PERCEPTION®

Ship Repair
From Customer RFP to Customer Invoicing

Agenda

1. Introduction to Perception
    a) What is ERP and EVM
    b) The shipyard information flow
    c) The Perception information flow
    d) The central database
    e) The WBS structure
2. Cost Estimating
    a) Overview of the Project Estimate
    b) The Cost Estimating Environment
    c) Responding to the RFP – Creating the WBS structure
    d) Building the Cost Estimate
    e) Reports – monitoring the Estimate
    f) Creating the Quotation
3. Proposal Acceptance - The ERP and EVM Process
    a) Creating the Labor and Material requirement s for Production
    b) The Material Requirements – Requisitions and Purchasing
    c) The Labor Requirements – Work Orders
    d) Reviewing and Monitoring the Project Cost and Performance
4. Customer Billing
    a) Compare the Project Cost with the Estimate
    b) Create the Bill

What is ERP?

“An Enterprise Resource Planning (ERP) system is an integrated computer-based application used to manage internal and external resources, including tangible assets, financial resources, materials, and human resources.

Its purpose is to facilitate the flow of information between all business functions inside the boundaries of the organization and manage the connections to outside stakeholders. Built on a centralized database and normally utilizing a common computing platform, ERP systems consolidate all business operations into a uniform and enterprise-wide system environment.”

From Wikipedia, the free encyclopedia

What is EVM?

“Earned value management (EVM) is a project management technique for measuring project progress in an objective manner.

EVM has the ability to combine measurements of scope, schedule, and cost in a single integrated system. When properly applied, EVM provides an early warning of performance problems.

Additionally, EVM promises to improve the definition of project scope, prevent scope creep, communicate objective progress to stakeholders, and keep the project team focused on achieving progress.”

From Wikipedia, the free encyclopedia

ERP

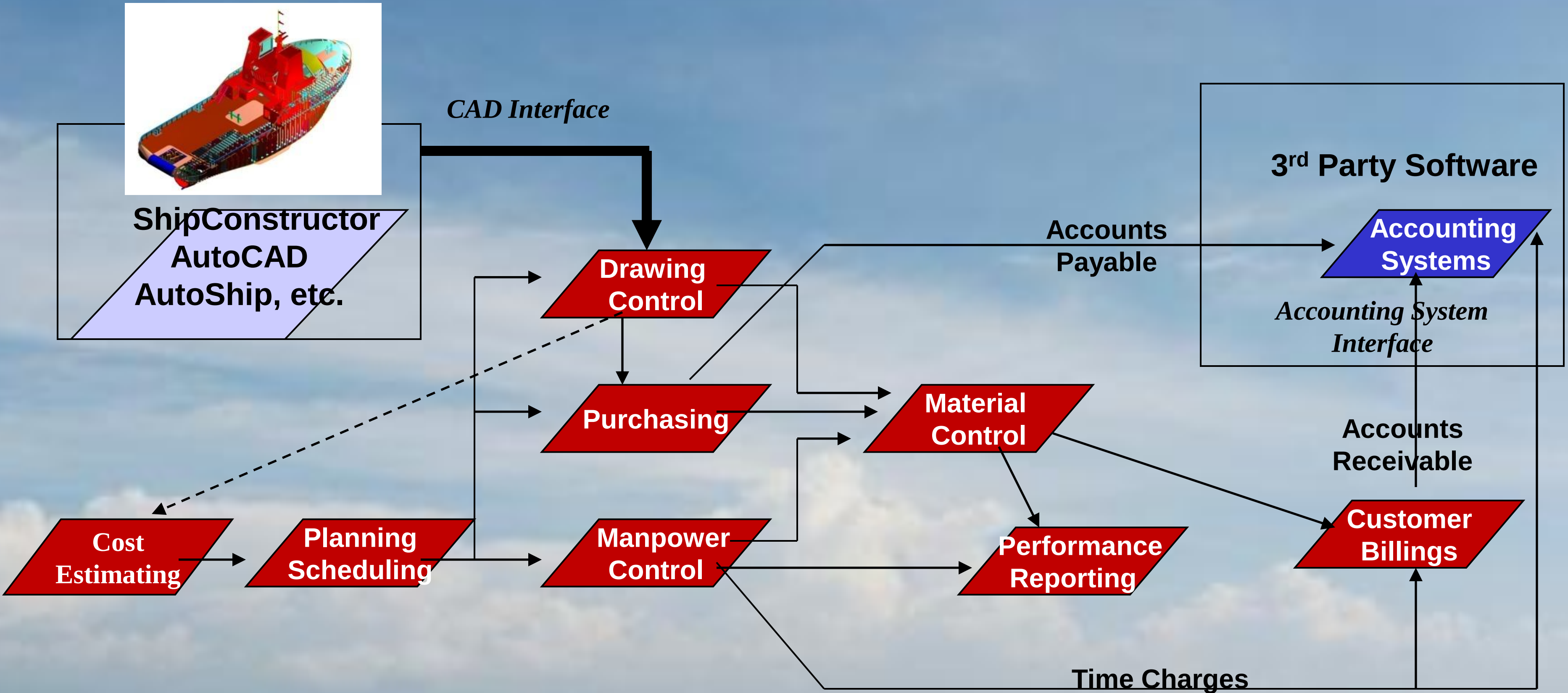
EVM

Coordinate Resources

Measure Progress & Performance

SPAR's *PERCEPTION*© System Combines ERP & EVM to better plan, coordinate and manage the shipyard.

Unlike other ERP and EVM systems, *PERCEPTION* was designed specifically for shipyards.



ShipConstructor
AutoCAD
AutoShip, etc.

CAD Interface

3rd Party Software

Accounts Payable

Accounting Systems

Accounting System Interface

Drawing Control

Purchasing

Material Control

Accounts Receivable

Cost Estimating

Planning Scheduling

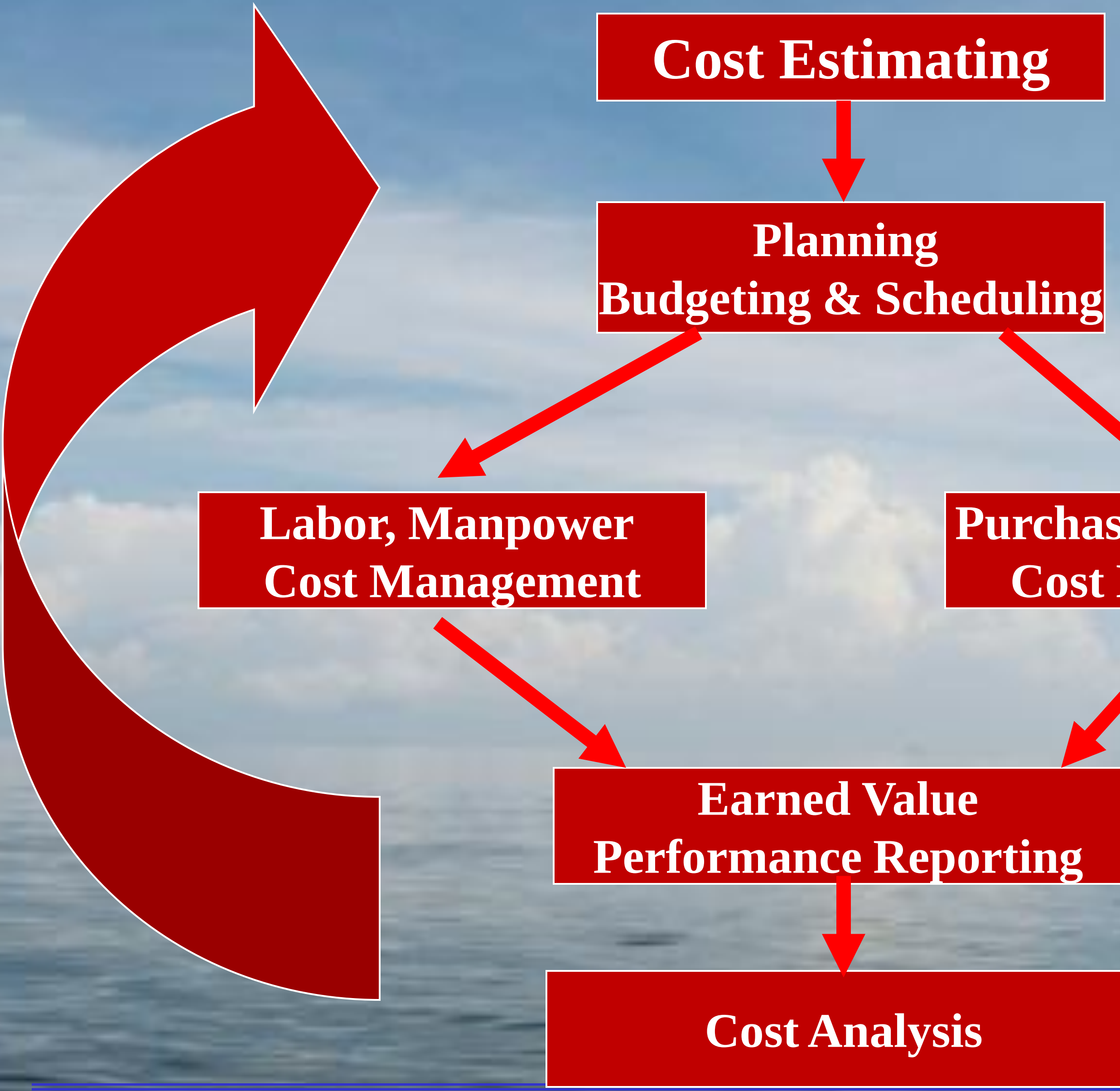
Manpower Control

Performance Reporting

Customer Billings

Time Charges

Information Flow for the PERCEPTION Integrated Shipyard Resource Management System



Cost Estimating

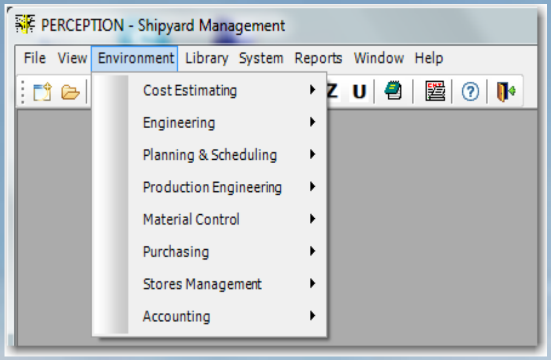
Planning
Budgeting & Scheduling

Labor, Manpower
Cost Management

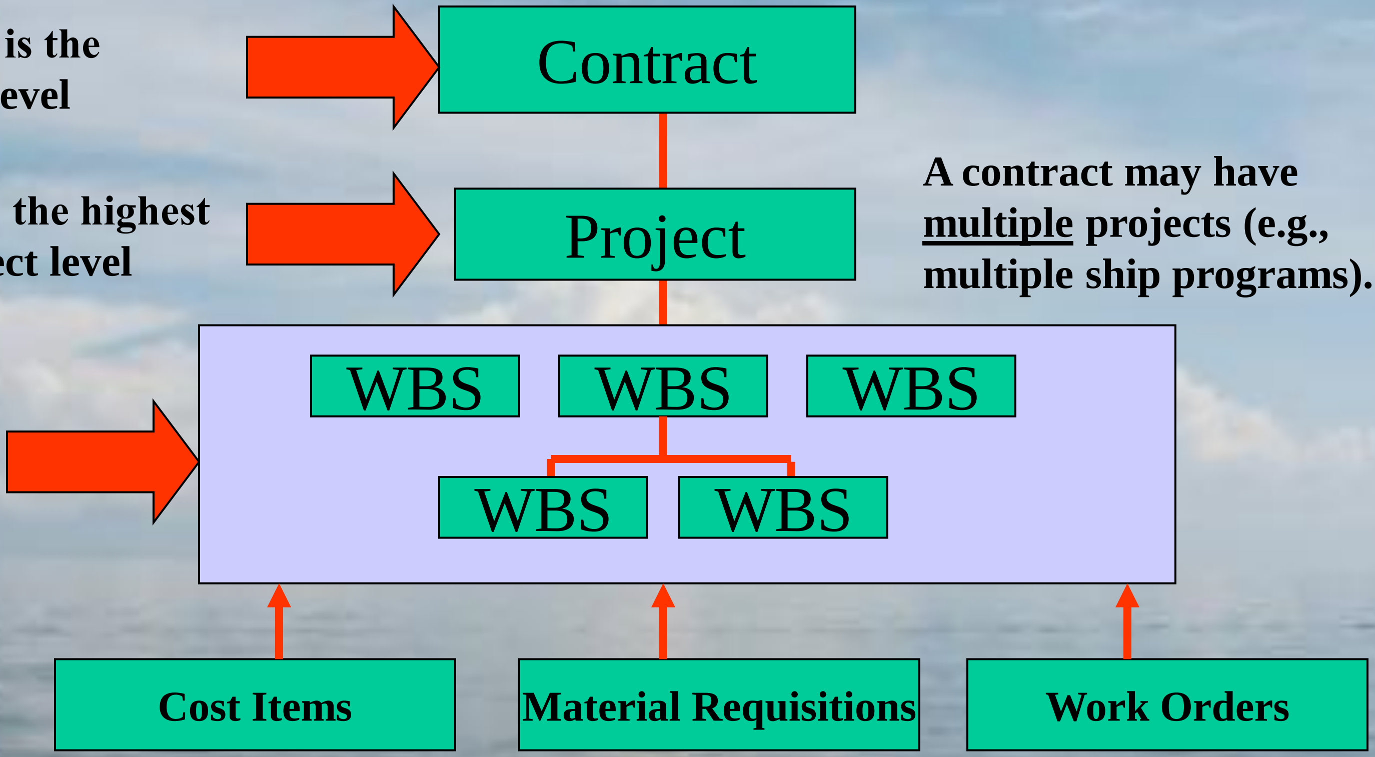
Purchasing & Material
Cost Management

Earned Value
Performance Reporting

Cost Analysis


PERCEPTION - Shipyard Management
File
View
Environment
Library
System
Reports
Window
Help
Cost Estimating
Engineering
Planning & Scheduling
Production Engineering
Material Control
Purchasing
Stores Management
Accounting

Each project has a hierarchy of information managed by the system, flowing from lowest level details to the highest level summary.



Contract
Project
WBS
WBS
WBS
WBS
WBS
Cost Items
Material Requisitions
Work Orders

The "Contract" is the highest project level

The "Project" is the highest operations project level

A contract may have multiple projects (e.g., multiple ship programs).

The Project Work Breakdown Structure ("WBS") is an intermediary hierarchy depending on the project requirements.

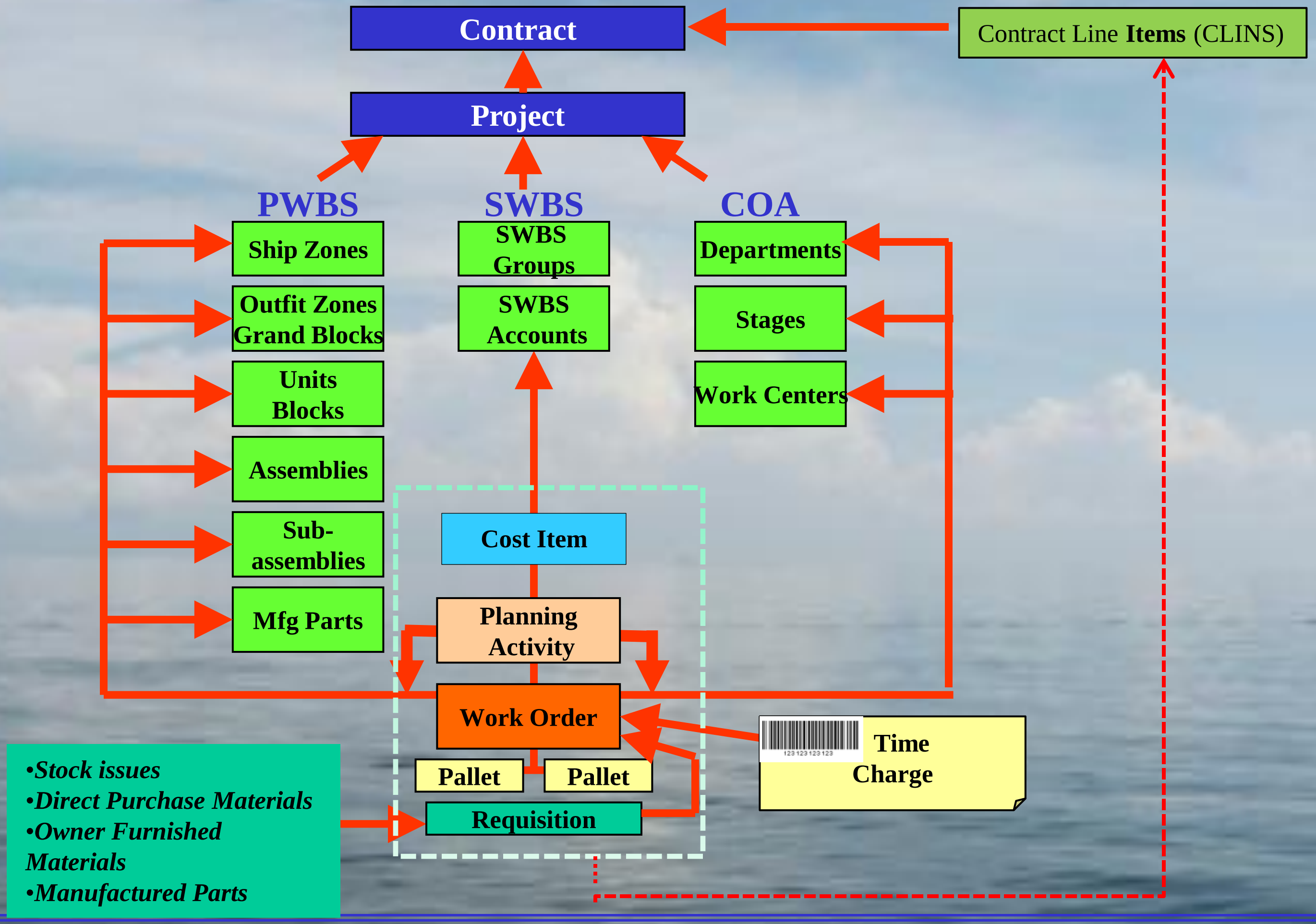
Cost Estimate

Material Resources

Labor Resources

The lowest level of project information

Project transactions can reference one or more different work breakdown structures. The WBS can be as simple or as complex as needed, contract by contract.

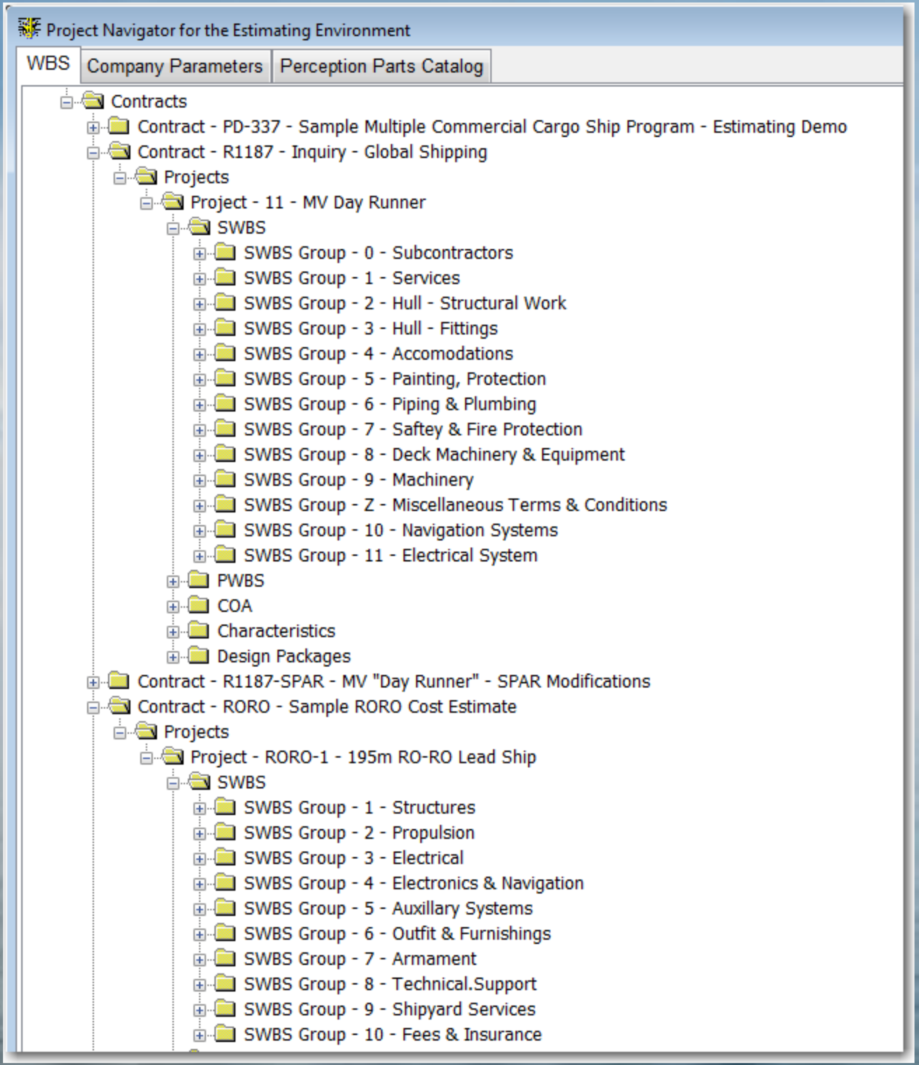

Contract
Contract Line **Items** (CLINS)
Project
PWBS
SWBS
COA
Ship Zones
Outfit Zones Grand Blocks
Units Blocks
Assemblies
Sub-assemblies
Mfg Parts
SWBS Groups
SWBS Accounts
Departments
Stages
Work Centers
Cost Item
Planning Activity
Work Order
Pallet
Pallet
Requisition
123 123 123 123
Time Charge

- *Stock issues*
- *Direct Purchase Materials*
- *Owner Furnished Materials*
- *Manufactured Parts*

The Centralized Database.
The *PERCEPTION* Work Breakdown Structure

1. User can define.
2. Can be different for every project.
3. Can be copied from one project to another.
4. Provides multiple different views of the same cost data.

SWBS – The System (Shipyard) Work Breakdown Structure.
PWBS – The Product Work Breakdown Structure.
COA – The Organizational Work Breakdown Structure.



- Contracts
  - Contract - PD-337 - Sample Multiple Commercial Cargo Ship Program - Estimating Demo
  - Contract - R1187 - Inquiry - Global Shipping
    - Projects
      - Project - 11 - MV Day Runner
        - SWBS
          - SWBS Group - 0 - Subcontractors
          - SWBS Group - 1 - Services
          - SWBS Group - 2 - Hull - Structural Work
          - SWBS Group - 3 - Hull - Fittings
          - SWBS Group - 4 - Accomodations
          - SWBS Group - 5 - Painting, Protection
          - SWBS Group - 6 - Piping & Plumbing
          - SWBS Group - 7 - Saftey & Fire Protection
          - SWBS Group - 8 - Deck Machinery & Equipment
          - SWBS Group - 9 - Machinery
          - SWBS Group - Z - Miscellaneous Terms & Conditions
          - SWBS Group - 10 - Navigation Systems
          - SWBS Group - 11 - Electrical System
        - PWBS
        - COA
        - Characteristics
        - Design Packages
  - Contract - R1187-SPAR - MV "Day Runner" - SPAR Modifications
  - Contract - RORO - Sample RORO Cost Estimate
    - Projects
      - Project - RORO-1 - 195m RO-RO Lead Ship
        - SWBS
          - SWBS Group - 1 - Structures
          - SWBS Group - 2 - Propulsion
          - SWBS Group - 3 - Electrical
          - SWBS Group - 4 - Electronics & Navigation
          - SWBS Group - 5 - Auxillary Systems
          - SWBS Group - 6 - Outfit & Furnishings
          - SWBS Group - 7 - Armament
          - SWBS Group - 8 - Technical.Support
          - SWBS Group - 9 - Shipyard Services
          - SWBS Group - 10 - Fees & Insurance

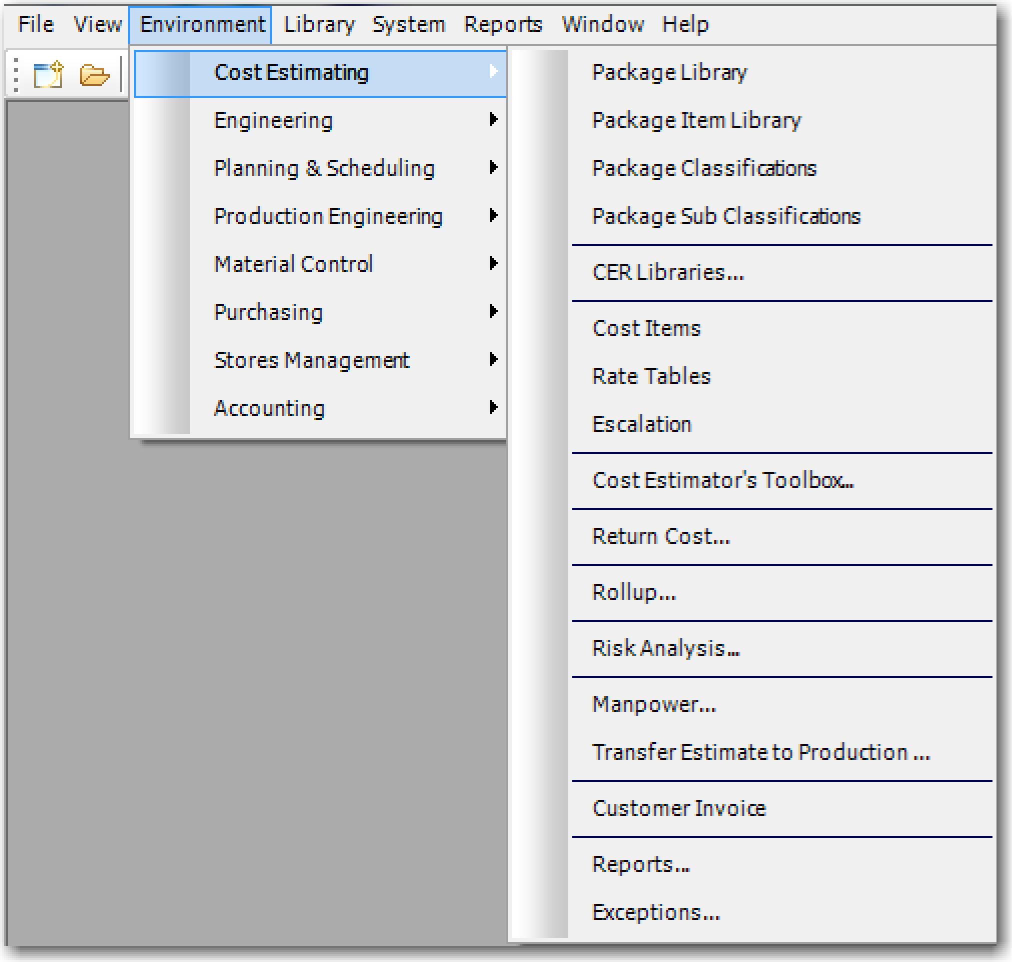
Cost Estimating

PERCEPTION was developed to permit cost estimating that can reflect modern ship design and production methods.

Using product- and process-based information, cost estimates can be generated quickly and accurately at any level of detail:

- Parametric cost estimates based upon modifiable ship design and mission characteristics
- Standard shipbuilding & ship repair interim products & services
- Detail cost estimates based upon engineered bills of material and equipment specifications.

The Software Cost Estimating Environment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Cost Estimating
Engineering
Planning & Scheduling
Production Engineering
Material Control
Purchasing
Stores Management
Accounting
Package Library
Package Item Library
Package Classifications
Package Sub Classifications
CER Libraries...
Cost Items
Rate Tables
Escalation
Cost Estimator's Toolbox...
Return Cost...
Rollup...
Risk Analysis...
Manpower...
Transfer Estimate to Production ...
Customer Invoice
Reports...
Exceptions...

Libraries of predefined Cost Estimating Packages used to build an Estimate.

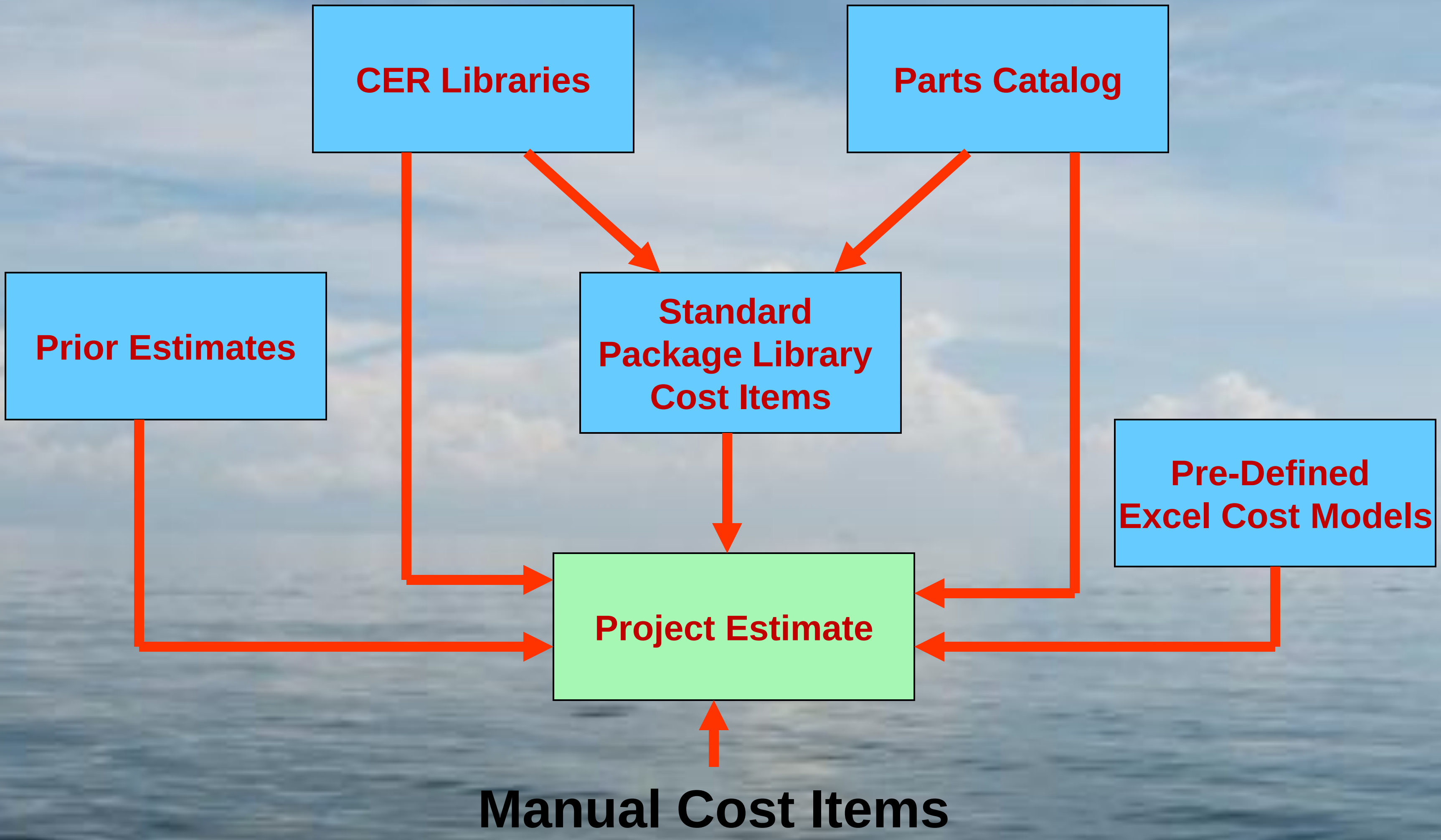
Libraries of predefined Cost Estimating Relationships (“CERs”).

The Cost Estimate and associated Rates.

The Customers Bill.

Putting together an Estimate from Various Sources of Cost Data:

Prior Estimates, Cost Libraries, Cost Models & Manual Cost Entries



CER Libraries

Parts Catalog

Prior Estimates

Standard Package Library Cost Items

Pre-Defined Excel Cost Models

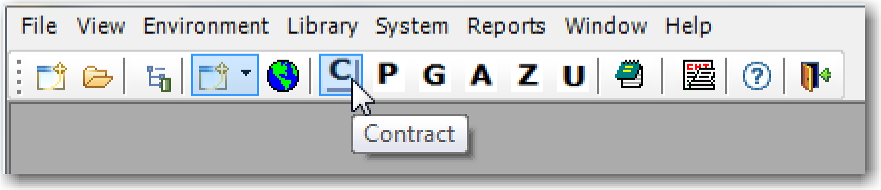
Project Estimate

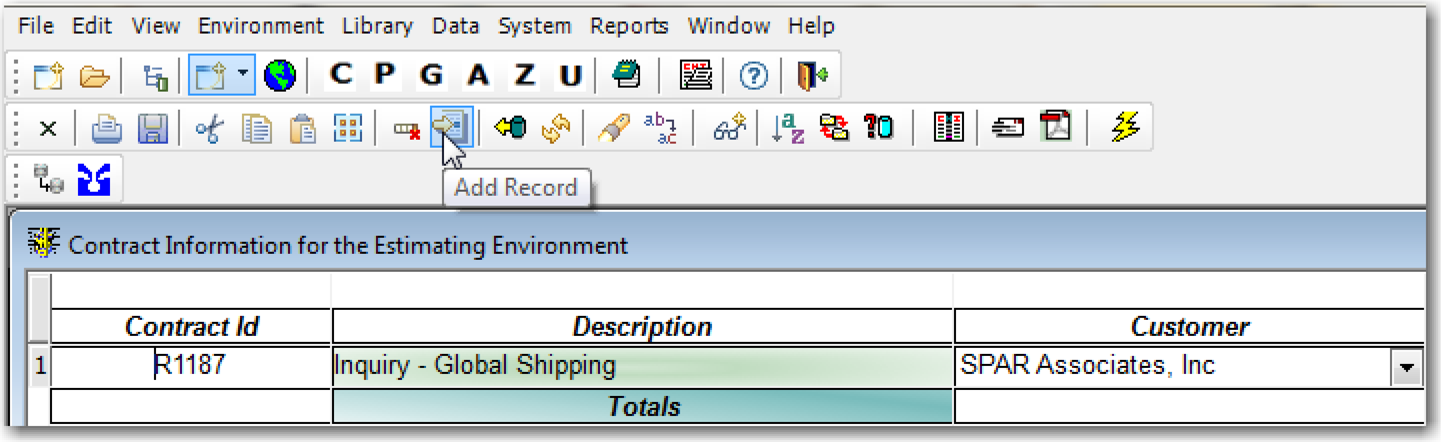
Manual Cost Items

Responding to the RFP - Putting Together the Estimate and the Bid Package

Defining the New Project

1. First we must define the WBS structure.
2. Create the Contract ID for this RFP.


File View Environment Library System Reports Window Help
C P G A Z U
Contract


File Edit View Environment Library Data System Reports Window Help
C P G A Z U
Add Record

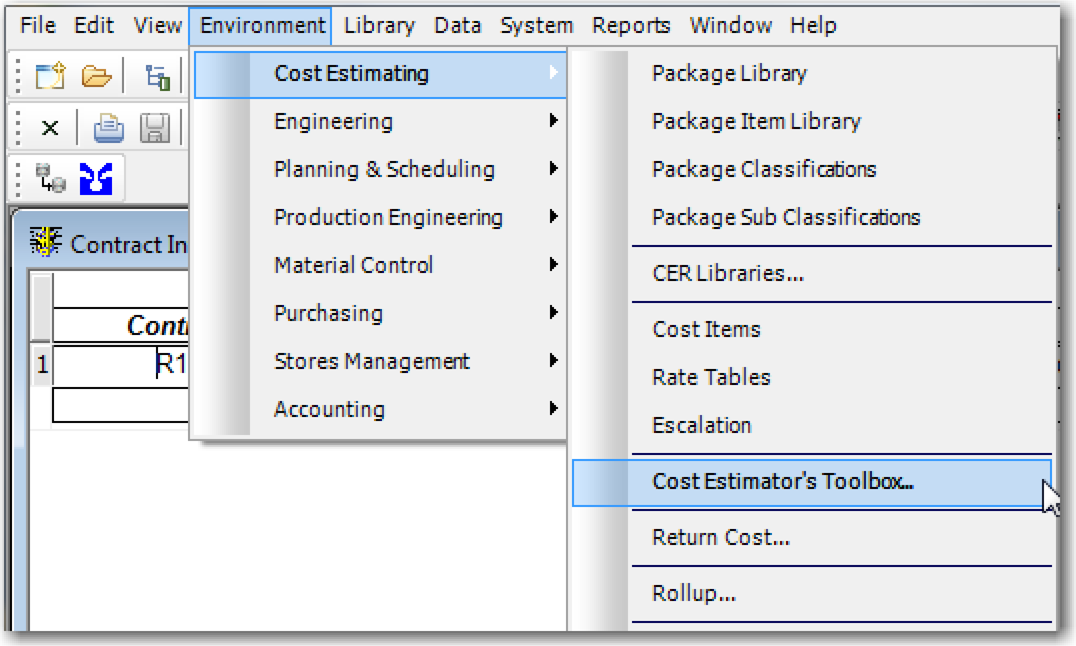
Contract Information for the Estimating Environment

	Contract Id	Description	Customer
1	R1187	Inquiry - Global Shipping	SPAR Associates, Inc
		Totals	

Responding to the RFP - Putting together the Estimate and the Bid Package

Now Define the Project WBS

2. Now add the Contract WBS. This can be done by entering the data or copy the project WBS from an existing project. We elect to copy it from a project we setup previously which defines our default WBS used for repair projects. This method is faster and easier. It also provides a standard structure for all of our repair estimates.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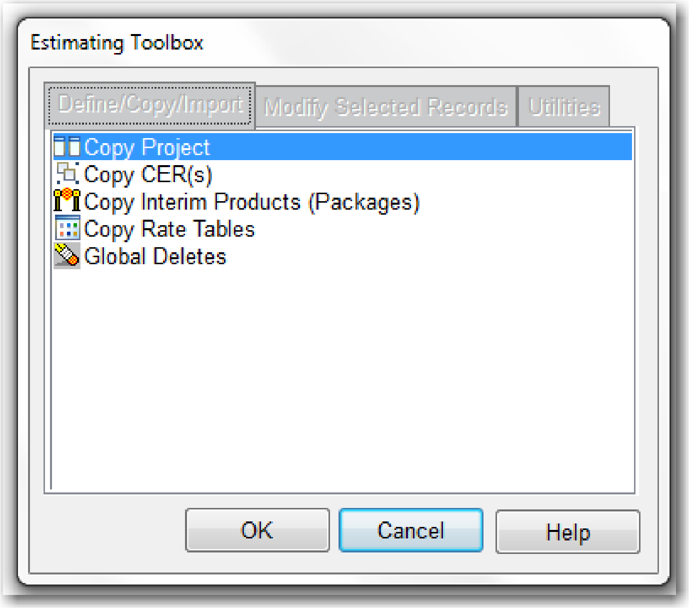
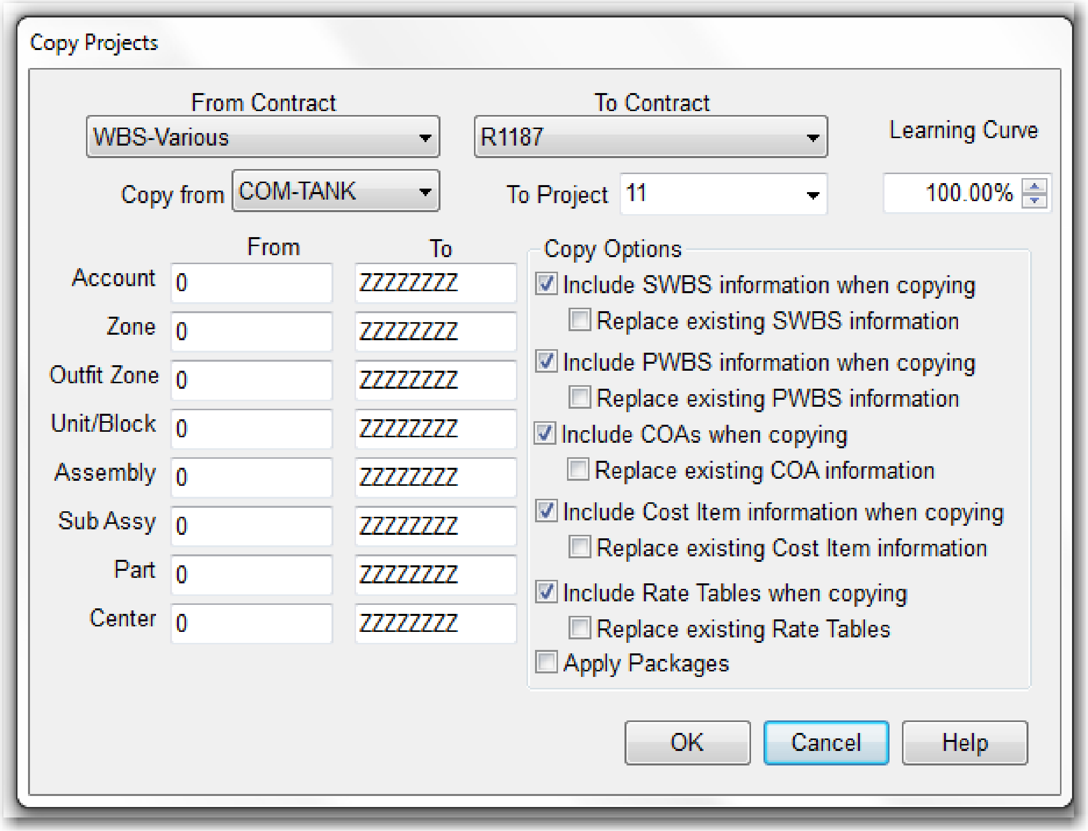
Cost Estimating
Engineering
Planning & Scheduling
Production Engineering
Material Control
Purchasing
Stores Management
Accounting
Package Library
Package Item Library
Package Classifications
Package Sub Classifications
CER Libraries...
Cost Items
Rate Tables
Escalation
Cost Estimator's Toolbox...
Return Cost...
Rollup...


Estimating Toolbox
Define/Copy/Import
Modify Selected Records
Utilities
Copy Project
Copy CER(s)
Copy Interim Products (Packages)
Copy Rate Tables
Global Deletes
OK
Cancel
Help

Responding to the RFP - Putting together the Estimate and the Bid Package

Copying the WBS

1. Select the Contract and project to Copy from using the drop downs list.
2. Now Select the Contract to copy to.
3. Enter the Project number to Create for this Contract.
4. Select which WBS elements to copy.



Copy Projects

From Contract: WBS-Various
To Contract: R1187
Learning Curve: 100.00%
Copy from: COM-TANK
To Project: 11

	From	To
Account	0	ZZZZZZZZ
Zone	0	ZZZZZZZZ
Outfit Zone	0	ZZZZZZZZ
Unit/Block	0	ZZZZZZZZ
Assembly	0	ZZZZZZZZ
Sub Assy	0	ZZZZZZZZ
Part	0	ZZZZZZZZ
Center	0	ZZZZZZZZ

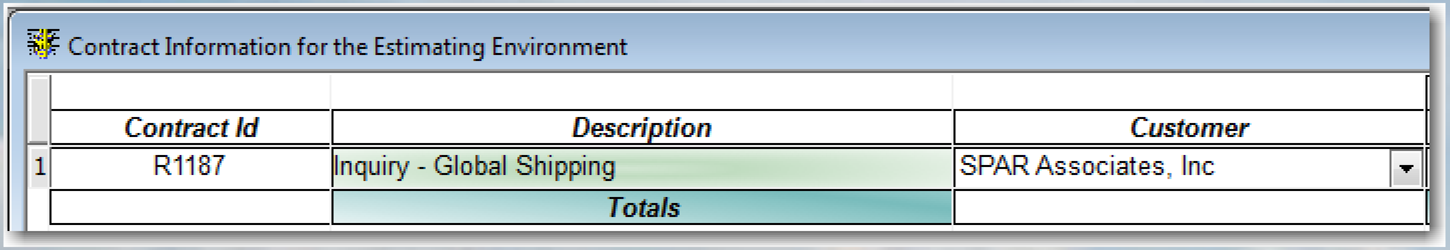
Copy Options

- ☑ Include SWBS information when copying
  - ☐ Replace existing SWBS information
- ☑ Include PWBS information when copying
  - ☐ Replace existing PWBS information
- ☑ Include COAs when copying
  - ☐ Replace existing COA information
- ☑ Include Cost Item information when copying
  - ☐ Replace existing Cost Item information
- ☑ Include Rate Tables when copying
  - ☐ Replace existing Rate Tables
- ☐ Apply Packages

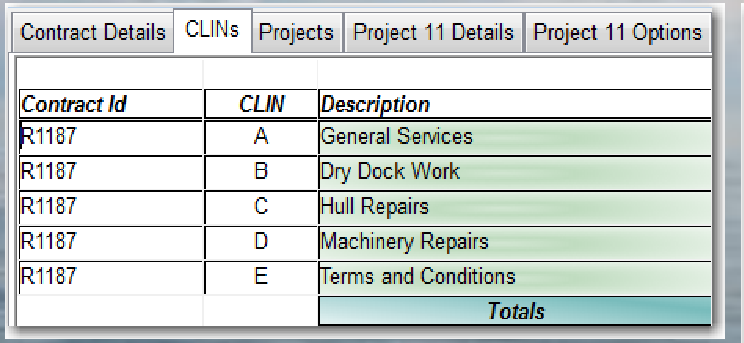
Responding to the RFP - Putting together the Estimate and the Bid Package

Complete Any Optional Project Setups

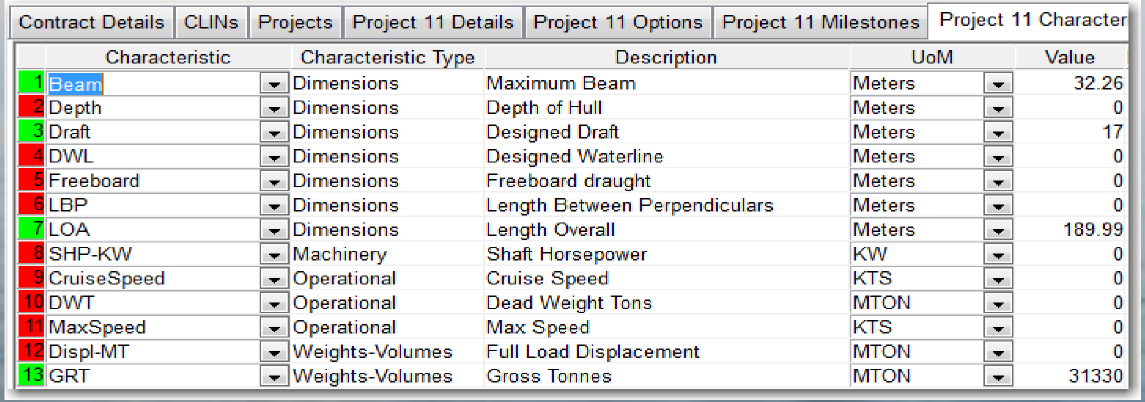
1. Drill down to the Contract details by double clicking on the contract we created previously.
2. Add the Contract Line Items (CLINs, optional; only if needed).
3. Add the Ship Characteristics (optional, only if needed).


Contract Information for the Estimating Environment

	Contract Id	Description	Customer
1	R1187	Inquiry - Global Shipping	SPAR Associates, Inc
		Totals	


Contract Details
CLINs
Projects
Project 11 Details
Project 11 Options

Contract Id	CLIN	Description
R1187	A	General Services
R1187	B	Dry Dock Work
R1187	C	Hull Repairs
R1187	D	Machinery Repairs
R1187	E	Terms and Conditions
		Totals


Contract Details
CLINs
Projects
Project 11 Details
Project 11 Options
Project 11 Milestones
Project 11 Character

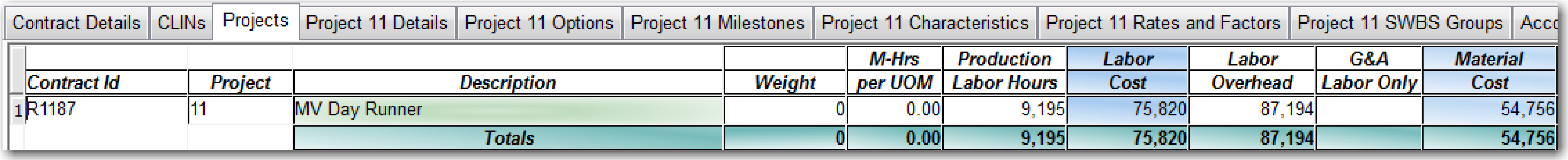
	Characteristic	Characteristic Type	Description	UoM	Value
🟩 1	Beam	Dimensions	Maximum Beam	Meters	32.26
🟥 2	Depth	Dimensions	Depth of Hull	Meters	0
🟩 3	Draft	Dimensions	Designed Draft	Meters	17
🟥 4	DWL	Dimensions	Designed Waterline	Meters	0
🟥 5	Freeboard	Dimensions	Freeboard draught	Meters	0
🟥 6	LBP	Dimensions	Length Between Perpendiculars	Meters	0
🟩 7	LOA	Dimensions	Length Overall	Meters	189.99
🟥 8	SHP-KW	Machinery	Shaft Horsepower	KW	0
🟥 9	CruiseSpeed	Operational	Cruise Speed	KTS	0
🟥 10	DWT	Operational	Dead Weight Tons	MTON	0
🟥 11	MaxSpeed	Operational	Max Speed	KTS	0
🟥 12	Displ-MT	Weights-Volumes	Full Load Displacement	MTON	0
🟩 13	GRT	Weights-Volumes	Gross Tonnes	MTON	31330

Responding to the RFP - Putting together the Estimate and the Bid Package

Now Start the Estimate – Enter Cost Items into the WBS

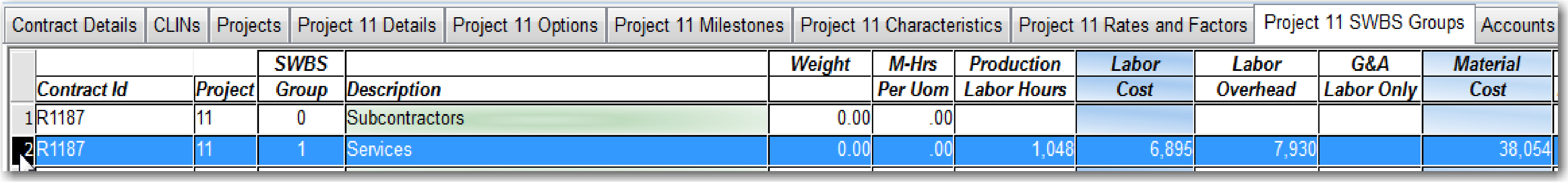
1. Drill down from the Contract to the Project details by switching to the Project tab and double clicking on the project.
2. Click on the Project SWBS Groups tab.
3. Now Select the row you wish to add Cost Items to.
4. Switch to the SWBS Accounts tab and select the Account you wish to add Cost Items to.

Add "Project"worksheet


Contract Details
CLINs
Projects
Project 11 Details
Project 11 Options
Project 11 Milestones
Project 11 Characteristics
Project 11 Rates and Factors
Project 11 SWBS Groups
Acco

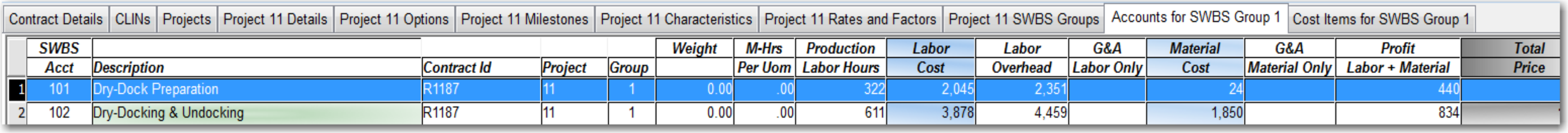
	Contract Id	Project	Description	Weight	M-Hrs per UOM	Production Labor Hours	Labor Cost	Labor Overhead	G&A Labor Only	Material Cost
1	R1187	11	MV Day Runner	0	0.00	9,195	75,820	87,194		54,756
			Totals	**0**	**0.00**	**9,195**	**75,820**	**87,194**		**54,756**

Add SWBS Groups worksheet


Contract Details
CLINs
Projects
Project 11 Details
Project 11 Options
Project 11 Milestones
Project 11 Characteristics
Project 11 Rates and Factors
Project 11 SWBS Groups
Accounts

	Contract Id	Project	SWBS Group	Description	Weight	M-Hrs Per Uom	Production Labor Hours	Labor Cost	Labor Overhead	G&A Labor Only	Material Cost
1	R1187	11	0	Subcontractors	0.00	.00					
2	R1187	11	1	Services	0.00	.00	1,048	6,895	7,930		38,054

Add SWBS Accounts worksheet

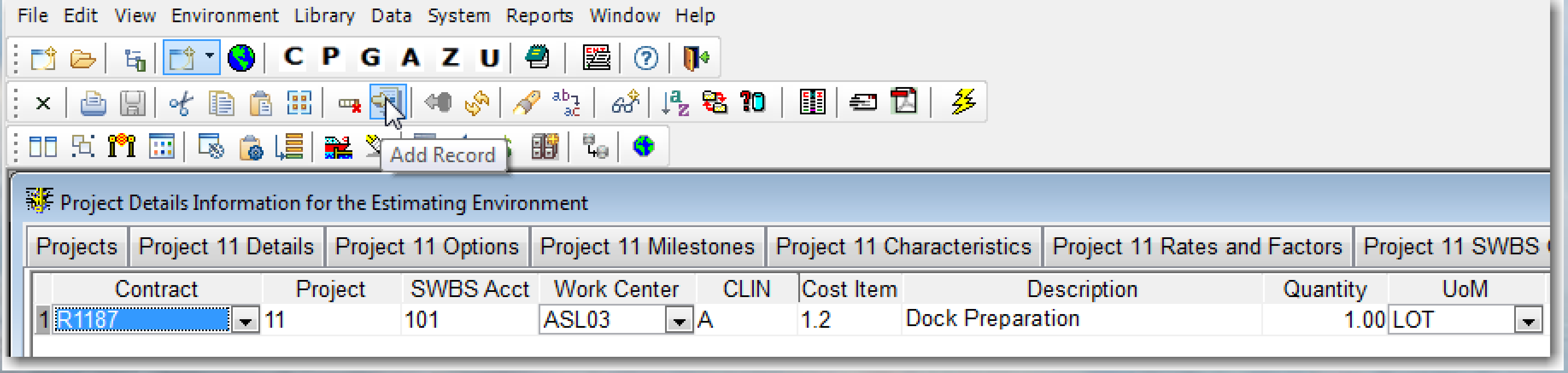

Contract Details
CLINs
Projects
Project 11 Details
Project 11 Options
Project 11 Milestones
Project 11 Characteristics
Project 11 Rates and Factors
Project 11 SWBS Groups
Accounts for SWBS Group 1
Cost Items for SWBS Group 1

	SWBS Acct	Description	Contract Id	Project	Group	Weight	M-Hrs Per Uom	Production Labor Hours	Labor Cost	Labor Overhead	G&A Labor Only	Material Cost	G&A Material Only	Profit Labor + Material	Total Price
1	101	Dry-Dock Preparation	R1187	11	1	0.00	.00	322	2,045	2,351		24		440	
2	102	Dry-Docking & Undocking	R1187	11	1	0.00	.00	611	3,878	4,459		1,850		834	

Responding to the RFP - Putting together the Estimate and the Bid Package

Adding Cost Item Using Manual Entry Method

1. Click on the Cost Items tab to begin adding Cost Items to the Estimate.
2. Since we selected a SWBS Group and Account, the software will automatically assign that WBS to each Cost Item you add. You can override this.
3. Click on the Add button to add an item.

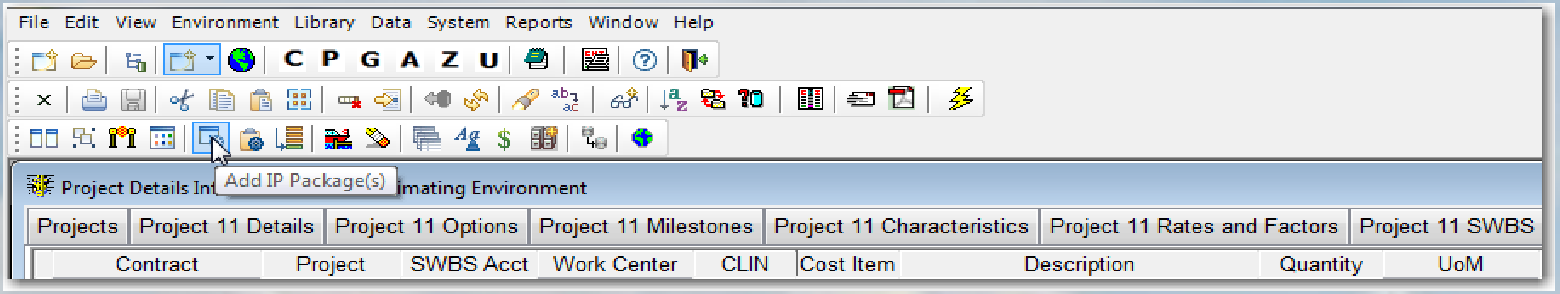

File Edit View Environment Library Data System Reports Window Help
C P G A Z U
Add Record
Project Details Information for the Estimating Environment
Projects
Project 11 Details
Project 11 Options
Project 11 Milestones
Project 11 Characteristics
Project 11 Rates and Factors
Project 11 SWBS

	Contract	Project	SWBS Acct	Work Center	CLIN	Cost Item	Description	Quantity	UoM
1	R1187	11	101	ASL03	A	1.2	Dock Preparation	1.00	LOT

Responding to the RFP - Putting together the Estimate and the Bid Package

Adding Cost Item Using the Package Method

1. On the Cost Item window, click on the Add IP Package(s) button. This will open the Package “shopping cart” so that you may select the package(s) you wish to add to your estimate.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Project 11 Rates and Factors
Project 11 SWBS
Contract
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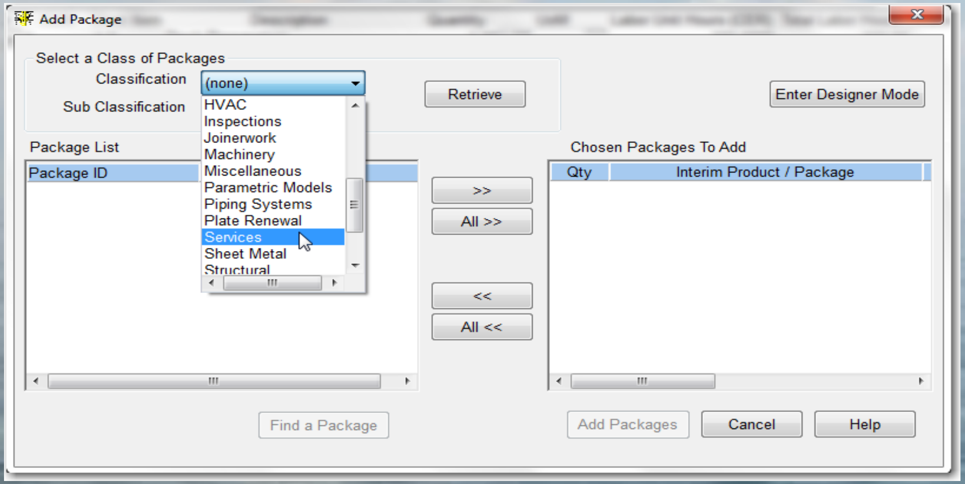
SWBS Acct
Work Center
CLIN
Cost Item
Description
Quantity
UoM

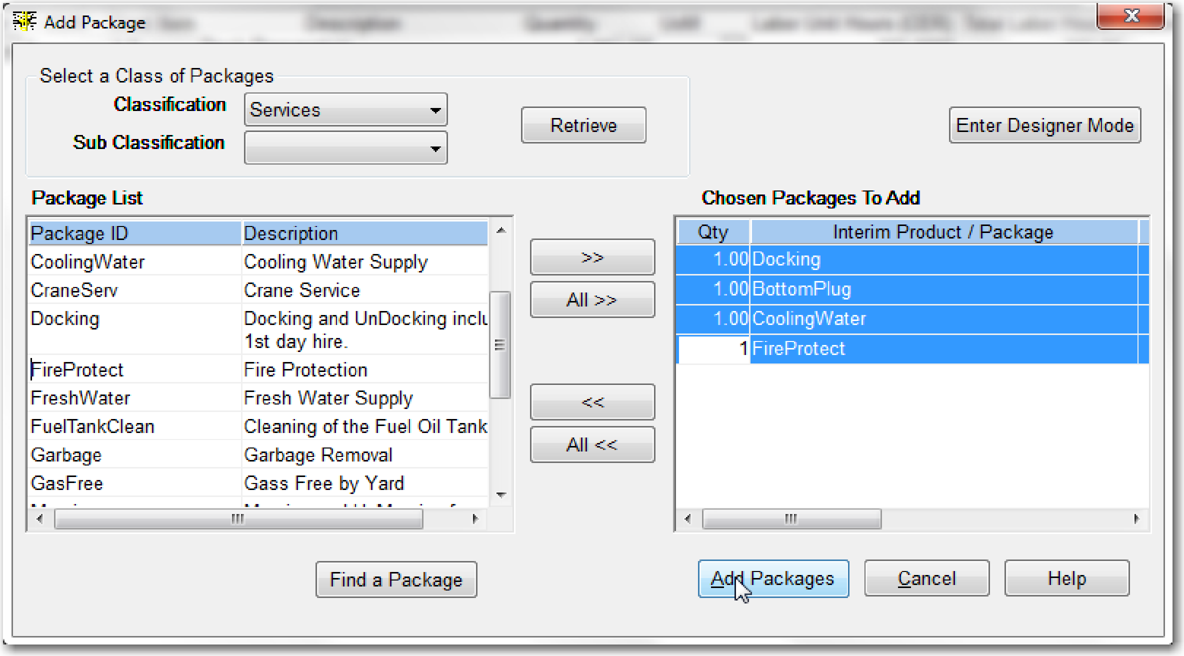
2. Select the type of Package from the drop down list.
3. Click on the Retrieve button to get the packages form the database.


Add Package
Select a Class of Packages
Classification
(none)
Sub Classification
HVAC
Inspections
Joinerwork
Machinery
Miscellaneous
Parametric Models
Piping Systems
Plate Renewal
Services
Sheet Metal
Structural
Retrieve
Enter Designer Mode
Package List
Package ID
Chosen Packages To Add
Qty
Interim Product / Package
>>
All >>
<<
All <<
Find a Package
Add Packages
Cancel
Help

Responding to the RFP - Putting together the Estimate and the Bid Package

Adding a Cost Item Using the Package Method

1. On the Cost Item window, click on the Add IP Package(s) button. This will open the Package “shopping cart” so that you may select the package(s) you wish to add to your estimate.
2. Select the Package on the left from the List and drag it to the window on the right.
3. Enter the quantity you wish. You can add as many packages as you want. You can even retrieve different Package Classifications and add them.
4. When done, click on the Add Packages Button.


Add Package
Select a Class of Packages
Retrieve
Enter Designer Mode
>>
All >>
<<
All <<
Find a Package
Add Packages
Cancel
Help

Classification Services
Sub Classification

Package List

Package ID	Description
CoolingWater	Cooling Water Supply
CraneServ	Crane Service
Docking	Docking and UnDocking inclu 1st day hire.
FireProtect	Fire Protection
FreshWater	Fresh Water Supply
FuelTankClean	Cleaning of the Fuel Oil Tank
Garbage	Garbage Removal
GasFree	Gass Free by Yard

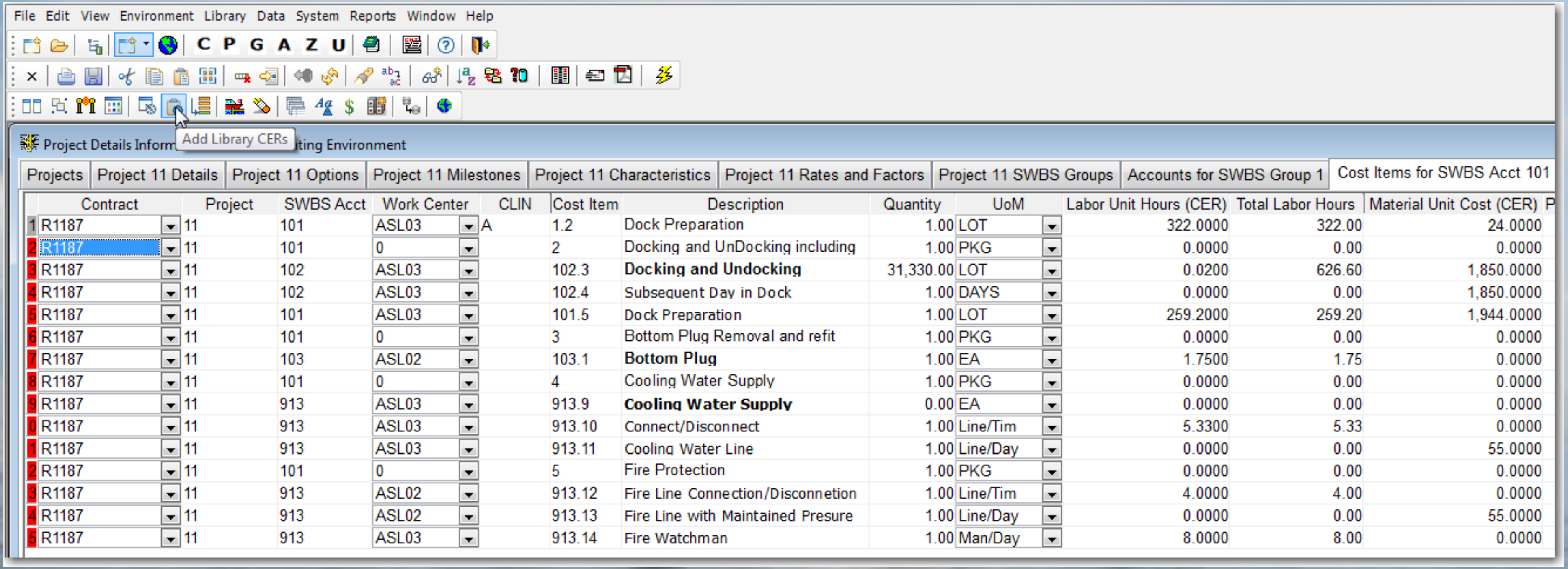
Chosen Packages To Add

Qty	Interim Product / Package
1.00	Docking
1.00	BottomPlug
1.00	CoolingWater
1	FireProtect

Responding to the RFP - Putting together the Estimate and the Bid Package

Adding a Cost Item Using the CER Library Method

1. On the Cost Item window, click on the Add Library CERs button. This will open the CER “shopping cart” so that you may select the CERs you wish to add to your estimate.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Project Details Inform
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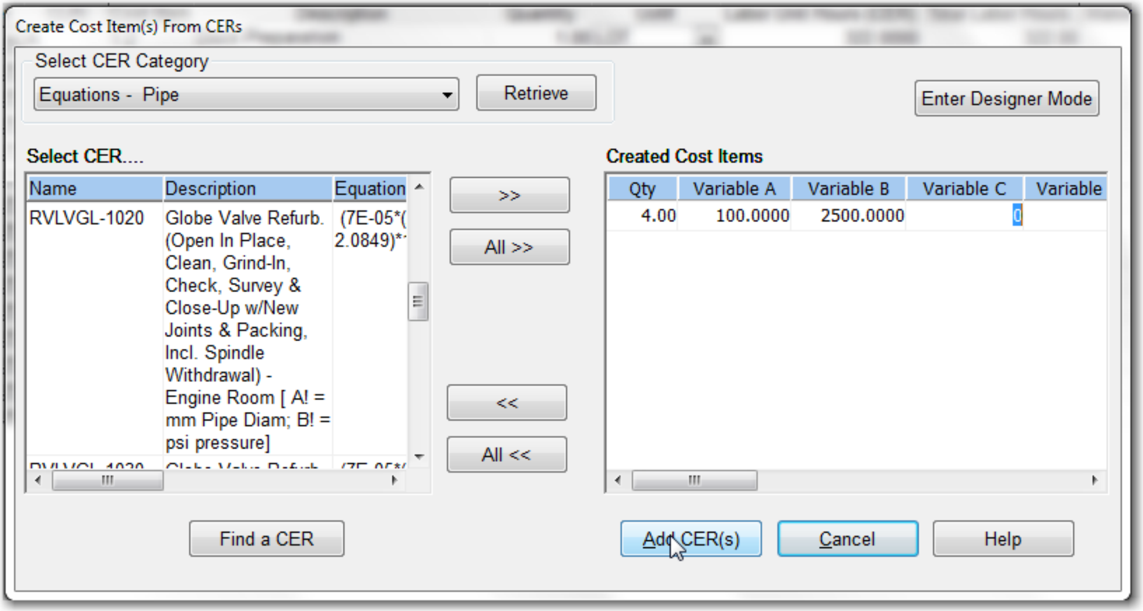
Projects
Project 11 Details
Project 11 Options
Project 11 Milestones
Project 11 Characteristics
Project 11 Rates and Factors
Project 11 SWBS Groups
Accounts for SWBS Group 1
Cost Items for SWBS Acct 101

	Contract	Project	SWBS Acct	Work Center	CLIN	Cost Item	Description	Quantity	UoM	Labor Unit Hours (CER)	Total Labor Hours	Material Unit Cost (CER)	P
1	R1187	11	101	ASL03	A	1.2	Dock Preparation	1.00	LOT	322.0000	322.00	24.0000	
2	R1187	11	101	0		2	Docking and UnDocking including	1.00	PKG	0.0000	0.00	0.0000	
3	R1187	11	102	ASL03		102.3	**Docking and Undocking**	31,330.00	LOT	0.0200	626.60	1,850.0000	
4	R1187	11	102	ASL03		102.4	Subsequent Day in Dock	1.00	DAYS	0.0000	0.00	1,850.0000	
5	R1187	11	101	ASL03		101.5	Dock Preparation	1.00	LOT	259.2000	259.20	1,944.0000	
6	R1187	11	101	0		3	Bottom Plug Removal and refit	1.00	PKG	0.0000	0.00	0.0000	
7	R1187	11	103	ASL02		103.1	**Bottom Plug**	1.00	EA	1.7500	1.75	0.0000	
8	R1187	11	101	0		4	Cooling Water Supply	1.00	PKG	0.0000	0.00	0.0000	
9	R1187	11	913	ASL03		913.9	**Cooling Water Supply**	0.00	EA	0.0000	0.00	0.0000	
0	R1187	11	913	ASL03		913.10	Connect/Disconnect	1.00	Line/Tim	5.3300	5.33	0.0000	
1	R1187	11	913	ASL03		913.11	Cooling Water Line	1.00	Line/Day	0.0000	0.00	55.0000	
2	R1187	11	101	0		5	Fire Protection	1.00	PKG	0.0000	0.00	0.0000	
3	R1187	11	913	ASL02		913.12	Fire Line Connection/Disconnetion	1.00	Line/Tim	4.0000	4.00	0.0000	
4	R1187	11	913	ASL02		913.13	Fire Line with Maintained Presure	1.00	Line/Day	0.0000	0.00	55.0000	
5	R1187	11	913	ASL03		913.14	Fire Watchman	1.00	Man/Day	8.0000	8.00	0.0000	

Responding to the RFP - Putting together the Estimate and the Bid Package

Adding a Cost Item Using the CER Library Method

2. The CER shopping cart works just like the Package shopping cart.
3. Here we added a CER for refurbishing a Globe Valve. Notice that this CER is based on the size of the Valve.


Create Cost Item(s) From CERs

Select CER Category: Equations - Pipe

Select CER....

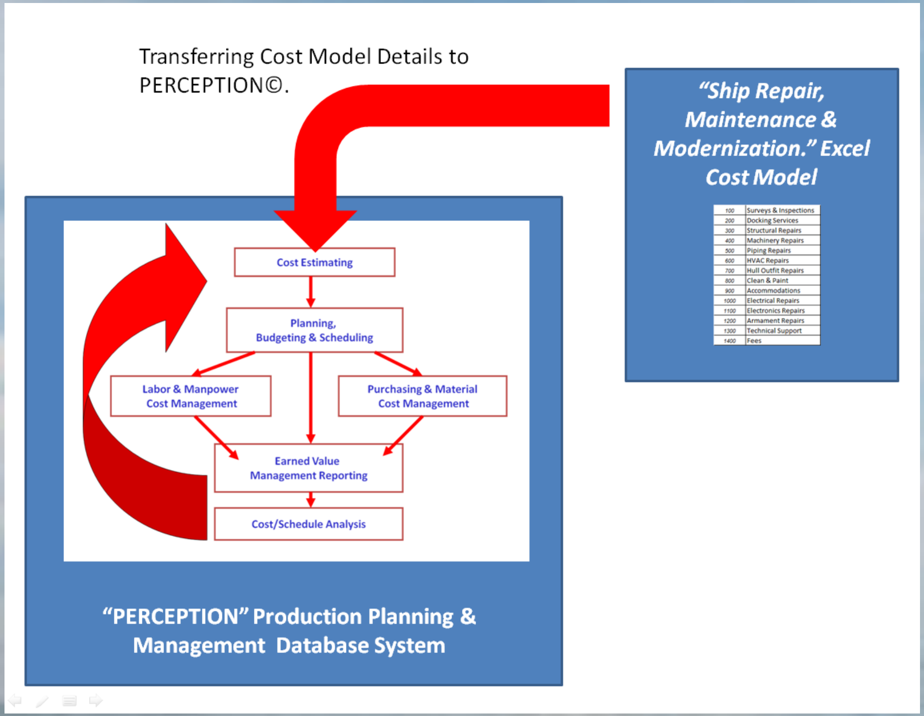
Name	Description	Equation
RVLVGL-1020	Globe Valve Refurb. (Open In Place, Clean, Grind-In, Check, Survey & Close-Up w/New Joints & Packing, Incl. Spindle Withdrawal) - Engine Room [A! = mm Pipe Diam; B! = psi pressure]	(7E-05*(2.0849)*

Created Cost Items

Qty	Variable A	Variable B	Variable C	Variable
4.00	100.0000	2500.0000	0	

Responding to the RFP - Putting together the Estimate and the Bid Package

Adding a Cost Items Using the Cost Model Transfer Method



Transferring Cost Model Details to PERCEPTION©.

"Ship Repair, Maintenance & Modernization." Excel Cost Model

100	Surveys & Inspections
200	Docking Services
300	Structural Repairs
400	Machinery Repairs
500	Piping Repairs
600	HVAC Repairs
700	Hull Outfit Repairs
800	Clean & Paint
900	Accommodations
1000	Electrical Repairs
1100	Electronics Repairs
1200	Armament Repairs
1300	Technical Support
1400	Fees

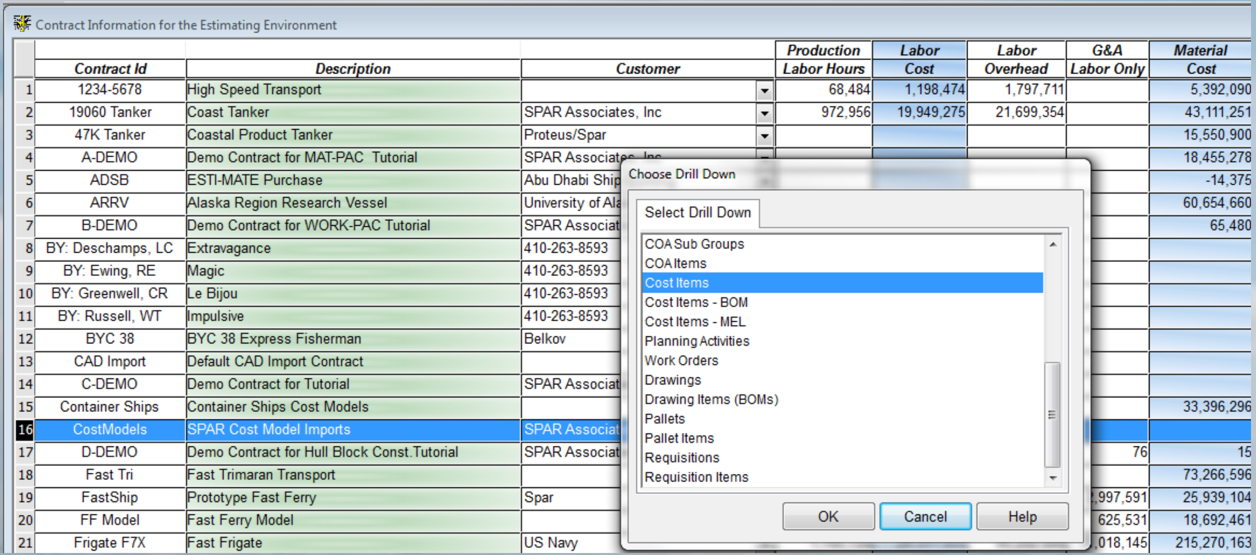
Cost Estimating
Planning, Budgeting & Scheduling
Labor & Manpower Cost Management
Purchasing & Material Cost Management
Earned Value Management Reporting
Cost/Schedule Analysis

"PERCEPTION" Production Planning & Management Database System

Detail Cost Items can be developed using SPAR Cost Model Worksheets. This data can be downloaded into PERCEPTION.

Responding to the RFP - Putting together the Estimate and the Bid Package

Adding a Cost Items Using the Cost Model Transfer Method

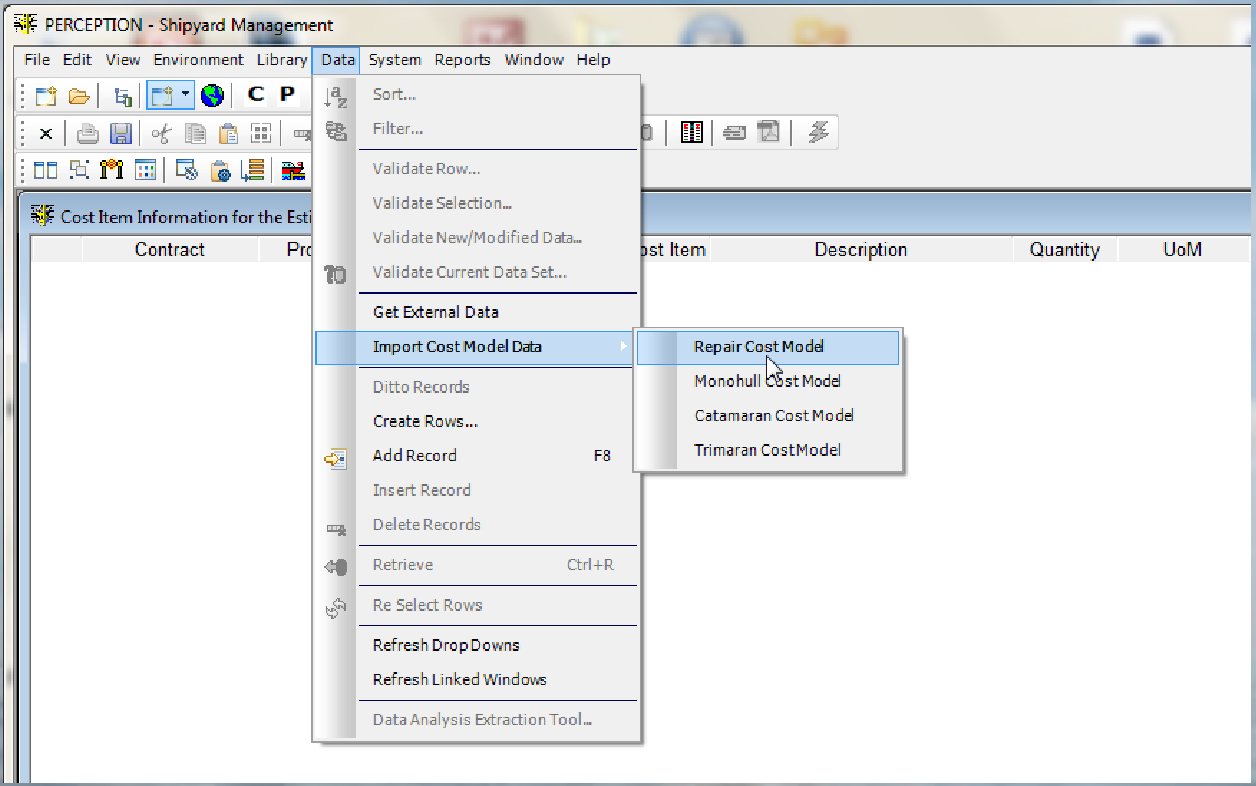

Contract Information for the Estimating Environment
Choose Drill Down
Select Drill Down
COA Sub Groups
COA Items
Cost Items
Cost Items - BOM
Cost Items - MEL
Planning Activities
Work Orders
Drawings
Drawing Items (BOMs)
Pallets
Pallet Items
Requisitions
Requisition Items
OK
Cancel
Help

				Production	Labor	Labor	G&A	Material
	Contract Id	Description	Customer	Labor Hours	Cost	Overhead	Labor Only	Cost
1	1234-5678	High Speed Transport		68,484	1,198,474	1,797,711		5,392,090
2	19060 Tanker	Coast Tanker	SPAR Associates, Inc	972,956	19,949,275	21,699,354		43,111,251
3	47K Tanker	Coastal Product Tanker	Proteus/Spar					15,550,900
4	A-DEMO	Demo Contract for MAT-PAC Tutorial	SPAR Associates, Inc					18,455,278
5	ADSB	ESTI-MATE Purchase	Abu Dhabi Ship					-14,375
6	ARRV	Alaska Region Research Vessel	University of Ala					60,654,660
7	B-DEMO	Demo Contract for WORK-PAC Tutorial	SPAR Associat					65,480
8	BY: Deschamps, LC	Extravagance	410-263-8593					
9	BY: Ewing, RE	Magic	410-263-8593					
10	BY: Greenwell, CR	Le Bijou	410-263-8593					
11	BY: Russell, WT	Impulsive	410-263-8593					
12	BYC 38	BYC 38 Express Fisherman	Belkov					
13	CAD Import	Default CAD Import Contract						
14	C-DEMO	Demo Contract for Tutorial	SPAR Associat					
15	Container Ships	Container Ships Cost Models						33,396,296
16	CostModels	SPAR Cost Model Imports	SPAR Associat					
17	D-DEMO	Demo Contract for Hull Block Const.Tutorial	SPAR Associat				76	15
18	Fast Tri	Fast Trimaran Transport						73,266,596
19	FastShip	Prototype Fast Ferry	Spar				,997,591	25,939,104
20	FF Model	Fast Ferry Model					625,531	18,692,461
21	Frigate F7X	Fast Frigate	US Navy				,018,145	215,270,163

Drilling Down from the Contract to the Detail Cost Item Worksheet

Responding to the RFP - Putting together the Estimate and the Bid Package

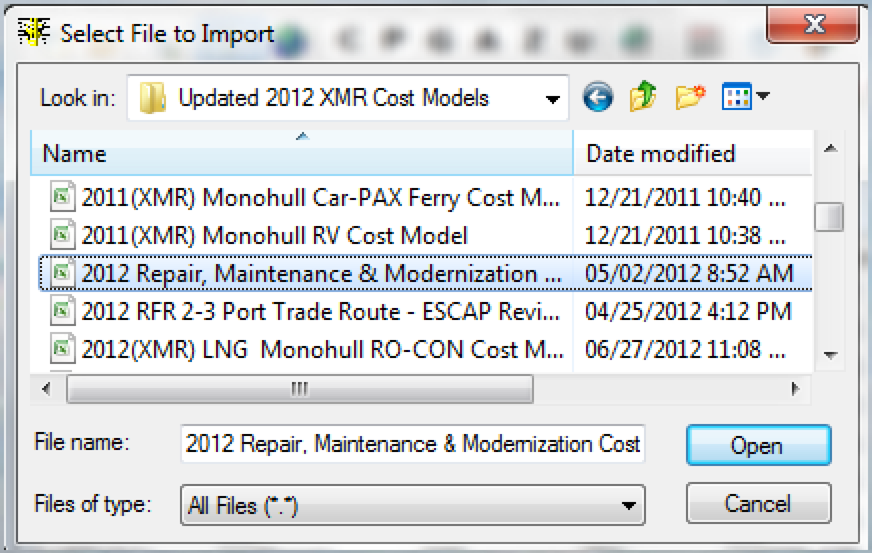
Adding a Cost Items Using the Cost Model Transfer Method


PERCEPTION - Shipyard Management
File
Edit
View
Environment
Library
Data
System
Reports
Window
Help
Cost Item Information for the Esti
Contract
Pro
ost Item
Description
Quantity
UoM
Sort...
Filter...
Validate Row...
Validate Selection...
Validate New/Modified Data...
Validate Current Data Set...
Get External Data
Import Cost Model Data
Ditto Records
Create Rows...
Add Record F8
Insert Record
Delete Records
Retrieve Ctrl+R
Re Select Rows
Refresh Drop Downs
Refresh Linked Windows
Data Analysis Extraction Tool...
Repair Cost Model
Monohull Cost Model
Catamaran Cost Model
Trimaran Cost Model

Begin the Import of Cost Model Data

Responding to the RFP - Putting together the Estimate and the Bid Package

Adding a Cost Items Using the Cost Model Transfer Method



Select File to Import

Look in: Updated 2012 XMR Cost Models

Name	Date modified
2011(XMR) Monohull Car-PAX Ferry Cost M...	12/21/2011 10:40 ...
2011(XMR) Monohull RV Cost Model	12/21/2011 10:38 ...
2012 Repair, Maintenance & Modernization ...	05/02/2012 8:52 AM
2012 RFR 2-3 Port Trade Route - ESCAP Revi...	04/25/2012 4:12 PM
2012(XMR) LNG Monohull RO-CON Cost M...	06/27/2012 11:08 ...

File name: 2012 Repair, Maintenance & Modernization Cost

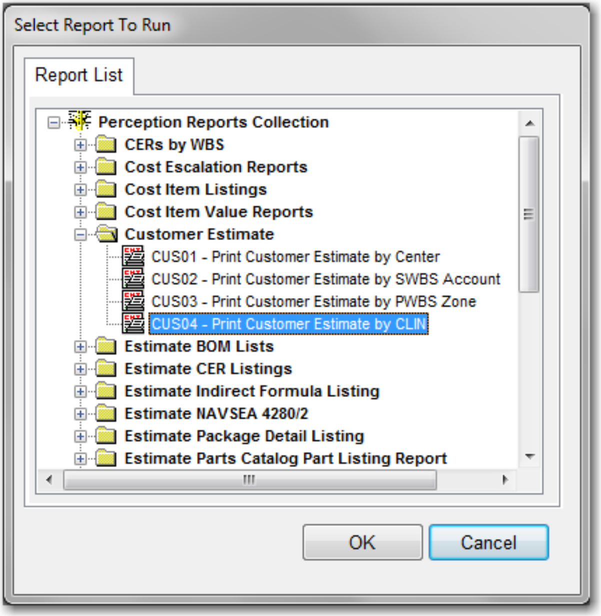
Files of type: All Files (*.*)

Locate the Cost Model Workbook File to Import Data

Responding to the RFP - Putting together the Estimate and the Bid Package

Reports

1. There are many reports that you can run to review your estimate, including printing the Estimate for the Customer.

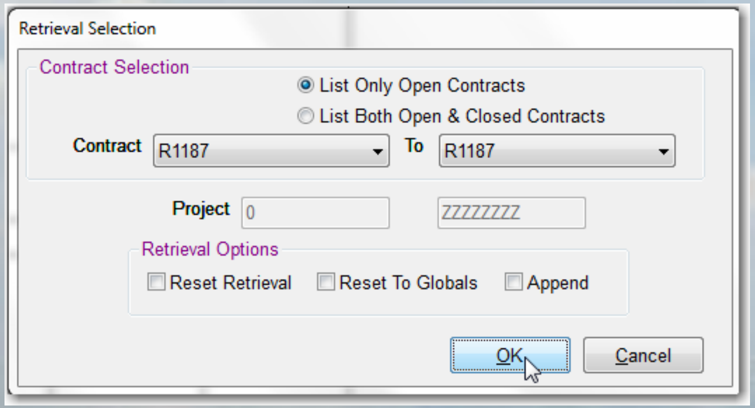


Select Report To Run

Report List

- Perception Reports Collection
  - CERs by WBS
  - Cost Escalation Reports
  - Cost Item Listings
  - Cost Item Value Reports
  - Customer Estimate
    - CUS01 - Print Customer Estimate by Center
    - CUS02 - Print Customer Estimate by SWBS Account
    - CUS03 - Print Customer Estimate by PWBS Zone
    - CUS04 - Print Customer Estimate by CLIN
  - Estimate BOM Lists
  - Estimate CER Listings
  - Estimate Indirect Formula Listing
  - Estimate NAVSEA 4280/2
  - Estimate Package Detail Listing
  - Estimate Parts Catalog Part Listing Report

2. The software will always ask you what you want to report.



Retrieval Selection

Contract Selection

● List Only Open Contracts

○ List Both Open & Closed Contracts

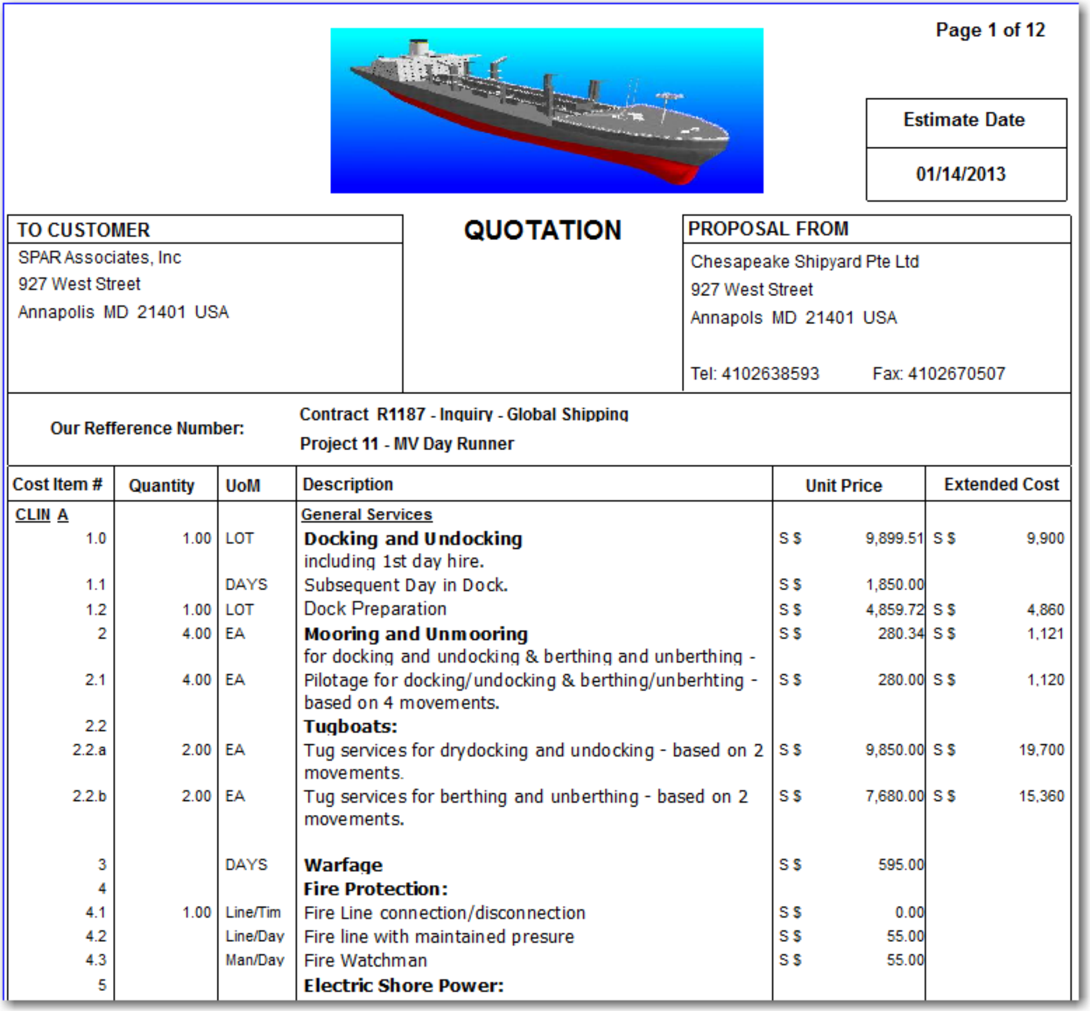
Contract: R1187 To R1187

Project: 0 ZZZZZZZZ

Retrieval Options

☐ Reset Retrieval ☐ Reset To Globals ☐ Append

Responding to the RFP - Putting together the Estimate and the Bid Package



Page 1 of 12

Estimate Date
01/14/2013

QUOTATION

TO CUSTOMER

SPAR Associates, Inc
927 West Street
Annapolis MD 21401 USA

PROPOSAL FROM

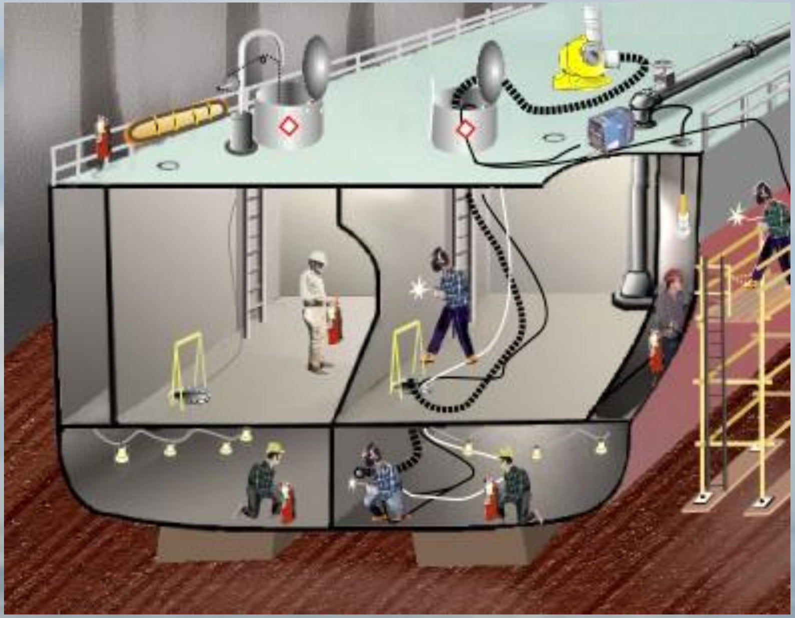
Chesapeake Shipyard Pte Ltd
927 West Street
Annapols MD 21401 USA

Tel: 4102638593 Fax: 4102670507

Our Refference Number: Contract R1187 - Inquiry - Global Shipping
Project 11 - MV Day Runner

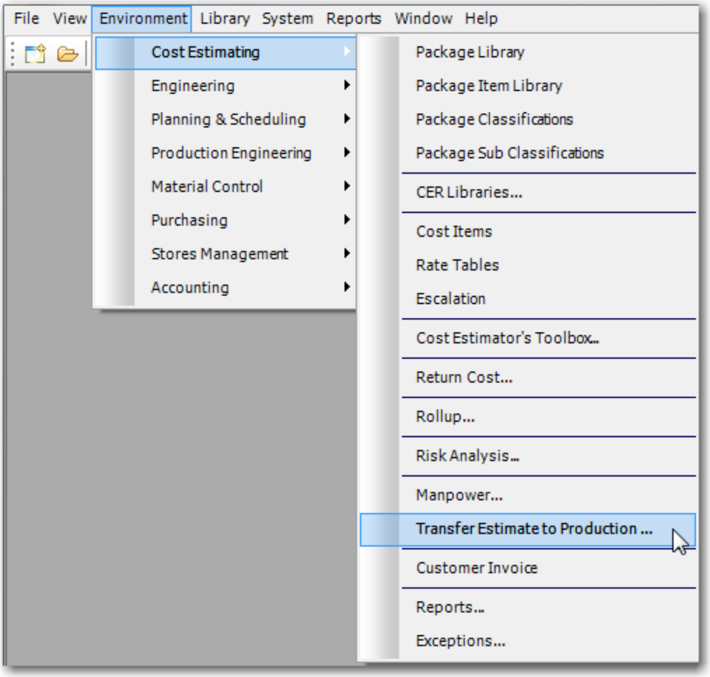
Cost Item #	Quantity	UoM	Description	Unit Price	Extended Cost
CLIN A			General Services		
1.0	1.00	LOT	**Docking and Undocking** including 1st day hire.	S $ 9,899.51	S $ 9,900
1.1		DAYS	Subsequent Day in Dock.	S $ 1,850.00	
1.2	1.00	LOT	Dock Preparation	S $ 4,859.72	S $ 4,860
2	4.00	EA	**Mooring and Unmooring** for docking and undocking & berthing and unberthing -	S $ 280.34	S $ 1,121
2.1	4.00	EA	Pilotage for docking/undocking & berthing/unberhting - based on 4 movements.	S $ 280.00	S $ 1,120
2.2			**Tugboats:**		
2.2.a	2.00	EA	Tug services for drydocking and undocking - based on 2 movements.	S $ 9,850.00	S $ 19,700
2.2.b	2.00	EA	Tug services for berthing and unberthing - based on 2 movements.	S $ 7,680.00	S $ 15,360
3		DAYS	**Warfage**	S $ 595.00	
4			**Fire Protection:**		
4.1	1.00	Line/Tim	Fire Line connection/disconnection	S $ 0.00	
4.2		Line/Day	Fire line with maintained presure	S $ 55.00	
4.3		Man/Day	Fire Watchman	S $ 55.00	
5			**Electric Shore Power:**		

Proposal Acceptance – The ERP and EVM Process

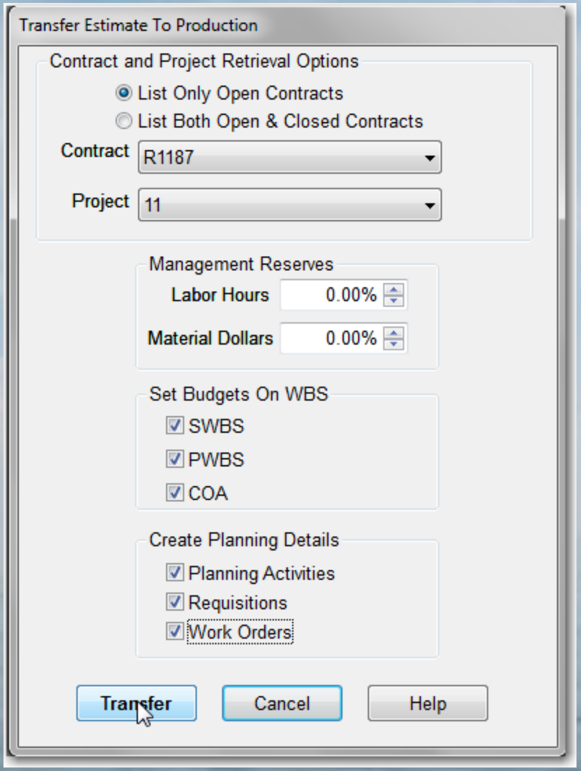


The RFP is Done and the Customer Accepts. Now What?

Initializing the Labor & Material Requirements for Production


File
View
Environment
Library
System
Reports
Window
Help
Cost Estimating
Engineering
Planning & Scheduling
Production Engineering
Material Control
Purchasing
Stores Management
Accounting
Package Library
Package Item Library
Package Classifications
Package Sub Classifications
CER Libraries...
Cost Items
Rate Tables
Escalation
Cost Estimator's Toolbox...
Return Cost...
Rollup...
Risk Analysis...
Manpower...
Transfer Estimate to Production ...
Customer Invoice
Reports...
Exceptions...

1. Select the function to Transfer the Estimate to Production from the Menu.
2. From the Transfer Options pop up window select the information you wish to transfer.


Transfer Estimate To Production

Contract and Project Retrieval Options

● List Only Open Contracts

○ List Both Open & Closed Contracts

Contract: R1187

Project: 11

Management Reserves

Labor Hours: 0.00%

Material Dollars: 0.00%

Set Budgets On WBS

☑ SWBS

☑ PWBS

☑ COA

Create Planning Details

☑ Planning Activities

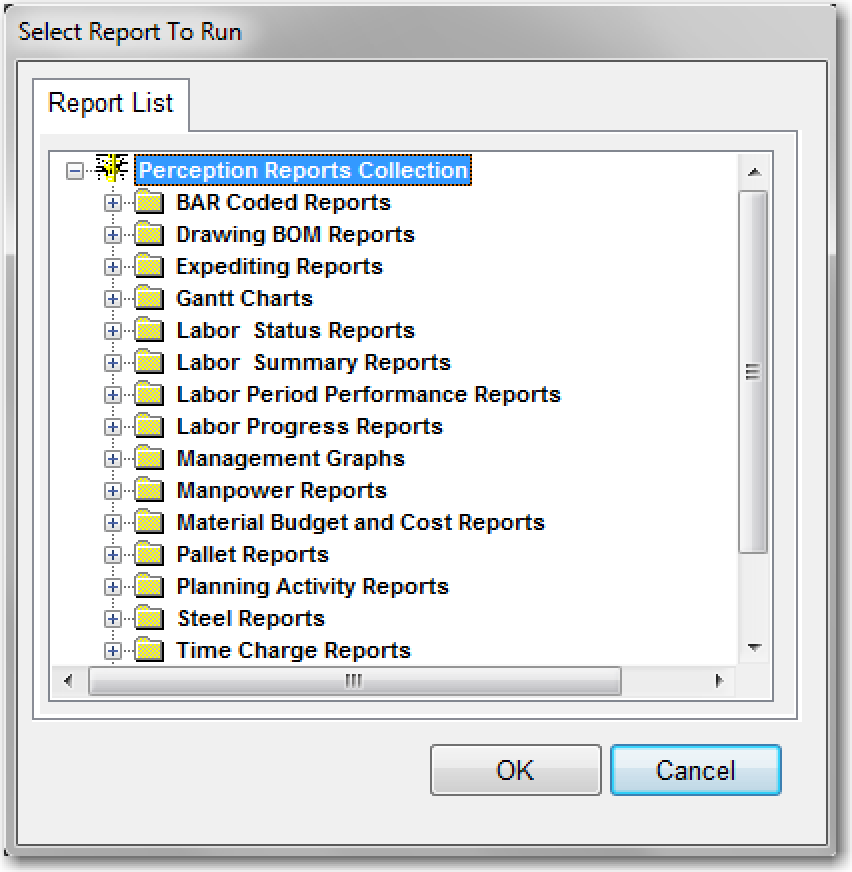
☑ Requisitions

☑ Work Orders

Transfer
Cancel
Help

The RFP is done and the Customer Accepts. Now What?

Reports for Monitoring the Project



Select Report To Run

Report List

Perception Reports Collection
- BAR Coded Reports
- Drawing BOM Reports
- Expediting Reports
- Gantt Charts
- Labor Status Reports
- Labor Summary Reports
- Labor Period Performance Reports
- Labor Progress Reports
- Management Graphs
- Manpower Reports
- Material Budget and Cost Reports
- Pallet Reports
- Planning Activity Reports
- Steel Reports
- Time Charge Reports

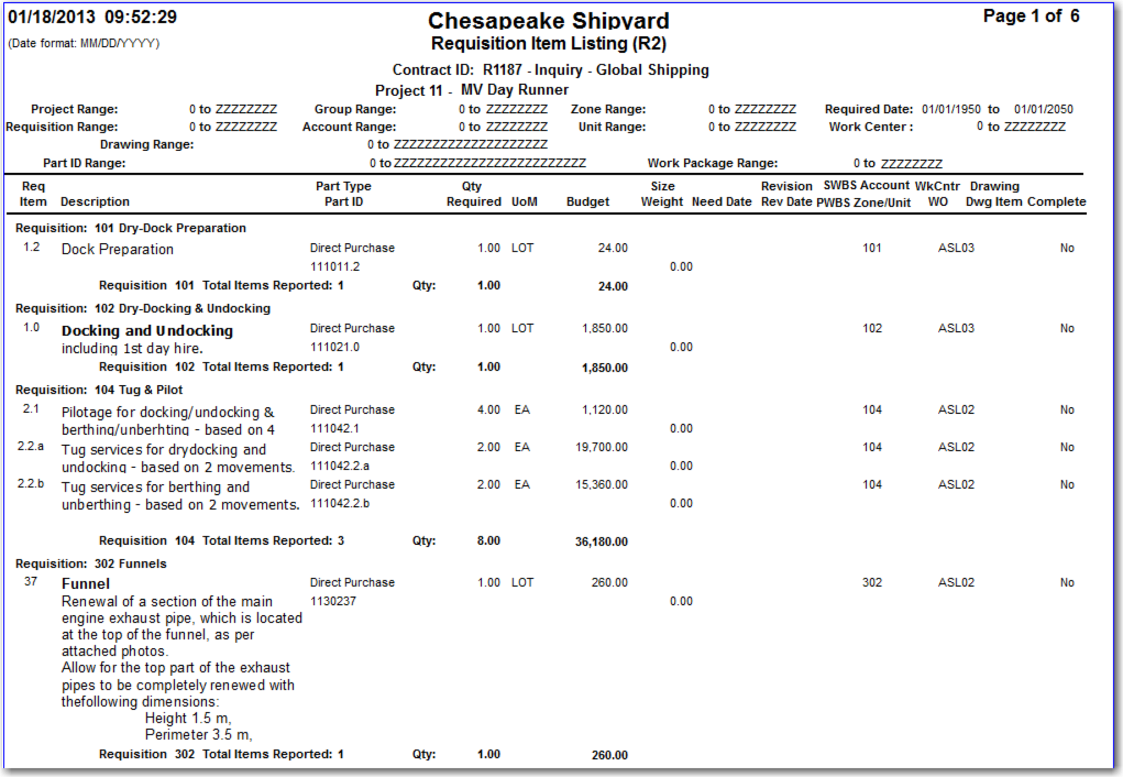
The *PERCEPTION* software has hundreds of reports for monitoring the project. These include status report for Labor and Material and Earned Value reports for monitoring the progress.

Most reports have the option to view the information by each WBS structure independently.

The RFP is done and the Customer Accepts. Now What?

Material Requirements for Production

Material Requisition



01/18/2013 09:52:29

(Date format: MM/DD/YYYY)

Page 1 of 6

Chesapeake Shipyard

Requisition Item Listing (R2)

Contract ID: R1187 - Inquiry - Global Shipping

Project 11 - MV Day Runner

Project Range: 0 to ZZZZZZZZ **Group Range:** 0 to ZZZZZZZZ **Zone Range:** 0 to ZZZZZZZZ **Required Date:** 01/01/1950 to 01/01/2050

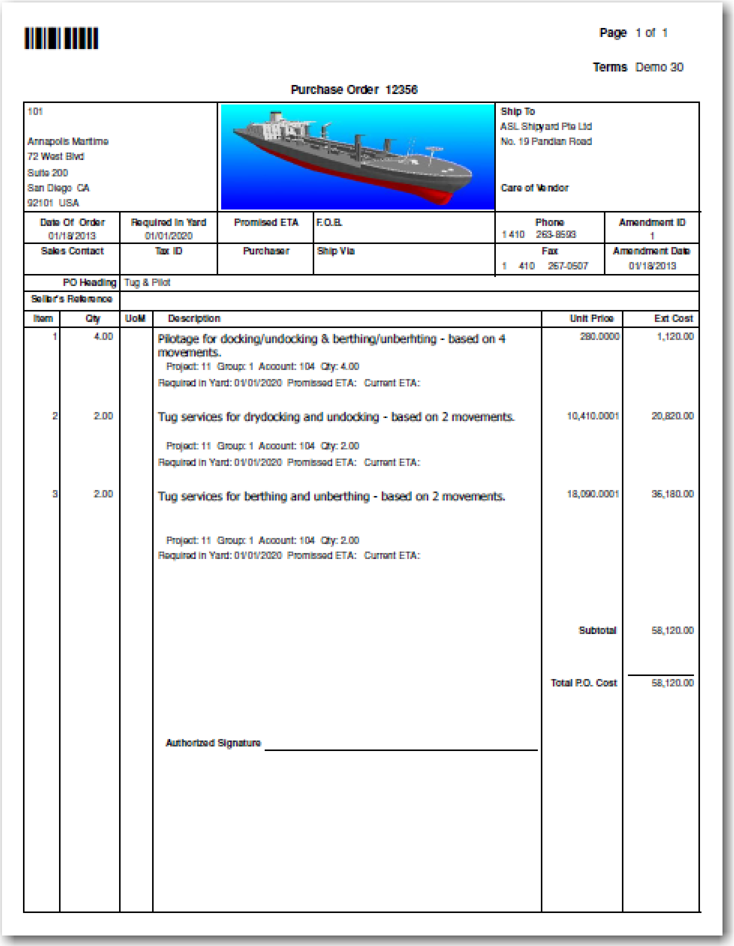
Requisition Range: 0 to ZZZZZZZZ **Account Range:** 0 to ZZZZZZZZ **Unit Range:** 0 to ZZZZZZZZ **Work Center :** 0 to ZZZZZZZZ

Drawing Range: 0 to ZZZZZZZZZZZZZZZZZZZZ

Part ID Range: 0 to ZZZZZZZZZZZZZZZZZZZZZZZZZ **Work Package Range:** 0 to ZZZZZZZZ

Req Item	Description	Part Type Part ID	Qty Required	UoM	Budget	Size Weight	Need Date	Revision Rev Date	SWBS Account PWBS Zone/Unit	WkCntr WO	Drawing Dwg Item	Complete
Requisition: 101 Dry-Dock Preparation												
1.2	Dock Preparation	Direct Purchase 111011.2	1.00	LOT	24.00	0.00			101	ASL03		No
	Requisition 101 Total Items Reported: 1	**Qty:**	**1.00**		**24.00**							
Requisition: 102 Dry-Docking & Undocking												
1.0	**Docking and Undocking** including 1st day hire.	Direct Purchase 111021.0	1.00	LOT	1,850.00	0.00			102	ASL03		No
	Requisition 102 Total Items Reported: 1	**Qty:**	**1.00**		**1,850.00**							
Requisition: 104 Tug & Pilot												
2.1	Pilotage for docking/undocking & berthing/unberhting - based on 4	Direct Purchase 111042.1	4.00	EA	1,120.00	0.00			104	ASL02		No
2.2.a	Tug services for drydocking and undocking - based on 2 movements.	Direct Purchase 111042.2.a	2.00	EA	19,700.00	0.00			104	ASL02		No
2.2.b	Tug services for berthing and unberthing - based on 2 movements.	Direct Purchase 111042.2.b	2.00	EA	15,360.00	0.00			104	ASL02		No
	Requisition 104 Total Items Reported: 3	**Qty:**	**8.00**		**36,180.00**							
Requisition: 302 Funnels												
37	**Funnel** Renewal of a section of the main engine exhaust pipe, which is located at the top of the funnel, as per attached photos. Allow for the top part of the exhaust pipes to be completely renewed with thefollowing dimensions: Height 1.5 m, Perimeter 3.5 m,	Direct Purchase 1130237	1.00	LOT	260.00	0.00			302	ASL02		No
	Requisition 302 Total Items Reported: 1	**Qty:**	**1.00**		**260.00**							

Purchase Order



Page 1 of 1

Terms Demo 30

Purchase Order 12356

101

Annapolis Martime
72 West Blvd
Suite 200
San Diego CA
92101 USA

Ship To
ASL Shipyard Pte Ltd
No. 19 Pandan Road

Care of Vendor

Date Of Order 01/18/2013	**Required In Yard** 01/01/2020	**Promised ETA**	**F.O.B.**	**Phone** 1 410 263-8593	**Amendment ID** 1
Sales Contact	**Tax ID**	**Purchaser**	**Ship Via**	**Fax** 1 410 267-0507	**Amendment Date** 01/18/2013

PO Heading Tug & Pilot

Seller's Reference

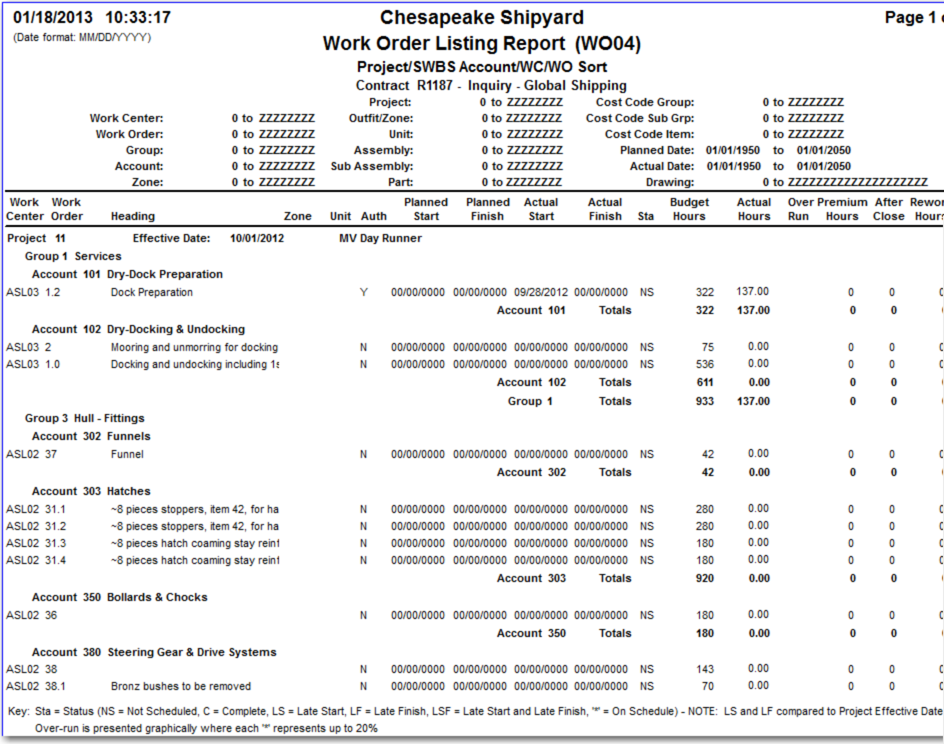
Item	Qty	UoM	Description	Unit Price	Ext Cost
1	4.00		Pilotage for docking/undocking & berthing/unberhting - based on 4 movements. Project: 11 Group: 1 Account: 104 Qty: 4.00 Required in Yard: 01/01/2020 Promissed ETA: Current ETA:	280.0000	1,120.00
2	2.00		Tug services for drydocking and undocking - based on 2 movements. Project: 11 Group: 1 Account: 104 Qty: 2.00 Required in Yard: 01/01/2020 Promissed ETA: Current ETA:	10,410.0001	20,820.00
3	2.00		Tug services for berthing and unberthing - based on 2 movements. Project: 11 Group: 1 Account: 104 Qty: 2.00 Required in Yard: 01/01/2020 Promissed ETA: Current ETA:	18,090.0001	36,180.00
				Subtotal	58,120.00
				Total P.O. Cost	58,120.00

Authorized Signature ____________________

The RFP is done and the Customer Accepts. Now What?

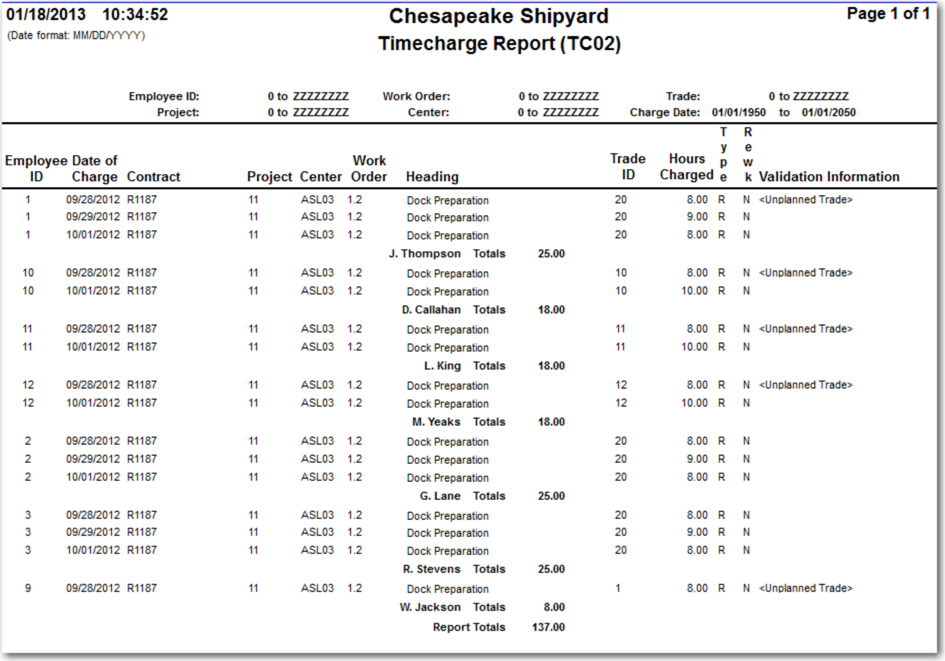
Labor Work Orders for Production

Work Order Listing



```
01/18/2013   10:33:17                      Chesapeake Shipyard                                      Page 1 of 6
(Date format: MM/DD/YYYY)            Work Order Listing Report  (WO04)
                                        Project/SWBS Account/WC/WO Sort
                                       Contract  R1187 -  Inquiry - Global Shipping
                                     Project:        0 to ZZZZZZZZ      Cost Code Group:            0 to ZZZZZZZZ
         Work Center:   0 to ZZZZZZZZ    Outfit/Zone:        0 to ZZZZZZZZ     Cost Code Sub Grp:            0 to ZZZZZZZZ
          Work Order:   0 to ZZZZZZZZ           Unit:        0 to ZZZZZZZZ       Cost Code Item:            0 to ZZZZZZZZ
               Group:   0 to ZZZZZZZZ       Assembly:        0 to ZZZZZZZZ        Planned Date:  01/01/1950  to  01/01/2050
             Account:   0 to ZZZZZZZZ   Sub Assembly:        0 to ZZZZZZZZ         Actual Date:  01/01/1950  to  01/01/2050
                Zone:   0 to ZZZZZZZZ           Part:        0 to ZZZZZZZZ             Drawing:            0 to ZZZZZZZZZZZZZZZZZZZZ
Work   Work                                             Planned    Planned    Actual     Actual           Budget   Actual  Over Premium After Rework  %
Center Order  Heading                   Zone  Unit Auth  Start      Finish     Start      Finish     Sta   Hours    Hours   Run   Hours  Close Hours
Project  11          Effective Date:   10/01/2012       MV Day Runner
   Group 1  Services
     Account  101  Dry-Dock Preparation
ASL03  1.2    Dock Preparation                       Y  00/00/0000 00/00/0000 09/28/2012 00/00/0000  NS     322   137.00          0      0
                                                                  Account  101        Totals        322   137.00          0      0
     Account  102  Dry-Docking & Undocking
ASL03  2      Mooring and unmorring for docking      N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS      75     0.00          0      0
ASL03  1.0    Docking and undocking including 1s     N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS     536     0.00          0      0
                                                                  Account  102        Totals        611     0.00          0      0
                                                                    Group  1          Totals        933   137.00          0      0
   Group 3  Hull - Fittings
     Account  302  Funnels
ASL02  37     Funnel                                 N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS      42     0.00          0      0
                                                                  Account  302        Totals         42     0.00          0      0
     Account  303  Hatches
ASL02  31.1   ~8 pieces stoppers, item 42, for ha    N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS     280     0.00          0      0
ASL02  31.2   ~8 pieces stoppers, item 42, for ha    N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS     280     0.00          0      0
ASL02  31.3   ~8 pieces hatch coaming stay reint     N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS     180     0.00          0      0
ASL02  31.4   ~8 pieces hatch coaming stay reint     N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS     180     0.00          0      0
                                                                  Account  303        Totals        920     0.00          0      0
     Account  350  Bollards & Chocks
ASL02  36                                            N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS     180     0.00          0      0
                                                                  Account  350        Totals        180     0.00          0      0
     Account  380  Steering Gear & Drive Systems
ASL02  38                                            N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS     143     0.00          0      0
ASL02  38.1   Bronz bushes to be removed             N  00/00/0000 00/00/0000 00/00/0000 00/00/0000  NS      70     0.00          0      0
Key:  Sta = Status (NS = Not Scheduled, C = Complete, LS = Late Start, LF = Late Finish, LSF = Late Start and Late Finish, '*' = On Schedule) - NOTE:  LS and LF compared to Project Effective Date
      Over-run is presented graphically where each '*' represents up to 20%
```

Work Order Time Charge Listing



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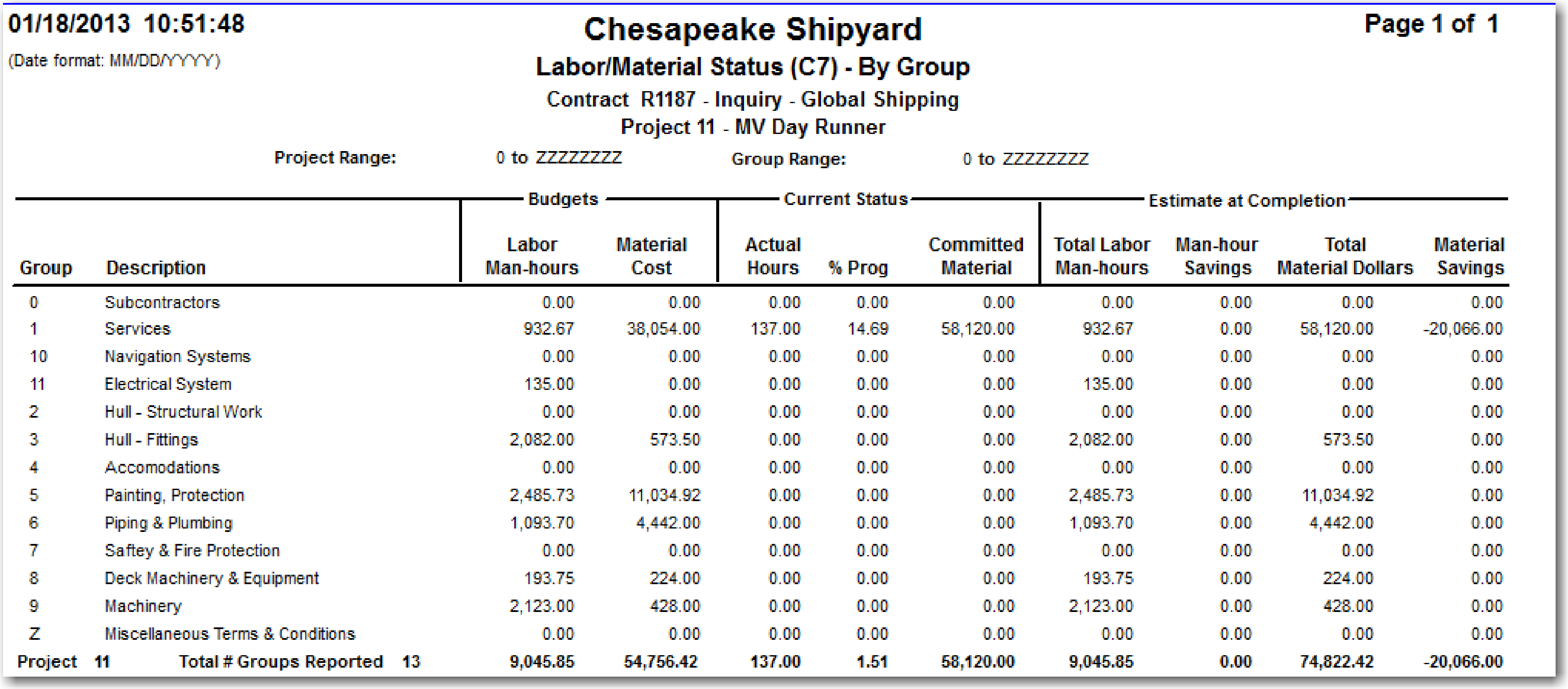
01/18/2013   10:34:52                     Chesapeake Shipyard                                       Page 1 of 1
(Date format: MM/DD/YYYY)               Timecharge Report (TC02)

                 Employee ID:       0 to ZZZZZZZZ   Work Order:      0 to ZZZZZZZZ        Trade:          0 to ZZZZZZZZ
                     Project:       0 to ZZZZZZZZ       Center:      0 to ZZZZZZZZ  Charge Date:  01/01/1950  to  01/01/2050
                                                                                             T R
                                                                                             y e
Employee Date of                              Work                          Trade    Hours   p w
   ID     Charge   Contract  Project Center  Order   Heading                  ID    Charged  e k  Validation Information
    1   09/28/2012  R1187       11    ASL03   1.2    Dock Preparation          20       8.00 R  N  <Unplanned Trade>
    1   09/29/2012  R1187       11    ASL03   1.2    Dock Preparation          20       9.00 R  N
    1   10/01/2012  R1187       11    ASL03   1.2    Dock Preparation          20       8.00 R  N
                                          J. Thompson   Totals   25.00
   10   09/28/2012  R1187       11    ASL03   1.2    Dock Preparation          10       8.00 R  N  <Unplanned Trade>
   10   10/01/2012  R1187       11    ASL03   1.2    Dock Preparation          10      10.00 R  N
                                           D. Callahan  Totals   18.00
   11   09/28/2012  R1187       11    ASL03   1.2    Dock Preparation          11       8.00 R  N  <Unplanned Trade>
   11   10/01/2012  R1187       11    ASL03   1.2    Dock Preparation          11      10.00 R  N
                                               L. King  Totals   18.00
   12   09/28/2012  R1187       11    ASL03   1.2    Dock Preparation          12       8.00 R  N  <Unplanned Trade>
   12   10/01/2012  R1187       11    ASL03   1.2    Dock Preparation          12      10.00 R  N
                                              M. Yeaks  Totals   18.00
    2   09/28/2012  R1187       11    ASL03   1.2    Dock Preparation          20       8.00 R  N
    2   09/29/2012  R1187       11    ASL03   1.2    Dock Preparation          20       9.00 R  N
    2   10/01/2012  R1187       11    ASL03   1.2    Dock Preparation          20       8.00 R  N
                                               G. Lane  Totals   25.00
    3   09/28/2012  R1187       11    ASL03   1.2    Dock Preparation          20       8.00 R  N
    3   09/29/2012  R1187       11    ASL03   1.2    Dock Preparation          20       9.00 R  N
    3   10/01/2012  R1187       11    ASL03   1.2    Dock Preparation          20       8.00 R  N
                                            R. Stevens  Totals   25.00
    9   09/28/2012  R1187       11    ASL03   1.2    Dock Preparation           1       8.00 R  N  <Unplanned Trade>
                                            W. Jackson  Totals    8.00
                                                 Report Totals  137.00
```

The Project has Started. Monitoring the Progress.

Labor and Material Progress reports for Production



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Page 1 of 1

Chesapeake Shipyard

Labor/Material Status (C7) - By Group

Contract R1187 - Inquiry - Global Shipping

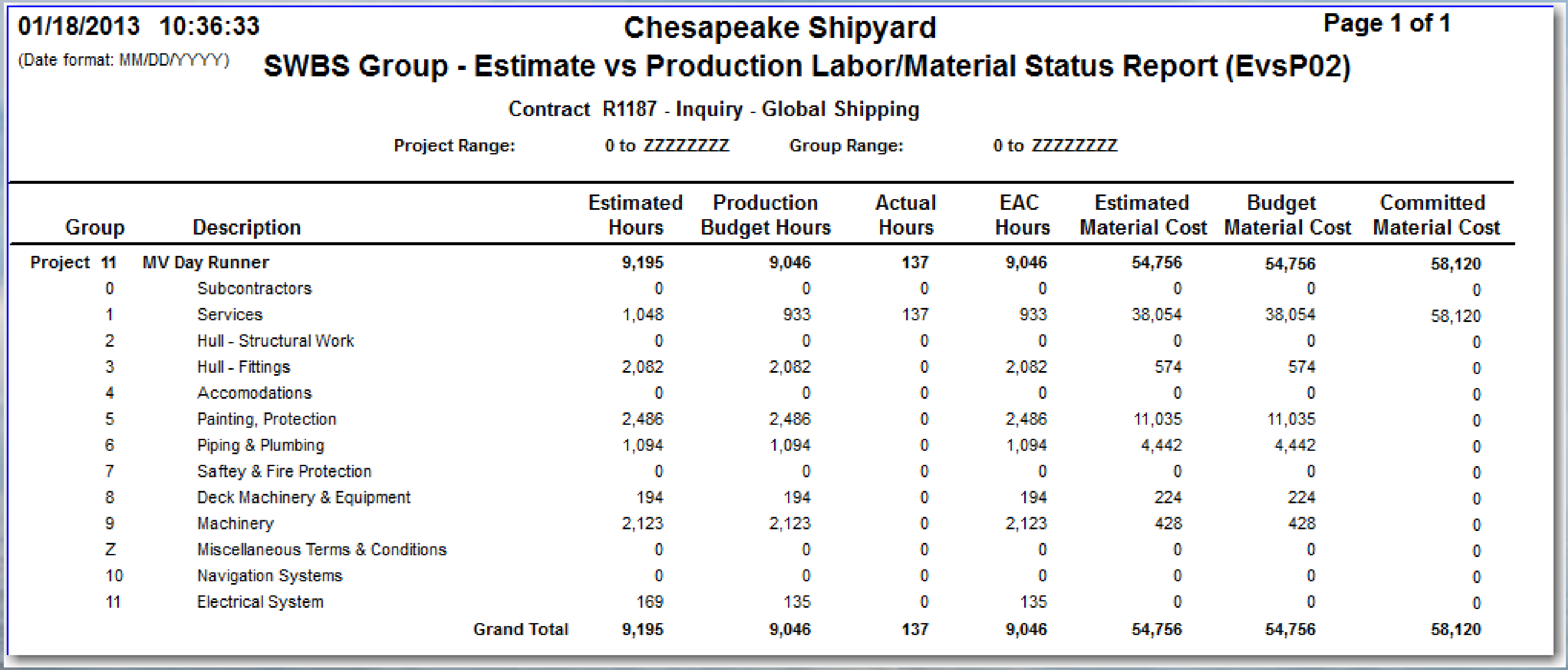
Project 11 - MV Day Runner

Project Range: 0 to ZZZZZZZZ **Group Range:** 0 to ZZZZZZZZ

		Budgets		Current Status			Estimate at Completion			
Group	Description	Labor Man-hours	Material Cost	Actual Hours	% Prog	Committed Material	Total Labor Man-hours	Man-hour Savings	Total Material Dollars	Material Savings
0	Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	Services	932.67	38,054.00	137.00	14.69	58,120.00	932.67	0.00	58,120.00	-20,066.00
10	Navigation Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Electrical System	135.00	0.00	0.00	0.00	0.00	135.00	0.00	0.00	0.00
2	Hull - Structural Work	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Hull - Fittings	2,082.00	573.50	0.00	0.00	0.00	2,082.00	0.00	573.50	0.00
4	Accomodations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Painting, Protection	2,485.73	11,034.92	0.00	0.00	0.00	2,485.73	0.00	11,034.92	0.00
6	Piping & Plumbing	1,093.70	4,442.00	0.00	0.00	0.00	1,093.70	0.00	4,442.00	0.00
7	Saftey & Fire Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Deck Machinery & Equipment	193.75	224.00	0.00	0.00	0.00	193.75	0.00	224.00	0.00
9	Machinery	2,123.00	428.00	0.00	0.00	0.00	2,123.00	0.00	428.00	0.00
Z	Miscellaneous Terms & Conditions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Project 11	**Total # Groups Reported 13**	**9,045.85**	**54,756.42**	**137.00**	**1.51**	**58,120.00**	**9,045.85**	**0.00**	**74,822.42**	**-20,066.00**

The Project is Nearing Completion

Comparing the Production Cost to the Estimate



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(Date format: MM/DD/YYYY)

Chesapeake Shipyard

Page 1 of 1

SWBS Group - Estimate vs Production Labor/Material Status Report (EvsP02)

Contract R1187 - Inquiry - Global Shipping

Project Range: 0 to ZZZZZZZZ Group Range: 0 to ZZZZZZZZ

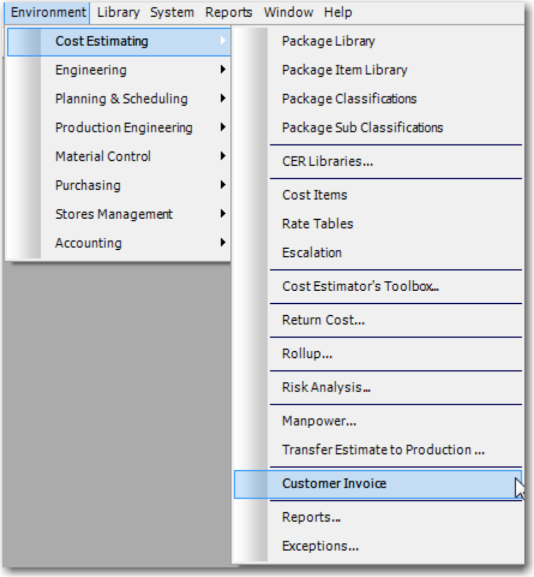
Group	Description	Estimated Hours	Production Budget Hours	Actual Hours	EAC Hours	Estimated Material Cost	Budget Material Cost	Committed Material Cost
Project 11	**MV Day Runner**	**9,195**	**9,046**	**137**	**9,046**	**54,756**	**54,756**	**58,120**
0	Subcontractors	0	0	0	0	0	0	0
1	Services	1,048	933	137	933	38,054	38,054	58,120
2	Hull - Structural Work	0	0	0	0	0	0	0
3	Hull - Fittings	2,082	2,082	0	2,082	574	574	0
4	Accomodations	0	0	0	0	0	0	0
5	Painting, Protection	2,486	2,486	0	2,486	11,035	11,035	0
6	Piping & Plumbing	1,094	1,094	0	1,094	4,442	4,442	0
7	Saftey & Fire Protection	0	0	0	0	0	0	0
8	Deck Machinery & Equipment	194	194	0	194	224	224	0
9	Machinery	2,123	2,123	0	2,123	428	428	0
Z	Miscellaneous Terms & Conditions	0	0	0	0	0	0	0
10	Navigation Systems	0	0	0	0	0	0	0
11	Electrical System	169	135	0	135	0	0	0
	Grand Total	**9,195**	**9,046**	**137**	**9,046**	**54,756**	**54,756**	**58,120**

The Customer Billing Process
Before the Ship Sails Away

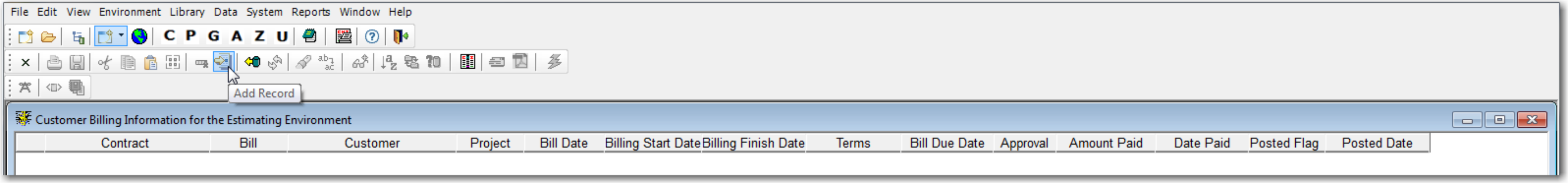
05/31/2007

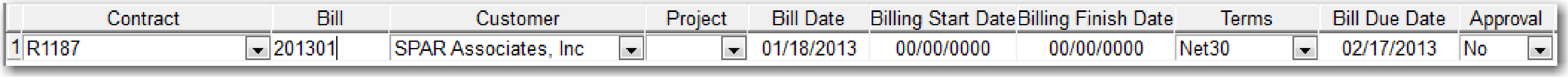
The Project is Complete

Create the Customer Invoice


Environment
Library
System
Reports
Window
Help
Cost Estimating
Engineering
Planning & Scheduling
Production Engineering
Material Control
Purchasing
Stores Management
Accounting
Package Library
Package Item Library
Package Classifications
Package Sub Classifications
CER Libraries...
Cost Items
Rate Tables
Escalation
Cost Estimator's Toolbox...
Return Cost...
Rollup...
Risk Analysis...
Manpower...
Transfer Estimate to Production ...
Customer Invoice
Reports...
Exceptions...

1. Select the Customer Invoice from the Menu.
2. Click on the Add Record button to create a new bill.
3. Select the Contract for the Bill then enter the Bill Number.
4. Select the Project for the Bill.
5. Click on the save button.

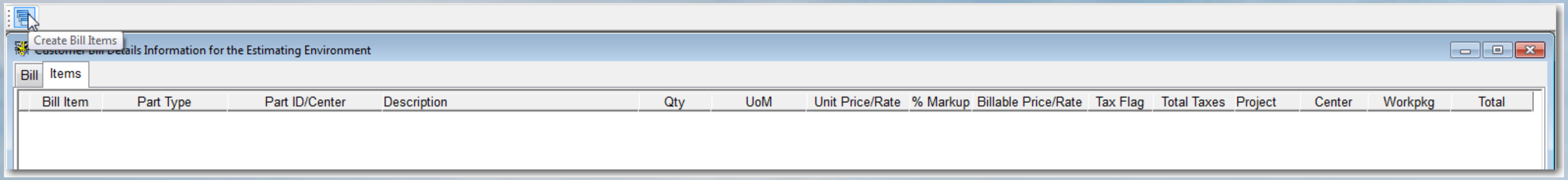

File
Edit
View
Environment
Library
Data
System
Reports
Window
Help
C
P
G
A
Z
U
Add Record
Customer Billing Information for the Estimating Environment
Contract
Bill
Customer
Project
Bill Date
Billing Start Date
Billing Finish Date
Terms
Bill Due Date
Approval
Amount Paid
Date Paid
Posted Flag
Posted Date



	Contract	Bill	Customer	Project	Bill Date	Billing Start Date	Billing Finish Date	Terms	Bill Due Date	Approval
1	R1187	201301	SPAR Associates, Inc		01/18/2013	00/00/0000	00/00/0000	Net30	02/17/2013	No

The Project is Complete
Create the Customer Invoice

1. Double click on the saved Bill and you will drill down to the Bill Details window.

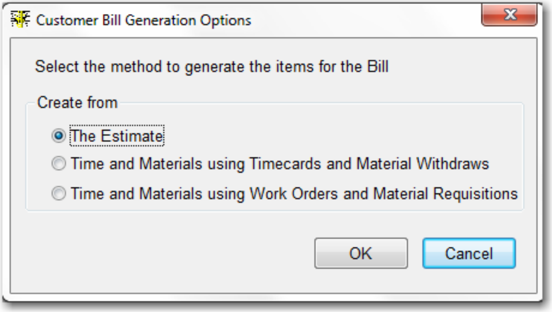


Customer Bill Details Information for the Estimating Environment

Bill | Items

Bill Item	Part Type	Part ID/Center	Description	Qty	UoM	Unit Price/Rate	% Markup	Billable Price/Rate	Tax Flag	Total Taxes	Project	Center	Workpkg	Total

2. Now click on the Create Bill Items button to automatically create the line items for the bill.
3. From the pop up window select the method (type) for generating the Bill Items.



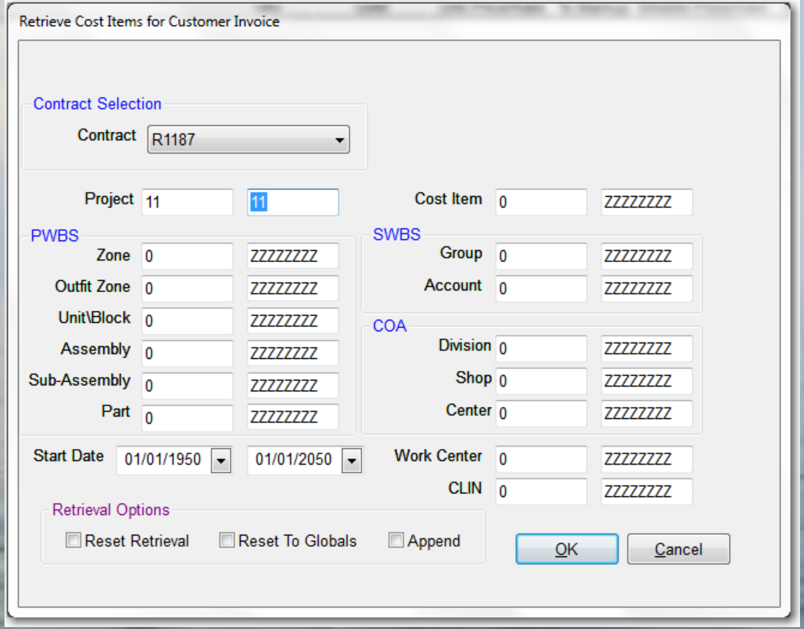
Customer Bill Generation Options

Select the method to generate the items for the Bill

Create from

● The Estimate
○ Time and Materials using Timecards and Material Withdraws
○ Time and Materials using Work Orders and Material Requisitions

4. You can now select specific elements of the WBS to scan for the Bill Items.
5. Click on the OK button when you finish your selection or to Select all items for the Project.



Retrieve Cost Items for Customer Invoice

Contract Selection
Contract: R1187

Project: 11 – 11
Cost Item: 0 – ZZZZZZZZ

PWBS
Zone: 0 – ZZZZZZZZ
Outfit Zone: 0 – ZZZZZZZZ
Unit\Block: 0 – ZZZZZZZZ
Assembly: 0 – ZZZZZZZZ
Sub-Assembly: 0 – ZZZZZZZZ
Part: 0 – ZZZZZZZZ

SWBS
Group: 0 – ZZZZZZZZ
Account: 0 – ZZZZZZZZ

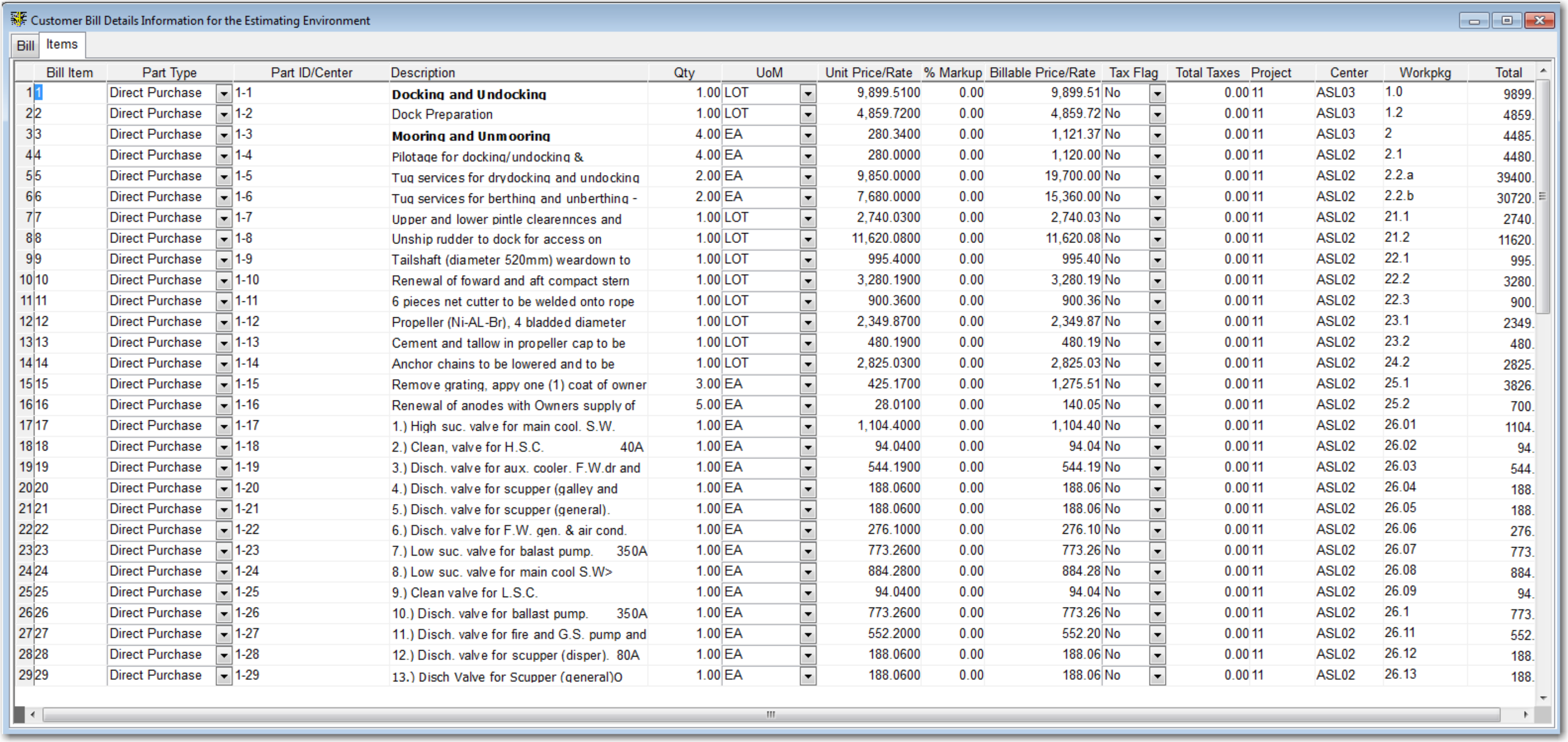
COA
Division: 0 – ZZZZZZZZ
Shop: 0 – ZZZZZZZZ
Center: 0 – ZZZZZZZZ

Start Date: 01/01/1950 – 01/01/2050
Work Center: 0 – ZZZZZZZZ
CLIN: 0 – ZZZZZZZZ

Retrieval Options
☐ Reset Retrieval ☐ Reset To Globals ☐ Append

The Project is Complete

Create the Customer Invoice

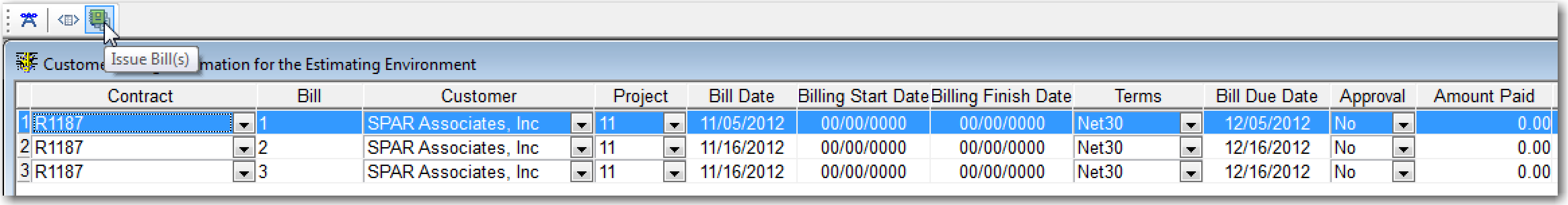

Customer Bill Details Information for the Estimating Environment

	Bill Item	Part Type	Part ID/Center	Description	Qty	UoM	Unit Price/Rate	% Markup	Billable Price/Rate	Tax Flag	Total Taxes	Project	Center	Workpkg	Total
1	1	Direct Purchase	1-1	**Docking and Undocking**	1.00	LOT	9,899.5100	0.00	9,899.51	No	0.00	11	ASL03	1.0	9899.
2	2	Direct Purchase	1-2	Dock Preparation	1.00	LOT	4,859.7200	0.00	4,859.72	No	0.00	11	ASL03	1.2	4859.
3	3	Direct Purchase	1-3	**Mooring and Unmooring**	4.00	EA	280.3400	0.00	1,121.37	No	0.00	11	ASL03	2	4485.
4	4	Direct Purchase	1-4	Pilotage for docking/undocking &	4.00	EA	280.0000	0.00	1,120.00	No	0.00	11	ASL02	2.1	4480.
5	5	Direct Purchase	1-5	Tug services for drydocking and undocking	2.00	EA	9,850.0000	0.00	19,700.00	No	0.00	11	ASL02	2.2.a	39400.
6	6	Direct Purchase	1-6	Tug services for berthing and unberthing -	2.00	EA	7,680.0000	0.00	15,360.00	No	0.00	11	ASL02	2.2.b	30720.
7	7	Direct Purchase	1-7	Upper and lower pintle clearennces and	1.00	LOT	2,740.0300	0.00	2,740.03	No	0.00	11	ASL02	21.1	2740.
8	8	Direct Purchase	1-8	Unship rudder to dock for access on	1.00	LOT	11,620.0800	0.00	11,620.08	No	0.00	11	ASL02	21.2	11620.
9	9	Direct Purchase	1-9	Tailshaft (diameter 520mm) weardown to	1.00	LOT	995.4000	0.00	995.40	No	0.00	11	ASL02	22.1	995.
10	10	Direct Purchase	1-10	Renewal of foward and aft compact stern	1.00	LOT	3,280.1900	0.00	3,280.19	No	0.00	11	ASL02	22.2	3280.
11	11	Direct Purchase	1-11	6 pieces net cutter to be welded onto rope	1.00	LOT	900.3600	0.00	900.36	No	0.00	11	ASL02	22.3	900.
12	12	Direct Purchase	1-12	Propeller (Ni-AL-Br), 4 bladded diameter	1.00	LOT	2,349.8700	0.00	2,349.87	No	0.00	11	ASL02	23.1	2349.
13	13	Direct Purchase	1-13	Cement and tallow in propeller cap to be	1.00	LOT	480.1900	0.00	480.19	No	0.00	11	ASL02	23.2	480.
14	14	Direct Purchase	1-14	Anchor chains to be lowered and to be	1.00	LOT	2,825.0300	0.00	2,825.03	No	0.00	11	ASL02	24.2	2825.
15	15	Direct Purchase	1-15	Remove grating, appy one (1) coat of owner	3.00	EA	425.1700	0.00	1,275.51	No	0.00	11	ASL02	25.1	3826.
16	16	Direct Purchase	1-16	Renewal of anodes with Owners supply of	5.00	EA	28.0100	0.00	140.05	No	0.00	11	ASL02	25.2	700.
17	17	Direct Purchase	1-17	1.) High suc. valve for main cool. S.W.	1.00	EA	1,104.4000	0.00	1,104.40	No	0.00	11	ASL02	26.01	1104.
18	18	Direct Purchase	1-18	2.) Clean, valve for H.S.C. 40A	1.00	EA	94.0400	0.00	94.04	No	0.00	11	ASL02	26.02	94.
19	19	Direct Purchase	1-19	3.) Disch. valve for aux. cooler. F.W.dr and	1.00	EA	544.1900	0.00	544.19	No	0.00	11	ASL02	26.03	544.
20	20	Direct Purchase	1-20	4.) Disch. valve for scupper (galley and	1.00	EA	188.0600	0.00	188.06	No	0.00	11	ASL02	26.04	188.
21	21	Direct Purchase	1-21	5.) Disch. valve for scupper (general).	1.00	EA	188.0600	0.00	188.06	No	0.00	11	ASL02	26.05	188.
22	22	Direct Purchase	1-22	6.) Disch. valve for F.W. gen. & air cond.	1.00	EA	276.1000	0.00	276.10	No	0.00	11	ASL02	26.06	276.
23	23	Direct Purchase	1-23	7.) Low suc. valve for balast pump. 350A	1.00	EA	773.2600	0.00	773.26	No	0.00	11	ASL02	26.07	773.
24	24	Direct Purchase	1-24	8.) Low suc. valve for main cool S.W>	1.00	EA	884.2800	0.00	884.28	No	0.00	11	ASL02	26.08	884.
25	25	Direct Purchase	1-25	9.) Clean valve for L.S.C.	1.00	EA	94.0400	0.00	94.04	No	0.00	11	ASL02	26.09	94.
26	26	Direct Purchase	1-26	10.) Disch. valve for ballast pump. 350A	1.00	EA	773.2600	0.00	773.26	No	0.00	11	ASL02	26.1	773.
27	27	Direct Purchase	1-27	11.) Disch. valve for fire and G.S. pump and	1.00	EA	552.2000	0.00	552.20	No	0.00	11	ASL02	26.11	552.
28	28	Direct Purchase	1-28	12.) Disch. valve for scupper (disper). 80A	1.00	EA	188.0600	0.00	188.06	No	0.00	11	ASL02	26.12	188.
29	29	Direct Purchase	1-29	13.) Disch Valve for Scupper (general)O	1.00	EA	188.0600	0.00	188.06	No	0.00	11	ASL02	26.13	188.

1. **Review the Bill Items and correct or change them as needed. You can also add additional items manually.**

The Project is Complete

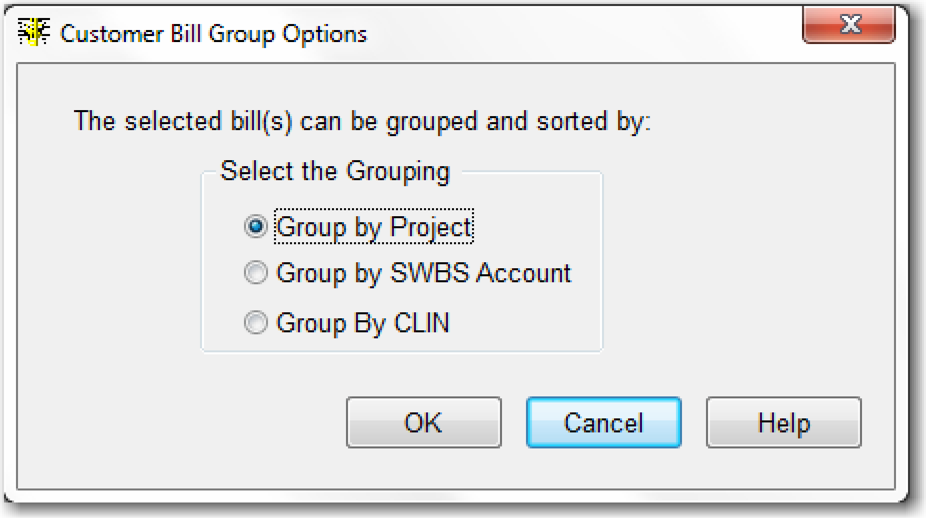
Create the Customer Invoice



Customer ... mation for the Estimating Environment

	Contract	Bill	Customer	Project	Bill Date	Billing Start Date	Billing Finish Date	Terms	Bill Due Date	Approval	Amount Paid
1	R1187	1	SPAR Associates, Inc	11	11/05/2012	00/00/0000	00/00/0000	Net30	12/05/2012	No	0.00
2	R1187	2	SPAR Associates, Inc	11	11/16/2012	00/00/0000	00/00/0000	Net30	12/16/2012	No	0.00
3	R1187	3	SPAR Associates, Inc	11	11/16/2012	00/00/0000	00/00/0000	Net30	12/16/2012	No	0.00

1. After you complete the Bill Creation process you can print a Draft copy to review.
2. Once you are satisfied with the Bill contents, then you Issue the Bill to the Customer.
3. When printing the Draft or the Issued Billed you have the option to group the Bill Items by the Customers WBS (CLIN) or your WBS (SWBS)



The selected bill(s) can be grouped and sorted by:

Select the Grouping

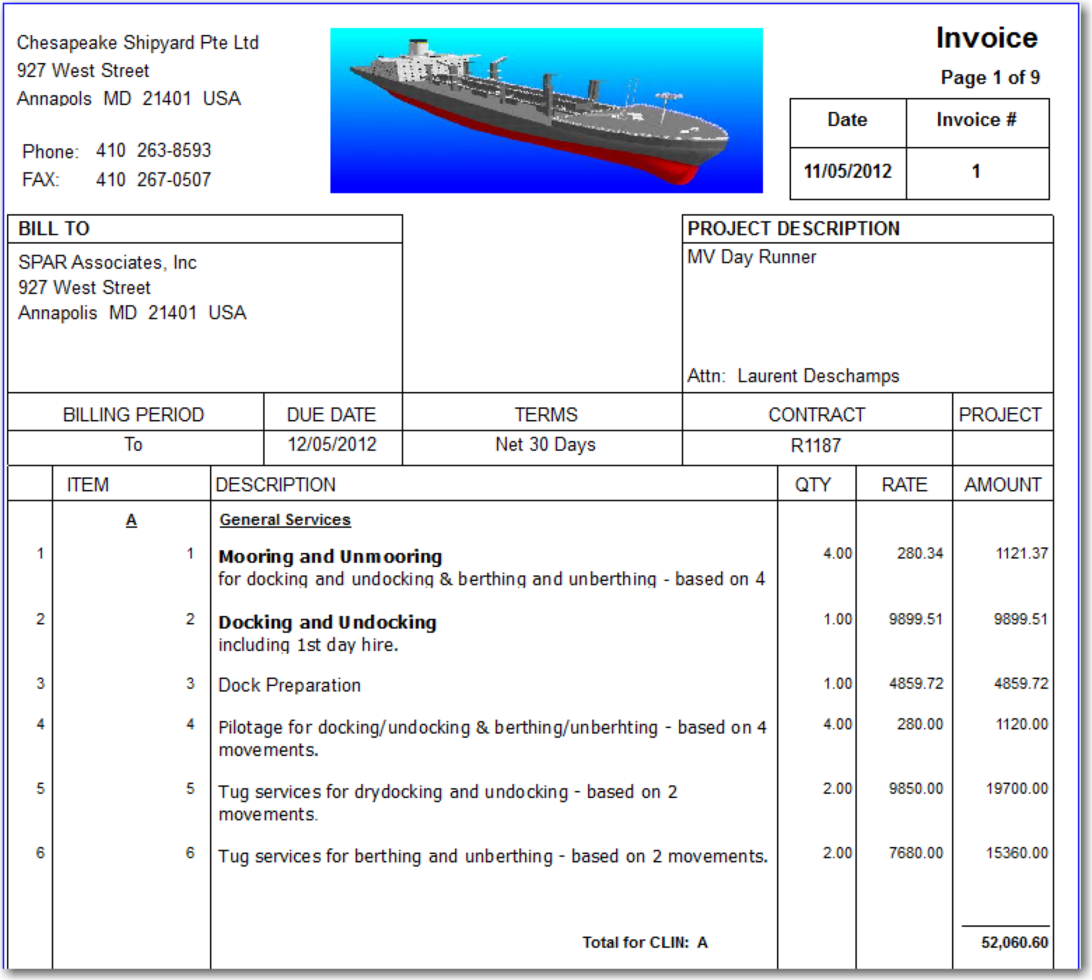
● Group by Project

○ Group by SWBS Account

○ Group By CLIN

The Project is Complete

Create the Customer Invoice



Chesapeake Shipyard Pte Ltd
927 West Street
Annapolis MD 21401 USA

Phone: 410 263-8593
FAX: 410 267-0507

Invoice

Page 1 of 9

Date	Invoice #
11/05/2012	1

BILL TO

SPAR Associates, Inc
927 West Street
Annapolis MD 21401 USA

PROJECT DESCRIPTION

MV Day Runner

Attn: Laurent Deschamps

BILLING PERIOD	DUE DATE	TERMS	CONTRACT	PROJECT
To	12/05/2012	Net 30 Days	R1187	

	ITEM	DESCRIPTION	QTY	RATE	AMOUNT
	A	General Services			
1	1	**Mooring and Unmooring** for docking and undocking & berthing and unberthing - based on 4	4.00	280.34	1121.37
2	2	**Docking and Undocking** including 1st day hire.	1.00	9899.51	9899.51
3	3	Dock Preparation	1.00	4859.72	4859.72
4	4	Pilotage for docking/undocking & berthing/unberhting - based on 4 movements.	4.00	280.00	1120.00
5	5	Tug services for drydocking and undocking - based on 2 movements.	2.00	9850.00	19700.00
6	6	Tug services for berthing and unberthing - based on 2 movements.	2.00	7680.00	15360.00
		Total for CLIN: A			**52,060.60**

Over 40 Years Serving the Shipbuilding & Repair Industry

SPAR
ASSOCIATES, INC.
927 WEST STREET
ANNAPOLIS, MD 21401 USA