An Overview of *NoDoC* databse for Oil & Gas Projects

cost data for offshore gas projects situated in waters up to 5,000 feet deep.

NoDoC is the new generation of data providing services that offers many types of data such as Cost data for estimation of projects' CAPEX, OPEX and Non-Opex .

NoDoC have two features:

1. Resource Database that covers Equipment, material, labor, consumables, subcontractors and services. Also the database includes location factors, allowances, and design coefficients for the users who willing the database have recommendations for. The source of resources cost data are market survey, 20 years historical data, supplier's data exchange community.

2. Assemblies and cost models that are made to robot estimation process. When an assembly opens, user will answer some questions by filling some fields using project technical datasheets and the assembly generates BOQ Items with resource unit costs, total costs, and finally generates the project cost estimation report. The models are developed using 20 years experiences, reference manuals, and Icon Company's expertise and examined in more than 250 oil & gas projects in different locations with different scope of works. Assemblies and cost models are completely customizable through providers or through customer's trained experts. (Next version of assemblies will enable users to make project process flow diagrams for simulation of project costs and then make risk analysis, planning and investment analysis).

In a general view *NoDoC* Cost database and Cost assemblies support:

a) **Three levels of estimation:**
   - ✓ *Conceptual,*
   - ✓ *Basic*
   - ✓ *and Detailed*

b) **Project phases:**
- *Engineering,*
- *procurement,*
- *construction,*
- *drilling,*
- *installation,*
- *hookup,*
- *commissioning (using ICAPS phenomena) ,*
- *testing,*
- *and completion*

c) **Project Domain of estimation:**
- *exploration,*
- *development,*
- *operation,*
- *and abandonment*

d) **The assemblies consider Commercial (INCOTERMS) conditions for Long Lead Items by selecting origin and destination of goods and services and provide the user with data and indicators to bench markings for planning, cost estimation, and scheduling.**

e) **A list of sample assemblies for oil & gas projects are:**

- *Offshore Drilling,*
- *Offshore Pipe Laying,*
- *Cable Laying,*
- *Offshore platforms,*
- *Onshore Fabrication,*
- *Offshore transportation,*
- *Offshore installation,*
- *Gas gathering units,*
- *Central processing facilities,*
- *Gas compression and transmission,*

○ *Gas processing units,…*

f) **Followings are some <u>sample items</u> that** *NoDoC* **database and assemblies have in basic and detailed level of estimation:**

- *GTS Xmas-Trees (5 ½, 7, 11 3/4,13,15 ½ inches)*
- *Wellhead facilities,*
- *Tubing Hangers,*
- *Casing,*
- *Drilling Tools and accessories*
- *Tubing and casing running services*
- *Drilling Bits,*
- *Mud and Cement Services,*
- *Fishing Services*
- *Control Modules (control panels),*
- *Flow bases, Flow lines,*
- *Tree control modules*
- *IWOCS*
- *Manifolds(3 to 20 way)*
- *Templates,*
- *PLETs*
- *Terminations*
- *structures such as transportation of hydrocarbons*
- *Flexible and Rigid Jumpers and risers (materials Carbon Steel, CRA,…)*
- *MEG / TEG Packages ,*
- *Corrosion Chemical Injection Packages*
- *Subsea Control systems,*
- *Umbilical (various materials)*
- *Controls Termination Structures*
- *Assemblies,*
- *Hydraulic*
- *Electrical Flying Leads*
- *CS and CRA pipeline costs*

- *Topsides Controls modules*
  - *master control stations,*
  - *topsides umbilical termination units,*
  - *electrical and hydraulic units*
- *subsea instrumentation:*
  - *valves,*
  - *flanges,*
  - *bends,*
  - *elbows,*
  - *connectors*
  - *and connection systems,*
- *onshore gas plant costs*
  - *onshore modules,*
  - *onshore fabrication costs,*
  - *separators,*
  - *structures,*
  - *vessels,*
  - *gas plant modules*
  - *vales,*
  - *PLRs*
  - *…*

g) *NoDoC* **supports leasing rates for:**
- *Installation vessels such as:*
  - *Crane barges,*
  - *pipe lay barges,*
  - *Transportation barges,*
  - *Lead-out supporting vessels,*
  - *Sea fastening and de-fastening supporting vessels,*
  - *construction support vessels,*
  - *inspection vessels,*
  - *supporting vessels,*
  - *Tugs (GoM),*
- *Drilling Rigs*

- *Drilling Services*
- *Tools and accessories*
- *Offshore Services*
- *Offshore and onshore equipment*
- *…*

h) *NoDoC* **supports unit rates for:**

- *Fabrication per ton of fabricated steel (different materials),*
- *Drilling per feet of drilling,*
- *cost per hydrocarbon throughput,*
- *Installation per ton of installed material,*
- *Pipe laying and pipeline per inch-meter of pipe,*
- *Gas compression per one cubic feet / one psi of Gas*
- *Gas processing with various units,*
- *Gas dehydration per one ppm of water removing,*
- *Water Treatment per one ppm of contaminant removal*
- *Amine per one ppm of h2s removal,*
- *GoM cost per well,*

i) *NoDoC* **supports unit rates for:**
- *Labor,*
- *Equipment,*
- *Sub contractors*