CONSOLIDATED
CONTRACTORS
COMPANY

NFE CASE STUDY

Beyond Conventional AWP

CCC's Masterful Execution and Pioneering Journey

Powered by work packs

INTRODUCTION

In a landmark initiative, CCC's implementation of Advanced Work Packaging (AWP) on the North Field East (NFE) Project exemplifies a meticulous and visionary approach to project management and execution. With a commitment to boosting performance, efficiency, and productivity,
this endeavor strategically integrates state-of-the-art tools, innovative practices, and cutting-edge methodologies.

WorkPacks, chosen through a deliberate process, plays a pivotal role, aligning with the project’s ambitious objectives and offering robust, user-friendly, and innovative solutions. This alliance between CCC and WorkPacks not only navigates the NFE Project's immediate challenges but also lays a foundation for future successes, setting new benchmarks in project management excellence.

INTRODUCTION

TIC	**$28.75 billion (Projected)**
STAKEHOLDER INPUT	
Owner	Qatar Gas
Engineering	CTJV Chiyoda Technip Engineering Joint Venture
Procurement	CTJV Chiyoda Technip Engineering Joint Venture
Project Controls	Chiyoda Technip Engineering & CCC
Construction	CCC
Project Phase / Completion Date	**The project is set to span six years, started on 1 May 2022.**

PROJECT CONTACT

WALID ABDEL AZIZ

Area Manager Controls And Digital Transformation in CCC

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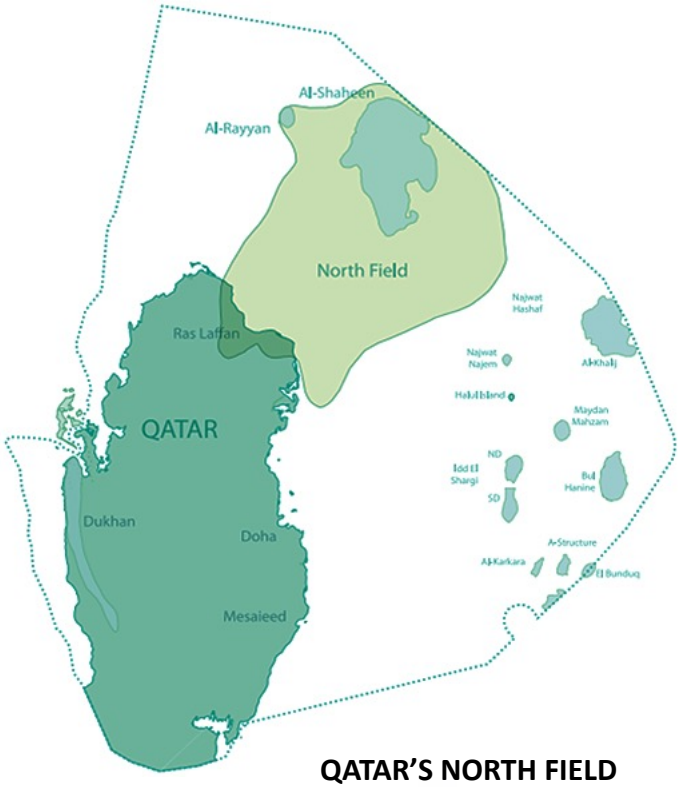
Walid Abdel Aziz is Area Manager Controls and Digital Transformation in CCC , through his 30 years experience in Construction management and controls which covered Oil & Gas , and Building and Infrastructure.

His visionary and strategic skills played an important role in evolving the adoption of AWP and all related cloud construction digital tools in CCC and EP partners.



PROJECT OVERVIEW

Strategic Initiative	NFE Project is a significant endeavor by Qatar Petroleum with a $28.75 billion investment in the LNG sector.
Global Standing	The project enhances Qatar's position as a leading LNG exporter, leveraging the third-largest gas field globally.
Offshore Operations	Includes substantial infrastructure with six wellhead jackets, subsea production manifolds, living and utility quarters, with the ambition to produce equivalent to one million barrels of oil daily.
Onshore Facility	Located at Ras Laffan, housing advanced liquefaction trains and state-of-the-art processing systems, designed for global export of LNG.
CCC's Role	Focused on onshore LNG Mega trains, integrating advanced AWP solutions with digital EPC tools to achieve project objectives efficiently, involving significant quantities of various construction materials and commodities.



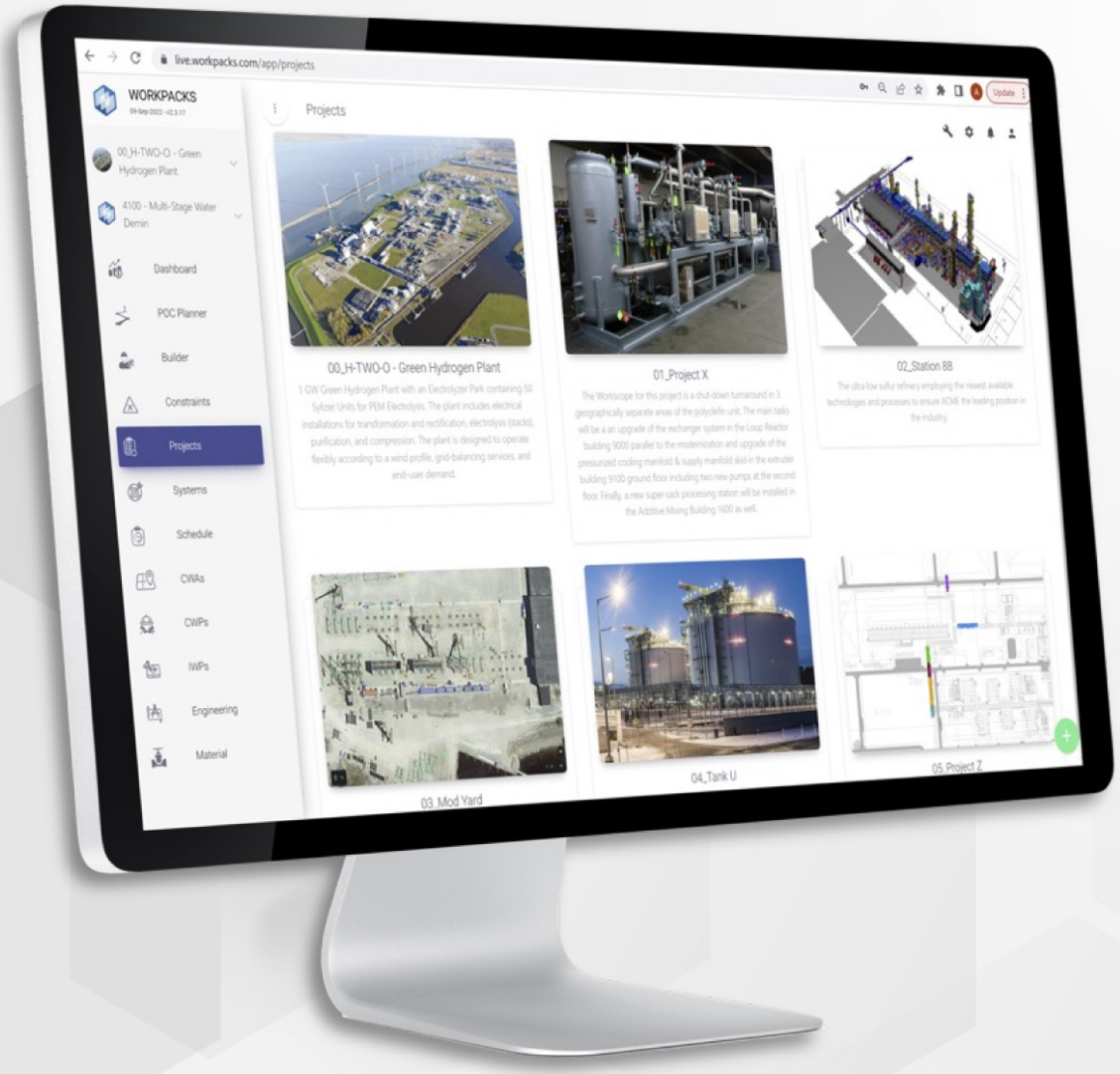
QATAR'S NORTH FIELD

Source: Qatar Petroleum

CCC CHALLENGES

Multifaceted Challenges	The NFE Project presented complex challenges, including scheduling precision, efficient resource allocation, and proactive risk management.
Precision in Planning	CCC addressed these challenges with meticulous planning and strategy formulation.
Strategic Objectives	Clear, focused objectives were set, including enhancing visibility, flexibility, collaboration, empowered ownership, effective change management, and data integrity maintenance.
Targeted Approach	Each objective was designed to overcome specific challenges, fostering a dynamic and responsive approach to project execution.
Empowered Ownership	Stakeholders were provided with the tools and data necessary to take ownership of their domains, promoting responsibility and accountability.
Data Integrity	Protocols were put in place to ensure the integrity and validity of project data, supporting informed decision-making and planning.

WHY WORKPACKS?



WorkPacks was not arbitrarily chosen; its selection is the result of a deliberate and thoughtful process, underscoring its proven capabilities and robust features that are synergistically aligned with the project's detailed requirements and ambitious objectives.

The platform has demonstrated, through previous successful implementations, that it is not only robust and reliable but also innovative and user-friendly, making it an ideal partner in this venture.

WORKPACKS INNOVATIVE SOLUTIONS

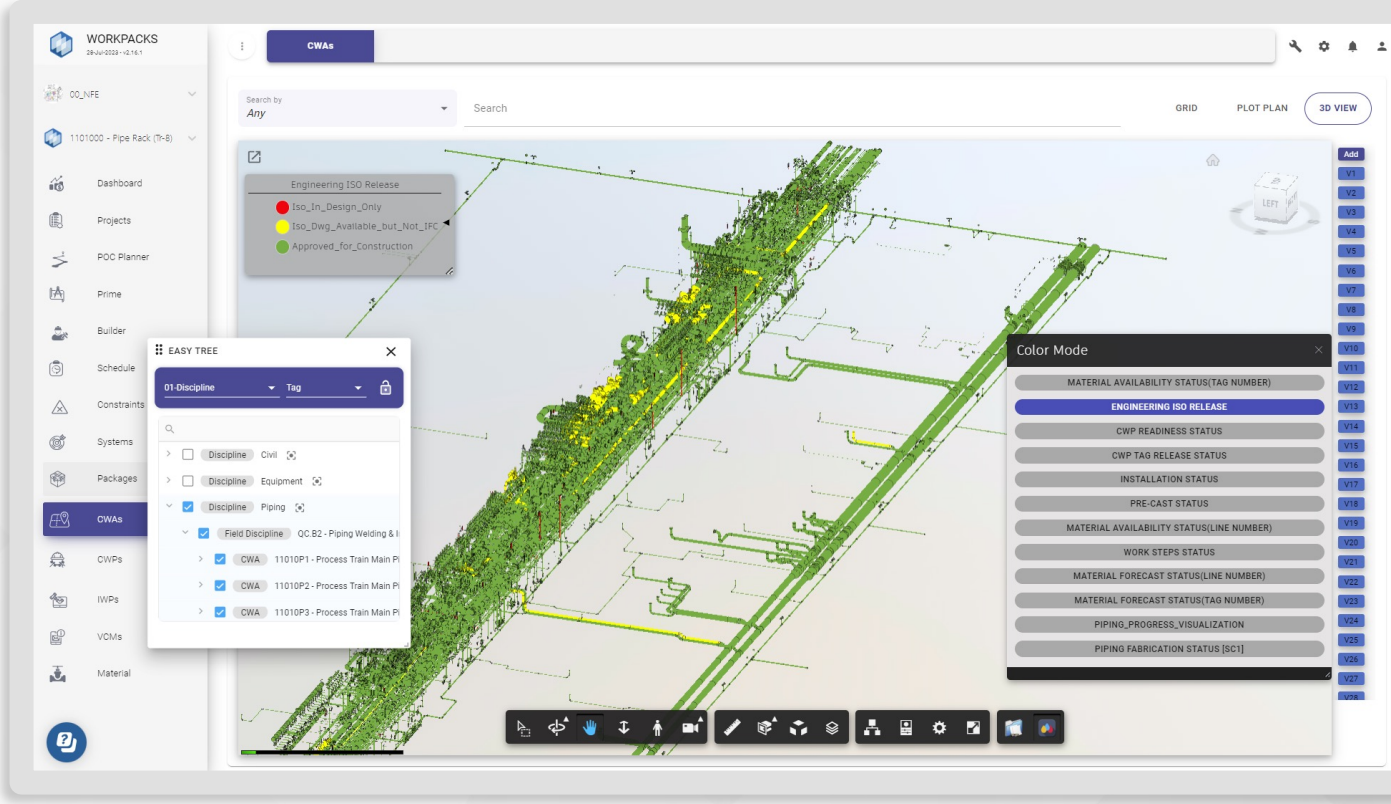
WorkPacks is armed with a sophisticated suite of features designed to support the dynamic needs of AWP projects from inception to completion. These features provide a seamless, intuitive, and efficient user experience that significantly aids in the planning, execution, monitoring, and controlling of various project aspects.

Jump-Start AWP Projects:

WorkPacks enables swift project initiation, laying a robust foundation for successful AWP project execution. It offers solutions that address a wide array of AWP needs across the entire project lifecycle, providing invaluable support to project teams from the get-go.

Manage Work Packages Lifecycle:

The platform empowers teams to effectively manage the lifecycle of work packages. It allows for robust constraint management, field-based progressing, status visualization, and provides comprehensive dashboards and reports at both project and portfolio levels.



VISUALIZATION OF ENGINEERING

WORKPACKS INNOVATIVE SOLUTIONS

WorkPacks Delta, the integration module within WorkPacks, seamlessly integrates data through Digital Threads, Flow Automation, and AI, providing normalized project data in contextualized views. It uses delta-lake technologies to process, validate, and store data revisions, enhancing data quality and enabling data-driven decision-making.

Digital Threads:

WorkPacks Delta connects stakeholders across various platforms, leveraging Digital Threads for EPC Systems Integration. It optimizes data for construction planning, execution, and operations.

Flow Solutions:

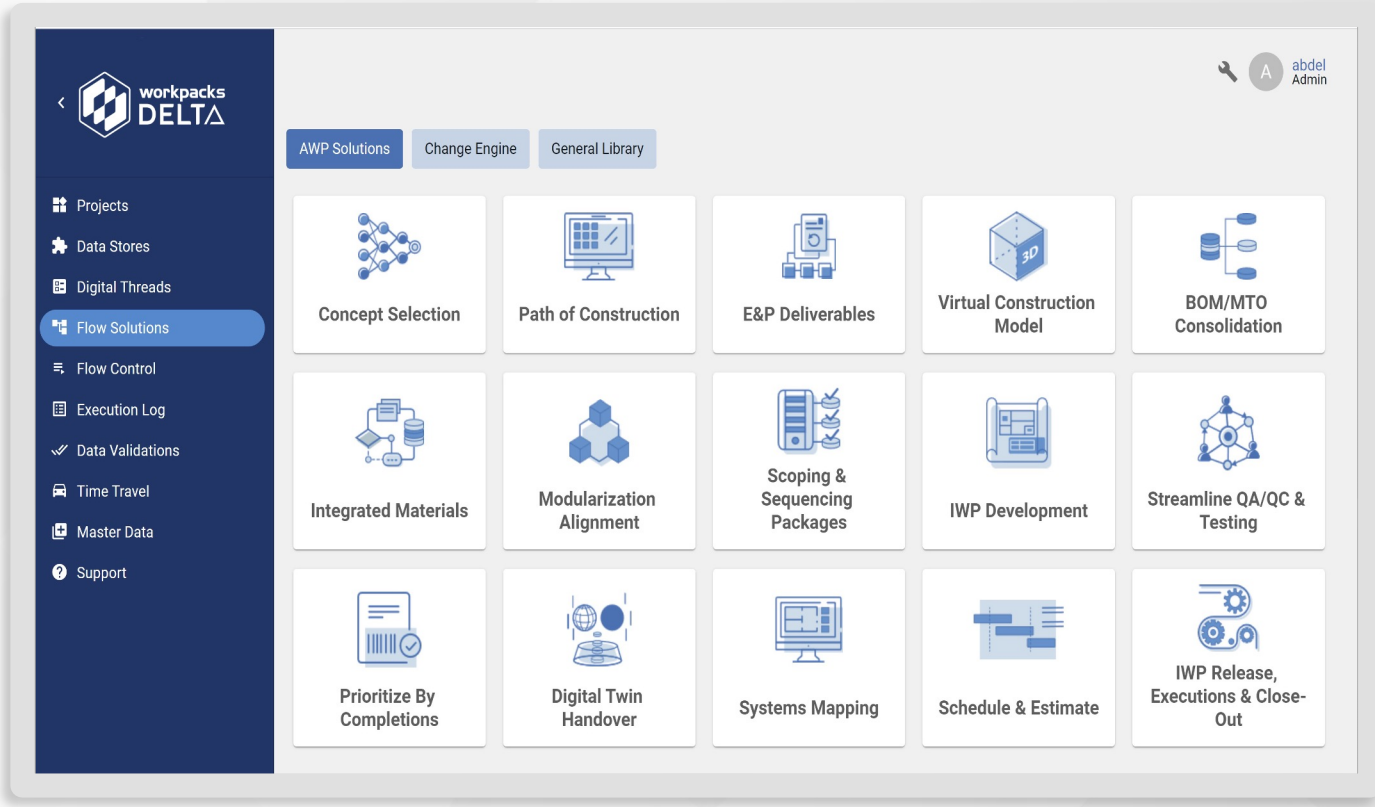
Automate data curation and workflows through custom low-code to no-code Neo Flow Solutions, simplifying the user experience with pre-configured out-of-the-box solutions.

Revision Change Management:

WorkPacks Delta offers visibility over all data revisions, ensuring optimal control over project data consistency and simplifying data management.

Data Validation and Time Travel:

The module allows automated data validations and real-time error rectification, ensuring project data is verified regularly and aligned across all project stages.



WORKPACKS DELTA FLOW SOLUTIONS

AWP IMPLEMENTATION

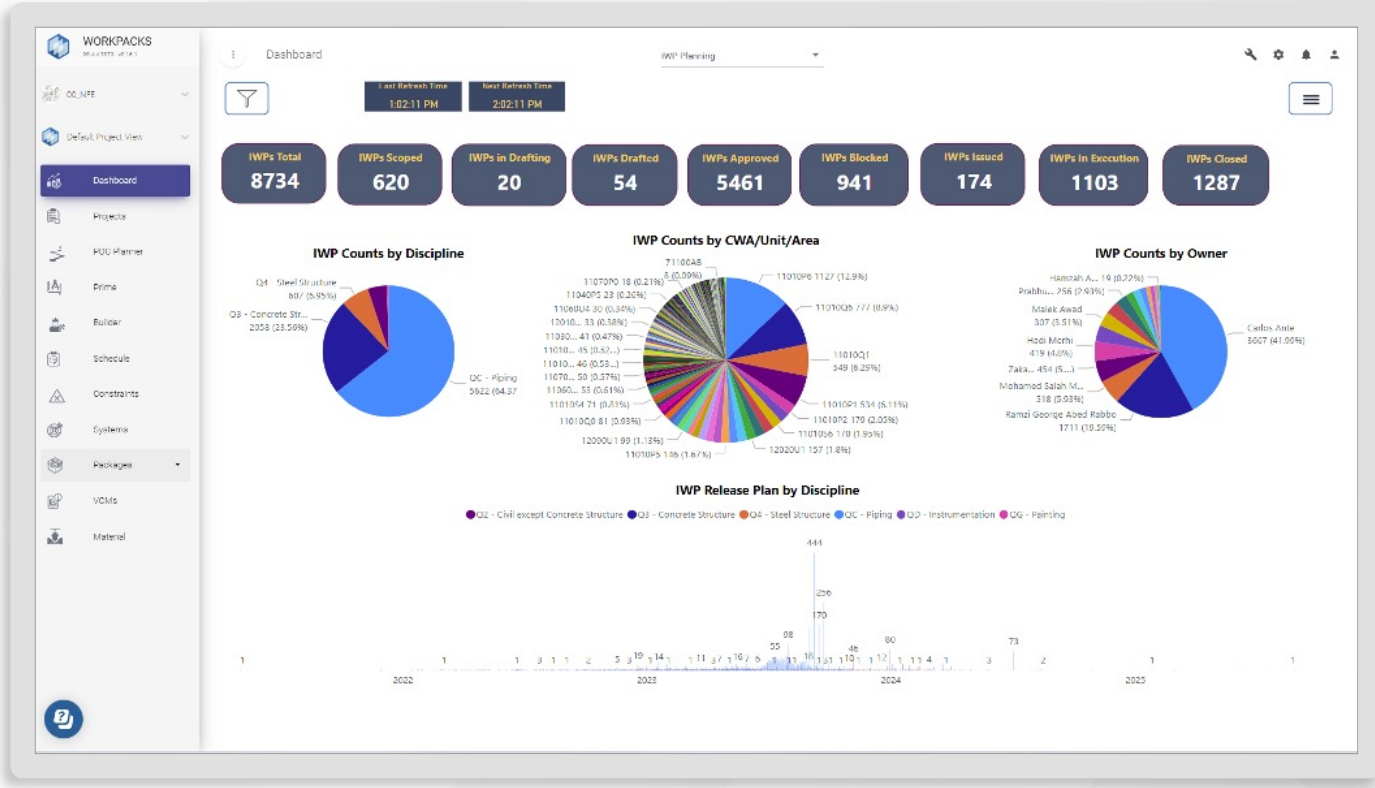
THEORETICAL GROUNDWORK BY CCC

- Comprehensive transformative process initiated, not limited to technological integration.
- Significant organizational shifts and refinements were necessitated.
- CCC laid robust theoretical groundwork, understanding and analyzing unique project challenges.
- Paradigm shift in project planning, execution, and monitoring was developed.
- Flexible and adaptable theoretical framework developed for dynamic project environment.
- Investment in training and development to ensure workforce proficiency in new approaches.

AWP IMPLEMENTATION

WorkPacks Technical Prowess

- WorkPacks turned theoretical groundwork into practical application.
- Supported extensive revamping of EPC deliverables.
- Facilitated refinements to CTJV's contributions for optimized efficiency.
- Enabled department-wide operational realignments for streamlined workflow.
- Enhanced field efficiency with construction-centric planning.
- Established real-time feedback mechanisms and a transparent ecosystem for collaboration between EPC entities.



BI _ IWP PLANNING

AWP IMPLEMENTATION

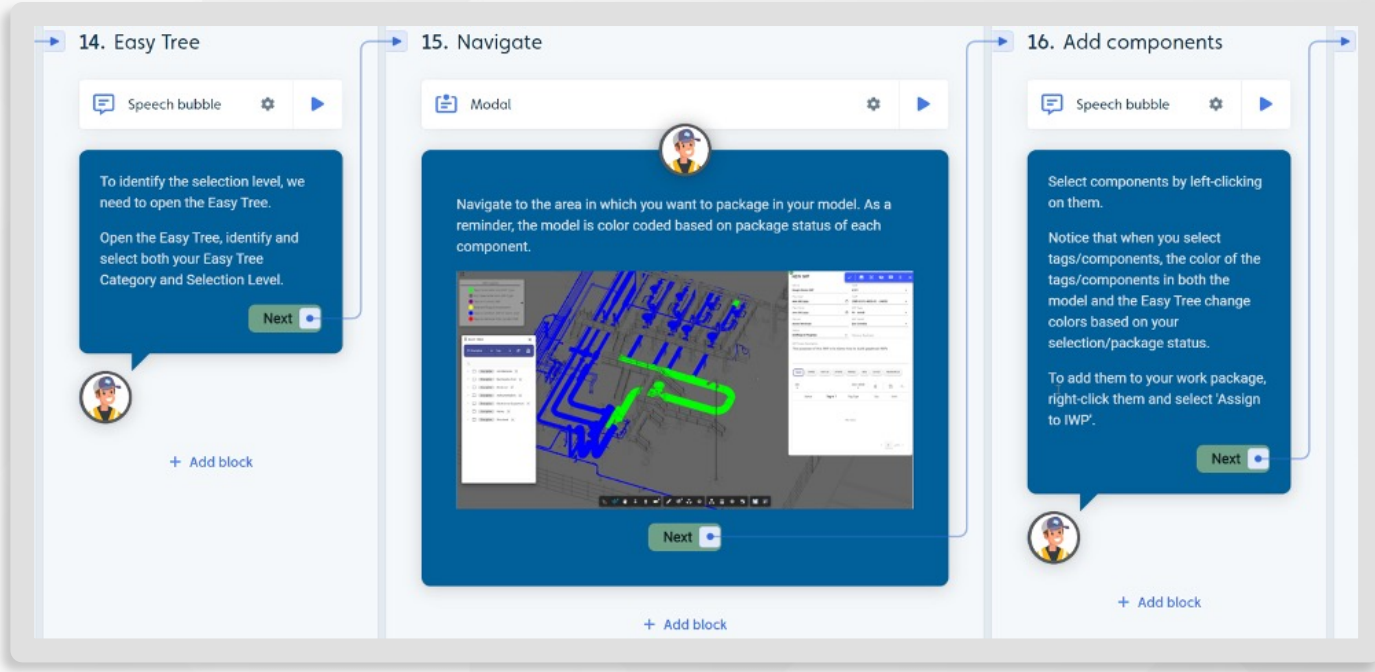
Revamping and Refinements

- **Extensive Revamping:**
  With WorkPacks Delta, CCC underwent a comprehensive reassessment and restructuring of EPC deliverables from the ground up, ensuring optimal alignment with project requirements.
- **CTJV's Contributions:**
  The refinement process extended to CTJV's inputs, ensuring they were precise, efficient, and perfectly aligned with the project's needs.
- **Active Participation:**
  WorkPacks was not just a tool but an active participant in the process, providing the necessary features and support for seamless integration and optimization of EPC deliverables.
- **Data Processing and Validation:**
  Utilizing delta-lake technologies, WorkPacks Delta efficiently processed and validated data revisions, enhancing data quality and facilitating data-driven decision-making.

AWP IMPLEMENTATION

Effective Communication

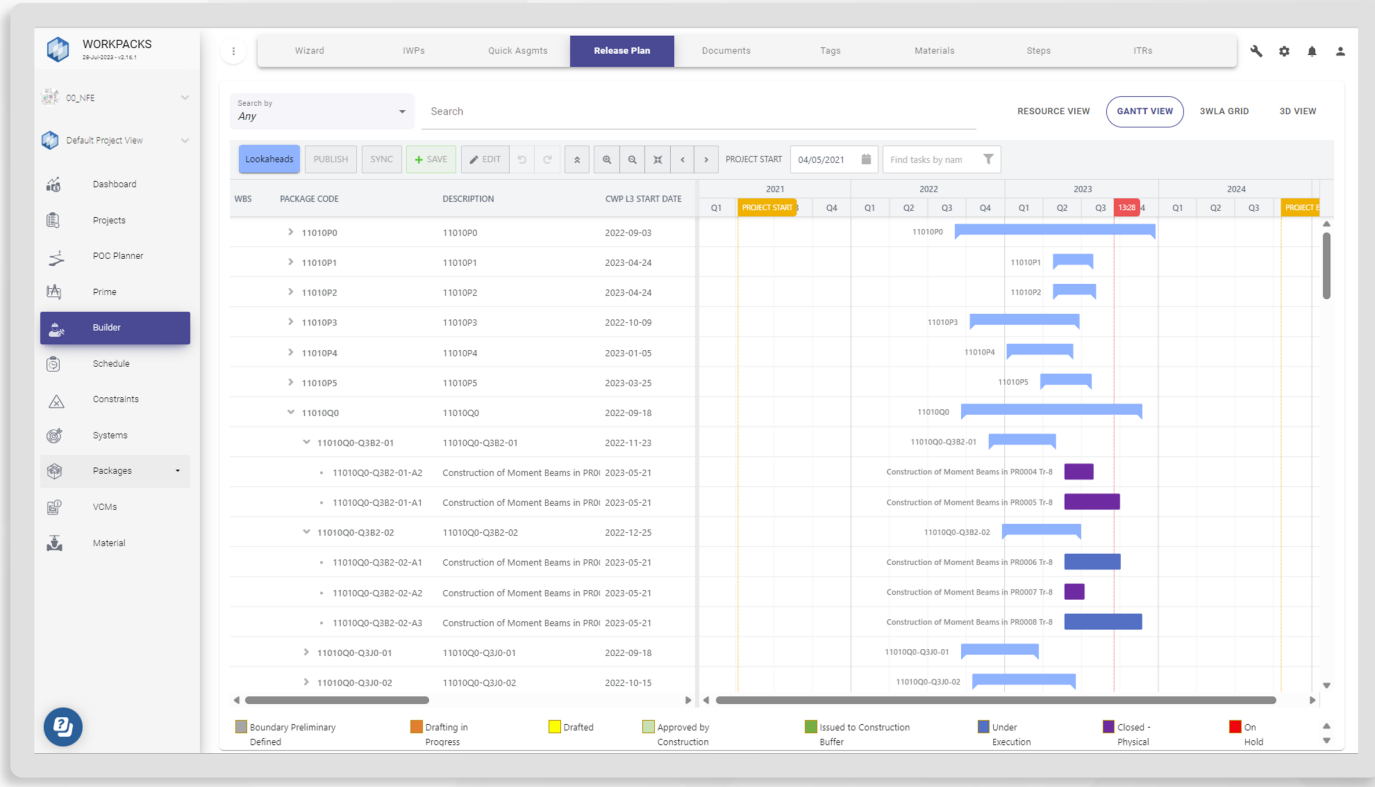
- **Strategic Communication:**
  CCC implemented clear and targeted communication strategies to align all organizational levels with the AWP vision and objectives.
- **Orientation and Training:**
  Multiple orientation sessions and hands-on training programs were conducted, focusing on practical, real-world AWP applications.
- **Executive Engagement:**
  A nuanced communication strategy was adopted for the executive board, highlighting the strategic and operational importance of AWP.
- **Field Team Focus:**
  A customized communication approach was developed for field teams to promote collaboration, understanding, and ownership of the AWP process.
- **WorkPacks Support:**
  With its customer-centric approach and extensive training resources, WorkPacks facilitated the communication and implementation process, supporting CCC at every step of the AWP initiative.



WORKPACKS IN APP SELF PACED ONBOARDING

SUCCESS POINTS WITH WORKPACKS

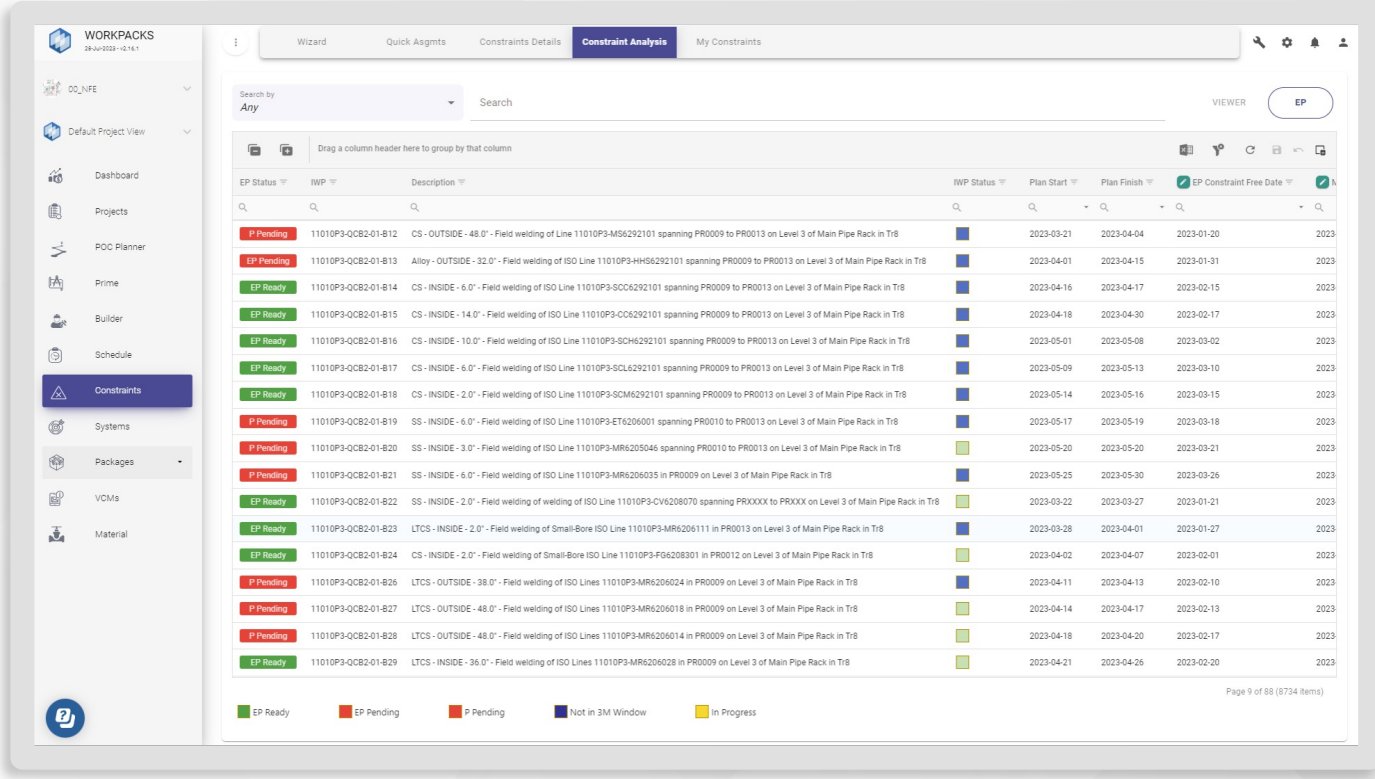
- **Enhanced Visibility:**
  WorkPacks provided a six-month outlook, enabling agile adaptation and proactive planning.
- **Inherent Flexibility:**
  The platform allowed structured deviations from standard sequences, providing flexibility to meet project demands.



GANTT VIEW (IWP RELEASE PLAN)

SUCCESS POINTS WITH WORKPACKS

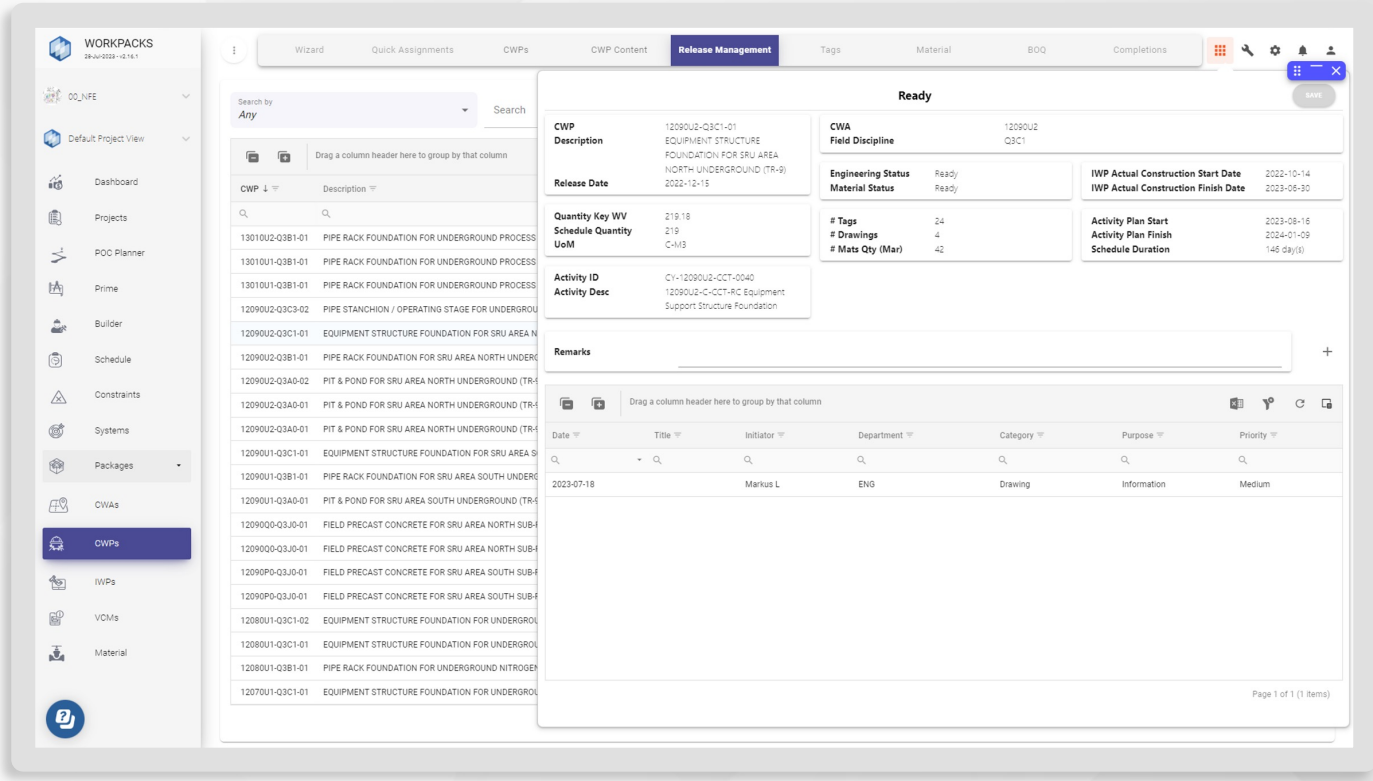
- **Change Management:**
  WorkPacks revolutionized change management with streamlined tools for efficient change implementation.
- **Collaboration:**
  The platform enhanced collaboration among Engineering, Procurement, Construction, and stakeholders.
- **Challenges Overcome:**
  WorkPacks provided the tools and support to navigate through and overcome implementation challenges.



EP CONSTRAINT

SUCCESS POINTS WITH WORKPACKS

- **Empowered Ownership:**
  Comprehensive dashboards provided crucial information, fostering ownership and accountability among team members.
- **Data Integrity:**
  Collaborative features of WorkPacks ensured data validity and integrity, providing a reliable foundation for project activities.



CWP RELEASE NOTICE BOX IN COMPARISON TO SCHEDULE

RESULTS ACHIEVED



Safety Improvements

The 90-day lookahead feature provided transformative visibility, enabling proactive safety measures and optimized resource allocation for a safer project environment.



Quality Enhancement

With a significant focus on quality, WorkPacks facilitated transparent tracking, dual-role tagging, and integration of quality measures into construction processes, resulting in remarkable improvements in quality benchmarks.



Efficiency in Time Management

WorkPacks provided crucial features for time management, including 90-day visibility, proactive constraint management, and efficiency trend analysis, supporting the project's ambitious efficiency improvement goals.

LESSONS LEARNED

Constraint Management	The focus on managing both immediate and future challenges reflects proactive planning and foresight
Constructability Studies	Making these mandatory for all construction work packages ensures that all plans are feasible and executable from the onset.
IWP Integration	Shifting from Material Take Off (MTO) to Installation Work Package (IWP)-guided material allocation demonstrates an innovative approach to procurement that is tightly integrated with the project's workflow.
Digital Evolution	Embracing digital threads and technologies is crucial for staying current and efficient in project management, reflecting the modern, tech-savvy approach of both CCC and WorkPacks.
Optimized Information Management	Utilizing platforms for enhanced data exchanges shows a commitment to efficient and effective information management, a core component of successful project management.

LESSONS LEARNED

Seamless Integration	Synchronizing with the Construction Document Management System demonstrates a smooth and integrated approach to document management which is essential for the coordination and execution of construction projects.
Real-time Updates	Having mechanisms to instantly receive and circulate document changes to on-site projects ensures that all team members have access to the most current information, promoting efficiency and accuracy on the project.
Precision-Focused Issuance	Aligning materials closely with Installation Work Packages (IWPs) ensures that resources are utilized efficiently and effectively.
Dynamic Release Plan	The ability to adapt to real-time site conditions for optimal results demonstrates flexibility and responsiveness in project management and execution.
Execution Flexibility	Demonstrating the capability to adjust and refine the project as needed shows that the project management approach is adaptable and responsive to the dynamic nature of construction projects.

CONCLUSION

The implementation of Advanced Work Packaging (AWP) by CCC on the North Field East (NFE) Project, with WorkPacks as a central tool, marks a significant initiative in project management. This effort reflects a careful integration of human skill and advanced technology to address the challenges of large-scale projects. Beyond meeting immediate challenges, this approach sets a thoughtful precedent for future initiatives, combining CCC's strategic planning with the innovative features of WorkPacks.

As the NFE project progresses, the collaboration continues to evolve, offering valuable insights and practical learnings that are beneficial for future projects. The ongoing effort is anticipated to provide a replicable model of efficiency and innovation in project management, with the promise of influencing the planning and execution of subsequent projects positively.

THANK YOU!

Thank you for your time and attention.
Please feel free to ask any questions.

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