



**APEC**

• **Arike Pardaz Engineering Company**



[www.apecir.com](http://www.apecir.com)



- **Arikeh Pardaz Engineering Company (APEC Ltd.) founded on 2008 to compensate the lack of a systematic project oriented regulatory in mega projects.**

APEC is a leading engineering company which starts deep studies in each and every activity from the start of engineering up to end of commissioning in mega projects to reduce the total cost of execution.

These studies leads to develop best procedures and soft wares customized for different type of contracts in below projects:

- ✓ Oil & Gas Refinery plants
- ✓ Petrochemical plants
- ✓ Power plants
- ✓ Steel Making plants
- ✓ High-tech Manufactories



## CLIENTS

We are proud to have such valuable customers



## SERVICES

the more experiences we got, the more valuable services we are providing, Ask our happy clients!

### Construction

all Electrical and Mechanical erection and installation jobs

### Procurement

Our Procurement team can manage every purchasing solutions faster and cheaper ever

### Material Management

we use our Turboware system to manage the material flow in the smoothest way possible our rich manpower and mechanism bank empowered us to be the best project warehouse operator

### Engineering Management

we worked hard to find out engineering bottlenecks and the best solutions to handle them you will Never be claimed, we know best how to handle your counterparts

● **Construction**

We have golden experiences in Piping, Mechanical and electrical fabrication and installation

APEC has been growing alongside Iran's resource industry since 2008. We have constructed portions of some of the Iranian largest resource and infrastructure projects and are well positioned to help meet the demand of the wisely-improved construction needs of the future.

We are accustomed to operating in challenging terrain. This will not change. The nature of oil and natural gas lies in unpleasant regions. All of these present challenges. Challenges that we are prepared to take on to help our clients achieve success.

● **Procurement Services**

The oil and gas industry is involved in a global supply-chain that includes domestic and international transportation, ordering and inventory visibility and control, materials handling, import/export facilitation and information technology. Thus, the industry offers a classic model for implementing supply-chain management techniques. In a supply-chain, a company is linked to its upstream suppliers and downstream distributors as materials, information, and capital flow through the supply-chain. We have investigated the role of supply-chain management in the oil and gas industry and applied the Uniform Commercial Code (UCC) to supply-chain management issues. Then, several strategies are examined for improving supply-chains in the oil and gas industry.

● **Material Management and Warehousing**

Generally more than the half of the expenditures of the Oil, Gas, Petrochemical or Power plants refers to their materials and this fact is enough only to mark the importance of material management and warehousing during the constructions. Delays, duplicate purchases, damaged materials, lack of necessary information about materials, mistake erections and all similar conditions in construction projects which always lead to owners complaints persuaded us to put the warehousing system at the core of our interests

● **For Owners**

These types of contracts are when owner have several construction contractors and intends to manage the warehouse and materials by itself and he just delivers the materials when construction contractors request the materials. For these types of contracts following services will be provided:

- use of web based owner warehouse software
- provide material control procedures
- prepare required formats for project warehouse
- define relations, responsibilities & authorities of the material department
- prepare material department personnel charts
- prepare job descriptions for each position
- train the contractors warehouse personnel
- create warehouse layouts and define warehouse locations
- forecasting required equipment for warehouse
- unloading the arrived materials according to material handling procedures
- material locating according to material preservation procedures and with respect to warehouse layouts
- control the material documents

- forecasting required equipment for warehouse
- unloading the arrived materials according to material handling procedures
- material locating according to material preservation procedures and with respect to warehouse layouts
- control the material documents
- receipt and check the materials against the documents
- archive all receipt documents of the materials
- prepare required reports related to receipt of materials
- data entry of detailed information of received consignments
- providing accessibility for construction contractors to use our material software for preparing material requisition documents at their technical offices
- control the contractors material requisition documents

### ● **For Contractors and Sub Contractors**

These types of contracts are when construction contractor manages the materials and project warehouses at his cost. Here he will be responsible about materials at their arrival at site. For these types of contracts following services will be provided:

- use of web based technical office software
- evaluate and modify the introduced formats by owner for technical offices
- define relations, responsibilities & authorities of the technical offices
- prepare technical office personnel charts
- prepare job descriptions for each position
- control the technical documents of the construction project
- receipt and control the isometric drawings/Equipment drawings
- data entry of all details related to drawings and create MTO for piping lines, piping support, equipments, storage tanks, paints, insulation etc
- scanning and archiving the drawings
- updating the information of revised documents
- marking the fields or shop joints on isometric drawings
- create joint history file for whole plant
- introduce possible working fronts for subcontractors by comparing warehouse inventory and material requirements
- prepare and confirm material requisition documents for receiving materials from owners
- prepare and confirm internal material requisition documents for subcontractors
- control the material consumption of the subcontractors according to material requirements of their working fronts
- control the fit up reports of the piping subcontractors in the way to prevent any repetitive claims for a joint
- control the weld reports of the piping subcontractors in the way to prevent any repetitive claims for a joint
- control the subcontractors welders performance and prepare related reports for management
- check & control the progress reports of the subcontractors in the fields of piping, mechanical, insulation, paint
- check and control the subcontractors invoices
- check and control the claims of subcontractors
- prepare daily, weekly and monthly reports of all working fronts for planning department
- enabling the management to access the detailed information of the technical office in all over the world
- preparing all types of the reports regarding to technical office for management, planning department, QC etc
- control the material take off claimed by construction contractors in their material reconciliation reports

**OUR SELECTED GALLERY OF PROJECTS**

Some of our finished and on-going Projects



**Arya Sasol Polymer Co.**  
**Service 1:**  
 Material Management and Warehousing  
**Service 2:**  
 Engineering Management and Site Technical Offices  
**Project:**  
 C2 Cracker & Offsite  
**Client:**  
 Arya Sasol Polymer Co.  
**Location:**  
 Asalouyeh



**Technip-Nargan J.V.**  
**Service 1:**  
 Material Management  
**Project:**  
 C2 Cracker & Offsite  
**Client:**  
 Technip-Nargan J.V.  
**Location:**  
 Asalouyeh



**Hormozgan Steel Complex**  
**Service 1:**  
 Material Management and Warehousing  
**Service 2:**  
 Engineering Management and Site Technical Offices  
**Service 3:**  
 QC and WJCS(Welding Joint Control System)  
**Project:**  
 Steel Making Plant  
**Client:**  
 IRITEC - Pamico  
**Location:**  
 Bandar Abbas



**South Pars Gas Development Phases 15&16**  
**Service 1:**  
 Material Management and Warehousing  
**Service 2:**  
 Engineering Management and Site Technical Offices  
**Service 3:**  
 QC and WJCS(Welding Joint Control System)  
**Project:**  
 South Pars Gas Development Phases 15&16  
**Client:**  
 Sepanir-Arya Naft Shahab  
**Location:**  
 Asalouyeh



**Shiraz 3rD Urea and Ammonia Development Plant**  
**Service 1:**  
 Material Management and Warehousing  
**Project:**  
 Urea and Ammonia Plant  
**Client:**  
 PIDEC  
**Location:**  
 Shiraz



**Mahabad Petrochemical Co.**  
**Service 1:**  
 Material Management and Warehousing  
**Service 2:**  
 Engineering Management and Site Technical Offices  
**Service 3:**  
 QC and WJCS(Welding Joint Control System)  
**Project:**  
 Steel Making Plant  
**Client:**  
 IRITEC - Pamico  
**Location:**  
 Bandar Abbas



**South Pars Gas Development Phases 19**  
**Service 1:**  
 Material Management  
**Project:**  
 South Pars Gas Development Phases 22,23&24  
**Client:**  
 Payandan Co.  
**Location:**  
 Asalouyeh



**Ilam Petrochemical co.**  
**Service 1:**  
 Material Management and Warehousing  
**Service 2:**  
 Engineering Management and Site Technical Offices  
**Project:**  
 Olefin and Offsite  
**Client:**  
 Ilam Petrochemical Co.  
**Location:**  
 Ilam



**Veniran Apadana Petrochemical co.**  
**Service 1:**  
 Material Management  
**Service 2:**  
 Engineering Management and Site Technical Offices  
**Project:**  
 Methanol Plant  
**Client:**  
 Apadana Petrochemical Co.  
**Location:**  
 Asalouyeh



**Asalouyeh Green Tanks  
Petrochemical co.**

**Service 1:**

Material Management  
and Warehousing

**Service 2:**

Engineering Management  
and Site Technical Offices

**Project:**

Tank Farm

**Client:**

Arya Sasol Polymer Co.

**Location:**

Asalouyeh



**Alborz Turbine Co.**

**Service 1:**  
Procurement

**Project:**

Supply of GE F5 Turbine  
sub assembly and parts

**Client:**

Alborz Turbine Co.

**Location:**

Asalouyeh



**South Kaveh Steel  
Complex**

**Service 1:**  
Construction

**Project:**

Piping, Mechanical and  
Electrical Installation  
for RO Plants

**Client:**

Melli Sakhteman Co.

**Location:**

Bandar Abbas



**South Kaveh Steel  
Complex**

**Service 1:**

Construction

**Service 2:**

UG Piping for whole  
complex

**Client:**

Melli Sakhte

**Location:**

Bandar Abbas



**Hormozgan Steel Complex**

**Service 1:**  
Construction

**Project:**

Piping, Mechanical  
and Electrical  
Installation for Oxygen Plant

**Client:**

Pammico Co.

**Location:**

Bandar Abbas



**Hormozgan Steel Complex**

**Service 1:**

Construction

**Project:**

Piping, Mechanical  
and Electrical  
Installation for PRS Plant

**Client:**

IRITEC - Pamicco

**Location:**

Bandar Abbas



**Mapna Turbine Hightech  
Manufactury**

**Service 1:**  
Construction

**Project:**

Onboard Piping and tubing  
and Mechanical Installation  
for Turbine and Compressors

**Client:**

Mapna Turbine TUGA Co.

**Location:**

Fardis Karaj



**Boland Tabagheh Co.**

**Service 1:**  
Construction

**Project:**

Field Piping Fabrication and Spool  
Installation for Units  
108, 147, 148 Phase 19 PSEEZ

**Client:**

Boland Tabagheh Co.

**Location:**

Asalouyeh



**Petro Pars Ltd.**

**Service 1:**  
Construction

**Project:**

Hot and Cold Insulation  
Installation for  
Units 108, 147, 148  
Phase 19 PSEEZ

**Location:**

Asalouyeh



## ACHIEVEMENTS

Some of achievements listed below:





## TURBOWARE A Comprehensive Material & Piping Management System



### Objectives

Design, implementation and run a comprehensive material and technical offices management system which includes software, experienced human resources, procedures, relations, authorities and responsibilities to meet the requirements of our owners in minimum costs and times.

### MRS Release

MRS (Material Receipt Sheet) formats will be generated for each consignment just after warehouse approves the receipt of consignments. Any discrepancy between the claimed packing lists of the vendors and received physical materials will be considered in MRS to

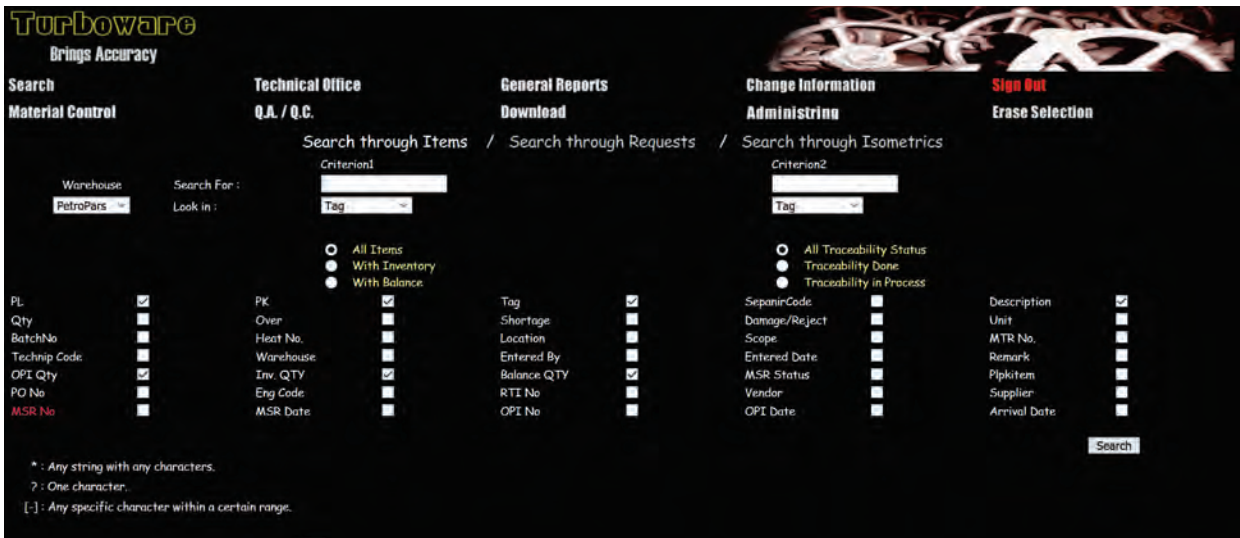
### Warehouse Adjutancy

MIV documents will be always equipped with a summary format which provide information about Location, Package No., Color Code, Warehouse Inventory, Pipe Length, Batch No., etc. of the requested materials in MIV which facilitate the material delivery for

### Define The Access Level

It is very critical to limit the accessibility of the users according to their job specifications to prevent job interferences. A simple example is the accessibilities of the warehouse users which are completely distinct from the accessibilities of the technical offices users.

### Search Through items and drawings



### User Friendly System

As wide numbers of people will be the users of the software, it has been designed user friendly and can be trained within minutes.

### Material Traceability

When procedures have any obligations about material matching with vendor certificates, system will not allow to deliver materials until necessary documentations

### General Reports

Different types of reports related to material or technical fields can be generated by the system. These reports usually are modified in each project according to the tastes of the users.

### Material Reconciliation Reports

Material Reconciliation Status of each contractor can be reported by the system at any period of the project.

## Surf through Joint History

**Turboware**  
Brings Accuracy

Search Technical Office General Reports Change Information Sign Out  
 Material Control Q.A. / Q.C. Download Administrating Erase Selection

Document List  
 Drawing List  
 Drawing Entry  
 Line List  
 Line Entry  
**Joint History**  
 Release Drawing  
 Equipment List  
 Take Off Material  
 Take off Split  
 Paint  
 ISO Shortage  
 Balance  
 Support

Add New Joint to Drawing No. DW-1516-160-1330-1001\_48-FS16-160-20098-B23N-N\_002\_02

Previous Page Next Page Total MTO Support Add Correction Add Discrepancy Takeoff Same as Previous

Tag0: Select Source  
 Description0:  
 Tag1: Select Target  
 Description1:

Joint No/Index/Status: S1 Ordinary -- --  
 Type: BW --  
 Location: Field --  
 Spool No/Index:  
 Contractor:  
 Nominal:  
 Remark:  
 Add

SA	JointNo	Tag0	Tag1	Thk	Size	Type	Location	SpoolNo	Contractor	Nominal	F	W	TIGw	SMAWw	Total WPS	Remark
E	32	37052	30999	14/27	48	BW	Field	-	DSCe	EL-18			1/092	9/173	10/26	NA

### Data Provision

Following information will be accessible from Turboware software:

- Detailed data of received materials including: Purchase Order No., Packing List No., Packages No., Tag, Description, Qty, Batch No., Unit Weight, Net and Gross Weight of Consignment, Consignment Dimension, Consignment Volume, Date of Receipt, OPI Status and Work Scope.
- Detailed data of required materials per DWG./Isometrics after official approves for construction including Tag, Description, Qty.

### Step by Step System

Identification of the goals and implementation of the work systems Run our web based software (Turboware) and share it with the points in the whole system which require information Recording all data related to materials and technical offices and data processing Providing online information and reports for software users Adding new reports or revising existing reports according to users feedbacks Facilitate the process of material delivery and data circulations in the whole system.

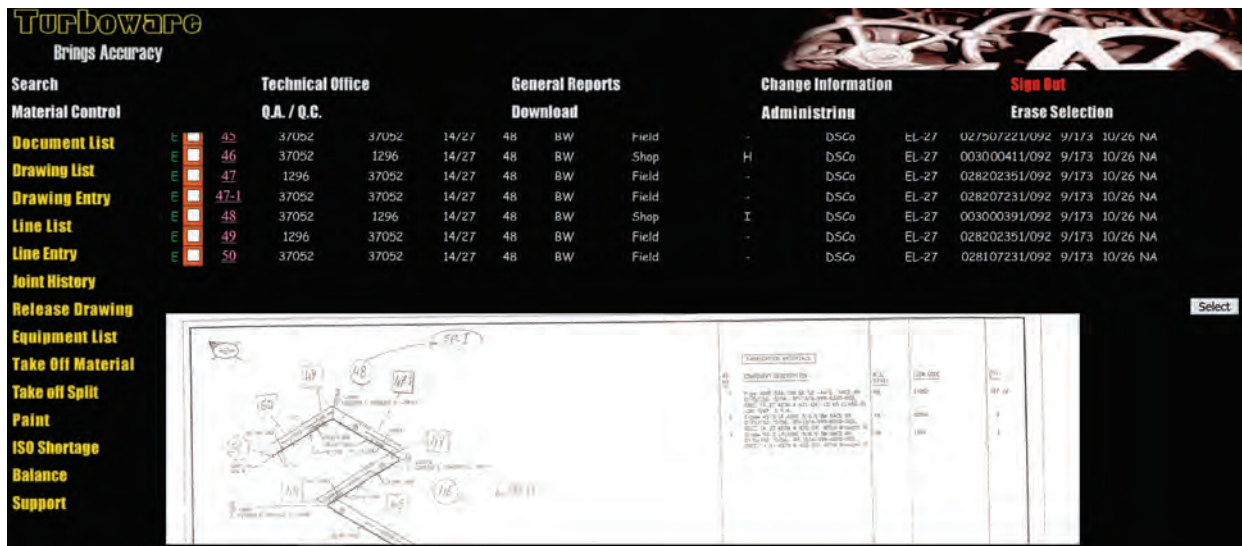
### Usefulness of Aggregation

By having online data of available and required materials, MIV will be released by material management and technical offices after receiving MRC and compare them with their actual requirements while over MTO requests and NIS items will be dropped and just matched items with DWGs and available items in warehouse will be shifted in MIV formats. Different types of reports like material shortage and assignable materials for other projects from over materials can also be generated

### DWG./Isometrics Revision Followings

As there would be lots of changes and revisions in DWG./Isometric of construction projects, void items will be substituted by new revisions. Here materials which have been delivered to contractors according to the outdated revisions but are not required in new ones, will be identified and asked to be returned by MRV format to owner warehouse.

**Check Isometrics, Piping Plans and PID, just by one click**



**Turboware**  
Brings Accuracy

Search	Technical Office	General Reports	Change Information	Sign Out										
Material Control	Q.A. / Q.C.	Download	Administrinn	Erase Selection										
Document List	43	37052	14/27	48	BW	Field	-	DSCo	EL-27	027507221/092	9/173	10/26	NA	
Drawing List	46	37052	1296	14/27	48	BW	Shop	H	DSCo	EL-27	003000411/092	9/173	10/26	NA
Drawing Entry	47	1296	37052	14/27	48	BW	Field	-	DSCo	EL-27	028202351/092	9/173	10/26	NA
Line List	47-1	37052	37052	14/27	48	BW	Field	-	DSCo	EL-27	028207231/092	9/173	10/26	NA
Line Entry	48	37052	1296	14/27	48	BW	Shop	I	DSCo	EL-27	003000391/092	9/173	10/26	NA
Line Entry	49	1296	37052	14/27	48	BW	Field	-	DSCo	EL-27	028202351/092	9/173	10/26	NA
Line Entry	50	37052	37052	14/27	48	BW	Field	-	DSCo	EL-27	028107231/092	9/173	10/26	NA

**As Built MTO on Hands**

If there are authorized substitutions in materials of DWG./Isometrics, all changes will be recorded and can be submitted to engineering departments for any probable reconsiderations in supports and pipe rack calculations. For an instance, when pipes with higher wall thicknesses have been received at site, the actual delivered materials will be recorded and allocated for the erected Isometrics.

**Feel Comfortable When Signing MTV**

When owners define different construction projects with different warehouses, it maybe some items available in a warehouse which are shortage ones in another project. Here field engineers or construction managers of the owners can have controls about the status of items which have been requested through Material Transfer Vouchers by contractors from other projects.

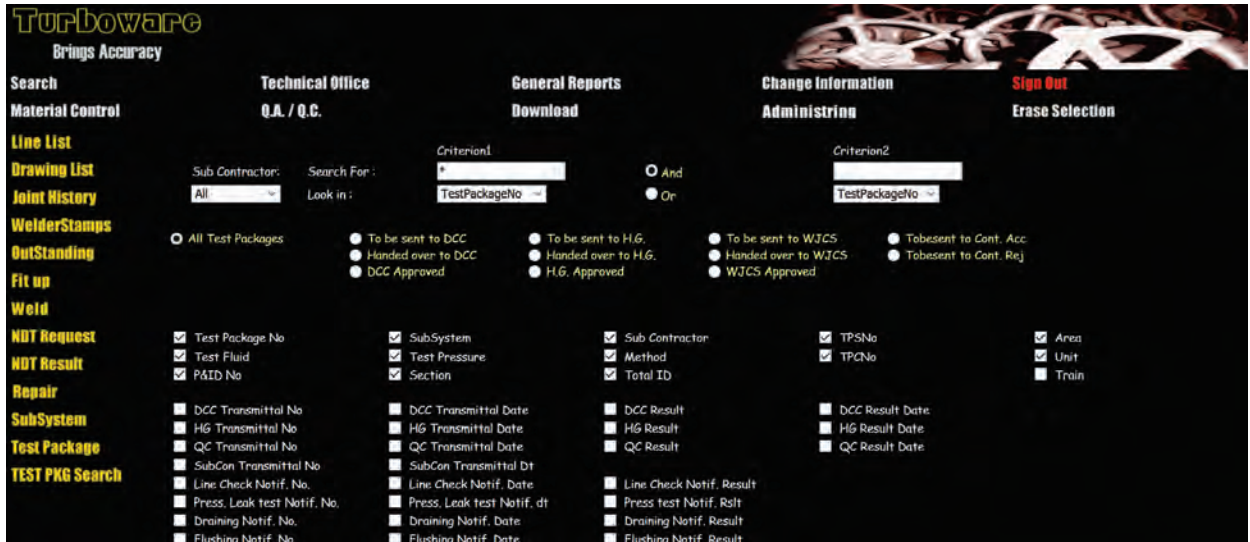
**Expiry Dates of Materials are Considered**

Some materials in construction projects like Paints, Electrodes, Refractory Cement and etc. have limited qualification lifetimes. For these items, expiry dates of the materials together with their batch numbers will be entered and system automatically will put those Batches of the materials in summary formats which their expiry dates are more closed than the other batches.

**Work Fronts Based on Owners Policies**

Turboware System can provide the opportunity of allocating materials based on owners policies. For example while contractors will seek to perform the high volume lines and owner policy is to get the project to more possible tests, available materials will be assigned prior to complete the loops than the contractors requests.

### Test packages become so friendly



#### Allocation of Materials Due to Contractors Working Range

This service will help owners when they use different contractors in a construction area. By defining the working ranges of each contractor in the system, just related materials of each range will be allocated to incumbent contractor.

#### Detailed Report

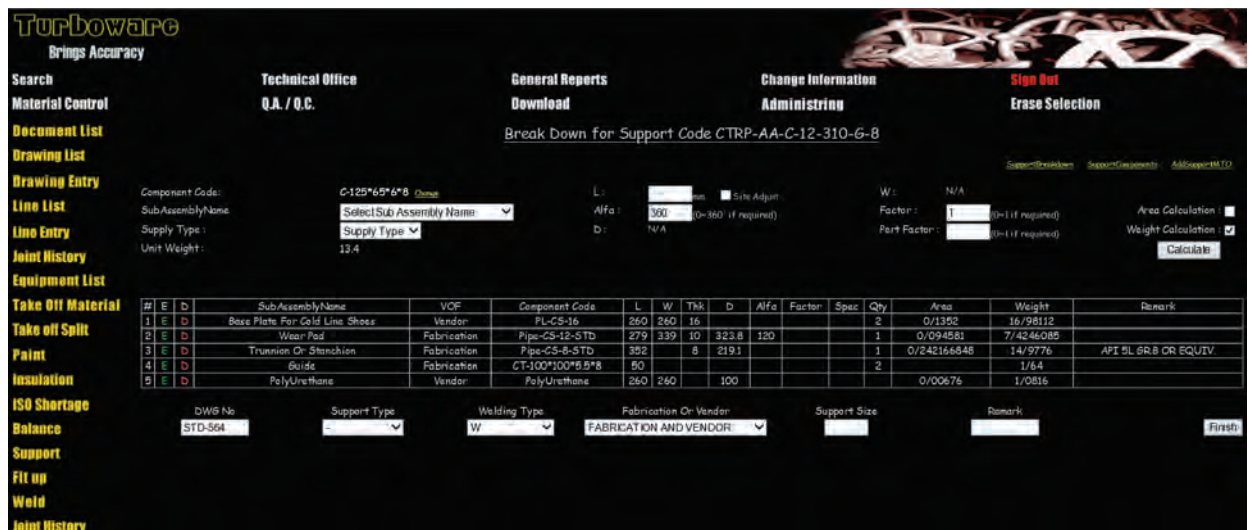
This report illustrates a clear history for each material (Tag) which includes Dates of Receipt, MRS Numbers, OPI Numbers, Total Received Quantities, Dates of Issue, MIV Numbers, Issued Quantities, Recipient Contractors, Total Issued Quantities, Required Quantity, Warehouse Inventory and MTO Balance.

#### Inventory Update and DWG./Isometrics Locking

As Materials will be delivered to contractors, qty of delivered items will be reflected on MIV documents. Warehouse returns the MIV documents to material management and technical offices management centre and by entering the MIV data in the system we will have:

- 1- Inventory of warehouse will be updated.
- 2- The DWG./Isometrics which their materials have been allocated through MIVs, will be locked by the system and system will prevent it to request more materials for them again to prevent material shortage due to making duplicate spools by contractors.
- 3- Software users can access to online warehouse inventory, materials which have been allocated to each DWG./Isometric and materials which have delivered to each contractor

### Support Brake down is not a headache any more





A r i k e P a r d a z E n g i n e e r i n g C o m p a n y





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