Contents

+ Introduction
+ Financial background of asset verification
+ Reference project specifics
+ Project approach
+ Conclusions
+ Discussion
Introduction

SPIE Controlec Engineering B.V and Cost Engineering Consultancy B.V. cooperate under the name SCE.

SCE offers services to determine and verify the value of industrial Assets.
Financial Background

+ Financial guidelines and policies such as IFRS, US GAAP, SOx require transparency and verified value of industrial assets
+ Asset databases and as built documents are not always kept up to date
+ Up to date asset database allows for correct computation of depreciation and for tax and insurance purposes
Reference project specifics

+ Owner : International Oil Company
+ Asset database : 100,000 records
+ No. Of production units : 80
+ Visual inspection teams : 2
+ Scope : Update asset database, verify assets on site, determine value per asset class and check depreciation methods
+ Organisation : Combined task force technical and financial specialists
Project Approach

Step 1: Determine boundaries of installations (plants, units) and identify match with financial databases
Step 2: Collect information / documentation
Step 3: On site inspection
Step 4: Equipment list verification
Step 5: Cost verification
Step 6: Reporting
Boundaries of installations

Identification of plants and units
- Indicate battery limits on plotplans
- Inside Plot: Production units / utilities
- Outside battery limits: Tankage, piperacks, roads, firewaterlines, sewersystems, cables
Documentation

- Retrieve relevant information from archives
  - Plotplans
  - P&ID’s
  - Equipment lists
  - Inspection reports

- Prepare field inspection checklists
  - Based on asset database and archive
  - Removal of irrelevant items
On site inspection

+ Visual inspection
+ Identify additions / deletions
+ Verify if all parts of the plant are in operation
+ Keep records and make photographs
Equipment list verification

+ Compare the field verified equipment list and the list from the financial asset database and clarify differences with owner
Cost verification

+ Mix of several factor estimating methods
+ Using calculation models
+ Input: Equipment prices
+ Split up installations in parts with similar complexity
Cost verification *(2)*

+ After calculation: combining various models within one plant
+ Re-organizing results to various disciplines as used by the customer
+ Re-organized results are incorporated in the asset list
Reporting

+ Conclusions of field verification
  – Deletions, idle equipment / installations, new assets
  – Regrouping of assets

+ Revised verified asset database
  – Including verified equipment costs
  – Including total overview of all plants
  – Including total overview of all outside battery limits assets
  – Per location
  – Per asset class
Conclusions

+ Accuracy asset databases deteriorates during the years due to frequent modifications of the industrial assets:
  – Difference of average 5% of equipment present on site versus registered in asset database
  – Much of registered under ground piping work and sewer systems are not in operation but are still registered in asset database
  – Additions and deletions on site that do not belong to production unit, storage or utility area are not consequently registered in asset database (Pipe racks, general buildings, roads)
Conclusions (2)

+ Capitalization of assets take place in case of in kind replacement or deletions are not registered in the asset database
+ Indexing to calculate depreciation often needs careful evaluation
+ External consultant helps owners to point out inconsistencies in asset management and financial asset management
Conclusions

+ Dedicated integrated task force for inspection and cost engineering guarantees high quality and efficient approach for asset verification
+ Determine correct buying and selling price of industrial assets during due diligence processes
Questions ?