CEPSA TURNAROUND METHODOLOGY 4.0

ERTC VIRTUAL 2020

Speaker: Jose A. Martínez Villa.
Email: Jose.martinezv@cepsa.com

November 2020. Rev05.

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ITEMS: 15.558 U

STATICS:	7.249
DYNAMICS:	4.688
PACK UNITS:	529
ELECTRICALSS:	3.047

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CYCLE 3D DESIGN.

FEED:

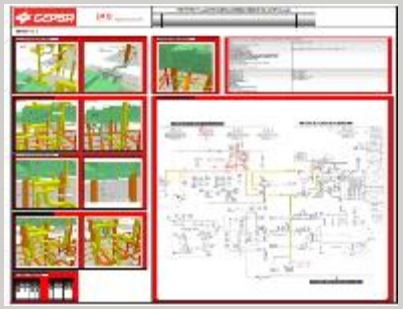
PLOT PLANT / HSE:

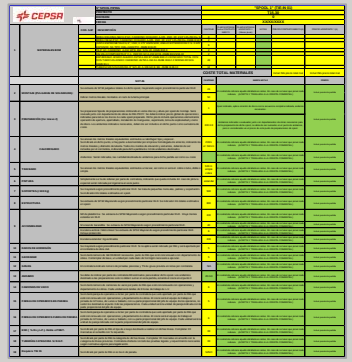
DETAILS ENGINEERING:

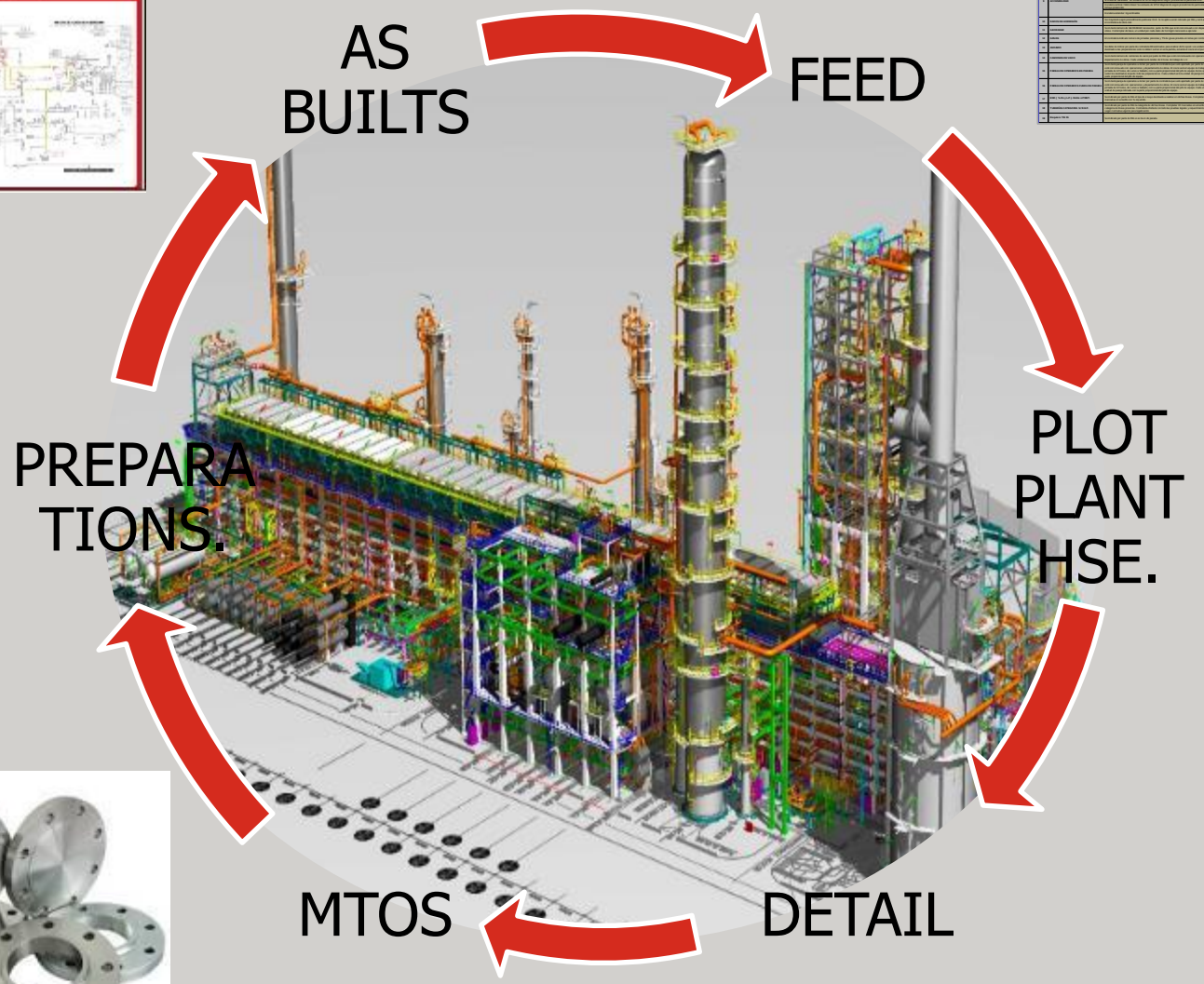
MTOS

PREPARATIONS

AS BUILT







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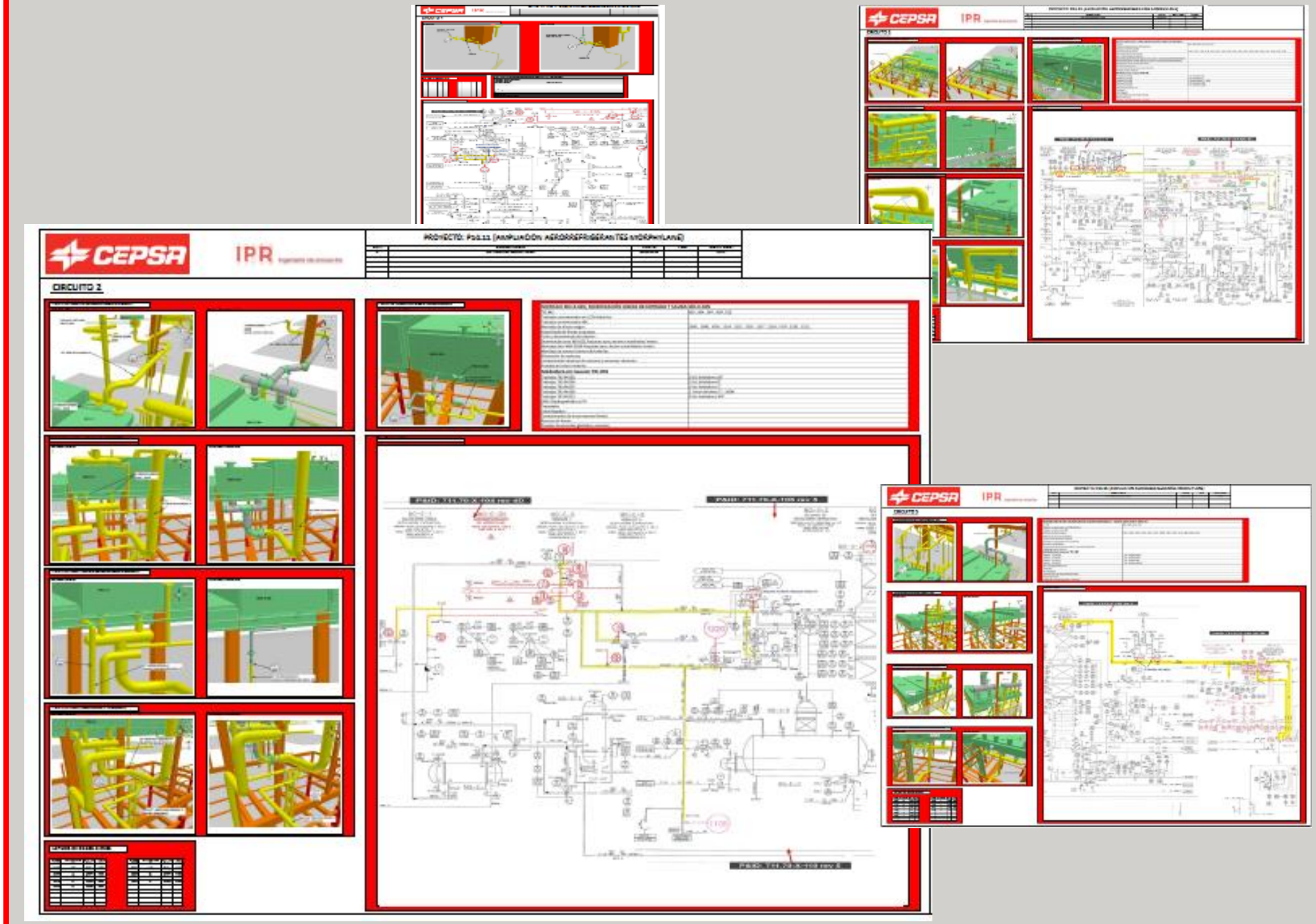
CYCLE 3D DESIGN.

PREPARATION DIAGRAMS



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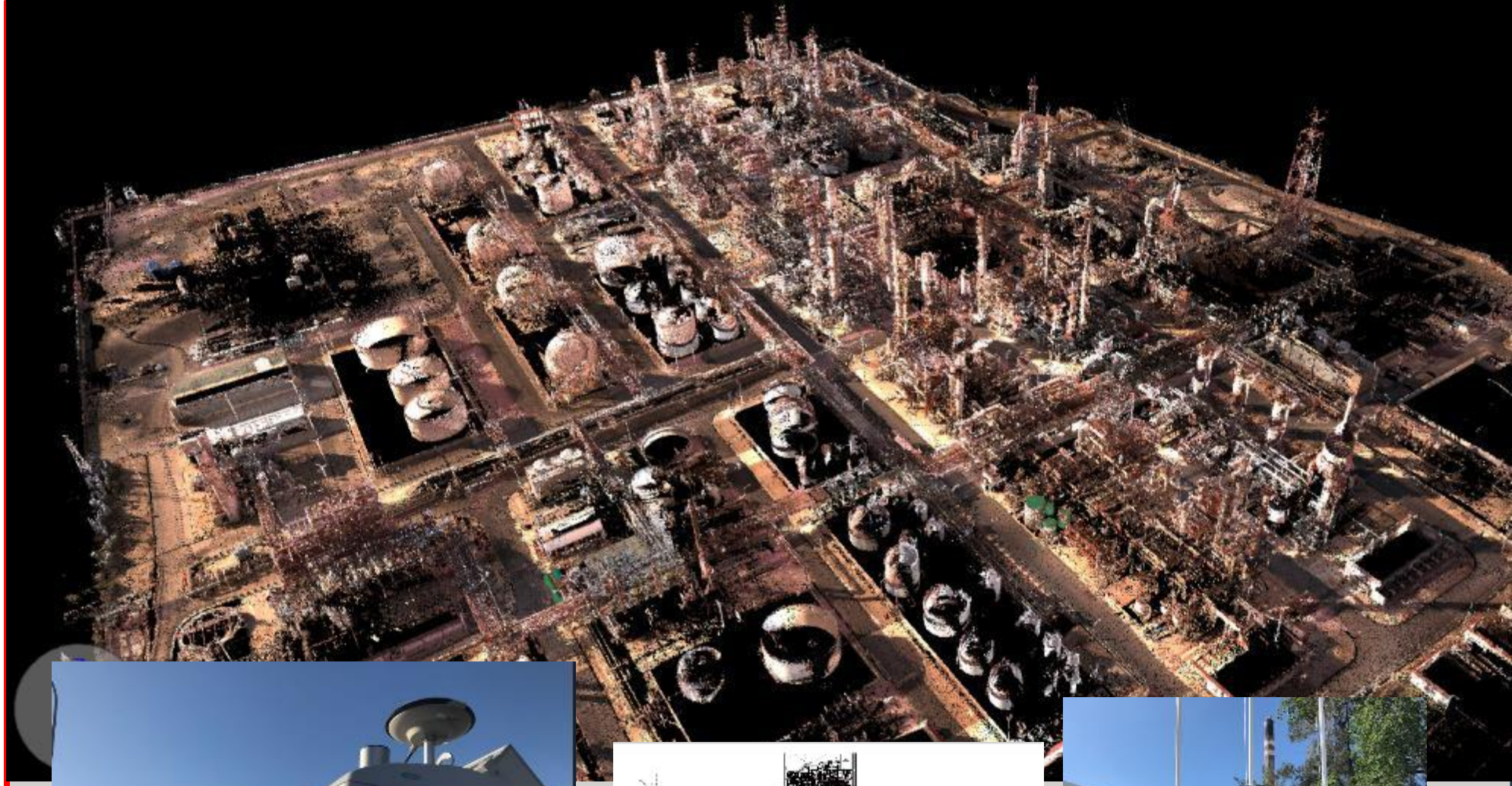
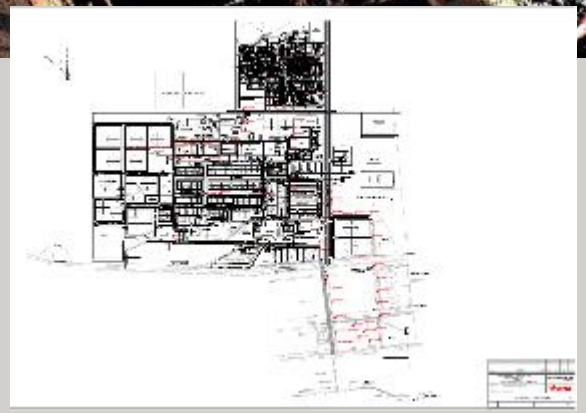
MOBIL MAPPING.





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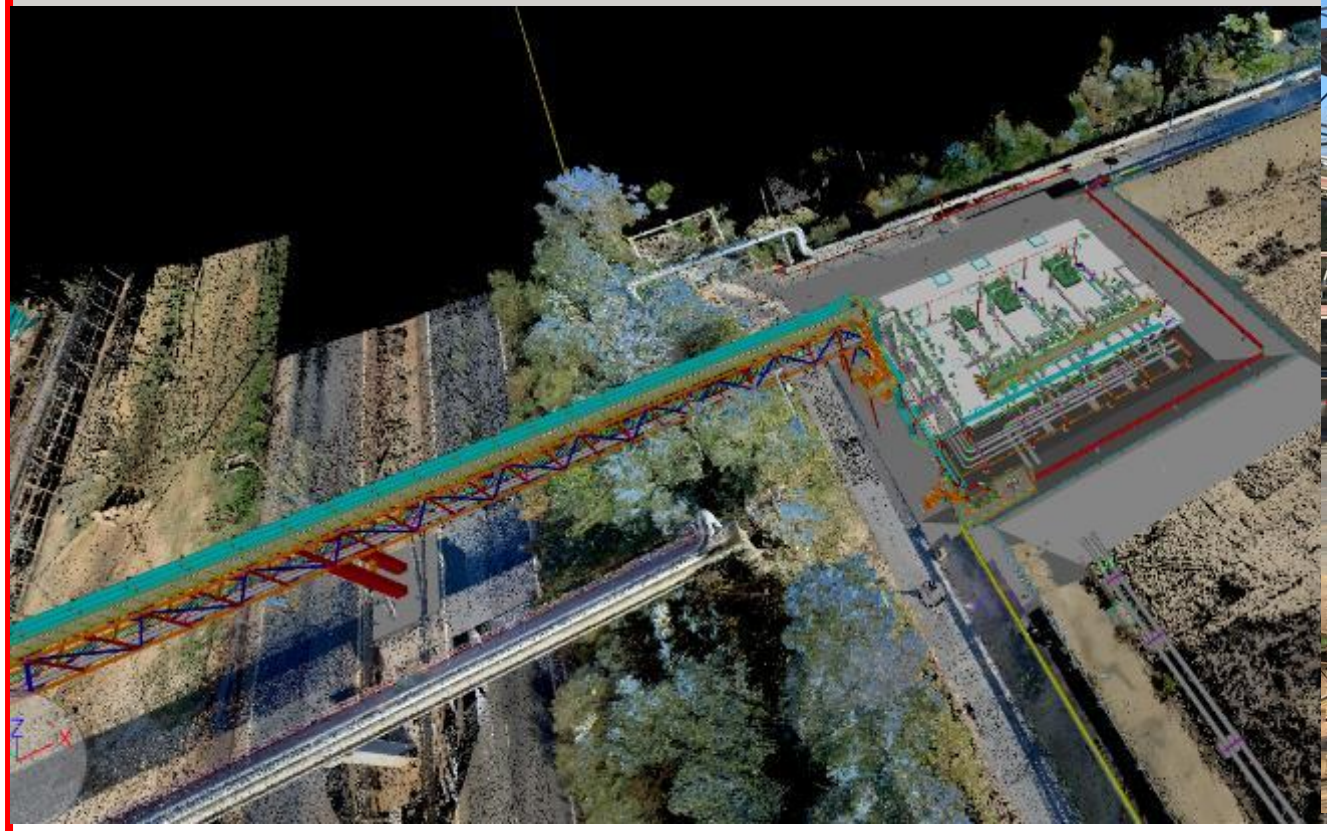
DESIGN



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CASES STUDY

P14.11 NEWS BUNDLES MO.

N15.18 COOLER NK-E4 HK.

N16.02 NEW BUNDLES HK.

T16.01. WHITE PRODUCTS.

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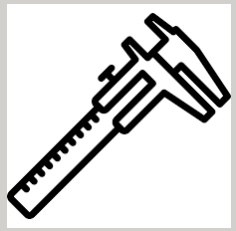
CASES STUDY

P14.11 NEWS BUNDLES MO.

SCOPE

4 NEW BUNDLES.
2 INSPECTION BUNDLES.
AIR BLOCK COMPLETE CHANGE.

RISKS



STANDART TIME

10 days
240 hours

DEADLINE NEW ITEMS IN MIDDLE OF TURNAROUND.

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CASES STUDY

P14.11 NEWS BUNDLES MO.

SCOPE

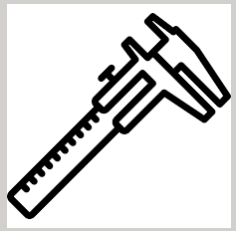
REVERSE ENGINEERING.

4 NEW BUNDLES.

2 INSPECTION BUNDLES.

AIR BLOCK COMPLETE CHANGE

RISKS



GOAL

3 days
72 hours

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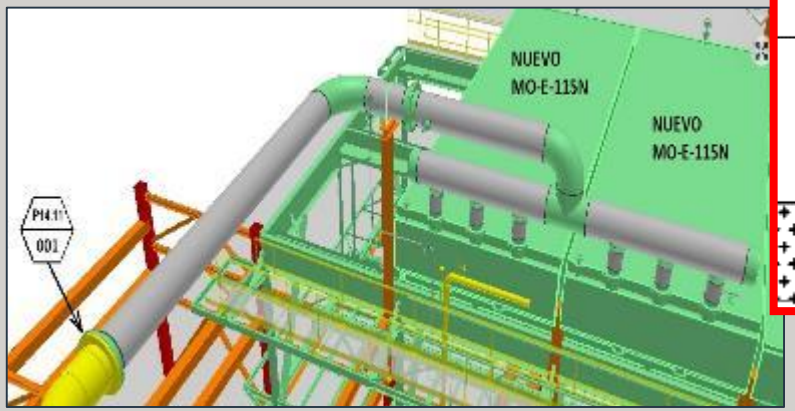
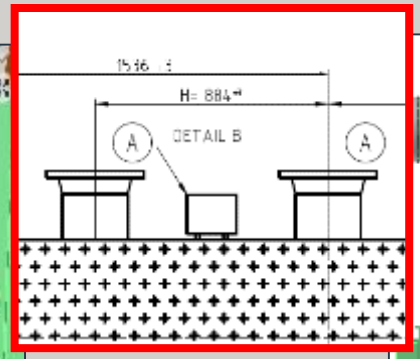
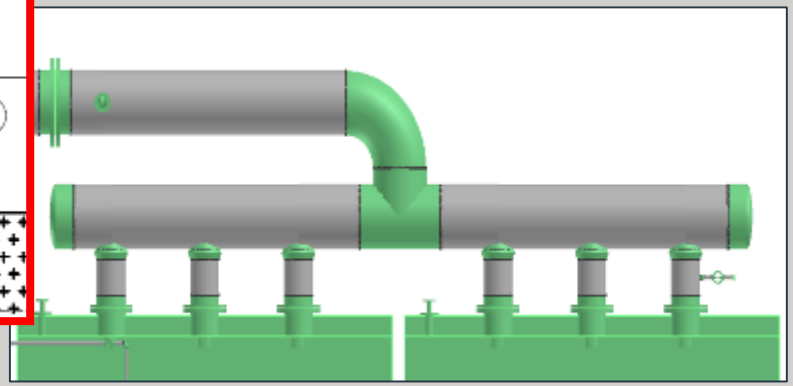
CASES STUDY

P14.11 NEWS BUNDLES MO.

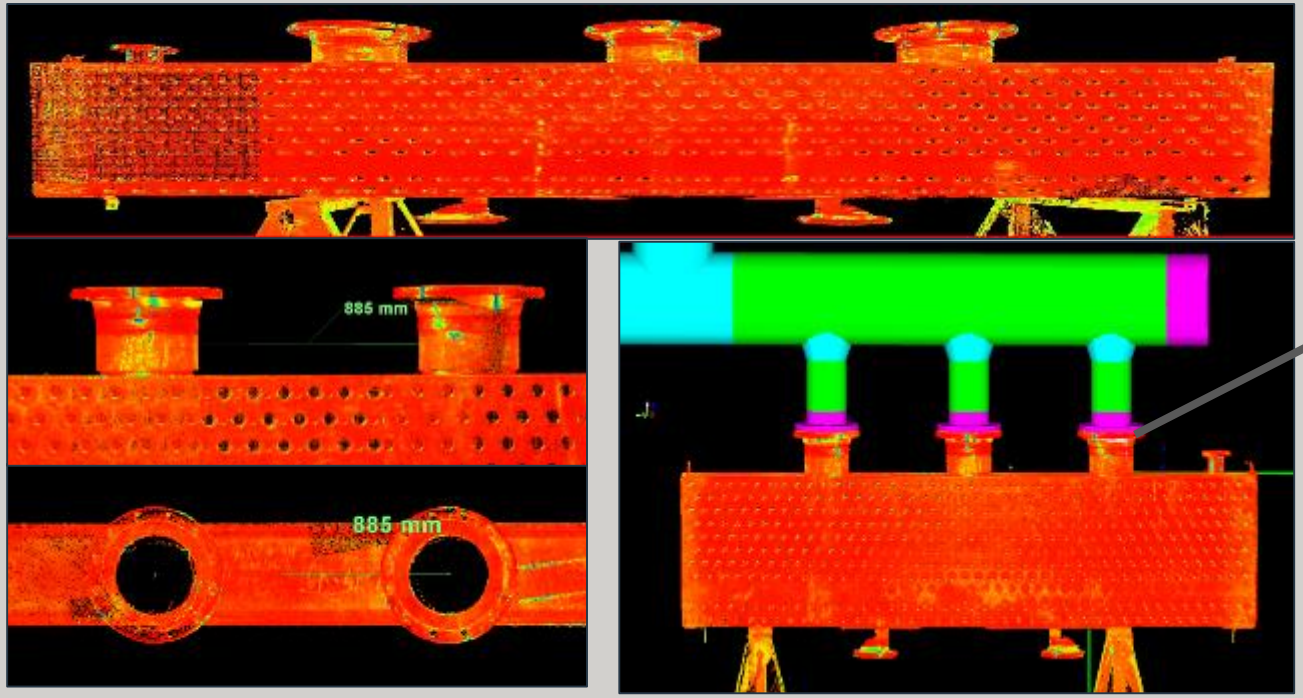
REVERSE ENGINEERING.

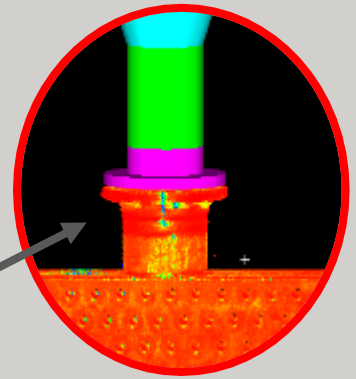


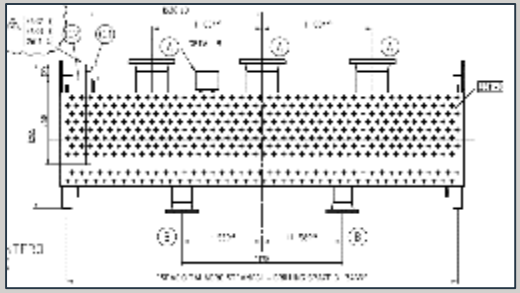




- DIMENSIONAL CONTROL IN MANUFACTURE BUNDLE HOUSE AND IN OPERATOR PIPING MANUFACTURE.
- 3D PREINSTALATION AND CORRECTION OF TOLERANCES.







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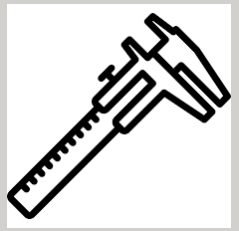
CASES STUDY

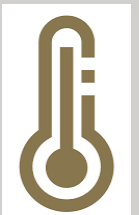
N15.18 COOLER NK-E4 HK.

SCOPE

NEW EXCHANGE COOLER
MATERIAL: F-22 CL3 + WO 347

VILLAINS/ RISKS





STANDART TIME

10 days
240 hours

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CASES STUDY

N15.18 COOLER NK-E4 HK.

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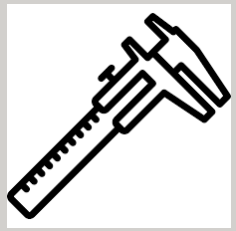
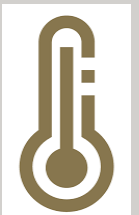
SCOPE

TOLERANCE CONTROL.

NEW EXCHANGE COOLER
MATERIAL: F-22 CL3 + WO 347

VILLAINS/ RISKS





GOAL TIME

6 days
144 hours

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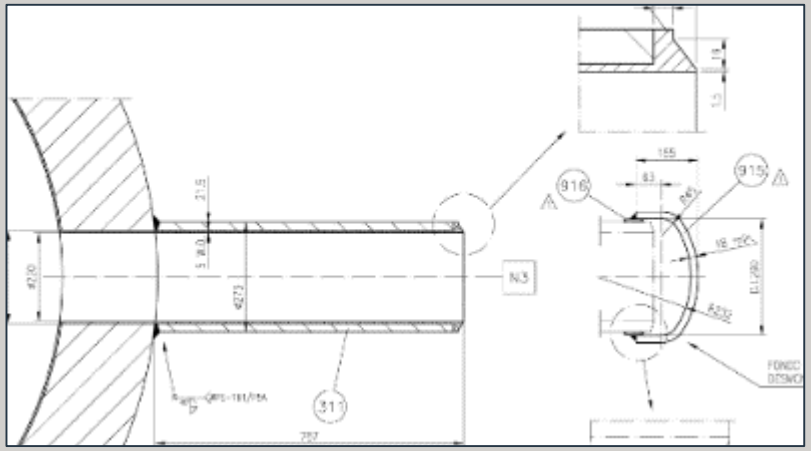
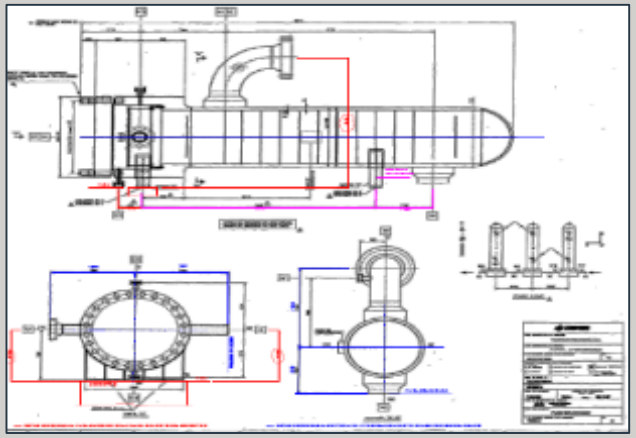
CASES STUDY

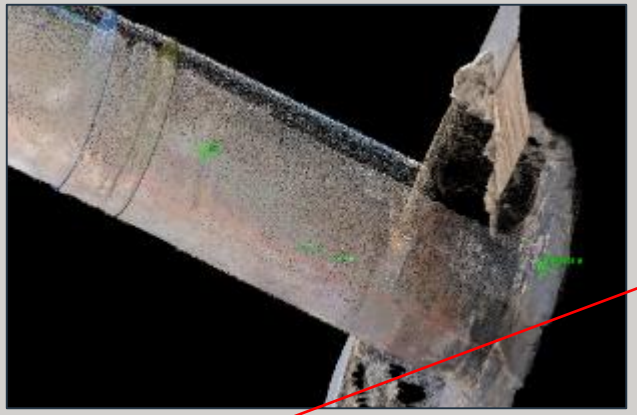
N15.18 COOLER NK-E4 HK.

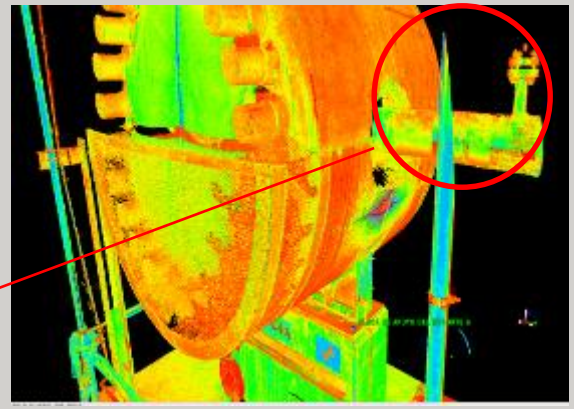
TOLERANCE CONTROL.

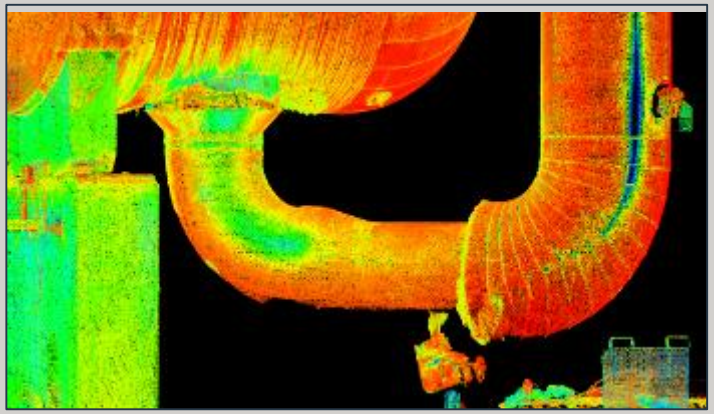




- DIMENSIONAL CONTROL IN MANUFACTURE BUNDLE HOUSE → CORRECT MEADURE
- 3D PREINSTALATION AND CORRECTION OF TOLERANCES IN THE CONCRETE FOUNDATION.







- **LESSON LEARNED: TOLERANCE OF MANUFACTURE.**

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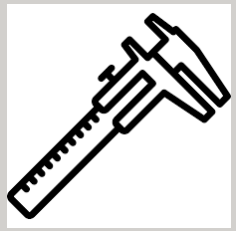
CASES STUDY

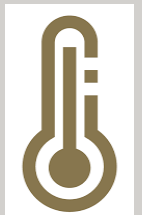
N16.30 NEWS BUNDLES HK.

SCOPE

8 NEW BUNDLES.
4 AIR STRUCTURES
AIR BLOCK COMPLETE CHANGE.
INCOLOY.

VILLAINS/ RISKS





STANDART TIME

22 days
528 hours

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CASES STUDY

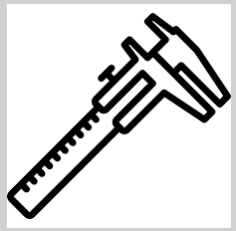
N16.30 NEWS BUNDLES HK.

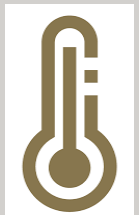
SCOPE

REVERSE ENGINEERING.
+
TOLERANCE CONTROL.

8 NEW BUNDLES.
4 AIR STRUCTURES
AIR BLOCK COMPLETE CHANGE.
INCOLOY.

VILLAINS/ RISKS





GOAL

10 days
240 hours

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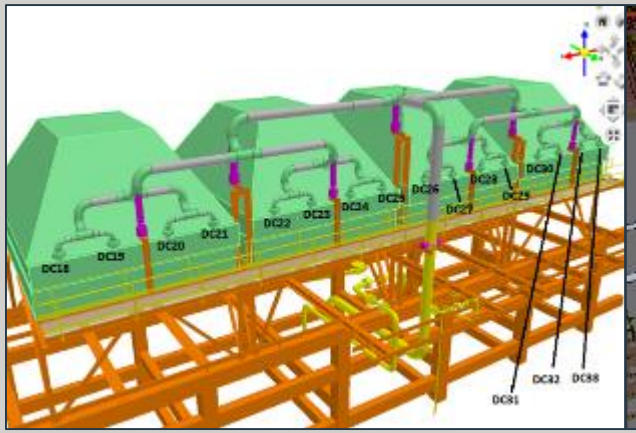
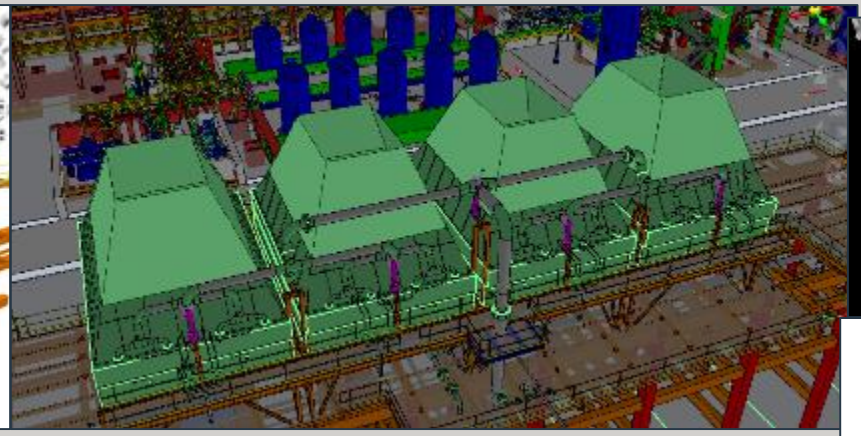
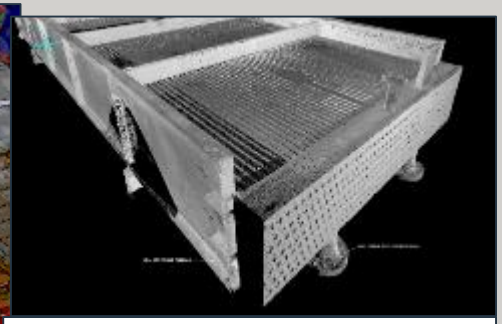
CASES STUDY

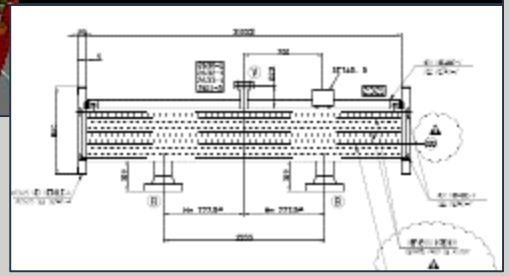
N16.30 NEWS BUNDLES HK.

REVERSE ENGINEERING. TOLERANCE CONTROL.

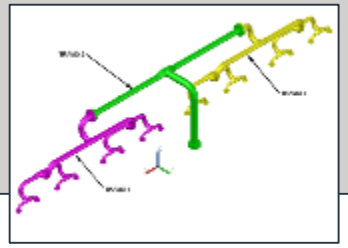


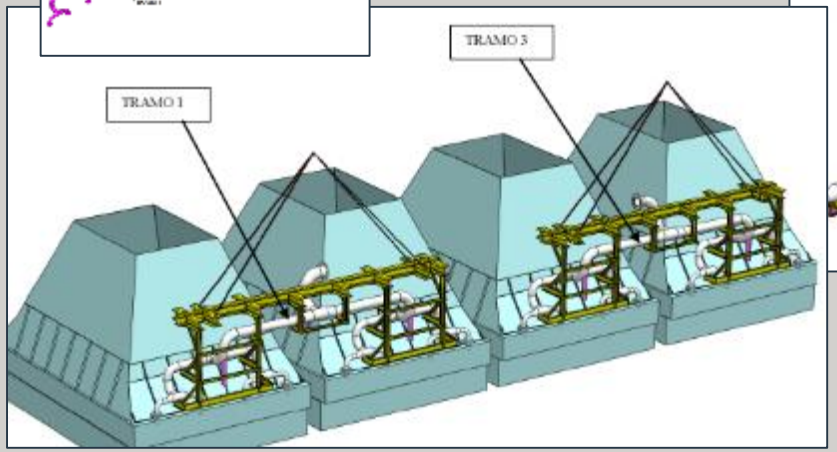


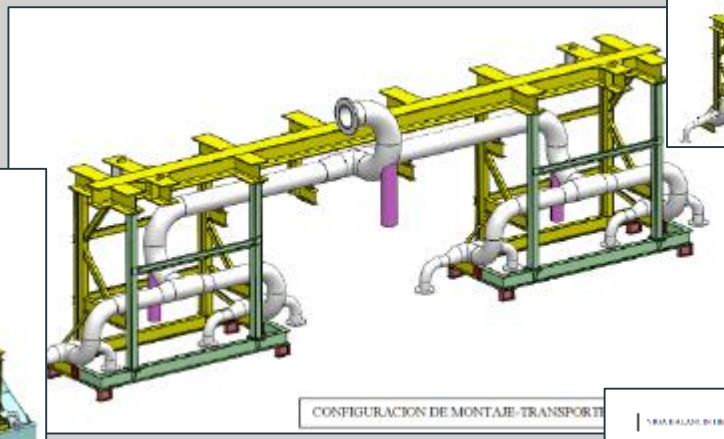


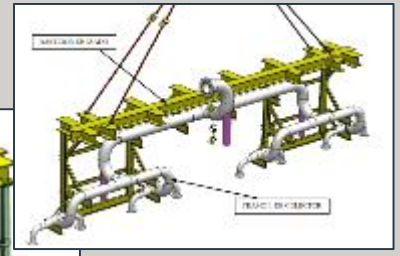


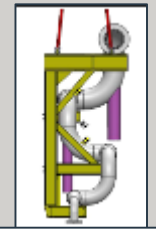
- DIMENSIONAL CONTROL IN MANUFACTURE BUNDLE HOUSE
- 3D PREINSTALATION AND CORRECTION OF TOLERANCES.
- DECONSTRUTION IN PART AND STRUCTURE TO LIFTING.

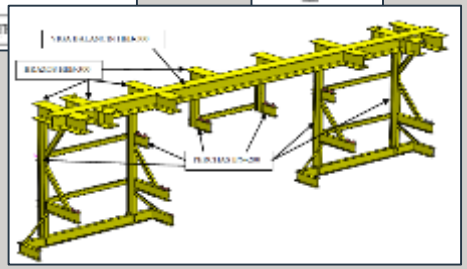












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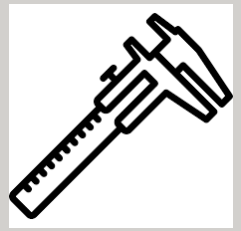
CASES STUDY

T16.01 WHITE PRODUCTS.

SCOPE	VILLAINS/ RISKS	STANDART TIME
NEW TIE-IN WITH SPOOL TO TRANSFER WHITE PRODUCT TO TERMINAL.	  	**3 days 72 hours**

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CASES STUDY

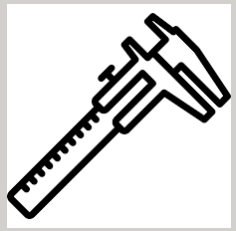
T16.01 WHITE PRODUCTS.

SCOPE

REVERSE ENGINEERING.
+
TOLERANCE CONTROL.

NEW TIE-IN WITH SPOOL TO TRANSFER WHITE PRODUCT TO TERMINAL.

VILLAINS/ RISKS



GOAL

0,5 days
12 hours

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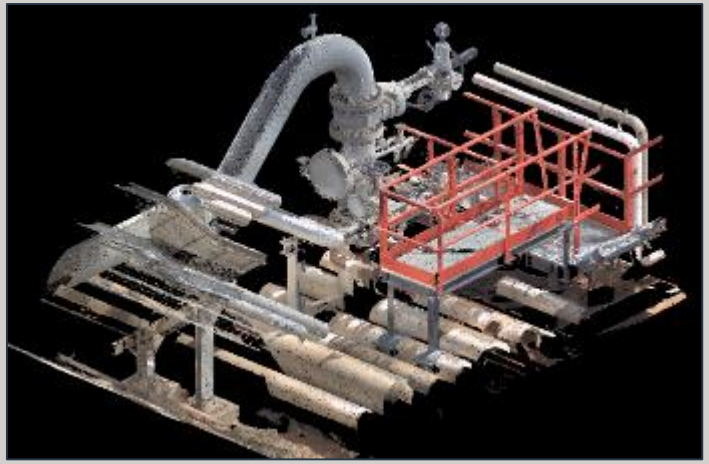
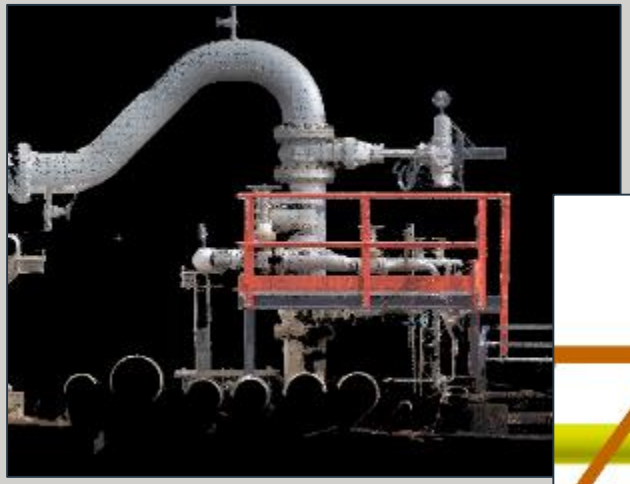
CASES STUDY

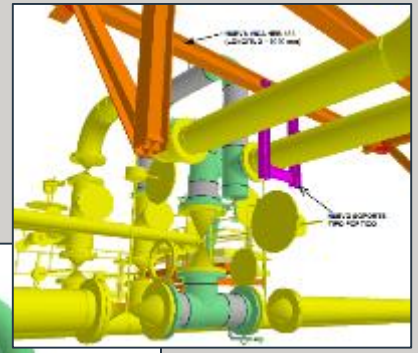
T16.01 WHITE PRODUCTS.

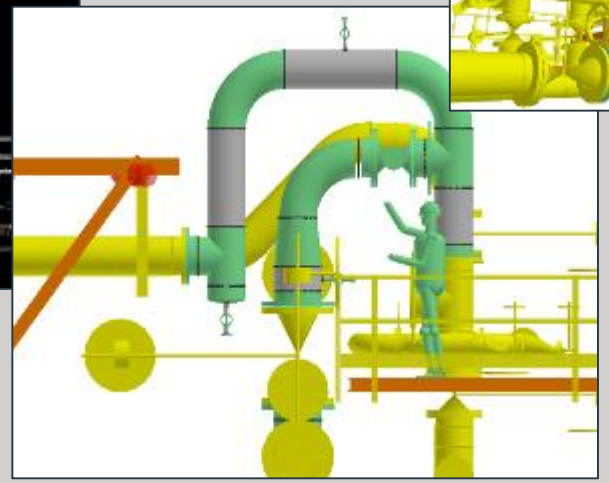
REVERSE ENGINEERING. TOLERANCE CONTROL.



- DIMENSIONAL CONTROL IN PIPING MANUFACTURE.
- 3D PREINSTALATION AND CORRECTION OF TOLERANCES.
- CONTROL OF DISPLACEMENT IN PIPING.







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TURNAROUNDS

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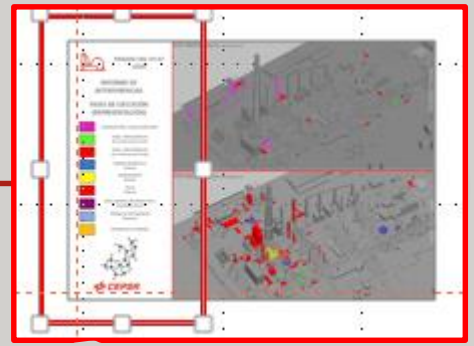
TURNAROUND METHODOLOGY 4.0

PILLARS

TURNAROUND METHODOLOGY 4.0

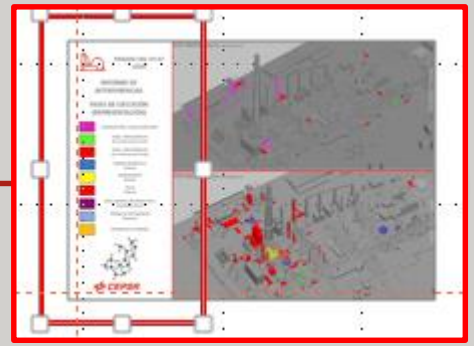
PILLARS



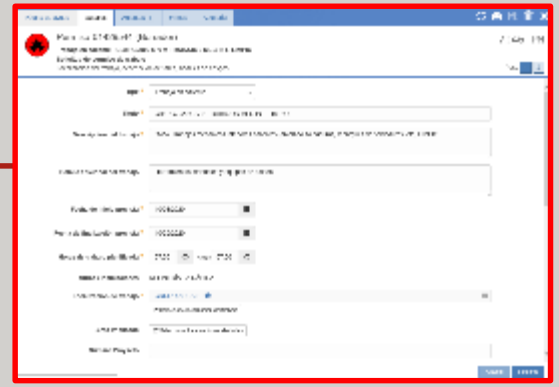
Interference management

TURNAROUND METHODOLOGY 4.0

PILLARS



Interference management



Permit to Work

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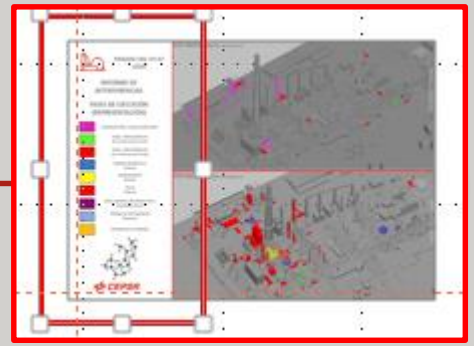
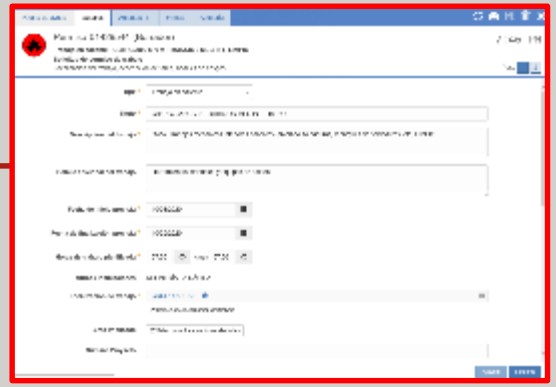
PILLARS



Interference management



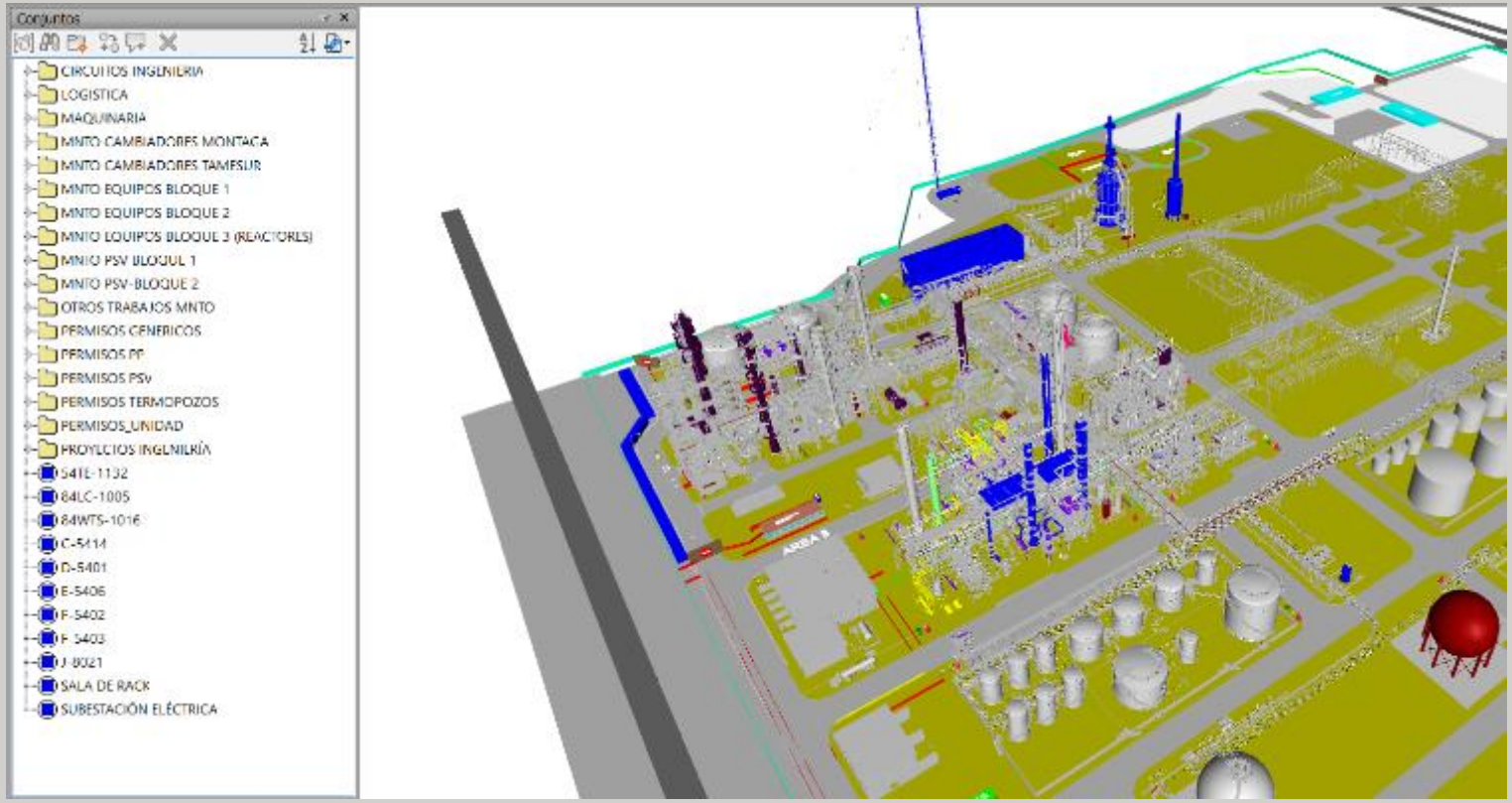
Permit to Work

Queue monitoring control of permits to work

CEPSA TURNAROUND METHODOLOGY 4.0

MODEL GROUPS, BLOCKS, PSVs, PROCUREMENT and WORKLOAD MANAGEMENT

3D MODELS PREVIOUS WORKS



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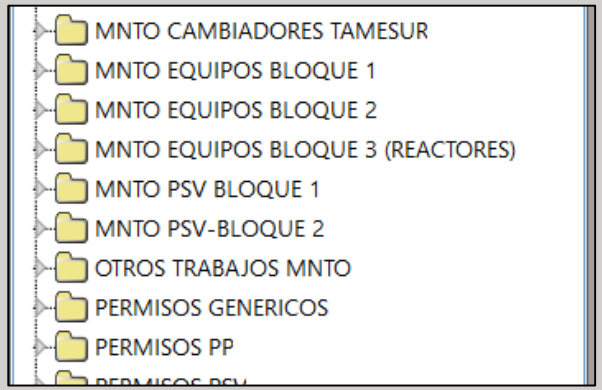
CEPSA TURNAROUND METHODOLOGY 4.0

MODEL GROUPS, BLOCKS, PSVs, PROCUREMENT and WORKLOAD MANAGEMENT

3D MODELS PREVIOUS WORKS



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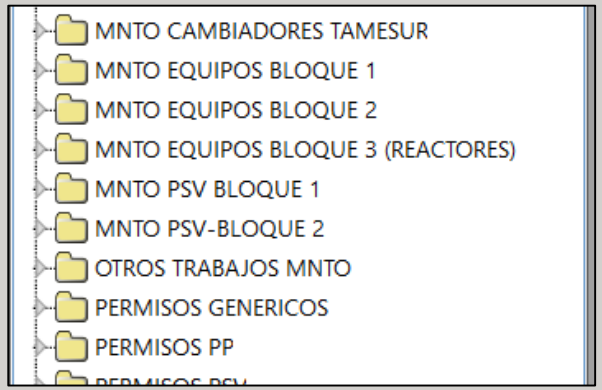

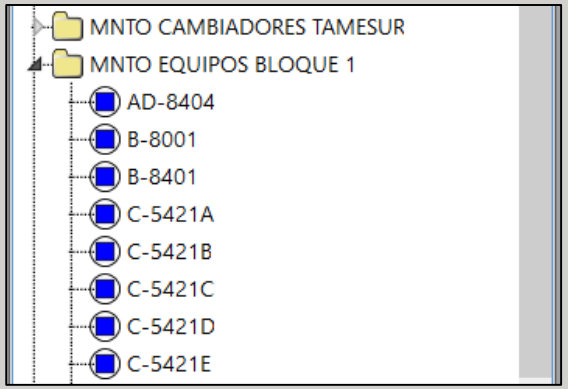

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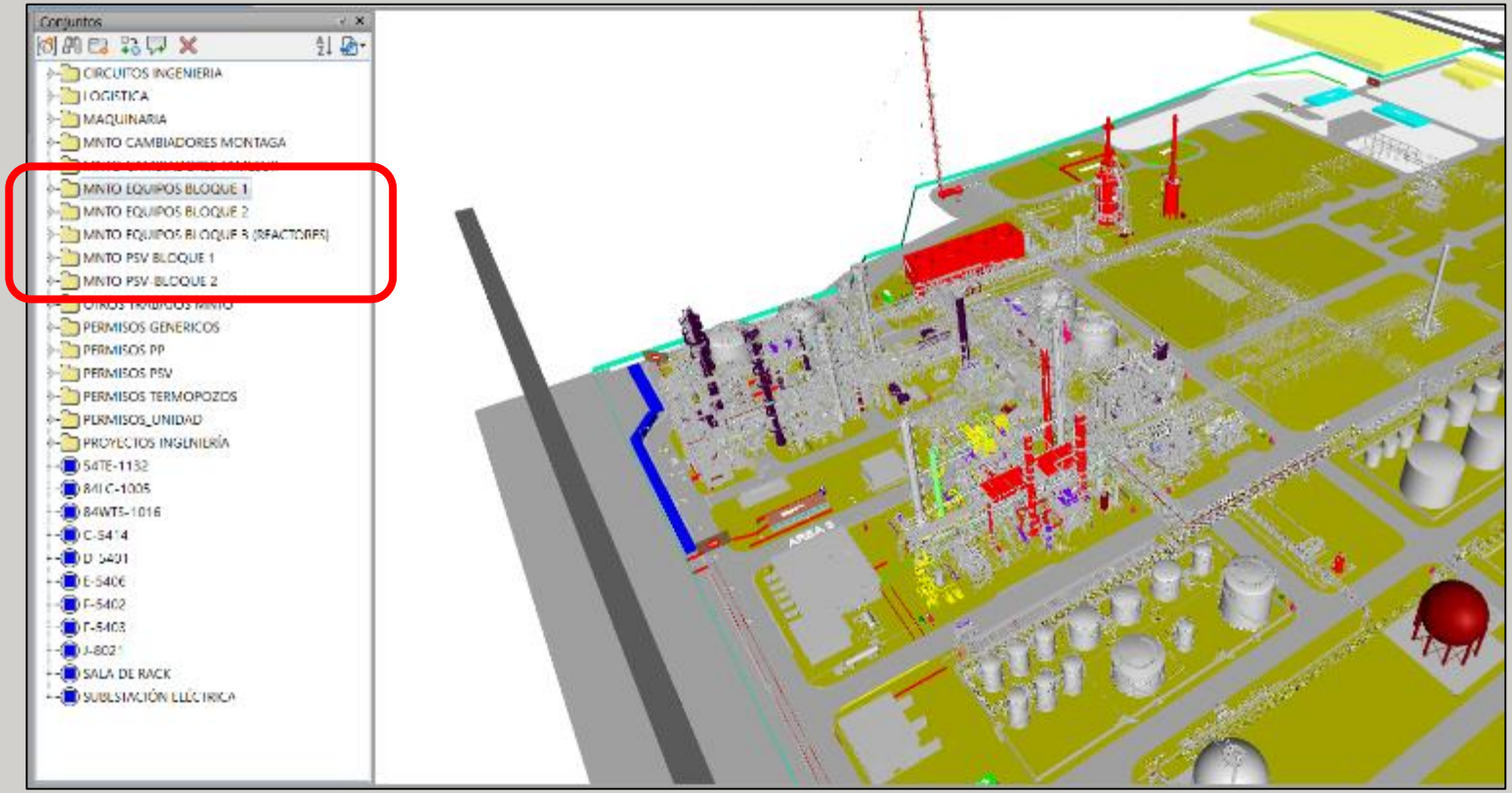

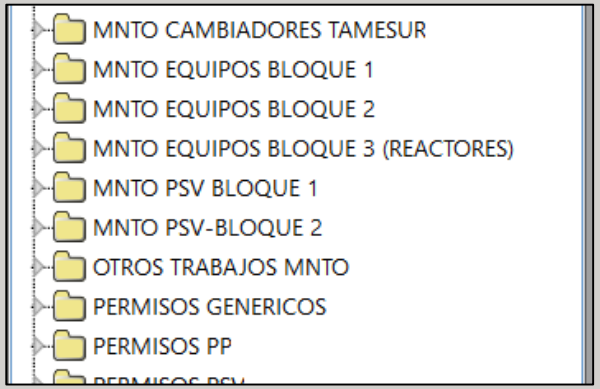

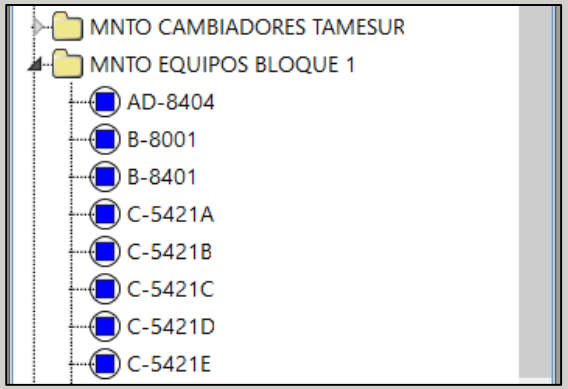

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STUDY OF INTERFERENCES

EQUIPMENT IMPLEMENTATION

3D MODELS PREVIOUS WORKS

3D MODEL BASE

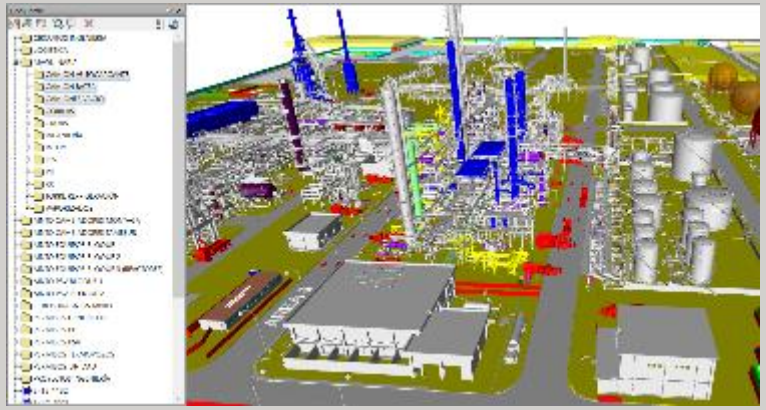
CEPSA TURNAROUND METHODOLOGY 4.0

STUDY OF INTERFERENCES

EQUIPMENT IMPLEMENTATION

3D MODELS PREVIOUS WORKS

3D MODEL BASE



EQUIPMENT IMPLEMENTATION
(CRANES, TRUCKS, CLEANING EQUIPMENT,...)

ACCORDING TO THE NEEDS OF THE MANEUVERS

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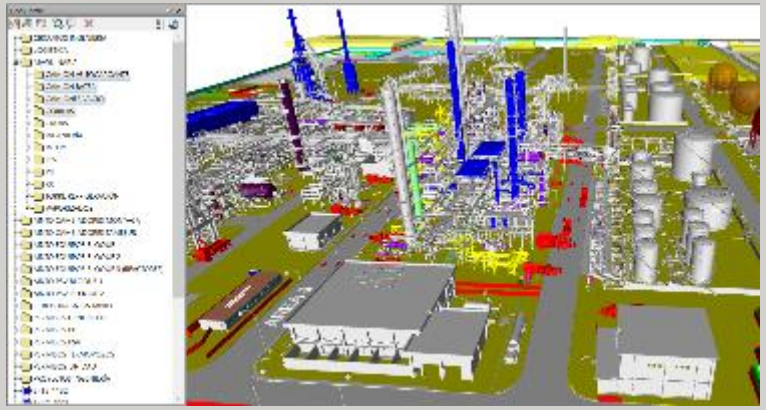
STUDY OF INTERFERENCES

EQUIPMENT IMPLEMENTATION

3D MODELS PREVIOUS WORKS

3D MODEL BASE



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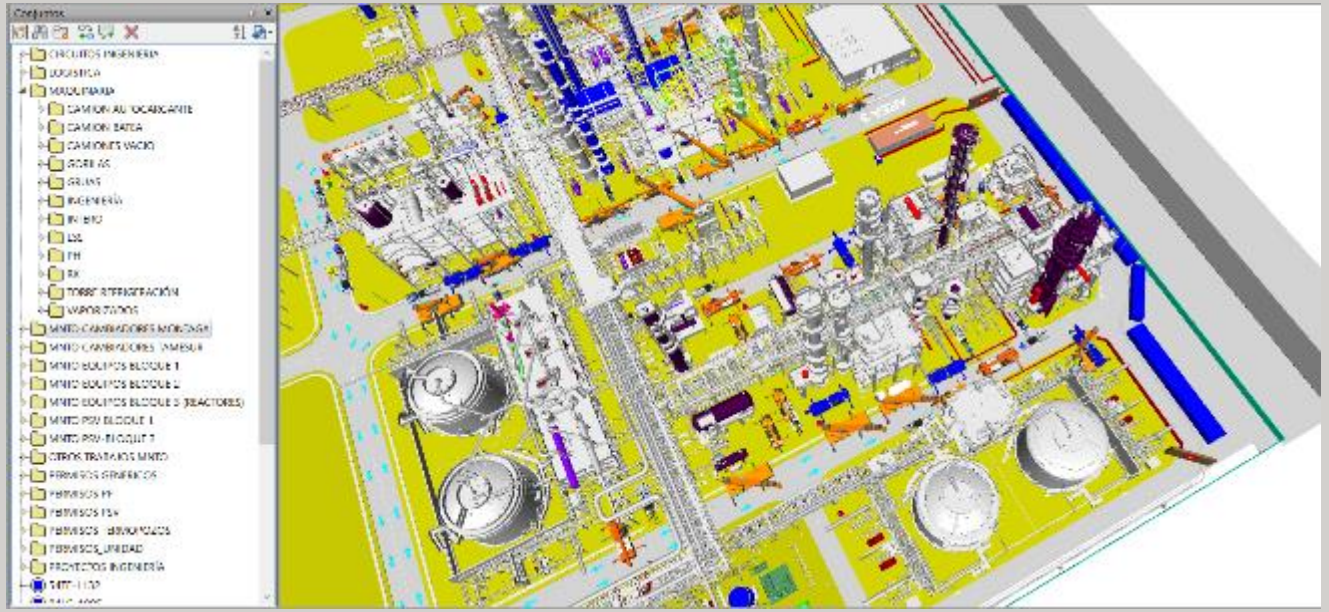

GENERAL VIEW MODEL WITH IMPLEMENTATION

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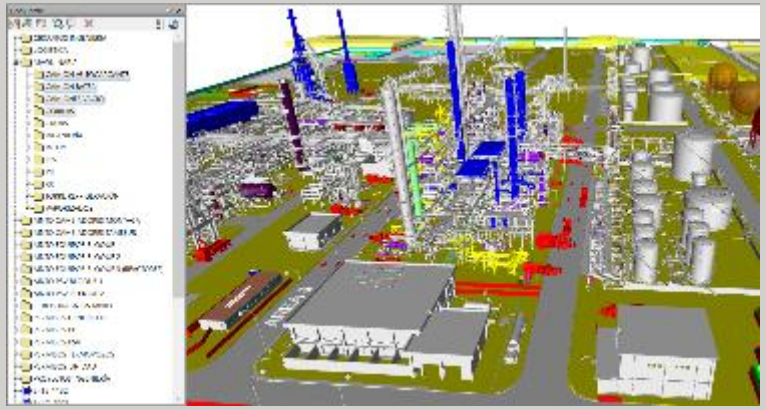
STUDY OF INTERFERENCES

EQUIPMENT IMPLEMENTATION

3D MODELS PREVIOUS WORKS

3D MODEL BASE



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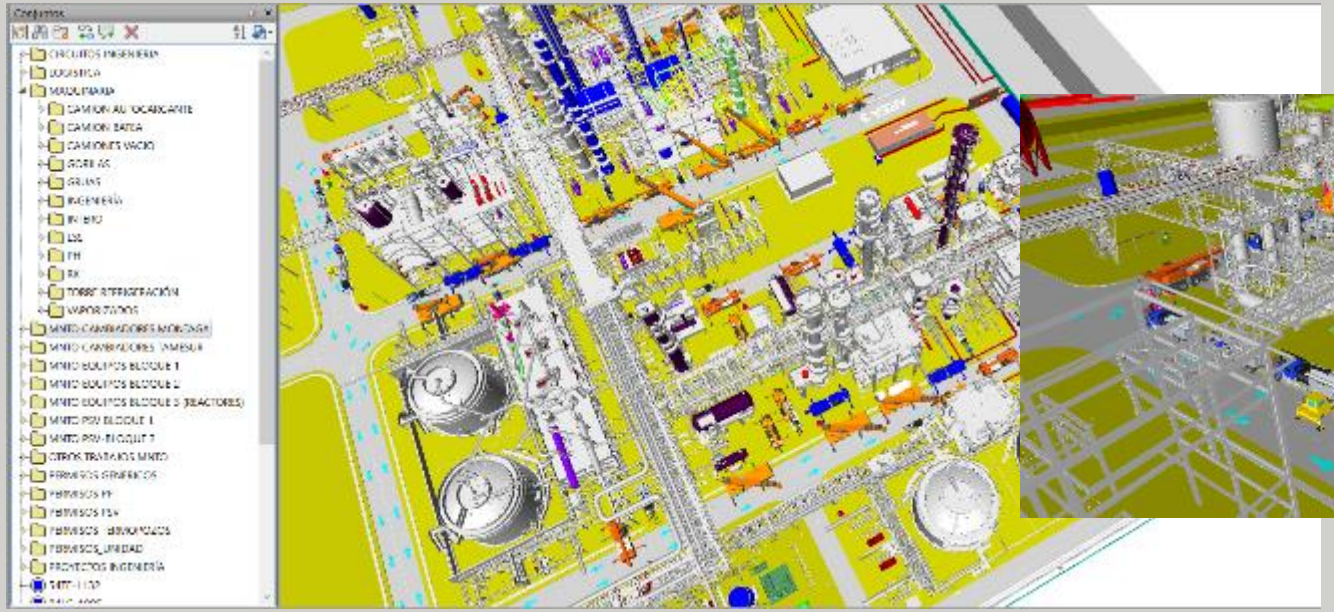

GENERAL VIEW MODEL WITH IMPLEMENTATION

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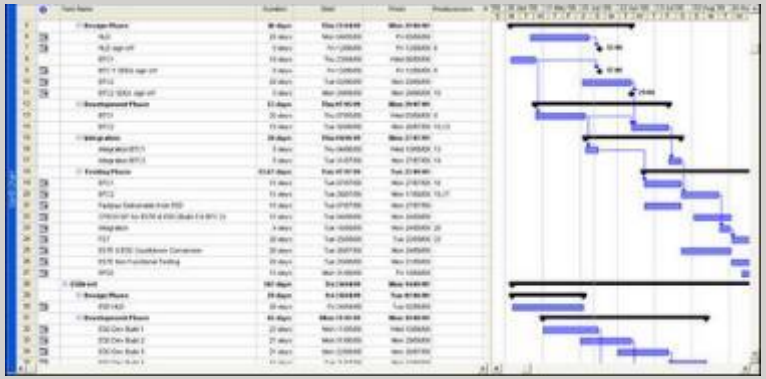
CEPSA TURNAROUND METHODOLOGY 4.0

STUDY OF INTERFERENCES

PLANNING INTEGRATION

3D MODELS PREVIOUS WORKS



PROJECT PLANNING

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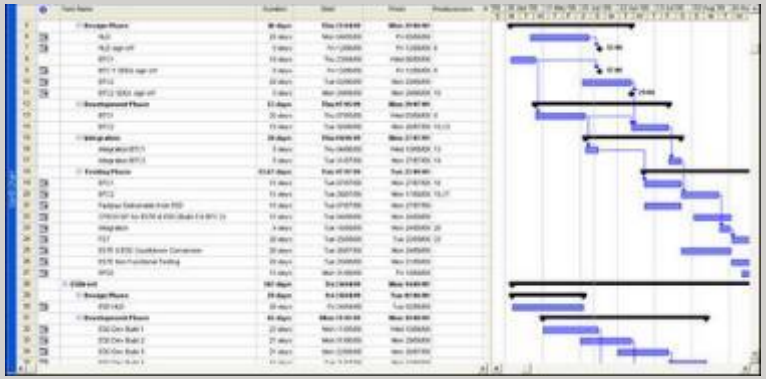
CEPSA TURNAROUND METHODOLOGY 4.0

STUDY OF INTERFERENCES

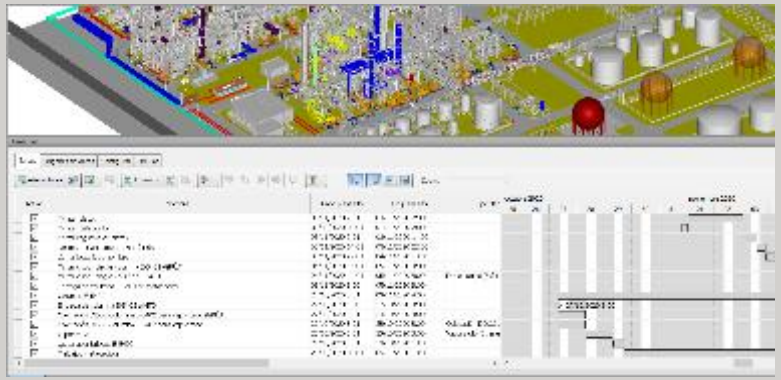
PLANNING INTEGRATION

3D MODELS PREVIOUS WORKS



PROJECT PLANNING

AUTOMATIC LINKING IN THE 3D MODEL



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CEPSA TURNAROUND METHODOLOGY 4.0

STUDY OF INTERFERENCES

PLANNING INTEGRATION

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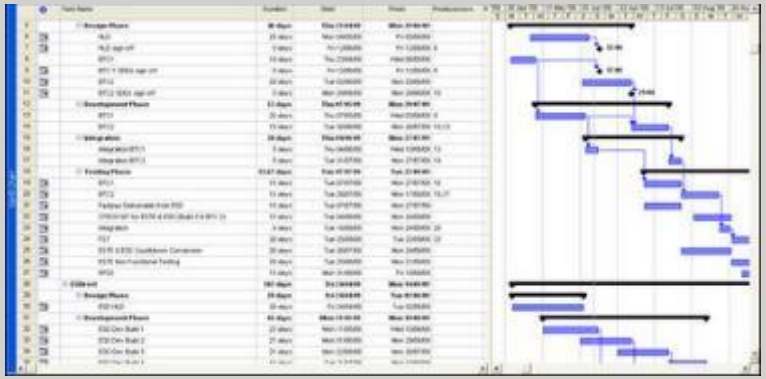

PROJECT PLANNING

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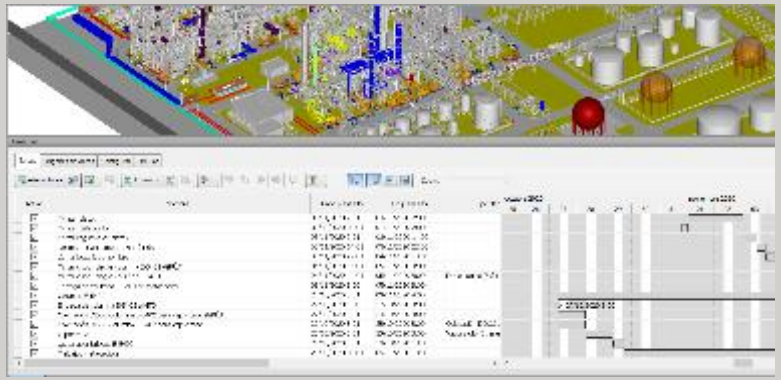
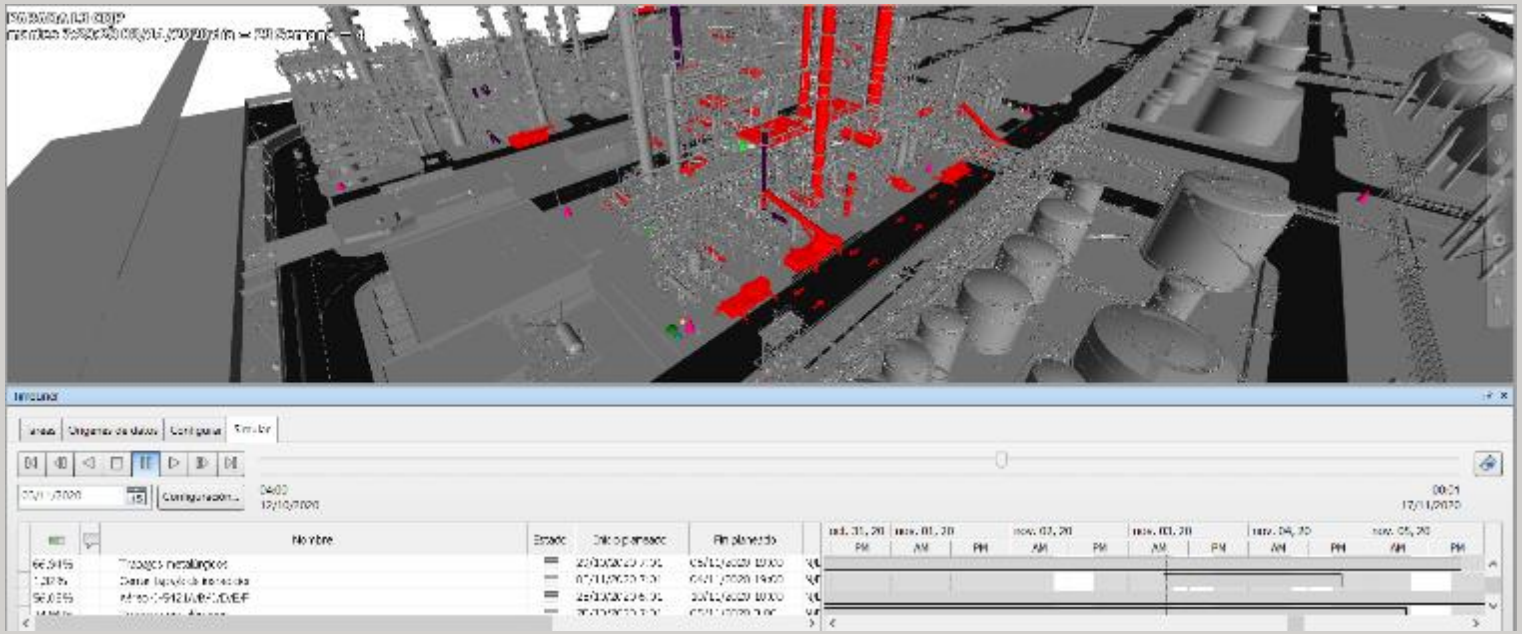


3D MODEL



SIMULATION

SIMULATION OF THE PLANNING FOR THE STUDY OF INTERFERENCES IN THE PROJECT

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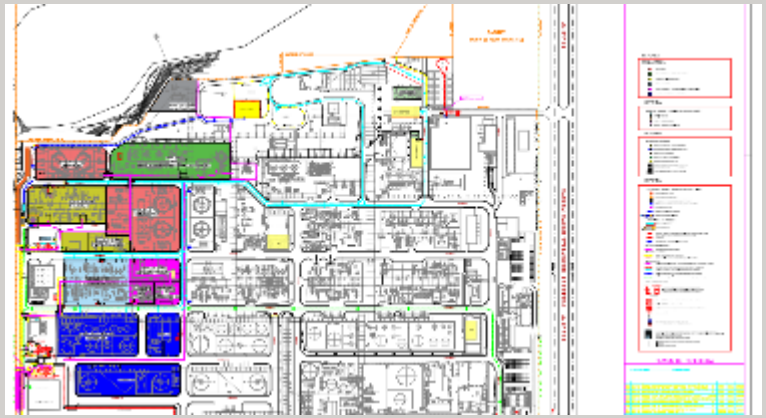
CEPSA TURNAROUND METHODOLOGY 4.0

LOGISTICS

INFORMATION

3D MODELS
PREVIOUS WORKS



PRELIMINARY STUDY

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LOGISTICS

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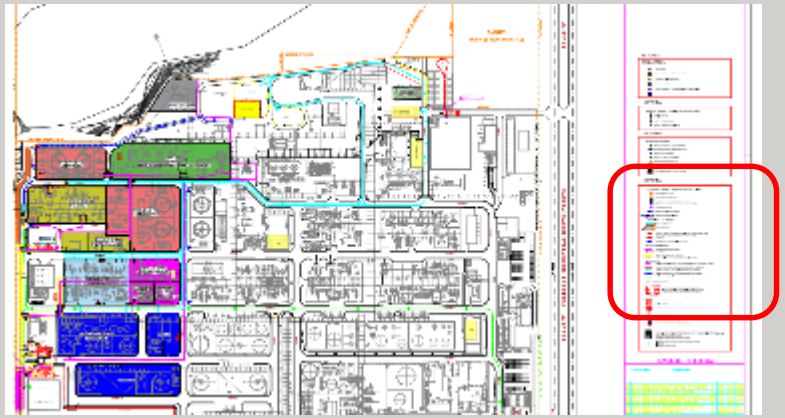
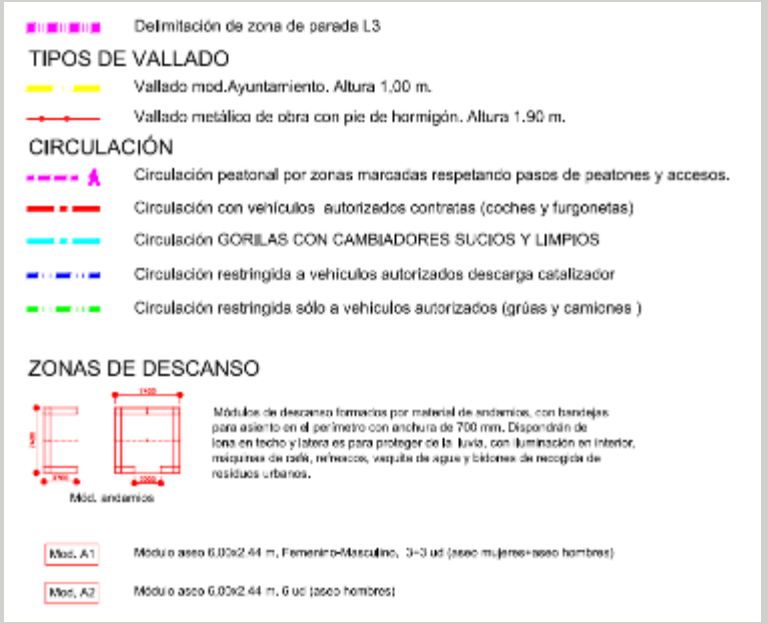


PRELIMINARY STUDY



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CEPSA TURNAROUND METHODOLOGY 4.0

LOGISTICS

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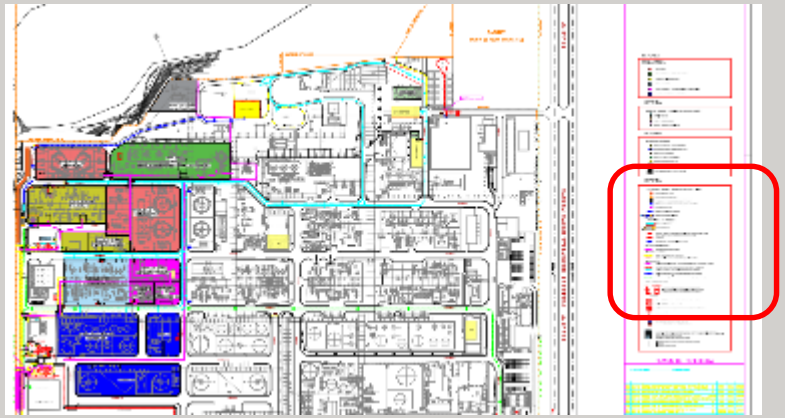
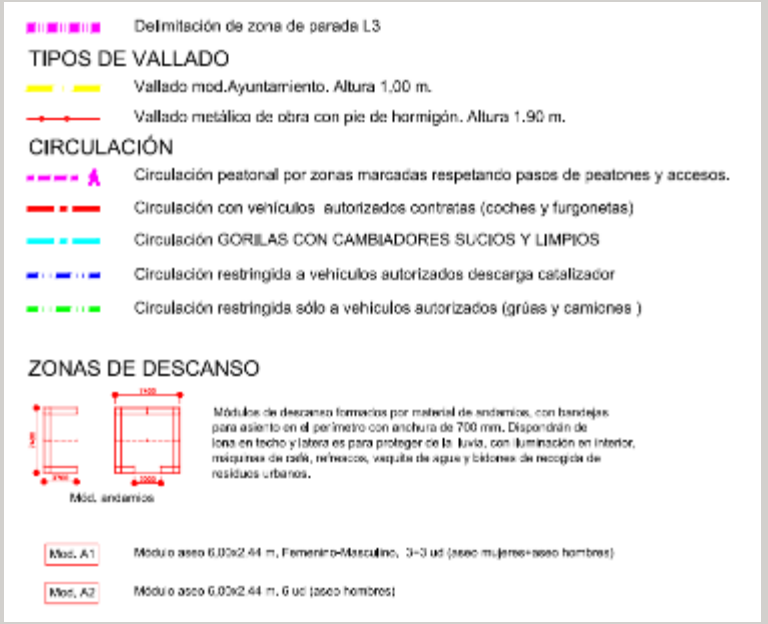
3D MODELS PREVIOUS WORKS



PRELIMINARY STUDY

LOGISTICS 3D MODEL



MAIN INFORMATION IN THE 3D MODEL:

- **ACCESS.**
- **CIRCULATION FLOWS.**
- **RESTRICTED CIRCULATION.**
- **REST AREAS.**
- **EQUIPMENT CLEANING AREAS.**
- **PARKING AREAS.**
- **...**

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CEPSA TURNAROUND METHODOLOGY 4.0

LOGISTICS

INFORMATION

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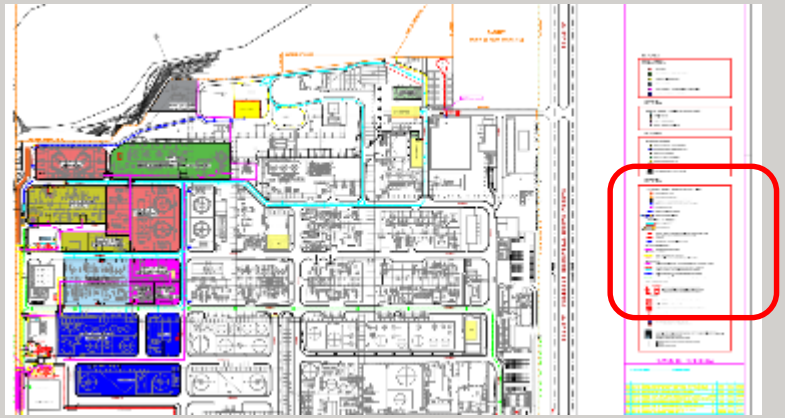

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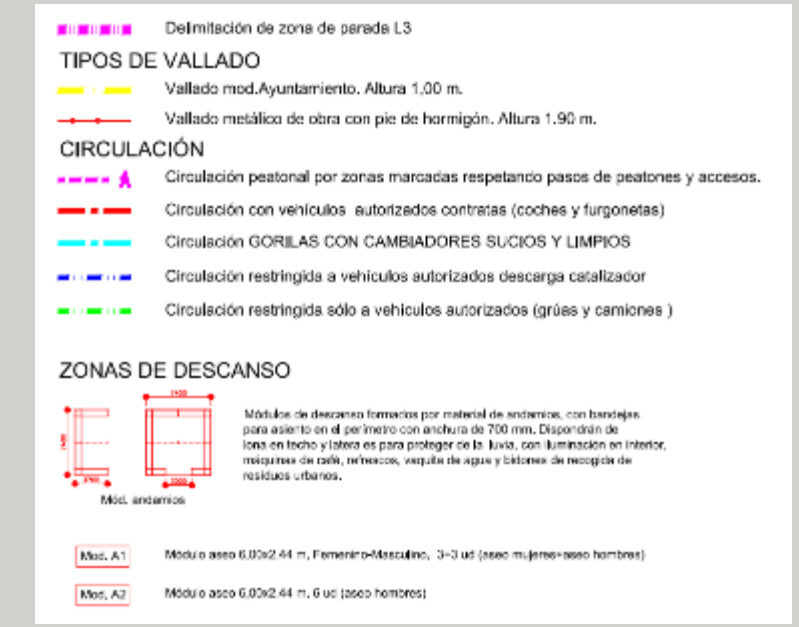

LOGISTICS 3D MODEL

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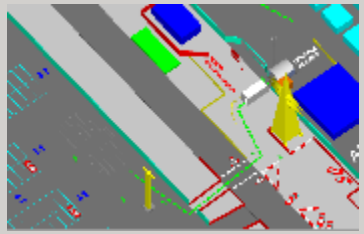

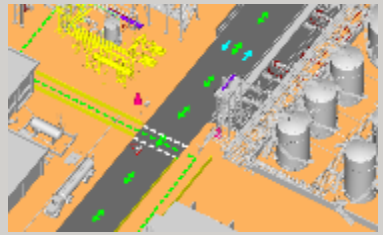

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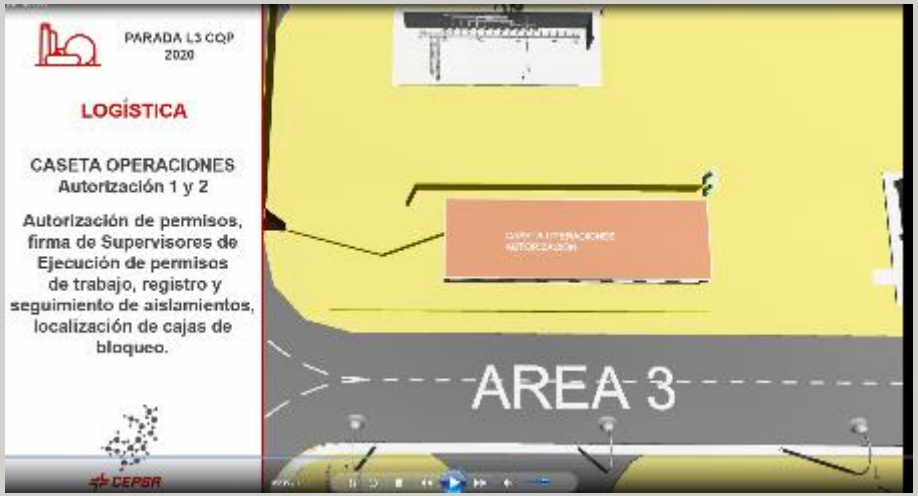
LOGISTICS

FORMATIVE VIDEO FOR CONTRACTORS



3D MODELS PREVIOUS WORKS

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LOGISTICS

FORMATIVE VIDEO FOR CONTRACTORS

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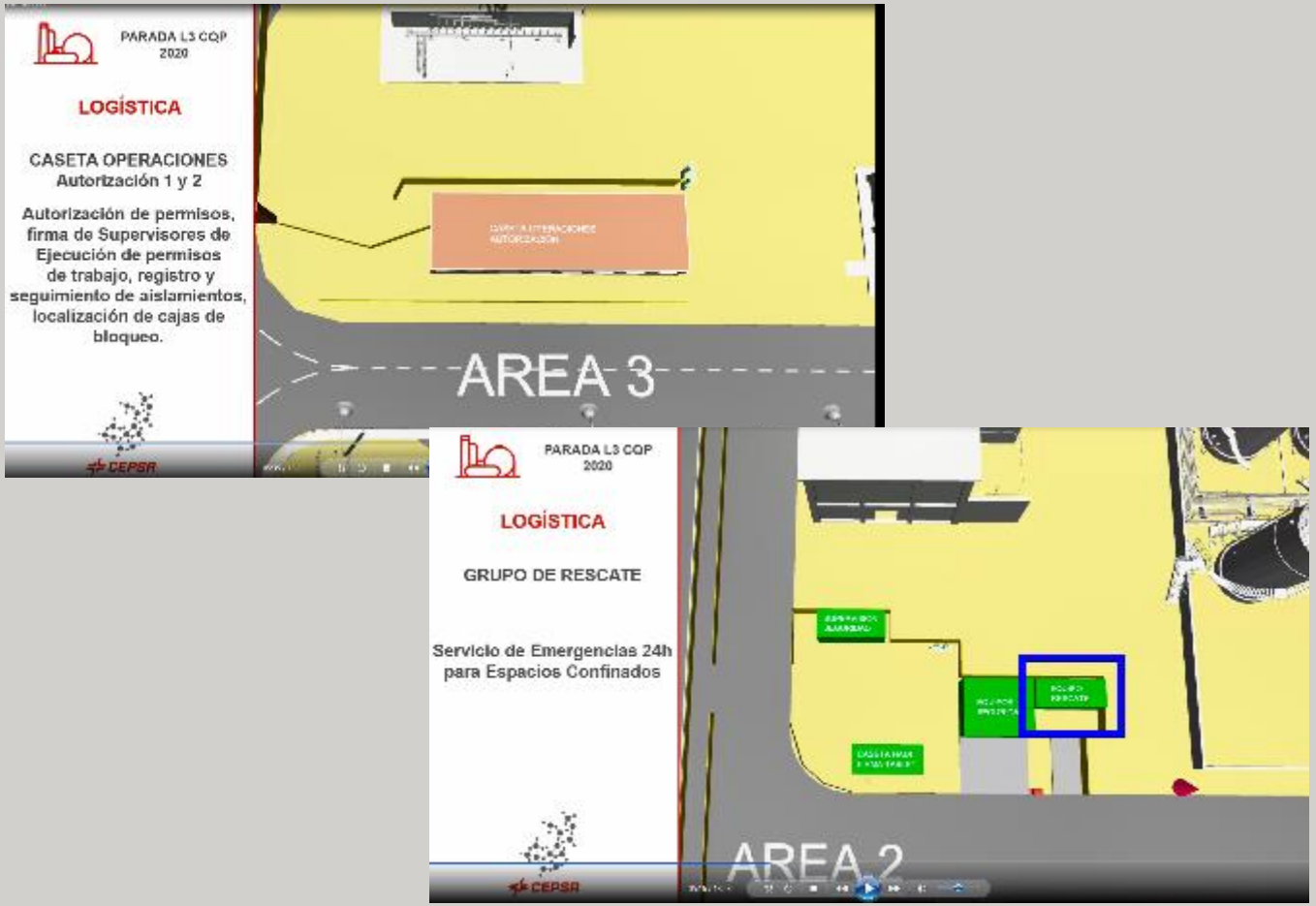

CEPSA TURNAROUND METHODOLOGY 4.0

LOGISTICS

FORMATIVE VIDEO FOR CONTRACTORS

3D MODELS PREVIOUS WORKS

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3D MODELS INDUSTRIAL PLANTS

OLD INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

OLD INDUSTRIAL PLANTS

3D MODELS WITH POOR DEFINITION WITH A LESS LEVEL OF DETAIL IN: :

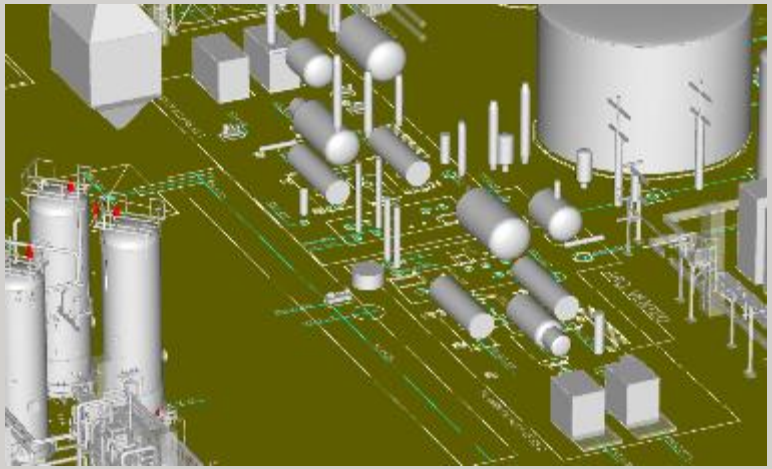
- **STRUCTURES AND PLATFORMS.**
- **EQUIPMENT DETAILS.**
- **PIPING LINES.**
- **VALVES MODELS**
- **…**

3D MODELS INDUSTRIAL PLANTS

OLD INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

OLD INDUSTRIAL PLANTS



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3D MODELS INDUSTRIAL PLANTS

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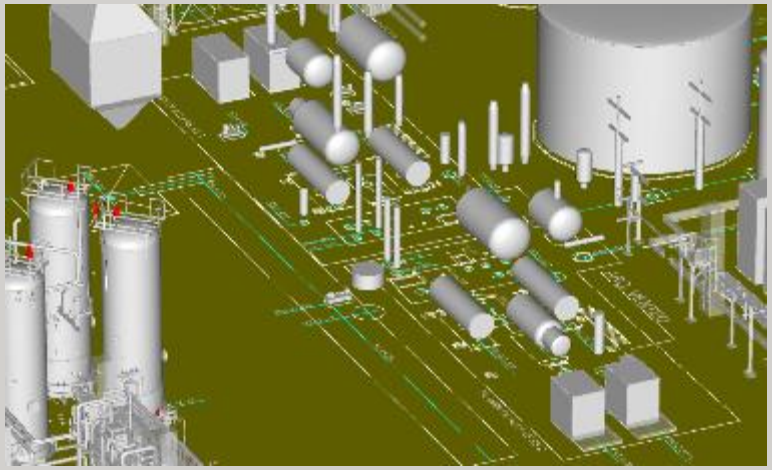
3D MODELS PREVIOUS WORKS

OLD INDUSTRIAL PLANTS



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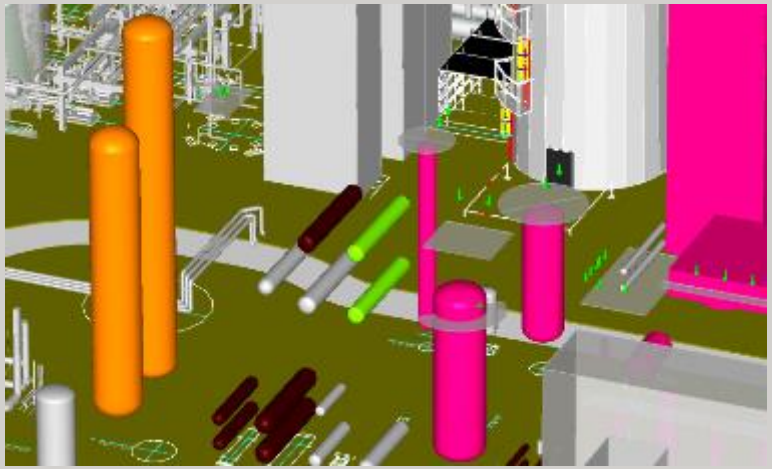

3D MODELS INDUSTRIAL PLANTS

OLD INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

OLD INDUSTRIAL PLANTS

THESE MODELS NEED A LONGER TIME PREPARATION FOR THE REPRESENTATION OF THE INTERFERENCE STUDY.

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3D MODELS INDUSTRIAL PLANTS

OLD INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

OLD INDUSTRIAL PLANTS

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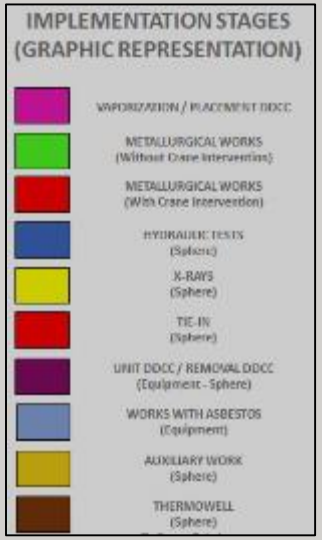
REPRESENTATION CRITERIA HAVE BEEN DEFINED



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3D MODELS INDUSTRIAL PLANTS

OLD INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

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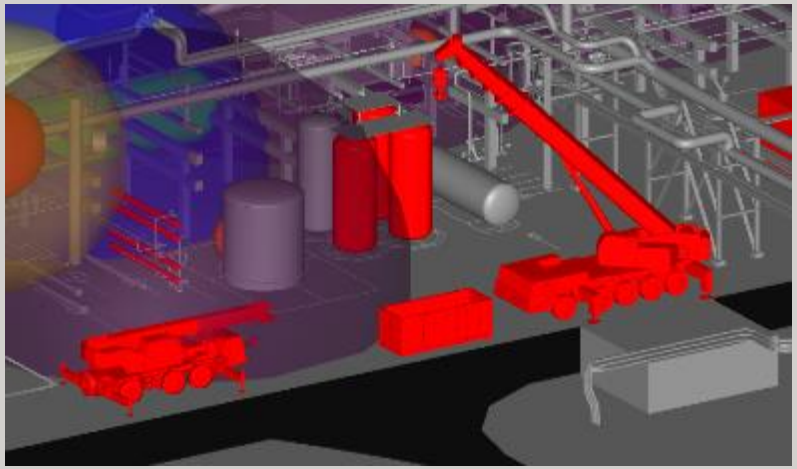


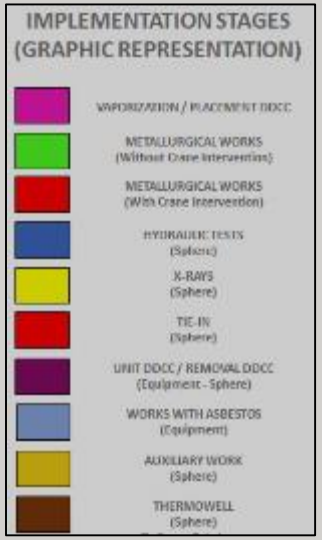
METALLURGICAL WORKS (WITH CRANE INTERVENTION)

THESE MODELS NEED A LONGER TIME PREPARATION FOR THE REPRESENTATION OF THE INTERFERENCE STUDY.

REPRESENTATION CRITERIA HAVE BEEN DEFINED

THAT HELP US COMPRESSION OF THE STATE OF EXECUTION (EXAMPLES)

- **METALLURGICAL WORKS (WITH CRANE INTERVENTION)**



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CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

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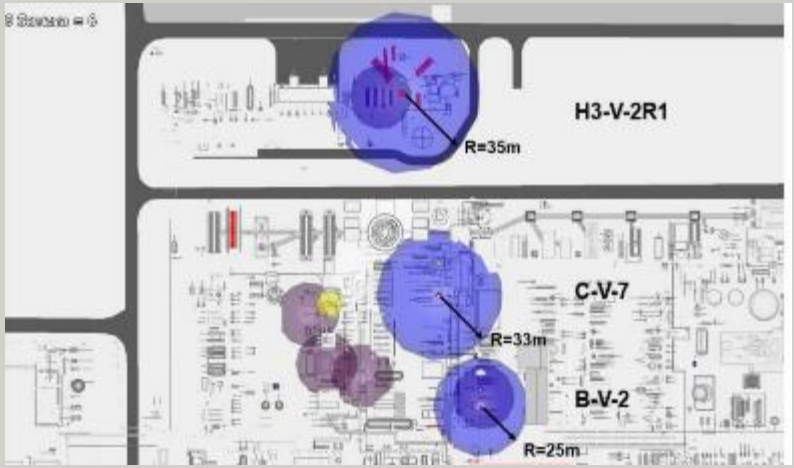

HYDRAULIC TESTS (SPHERE)

REPRESENTATION OF SPHERES THAT INDICATE THE SAFETY AREAS BEACONS DURING THE TEST

THESE MODELS NEED A LONGER TIME PREPARATION FOR THE REPRESENTATION OF THE INTERFERENCE STUDY.

REPRESENTATION CRITERIA HAVE BEEN DEFINED

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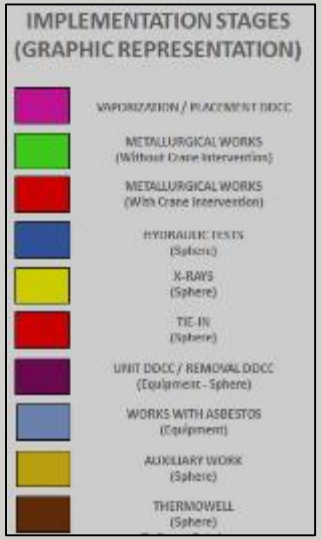
- **HYDRAULIC TESTS (SPHERE)**



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3D MODELS INDUSTRIAL PLANTS

OLD INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

OLD INDUSTRIAL PLANTS

X-RAYS (SPHERE)

REPRESENTATION OF SPHERES THAT INDICATE THE SAFETY AREAS BEACONS DURING THE TEST

THESE MODELS NEED A LONGER TIME PREPARATION FOR THE REPRESENTATION OF THE INTERFERENCE STUDY.

REPRESENTATION CRITERIA HAVE BEEN DEFINED

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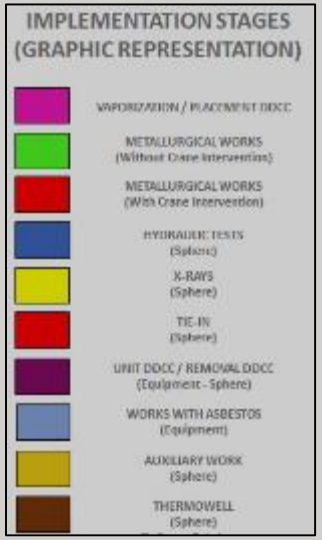
- **X-RAYS (SPHERE)**



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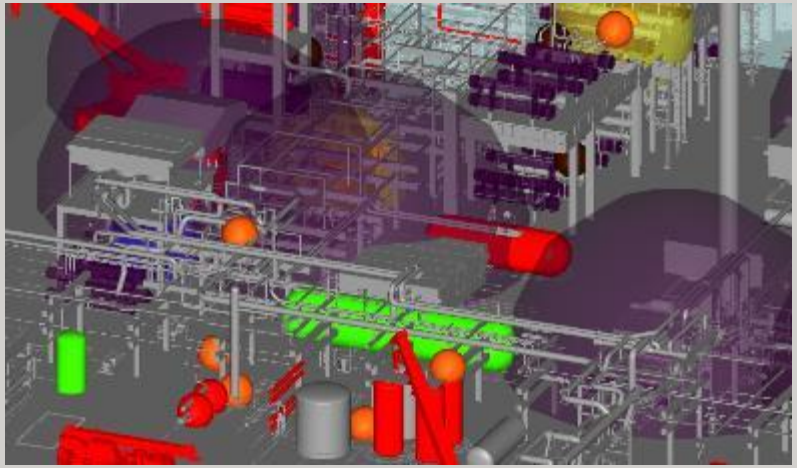
3D MODELS INDUSTRIAL PLANTS

OLD INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

OLD INDUSTRIAL PLANTS



THERMOWELL, TIE-IN, AUX.WORKS (SPHERE)

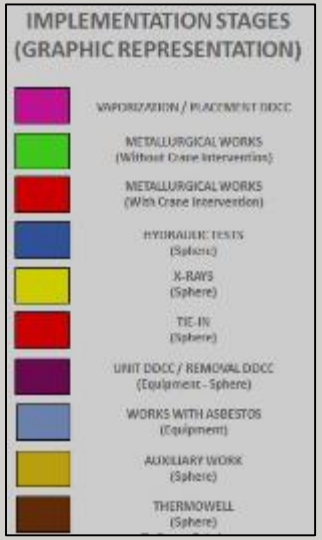
LOCATION OF ELEMENTS FOR THE CONTROL OF THE DAILY EXECUTION

THESE MODELS NEED A LONGER TIME PREPARATION FOR THE REPRESENTATION OF THE INTERFERENCE STUDY.

REPRESENTATION CRITERIA HAVE BEEN DEFINED

THAT HELP US COMPRESSION OF THE STATE OF EXECUTION (EXAMPLES)

- **THERMOWELL, TIE-IN, AUX. WORKS (SPHERE)**



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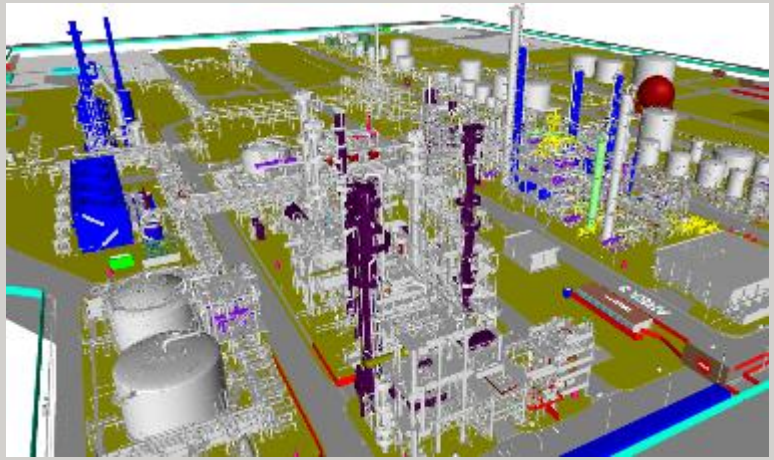
3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



NEW INDUSTRIAL PLANTS

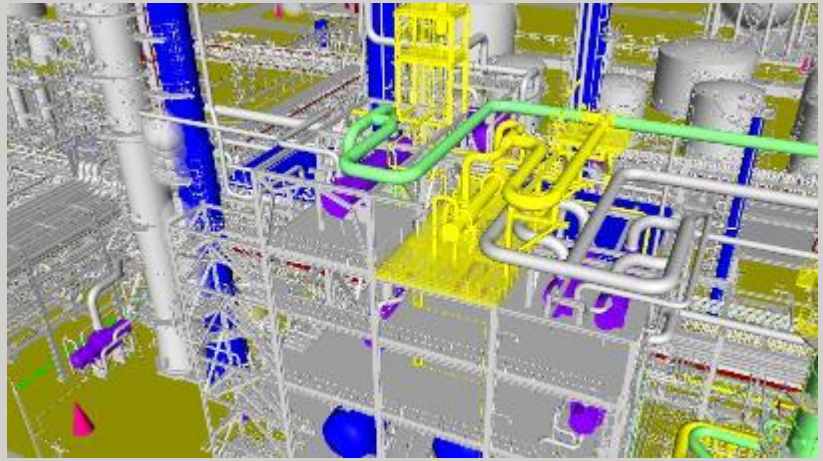
3D MODEL WITH HIGH DEFINITION OF DETAILS.

REDUCTION OF TIME NEEDED FOR PREPARATION REPRESENTATION OF THE INTERFERENCE STUDY.

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



NEW INDUSTRIAL PLANTS

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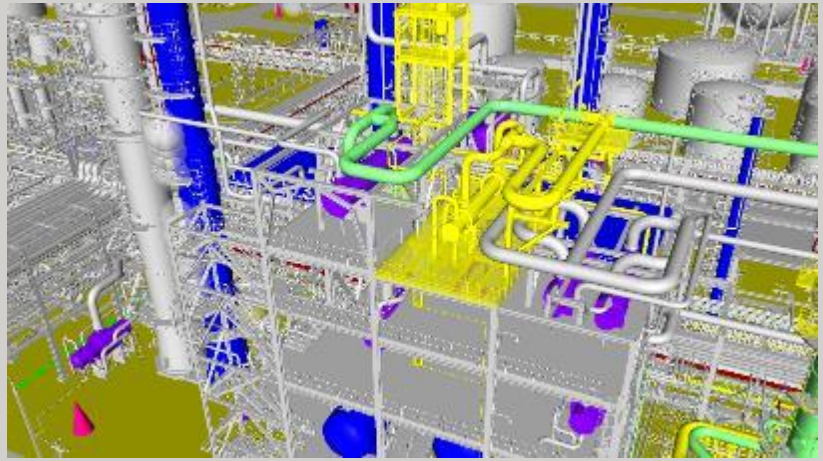
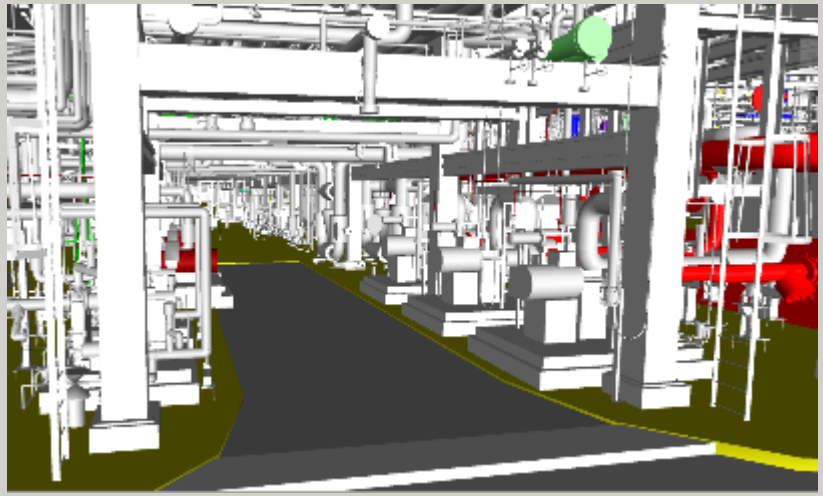
3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

NEW INDUSTRIAL PLANTS





3D MODEL WITH HIGH DEFINITION OF DETAILS.

REDUCTION OF TIME NEEDED FOR PREPARATION REPRESENTATION OF THE INTERFERENCE STUDY.

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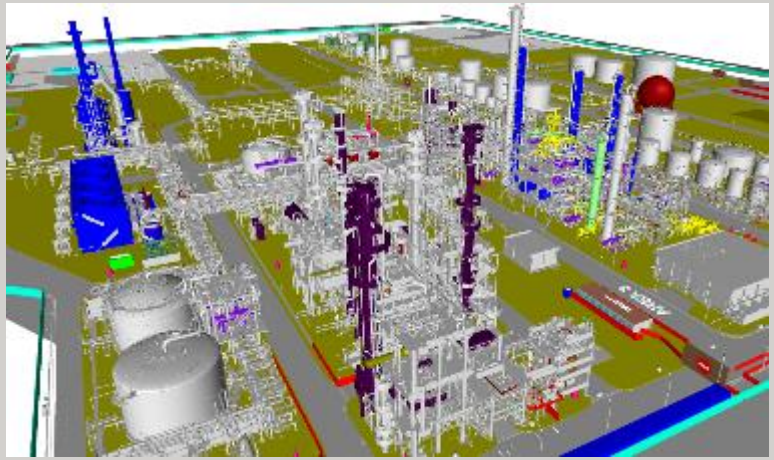
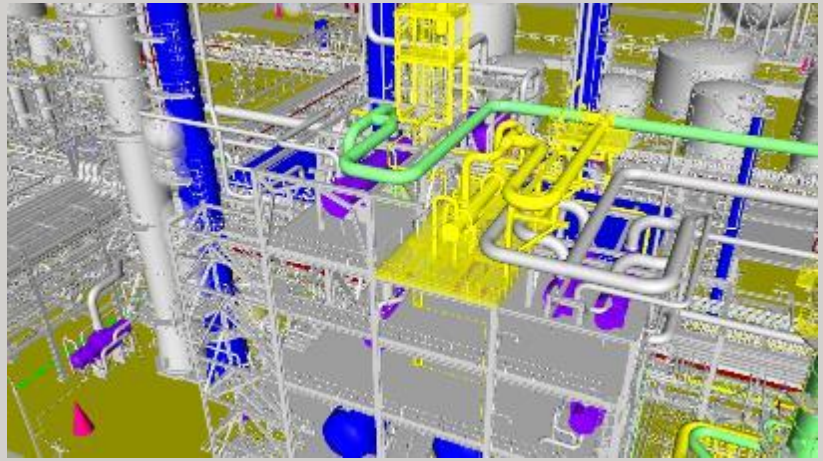
3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



NEW INDUSTRIAL PLANTS



3D MODEL WITH HIGH DEFINITION OF DETAILS.

REDUCTION OF TIME NEEDED FOR PREPARATION REPRESENTATION OF THE INTERFERENCE STUDY.

REPRESENTATION CRITERIA HAVE BEEN DEFINED AS EXPLAINED FOR OLD INDUSTRIAL PLANTS

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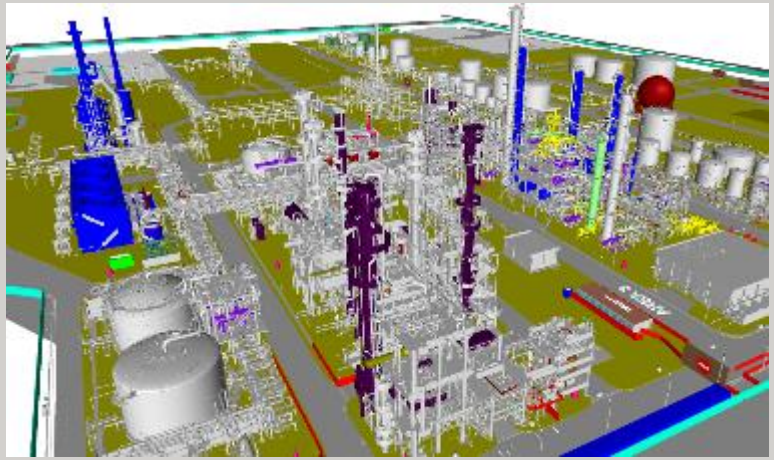
3D MODELS INDUSTRIAL PLANTS

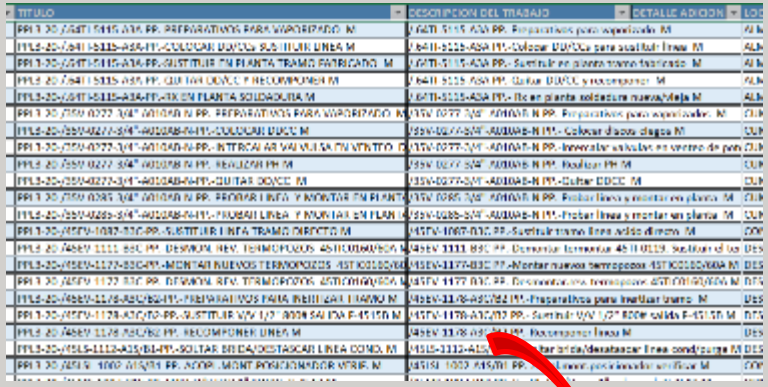
NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



NEW INDUSTRIAL PLANTS

WORK PERMIT MANAGEMENT



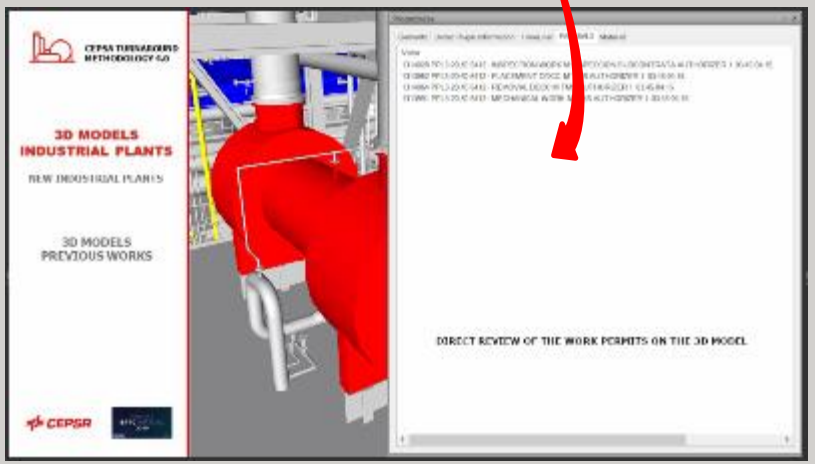
AUTOMATIC LINKING IN THE 3D MODEL

3D MODEL WITH HIGH DEFINITION OF DETAILS.

REDUCTION OF TIME NEEDED FOR PREPARATION REPRESENTATION OF THE INTERFERENCE STUDY.

REPRESENTATION CRITERIA HAVE BEEN DEFINED AS EXPLAINED FOR OLD INDUSTRIAL PLANTS

DIRECT LOAD OF WORK PERMIT MANAGEMENT ABOUT EACH EQUIPMENT OF THE 3D MODEL



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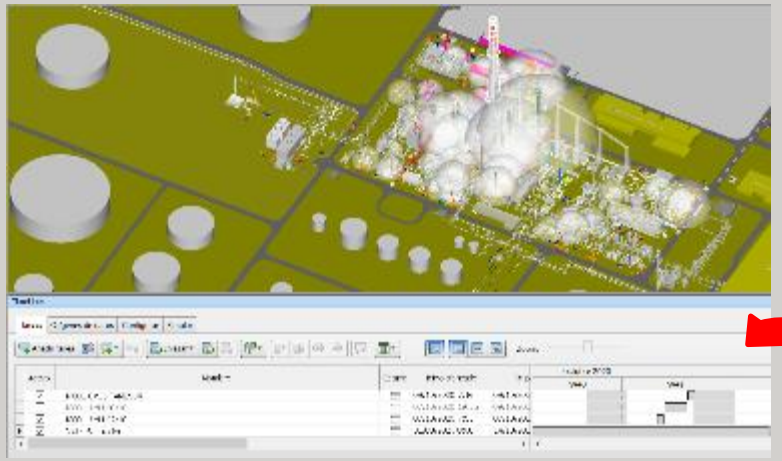
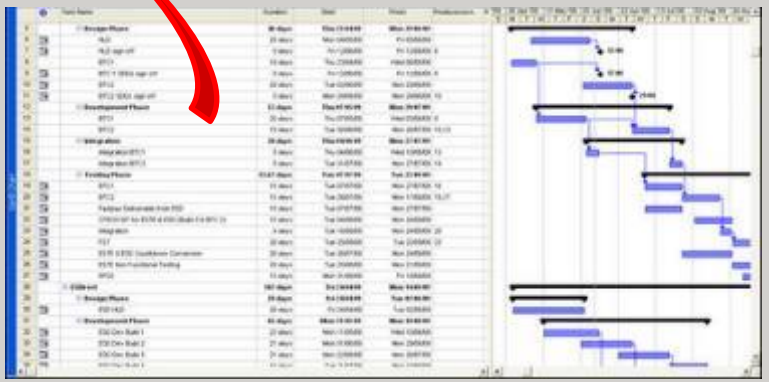
DAILY INTERFERENCE MEETING

3D MODELS DURING WORKS



3D INTERFERENCE MODEL

AUTOMATIC LINKING
IN THE 3D MODEL



UPDATED PLANNING

DAILY PLANNING UPDATE ACCORDING TO THE PROGRESS OF EACH CONTRACT.

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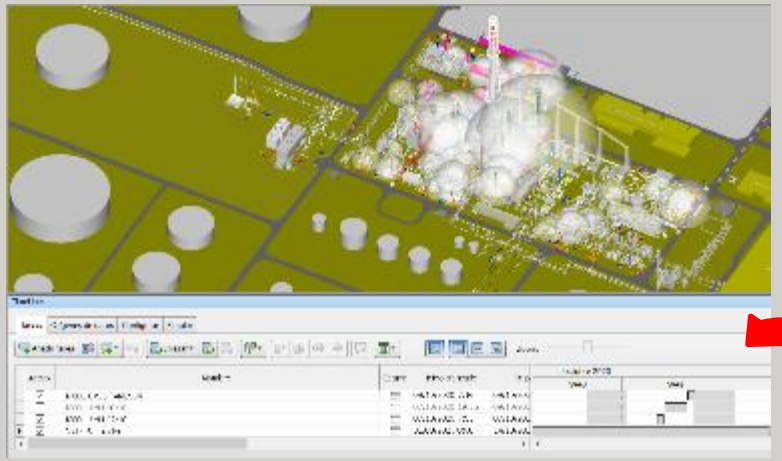
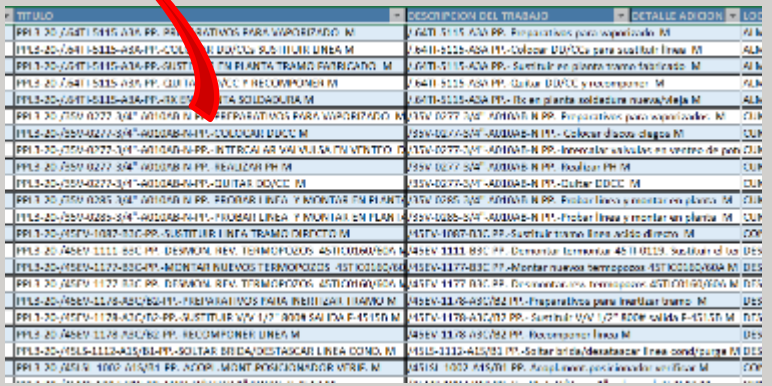
DAILY INTERFERENCE MEETING

3D MODELS DURING WORKS



3D INTERFERENCE MODEL

AUTOMATIC LINKING
IN THE 3D MODEL



DAILY WORK PERMITS

DAILY PLANNING UPDATE ACCORDING TO THE PROGRESS OF EACH CONTRACT.

AUTOMATIC UPLOADING OF DAILY WORK PERMITS.

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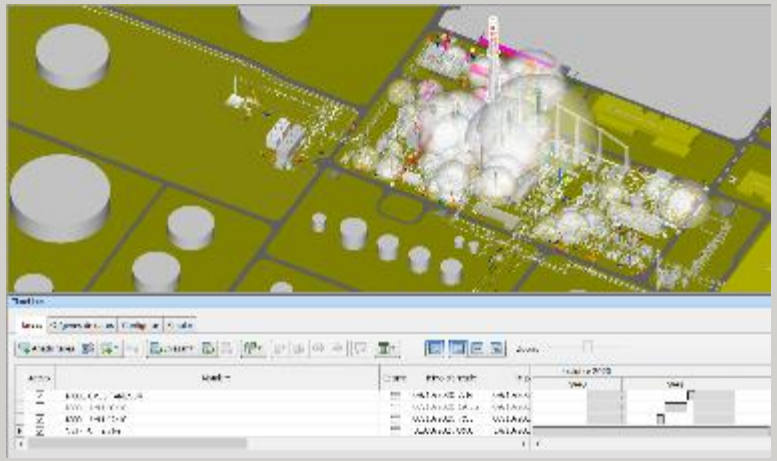
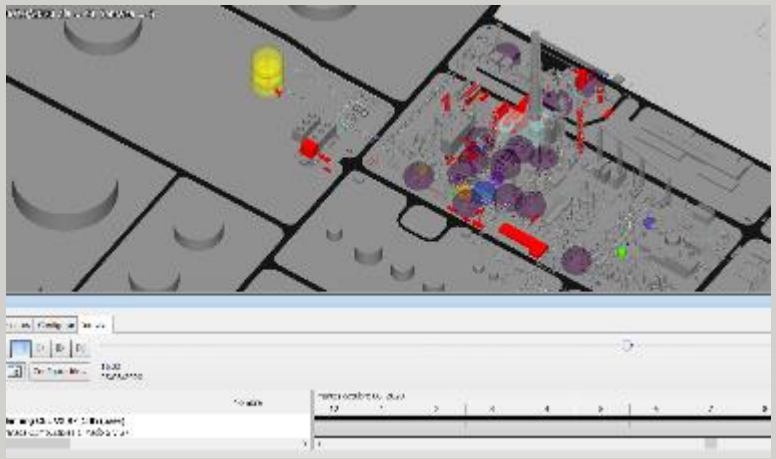
DAILY INTERFERENCE MEETING

3D MODELS DURING WORKS



3D INTERFERENCE MODEL



3D INTERFERENCE MODEL
(SIMULATION INTERFERENCES)

DAILY PLANNING UPDATE ACCORDING TO THE PROGRESS OF EACH CONTRACT.

AUTOMATIC UPLOADING OF DAILY WORK PERMITS.

REVIEW OF THE NEXT WORK SHIFT

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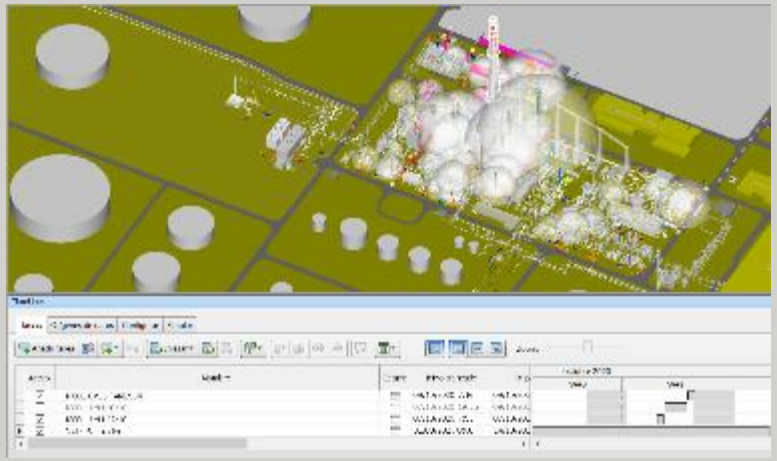
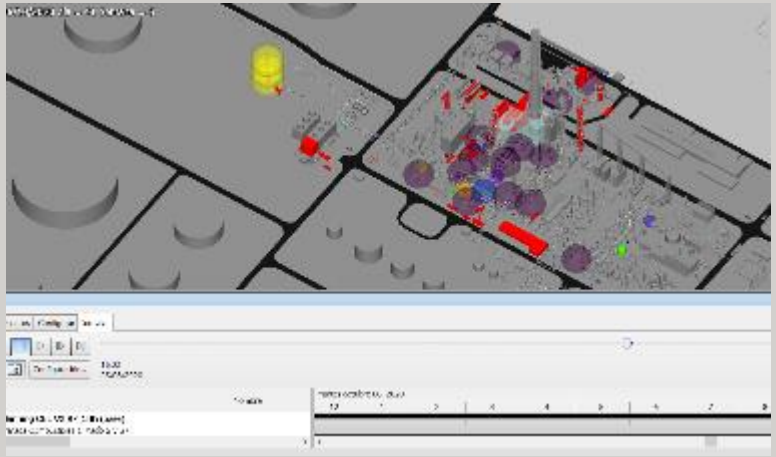
DAILY INTERFERENCE MEETING

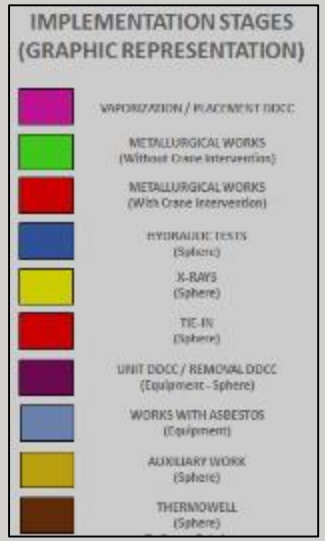
3D MODELS DURING WORKS



3D INTERFERENCE MODEL



3D INTERFERENCE MODEL
(SIMULATION INTERFERENCES)



ACCORDING TO THE REPRESENTATION CRITERIA SET OUT

DAILY PLANNING UPDATE ACCORDING TO THE PROGRESS OF EACH CONTRACT.

AUTOMATIC UPLOADING OF DAILY WORK PERMITS.

REVIEW OF THE NEXT WORK SHIFT

LOGISTICS

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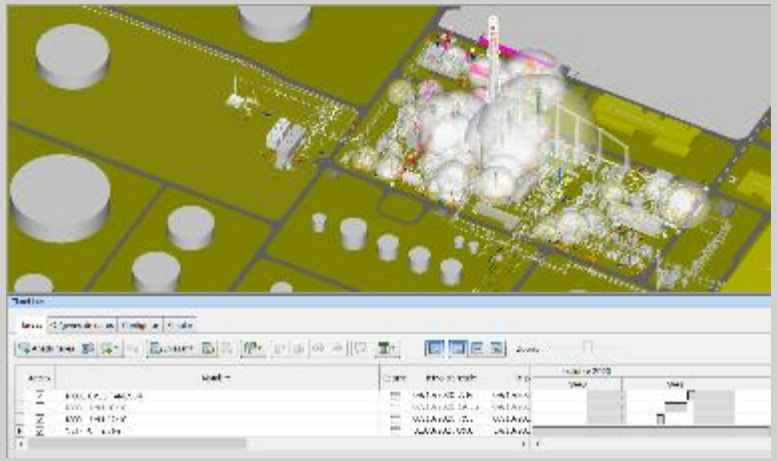
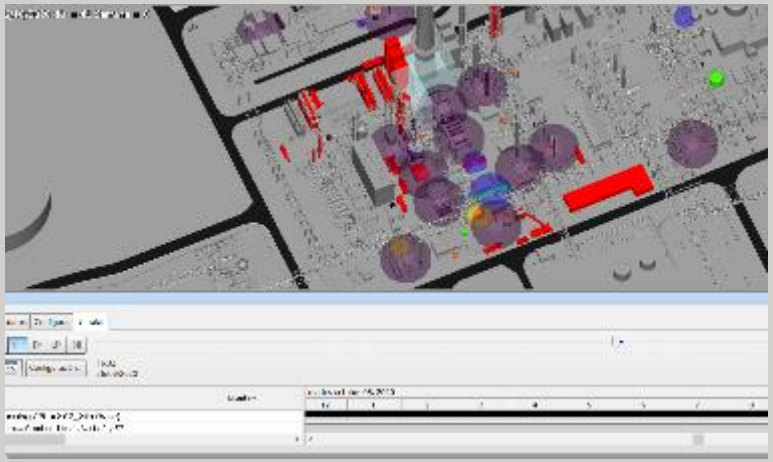
DAILY INTERFERENCE MEETING

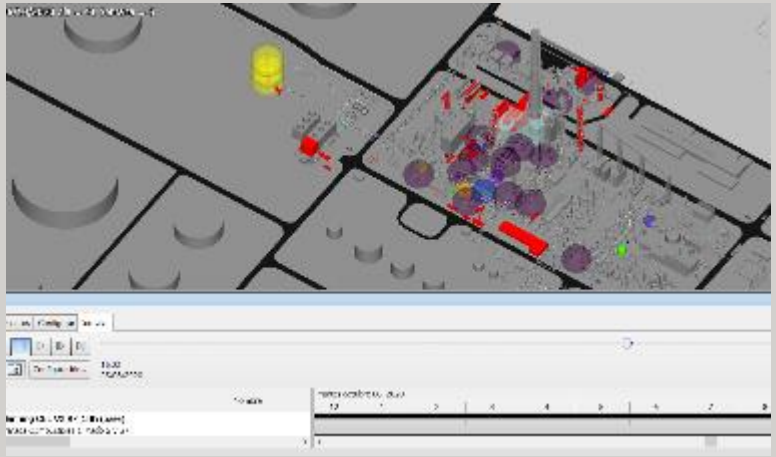
3D MODELS DURING WORKS



3D INTERFERENCE MODEL



REVIEW OF LOGISTICS AND POSSIBLE INTERFERENCES IN EACH PLANT AREA



3D INTERFERENCE MODEL
(SIMULATION INTERFERENCES)

DAILY PLANNING UPDATE ACCORDING TO THE PROGRESS OF EACH CONTRACT.

AUTOMATIC UPLOADING OF DAILY WORK PERMITS.

REVIEW OF THE NEXT WORK SHIFT

LOGISTICS

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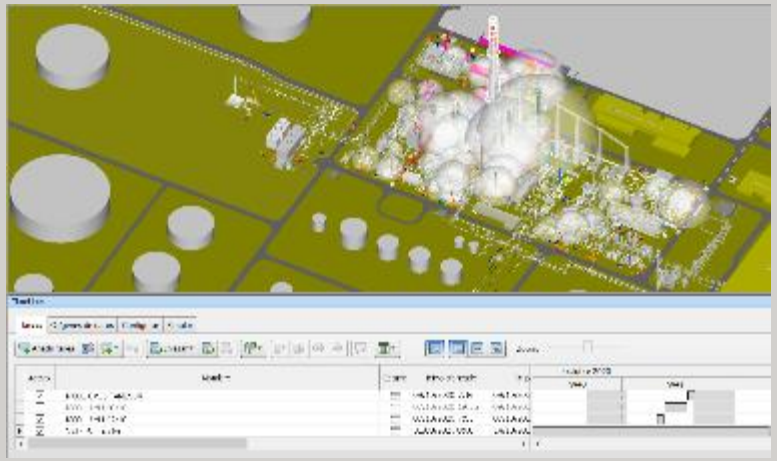
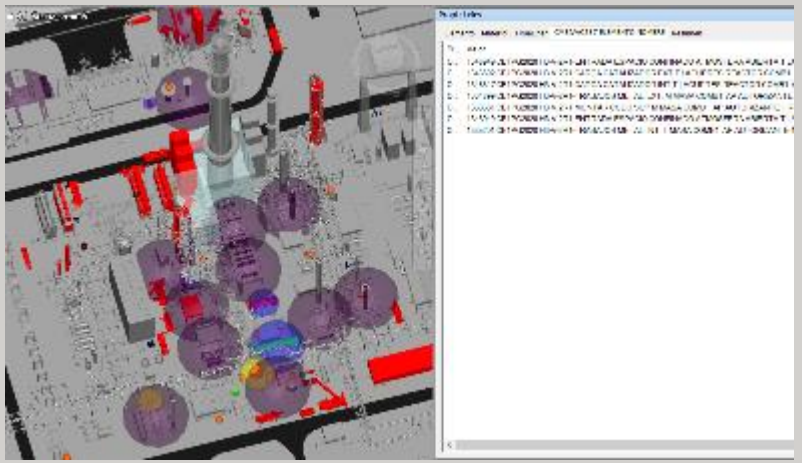
DAILY INTERFERENCE MEETING

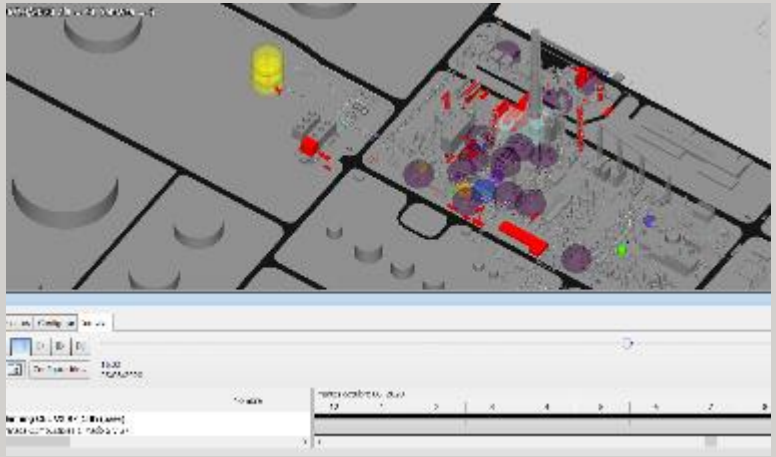
3D MODELS DURING WORKS



3D INTERFERENCE MODEL



REVIEW OF WORK PERMITS DIRECTLY ON THE 3D MODEL



3D INTERFERENCE MODEL
(SIMULATION INTERFERENCES)

DAILY PLANNING UPDATE ACCORDING TO THE PROGRESS OF EACH CONTRACT.

AUTOMATIC UPLOADING OF DAILY WORK PERMITS.

REVIEW OF THE NEXT WORK SHIFT

DAILY WORK PERMITS

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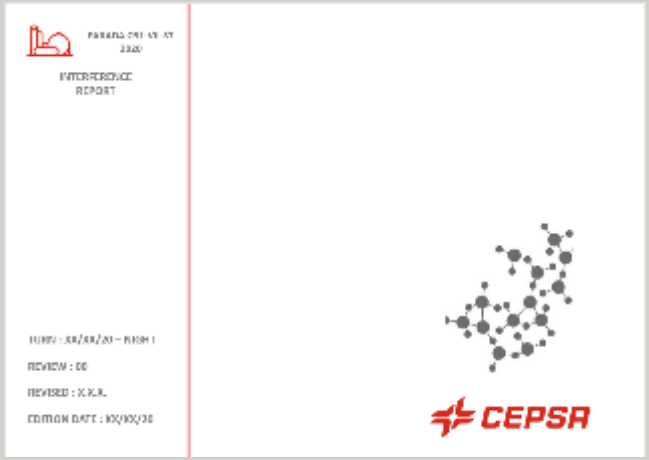
DAILY INTERFERENCE REPORT

3D MODELS DURING WORKS

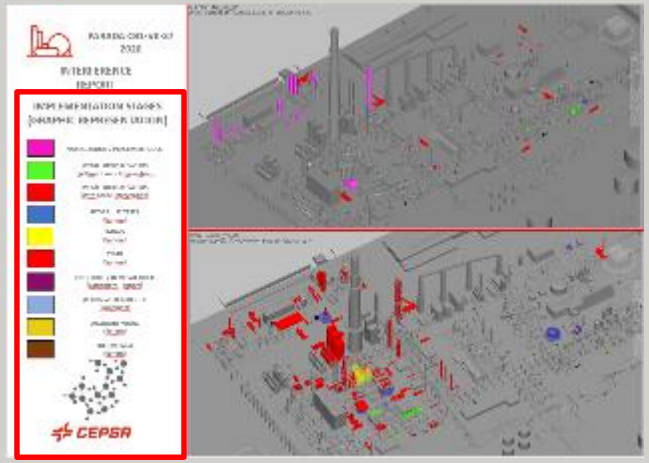


COVER.

INDICATING DATE AND SHIFT

GENERAL DESCRIPTION OF AREAS

WORK AREAS, COVID19 & CLEANING, GENERIC PERMITS AREAS...



EXECUTION PHASES.

ACCORDING TO THE REPRESENTATION CRITERIA SET OUT

DAILY BEFORE INTERFERENCE MEETINGS REPORTS ARE ISSUED.

ARE DIVIDED INTO 4 MAIN BLOCKS OF INFORMATION

REVIEW OF THE NEXT WORK SHIFT

GENERAL INFORMATION

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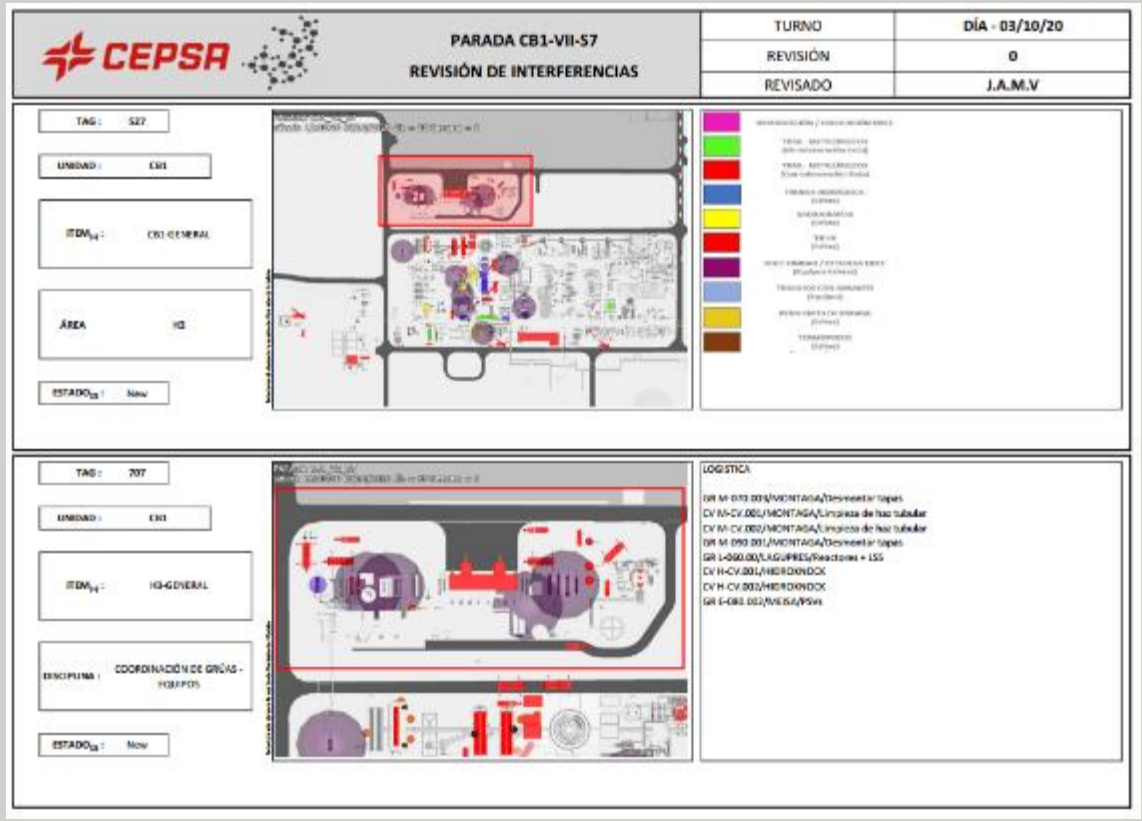
DAILY INTERFERENCE REPORT

3D MODELS DURING WORKS



LOGISTICS.

LOCATION OF THE AREA SHOWN

CRANE-TEAM COORDINATION BY AREA (INFO.)

- **CRANE CODING**
- **TEAM WE WORK WITH**
- **JOB DESCRIPTION**

DAILY BEFORE INTERFERENCE MEETINGS REPORTS ARE ISSUED.

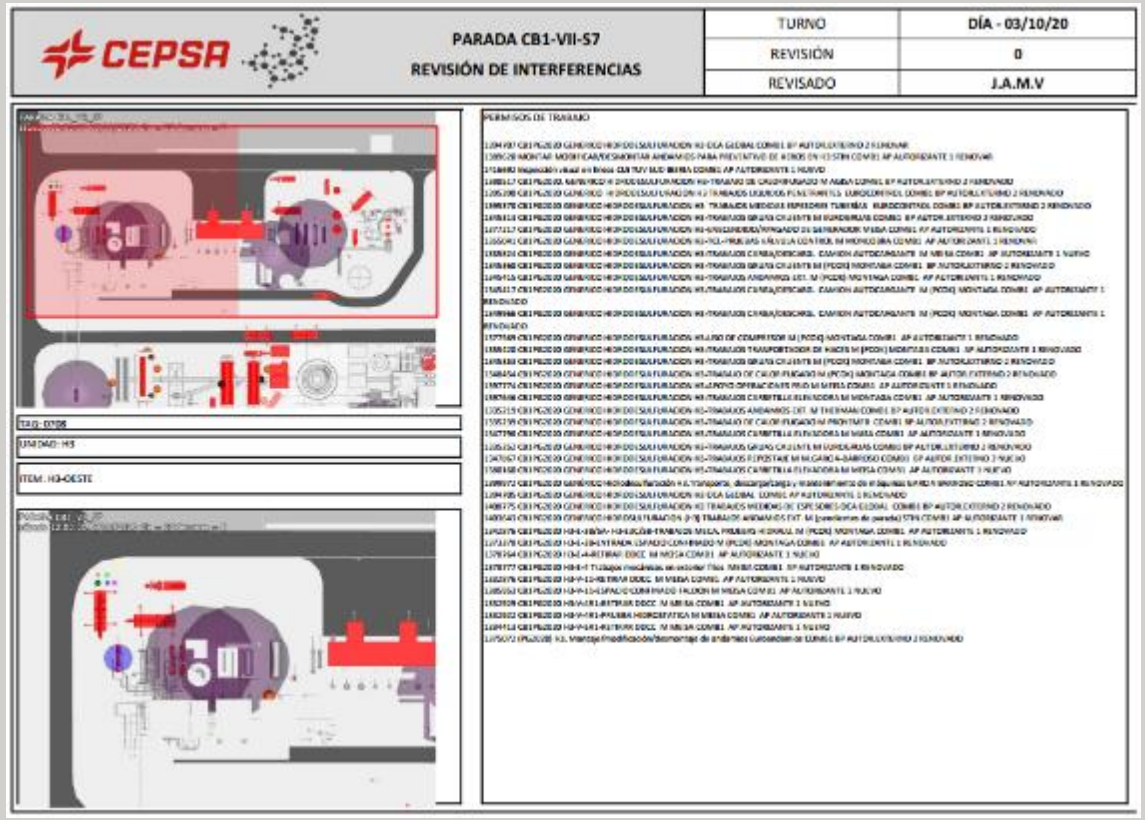
ARE DIVIDED INTO 4 MAIN BLOCKS OF INFORMATION

REVIEW OF THE NEXT WORK SHIFT

LOGISTICS INFORMATION

DAILY INTERFERENCE REPORT

3D MODELS DURING WORKS



WORK PERMITS.

LOCATION OF THE AREA SHOWN

DAILY WORK PERMITS (INFO.)

- **PERMIT NUMBER**
- **COMPANY**
- **TIME**
- **AUTHORISING**
- **STATE**

DAILY BEFORE INTERFERENCE MEETINGS REPORTS ARE ISSUED.

ARE DIVIDED INTO 4 MAIN BLOCKS OF INFORMATION

REVIEW OF THE NEXT WORK SHIFT

WORK PERMITS

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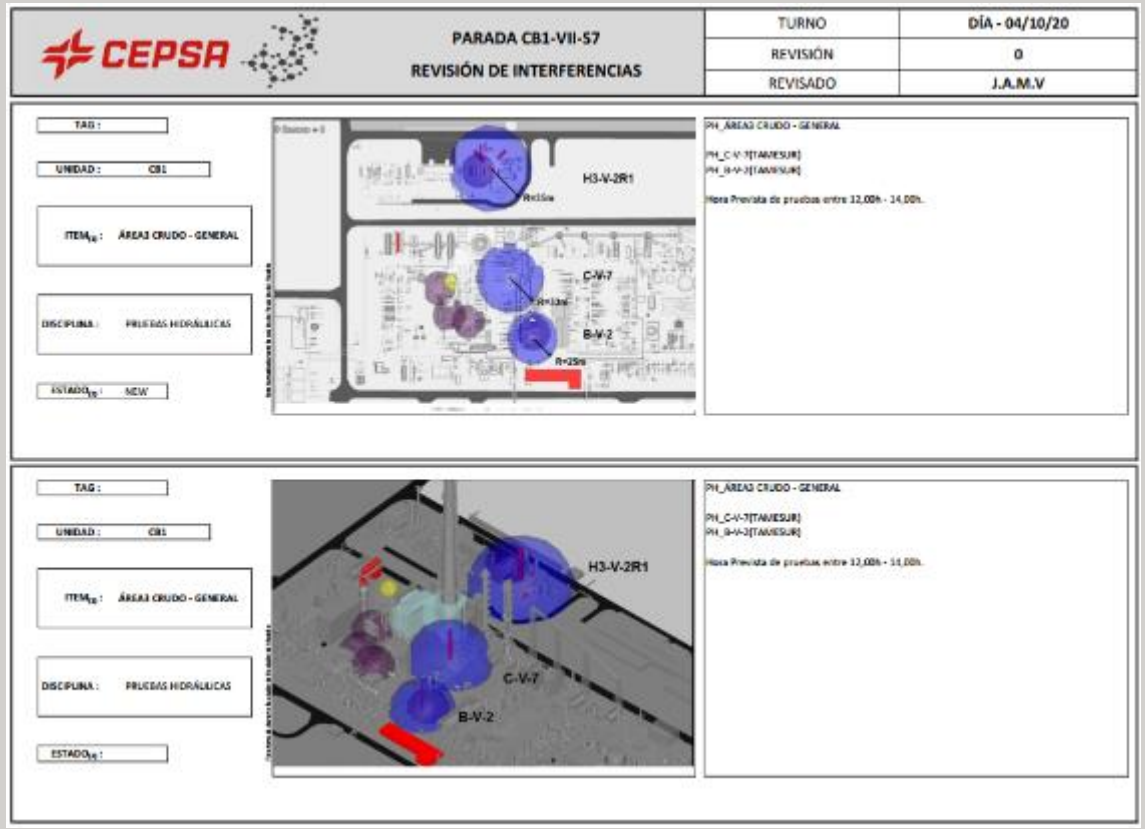
DAILY INTERFERENCE REPORT

3D MODELS DURING WORKS



HYDRAULIC TESTS / RX.

LOCATION OF THE AREA SHOWN

TESTS (INFO.)

- **EQUIPMENT ON WHICH THE TEST IS PERFORMED**
- **BEACONING RADIUS**
- **SCHEDULED TIME OF THE TEST**
- **COMPANY IN CHARGE OF THE IMPLEMENTATION**
- **NOTES/COMMENTS**

DAILY BEFORE INTERFERENCE MEETINGS REPORTS ARE ISSUED.

ARE DIVIDED INTO 4 MAIN BLOCKS OF INFORMATION

REVIEW OF THE NEXT WORK SHIFT

HYDRAULIC TESTS / RX.

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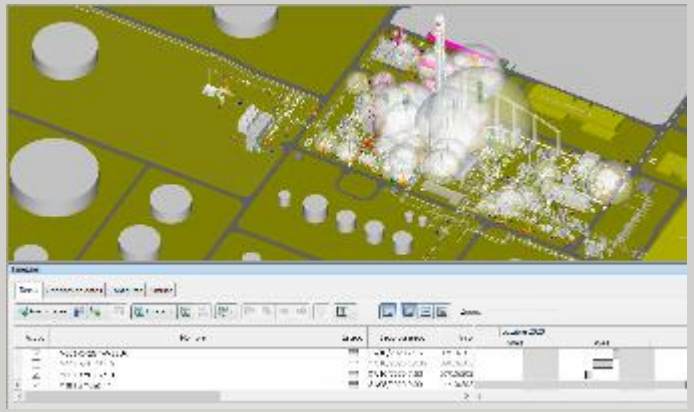
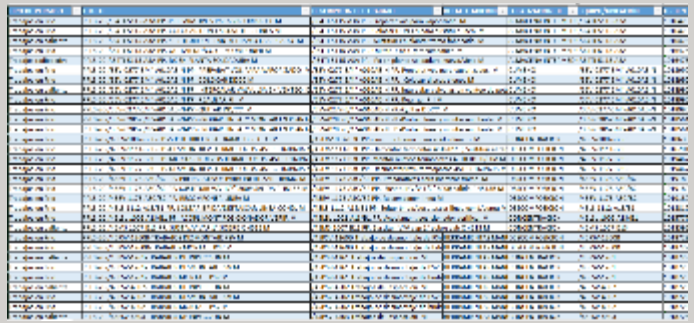
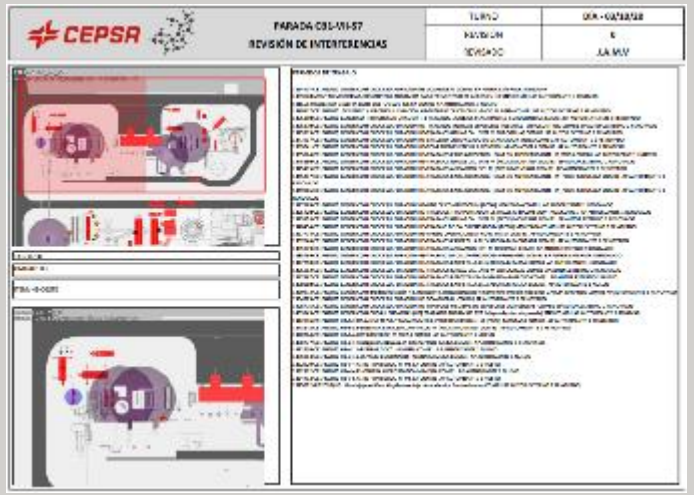
QUEUE MANAGEMENT

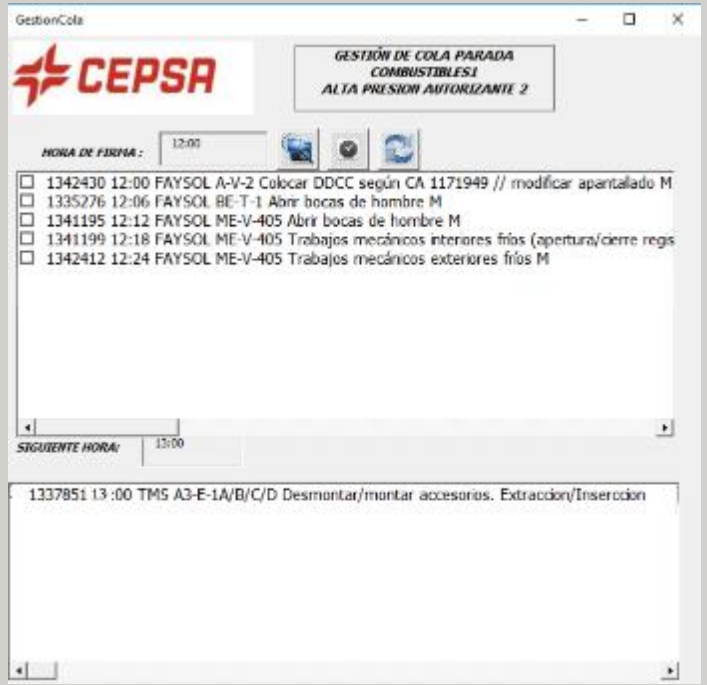
3D MODELS DURING WORKS







AUTOMATIC GENERATION OF TIMES



QUEUE MANAGEMENT IN THE OPERATING ROOM FOR SIGNING OF WORK PERMITS BY AUTHORIZER.

SIGNING TIMES ARE ASSIGNED BY AUTHORIZER AND CONTRACTING COMPANY.

QUEUE MANAGEMENT

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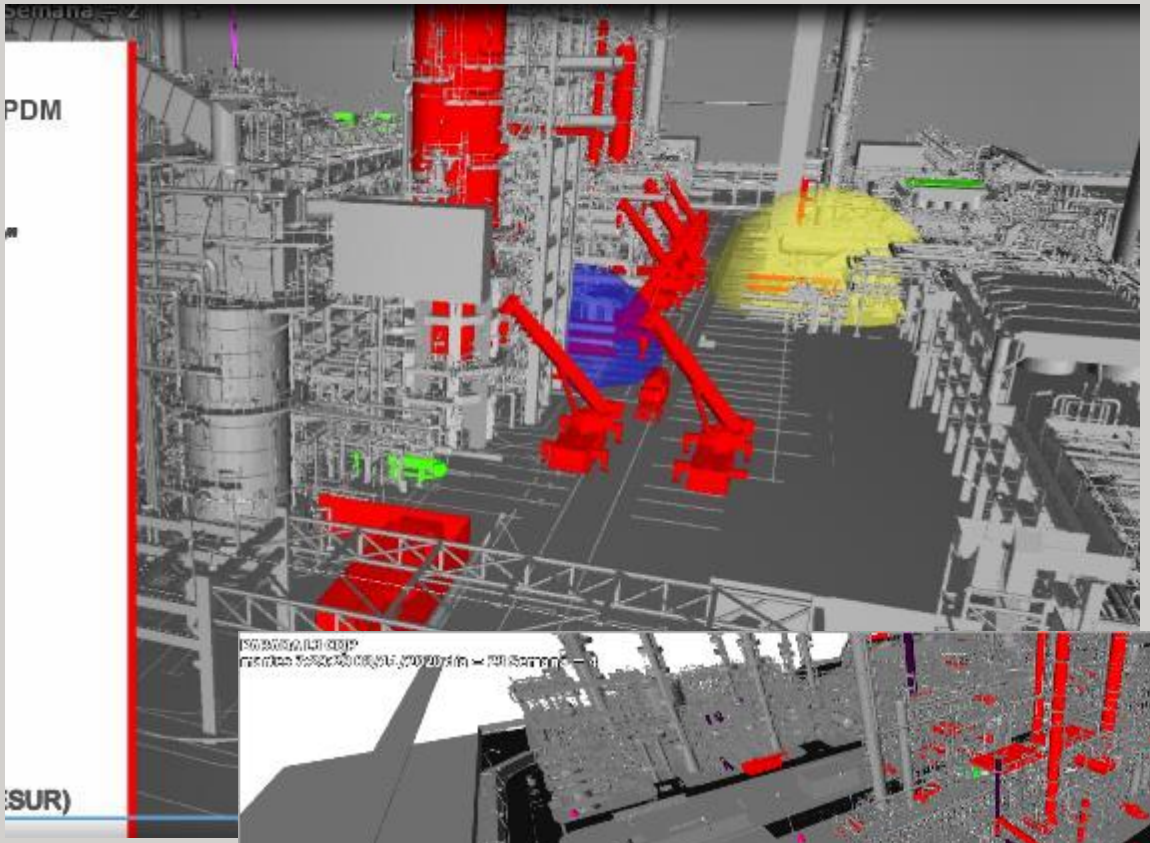
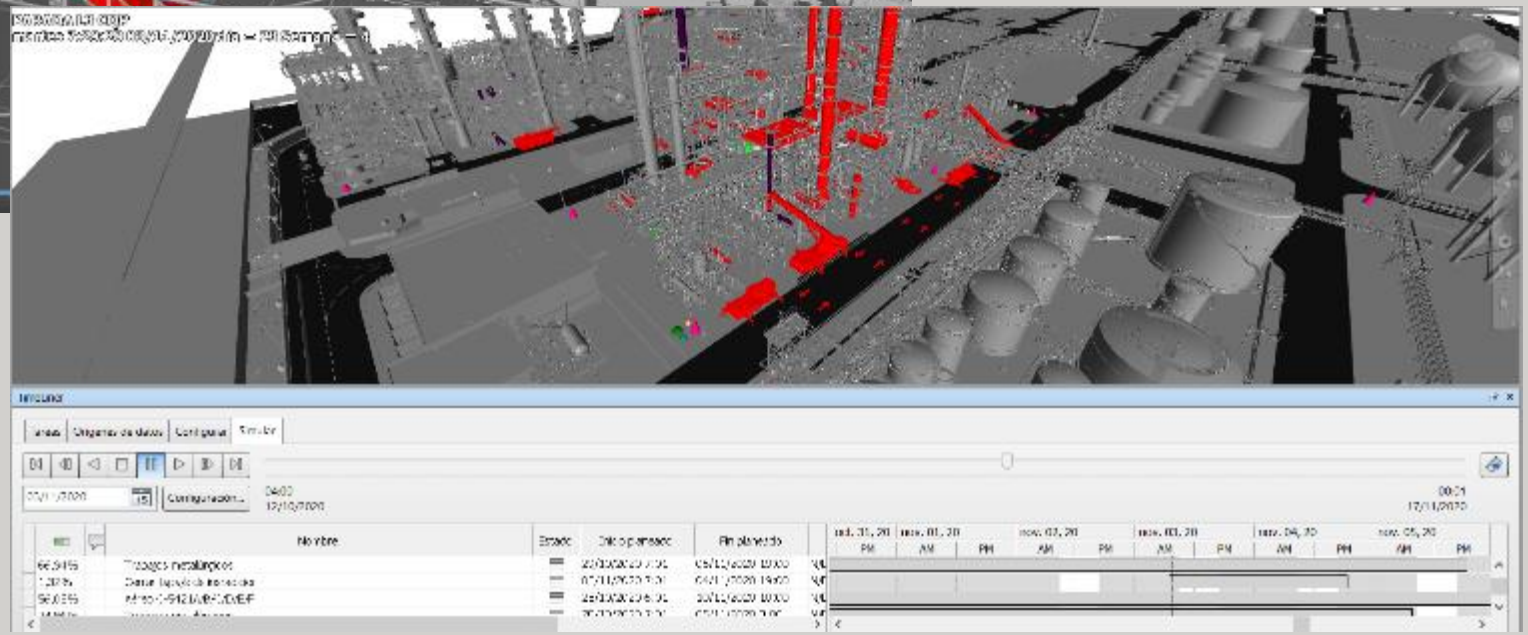
HISTORICAL TIMELINER

3D MODELS POST WORKS





FINAL 3D MODEL WITH OVERVIEW OF WORK PROGRESS.

- **FINAL PLANNING**
- **WORK PERMITS**
- **EQUIPMENT IMPLEMENTATIONS**
- **HYDRAULIC TESTS / X-RAYS**
- **.....**

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LESSONS LEARNED

3D MODELS
POST WORKS

KNOWLEDGE GAINED FROM EXPERIENCE DURING THE WORK

KNOWLEDGE GAINED DURING A PROJECT WHICH SHOWS HOW PROJECT EVENTS WERE ADDRESSED OR SHOULD BE ADDRESSED IN THE FUTURE, IN ORDER TO IMPROVE FUTURE PERFORMANCE.

RECORD OF LESSONS LEARNED

LESSONS LEARNED

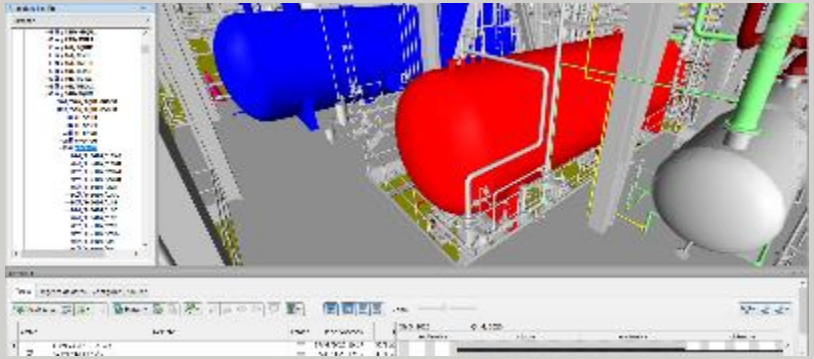
3D MODELS POST WORKS

KNOWLEDGE GAINED FROM EXPERIENCE DURING THE WORK

KNOWLEDGE GAINED DURING A PROJECT WHICH SHOWS HOW PROJECT EVENTS WERE ADDRESSED OR SHOULD BE ADDRESSED IN THE FUTURE, IN ORDER TO IMPROVE FUTURE PERFORMANCE.

THE RECORD OF LESSONS LEARNED IS STORED IN EACH PART OF THE 3D MODEL, SO THAT IT CAN BE TAKEN INTO ACCOUNT IN FUTURE WORK.

RECORD OF LESSONS LEARNED



3D MODEL

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LESSONS LEARNED

3D MODELS POST WORKS

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Propiedades

Elemento | Unitec Plugin Information | TimeLiner | LESSONS LEARNED | Material

Valor

TURN 01/10

PPL3-20 / F-5407 - Need to do pH because you can't see anything inspected when you enter. FAYSOL

PPL3-20 / F-5407 - Major leakage problems detected in the delivery of new beams by the contractor. TMS

'---

TURN 02/10

PPL3-20 / F-5407 - The emergency generator is detected without starting, seems to be a card problem. FAYSOL

PPL3-20 / F-5407 - It doesn't coincide with the expected times as it has a lot of water in plates accumulated. HYDROKNOCK

EQUIPMENT	DESCRIPTION	COMPANY

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3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

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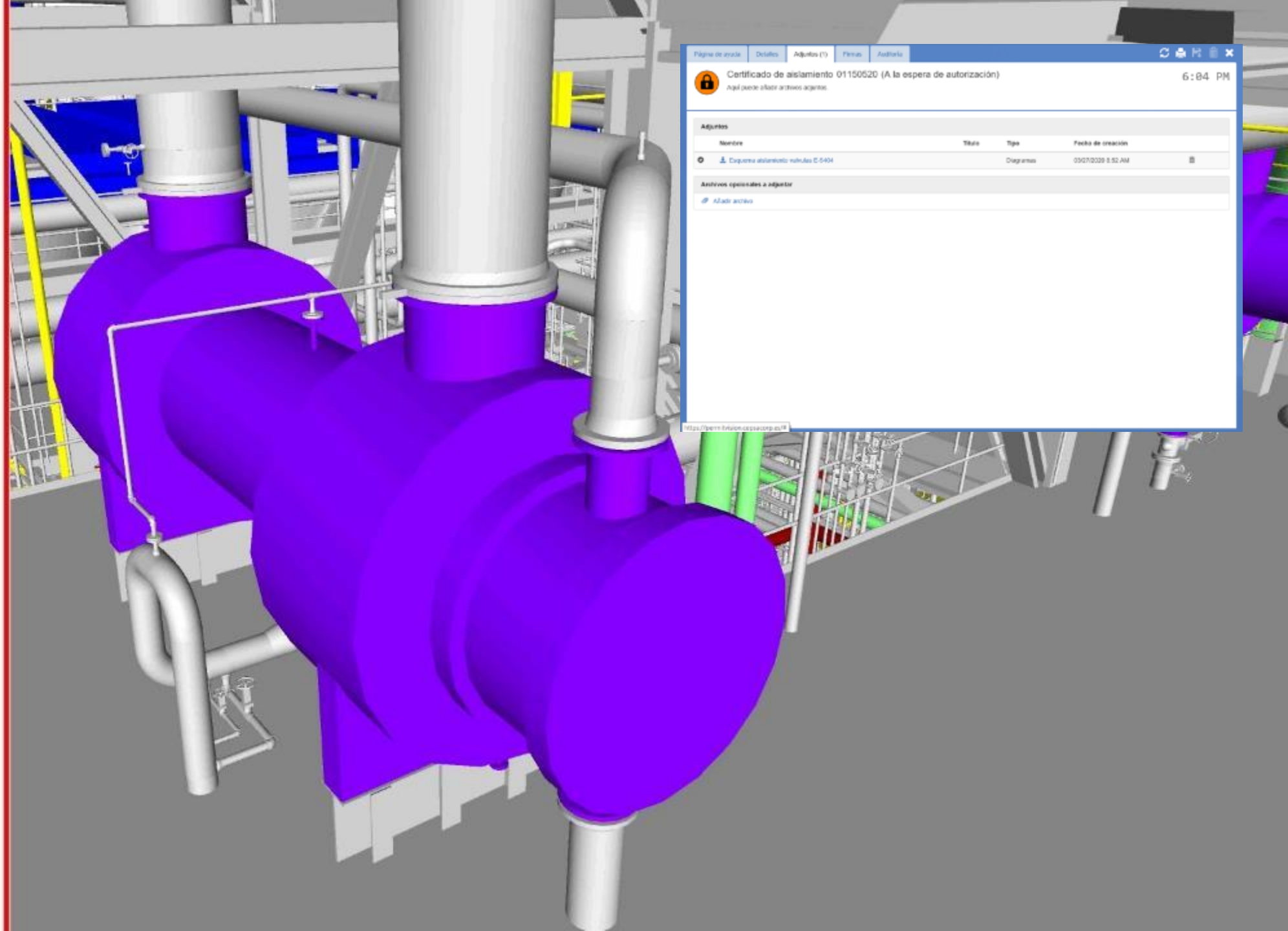

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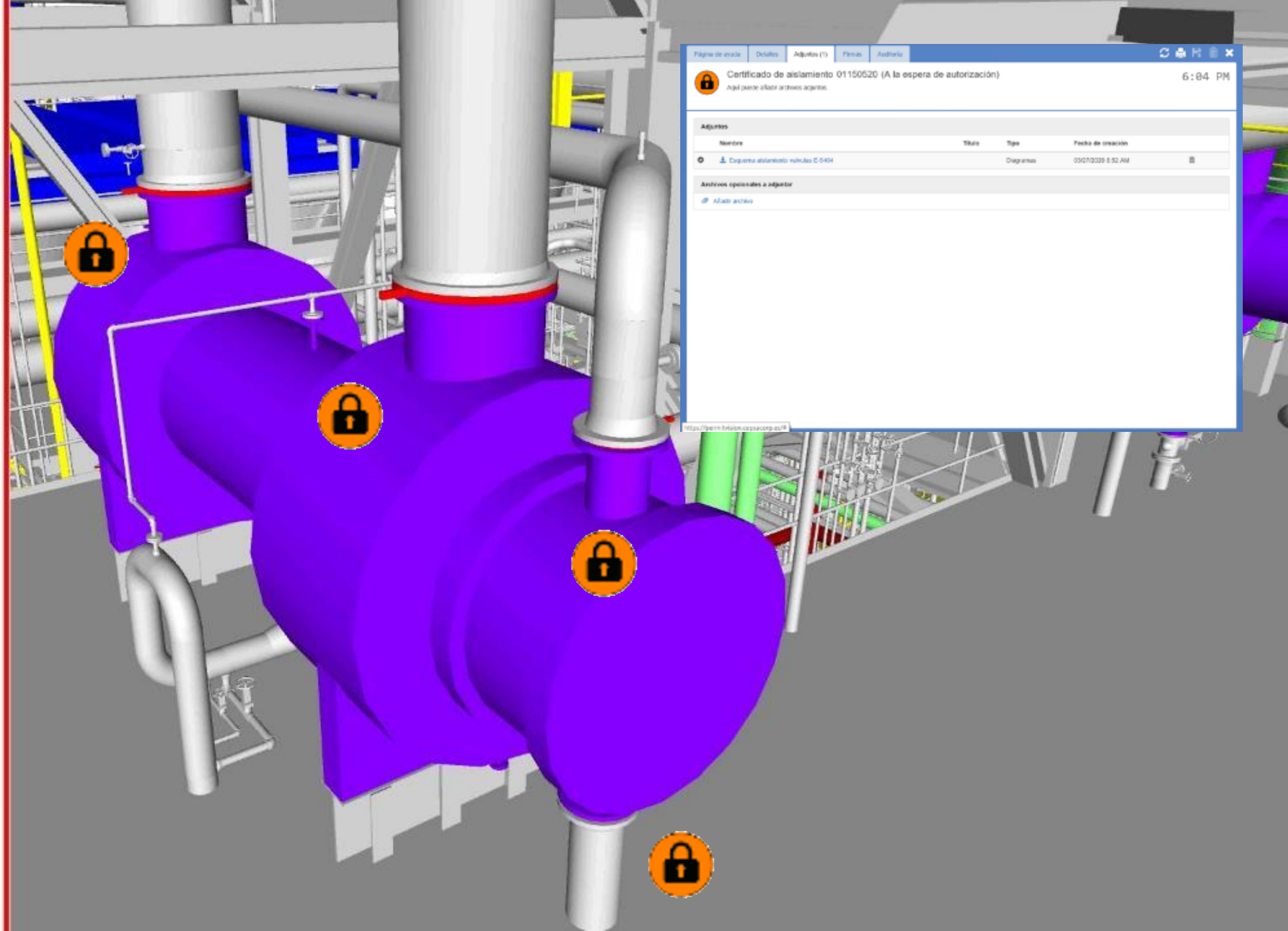
3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



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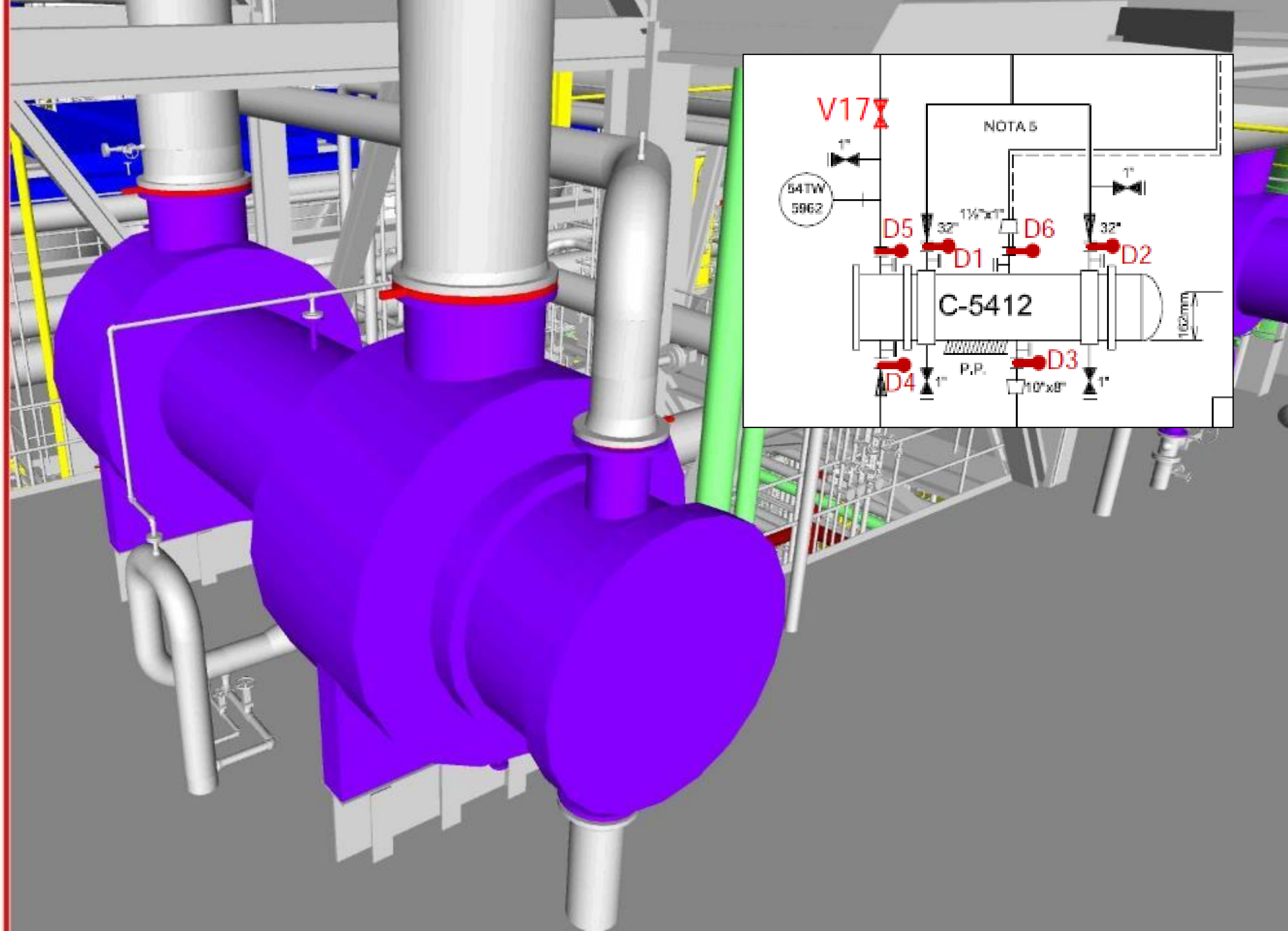
3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



CEPSA

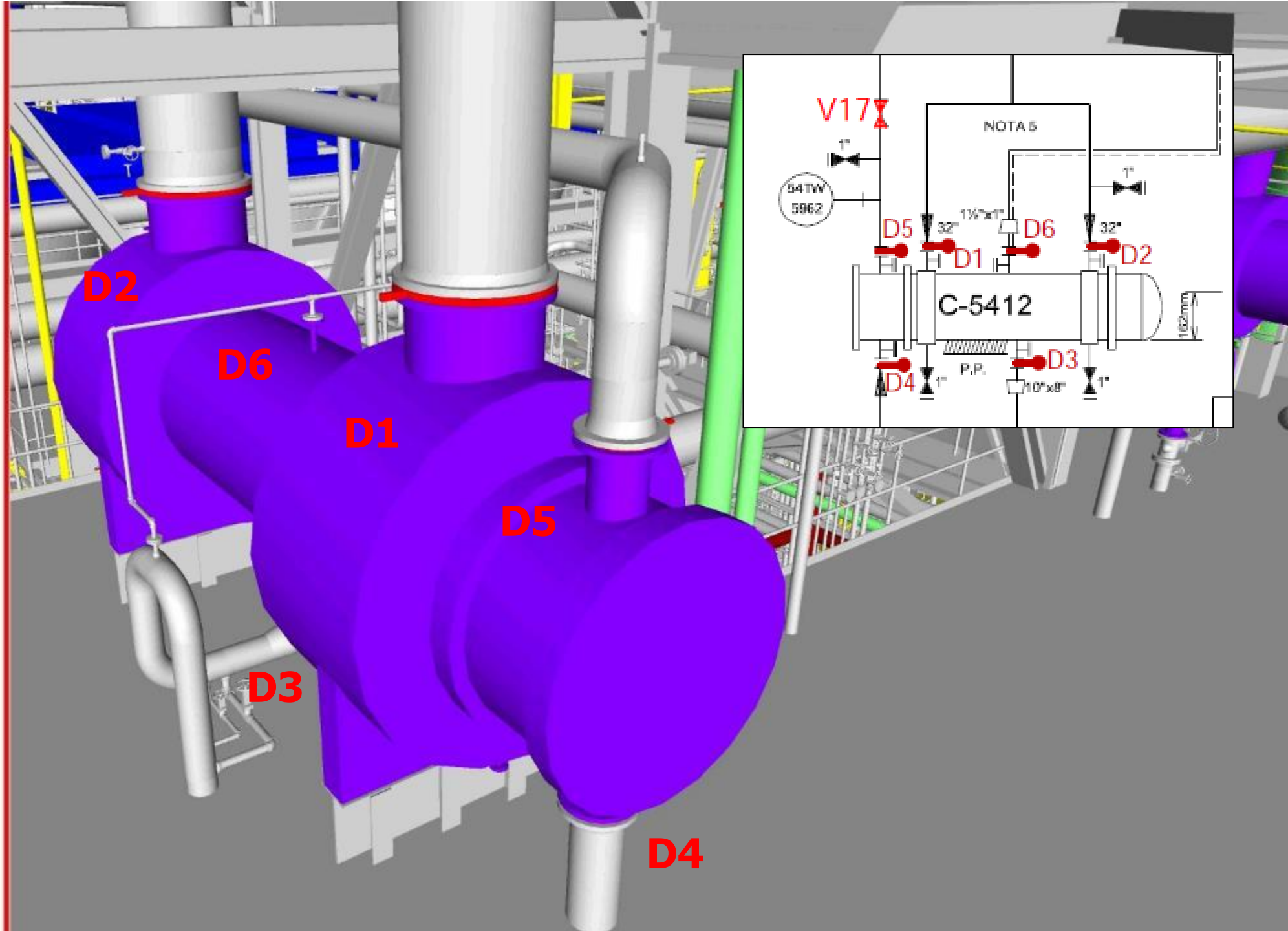
ERTC VIRTUAL 2020

CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



CEPSA

ERTC VIRTUAL 2020

CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

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3D MODELS INDUSTRIAL PLANTS

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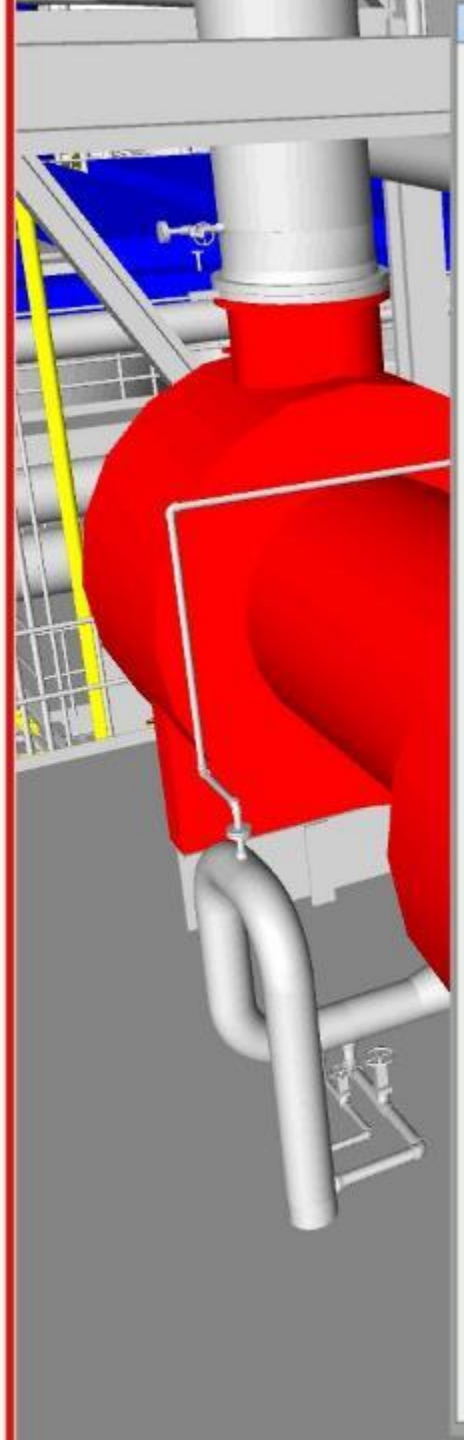
3D MODELS PREVIOUS WORKS



Propiedades

Elemento | Unitec Plugin Information | TimeLiner | WORK PERMITS | Material

Valor

1314028 PPL3-20-/C-5412 - INSPECTION WORK M OCA AUTHORIZER 1 03:45-04:15
1313952 PPL3-20-/C-5412 - PLACEMENT DDCC M TMS AUTHORIZER 1 03:45-04:15
1313991 PPL3-20-/C-5412 - MECHANICAL WORK M TMS AUTHORIZER 1 03:45-04:15

PERMIT NO.

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CEPSA TURNAROUND METHODOLOGY 4.0

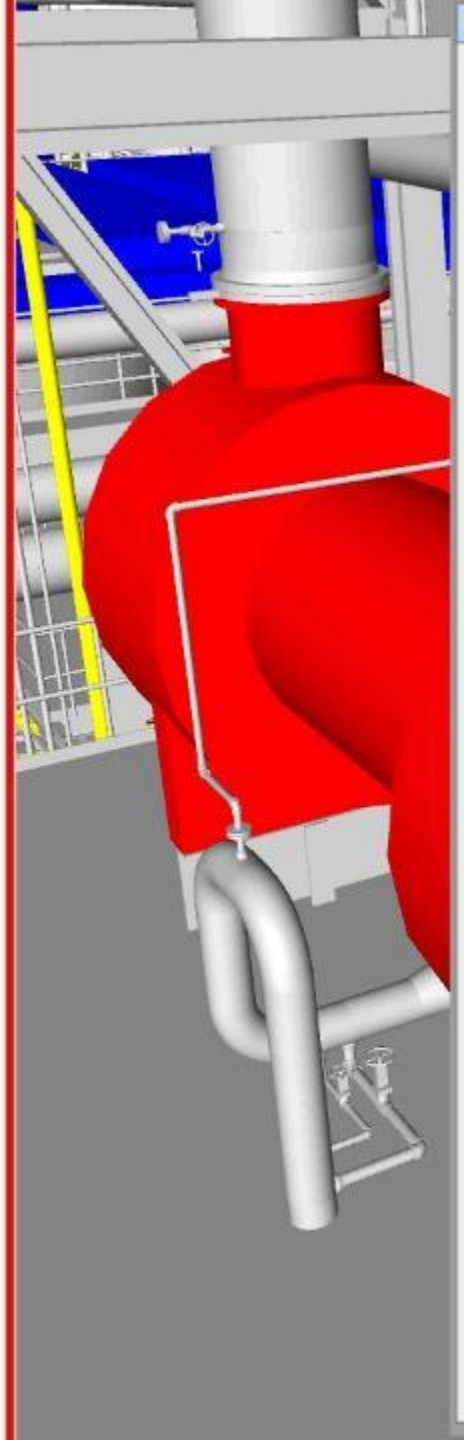
3D MODELS INDUSTRIAL PLANTS

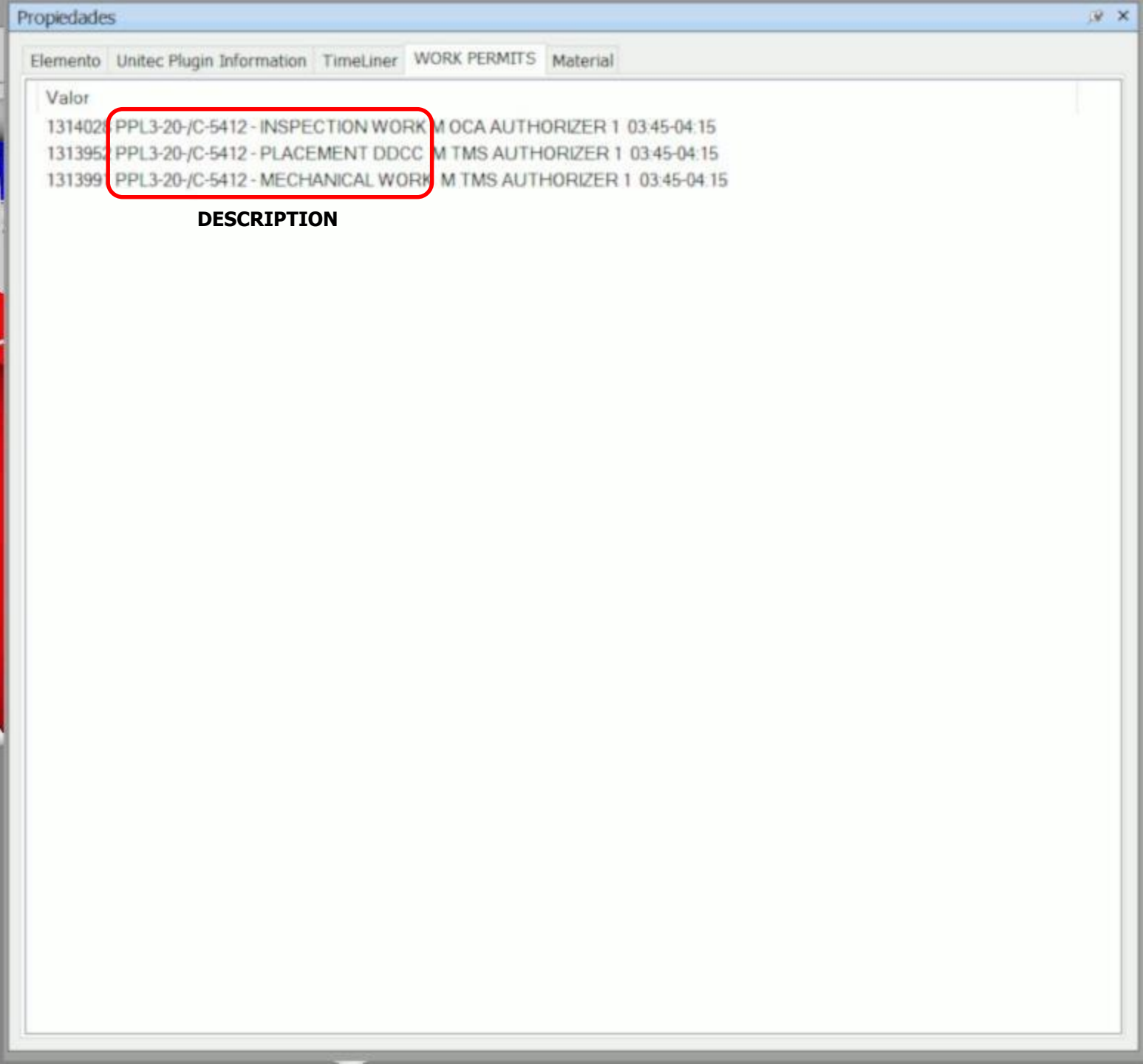
NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

CEPSA

ERTC VIRTUAL 2020



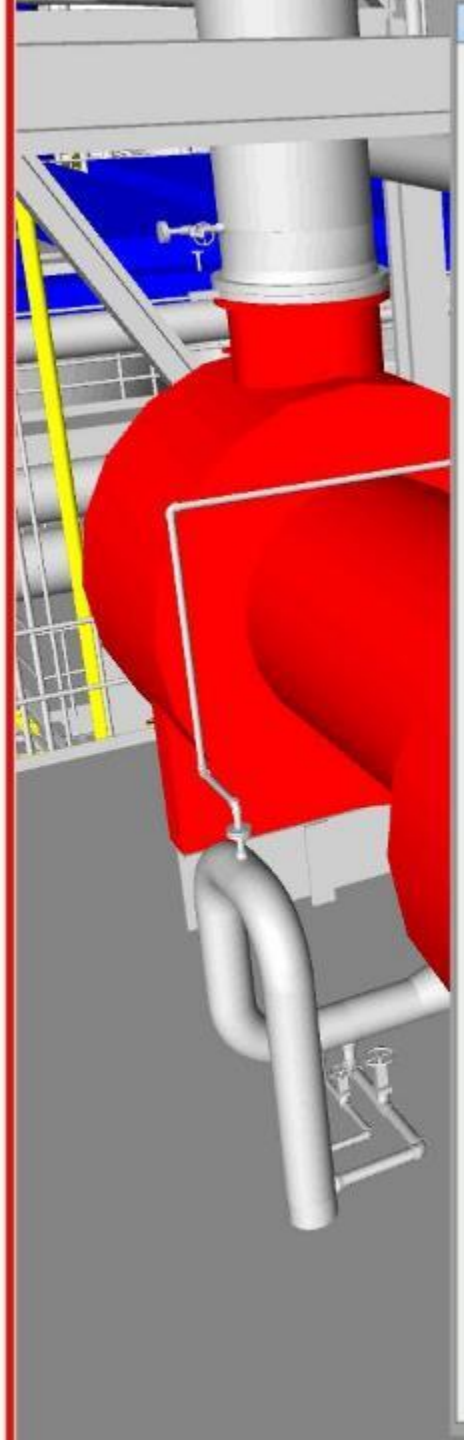


CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



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Elemento | Unitec Plugin Information | TimeLiner | WORK PERMITS | Material

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1314028 PPL3-20-/C-5412 - INSPECTION WORK M O CA AUTHORIZER 1 03:45-04:15

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1313991 PPL3-20-/C-5412 - MECHANICAL WORK M T MS AUTHORIZER 1 03:45-04:15

TURN

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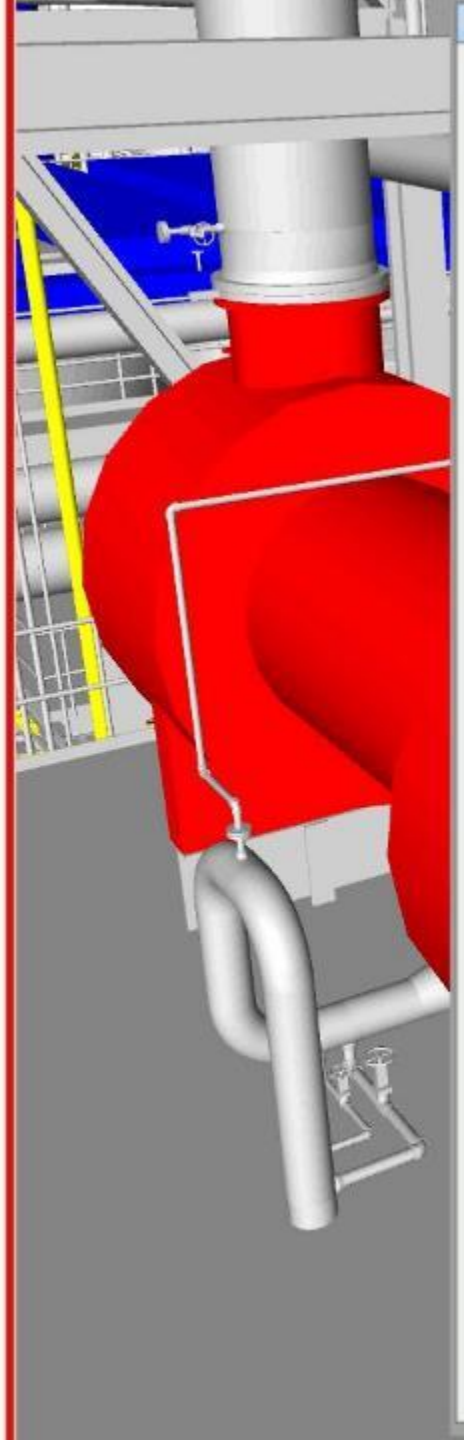
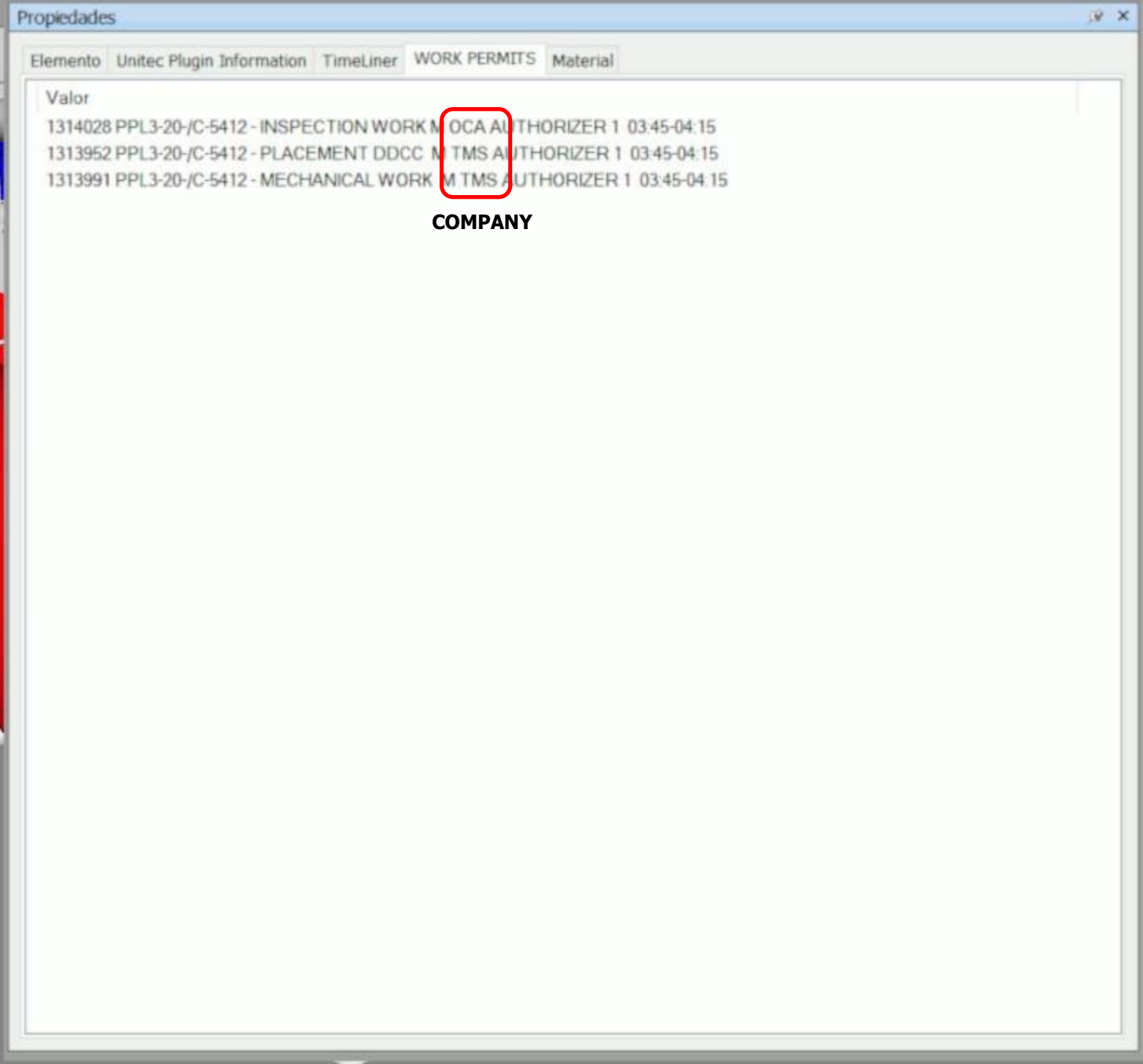
CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS





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CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

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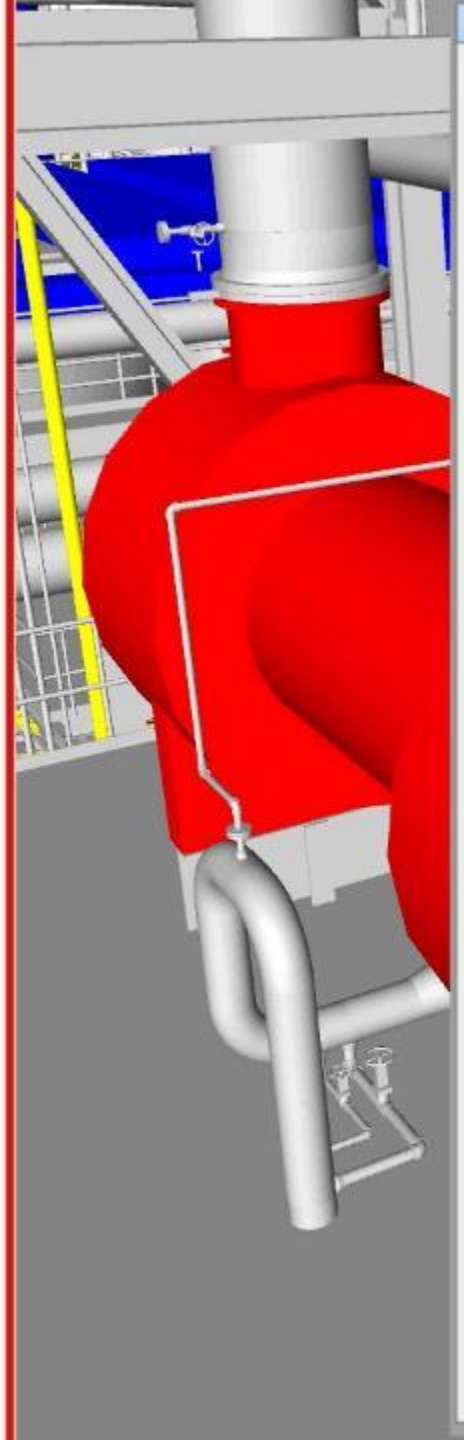
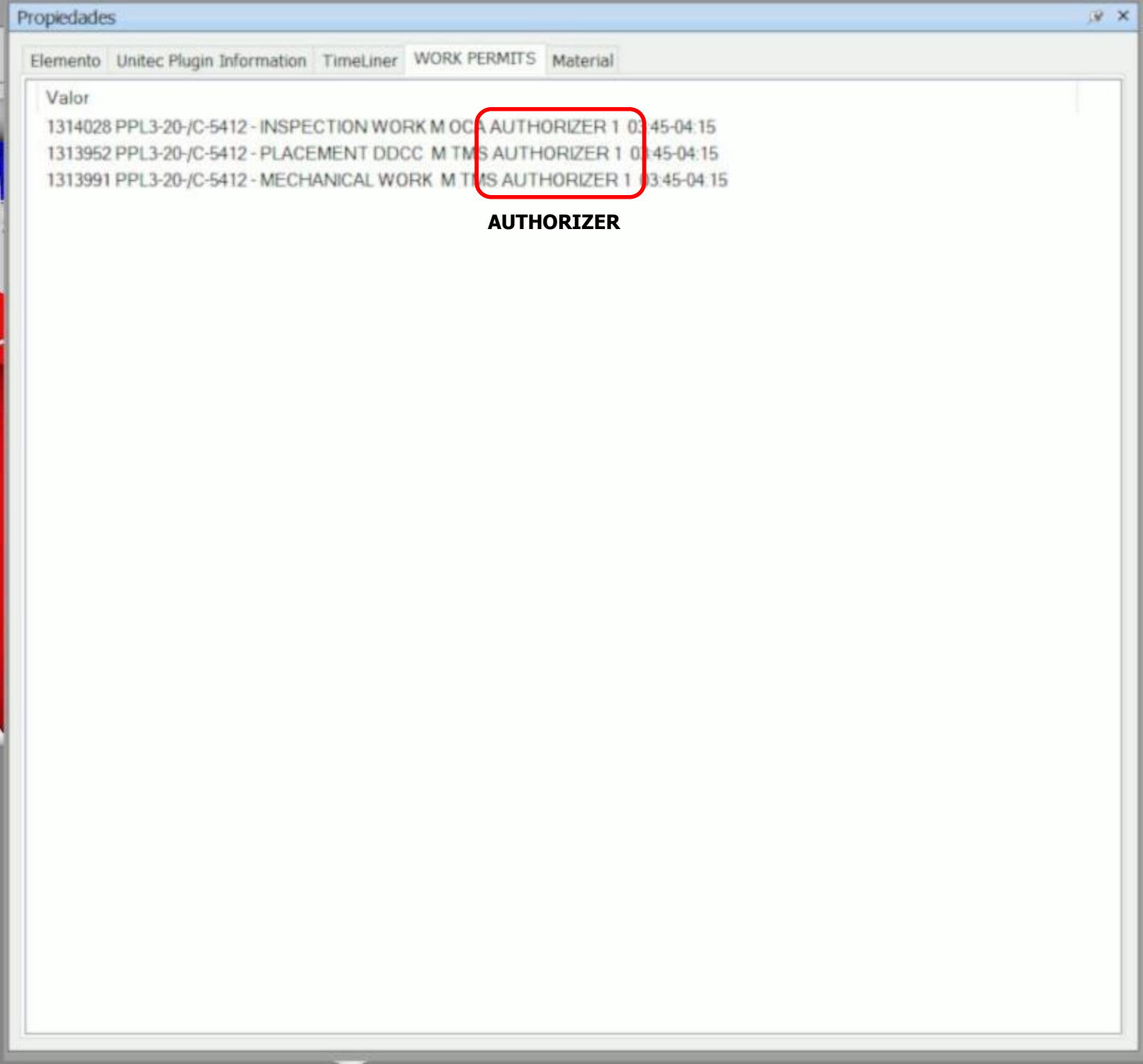




CEPSA TURNAROUND METHODOLOGY 4.0

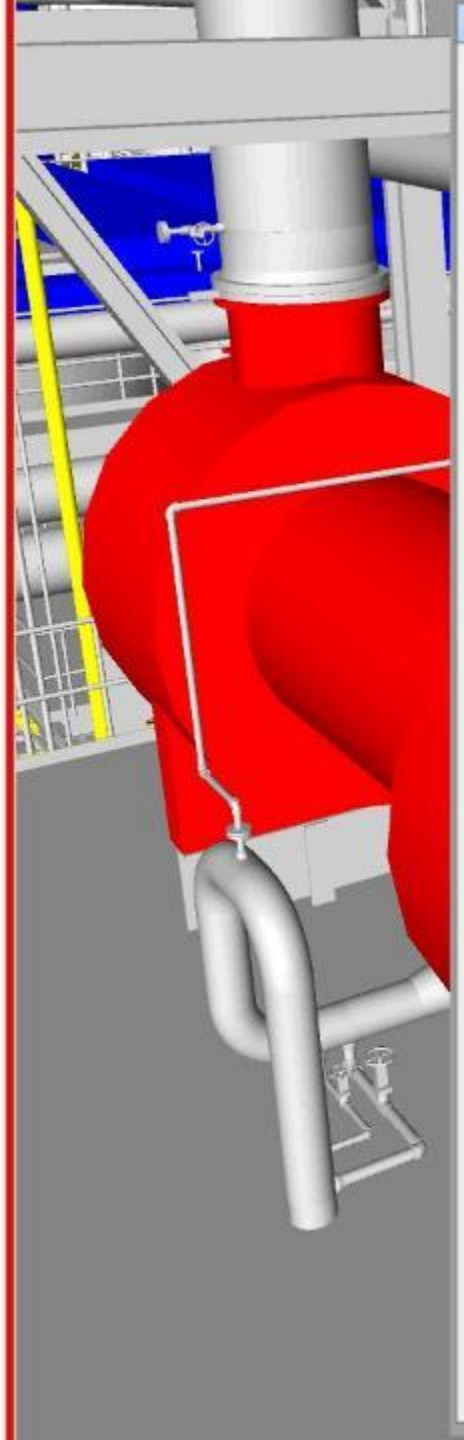
3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS

CEPSA

ERTC VIRTUAL 2020



Propiedades

Elemento | Unitec Plugin Information | TimeLiner | WORK PERMITS | Material

Valor

1314028 PPL3-20-/C-5412 - INSPECTION WORK M OCA AUTHORIZER 1 03:45-04:15

1313952 PPL3-20-/C-5412 - PLACEMENT DDCC M TMS AUTHORIZER 1 03:45-04:15

1313991 PPL3-20-/C-5412 - MECHANICAL WORK M TMS AUTHORIZER 1 03:45-04:15

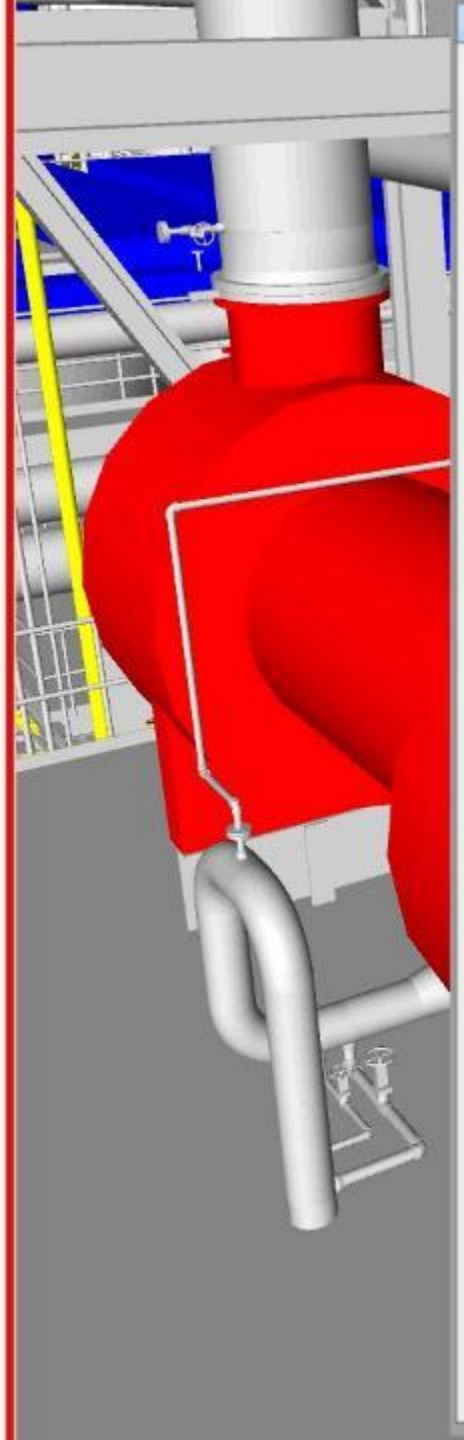
QUEUE MANAGEMENT

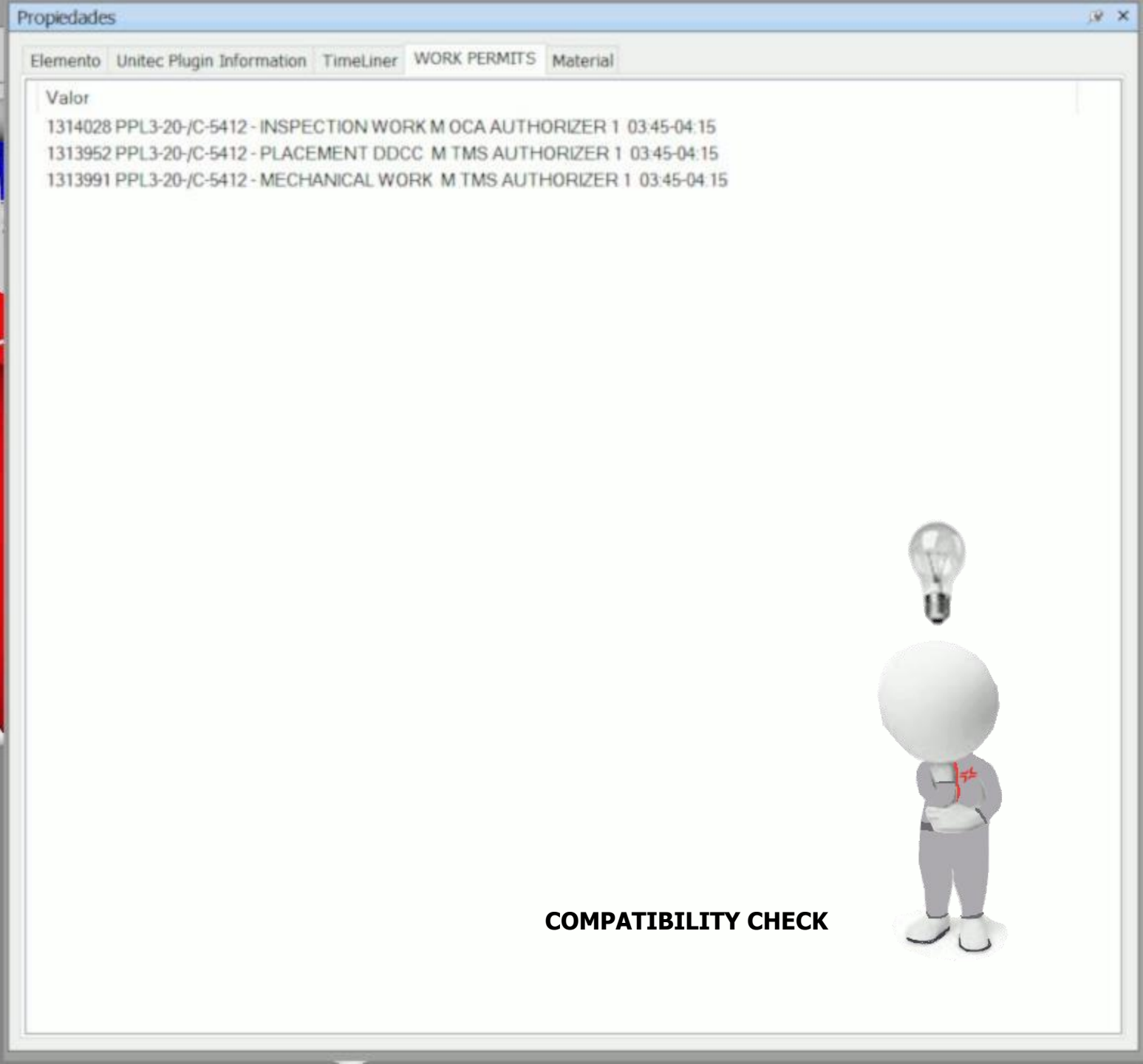
CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS





COMPATIBILITY CHECK

CEPSA

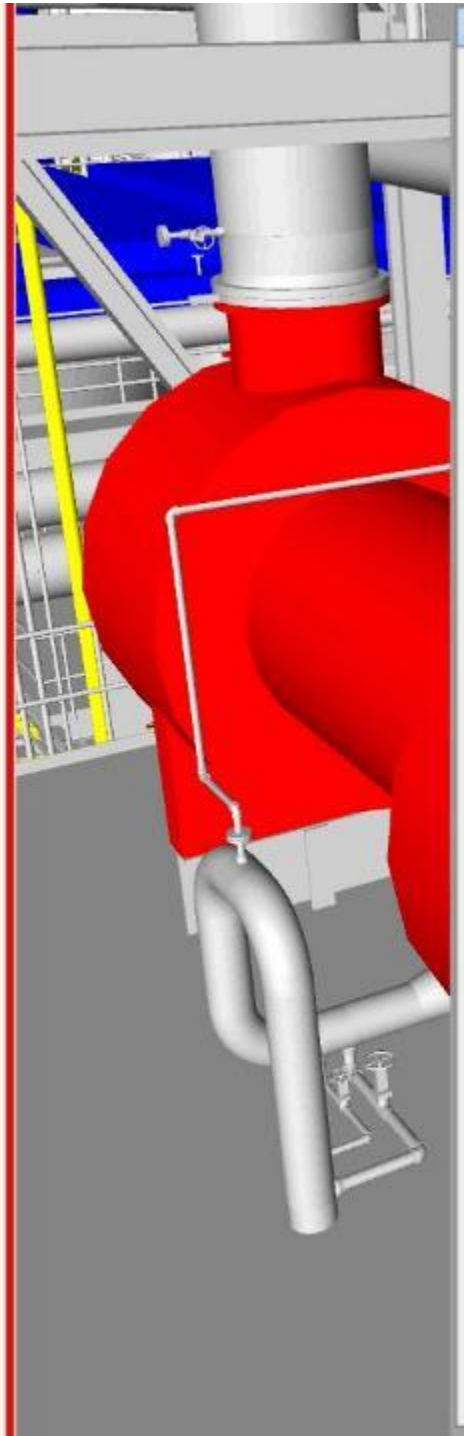
ERTC VIRTUAL 2020

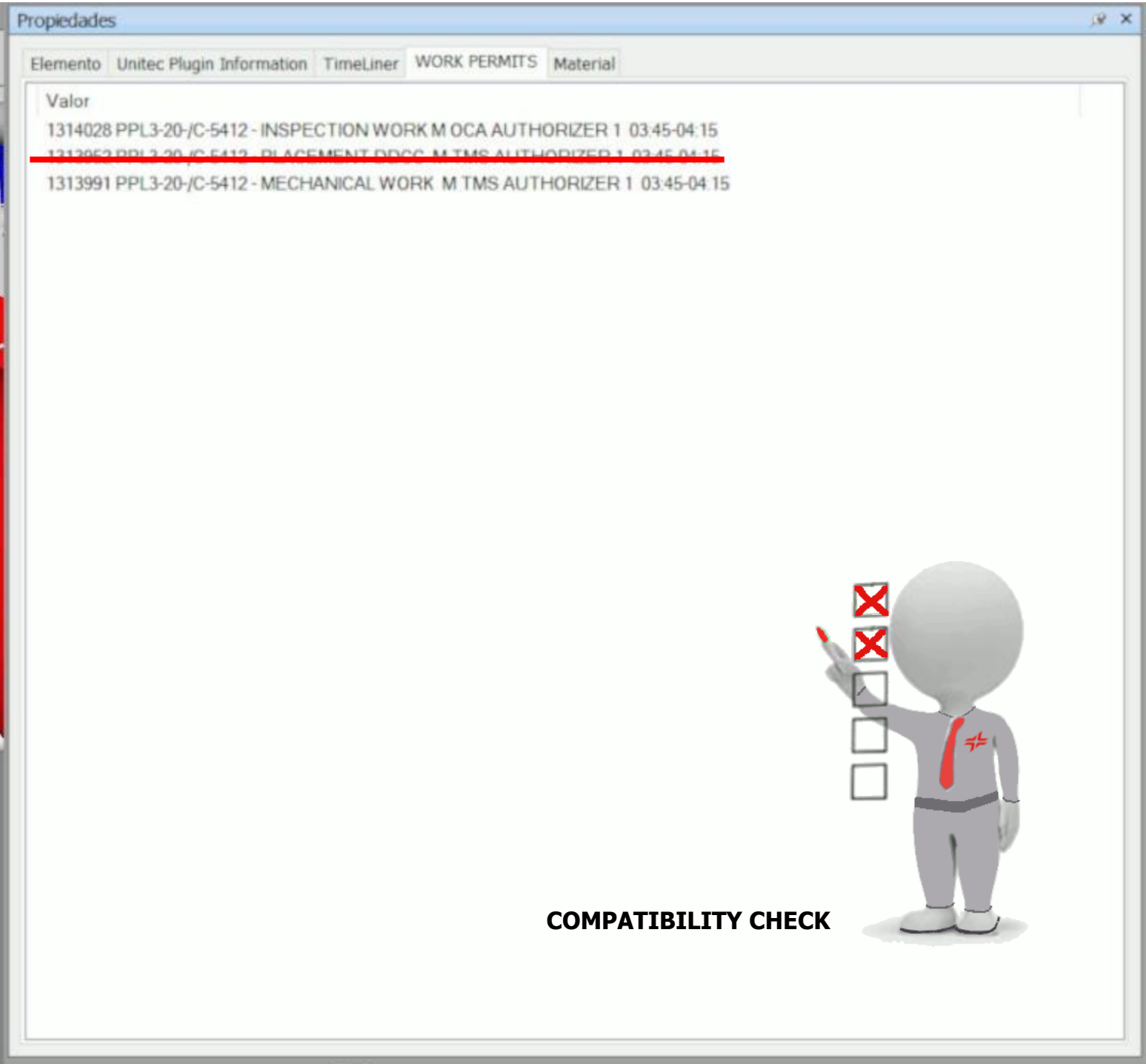
CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS





COMPATIBILITY CHECK

CEPSA

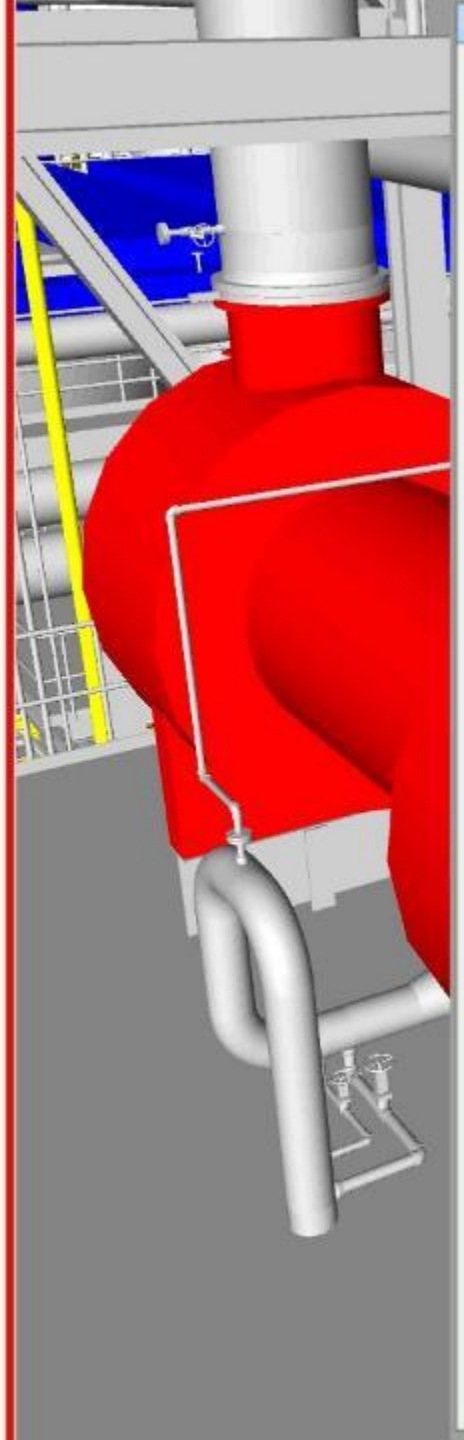
ERTC VIRTUAL 2020

CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



Propiedades

Elemento | Unitec Plugin Information | TimeLiner | WORK PERMITS | Material

Valor

1314028 PPL3-20-/C-5412 - INSPECTION WORK M OCA AUTHORIZER 1 03-45-04 15 ✓

1313991 PPL3-20-/C-5412 - MECHANICAL WORK M TMS AUTHORIZER 1 03-45-04 15 ✓

COMPATIBILITY CHECK

CEPSA

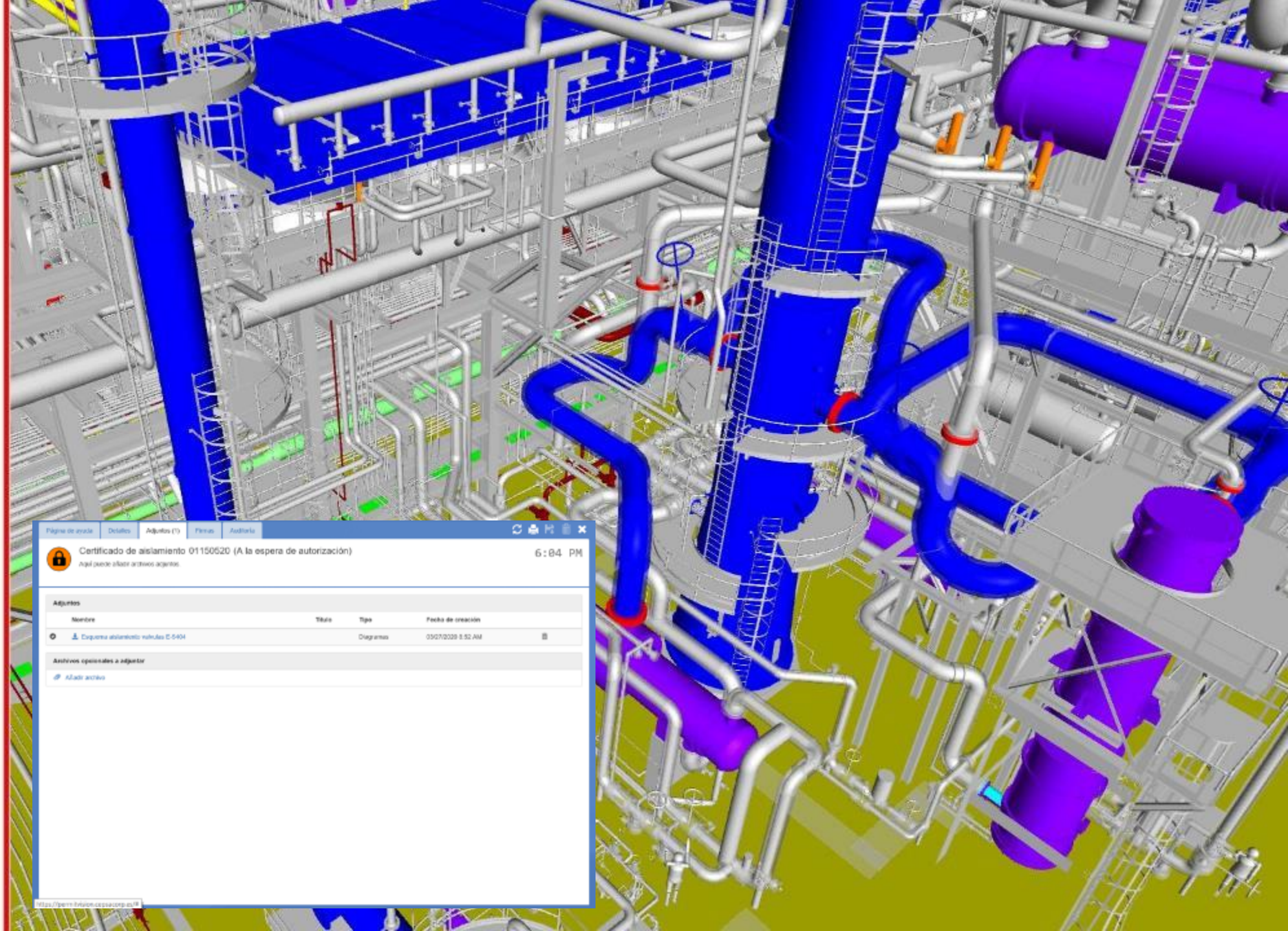
ERTC VIRTUAL 2020

CEPSA TURNAROUND METHODOLOGY 4.0

3D MODELS INDUSTRIAL PLANTS

NEW INDUSTRIAL PLANTS

3D MODELS PREVIOUS WORKS



CEPSA

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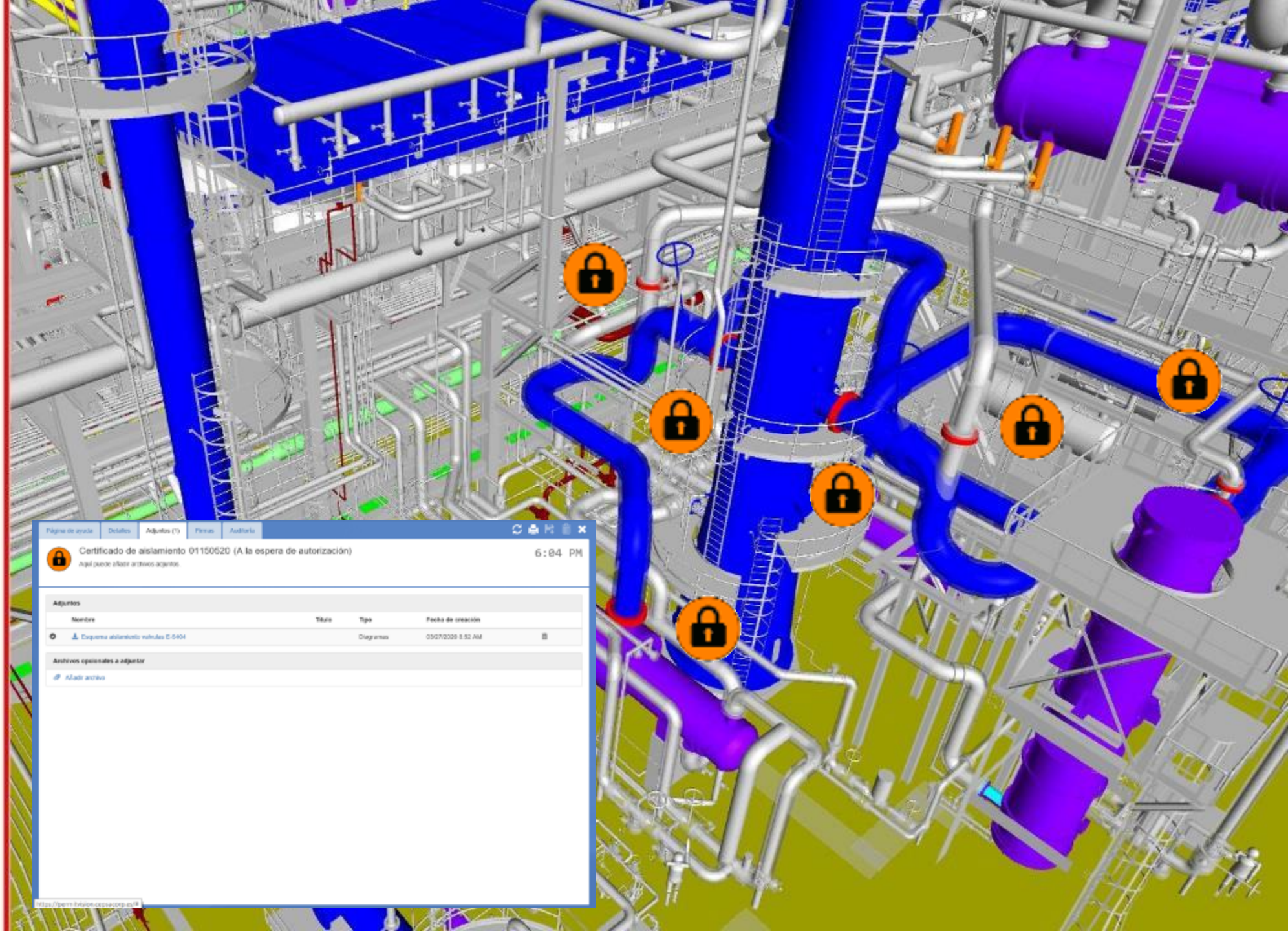
3D MODELS PREVIOUS WORKS



CEPSA

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CEPSA TURNAROUND METHODOLOGY 4.0

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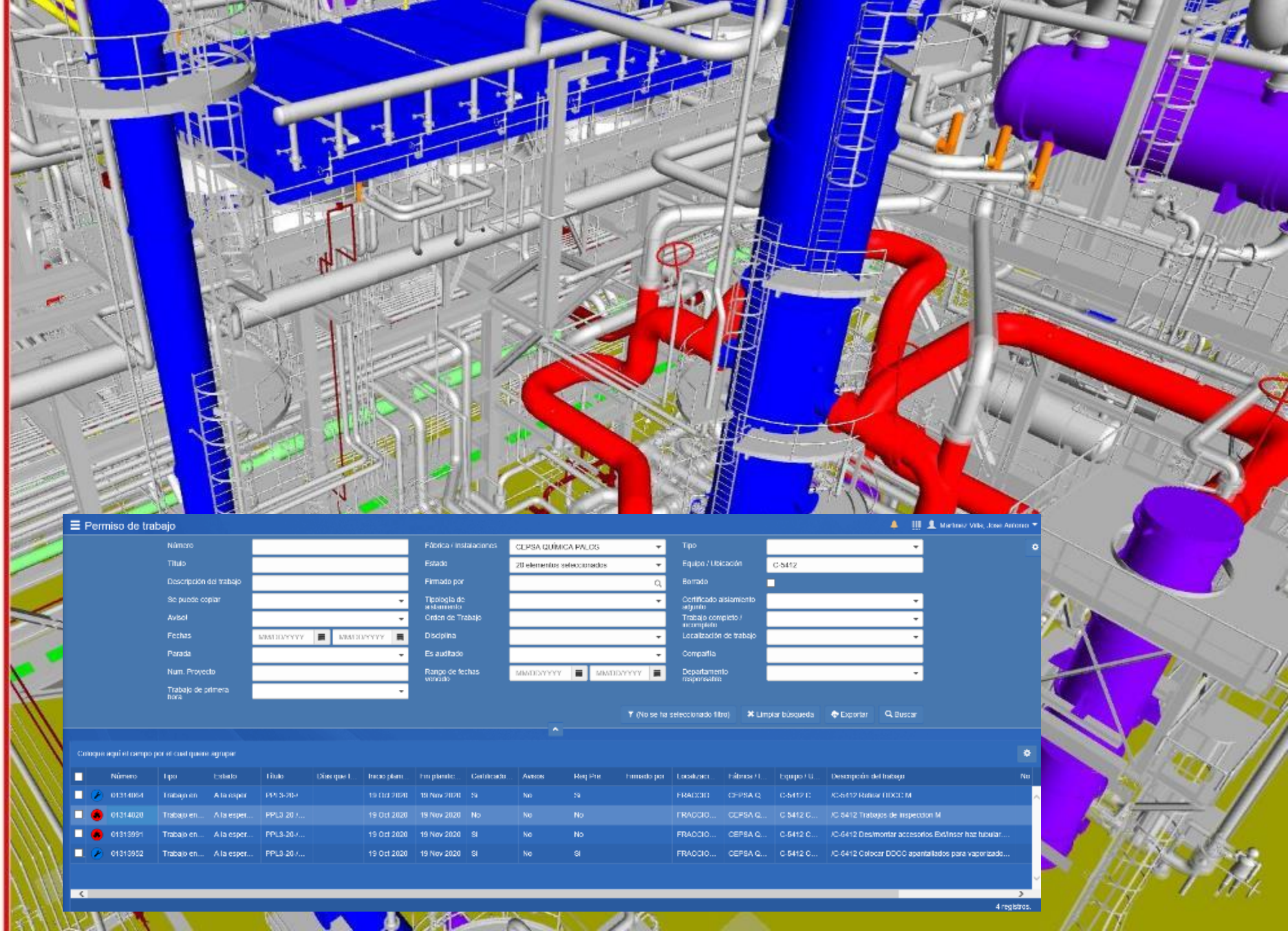
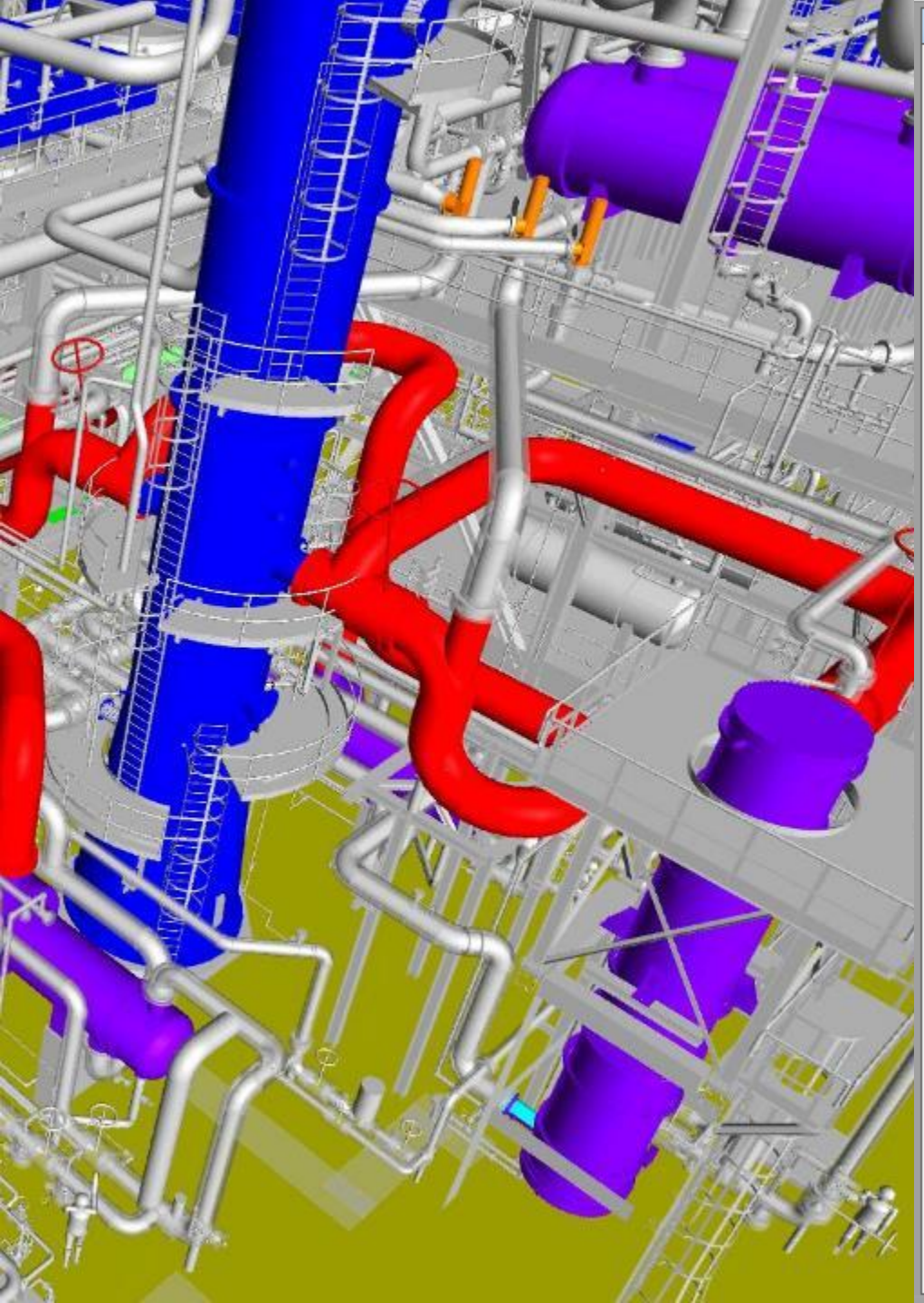


CEPSA

ERTC VIRTUAL 2020



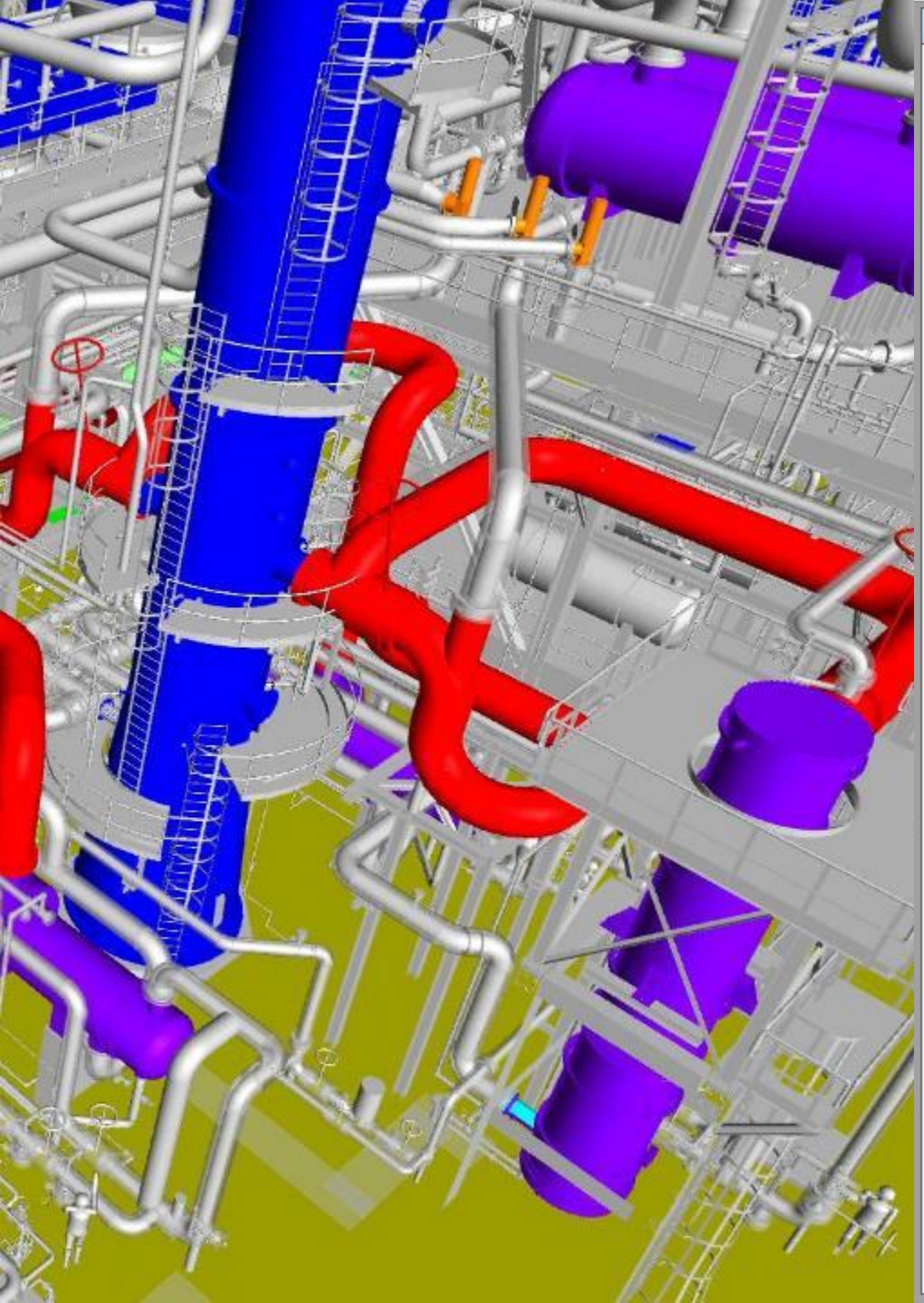
Propiedades

Elemento | TimeLiner | WORK PERMITS | SmartPlant 3D

Valor

1321474 PPL3-20-54FR-1500 - LINE PASSIVATION M FAYSOL AUTHORIZER 1
1321519 PPL3-20-54FR-1500 - DRILL THE HOLE FOR THE EXPLOSION PROTECTION M FAYSOL AUTHORIZER 1
1321550 PPL3-20-54FR-1500 - LINE DRYING M FAYSOL AUTHORIZER 1
1322003 PPL3-20-54FR-1500 - PLACEMENT DDCC M FAYSOL AUTHORIZER 1
1331933 PPL3-20-54FR-1500 - MECHANICAL WORK (ASSEMBLY AND WELDING) M FAYSOL AUTHORIZER 1
1332026 PPL3-20-54FR-1500 - REMOVAL OF SHIELDS M FAYSOL AUTHORIZER 1
1332527 PPL3-20-54FR-1500 - REMOVAL DDCC M FAYSOL AUTHORIZER 1
1332548 PPL3-20-54FR-1500 - HYDRAULIC TESTING M FAYSOL AUTHORIZER 1

PERMIT NO.



Propiedades

Elemento | TimeLiner | WORK PERMITS | SmartPlant 3D

Valor

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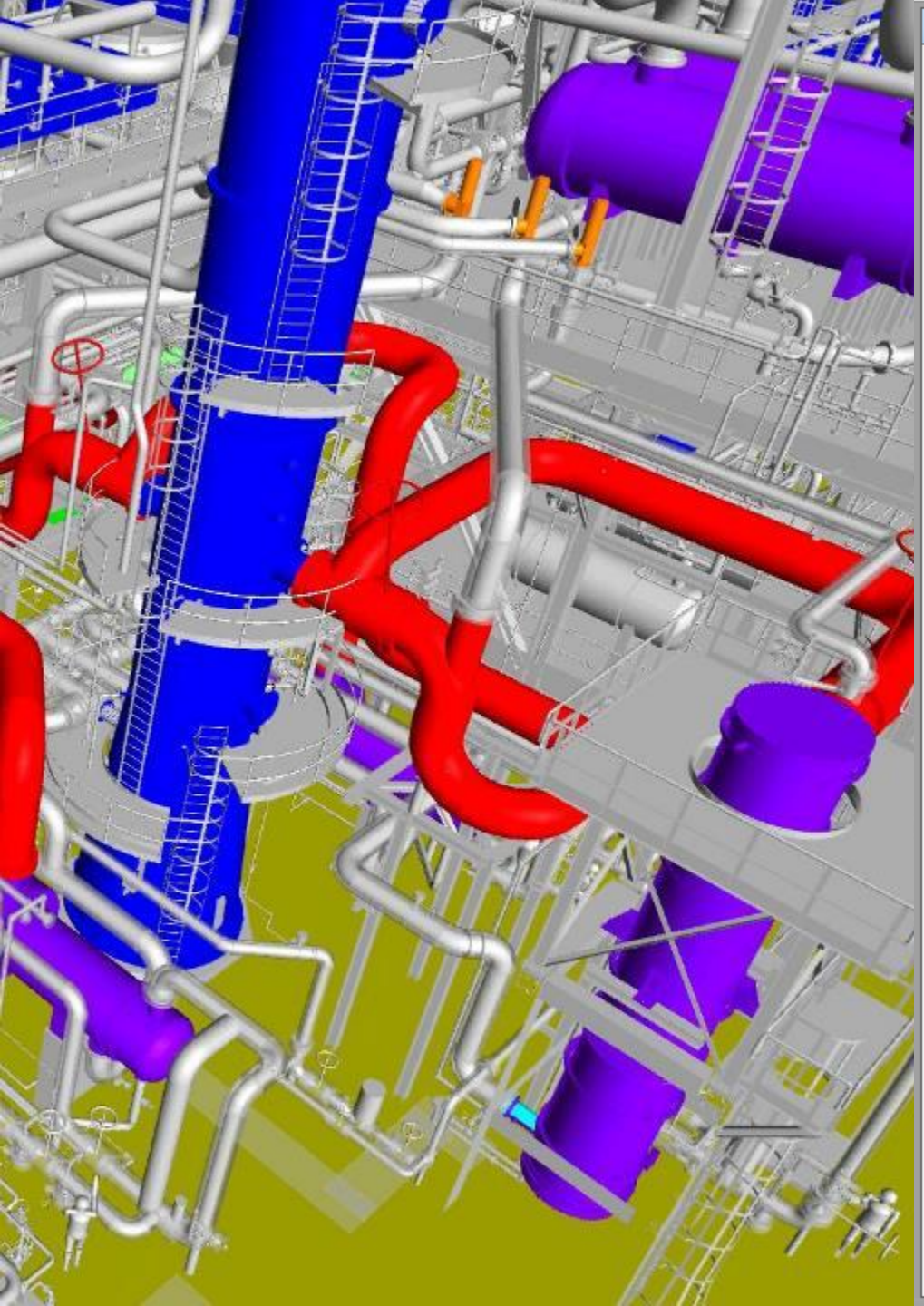
1332548 PPL3-20-54FR-1500 - HYDRAULIC TESTING M FAYSOL AUTHORIZER 1

DESCRIPTION



Propiedades

Elemento | TimeLiner | WORK PERMITS | SmartPlant 3D

Valor

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1332026 PPL3-20-54FR-1500 - REMOVAL OF SHIELDS M FAYSOL AUTHORIZER 1
1332527 PPL3-20-54FR-1500 - REMOVAL DDCC M FAYSOL AUTHORIZER 1
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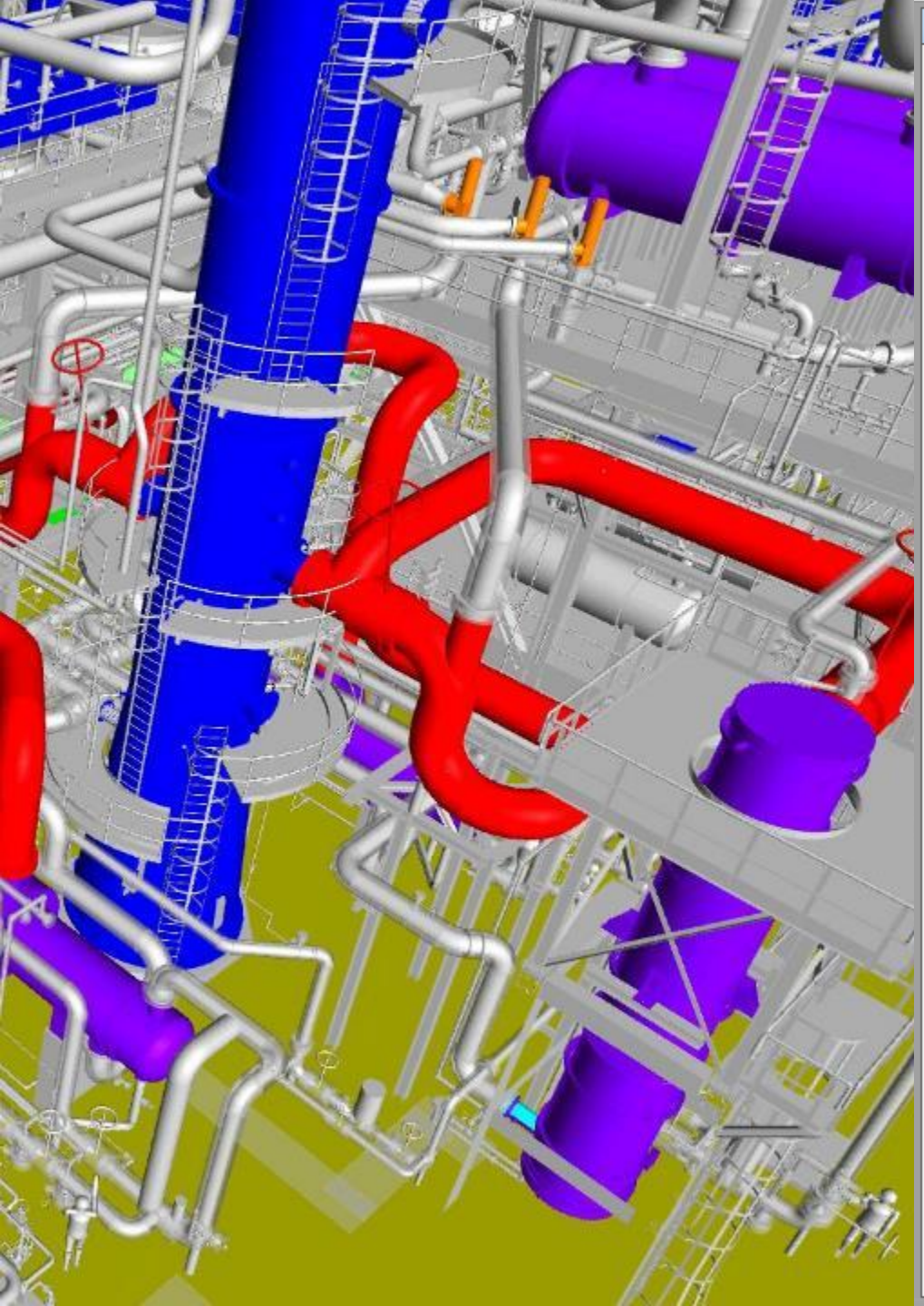
TURN



Propiedades

Elemento | TimeLiner | WORK PERMITS | SmartPlant 3D

Valor

1321474 PPL3-20-54FR-1500 - LINE PASSIVATION M FAYSOL AUTHORIZER 1
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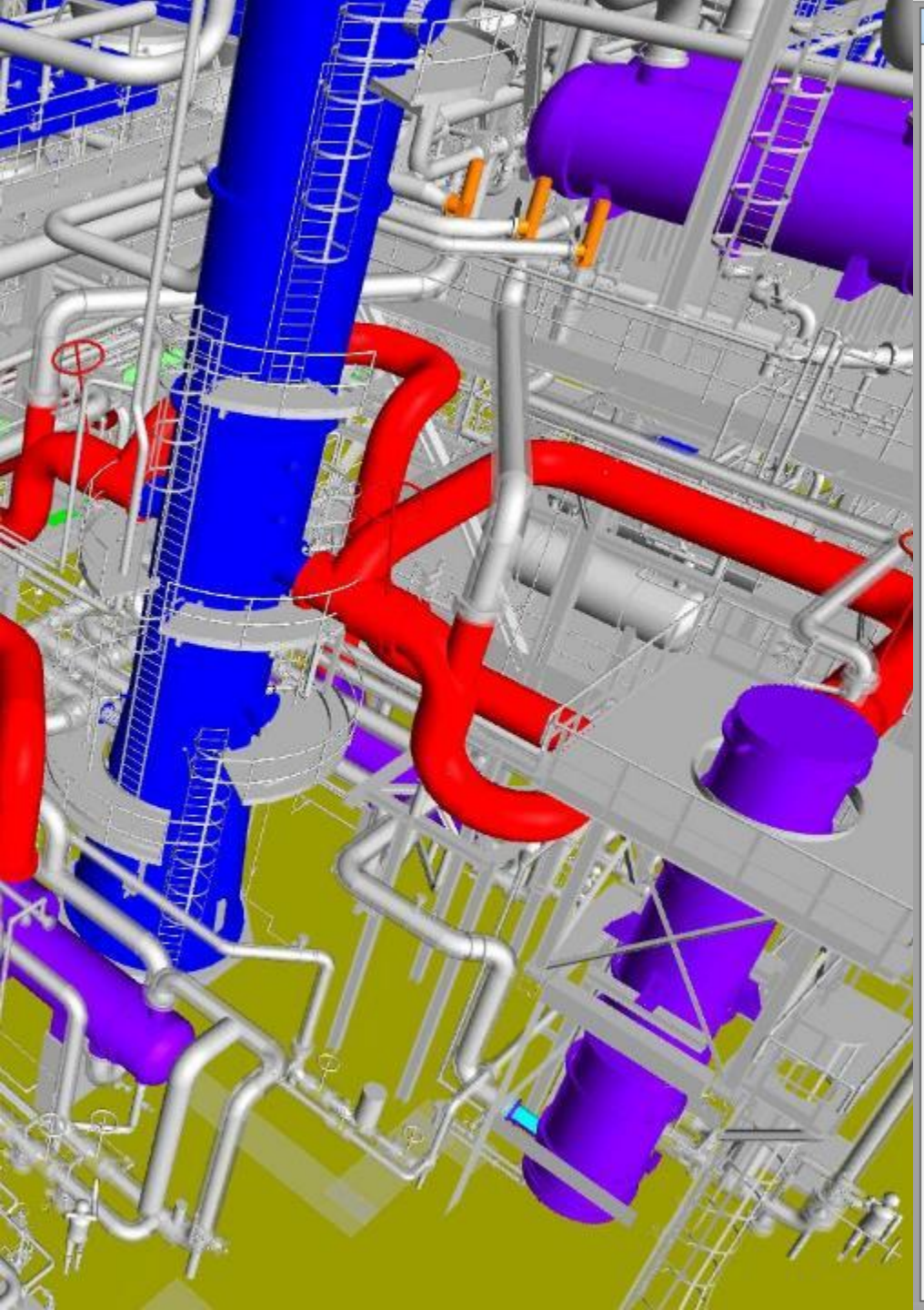
COMPANY



Propiedades

Elemento | TimeLiner | WORK PERMITS | SmartPlant 3D

Valor

1321474 PPL3-20-54FR-1500 - LINE PASSIVATION M FAYSOL AUTHORIZER 1
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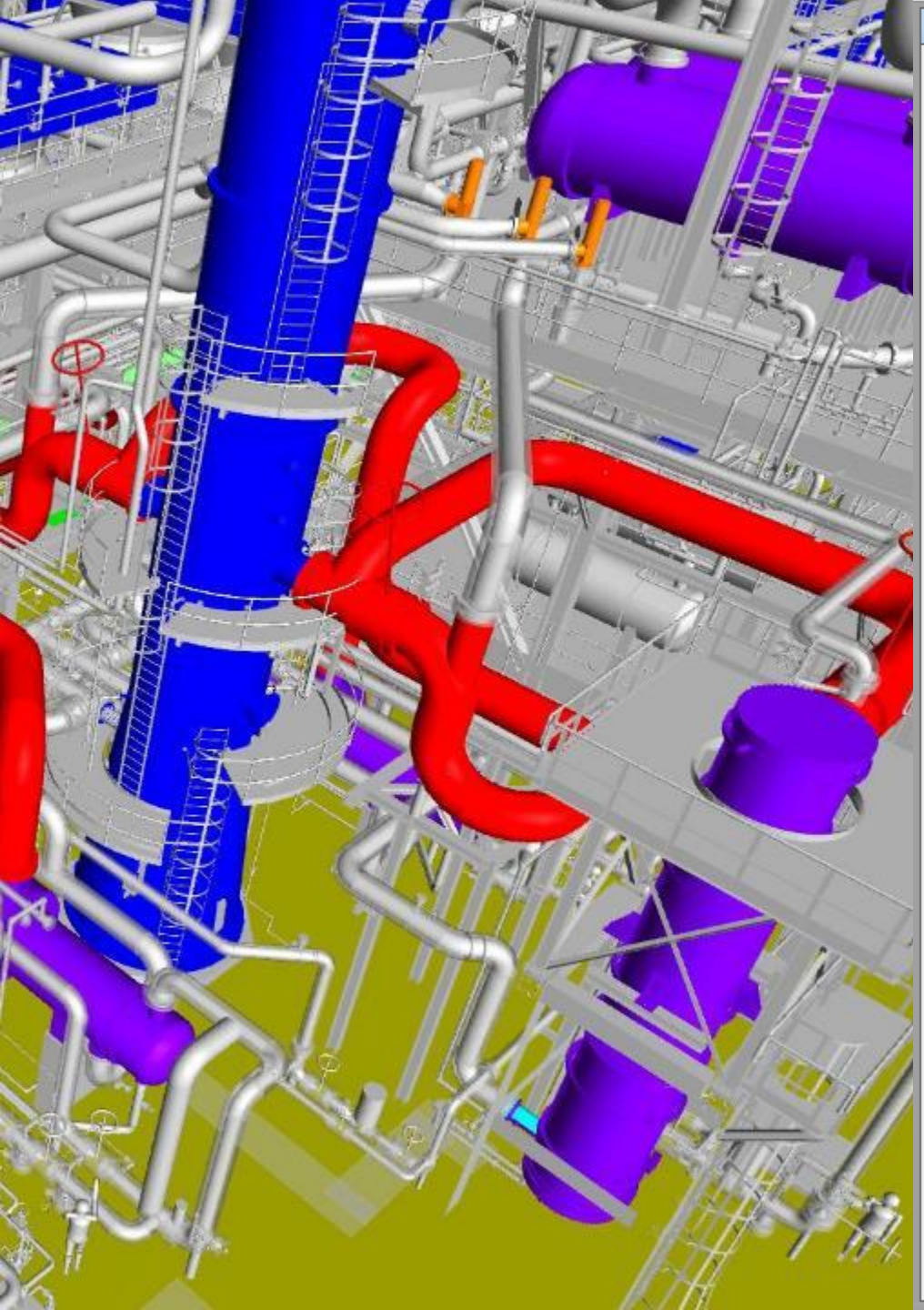
AUTHORIZER



Propiedades

Elemento | TimeLiner | WORK PERMITS | SmartPlant 3D

Valor

1321474 PPL3-20-54FR-1500 - LINE PASSIVATION M FAYSOL AUTHORIZER 1
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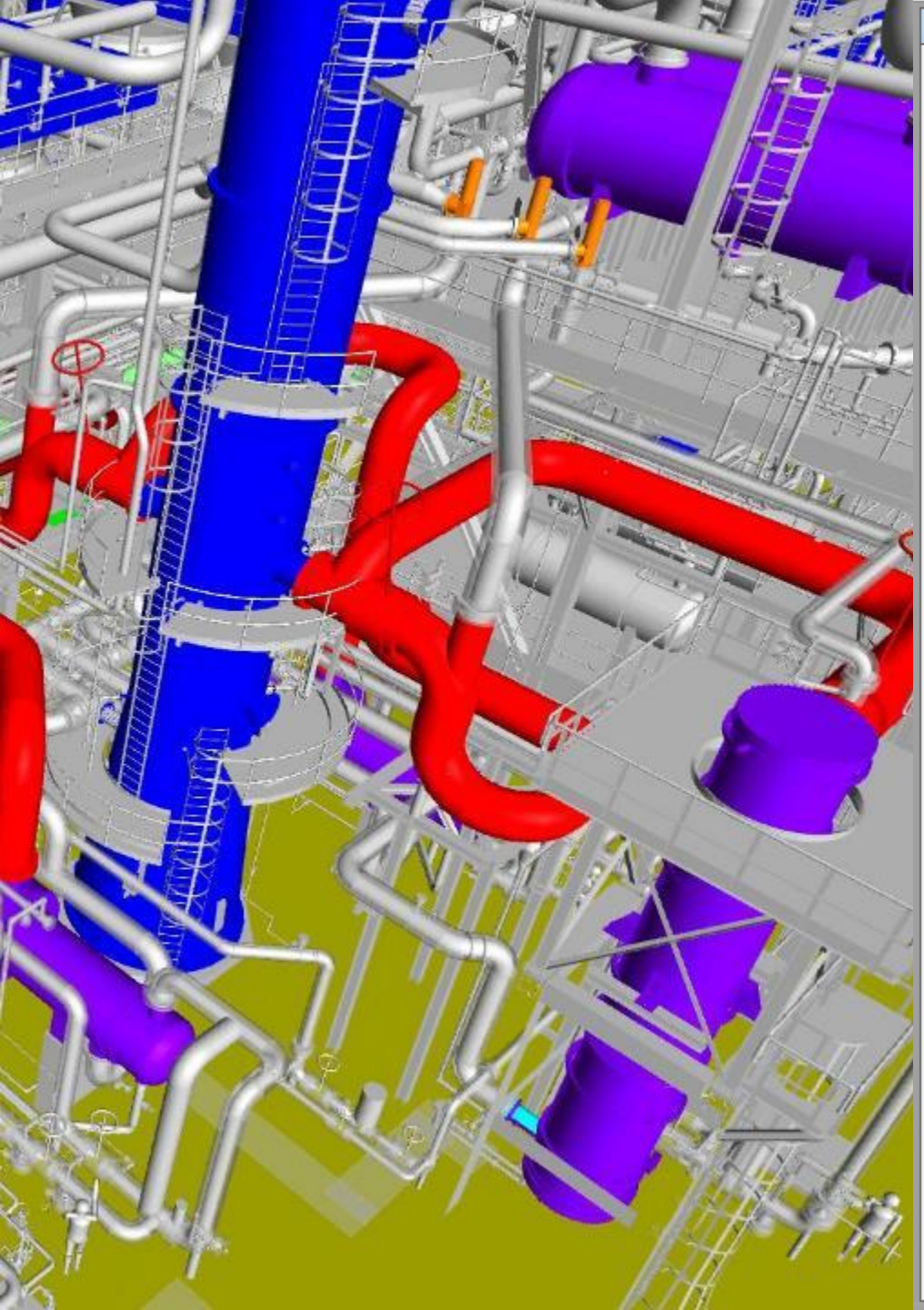
COMPATIBILITY CHECK



Propiedades

Elemento | TimeLiner | WORK PERMITS | SmartPlant 3D

Valor

1321474 PPL3-20-54FR-1500 - LINE PASSIVATION M FAYSOL AUTHORIZER 1
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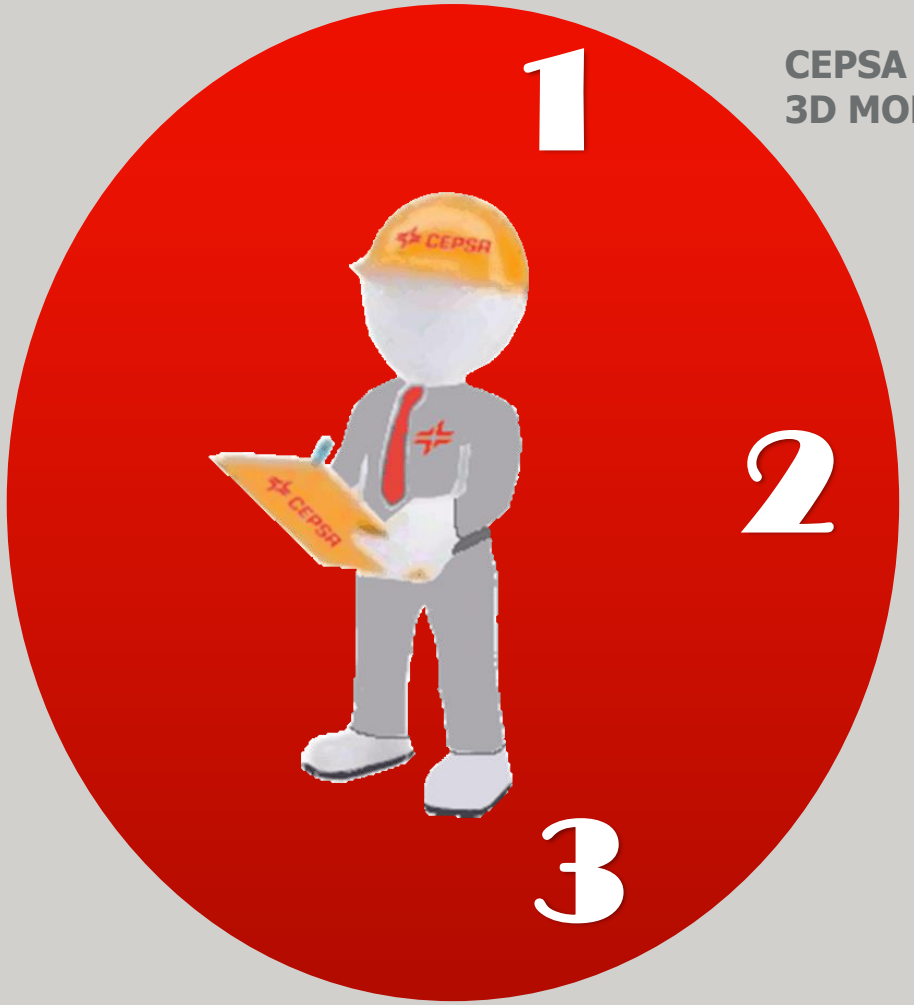
COMPATIBILITY CHECK

FOCUS POINTS.

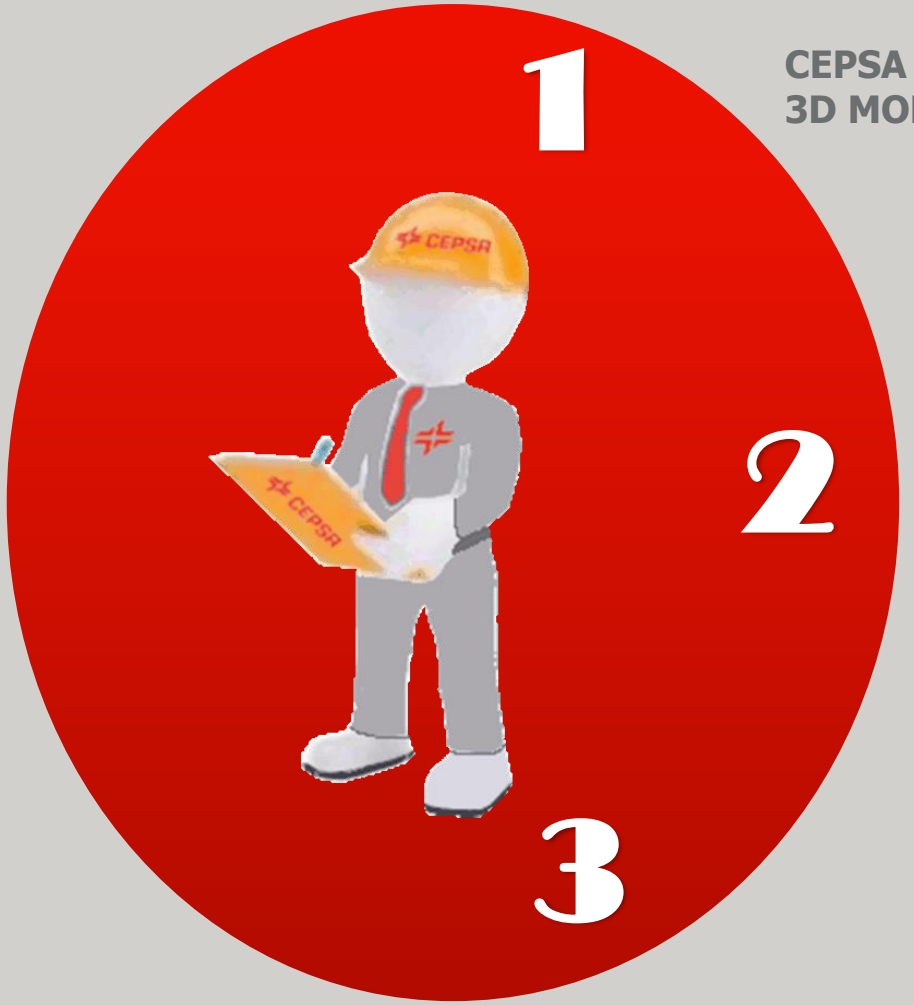
SUMMARY.



CEPSA TURNAROUND METHODOLOGY 4.0 TO JOIN 3D MODEL -SCHEDULING- PERMIT OF WORK TOGETHER.

FOCUS POINTS.

SUMMARY.

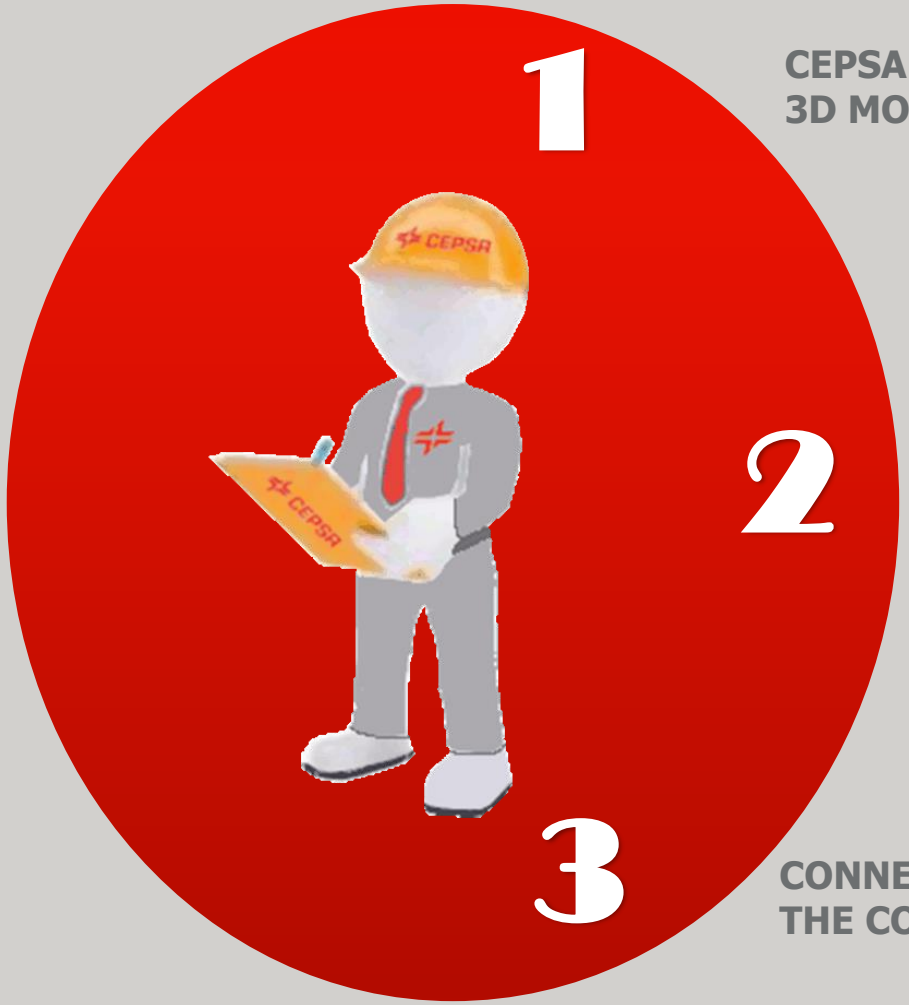


CEPSA TURNAROUND METHODOLOGY 4.0 TO JOIN 3D MODEL -SCHEDULING- PERMIT OF WORK TOGETHER.

INTERFERENCE MANAGEMENT HELPS TURNAROUND TEAMS.

FOCUS POINTS.

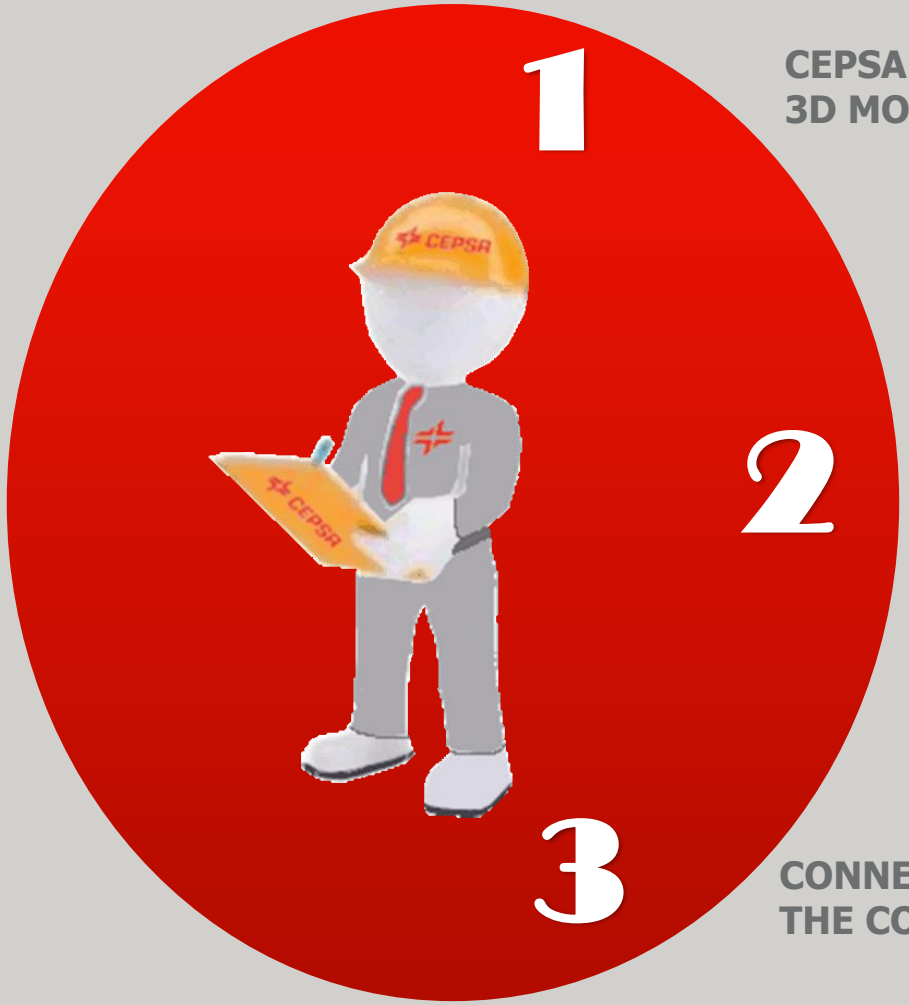
SUMMARY.



1. CEPSA TURNAROUND METHODOLOGY 4.0 TO JOIN 3D MODEL -SCHEDULING- PERMIT OF WORK TOGETHER.
2. INTERFERENCE MANAGEMENT HELPS TURNAROUND TEAMS.
3. CONNECTS THE DIGITAL PERMIT SYSTEM TO MAKE THE CONTROL AND CHECKING.

FOCUS POINTS.

SUMMARY.



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