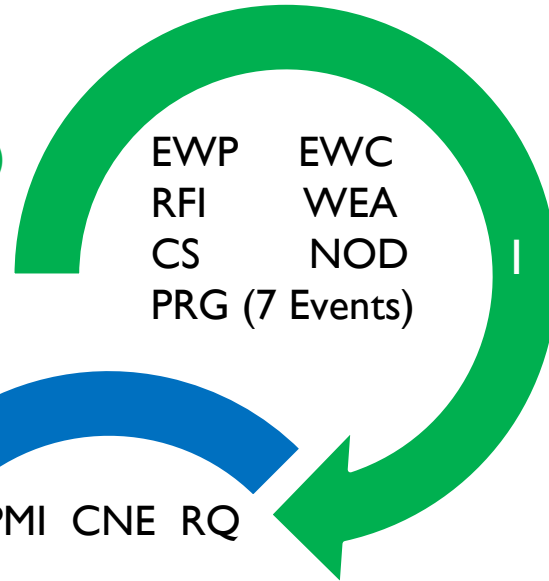


**Q1. NEC is used for Feasibility Study?
(NEC or non-NEC)**

① Click **Present with Slido** or install our [Chrome extension](#) to activate this poll while presenting.

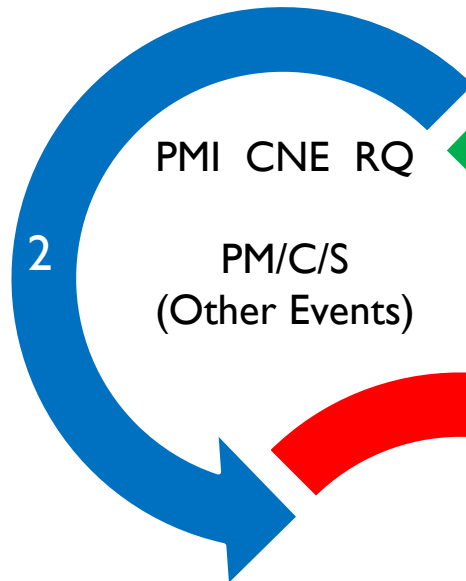
3 Stages for CE Process :

1. 7 Event (QS not involved)

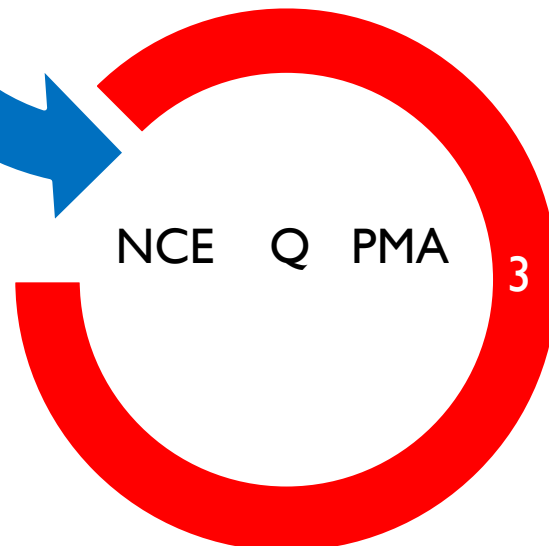


EWP – Early Warning by PM
EWC – Early Warning by C
RFI – Request for Information
WEA – Notification of Weather Conditions
CS – Contractor's Submission
NOD – Notice of Defects
PRG – Submission of Programme
PMI – Project Manager's Instruction
CNE – Contractor's Notification of Event
RQ – Request for Quotation
NCE – Notification of Compensation Event
PMA – Project Manager's Assessment
PM – Project Manager
C – Contractor
S - Supervisor

2. Com (QS involved)



3. CE (Mainly QS)



Learn how to learn running NEC in 45 minutes :

Stage 1 – Non-contractual Events

GCC

Warning letter by ER/Arch

Warning letter by C

RFI – Request for Information

EOT – Inclement Weather

CS – *Contractor's* Submission

NOD – Notice of Defects

PRG – Submission of Programme

NEC

1. EWP – Early Warning by PM (e.g. EWP-001)

2. EWC – Early Warning by C

3. NIA – Notification of Inconsistency and Ambiguity

4. WEA – Notification of Weather Conditions

5. CS – *Contractor's* Submission

6. NOD – Notice of Defects

7. PRG – Submission of Programme

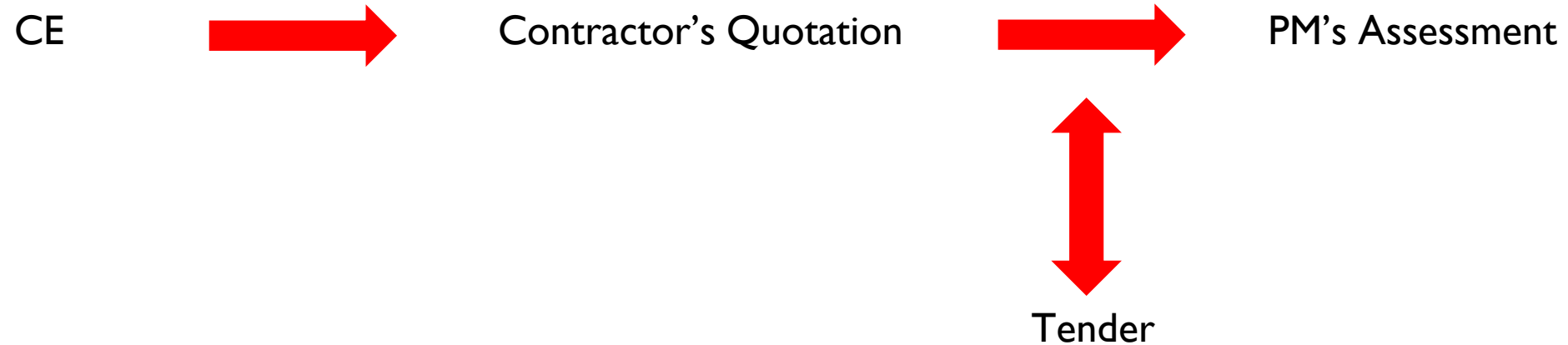
 Early Warning Register



Stage 2. Pre-CE Process

	P I C K	1. EWP – Early Warning by PM (e.g. EWP-001) 2. EWC – Early Warning by C 3. NIA – Notification of Inconsistency and Ambiguity 4. WEA – Notification of Weather Conditions 5. CS – Contractor's Submission 6. NOD – Notice of Defects 7. PRG – Submission of Programme
1. PMI – <i>Project Manager's</i> Instruction (SI or AI in GCC)	U P	
2. PMIQ/RQ – Request for Quotation		
3. CNE - <i>Contractor's</i> Notification of Event (Claim in GCC)	A N	
4. NCE – Notification of Compensation Event	E V E N T	8. Others by PM (e.g. PM-001) 9. Others by C (e.g. CN-001) 10. Others by SP

Stage 3. CE Process



Other Follow-up Communications – PCOM by PM and CCOM by Contractor

Workshop :

Suggest 2 communications from each row

Try to identify the Event and Stage

3. Sharing of NEC DBOC in Workshop on 13 July

Congratulations to 30th Anniversary of NEC:



NEC



30 years ago :

CONSTRUCTING THE TEAM

BY SIR MICHAEL LATHAM

FINAL REPORT OF THE
GOVERNMENT / INDUSTRY REVIEW OF
PROCUREMENT AND CONTRACTUAL
ARRANGEMENTS IN THE UK
CONSTRUCTION INDUSTRY

HMSO



Executive Summary of Latham Report, 1993:

Constructing the Team

Executive Summary

1. Previous reports on the construction industry have either been implemented incompletely, or the problems have persisted. The opportunity which exists now must not be missed (Chapter 1, paragraph 1.10).
2. Implementation begins with clients. The Department of the Environment should be designated by Ministers as lead Department for implementing any recommendations of the Report which Ministers accept. Government should commit itself to being a best practice client. Private clients have a leading role and should come together in a Construction Clients' Forum. Clients, and especially Government, continue to have a role in promoting excellence in design (Chapter 1, paragraphs 1.17-1.19).
3. The state of the wider economy remains crucial to the industry. Many of the problems described in the Interim Report, and also addressed in this Final Report, are made more serious by economic difficulties. But others are inherent (Chapter 2).
4. Preparing the project and contract strategies and the brief requires patience and practical advice. The CIC should issue a guide to briefing for clients (Chapter 3, paragraph 3.13). The DOE should publish a simply worded Construction Strategy Code of Practice (Chapter 3, paragraphs 3.14 - 3.15) which should also deal with project management and tendering issues (Chapter 6).
5. The process plant industry should be consulted by the DOE, and be part of the Construction Clients' Forum (Chapter 3, paragraph 3.18).
6. A check list of design responsibilities should be prepared (Chapter 4, paragraph 4.6).
7. **Use of Co-ordinated Project Information should be a contractual requirement** (Chapter 4, paragraph 4.13).
8. Design responsibilities in building services engineering should be clearly defined (Chapter 4, paragraph 4.21).
9. Endlessly refining existing conditions of contract will not solve adversarial problems. A set of basic principles is required on which modern contracts can be based. A complete family of interlocking documents is also required. The **New Engineering Contract (NEC)** fulfils many of these principles and requirements, but changes to it are desirable and the matrix is not yet complete. If clients wish, it would also be possible to amend the Standard JCT and ICE Forms to take account of the principles (Chapter 5, paragraphs 5.18 - 5.21).

7. **Use of Co-ordinated Project Information should be a contractual requirement** (Chapter 4, paragraph 4.13).
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NEC and Co-ordination

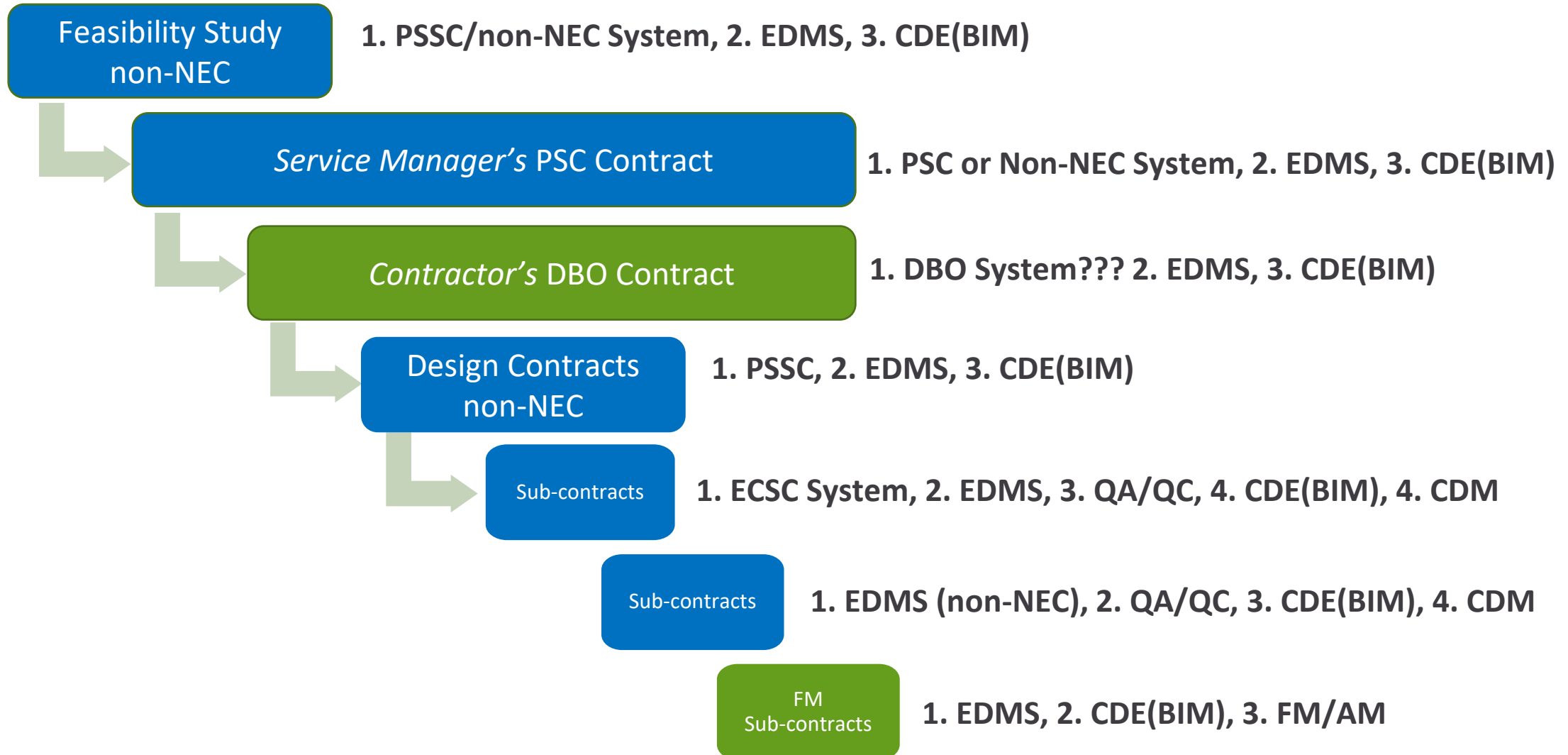
In 2023, HK has a Co-ordinated Digitalisation :

DevB TC(W) 2/2023 – DWSS includes:

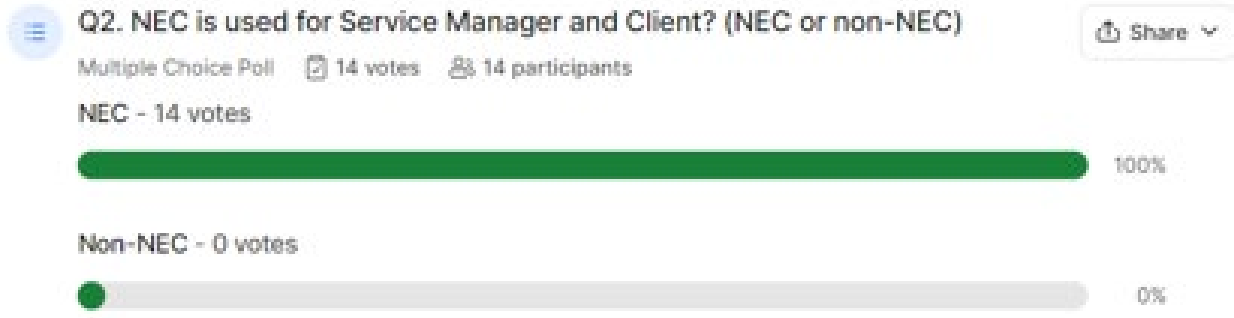
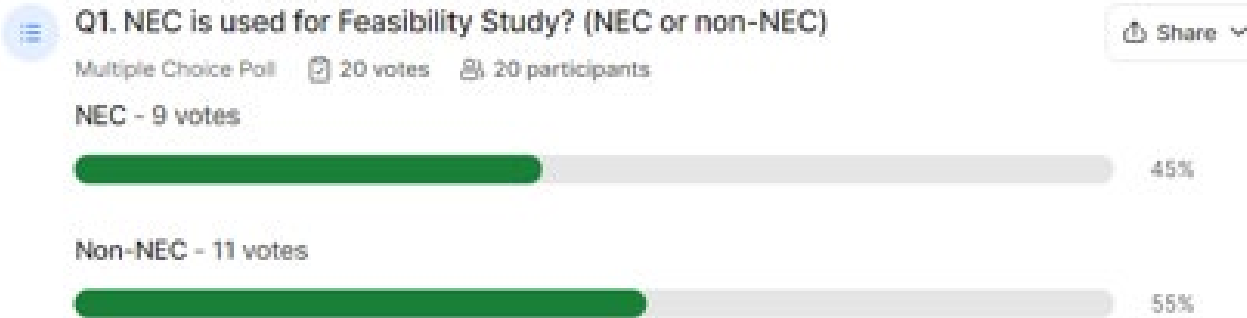
- 1. RISC**
- 2. Site Diary**
- 3. Safety Inspection**
- 4. Site Cleaning**
- 5. Labour Return**
- 6. Contract Management (NEC)**

and DevB TC(W) 3/2023 - SSSS

2. Q: IT Systems Required for NEC DBO



UK NEC Conference 2023 :



2. Use of Systems for DBOC

<

NEC UK Conference 2023

03 - 15 Jul 2023 Engage

#1819503

Public

Share

Present

CN

Live polls

Audience Q&A

Analytics

 Settings

The screenshot displays a survey interface. On the left, four questions are listed, each with a menu icon (three horizontal lines) to its left. The questions are:

- Q1. NEC is used for Feasibility Study? (NEC or non-NEC)
- Q2. NEC is used for Service Manager and Client? (NEC or non-NEC)
- Q3. NEC is used for Designer Consultants and Main Contractor? (All NEC / All non-NEC / Both)
- Q4. NEC is used for Sub-contractors and Main Contractor? (All NEC / All non-NEC / Both)

The bottom question, "Please give your view on an integrated NEC DBO Information Management System", is highlighted with a green border. On the right, the results for this question are shown. The title is "Please give your view on an integrated NEC DBO Information Management System", followed by "Multiple Choice Poll", "11 votes", and "11 participants". A "Share" button is in the top right. The results are listed as follows:

- 1. NEC System - 9 votes (82%)
- 2. EDMS (Electronic Document Management System) - 9 votes (82%)
- 3. QA/QC (Checklists) - 7 votes (64%)
- 4. CDM (Health and Safety) - 9 votes (82%)
- 5. BIM - 9 votes (82%)
- 6. FM/AM Documentations - 7 votes (64%)

Each result is accompanied by a horizontal bar chart where the green segment represents the percentage of votes.

NEC Contracts

Back to Back Problem

Contact us for NEC/AI Implementation

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