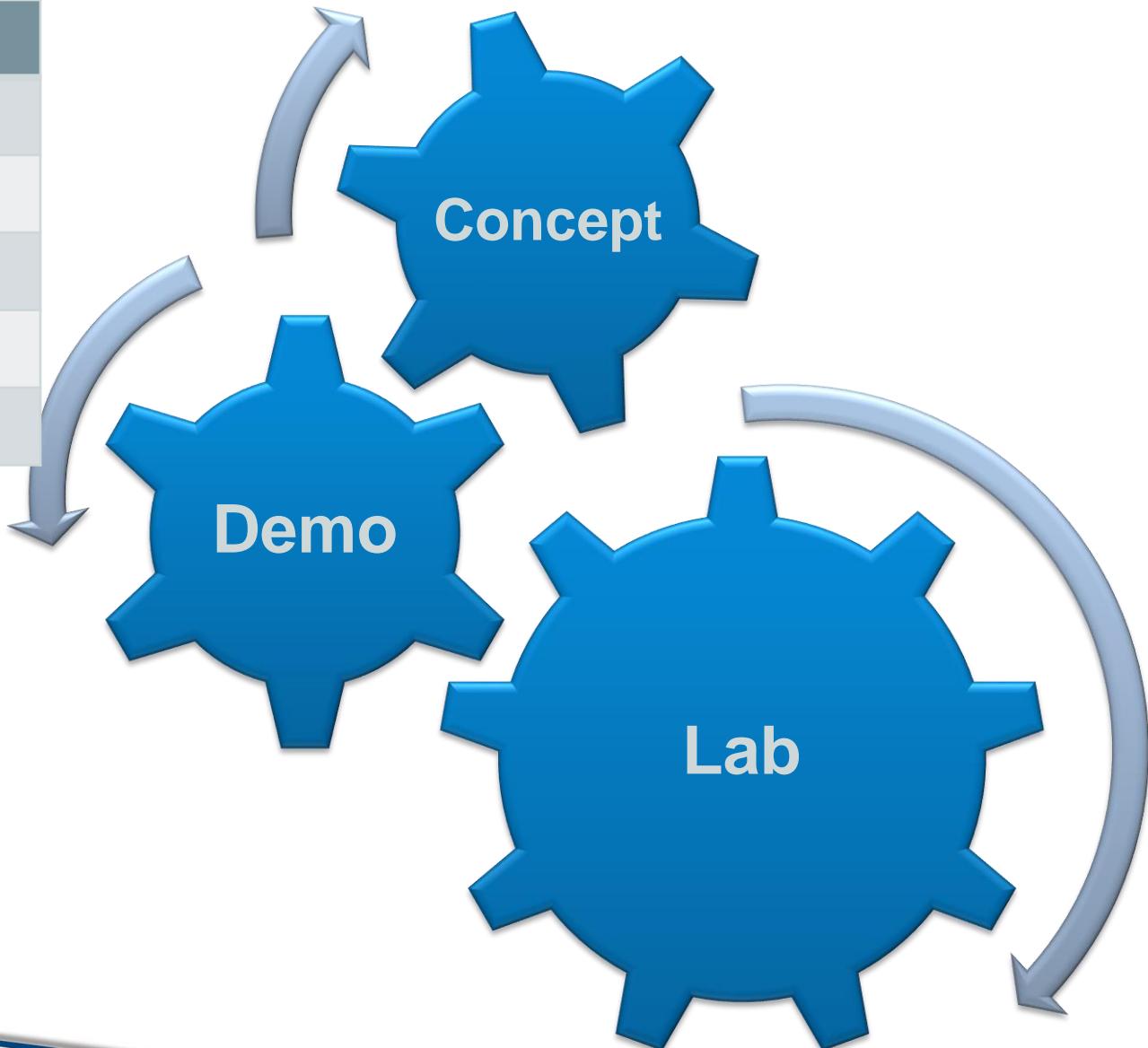


Smart Plant Reference Data Training



Training Schedule & Approach

Time	Session
8:00 – 10:00	1
10:15 – 12:00	2
1:00 – 2:30	3
2:45 – 4:00	4
(Fri we may end earlier)	



Course Objective

Engineering

- 3D Model, Catalog / Spec Management



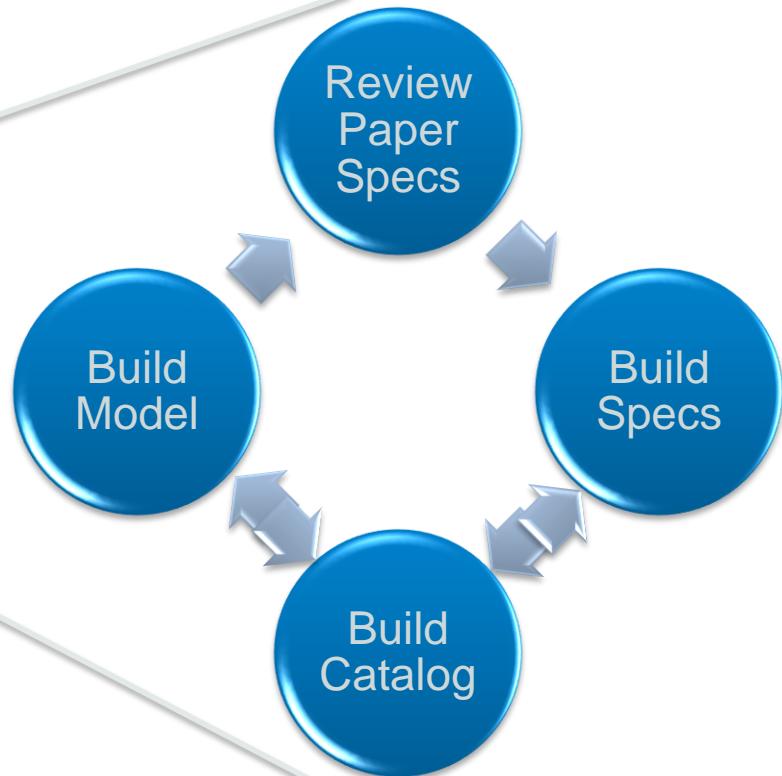
Procurement



Construction



Commissioning / Operations



Catalog Management

- Day 1 (Overview, Spec Review, Commodity Code)
- Day 2 (Geometrics, Idents)

Spec Management

- Day 3 (Spec Creation)
- Day 4 (Spec Issue, Release, Copy)
- Day 5 (Change Management)

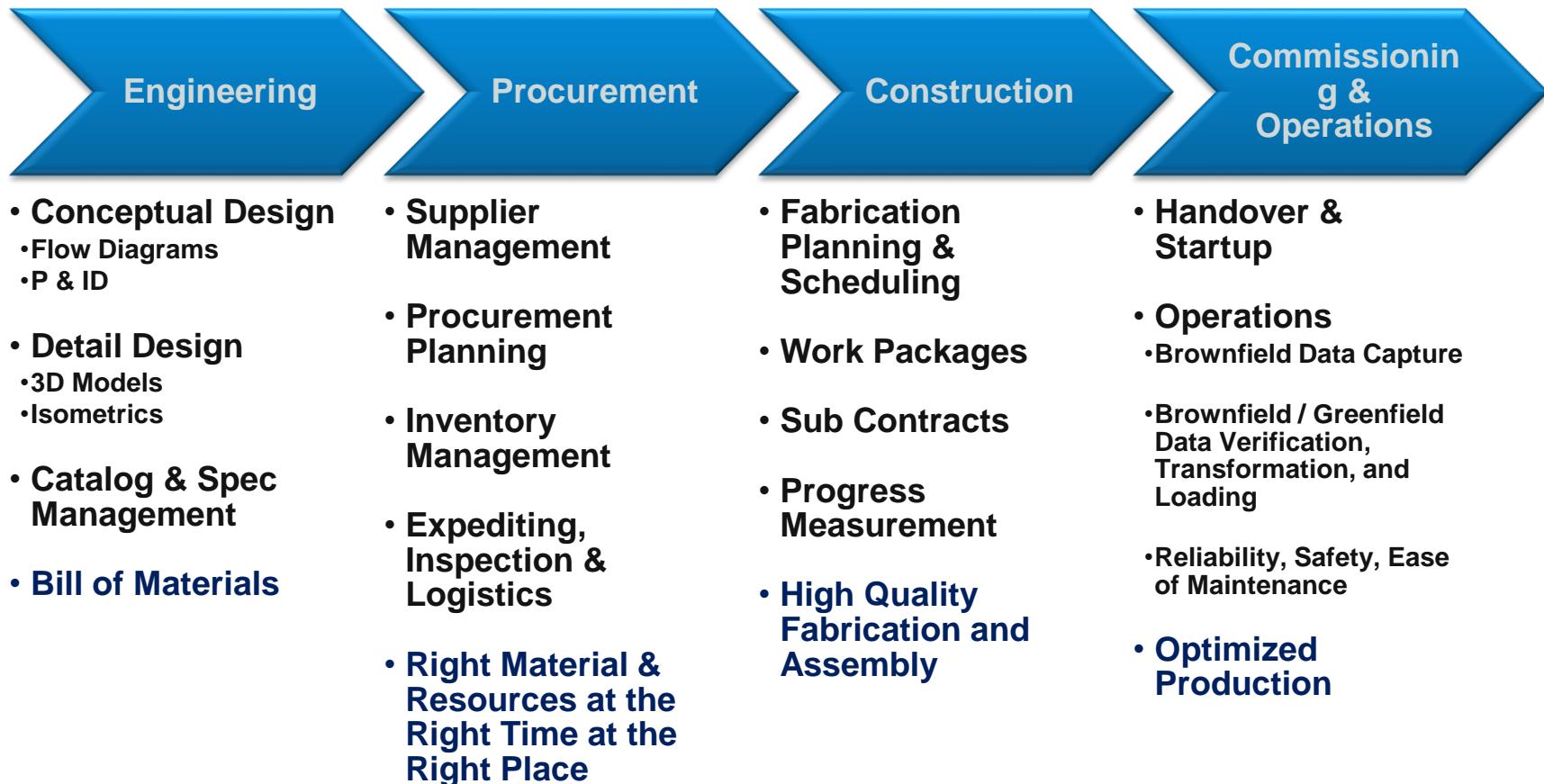
Smart Plant an Integrated Environment

Timothy Foreman



- **The Big Picture**
 - Complete Life Cycle
 - Smart Plant Owner / Operator
 - Smart Plant Enterprise
 - Smart Plant Reference Data Overview
 - SDB Overview
 - Smart Plant Materials Overview
- **Smart Plant Reference Data**

Project Management



Project Management

Engineering

Procurement

Construction

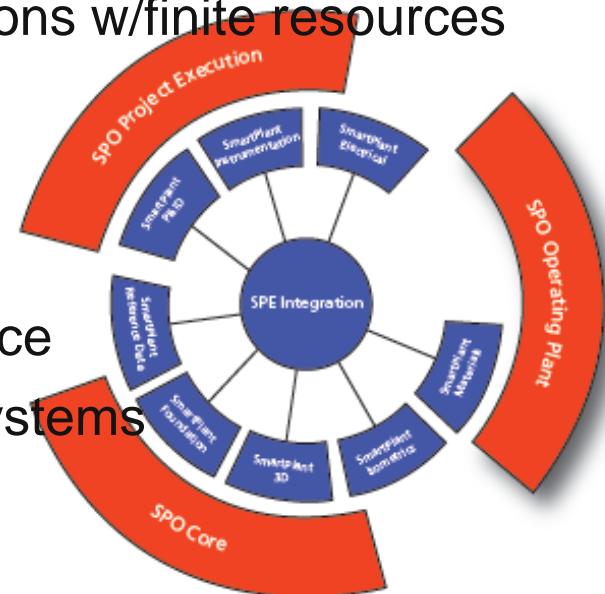
Commissioning
& Operations

■ Owner / Operator Challenges

- Manage multiple new plants and major expansions w/finite resources
- Maintain adequate safety levels
- Deliver On-time within a rigid budget
- Flexible facilities to meet market demands
- Least disruption during upgrade and maintenance
- Consistent “virtual plant,” documentation and systems

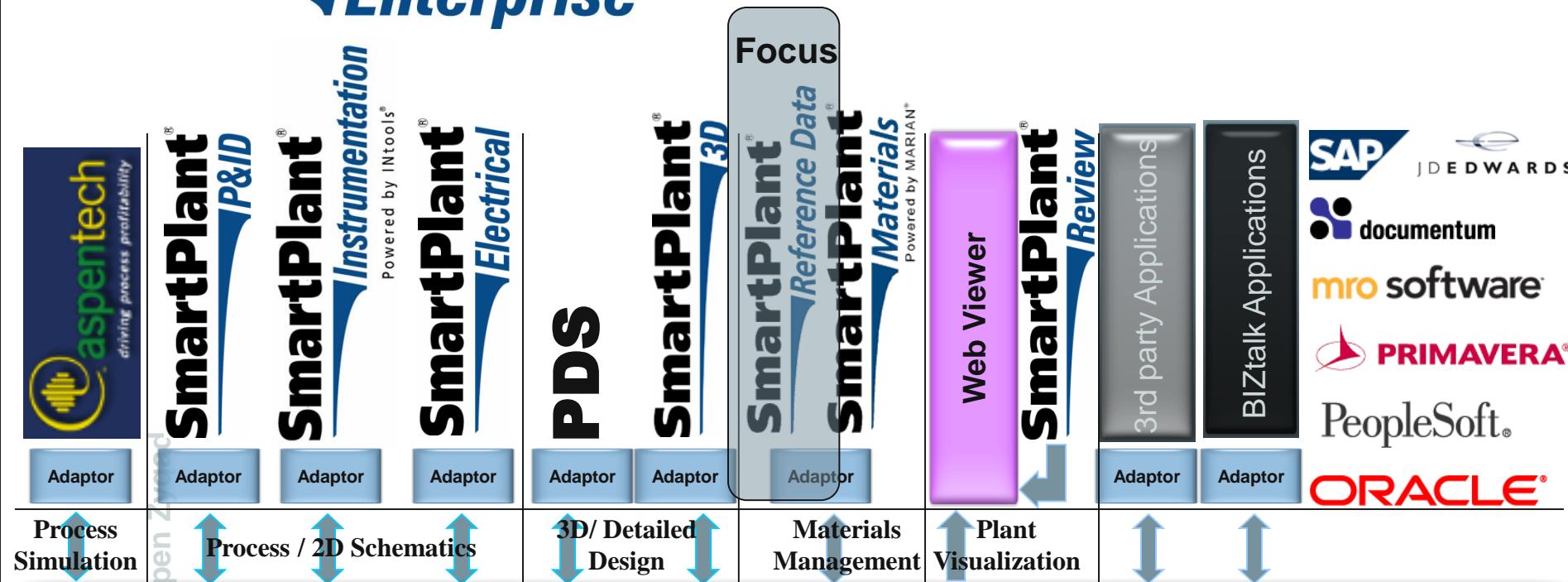
■ Smart Plant Owner / Operator Solution

- SPO Core, Project Execution and Operating Plant modules help manage and communicate electronic product and project data between collaborating firms and internal design, construction, maintenance, and business process systems.
- Leverages Smart Plant Enterprise



SmartPlant® Enterprise

INTERGRAPH



SmartPlant® Foundation

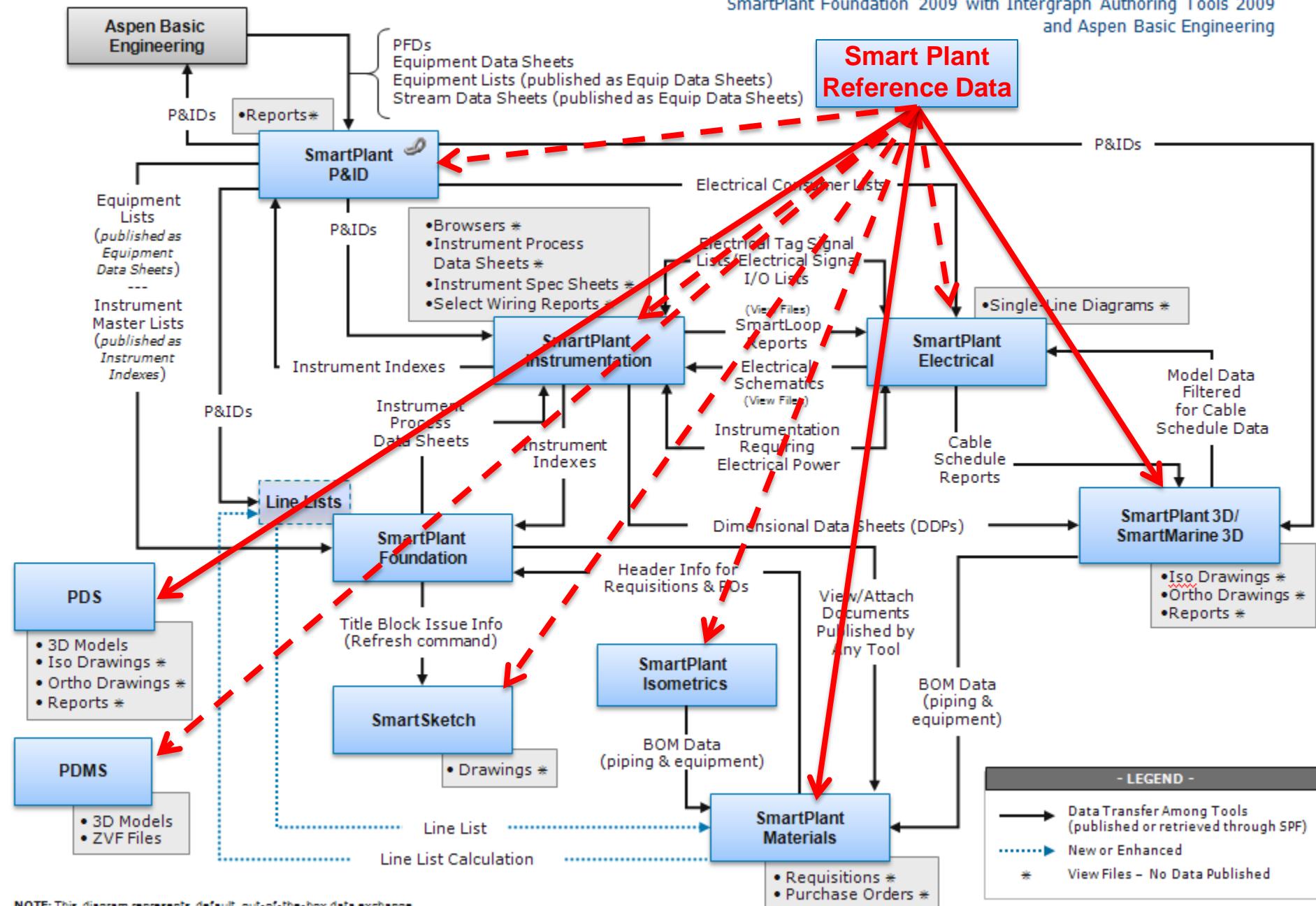
Integration & Info Management

Document Management	Application Integration	Engineering Data Management	Workflow	Change Management
---------------------	-------------------------	-----------------------------	----------	-------------------

- Repository for documents & data
- Document & data workflow management
- Authorizations
- History / versioning / revision control

Full Integration Data Exchange Overview

SmartPlant Foundation 2009 with Intergraph Authoring Tools 2009
and Aspen Basic Engineering

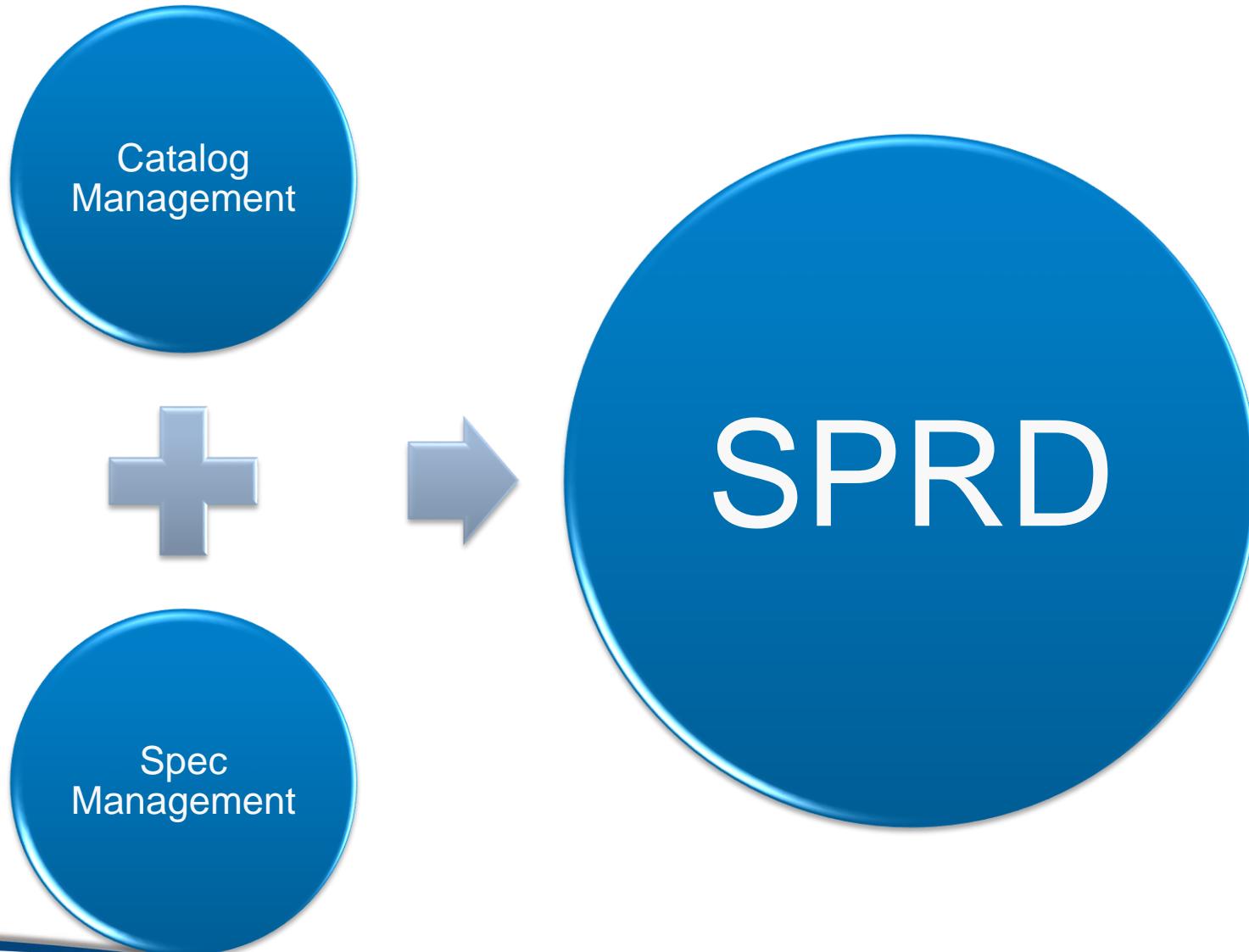


- **Definition of material:** What grade of carbon steel piping is needed or what types of pumps are required?
- **Quantification of requirements:** how many meters of carbon steel pipe are needed to complete the job or how many centrifugal pumps are essential to adhere to the design?
- **Acquisition of material:** involves sending out inquiries for particular quantities and grades of material, followed by the commercial and technical analysis of the offers, and then buying the material and expediting the shipment of the goods.
- **Control of acquired material:** involves logistics of material movement from suppliers to the project site and followed by physical storage at the site.

Smart Plant Reference Data (SPRD) Overview

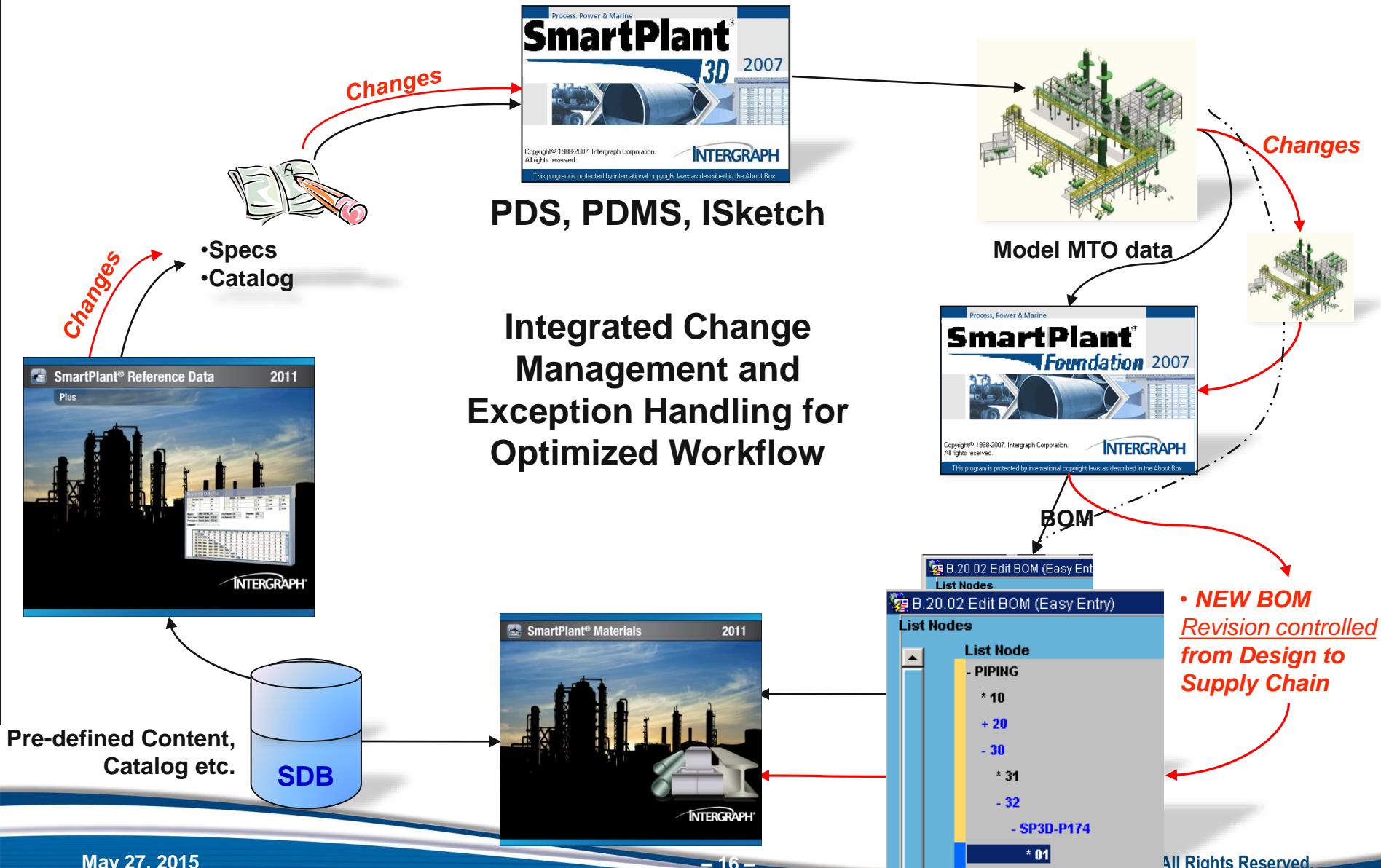


What is SPRD?



- SPRD is a **user-definable rule-based catalog and spec management** tool for both enterprise and project.
- It provides a **single point of data entry for materials and specs**, minimizing the potential for incorrect data entry and ensures that specified components are correctly procured and issued.
- The **standardization** of material classifications dramatically **reduces engineering costs** and can lead to **significant savings during procurement** and construction activities.
- **Integrating with design systems** and reusing material standards also results in **streamlined schedules**, further benefiting the project and enterprise.

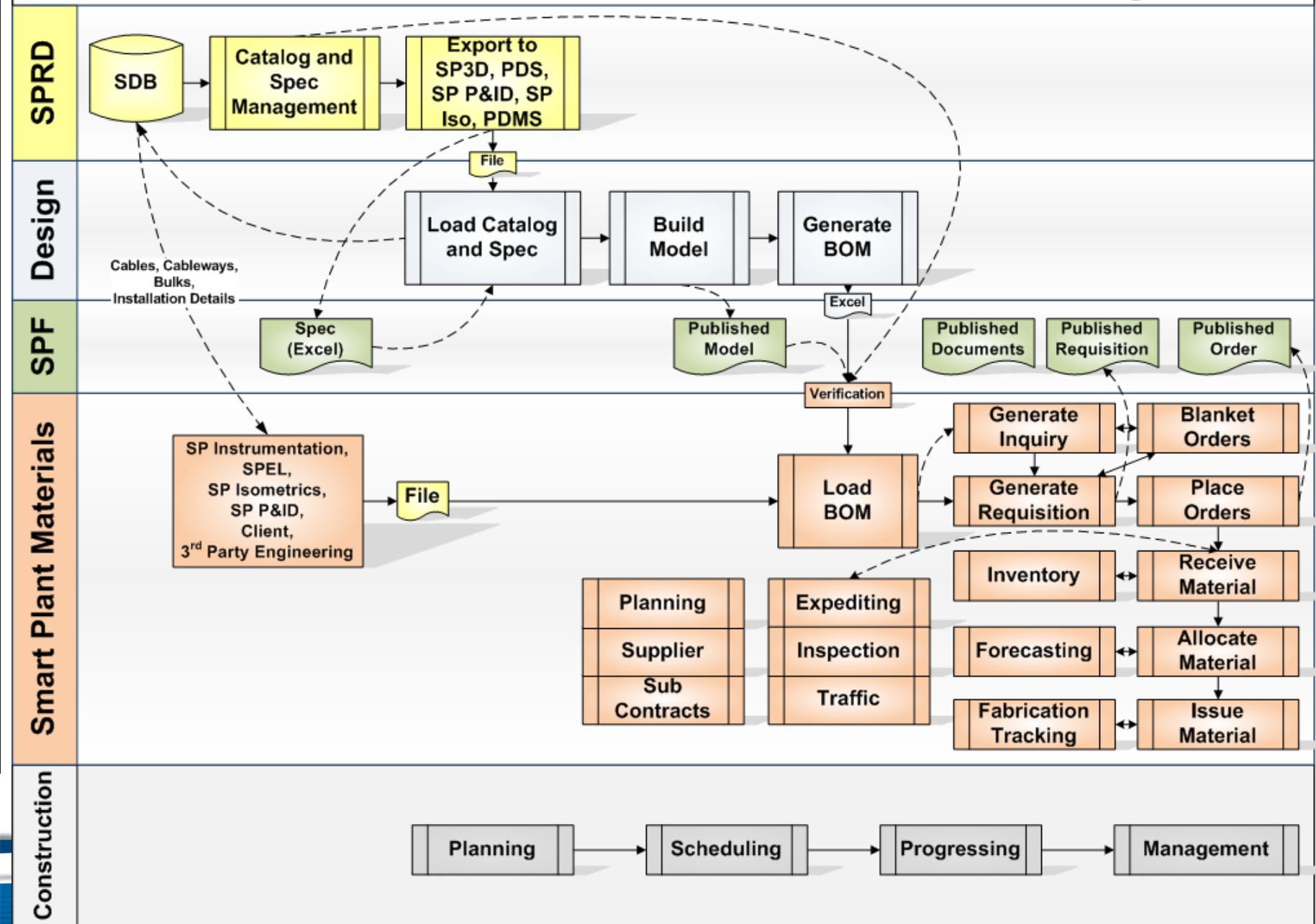
Reference Data Flow



Smart Plant Materials Solution

INTERGRAPH

SDB - SPRD - Design - SPF - SPMAT



Standard Database SDB



- **Standard Database (SDB) for SmartPlant Reference Data (SPRD) is a preconfigured recommended practice solution**
 - **enables rapid implementation of enterprise reference data management, and/or materials management**
 - **SDB incorporates a comprehensive catalog of industry standard multi-discipline material parts, organized and described for 'out of the box' use**
 - **Content is pre-configured to enable catalog and piping specification interfaces to intelligent 3D applications (initially SmartPlant 3D and PDS).**

- When implementing enterprise reference data management, software configuration and training is minimized
- Implementation time and cost is dramatically reduced
- Ensures high quality production start-up by eliminating the need for each customer to re-enter the same standard data.

Standard Database

- What is available TODAY-



- Numerous customers use SDB (EPC and Owners)
- Non-metallic items is included now
- PDS configuration is available
- Basic structural steel is included now
- 18 PAS Specs – DIN Standards
- 40 PIP Specs (for PIP members)
- Certified against SP3D

Hatch	EPC
Murray & Roberts +	EPC
United Group	EPC
BIBB & ASSOCIATES, INC.	EPC
CH2M Hill	EPC
IMPAC	EPC
PBMR	Owner
BP REFINERY	Owner
Thai Nippon Steel	OffShore
SNC Lavalin Nuclear	EPC
Empresas Y&V	EPC
GS Engineering & Construction	EPC
China Petroleum Pipeline Engineering (CPPE)	EPC
Petrobras	Owner

- **Additional Piping Components from different Country Standards**

- Chinese Standards (almost done)
- Japanese Standard (started)
- More US Standards/Components (started)
- Agreement made with PIP to provide Pipe Specs with SDB if you are a PIP member.

- **Intergraph's does the**

- Collection of Catalogs (Vendors, customers,...)
- Data entry
- Integration to Intergraph's schematics and 3D products
- Certification

QUESTIONS?

15 min Break



- The Big Picture
- Smart Plant Reference Data
 - Product Group / Project
 - Spec Workflow
 - Catalog Management
 - Spec Management
 - Administration
- Smart Plant 3D Integration

Product Group / Project



Product Group	Project
Represents data for a set of standards specific to a Group or Business Unit Ex: Nuclear Division, Chemical Division, Oil Refineries etc.	Represents data specific to a project which could encompass the entire plant, refinery, platform or be limited to an expansion / maintenance project
Product Group data is referenced by all the projects in the group	A project can reference only one Product Group
Product Group data can be copied to other Product Groups	Project data can be copied to other Projects
Tables used to build Commodity Codes, Standard Commodity Codes and Standard Specs must be created in the Product Group	Project specific Commodity Codes and Specs must be created in the Project

PG:Nuclear

Unit 1

Unit 2

PG:Chemical

Plant 1

Plant 2

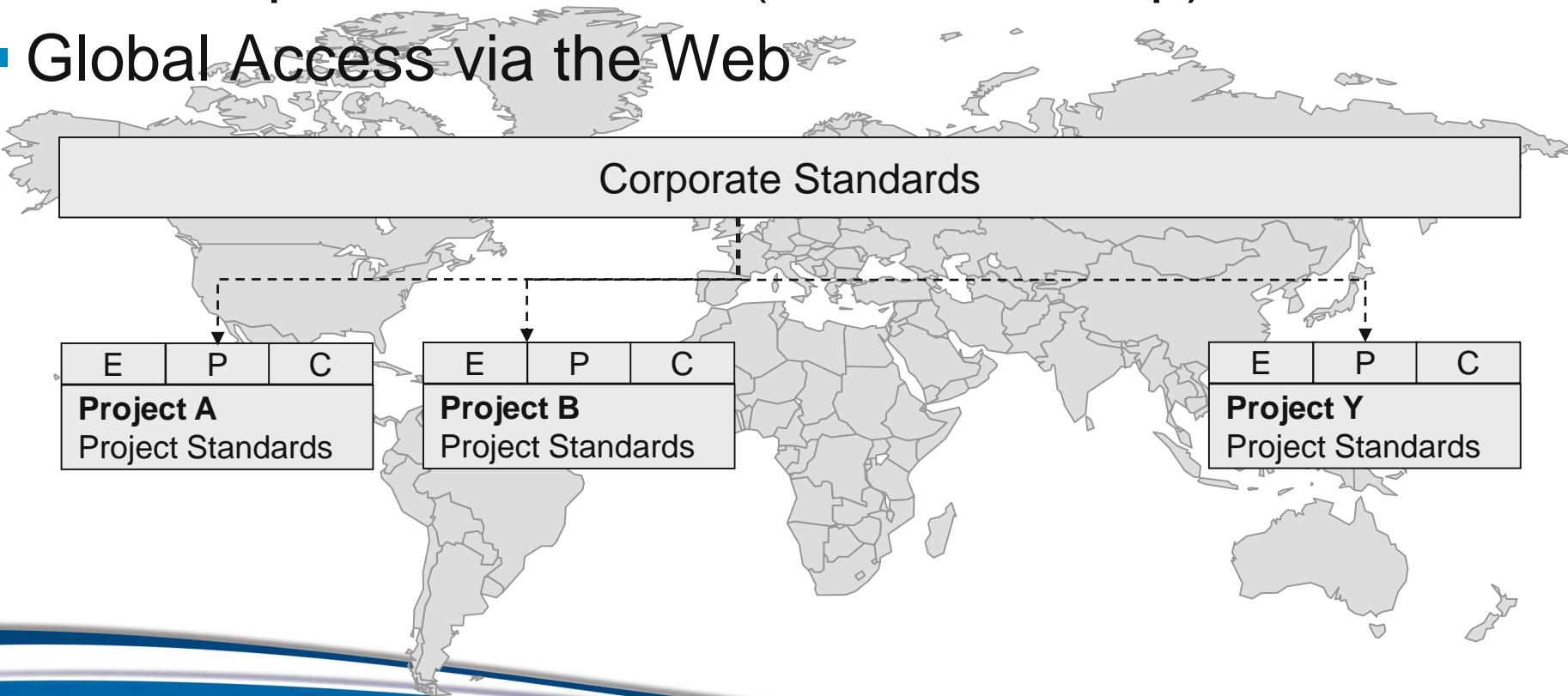
PG:Petroleum

Facility 1

Facility 2

Typical SPRD Installation

- All projects run in one Database
- One Corporate Standard (Product Group)
- Global Access via the Web



- The Big Picture
- Smart Plant Reference Data
 - Product Group / Project
 - Spec Workflow
 - Corporate Spec Management
 - Project Spec Management
 - Review Spec (CS 150)
 - Catalog Management
 - Spec Management
 - Administration
- Smart Plant 3D Integration

Course Objective

Engineering

- 3D Model, Catalog / Spec Management



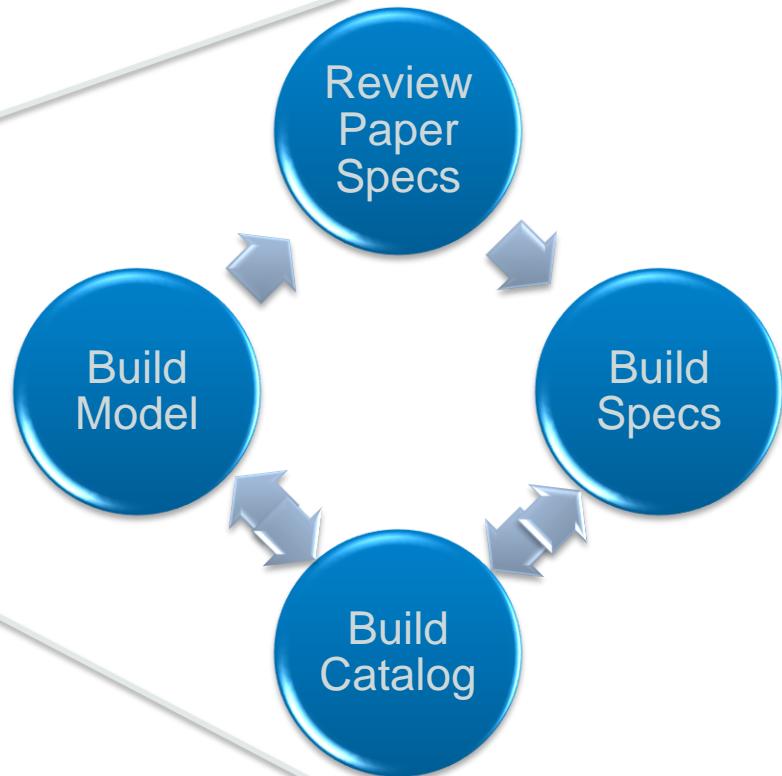
Procurement



Construction



Commissioning / Operations



What's in a Spec? (CS Class 150)



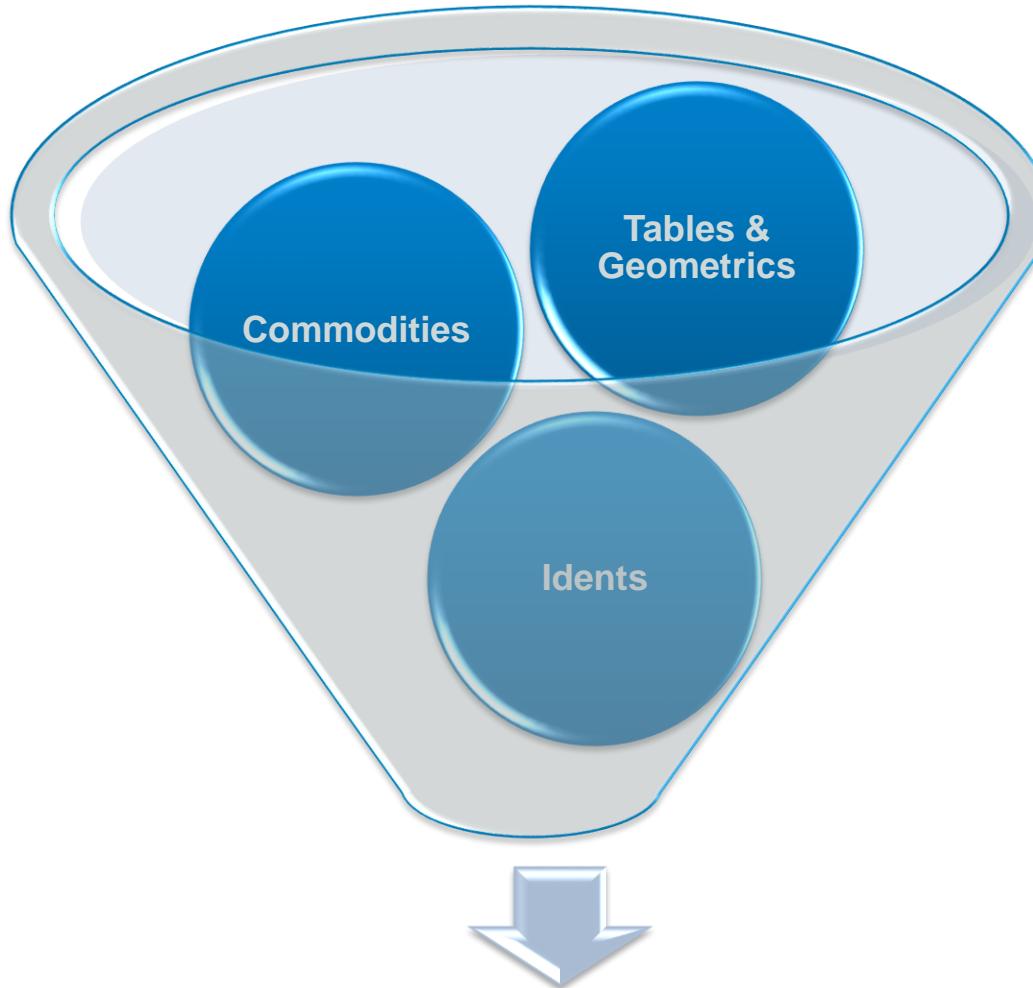
- Header
 - Group / Details
 - Pressure-Temperature Ratings
 - Branch Table, Filters
 - Notes

- Items
 - Short Codes
 - Commodity Codes
 - Idents
 - Options

Piping Material Specification Line Class: SDB_ICS15									
Sample									
Date: Jul. 17, 2008									
P_SERVICE: Process CORROSION ALLOW.: 0.063 in. (.16 mm)									
RATING CLASS: Tag-003 P_RATING_CLASS: 150, ASME B16.5s - 1998									
P_TEMP_LIMT: -20F to 800F P_CORR_ALLOWANCE: 0.063 in (0.65 in MN)									
P_MATERIAL_TYPE: Carbon Steel P DESIGN_CODE: ASME B31.3-1999									
P_STRESS_RELIEF: Per ASME B31.3 P EXAMINATION: Per ASME B31.3									
GENERAL NOTES: 10, 20, 30, 40									
Pressure - Temperature Rating:									
Temp. C	-29	93	149	204	260	316	371	427	
Press. kPag	285	260	230	200	170	140	110	80	
Temp. F	-20	200	300	400	500	600	700	800	
Press. Pag	41	38	33	29	25	20	16	12	
ITEM Rev. Notes NPS1 NPS2 Comm Code Description									
Pipes & Tubes									
.5 - 1.5	-	PPPPABQPEACRAAG	Pipa, B36.10M, PE, A 106 Gr. B, SMLS						
2 - 24	-	PPPPABQEAIDLAB	Pipa, B36.10M, BE, A 53 Gr. B, Welded						
26 - 30	-	PPPPABQEAEEAAH	Pipa, B36.10M, BE, API 5L Gr. B, DSAW, Straight Seam						
36 - 48	-	PPPPABQEAEEAAH	Pipa, B36.10M, BE, API 5L Gr. B, DSAW, Straight Seam						
Forged Fittings									
.5 - 1.5	-	ONTPABQPEACRAAIA	Nipple, B36.10M, PBE, A 106 Gr. B, 4" Long, SMLS						
.75 - 1.5	.5 - 1	OSGACMSBEACKZZ	Con. Swage, MSS SP-95, BBR, A 403 Gr. WP304, FW						
3 - 48	.5 - 2	OSOCAMPSSSWACGZZZ	Ecc. Swage, MSS SP-95, BBR, A 234 Gr. WPB						
3 - 48	.5 - 2	O7HLANSTTAGCAGZZZ	Sockole, MSS SP-97, CL3000, SWE, A105/A105N						
3 - 48	.5 - 1.5	OL45AP25SWACGZZZ	45 Deg Latrol, Manuf. Std, CL3000, SWE, A105/A105N						
3 - 48	.5 - 1.5	OL45AP25TTAGCAGZZZ	45 Deg Latrol, Manuf. Std, CL3000, FTE, A105/A105N						
2 - 48	.5 - 1.5	OEHLAP25SWACGZZZ	Elbow, Manuf. Std, CL3000, SWE, A105/A105N						
3 - 48	.5 - 1.5	OEHLAP25TTAGCAGZZZ	Elbow, Manuf. Std, CL3000, FTE, A105/A105N						
3 - 1.5	-	OEHWAP25SWACGZZZ	90 Deg. Elbow, B16.11, CL3000, SWE, A105/A105N						
3 - 1.5	-	OEHWAP25TTAGCAGZZZ	90 Deg. Elbow, B16.11, CL3000, FTE, A105/A105N						
.75 - 1.5	.5 - 1.5	OCFTA15SWACGZZZ	Equal Tees, B16.11, CL3000, SWE, A105/A105N						
.75 - 1.5	.5 - 1.5	OPRLAB15TTAGCAGZZZ	Rad. Tee, B16.11, CL3000, SWE, A105/A105N						
.5 - 2	-	OPRLAB15SWACGZZZ	Plug Round Head, B16.11, MTE, A105/A105N						
.5 - 2	-	OPRLAB15TTAGCAGZZZ	Plug Round Head, B16.11, CL3000, SWE, A105/A105N						
.5 - 1.5	.5 - 1	OCPRAB15SWACGZZZ	Cycle, B16.11, CL3000, SWE, A105/A105N						
.5 - 1.5	.5 - 1	OCPLAB15SWACGZZZ	Cycle, B16.11, CL3000, FTE, A105/A105N						
.5 - 1.5	.5 - 1	OCPRAP15TTAGCAGZZZ	Rad. Cylic, Manuf. Std, CL3000, FTE, A105/A105N						
.5 - 1.5	.5 - 1	OCAPAB15SWACGZZZ	Cup, B16.11, CL3000, SWE, A105/A105N						
.5 - 1.5	.5 - 1	OCAPAB15TTAGCAGZZZ	Cup, B16.11, CL3000, FTE, A105/A105N						
.5 - 1.5	.5 - 1	OUNQAN15SSWACGZZZ	Union, MSS SP-83, CL3000, SWE, A105/A105N						
BW Fittings									
3 - 48	2 - 42	BRCABM1BEACKZZZ	Con. Reducer, B16.9, BE, A 234 Gr. WPB						
3 - 48	2 - 42	BRCEARMBEACKZZZ	Ecc. Reducer, B16.9, BE, A 234 Gr. WPB						
20 - 48	2 - 12	BUEFLAM1BEACGABA	Welded, MSS SP-97, BE, A105/A105N, SMLS						
2 - 48	-	BUEFLAM1BEACKZZZ	90 Deg. Elbow 1.5D, B16.9, BE, A 234 Gr. WPB						
2 - 48	-	BE4.4BM1BEACKZZZ	45 Deg. Elbow 1.5D, B16.9, BE, A 234 Gr. WPB						
2 - 48	-	BTFEARM1BEACKZZZ	Eq. Tee, B16.9, BE, A 234 Gr. WPB						
2 - 48	-	BCAPABM1BEACKABA	Cup, B16.9, BE, A 234 Gr. WPB, SMLS						
18 - 48	8 - 42	BRPAAP1BEADLZZZ	Reinforcing Pad, B31.3, BE, A 3 Gr. B						
Flanges									
.5 - 1.5	-	FSWAB10LRFACGZZZ	SW Flg., B16.1, CL150, RF, A105/A105N						
.5 - 1.5	-	FSWAB10LFFACGZZZ	SW Flg., B16.1, CL150, RF, A105/A105N						
.5 - 1.5	-	FSWAB10LRFACGZZZ	SW Flg., B16.1, CL300, RF, A105/A105N						
.5 - 24	-	FBLAB10LRFACGZZZ	Blind Flg., B16.5, CL150, RF, A105/A105N						
.5 - 24	-	FBLAB10LRFACGZZZ	Blind Flg., B16.5, CL150, RF, A105/A105N						
.5 - 24	-	FBLAB10LRFACGZZZ	Blind Flg., B16.47 Sc. B, CL150, RF, A105/A105N						
.5 - 24	-	FSOABLDRFACGZZZ	SO Flg. Hub Type, B16.5, CL150, RF, A105/A105N						
.5 - 24	-	FSOABLIRFACGZZZ	SO Flg. Hub Type, B16.5, CL300, RF, A105/A105N						

Page 1 of 4

- The Big Picture
- Smart Plant Reference Data
 - Product Group / Project
 - Spec Workflow
 - Catalog Management
 - Build Commodity Codes
 - Sample Catalog
 - Ident Management
 - Spec Management
 - Administration
- Smart Plant 3D Integration



Catalog

What is a Commodity Code?



S.30.01 Commodity Codes

Classification		Code
Group	Part	Commodity Code
P	PP	PPPABQBECACQAAG
P	PP	PPPABQBECACRAAG
P	PP	PPPABQBECAD4AAG
P	PP	PPPABQBECADLAAB

Type Rule Object
Table Detail Based P_PIPE P_1N1S_L

Attribute Set Commodity Rule

Rule & Object

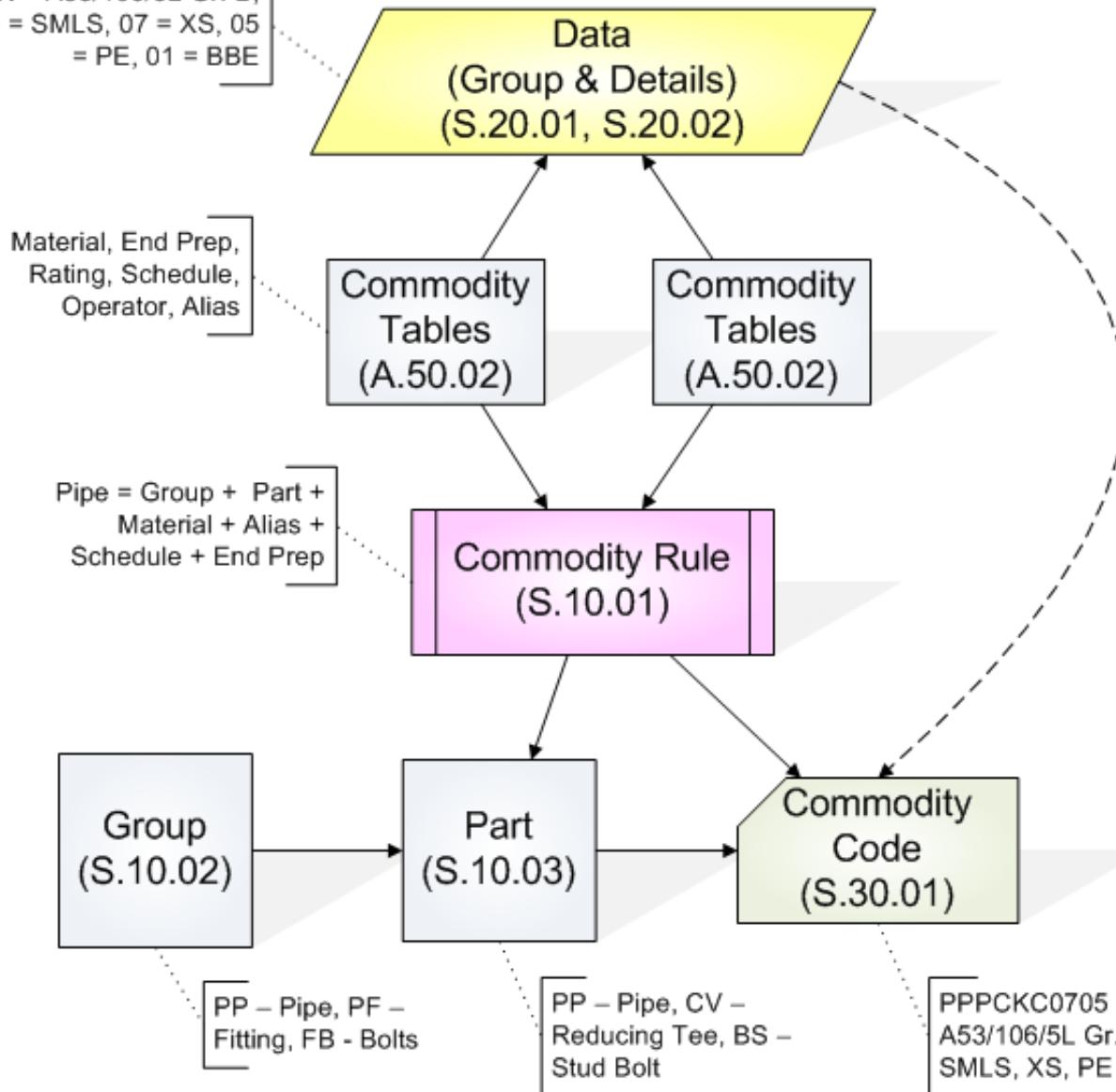
DETAILS		Attributes	Symbols	Additional TAG Info	S2008	Commodity Geometric Relations	
<input type="button" value="Build One Commodity"/>		<input type="button" value="Build Ident"/>	<input type="button" value="Build CC for Part(s)"/>	<input type="button" value="Build CC with Range"/>	<input checked="" type="checkbox"/> Check Double		
Digit	<input checked="" type="radio"/> All <input type="radio"/> Only required tables(S.10.01)						
from / to	Tablename	Group	Detail	Use	TD DESCRIPTION	TG Description	Range
4 / 4	P_SYSTEM	US	A	<input checked="" type="checkbox"/>	Short Desc	Description	
5 / 6	P_DIM_STD	PIP_US	BQ	<input checked="" type="checkbox"/>	, B36.10M	, ASME B36.10M	
7 / 8	P_END_PREP	PIPE	BE	<input checked="" type="checkbox"/>	, BE	, Bevel End	
9 / 9	P_MAT_SYSTEM	US	A	<input checked="" type="checkbox"/>	, A 106 Gr. A	, A 106 Grade A	
10 / 11	P_MATERIAL	PIPE_US	CQ	<input checked="" type="checkbox"/>	, SMLS	, Seamless	
12 / 14	P_ALIAS	PIPE_US	AAC	<input checked="" type="checkbox"/>			

Description

Table Details

Commodity Code – Data Relationships

CK = A53/106/5L Gr. B,
C = SMLS, 07 = XS, 05
= PE, 01 = BBE

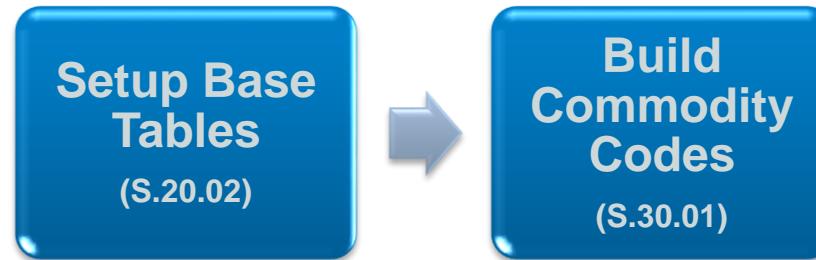


- I need a Reducing Tee similar to “PFCVG7071N4K”

- Tee - Reducing, Carbon Steel Per ASTM A234 Grade WPBW, Extra Strong, Butt weld End, Per ASME B16.9, Per ASME B16.25, 100% Radiographic Examination Required, Welded, Marked per MSS SP 25) **but a different material**

- Steps

- Check if material table has the material you need
 - Search for the CC “PFCVG7071N4K”
 - Copy the commodity code and change the material



- I need a CC for

- Tee - Reducing, Carbon Steel Per ASTM A234 Grade WPBW, Extra Strong, Standard Weight, Butt weld End, Per ASME B16.9, Per ASME B16.25, 100% Radiographic Examination Required, Welded, Marked per MSS SP 25, Header by Branch Size ("PFCVG7072E62")

- Steps

- Check if all the tables have relevant entries
- Check if the Commodity Group and Part exists
- Check if the Rule complies with the naming convention
- Build Commodity Code



Screen	Title	Description
S.30.01	Commodity Codes	Build Commodity Codes
A.50.02	Tables	Define commodity attribute tables
S.20.01	Tablenames with Groups	Specify table groups
S.20.02	Table Details	Specify table details per group
S.10.01	Commodity Code Rule	Define the rules that will be used to build commodity codes
S.10.02	Commodity Group	Define commodity groups
S.10.03	Commodity Part	Define the commodity parts that make up the group
S.10.04	Object Parameter	Define groups of geometric attributes
A.50.01	Attributes	Define attributes
S.10.05	Object Parameter Details	Define the geometric attributes
S.10.06	Part Object Parameter	Associate geometric groups with parts

S.30.01 Commodity Codes



Demo

Table Details

Description

Classification

Code

CC PROPERTIES

Group/Part Description

CC Description

CC Layout

Short Desc

Pipe , B36.10M , BE , A 106 Gr. A , SMLS

Pipe , B36.10M , BE , A 106 Gr. B , SMLS

Standard

Crea

AK

JT

PETI

AK

Type

Table Detail Based

Attribute Set Commodity

DETAILS

Attributes

Build One Commodity

Digit

All

from/to

Tablena

Description

, B36.10M , ASME B36.10P

, BE , Bevel End

, A 106 Gr. A , A 106 Grade A

, SMLS , Seamless

Digit	from/to	Tablena	PIP_US	BQ	BE	A	CQ	AAC
4	4	P_STD						
5	6	P_DIM_STD	PIP_US	BQ	<input checked="" type="checkbox"/>			
7	8	P_END_PREP	PIPE	BE	<input checked="" type="checkbox"/>			
9	9	P_MAT_SYSTEM	US	A	<input checked="" type="checkbox"/>			
10	11	P_MATERIAL	PIPE_US	CQ	<input checked="" type="checkbox"/>			
12	14	P_ALIAS	PIPE_US	AAC	<input checked="" type="checkbox"/>			

A.50.01 Attributes

A.50.01 Attributes

Attribute Groups

Seq	Group	Description
2	GEOM ATTRS	Geometric Attributes

Attributes

Query Only Attributes

Name	Data Type	Width	Precision	Reqd	Form Width	Unit	metr<->engl	NLS-Val
ASS_NO	NUMBER	8		<input checked="" type="checkbox"/>	8	-		
BASE_MAT	CHAR	7		<input checked="" type="checkbox"/>	8	-		
DENSITY	NUMBER	7		<input checked="" type="checkbox"/>	12	Kg/m3		
DN1	NUMBER	7		<input checked="" type="checkbox"/>	8	mm		
DN2	NUMBER	7		<input checked="" type="checkbox"/>	8	mm		
NPS1	NUMBER	7		<input checked="" type="checkbox"/>	8	in		
NPS2	NUMBER	7		<input checked="" type="checkbox"/>	8	in		
NPS3	NUMBER	7		<input checked="" type="checkbox"/>	8	in		
OD1	NUMBER	7		<input checked="" type="checkbox"/>	12	in		
OD2	NUMBER	7		<input checked="" type="checkbox"/>	12	in		
P_BARREL_OD	NUMBER	7		<input checked="" type="checkbox"/>	12	in		
P_BCD	NUMBER	7		<input checked="" type="checkbox"/>	12	in		
P_BODY_DIA	CHAR	7		<input checked="" type="checkbox"/>	12	in		
P_BOLT_DIA	NUMBER	7		<input checked="" type="checkbox"/>	12	in		
P_BOLT_LEN_IN	NUMBER	7		<input checked="" type="checkbox"/>	12	in		
P_BOLT_LEN_MM	NUMBER	7		<input checked="" type="checkbox"/>	12	mm		
P_BOLT_NO	NUMBER	7		<input checked="" type="checkbox"/>	12	-		
P_BORE_DIA	NUMBER	7		<input checked="" type="checkbox"/>	12	in		

A.50.02 Tables



A.50.02 Tables		
Table Types		
Description		Type
COMMODITY CODE TABLES		COMMATTR
Table Names		
Name	Short Desc	Description
P_ALIAS_TRIM_LT_NEEDLE	Alias Trim Needle	Alias Trim Needle
P_ALIAS_TRIM_LT_NO	Alias Trim No	Alias Trim No
P_ALIAS_TRIM_LT_PACKING	Alias Trim Packing	Alias Trim Packing
P_ALIAS_TRIM_LT_PIN	Alias Trim Pin	Alias Trim Pin
P_ALIAS_TRIM_LT_PLUG	Alias Trim Plug	Alias Trim Plug
P_ALIAS_TRIM_LT_SEAT	Alias Trim Seat	Alias Trim Seat
P_ALIAS_TRIM_LT_SPINDLE	Alias Trim Spindle	Alias Trim Spindle
P_ALIAS_TRIM_LT_SPRING	Alias Trim Spring	Alias Trim Spring
P_ALIAS_TRIM_LT_STEM	Alias Trim Stem	Alias Trim Stem
P_ALIAS_TRIM_LT_WEDGE	Alias Trim Wedge	Alias Trim Wedge
P_DIM_STD	Dim. Standard Codes	Dimensional Standard Codes
P_END_PREP	End Prep. Codes	End Preparation Codes
P_END_STD	End Standard Codes	End Standard Codes
P_MATERIAL	Material Codes	Material Codes
P_MAT_SYSTEM	Material Sys Codes	Material System Codes
P_OPTION_CODES	Option Codes	Option Codes
P_RATING	Rating Codes	Rating Codes
P_SCHEDULE	Schedule Codes	Schedule Codes
P_SIZE_SYSTEM	Size Systems	Size Systems Code

S.20.01 Table Groups

S.20.01 Tablenames with Groups			
Tables			
	Tablename	Description	
	P_MATERIAL	Material Codes	
Table Groups			
Group	Standard	Short Desc	Description
NON_M_GS	GS	Non Metallic GS	Non Metallic GS
NON_M_JS	JS	Non Metallic JS	Non Metallic JS
NON_M_US	US	Non Metallic US	Non Metallic US
NON_M_XX	XX	Non Metallic XX	Non Metallic XX
PB_US	US	Polybutylene	Polybutylene
PIPE_AS	AS	Pipe AS	Pipe AS
PIPE_BS	BS	Pipe BS	Pipe BS
PIPE_BZ	BZ	Pipe BZ	Pipe BZ
PIPE_CS	CS	Pipe CS	Pipe CS
PIPE_EN	EN	Pipe EN	Pipe EN
PIPE_GS	GS	Pipe GS	Pipe GS
PIPE_JS	JS	Pipe JS	Pipe JS
PIPE_US	US	Pipe US	Pipe US
PIPE_XX	XX	Pipe XX	Pipe XX
PLATE_AS	AS	Plate AS	Plate AS
PLATE_BS	BS	Plate BS	Plate BS
PLATE_BZ	BZ	Plate BZ	Plate BZ
PLATE_CS	CS	Plate CS	Plate CS
PLATE_EN	EN	Plate EN	Plate EN
PLATE_GS	GS	Plate GS	Plate GS

S.20.02 Table Details



S.20.02 Tablenames with Details							
Tablename with Groups							
	Tablename	Group	Description				
	P_MATERIAL	PIPE_US	Pipe US				
Details				Copy Table	Order by Description	Duplicate Details	Copy NLS
Table Detail	Short Desc	Description				Base_Mat	CI145
AY	, B 210 Gr. 1060	, B 210 Grade 1060				AA	1930
AZ	, B 210 Gr. 1100	, B 210 Grade 1100				AA	2601
B1	, B 210 Gr. 3003	, B 210 Grade 3003				AA	1936
B2	, B 210 Gr. 5052	, B 210 Grade 5052				AA	1944
B3	, B 210 Gr. 5052	, B 210 Grade 5052				AA	1944
B4	, B 210 Gr. 5083	, B 210 Grade 5083				AA	1950
B5	, B 210 Gr. 5086	, B 210 Grade 5086				AA	1954
B6	, B 210 Gr. 5154	, B 210 Grade 5154				AA	1962
B7	, B 210 Gr. 5456	, B 210 Grade 5456				AA	1966
B8	, B 210 Gr. 6061	, B 210 Grade 6061				AA	1970
B9	, B 210 Gr. 6063	, B 210 Grade 6063				AA	1978
BA	, B 210 Gr. Alclad 3003	, B 210 Grade Alclad 3003				AA	1990
BB	, B 241 Gr. 1060	, B 241 Grade 1060				AA	2070
BC	, B 241 Gr. 1100	, B 241 Grade 1100				AA	2074
BD	, B 241 Gr. 3003	, B 241 Grade 3003				AA	2078
BE	, B 241 Gr. 5052	, B 241 Grade 5052				AA	2084

S.10.01 Commodity Rules

S.10.01 Commodity Layout



S.10.01 Commodity Rules: Window 2

Layout for Rule	P_PIPE
Nls	1 English
Ctrl	Rev Begin 01-OCT-2001
	Rev End 01-JAN-3000

Layout Short

```
#m_parts_short# #p_end_type_short# #p_matl_short# #p_pipe_alias_short#
#p_mdfrr_short#
```

Layout Long

```
#m_parts_long#
-----
DESIGN STANDARD: ..... #p_dsgn_std_long#
TYPE: ..... #p_mdfrr_long#
END CONNECTIONS: ..... #p_end_type_long#
MATERIAL: ..... #p_matl_long#
OTHER REQUIREMENTS: .. #p_pipe_alias_long#, #p_ctng_lnng_long# None
```

S.10.02 Commodity Group



Commodity Groups			Group Symbols	Copy HLS
Group	Rule	Standard	Short Desc	Description
B			BW Fittings	BW Fittings
D			Discs	Discs
F			Flanges	Flanges
G			Gaskets	Gaskets
H			Flanged Fittings	Flanged Fittings
I			Bolts	Bolts
MP			Miscellaneous Piping	Miscellaneous Piping
NA			NM Fl,Adp,cnt,bsh	NM Flings,Adaptors, connectors, bush, cpling, skts, tra
ND			NM Sdl,Brn no inline	Non-Metallic Saddle, and Branch Connections, except i
NS			NM Specials	Non-Metallic Specials
NT			NM Inline Fitt,Pipe	Non-Metallic Inline Fittings and Pipe
NV			NM Valves	Non-Metallic Valves
O			Forged Fittings	Forged Fittings
P			Pipes & Tubes	Pipes & Tubes
TP			Piping Tags	Piping Tags
VB			Ball Valves	Ball Valves
VC			Check Valves	Check Valves
VD			Diaphragm Valves	Diaphragm Valves

S.10.03 Commodity Part



S.10.03 Commodity Part					
Commodity Groups					
Group	Short Desc	Description			
B	BW Fittings	BW Fittings			
Commodity Parts					
Part	Rule	Standard	Attribute Set	Short Desc	Description
CAP	P_NRA_FITT			Cap	Cap
E11	P_NRA_FITT			180 Deg. Elbow 10D	180 Degree Elbow Long Radius R=10D
E13	P_NRA_FITT			180 Deg. Elbow 3D	180 Degree Elbow Long Radius (R=3D)
E15	P_NRA_FITT			180 Deg. Elbow 5D	180 Degree Elbow Long Radius (R=5D)
E1L	P_NRA_FITT			180 Deg. Elbow 1.5D	180 Degree Elbow Long Radius (R=1.5D)
E1S	P_NRA_FITT			180 Deg. Elbow 1D	180 Degree Elbow Short Radius (R=1D)
E43	P_NRA_FITT			45 Deg. Elbow 3D	45 Degree Elbow (R=3D)
E45	P_NRA_FITT			45 Deg. Elbow 5D	45 Degree Elbow (R=5D)
E4L	P_NRA_FITT			45 Deg. Elbow 1.5D	45 Degree Elbow Long Radius (R=1.5D)
E4S	P_NRA_FITT			45 Deg. Elbow 1D	45 Degree Elbow Short Radius (R=1D)
E4X	P_NRA_FITT			45 Deg. Elbow 10D	45 Degree Elbow (R=10D)
E93	P_NRA_FITT			90 Deg. Elbow 3D	90 Degree Elbow (R=3D)
E95	P_NRA_FITT			90 Deg. Elbow 5D	90 Degree Elbow (R=5D)
E9L	P_NRA_FITT			90 Deg. Elbow 1.5D	90 Degree Elbow Long Radius (R=1.5D)
E9R	P_NRA_FITT			90 Deg. Red. Elbow	90 Degree Reducing Elbow

S.10.04 Object Parameter



Object Parameter Definition				
Object	Unit Set	Short Desc	Description	Ctrl
P_1D1S_2_E	EACH	1 DIA 1 SCH PAS1057	1 DIA 1 SCH PAS1057 ELbow	1
P_1D1S_E	EACH	1 DIA 1 SCH PAS1057	1 DIA 1 SCH PAS1057 Pipe	1
P_1D_E	LINEAR	1 DIA LINEAR - BOLTS	1 DIA LINEAR - BOLTS	1
P_1D_U_E	EACH	P_1D_U_E	P_1D_U_E	1
P_1D_V_E	EACH	1 D1	1 D1	1
P_1H1S_E	EACH	1 NPS 1 SCH EACH	1 NPS 1 SCH EACH	1
P_1H1S_L	LINEAR	1 NPS 1 SCH LINEAR	1 NPS 1 SCH LINEAR	1
P_1H1T_E	EACH	1 DIA 1 THK - GASKET	1 DIA 1 THK - GASKET	1
P_1N_E	EACH	1 NPS EACH	1 NPS EACH	1
P_101S_L	LINEAR	1 OD 1 SCH LINEAR	1 OD 1 SCH LINEAR	1
P_2D2S_E	EACH	2 DIA 2 SCH EACH	2 DIA 2 SCH EACH Reducer	1
P_2H1S1_E	EACH	2 NPS 1 SCH1 EACH	2 NPS 1 SCH1 EACH	1
P_2H1S2_E	EACH	2 NPS 1 SCH2 EACH	2 NPS 1 SCH2 EACH	1
P_2N2S_E	EACH	2 NPS 2 SCH EACH	2 NPS 2 SCH EACH	1
P_2N_E	EACH	2 NPS EACH	2 NPS EACH	1
P_3N1S_E	EACH	3 NPS SAME SCH EACH	3 NPS HAVE SAME SCH FOR REDUCE TEE IN SPEARS EACH	1
P_D1_GAS_E	EACH	P_D1_GAS_E	P_D1_GAS_E	1

S.10.06 Part Object Parameter

S.30.01 Commodity Codes



S.30.01 Commodity Codes

Classification		Code	CC PROPERTIES		Group/Part Description	CC Description	CC Layout
Group	Part	Commodity Code	Short Desc				Standard
P	PP	PPPABQBECQAAAG	Pipe , B36.10M , BE , A 106 Gr. A , SMLS				AK
P	PP	PPPABQBECRAAG	Pipe , B36.10M , BE , A 106 Gr. B , SMLS				JT
P	PP	PPPABQBEBAD4AAG	Pipe , B36.10M , BE , A 333 Gr. 6 , SMLS				PETI
P	PP	PPPABQBEBADLAAB	Pipe , B36.10M , BE , A 53 Gr. B , Welded				AK
Type	Rule	Object	Description				
Table Detail Based	P_PIPE	P_1N1S_L					
Attribute Set	Commodity Rule	<input type="checkbox"/>	Rule & Object				
DETAILS		Attributes	Symbols	Additional TAG Info	S2008	Commodity Geometric Relations	
Build One Commodity		Build Ident	Build CC for Part(s)		Build CC with Range	<input checked="" type="checkbox"/> Check Double	
Digit	<input checked="" type="radio"/> All	<input type="radio"/> Only required tables(S.10.01)	TD DESCRIPTION TG Description Range				
from / to	Tablename	Group	Detail	Use	Short Desc	Description	
4 / 4	P_SYSTEM	US	A	<input checked="" type="checkbox"/>			
5 / 6	P_DIM_STD	PIP_US	BQ	<input checked="" type="checkbox"/>	, B36.10M	, ASME B36.10P	
7 / 8	P_END_PREP	PIPE	BE	<input checked="" type="checkbox"/>	, BE	, Bevel End	
9 / 9	P_MAT_SYSTEM	US	A	<input checked="" type="checkbox"/>	, A 106 Gr. A	, A 106 Grade A	
10 / 11	P_MATERIAL	PIPE_US	CQ	<input checked="" type="checkbox"/>	, SMLS	, Seamless	
12 / 14	P_ALIAS	PIPE_US	AAC	<input checked="" type="checkbox"/>			

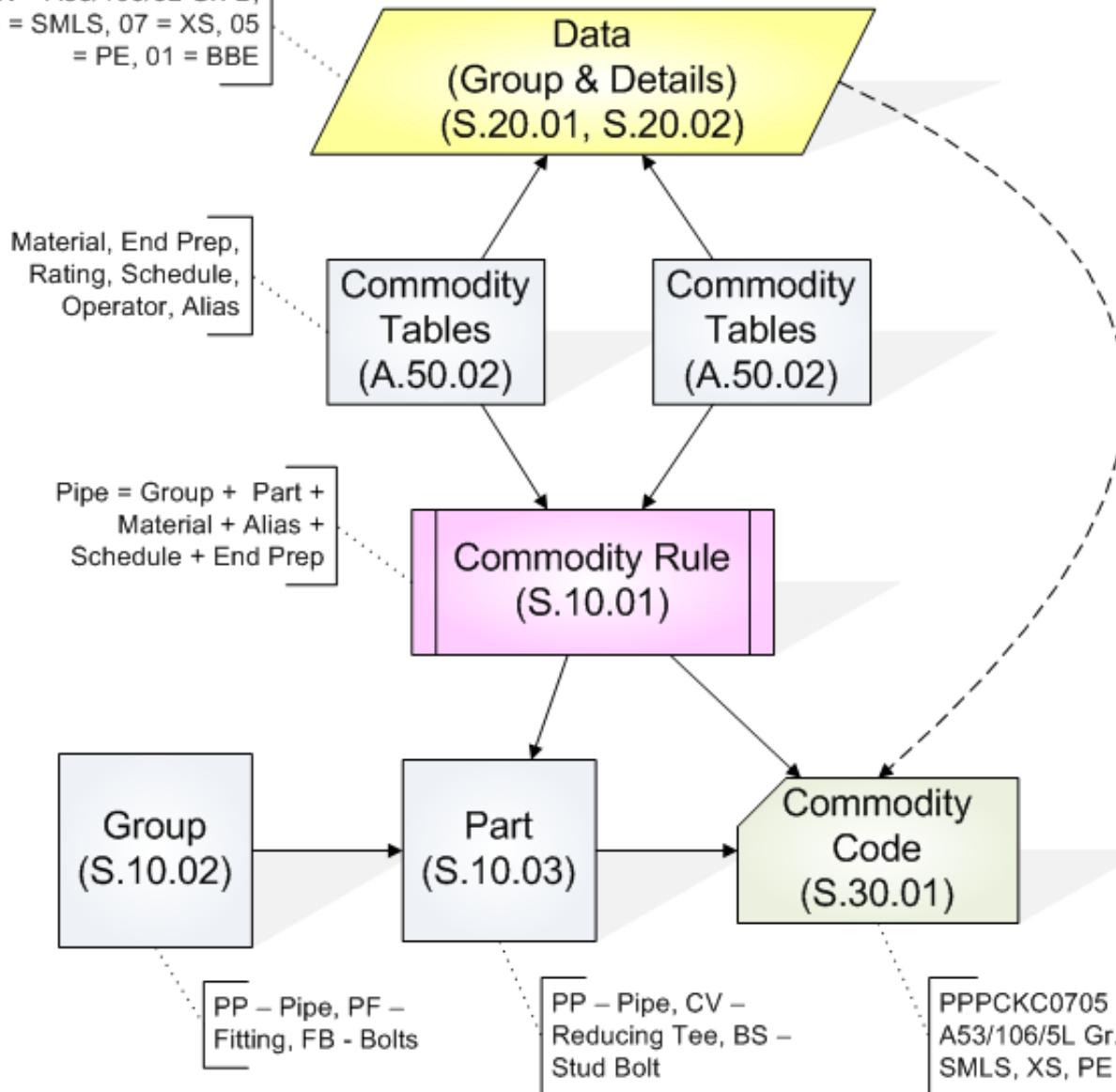
Table Details

Labs 1 - 12

DAY 1 - SUMMARY

Commodity Code – Data Relationships

CK = A53/106/5L Gr. B,
C = SMLS, 07 = XS, 05
= PE, 01 = BBE



QUESTIONS?

End of Day 1



- What is Commodity Code?
- In which screen do we maintain Commodity Codes?
- How can we find a piping commodity code?
- What is a Commodity Rule?
- What are Commodity Group / Part?
- What are Table Group / Details?
- How can we generate a file in tab delimited format listing Seamless Bevel End Pipe?
- How can we associate comments with a specific Commodity Part?
- TRUE / FALSE: Descriptions can be entered in English only?

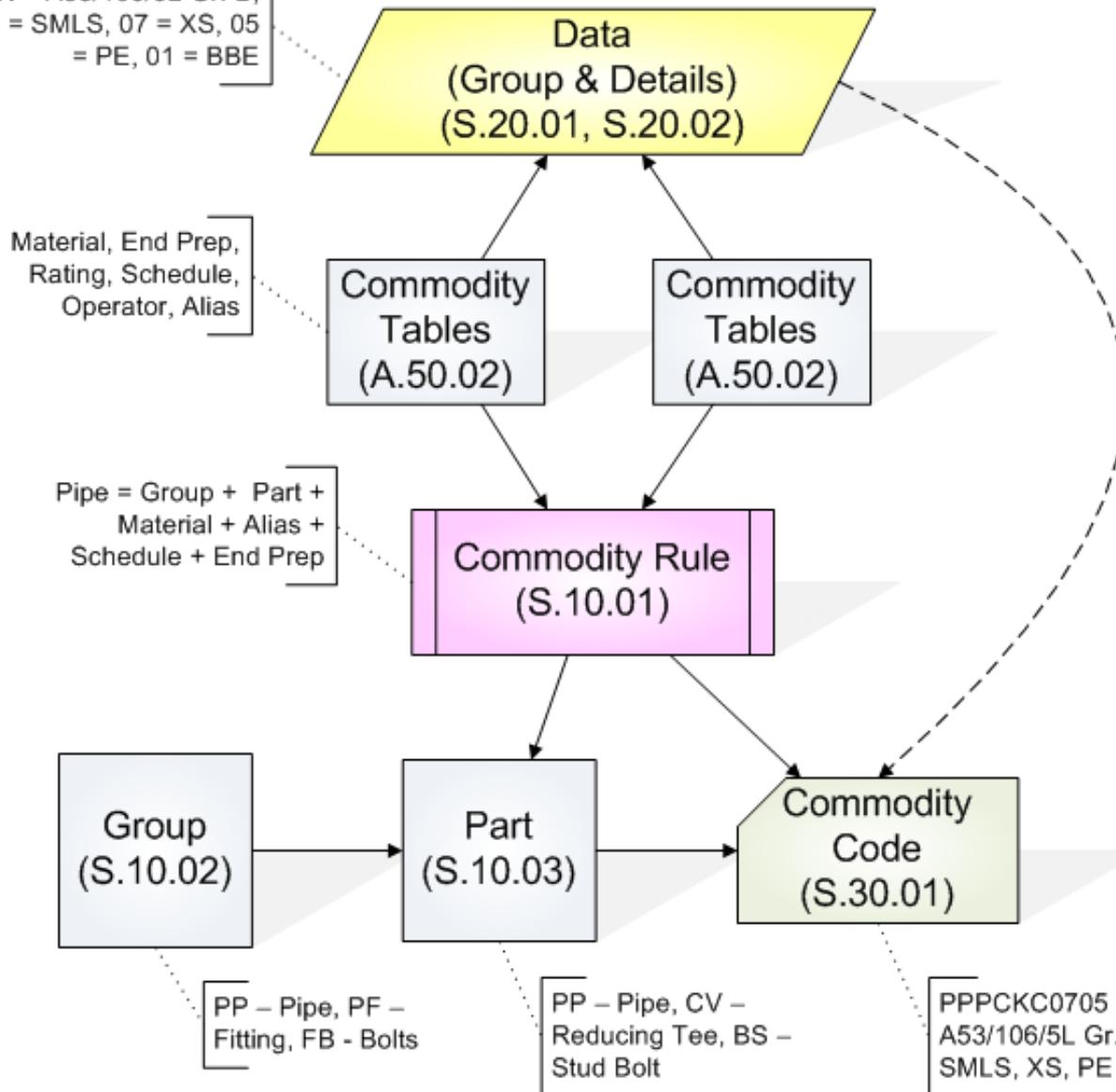
Questions from yesterday



- How do I know in which Specs have I used the Commodity Code?
 - **Right Click on the Commodity Code in S.30.01 Commodity Codes**
- How can I Transfer Commodity Code from a Project to Product Group?
 - **S.30.07 Transfer Commodity Codes**
- How can I release Commodity Codes for use after it has been reviewed?
 - **S.30.05 Release Commodity Codes**
- How can I generate a report of Commodity Codes for my demo material?
 - **S.30.R.02 Commodity Codes – Use %Y1% as the commodity code**
- How can I map my commodity codes to a client Commodity Code?
 - **Manually for each Commodity Code – S.30.C.01 Company Dependent**
 - **Automatically by mapping Codes – S.10.C.01 Company Commodity Groups, S.10.C.02 Company Parts, S.10.C.04 Company Object Parameter, S.20.C.01 Company Group with Details, S.20.C.02 Company Groups, S.20.C.03 Company Details**
- How can I manually add description to my Commodity Code?
 - **S.30.03 Commodity Code Text**

Commodity Code – Data Relationships

CK = A53/106/5L Gr. B,
C = SMLS, 07 = XS, 05
= PE, 01 = BBE



- The Big Picture
- Smart Plant Reference Data
 - Product Group / Project
 - Spec Review (CS 150)
 - Catalog Management
 - Build Commodity Codes
 - Ident Management
 - Spec Management
 - Administration
- Smart Plant 3D Integration

Commodity Codes

- Typically Commodity Codes represent the basic item without dimensional details

Idents

- An Ident qualifies a commodity code by including dimensional details such as Size, Schedule
- Associated with Idents are other dimensions such as Face-2-Face, Face-2-Center, Unit Weight etc.
- Ident = Commodity Code + Geometrics
- Material Management functions require idents as they ensure uniqueness of item

What are Idents?

S.80.01 Ident Management

Commodity Codes			C C PROPERTIES	Group/Part Description	CC Description	CC Layout
Group	Part	Commodity Code	Short Desc		Standard	Gene
P	PP	PPPABQBECQAAG	Pipe , B36.10M , BE , A 106 Gr. A , SMLS			S.30.
P	PP	PPPABQBECRAAG	Pipe , B36.10M , BE , A 106 Gr. B , SMLS			S.30.
P	PP	PPPABQBEBAD4AAG	Pipe , B36.10M , BE , A 333 Gr. 6 , SMLS			S.30.
P	PP	PPPABQBEBADLAAB	Pipe , B36.10M , BE , A 53 Gr. B , Welded			S.30.

Display All Commodity Codes Object P_1N1S_L
 Ident Block Query deferred

Only new Idents EXISTING IDENT S Commodity Geometric Relations Object Parameter

Idents

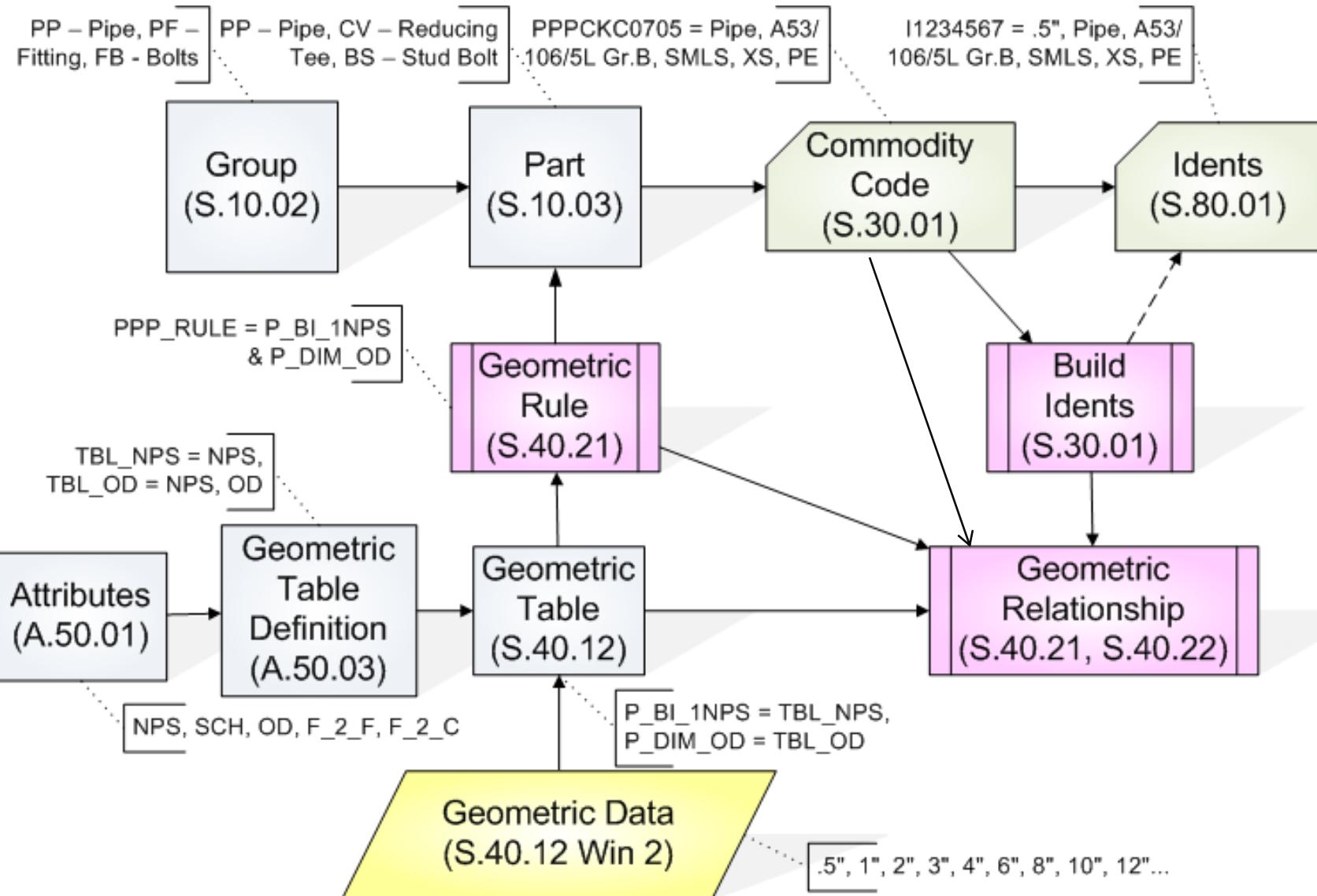
Delete Idents		Ident Structure		Invalid Idents		Interf./Comp. Idents	
Ident	Ident Code	Unit System	Ctrl	Project/PG	Nps1	Sch1	TAG Number
127871	I0127871	IMP/MET	1	SDB	.5	S-10	
127873	I0127873	IMP/MET	1	SDB	.5	S-160	
127874	I0127874	IMP/MET	1	SDB	.5	S-30	
127876	I0127876	IMP/MET	1	SDB	.5	S-5	
127879	I0127879	IMP/MET	1	SDB	.5	S-STD	
127880	I0127880	IMP/MET	1	SDB	.5	S-XS	
127881	I0127881	IMP/MET	1	SDB	.5	S-XXS	
127882	I0127882	IMP/MET	1	SDB	.75	S-10	
127884	I0127884	IMP/MET	1	SDB	.75	S-160	
127885	I0127885	IMP/MET	1	SDB	.75	S-30	
127887	I0127887	IMP/MET	1	SDB	.75	S-5	

Ident Layout .5" x S-10 Pipe, B36.10M, BE, A 106 Gr. A, SMLS

Commodity

Geometrics

Ident – Data Relationships



Building Idents Workflow – Common Scenario



- I need Idents for the Reducing Tee created by copying “PFCVG7071N4K”
 - Tee - Reducing, Carbon Steel Per ASTM A234 Grade WPBW, Extra Strong, Butt weld End, Per ASME B16.9, Per ASME B16.25, 100% Radiographic Examination Required, Welded, Marked per MSS SP 25) **but a different material**
- Steps
 - Check if the Commodity Geometric Rule or Relationship is defined
 - Click on the Build Idents button in S.30.01 or S.80.01

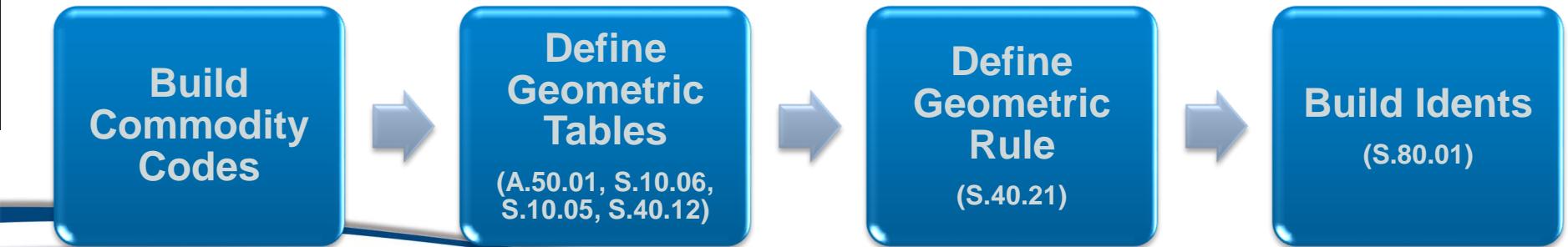


■ I need Idents for the new CC

- Tee - Reducing, Carbon Steel Per ASTM A234 Grade WPBW, Extra Strong, Standard Weight, Butt weld End, Per ASME B16.9, Per ASME B16.25, 100% Radiographic Examination Required, Welded, Marked per MSS SP 25, Header by Branch Size (“PFCVG7072E62”)

■ Steps

- Check if the Geometric Attributes and Table have been defined
- Check if the Geometric Table has data
- Check if the Commodity Rule or the Commodity Geometric Relationship is defined
- Check if the Object Parameter is defined for the Part
- Click on the Build Idents in S.30.01 or S.80.01



- I need Idents for the CC on my Spec
- Steps

- Click on the Build Idents in S.50.06 Spec Management screen
- If all required Idents are not built
 - Check if the Geometric Attributes and Table have been defined
 - Check if the Geometric Table has data that matches the Spec Filter
 - Check if the Commodity Rule or Geometric Relationship is defined
 - Check if the Object Parameter is defined for the Part



Screen	Title	Description
S.80.01	Ident Management	Build Idents
S.40.12	Commodity Geometrics	Build geometric tables used to create idents
S.40.10	Standard Geometrics	Build the standards geometric tables
S.40.11	Other Geometrics	Build other tables not related to Standards or idents i.e. Minimum Pipe Length
S.40.13	Filter Geometrics	Define the subsets that will be used to limit Items on a Spec
S.40.21	Geometric Rules	Define the rules to limit the association between a Part and Geometric Table based on size and table details

What are Idents?

Ident Management

Group	Part	Commodity Code
P	PP	PPPABQBECQAAAG
P	PP	PPPABQBECRAAG
P	PP	PPPABQBEBAD4AAG
P	PP	PPPABQBEBADLAAB

CC PROPERTIES

Short Desc	Standard	Gene
Pipe , B36.10M , BE , A 106 Gr. A , SMLS		S.30.
Pipe , B36.10M , BE , A 106 Gr. B , SMLS		S.30.
Pipe , B36.10M , BE , A 333 Gr. 6 , SMLS		S.30.
Pipe , B36.10M , BE , A 53 Gr. B , Welded		S.30.

Commodity

Ident Management

Ident	Ident
127871	I0127871
127873	I0127873
127874	I0127874
127876	I0127876
127879	I0127879
127880	I0127880
127881	I0127881
127882	I0127882
127884	I0127884
127885	I0127885
127887	I0127887

Demo

Geometrics

Ident Layout

.5" x S-10 Pipe, B36.10M, BE, A 106 Gr. A, SMLS

S.10.05 Object Parameter Details



S.10.05 Object Parameter Detail													
Object Parameters		Short Desc		Description				Layout					
Object	P_1N1S_L	Short Desc	1 NPS 1 SCH LINEAR	Description	1 NPS 1 SCH LINEAR				Layout				
Parameter Detail													
<input type="button" value="Copy Details"/> <input type="button" value="Copy Layout"/>													
No.	Input?	Attr Name	Ident?	Opt?	Name	Unit	Kind of Detail	Short Desc	Description				
1	<input checked="" type="checkbox"/>	NPS1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NPS	in	1. Nominal Size	NPS 1	NPS 1				
2	<input checked="" type="checkbox"/>	SCH1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SCH	-	1. Schedule	SCH 1	SCH 1				

S.40.22 Commodity Geometric Relations



S.40.22 Commodity Geometric Relations

Commodity Groups		
Group	Short Desc	Description
P	Pipes & Tubes	Pipes & Tubes

Commodity Parts

Part	Short Desc	Description
DPP	Pipe	Pipe
PF	Flgd Pipe	Flanged Pipe
pp	Pipe	Pipe
PT	Tube	Tube

S.40.22 Commodity Geometric Relations: Window 2

Commodity Code	Short Desc
PPPABQBECQAAAG	Pipe , B36.10M , BE , A 106 Gr. A , SMLS

Date/Time created	Geometric	Project/PG	Input 1	Input 2	Input 3
15-OCT-2007 14:54:35	P_BI_1NPS_1SCH	SDB	From 0.125		
<input checked="" type="checkbox"/> Ident?	<input type="checkbox"/> Manual?	To 80			

Geom Details

Unit System	Nps1	Sch1	Input 3	Input 4	Input 5	Output 1	Output 2
IMP/MET	.125	S-10	0	0	0		
IMP/MET	.125	S-10S	0	0	0		
IMP/MET	.125	S-30	0	0	0		
IMP/MET	.125	S-40	0	0	0		
IMP/MET	.125	S-40S	0	0	0		
IMP/MET	.125	S-80	0	0	0		
IMP/MET	.125	S-80S	0	0	0		

Rec-Owner: SDB

What are Geometrics?



- A geometric table is a group of attributes that describe the geometric properties of a part.
- There are 4 types of Geometrics
 - Commodity Geometrics – Used to build idents based on size i.e. Schedules for Pipes based on NPS or OD
 - Standard Geometrics – Used to define base dimensions i.e. OD, F_T_C, F_T_F based on standards ie. DIN 2448
 - Other Geometrics – Used to store attributes which are not related to commodity or standards
 - Filter Geometrics – Used to limit valid idents for a spec

S.40.12 Commodity Geometrics



S.40.12 Commodity Geometrics

Geometric Table Definition

Move Geom from Project

Geometric	Tablename	Short Desc	Description
P_BI_1NPS_1SCH	P_BI_1NPS_1SCH	BI 1 NPS 1SCH	Build Ident 1 NPS 1SCH
P_BI_1NPS_1SCH_1	P_BI_1NPS_1SCH	BI 1NPS 1SCH CUNI16B	BI 1 NPS 1SCH 16 BAR COPPER NICKLE PIPE
P_BI_1NPS_1SCH_2	P_BI_1NPS_1SCH		
P_BI_1NPS_1SCH_C	P_BI_1NPS_1SCH		
P_BI_10D	P_BI_10D		
P_BI_10D_1SCH	P_BI_10D		
P_BI_2COID_2SCH	P_BI_2NPS_2SCH		
P_BI_2CTS_2SCH	P_BI_2OD_2SCH		
P_BI_2DIPS_2SCH	P_BI_2NPS_2SCH		
P_BI_2IPS_2SCH	P_BI_2NPS_2SCH		
P_BI_2IPS_2SCH_S	P_BI_2NPS_2SCH		
P_BI_2NPS	P_BI_2NPS		
P_BI_2NPS_1SCH1	P_BI_2NPS_1SCH1		
P_BI_2NPS_1SCH2	P_BI_2NPS_1SCH2		
P_BI_2NPS_2SCH	P_BI_2NPS_2SCH		
P_BI_2NPS_2SCH_C	P_BI_2NPS_2SCH		
P_BI_ASTMD1785_F	P_BI_1NPS_1SCH		
P_BI_ASTMF441_PI	P_BI_1NPS_1SCH		
P_BI_BOLTS_LEN_IN	P_BI_BOLTS_LEN_IN		
P_BI_BOLTS_LEN_M	P_BI_BOLTS_LEN_M		
P_BI_BOLTS_LEN_MI	P_BI_BOLTS_LEN_MI		

S.40.12 Commodity Geometrics: Window 2

Geometric Table Definition

Calc Geom	Geometric	Short Desc	Tablename
	P_BI_1NPS_1SCH	BI 1 NPS 1SCH	P_BI_1NPS_1SC
Apply Calculation			

Geom Details

Copy Geom	Unit System	NPS1	SCH1	P_NULL	Ctrl	Rev Begin	Rev End
	IMP/MET	.125	S-10		1	25-OCT-2006	01-JAN-3000
	IMP/MET	.125	S-10S		1	25-OCT-2006	01-JAN-3000
	IMP/MET	.125	S-30		1	25-OCT-2006	01-JAN-3000
	IMP/MET	.125	S-40		1	17-APR-2007	01-JAN-3000
	IMP/MET	.125	S-40S		1	25-OCT-2006	01-JAN-3000
	IMP/MET	.125	S-80		1	17-APR-2007	01-JAN-3000
	IMP/MET	.125	S-80S		1	25-OCT-2006	01-JAN-3000
	IMP/MET	.125	S-STD		1	25-OCT-2006	01-JAN-3000
	IMP/MET	.125	S-XS		1	25-OCT-2006	01-JAN-3000
	IMP/MET	.25	S-10		1	25-OCT-2006	01-JAN-3000
	IMP/MET	.25	S-10S		1	25-OCT-2006	01-JAN-3000

S.40.10 Standard Geometrics



Geometric Table Definition						
Geometric	Tablename	Description				
P_PPF_DSTD_B36_1	P PIPE 1NPS 1SCH IN	Flanged Pipe B36.10				
P_PPF_DSTD_B36_1	P PIPE 1NPS 1SCH IN	Flanged Pipe B36.19				
P_PPF_WGHT_B36_	P PIPE WGHT 1NPS 1SCH IN	PPF_WT_B36_10_STEEL				
P_PPF_WGHT_B36_	P PIPE WGHT 1NPS 1SCH IN	PPF_WT_B36_19_STEEL				
P_PPP_DSTD_B36_	P PIPE 1NPS 1SCH IN	Pipe B36.10				
P_PPP_DSTD_B36_	P PIPE 1NPS 1SCH IN					
P_PPP_DSTD_DIN_E	P PIPE 1NPS 1SCH IN					
P_PPP_DSTD_EEMU	P PIPE 1NPS 1SCH IN					
P_PPP_DSTD_JIS34	P PIPE 1NPS 1SCH IN					
P_PPP_WGHT_B36_	P PIPE 1NPS 1SCH IN					
P_PPP_WGHT_B36_	P PIPE 1NPS 1SCH IN					
P_PPP_WGHT_DIN_	P PIPE 1NPS 1SCH IN					
S.40.10 Standard Geometrics: Window 2						
Geometric Table Definition						
Geometric	Short Desc	Tablename				
P_PPP_DSTD_B36_	PIPE B36.10	P PIPE 1NPS 1SCH IN				
Geom Details						
Copy Geom						
Unit System	NPS1	SCH1	P PIPE OD1	Ctrl	Rev Begin	Rev End
IMP/MET	.125	0	0.405	1	28-NOV-2006	01-JAN-3000
IMP/MET	.25	0	0.54	1	28-NOV-2006	01-JAN-3000
IMP/MET	.375	0	0.675	1	28-NOV-2006	01-JAN-3000
IMP/MET	.5	0	0.84	1	28-NOV-2006	01-JAN-3000
IMP/MET	.75	0	1.05	1	28-NOV-2006	01-JAN-3000
IMP/MET	1	0	1.315	1	28-NOV-2006	01-JAN-3000
IMP/MET	1.25	0	1.66	1	28-NOV-2006	01-JAN-3000
IMP/MET	1.5	0	1.9	1	28-NOV-2006	01-JAN-3000

S.40.11 Other Geometrics

Move Geom from Project

Geometric	Tablename	Short Desc	Description
MATERIAL_DENSITY	MATERIAL_DENSITY	Density of Materials	Density of Materials
SDB_TEMP_MINIMUMPIPELENGTHRULE	P_SP3D_MINIMUMPIPELENGTHRULE	MinimumPipeLengthRul	MinimumPipeLengthRule Template
SDB_TEMP_MINPIPELENGTHPURCHASE	P_SP3D_MINPIPELENGTHPURCHASE	MinimumPipeLengthPur	MinimumPipeLengthPurchase
SDB_TEMP_PORTALALIGNMENTPERSPEC	P_SP3D_PORTALLIGNMENTPERSPEC	PortAlignmentPerSpe	PortAlignmentPerSpec
SDB_TEMP_WELDC			

S.40.11 Other Geometrics: Window 2

Geometric Table Definition

Calc Geom	Geometric	Short Desc	Tablename
	SDB_TEMP_PORTAL	PORTALLIGNMENTPERSPE	P_SP3D_PORTALLIGNMENTPER

Geom Details

Copy Geom	Unit System	P_NPS_FROM	P_NPS_TO	P_NPS_UOM	END_PRP_SP3IP_METH_TRIM	P_AC_ALI_TO	P_AC_ALI_TO
IMP/MET	.5	1.5	in	421	10	5	deg
IMP/MET	2	8	in	301	5	3	deg
IMP/MET	10	14	in	301	5	2.5	deg
IMP/MET	16	24	in	301	5	2	deg
IMP/MET	26	30	in	301	5	1.5	deg
IMP/MET	32	48	in	301	5	1	deg

S.40.13 Filter Geometrics



S.40.13 Filter Geometrics

Geometric Table Definition

Geometric	Tablename	Short Desc	Description
CS-300_NIP	P_1NPS_1SCH	CS-300 Nipple Filter	CS-300 Nipple Filter
CS-300_SWG	P_1NPS_1SCH	CS-300 Swage Filter	CS-300 Swage Filter
HCPL_USER_DEFINE	P_1NPS_1SCH	HCPL_USER_DEFINE	HCPL_USER_DEFINE
P_1DN1SCH1	P_1DN_1SCH1	PAS	PAS
P_GSK_THK_MM_G	P_GSK_THK_MM_GS		
SDB_1CS150_1	P_1NPS_1SCH	1CS150 Filter Geom	1CS150 Filter Geometrics
SDB_1CS150_GSK	P_GSK_TW_MM	ACFAZED FILTER COCK	ACFAZED FILTER COCKET
SDB_1CS150_NPL	P_GSK_TW_MM		
SDB_1CS150_SP3D	P_GSK_TW_MM		
SDB_1CS300_1	P_GSK_TW_MM		
SDB_1CS300_GSK	P_GSK_TW_MM		
SDB_1CS600_1	P_GSK_TW_MM		
SDB_1CS600_GSK	P_GSK_TW_MM		
SDB_1SS150_1	P_GSK_TW_MM		
SDB_1SS150_GSK	P_GSK_TW_MM		
SDB_1SS150_GSK	P_GSK_TW_MM		
SDB_1SS300_1	P_GSK_TW_MM		
SDB_1SS300_GSK	P_GSK_TW_MM		
SDB_2CS300_1	P_GSK_TW_MM		
SDB_2CS300_GSK	P_GSK_TW_MM		
SDB_2CS300_NPI	P_GSK_TW_MM		

S.40.13 Filter Geometrics: Window 2

Geometric Table Definition

Calc Geom	Geometric	Short Desc	Tablename
Apply Calculation	SDB_1CS150_1	1CS150 FILTER GEOM	P_1NPS_1SCH

Geom Details

Copy Geom		Unit System	NPS1	SCH1	Ctrl	Rev Begin	Rev End
IMP/MET	.5	S-XS	1	24-NOV-2006	01-JAN-3000		
IMP/MET	.75	S-XS	1	24-NOV-2006	01-JAN-3000		
IMP/MET	1	S-XS	1	24-NOV-2006	01-JAN-3000		
IMP/MET	1.5	S-XS	1	24-NOV-2006	01-JAN-3000		
IMP/MET	2	S-STD	1	24-NOV-2006	01-JAN-3000		
IMP/MET	3	S-STD	1	24-NOV-2006	01-JAN-3000		
IMP/MET	4	S-STD	1	24-NOV-2006	01-JAN-3000		

S.40.21 Geometric Rules



S.40.21 Geometric Rules

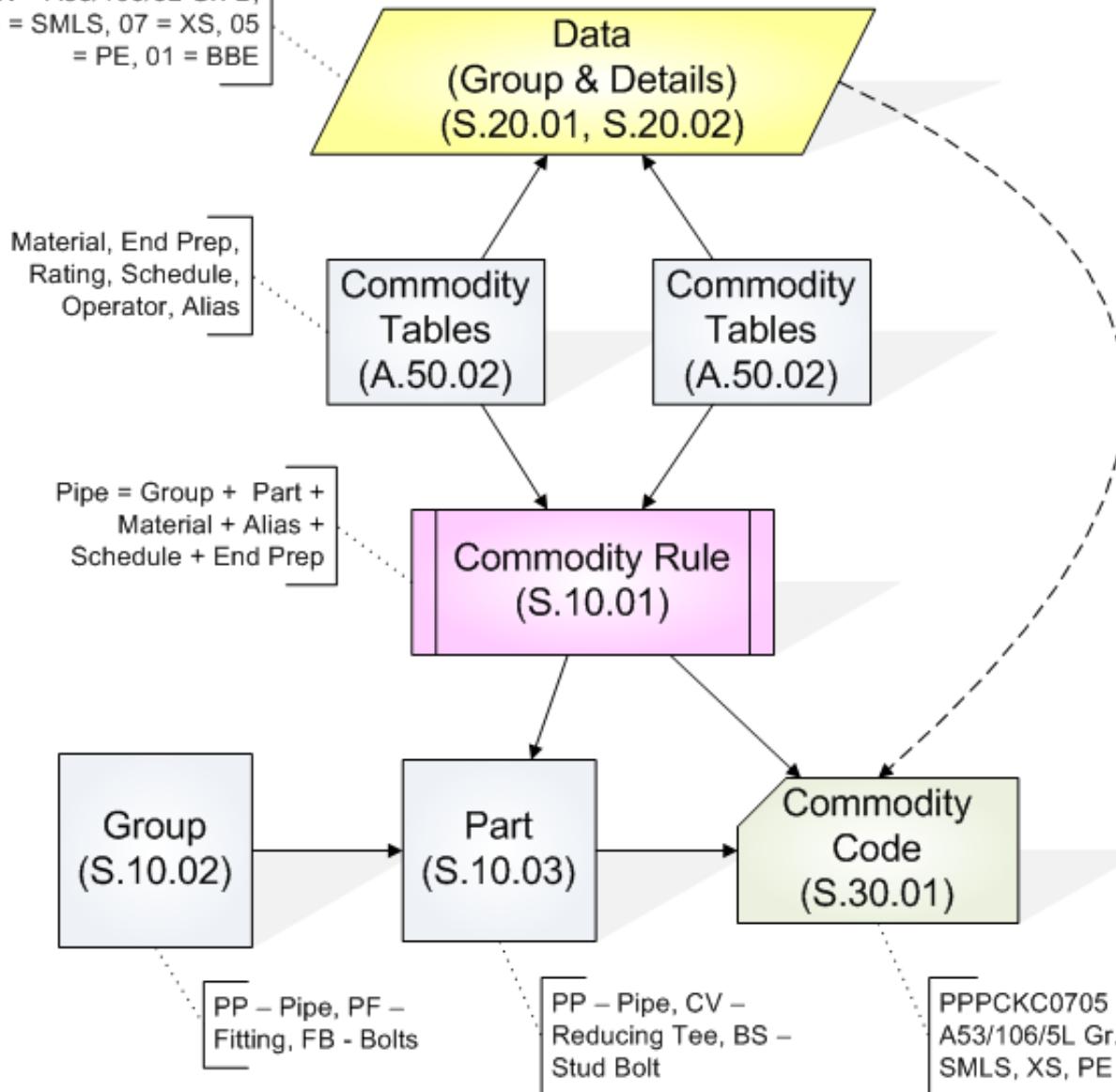
Geometric Rule				Commodity Relation by Rule	
Rule	Def. Formula	Short Comment	Comment		
PPP	P_DUMMY	Pipe	Pipe		
Ctrl 1					
Geometric Rule Definition					
No.	Group	Part	Commodity Code	Geometric	Formula
1	P	PP		P_BI_1NPS_1SCH	P_DUMMY
Ident <input checked="" type="checkbox"/>					
From	To	Used Tables and Groups			
Input 1 0.125	80	No.	Tablename	Table Group	Table Detail
Input 2		1	P_DIM_STD	PIP_US	BQ
Input 3					
Input 4					
Input 5					
Commodity Relation					

Labs 13 – 18

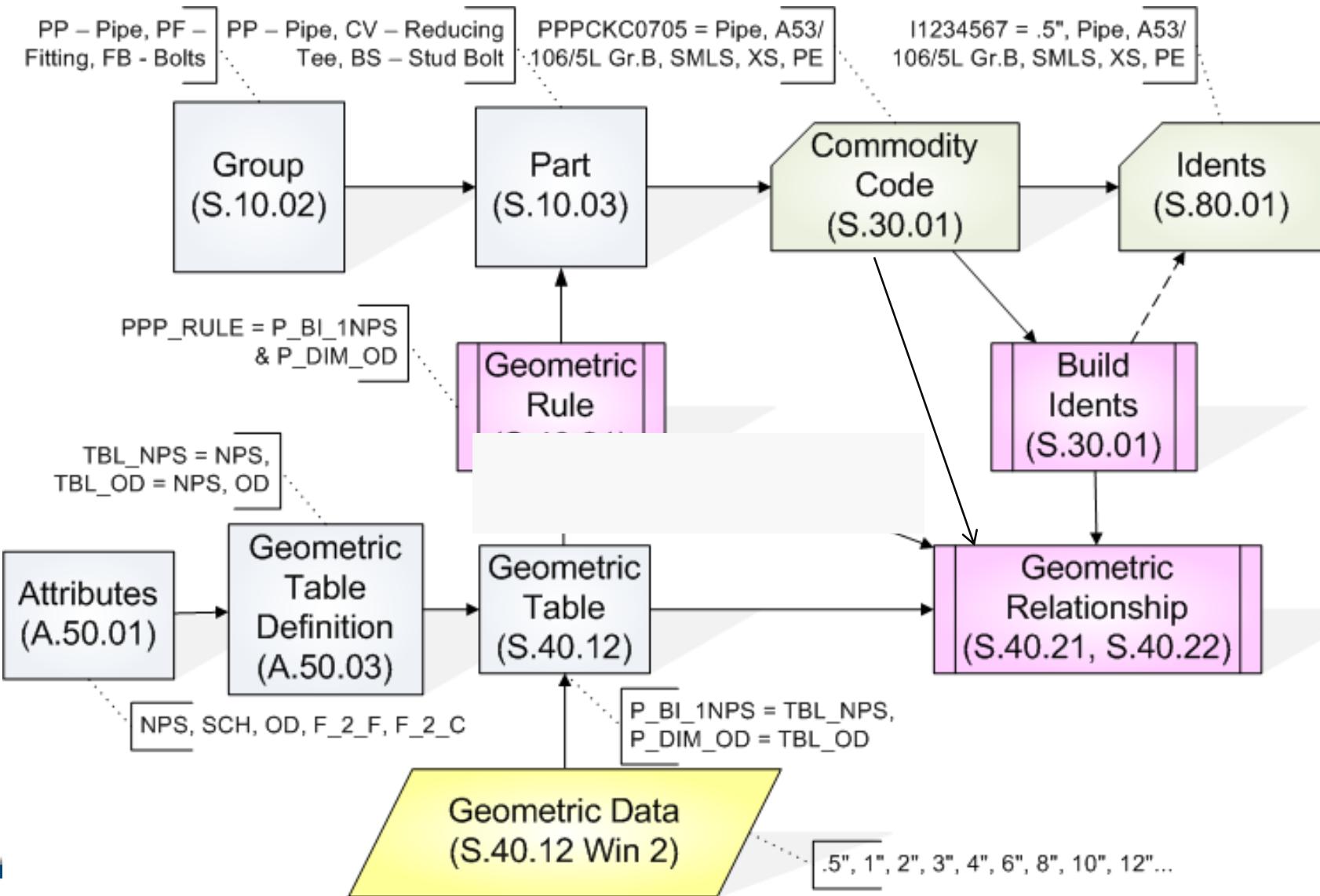
DAY 2 - SUMMARY

Commodity Code – Data Relationships

CK = A53/106/5L Gr. B,
C = SMLS, 07 = XS, 05
= PE, 01 = BBE



Ident – Data Relationships



QUESTIONS?

End of Day 2



- What is Commodity Group / Part
- What is a Commodity Code?
- What are Geometrics?
- What is an IDENT?
- What is a Geometric Table?
- Name different types of Geometrics and their use?
- What is a Commodity Geometric Relationship?
- TRUE / FALSE: Only 1 Geometric can be associated with a commodity?
- TRUE / FALSE: Commodity Relationships have to be manually created for every commodity code?
- What is a Geometric Rule?
- From which screen(s) can we generate Idents?

Agenda

- The Big Picture
- Smart Plant Reference Data
 - Product Group / Project
 - Spec Workflow
 - Catalog Management
 - Spec Management
 - Create & Print Spec
 - Issue, Revise and Publish

Course Objective

Engineering

- 3D Model, Catalog / Spec Management



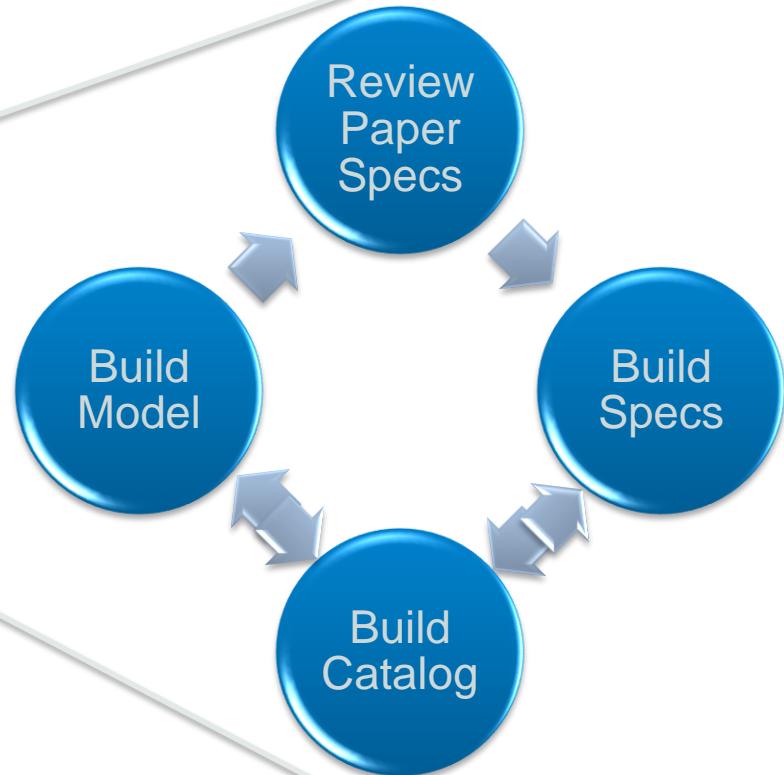
Procurement



Construction



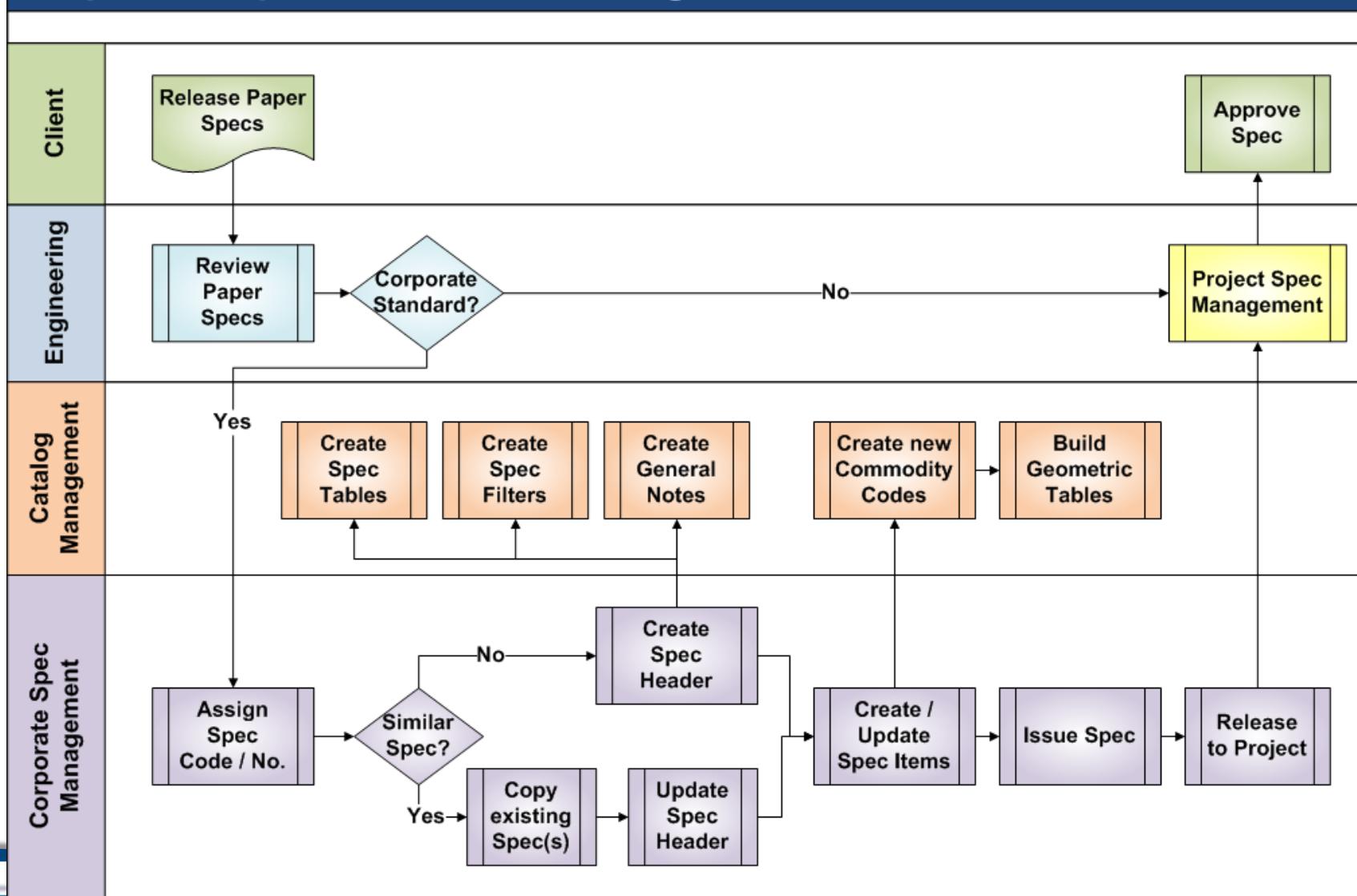
Commissioning / Operations



Spec Management Workflow - 1



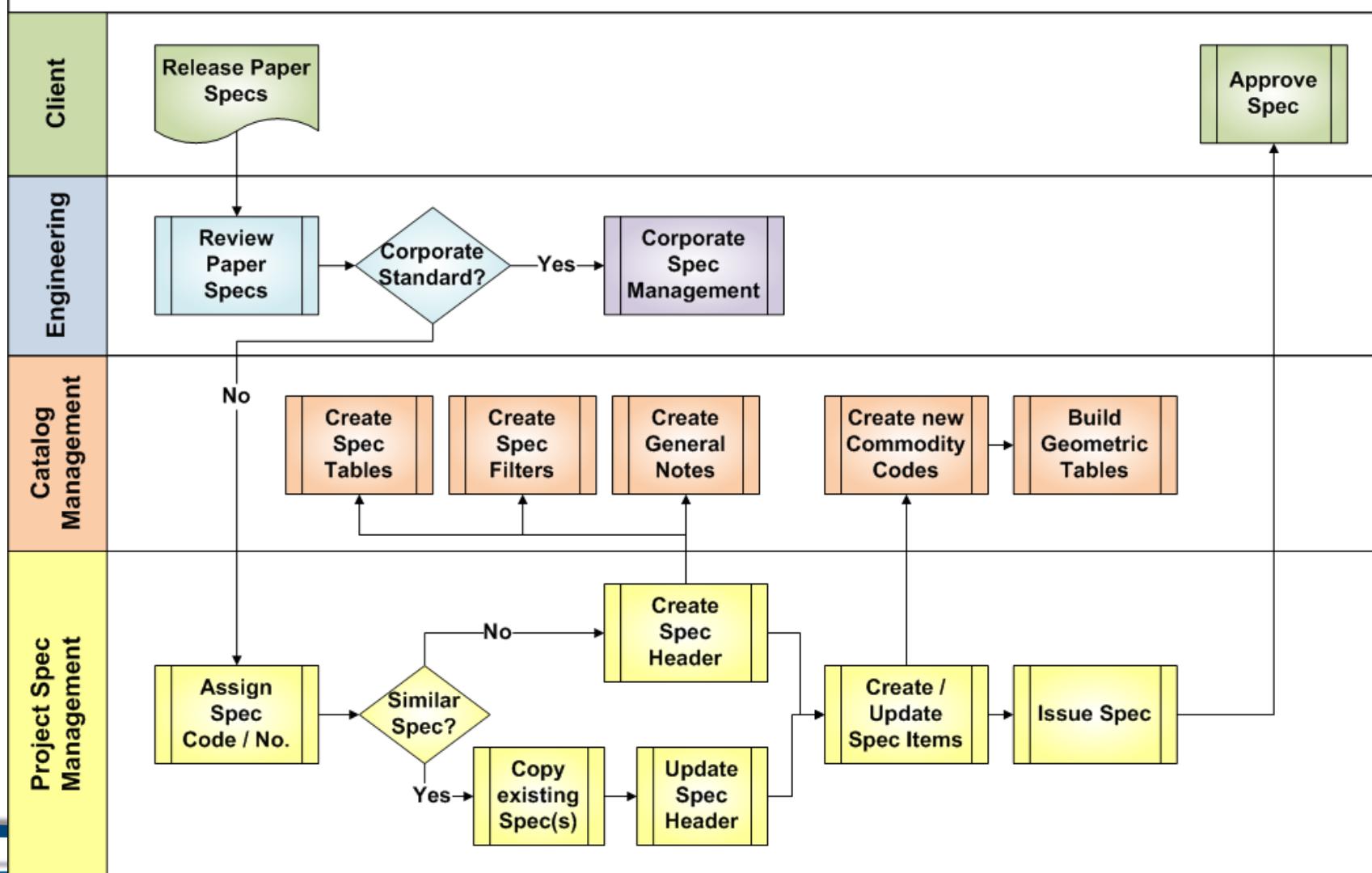
Corporate Spec Creation / Management

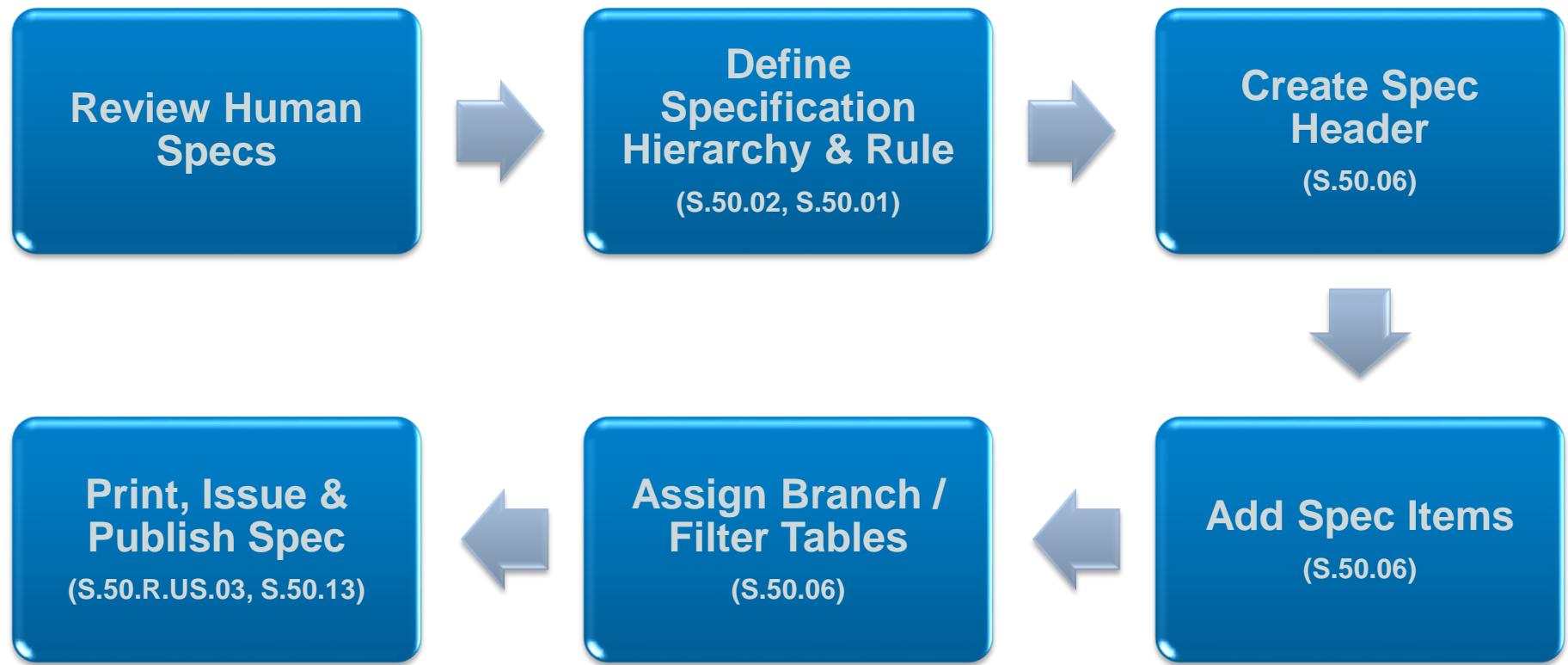


Spec Management Workflow - 2



Project Spec Creation / Management





S.50.01 Specification Rules



S.50.01 Specification Rules

Specification Rules

Rule	DN	BOM	Short Desc	Description
SDB_SPEC_R	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample Spec Rules	Sample Spec Rules

Tables

Tablename	Propagate	Ctrl	Order Seq
P_SERVICE	<input checked="" type="checkbox"/>	1	
P_RATING_CLASS	<input checked="" type="checkbox"/>	1	
P_TEMP_LIMIT	<input checked="" type="checkbox"/>	1	
P_CORR_ALLOWANCE	<input checked="" type="checkbox"/>	1	
P_MATERIAL_TYPE	<input checked="" type="checkbox"/>	1	
P DESIGN_CODE	<input checked="" type="checkbox"/>	1	
P_STRESS_RELIEF	<input checked="" type="checkbox"/>	1	
P_EXAMINATION	<input checked="" type="checkbox"/>	1	

Attributes

Seq	Attr Name	Data Type	Width	Precision	Propagate	Physical
1	PREF_PERM_TAP	CHAR	9		<input checked="" type="checkbox"/>	ATTR_CHAR1
2	PDS_CORR_ALLO	CHAR	6		<input checked="" type="checkbox"/>	ATTR_NUM1
3	PDS_PMC_TAP_T	CHAR	6		<input checked="" type="checkbox"/>	ATTR_CHAR3
4	PDS_FLUID_CODE	CHAR	6		<input checked="" type="checkbox"/>	ATTR_CHAR2
5	PDS_PMC_MAT_C	CHAR	6		<input checked="" type="checkbox"/>	ATTR_CHAR5
6	PDS_PMC_THK_E	CHAR	6		<input checked="" type="checkbox"/>	ATTR_CHAR4

S.50.06 Specification Management

INTERGRAPH

S.50.06 Specification Management

Specification Headers

Display Options

- Project Only Highest Rev. issued or not
- Product Group Only All
- Both Not issued and highest Rev

Spec Type	Spec Code	Ctrl	SPEC REVISIONS						Spec Header Description	Spec Type Description	Variable Attributes
			Rev	Issued	Published	Active	Revised	Date	XRev		Version
SDB_SPECS	ADA	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
SDB_SPECS	CBA	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
SDB_SPECS	HCP_TEST	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
SDB_SPECS	SDB_1CS150	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			0	0
SDB_SPECS	SDB_1CS300	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
SDB_SPECS	SDB_1CS600	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
SDB_SPECS	SDB_1SS150	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			0	0
SDB_SPECS	SDB_1SS300	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
SDB_SPECS	SDB_25CA01B1	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			0	0

SPEC HEADER GEOMETRIC | Specification Groups | Specification Details | Specification Notes | Specification Limits

Ident

Filter	Create	Unit System	Short Code	Group	Part	Table Type	Table Name	From1	To1	From2	To2	Ctrl
<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMP/MET	90%			Branches	SDB_1CS150_BR	.75	48	.5	42	1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	%			Nominal Sizes	D048	.5	48			1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMP/MET	%			User defined	SDB_1CS150_1	.5	48			1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	GSK			User defined	SDB_1CS150_GSK	.5	48	3	4	1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	SP3D			User defined	SDB_TEMP_MINIM	.5	48			1

Build Spec Idents **Show Log File**

Spec Management Screens



Screen	Title	Description
S.50.06	Spec Management	Build the spec by defining the Geometrics, Branch Tables, Filters, Groups & Details, Notes, Limits and Items
S.50.02	Specification Rules	Define the tables and attributes that will be used to define the spec
S.50.02	Specification Type	Define the list of specification types
S.10.08	Short Codes	Define the short codes that will be used as spec items
S.50.09	General Notes	Define the notes that will be associated with the spec
S.50.10	Spec Table Groups	Define the groups of details for spec tables
S.50.11	Spec Table Details	Define the details for the spec tables
S.40.05	Branch Table	Define the branch table details
S.50.20, 21, 22	Spec Geometrics	Define the wall thickness, rating and other spec geometrics
S.50.RU S03	PIP Spec Report	Spec Report

S.50.06 Spec Header Geometrics



SPEC HEADER GEOMETRIC		Specification Groups		Specification Details		Specification Notes		Specification Limits					
Ident		Filter	Create	Unit System	Short Code	Group	Part	Table Type	Table Name	From1	To1	From2	To2
<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMP/MET	90%					Branches	SDB_1CS150_BR	.75	48	.5	42
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	%					Nominal Sizes	D048	.5	48		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMP/MET	%					User defined	SDB_1CS150_1	.5	48		
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	GSK					User defined	SDB_1CS150_GSK	.5	48	3	4
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	SP3D					User defined	SDB_TEMP_MINIM	.5	48		
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	SP3D					User defined	SDB_TEMP_MINPI	.5	48		
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	SP3D					User defined	SDB_TEMP_PORT	.5	32		
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	SP3D					User defined	SDB_TEMP_WELD	.5	42		

Build Spec Idents

Show Log File

S.40.01 Nominal Sizes

S.40.01 Nominal Sizes: Window 2

Nominal Size Table Definition

Nom Size	Unit (Dn)	Standard
0048	in	US
Nominal Sizes		
Dn	Comment	Ctrl
.5	1/2"	1
.75	3/4"	1
1	1"	1
1.5	1 1/2"	1
2	2"	1
3	3"	1
4	4"	1
5	5"	1
6	6"	1
8	8"	1
10	10"	1
12	12"	1
14	14"	1
16	16"	1
18	18"	1
20	20"	1
24	24"	1
30	30"	1
36	36"	1
42	42"	1
48	48"	1

S.40.13 Filter Geometrics

S.40.13 Filter Geometrics: Window 2

Geometric Table Definition

Calc Geom	Geometric	Short Desc	Tablename
	SDB_1CS150_1	1CS150 FILTER GEOM	P_1NPS_1SCH

Geom Details

Copy Geom

Unit System	NPS1	SCH1	Ctrl	Rev Begin	Rev End
IMP/MET	.5	S-XS	1	24-NOV-2006	01-JAN-3000
IMP/MET	.75	S-XS	1	24-NOV-2006	01-JAN-3000
IMP/MET	1	S-XS	1	24-NOV-2006	01-JAN-3000
IMP/MET	1.5	S-XS	1	24-NOV-2006	01-JAN-3000
IMP/MET	2	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	3	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	4	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	6	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	8	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	10	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	12	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	14	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	16	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	18	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	20	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	24	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	26	S-STD	1	26-NOV-2006	01-JAN-3000
IMP/MET	30	S-STD	1	24-NOV-2006	01-JAN-3000
IMP/MET	36	S-STD	1	24-NOV-2006	01-JAN-3000

S.40.13 Filter Geometrics - Gasket



Fig S.40.13 Filter Geometrics: Window 2

Geometric Table Definition

Calc Geom	Geometric	Short Desc	Tablename
	SDB_1CS150_GSK	1CS150 FILTER GASK	P_GSK_THK_MM
Apply Calculation			

Geom Details

Copy Geom

Unit System	NPS1	P_GSK_THK_MM	Ctrl	Rev Begin	Rev End
IMP/MET	.5	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	.75	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	1	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	1.5	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	2	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	3	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	4	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	6	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	8	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	10	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	12	3	1	21-JAN-2007	01-JAN-3000
IMP/MET	14	3.5	1	21-JAN-2007	01-JAN-3000
IMP/MET	16	3.5	1	21-JAN-2007	01-JAN-3000
IMP/MET	18	3.5	1	21-JAN-2007	01-JAN-3000
IMP/MET	20	3.5	1	21-JAN-2007	01-JAN-3000
IMP/MET	24	3.5	1	21-JAN-2007	01-JAN-3000
IMP/MET	26	4	1	21-JAN-2007	01-JAN-3000
IMP/MET	28	4	1	21-JAN-2007	01-JAN-3000
IMP/MET	30	4	1	21-JAN-2007	01-JAN-3000

S.40.05 Branch Table



S.40.05 Branches: Window 2

Branch Table Definition

Branch	Unit (Header)	Unit (Branch)	Standard	Branch Chart	Order by DN Branch
SDB_1CS150_BR_90	in	in	US	Enter Range and Explode	Export to Spec

Header/ Branches

Pref	Dn Header	Dn Branch	Group	Part	Short Desc	Break Type	Ctrl
1	.5	.5	0	ETE	89.5deg 90.5deg	STANDARD	1
1	.75	.5	0	RTE	89.5deg 90.5deg	STANDARD	1
1	.75	.75	0	ETE	89.5deg 90.5deg	STANDARD	1
1	1	.5	0	RTE	89.5deg 90.5deg	STANDARD	1
1	1	.75	0	RTE	89.5deg 90.5deg	STANDARD	1
1	1	1	0	ETE	89.5deg 90.5deg	STANDARD	1
1	1.5	.5	0	RTE	89.5deg 90.5deg	STANDARD	1
1	1.5	.75	0	RTE	89.5deg 90.5deg	STANDARD	1
1	1.5	1	0	RTE	89.5deg 90.5deg	STANDARD	1
1	1.5	1.5	0	ETE	89.5deg 90.5deg	STANDARD	1
1	2	.5	0	RTE	89.5deg 90.5deg	STANDARD	1
1	2	.75	0	RTE	89.5deg 90.5deg	STANDARD	1
1	2	1	0	RTE	89.5deg 90.5deg	STANDARD	1
1	2	1.5	0	RTE	89.5deg 90.5deg	STANDARD	1
1	2	2	0	ETE	89.5deg 90.5deg	STANDARD	1
1	3	.5	0	SOC	89.5deg 90.5deg	STANDARD	1

A.50.02 Spec Geometric Tables



A.50.02 Tables		
Table Types		
Description		Type
WALLTHICKNESS TABLES		GEOM_S5020
Table Names		
Name	Short Desc	Description
P_WT_1NPS_1SCH	Wallthickness Table	Wallthickness Table
P_WT_2NPS_1SCH	Wallthickness Table	Wallthickness Table
P_WT_2NPS_2SCH	Wallthickness Table	Wallthickness Table
P_WT_TUBES	Wallthickness Tubes	Wallthickness Tubes

S.50.20 Wallthickness Geometrics



S.50.20 Wallthickness Geometrics

Geometric Table Definition

Geometric	Tablename	Short Desc	Description
P_WT_1NPS_1SCH	P_WT_1NPS_1SCH	All Schedules CS	All Schedules for Carbon Steel
P_WT_1NPS_1SCH	P_WT_1NPS_1SCH	All Schedules SS	All Schedules for Stainless Ste
P_WT_2NPS_1SCH			
P_WT_2NPS_1SCH			
P_WT_2NPS_2SCH			
P_WT_2NPS_2SCH			
P_WT_TUBES			

S.50.20 Wallthickness Geometrics: Window 2

Geometric Table Definition

Geometric	Short Desc	Table
P_WT_1NPS_1SCH	ALL SCHEDULES CS	P_W

Geom Details

Copy Geom	Unit System	NPS1	SCH1	Ctrl	Rev Begin	Rev End
IMP/MET		.5	S-10	1	30-OCT-2006	01-JAN-3000
IMP/MET		.5	S-160	1	30-OCT-2006	01-JAN-3000
IMP/MET		.5	S-30	1	30-OCT-2006	01-JAN-3000
IMP/MET		.5	S-5	1	30-OCT-2006	01-JAN-3000
IMP/MET		.5	S-STD	1	30-OCT-2006	01-JAN-3000
IMP/MET		.5	S-XS	1	30-OCT-2006	01-JAN-3000
IMP/MET		.5	S-XXS	1	30-OCT-2006	01-JAN-3000
IMP/MET		.75	S-10	1	30-OCT-2006	01-JAN-3000
IMP/MET		.75	S-160	1	30-OCT-2006	01-JAN-3000
IMP/MET		.75	S-30	1	30-OCT-2006	01-JAN-3000
IMP/MET		.75	S-5	1	30-OCT-2006	01-JAN-3000

S.40.02 Outer Diameter

S.40.02 Outer Diameter: Diameter Table Definition				
Diameter	Unit (Dn)	Unit (Od)	Short Desc	Description
U_OD_MM	in	mm	US OD (mm)	US - Outside Diameter - millimeters
U_OD_US	in	in	US OD (in)	US - Outside Diameter - inches

S.40.02 Outer Diameter: Window 2: Diameter Table Definition				
Diameter	Unit (Dn)	Unit (Od)	Standard	
U_OD_US	in	in	ASME	
Outerdiameters				
Dn	Od	Short Desc	Ctrl	
.125	.405	0.405"	1	
.25	.54	0.540"	1	
.375	.675	0.675"	1	
.5	.84	0.840"	1	
.75	1.05	1.050"	1	
1	1.315	1.315"	1	
1.25	1.66	1.660"	1	
1.5	1.9	1.900"	1	

S.40.06 Schedule



S.40.06 Schedule

Schedule Definition

Schedule	Unit (DN)	Unit (Wt)	Unit (Tolerance)	Unit (In Diam)	Standard	Ctrl
U_B3610	in	in	in	in	ASME	1
U_B3619	in	in	in	in	ASME	1

S.40.06 Schedule: Window 2

Schedule Definition

Schedule	Unit (DN)	Unit (Wt)	Unit (Tolerance)	Unit (In Diam)	Standard
U_B3610	in	in	in	in	ASME

Schedule

On	Schedule	Wt	Tolerance	In Diam	Ctrl
.125	S-5	.04	0	0	1
.125	S-STD	.068	0	0	1
.125	S-40	.069	0	0	1
.125	S-80	.095	0	0	1
.125	S-XS	.095	0	0	1
.25	S-5	.049	0	0	1
.25	S-40	.088	0	0	1
.25	S-STD	.088	0	0	1
.25	S-80	.119	0	0	1
.25	S-XS	.119	0	0	1
.375	S-5	.049	0	0	1
.375	S-40	.091	0	0	1
.375	S-STD	.091	0	0	1
.375	S-80	.126	0	0	1
.375	S-XS	.126	0	0	1
.5	S-5	.065	0	0	1
.5	S-40	.109	0	0	1

S.50.21 Rating Geometrics



Geometric Table Definition			
Geometric	Tablename	Short Desc	Description
2.5_E_98A	PI_B16.5A1998	B16.5a_98_2.5_900#	ASME B16.5a 1998 Material for Group 2.5 Materials
2.5_F_98A	PI_B16.5A1998	B16.5a_98_2.5_1500#	ASME B16.5a 1998 Material for Group 2.5 Materials
2.5_G_98A	PI_B16.5A1998	B16.5a_98_2.5_2500#	ASME B16.5a 1998 Material for Group 2.5 Materials
DA01_R	PI_PROJECT	Rating_Curve_DA01	Rating Curve For DA01
DA03_R	PI_PROJECT	Rating_Curve_DA03	Rating Curve For DA03

Geometric Table Definition										
	Geometric	Short Desc		Tablename		Standard				
	Calc Geom	DA03_R	RATING_CURVE_DA03	PI_PROJECT	ALL					
Geom Details										
	Unit System	TEMP_C	PRES_BAR	Unused	Unused	Unused	Unused	Unused	Unused	Unused
IMPERIAL	IMPERIAL	10	19.6	0	0	0				
IMPERIAL	IMPERIAL	37	19.6	0	0	0				
IMPERIAL	IMPERIAL	93	17.9	0	0	0				
IMPERIAL	IMPERIAL	149	15.8	0	0	0				
IMPERIAL	IMPERIAL	204	13.7	0	0	0				
IMPERIAL	IMPERIAL	260	11.7	0	0	0				
IMPERIAL	IMPERIAL	315	9.6	0	0	0				
IMPERIAL	IMPERIAL	343	8.6	0	0	0				

S.40.11 Other Geometrics

S.40.11 Other Geometrics: Window 2

Geometric Table Definition

Calc Geom	Geometric	Short Desc	Tablename
	SDB_TEMP_MINIMU	MINIMUMPIPELENGTHRUL	P_SP3D_MINIMUMPIPELENGTHRULE
Apply Calculation			

Geom Details

Copy Geom	Unit System	P_NPS	P_NPS_UOM	P_MIN_PIPE_L	P_MIN_PIPE_UOM	P_MAX_PIPE_L	P_MAX_PIPE_UOM	P_PIPE_REF_MIN	P_PIPE_REF_UOM	P_PIPE_REF_DIA	P_PIPE_REF_DIA_UOM	P_PIPE_REF_BORE	P_PIPE_REF_BORE_UOM
	IMP/MET	.5	in	2	in	2	in	1	01-MAY-2007				
	IMP/MET	.75	in	2	in	2	in	1	01-MAY-2007				
	IMP/MET	1	in	2	in	2	in	1	01-MAY-2007				
	IMP/MET	1.5	in	2	in	2	in	1	01-MAY-2007				
	IMP/MET	2	in	2	in	2	in	1	01-MAY-2007				
	IMP/MET	3	in	2	in	3	in	1	01-MAY-2007				
	IMP/MET	4	in	2	in	3	in	1	01-MAY-2007				
	IMP/MET	6	in	2	in	3	in	1	01-MAY-2007				
	IMP/MET	8	in	2	in	4	in	1	01-MAY-2007				
	IMP/MET	10	in	2	in	4	in	1	01-MAY-2007				
	IMP/MET	12	in	2	in	4	in	1	01-MAY-2007				
	IMP/MET	14	in	3	in	6	in	1	01-MAY-2007				
	IMP/MET	16	in	3	in	6	in	1	01-MAY-2007				
	IMP/MET	18	in	3	in	6	in	1	01-MAY-2007				
	IMP/MET	20	in	3	in	6	in	1	01-MAY-2007				
	IMP/MET	24	in	3	in	6	in	1	01-MAY-2007				
	IMP/MET	26	in	3	in	9	in	1	01-MAY-2007				
	IMP/MET	30	in	3	in	9	in	1	01-MAY-2007				
	IMP/MET	32	in	3	in	9	in	1	01-MAY-2007				

S.50.06 Specification Groups



S.50.06 Specification Management

Specification Headers			Additional Info			Copy Spec		
Display Options <input type="radio"/> Project Only <input type="radio"/> Highest Rev. issued or not <input type="radio"/> Product Group Only <input type="radio"/> All <input checked="" type="radio"/> Both <input type="radio"/> Not issued and highest Rev			Revise Spec			Delete Spec		
			Batch (Build Commodity)			Force Delete Spec		
SPEC REVISIONS			Spec Header Description		Spec Type Description		Variable Attributes	
Rev	Issued	Published	Active	Revise	Date	XRev	Version	
0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		0	0	
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
23	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
28	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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35	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
36	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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38	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
39	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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42	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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53	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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58	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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67	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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70	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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73	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
74	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
75	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
76	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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83	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
84	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
85	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
86	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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88	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
89	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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92	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
93	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
94	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
95	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
96	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
98	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
99	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

Spec Header Geometric **SPECIFICATION GROUPS** **Specification Details** **Specification Notes** **Specification Limits**

Seq	Tablename	Group	Description	Ctrl
1	P_SERVICE	ALL	Service	1
2	P_RATING_CLASS	ANSI	Rating Class - ANSI	1
3	P_TEMP_LIMIT	ALL	Temperature Limits	1
4	P_CORR_ALLOWANCE	ALL	Corrosion Allowances	1
5	P_MATERIAL_TYPE	ANSI	Type of Material	1

S.50.06 Specification Details



S.50.06 Specification Management								
Specification Headers Display Options <input checked="" type="radio"/> Project Only <input type="radio"/> Highest Rev. issued or not <input type="radio"/> Product Group Only <input type="radio"/> All <input checked="" type="radio"/> Both <input type="radio"/> Not issued and highest Rev				<input type="button" value="Additional Info"/> <input type="button" value="Copy Spec"/> <input type="button" value="Revise Spec"/> <input type="button" value="Delete Spec"/> <input style="width: 150px; height: 20px; font-size: small; font-weight: normal; border: none; background-color: #f0f0f0; border-radius: 2px; padding: 2px; margin-bottom: 2px;" type="button" value="Batch (Build Commodo...)"/> <input type="button" value="Force Delete Spec"/>				
			SPEC REVISIONS		Spec Header Description		Spec Type Description	
Spec Type	Spec Code	Ctrl	Rev	Issued	Published	Active	Revised	Date
SDB_SPECS	SDB_1CS150	1	0			<input checked="" type="checkbox"/>		
SPECIFICATION DETAILS								
Seq	Tablename	Group	Detail	Short Desc		Ctrl		
1	P_SERVICE	ALL	AA	Process		1		
2	P_RATING_CLASS	ANSI	AA	150, ASME B16.5a - 1998		1		
3	P_TEMP_LIMIT	ALL	AA	-20F to 800F		1		
4	P_CORR_ALLOWANCE	ALL	AA	0.063 in (0.05 in MIN)		1		
5	P_MATERIAL_TYPE	ANSI	AA	Carbon Steel		1		

S.50.06 Specification Notes



S.50.06 Specification Management

Specification Headers

Display Options

<input type="radio"/> Project Only	<input type="radio"/> Highest Rev. issued or not
<input type="radio"/> Product Group Only	<input type="radio"/> All
<input checked="" type="radio"/> Both	<input type="radio"/> Not issued and highest Rev

SPEC REVISIONS		Spec Header Description		Spec Type Description		Variable Attributes	
Rev	Issued	Published	Active	Revised	Date	XRev	Version
0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		0	0

Spec Header Geometric **Specification Groups** **Specification Details** **SPECIFICATION NOTES** **Specification Limits**

Note Code	Description	This Note	Ctrl
4	P/T-ratings apply for a maximum reference thickness ss vr (mm) of 50 mm	10	1
6	Up to three nominal-sizes decrements are permitted	20	1
7	Pressure ratings for ball valves are dependent on manufacturer's seat ratings at various temperatures.	30	1

S.50.06 Specification Limits

S.50.06 Specification Management

Specification Headers		Additional Info		Copy Spec					
Display Options		Revise Spec		Delete Spec					
<input type="radio"/> Project Only <input type="radio"/> Highest Rev. issued or not									
<input type="radio"/> Product Group Only <input type="radio"/> All									
<input checked="" type="radio"/> Both <input type="radio"/> Not issued and highest Rev									
Spec Type	Spec Code	Ctrl							
SDB_SPECS	SDB_1CS150	1							
SPEC REVISIONS		Spec Header Description		Spec Type Description		Variable Attributes			
Rev	Issued	Published	Active	Revised	Date	XRev	Version		
0			<input checked="" type="checkbox"/>			0	0		
Spec Header Geometric		Specification Groups		Specification Details		Specification Notes		SPECIFICATION LIMITS	
Pressure	Unit (Press)	Temp	Unit (Temp)	Comments	Ctrl				
80	psi	427	C		1				
110	psi	371	C		1				
140	psi	316	C		1				
170	psi	260	C		1				
200	psi	204	C		1				

S.50.06 Specification Management

INTERGRAPH

S.50.06 Specification Management

Specification Headers

Display Options

Project Only Highest Rev. issued or not
 Product Group Only All
 Both Not issued and highest Rev

Additional Info Copy Spec
Revise Spec Delete Spec
Batch (Build Commodity...) Force Delete Spec

SPEC REVISIONS		Spec Header Description		Spec Type Description		Variable Attributes			
Spec Type	Spec Code	Ctrl	Rev	Issued	Published	Active	Revised Date	XRev	Version
SDB_SPECS									
SDB_SPECS									
SDB_SPECS	H								
SDB_SPECS	SDB_1								
SDB_SPECS	SDB_1CS300								
SDB_SPECS	SDB_1CS600								
SDB_SPECS	SDB_1SS150								
SDB_SPECS	SDB_1SS300								
SDB_SPECS	SDB_250								

Demo

SPEC HEADER GEN

Ident

Filter	Create	Unit System	Short Code	Group	Part	Table Type	Table Name	From1	To1	From2	To2	Ctrl
<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMP/MET	90%			Branches	SDB_1CS150_BR	.75	.48	.5	.42	1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	%			Nominal Sizes	D048	.5	.48			1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMP/MET	%			User defined	SDB_1CS150_1	.5	.48			1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	GSK			User defined	SDB_1CS150_GSK	.5	.48	.3	.4	1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	SP3D			User defined	SDB_TEMP_MINIM	.5	.48			1

Build Spec Idents Show Log File

QUESTIONS?

Labs 19 - 22

DAY 3 - SUMMARY

Commodity Code – Data Relationships

CK = A53/106/5L Gr. B,
C = SMLS, 07 = XS, 05
= PE, 01 = BBE

Material, End Prep,
Rating, Schedule,
Operator, Alias

Pipe = Group + Part +
Material + Alias +
Schedule + End Prep

Group
(S.10.02)

PP – Pipe, PF –
Fitting, FB - Bolts

Data
(Group & Details)
(S.20.01, S.20.02)

Commodity
Tables
(A.50.02)

Commodity
Tables
(A.50.02)

Commodity Rule
(S.10.01)

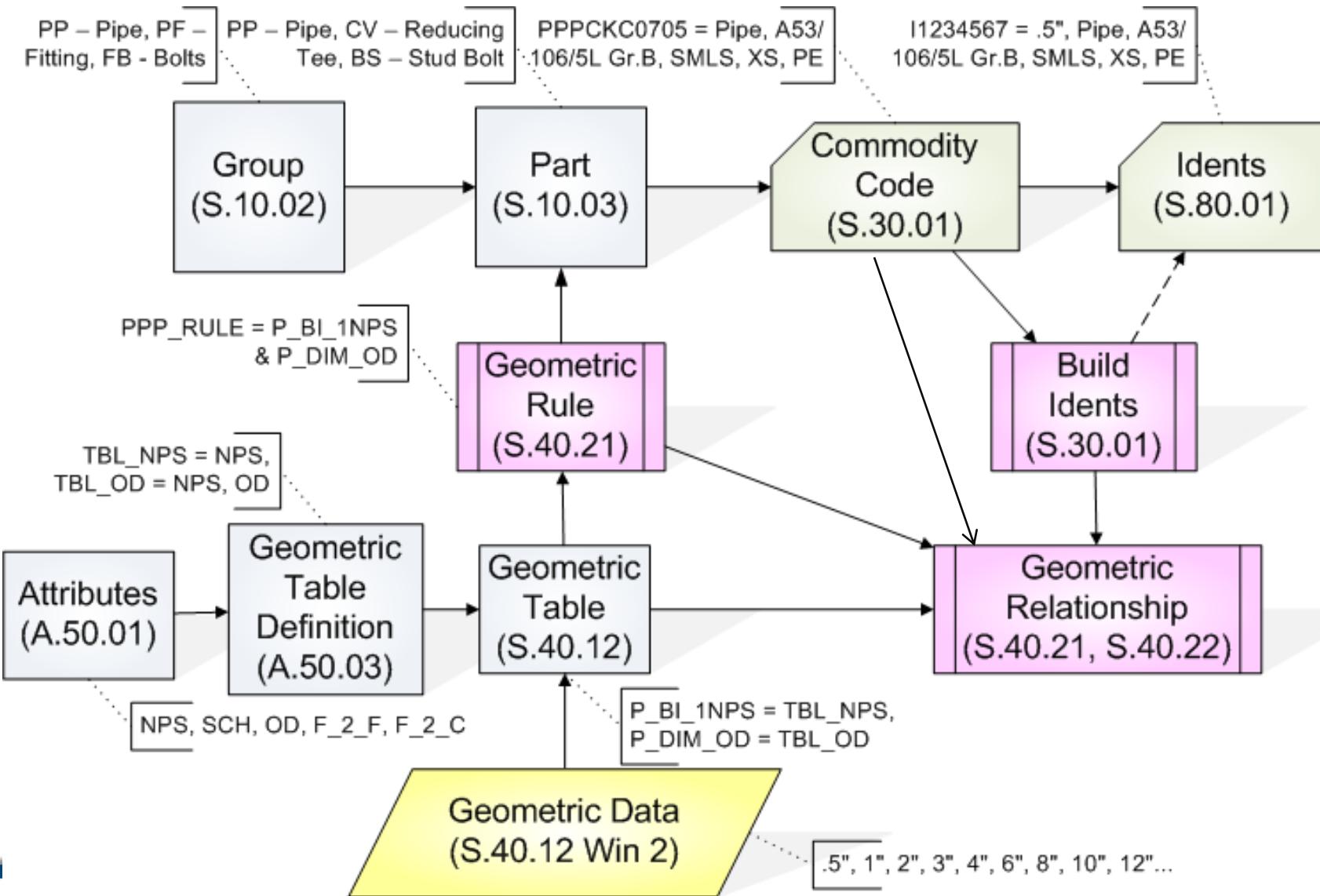
Part
(S.10.03)

PP – Pipe, CV –
Reducing Tee, BS –
Stud Bolt

Commodity
Code
(S.30.01)

PPPKC0705 = Pipe,
A53/106/5L Gr.B,
SMLS, XS, PE

Ident – Data Relationships



What's in a Spec? (SDB CS Class 150)



- Header
 - Group / Details
 - Pressure-Temperature Ratings
 - Branch Table, Filters
 - Notes

- Items
 - Short Codes
 - Options

Piping Material Specification Line Class: SDB_1CS15 Rev. No.: 0									
Dow Jul. 17, 2008									
P_SERVICE:	Process								
P_RATING_CLASS:	Tsp-003								
P_TEMP_LIMIT:	-20F to 800F								
P_MATERIAL_TYPE:	Carbon Steel								
P_STRESS_RELIEF:	Per ASME B31.3								
GENERAL NOTES:	10, 20, 30, 40								
Pressure - Temperature Ratings									
Temp.C	-29	93	149	204	260	316	371	427	
Press. kPag	285	260	230	200	170	140	110	80	
Temp.F	-20	200	300	400	500	600	700	800	
Press. kPag	43	38	33	29	25	20	16	12	
ITEM Rev. Notes NPS1 NPS2 Conn.Code Description									
Pipes & Tubes									
5 - 1.5	-	PPPBABQPEACRAAG	Pipe, B36 10M, PE, A 106 Gr. B, SMLS						
2 - 24	-	PPPBABQEAUDLAAB	Pipe, B36 10M, BE, A 33 Gr. B, Welded						
26 - 30	-	PPPBABQEEAEAAH	Pipe, B36 10M, BE, API 5L Gr. B, DSAW, Straight Sams						
36 - 48	-	PPPBABQEEAEAAH	Pipe, B36 10M, BE, API 5L Gr. B, DSAW, Straight Sams						
Forged Fittings									
5 - 1.5	-	CNTPARQPEACRAIA	Nipple, B36 10M, PBE, A 106 Gr. B, 4" Long, SMLS						
.75 - 1.5	5 - 1	OSGCAMBREACKZZZ	Conn. Swaga, MSS SP-91, BBE, A 234 Gr. WPB						
.75 - 1.5	5 - 1	OSGEAMBEAESTAAC	Ecc. Swaga, MSS SP-91, BBE, A 403 Gr. WSP94, LFW						
3 - 48	5 - 2	OSGOCAM05SSWACGZZZ	Socklet, MSS SP-97, CL3000, SWE, A105/A10N						
3 - 48	5 - 2	OTHLAM05STFACGZZZ	Threaded, MSS SP-97, CL3000, SWE, A105/A10N						
3 - 48	5 - 1.5	OL45AP15SWACGZZZ	45 Deg. Latrolet, Mnfnt. Std. CL3000, SWE, A105/A10N						
3 - 48	5 - 1.5	OL45AP15TFACGZZZ	45 Deg. Latrolet, Mnfnt. Std. CL3000, SWE, A105/A10N						
2 - 48	-	OEHLAP15SWACGZZZ	Elbow, Mnfnt. Std. CL3000, SWE, A105/A10N						
3 - 48	5 - 1.5	OEHLAP15TFACGZZZ	Elbow, Mnfnt. Std. CL3000, SWE, A105/A10N						
5 - 1.5	-	OE90AB15SWACGZZZ	90 Deg. Elbow, B16.11, CL3000, SWE, A105/A10N						
5 - 1.5	-	OE54B15SWACGZZZ	45 Deg. Elbow, B16.11, CL3000, SWE, A105/A10N						
5 - 1.5	-	OETEA15SWACGZZZ	Equal, B16.11, CL3000, SWE, A105/A10N						
.75 - 2	5 - 1.5	OGCPLAB15SWACGZZZ	Eq. Tee, B16.11, CL3000, SWE, A105/A10N						
.5 - 2	-	OPLRAB15TMACGZZZ	Pig Round Head, B16.11, MTE, A105/A10N						
.5 - 1.5	-	OCPLAB15SWACGZZZ	Cpse, B16.11, CL3000, SWE, A105/A10N						
.75 - 1.5	5 - 1	OCPRAP15SWACGZZZ	Rad. Cylg, Mnfnt. Std. CL3000, SWE, A105/A10N						
.5 - 1.5	-	OCPLAB15STFACGZZZ	Cpse, B16.11, CL3000, SWE, A105/A10N						
.75 - 1.5	5 - 1	OCPRAP15STFACGZZZ	Rad. Cylg, Mnfnt. Std. CL3000, SWE, A105/A10N						
.5 - 1.5	-	OCAPAB15SSWACGZZZ	Cp. B16.11, CL3000, SWE, A105/A10N						
.5 - 1.5	-	OCAPAB15STFACGZZZ	Cp. B16.11, CL3000, SWE, A105/A10N						
.5 - 1.5	-	OUNGOAM05SSWACGZZZ	Union, MSS SP-83, CL3000, SWE, A105/A10N						
BW Fittings									
3 - 48	2 - 42	BRCABM05BEACKZZZ	Conn. Reducer, B16.9, BE, A 234 Gr. WPB						
3 - 48	2 - 42	BREFABM05BEACKZZZ	Ecc. Reducer, B16.9, BE, A 234 Gr. WPB						
20 - 48	2 - 12	BWELAM05BEACGABA	Welded, MSS SP-97, BE, A105/A10N, SMLS						
2 - 48	-	BESLAM05BEACKZZZ	90 Deg. Elbow 1.5D, B16.9, BE, A 234 Gr. WPB						
2 - 48	-	BE4L45MBEACKZZZ	45 Deg. Elbow 1.5D, B16.9, BE, A 234 Gr. WPB						
2 - 48	-	STEFABM05BEACKZZZ	Eq. Tee, B16.9, BE, A 234 Gr. WPB						
2 - 48	-	BCAPABM05BEACKABA	Cp. B16.9, BE, A 234 Gr. WPB, SMLS						
18 - 48	8 - 42	BRPAAP15BEADLZZZ	Rainforcing Pad, B11.3, BE, A 53 Gr. B						
Flanges									
.5 - 1.5	-	FSWARBLDRFACGZZZ	SW Flg., B16.5, CL150, RF, A105/A10N						
.5 - 1.5	-	FSWAWBLRFACGZZZ	SW Flg., B16.5, CL150, FF, A105/A10N						
.5 - 1.5	-	FSWAWBLRFACGZZZ	SW Flg., B16.5, CL300, RF, A105/A10N						
.5 - 24	-	FBLABLDRFACGZZZ	Blind Flg., B16.5, CL150, RF, A105/A10N						
.5 - 24	-	FBLABLRFACGZZZ	Blind Flg., B16.5, CL300, RF, A105/A10N						
... 26 - 48	-	FBLABJDRFACGZZZ	Blind Flg., B16.47 Sr. B, CL150, RF, A105/A10N						
2 - 24	-	FSOABLDRFACGZZZ	SO Flg. Hub Type, B16.5, CL150, RF, A105/A10N						
2 - 24	-	FSOABLIRFACGZZZ	SO Flg. Hub Type, B16.5, CL300, RF, A105/A10N						

Page 1 of 4

End of Day 3



- What is a Spec?
- What information is specified in the Spec Header?
- What are Specification Details?
- What information is specified in the Specification Limits tab?
- TRUE / FALSE: A spec can have multiple notes
- What is a Spec Header Geometric?
- What are the different types of Spec Header Geometrics?
- TRUE / FALSE: Spec Header Geometrics can be used to filter Commodity Codes?
- TRUE / FALSE: Spec Header Geometrics can be used to create idents?
- TRUE / FALSE: All Spec Header Geometrics act as filters?

- Which is a better alternative and why?
 - Create Spec from scratch or Copy existing Spec
 - Standard Corporate Spec or Project Spec?
 - Reference Corporate Spec in a Project or Copy Corporate Spec to a Project?
 - Spec Header Geometric Filter or Item Geometric Filter?
 - Spec Header Notes or Item Notes

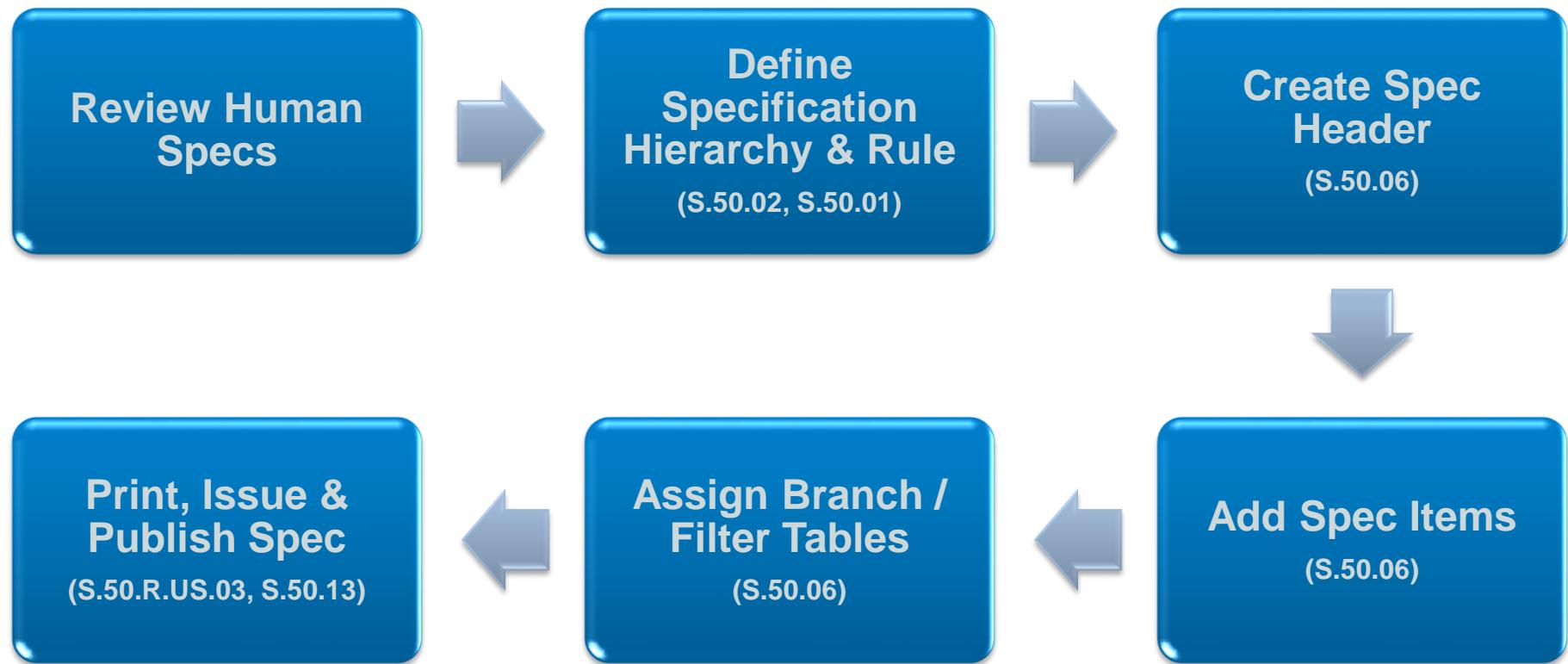
Questions from yesterday



- Spec creation process involves
 - **Reviewing Paper Specs**
 - Determine
 - If this will be a Standard Corporate Spec or a Project Spec
 - Can we use / copy any existing spec
 - Identify
 - Spec Header information
 - Pressure / Temperature limits
 - Header and Item level Spec Notes
 - Short Codes, Commodity Codes
 - Filters / Geometrics for various short codes
 - Create / Update
 - Table details
 - Short Codes / Commodity Codes
 - Spec Notes
 - Geometrics – Spec Filter, Branches, Nominal Sizes etc.

- The Big Picture
- Smart Plant Reference Data
 - Product Group / Project
 - Spec Workflow
 - Catalog Management
 - Spec Management
 - Create & Print Spec
 - Issue, Revise and Publish
 - Export to SP3D
 - Administration
- Smart Plant 3D Integration

Building a Spec



S.10.08 Short Codes

S.10.08 Short Codes		DESCRIPTIVE	Functional
Short Codes	Short Code	Short Desc	Description
	%	All Short Codes	All Short Codes
	45%	45 Deg Branches	45 Deg Branches
	45LAT	Lateral	Lateral
	45LATR	45 Deg. Red. Lateral	Reducing Lateral
	45LOL	Latrolet	Latrolet
	45RPAD	Reinforcing Pad	Reinforcing Pad
	45RWEL	Reinforcing Weld	Reinforcing Weld
	90%	90 Deg Branches	90 Deg Branches
	90RPAD	Reinforcing Pad	Reinforcing Pad
	90RWEL	Reinforcing Weld	Reinforcing Weld
	90SOL	Sockolet	Sockolet
	90SWL	Sweeplet	Sweeplet
	90TEE	Tee	Tee
	90TOL		
	90TRE	Red. Tee	Reducing Tee
	90WOL	Weldolet	Weldolet
	BLT	Bolts	Bolts
	BOS	Welding Boss	Welding Boss
	BPAD	Paddle Blind	Paddle Blind
	BR_RPA		
	BR_RPA_B	BR_RPA_B	BR_RPA_B
	BR_RPA_W	BR_RPA_W	BR_RPA_W
	BSH	Red. Bush	Reducing Bush
	CAP	Cap	Cap

S.10.08 Short Codes – Group Part



S.10.08 Short Codes

Short Codes DESCRIPTIVE FLOW

S.10.08 Short Codes: Window 2

Parts to Short Codes

Short Code
90%

Group	Short Desc	Part	Short Desc
B	BW Fittings	RPA	Reinforcing Pad
B	BW Fittings	RWE	Reinforcing Weld
B	BW Fittings	TEE	Eq. Tee
B	BW Fittings	TER	Red. Tee
B	BW Fittings	WEL	Weldolet
H	Flanged Fittings	TE	Flgd. Eq. Tee
H	Flanged Fittings	TR	Flgd. Red. Tee
NT	NM Inline Fitt,Pipe	TEE	Tee
NT	NM Inline Fitt,Pipe	TER	Reducing Tee
O	Forged Fittings	ETE	Equal Tee
O	Forged Fittings	RTE	Red. Tee
O	Forged Fittings	SOC	Sockolet
O	Forged Fittings	SWL	Sweeplet
O	Forged Fittings	THL	Threadolet

S.10.08 Short Codes – Option Code



S.10.08 Short Codes

Short Codes

Parts to Short Codes

Group

Allowed Option Codes

Short Code: 90TEE

Option Code	Comment	Usage
1	Default	%
211	Flat-Face Flanged End	%
211	Flat-Face Flanged End	%
221	Raised-Face Flanged End	%
221	Raised-Face Flanged End	%
231	RTJ-Face Flanged End	%
231	RTJ-Face Flanged End	%
401	Beveled end	%
401	Beveled end	%
521	Socketwelded End	%
521	Socketwelded End	%
541	Female Threaded End	%
541	Female Threaded End	%
773	CL300	%

S.10.08 Short Codes – SP3D Short Codes



S.10.08 Short Codes

Short Codes

S.10.08 Short Codes: Window 4

SP3D Short Codes

Short Code 90%

SP3D Short Code	Selection Basis	Codelist Num
90 Deg Branches	Default	1
90TOL	Default	1
Reducing Tee	Default	1
Reinforcing Pad	Default	1
Reinforcing Weld	Default	1
Sockolet	Default	1
Sweeplet	Default	1
Tee	Default	1
Weldolet	Default	1

S.50.06 Spec Items

S.50.06 Specification Management Window 2

Specification Headers		SPEC DESCRIPTION				
Spec Type	SDB_SPECS	Short Desc	Class 150, CS	Description	Class 150, Carbon Steel, 0.063" C.A., Process	
Spec Code	SDB_1CS150	<input type="button" value="Missing Idents"/>		<input type="button" value="Validation"/>	<input type="button" value="Build Commodity"/>	
<input type="checkbox"/> Enable Spec Compare				<input type="button" value="Build Idents"/>		
Specification Items		Create Functional		L A Y O U T Geometric Specification Item Notes		
Seq	Short Code	Group	Part	Option	Tag	Commodity
10	PIP	P	PP	1		PPPABQPEACRA/
15	PIP	P	PP	1		PPPABQBEADLA/
20	PIP	P	PP	1		PPPABQBEAEAA/
25	PIP	P	PP	1		PPPABQBEAEAA/
30	NIPL	O	NIP	1		ONIPABQPEACRA/
35	SWGC	O	SGC	1		OSGCAM8BEACK/
40	SWGЕ	O	SGE	1		OSGEAM8BEAS7/
45	90SOL	O	SOC	1		OSOCAM9SSWAC/
50	90TOL	O	THL	1		OTHLAM9STFAC/
55	46LOL	O	L45	1		OL46AP2SSWAC/
60	46LOL	O	L45	541		OL46AP2STFACG/
65	EBL	O	EBL	1		OEBLAP2SSWAC/
70	EBL	O	EBL	541		OEBLAP2STFACG/
75	E90	O	E90	1		OE90AB2SSWAC/
80	E45	O	E45	1		OE45AB2SSWAC/

S.50.06 Spec Item Ident Filter



S.50.06 Specification Management: Window 3

Specification Items			Spec Code	SDB_1CS150	Validation		Build Idents		Batch (Build Idents)		She		
<input type="button" value="▲"/>	Short Code	Group	Part	Option	Commodity Code		From	To1	From	To2			
<input type="button" value="▼"/>	PIP	P	PP	1	PPPABQEACRAAG		.5	1.5					
				From	To3	From	To4	From	To5				
Commodity Description						Pipe, B36.10M, PE, A 106 Gr. B, SMLS							
Geometric		Nominal Sizes		Schedules									
						1	1						
SPEC ITEM IDENTS			Missing Nom. Sizes										
Ident	Ident Code	Nps1	Sch1	Input 3	Input 4	Input 5							
128494	I0128494	.5	S-XS	0	0	0							
128505	I0128505	.75	S-XS	0	0	0							
128516	I0128516	1	S-XS	0	0	0							
128538	I0128538	1.5	S-XS	0	0	0							

S.50.06 Spec Item Geometrics



Specification Items					Create Functional		Layout			GEOMETRIC			Specification It		
Seq	Short Code	Group	Part	Option			Geometric	From	To	Units	Geometric 2	From 2	To 2	Uni	
10	PIP	P	PP	1				.5	1.5	in					
15	PIP	P	PP	1				2	24	in					
20	PIP	P	PP	1				26	30	in					
25	PIP	P	PP	1				36	48	in					
30	NIPL	O	NIP	1			SDB_1CS150_NPL	.5	1.5	in					
35	SWG	O	SGC	1				.75	1.5	in		.5	1	in	
40	SWGE	O	SGE	1				.75	1.5	in		.5	1	in	
45	90SOL	O	SOC	1				3	48	in		.5	2	in	
50	90TOL	O	THL	1				3	48	in		.5	2	in	
55	45LOL	O	L45	1				3	48	in		.5	1.5	in	
60	45LOL	O	L45	541				3	48	in		.5	1.5	in	
65	EBL	O	EBL	1				2	48	in		.5	1.5	in	
70	EBL	O	EBL	541				3	48	in		.5	1.5	in	
75	E90	O	E90	1				.5	1.5	in					
80	E45	O	E45	1				.5	1.5	in					

S.50.06 Spec Items - Assembly



Specification Items									
	Seq	Short Code	Group	Part	Geometric 5	From 5	To 5	Unit	ASS_NO
	90	BEND	A	BN					505496
	91	VG1	A	VG					500301
	92	DG1	A	DG					500315
	93	VT1	A	VT					500317
	94	DT1	A	DT					500316
	95	PG1	A	PG					500425
	96	ORG1	A	OG					500411
	97	TI5	A	TW					500412

S.50.06 Specification Management



S.50.06 Specification Management

Specification Headers

Display Options

Project Only Highest Rev. issued or not
 Product Group Only All
 Both Not issued and highest Rev

Additional Info **Copy Spec**
Revise Spec **Delete Spec**
Batch (Build Commodity) **Force Delete Spec**

SPEC REVISIONS Spec Header Description Spec Type Description Variable Attributes

Spec Type	Spec Code	Ctrl	Rev	Issued	Published	Active	Revised Date	XRev	Version
SDB_SPECS									
SDB_SPECS									
SDB_SPECS									
SDB_SPECS	SDB_								
SDB_SPECS	SDB_1CS								0
SDB_SPECS	SDB_1CS600								0
SDB_SPECS	SDB_1SS150								0
SDB_SPECS	SDB_1SS300								0
SDB_SPECS	SDB_2								0

Demo

SPEC HEADER G...

Ident.

Filter Create Unit System Short Code Group Part Table Type Table Name From1 To1 From2 To2 Ctrl

<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMP/MET	90%			Branches	SDB_1CS150_BR	.75	48	.5	42	1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	%			Nominal Sizes	D048	.5	48			1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	IMP/MET	%			User defined	SDB_1CS150_1	.5	48			1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	GSK			User defined	SDB_1CS150_GSK	.5	48	3	4	1
<input type="checkbox"/>	<input type="checkbox"/>	IMP/MET	SP3D			User defined	SDB_TEMP_MINIR	.5	48			1

Build Spec Idents **Show Log File**

S.50.R.US.03 PIP Spec Report

INTERGRAPH

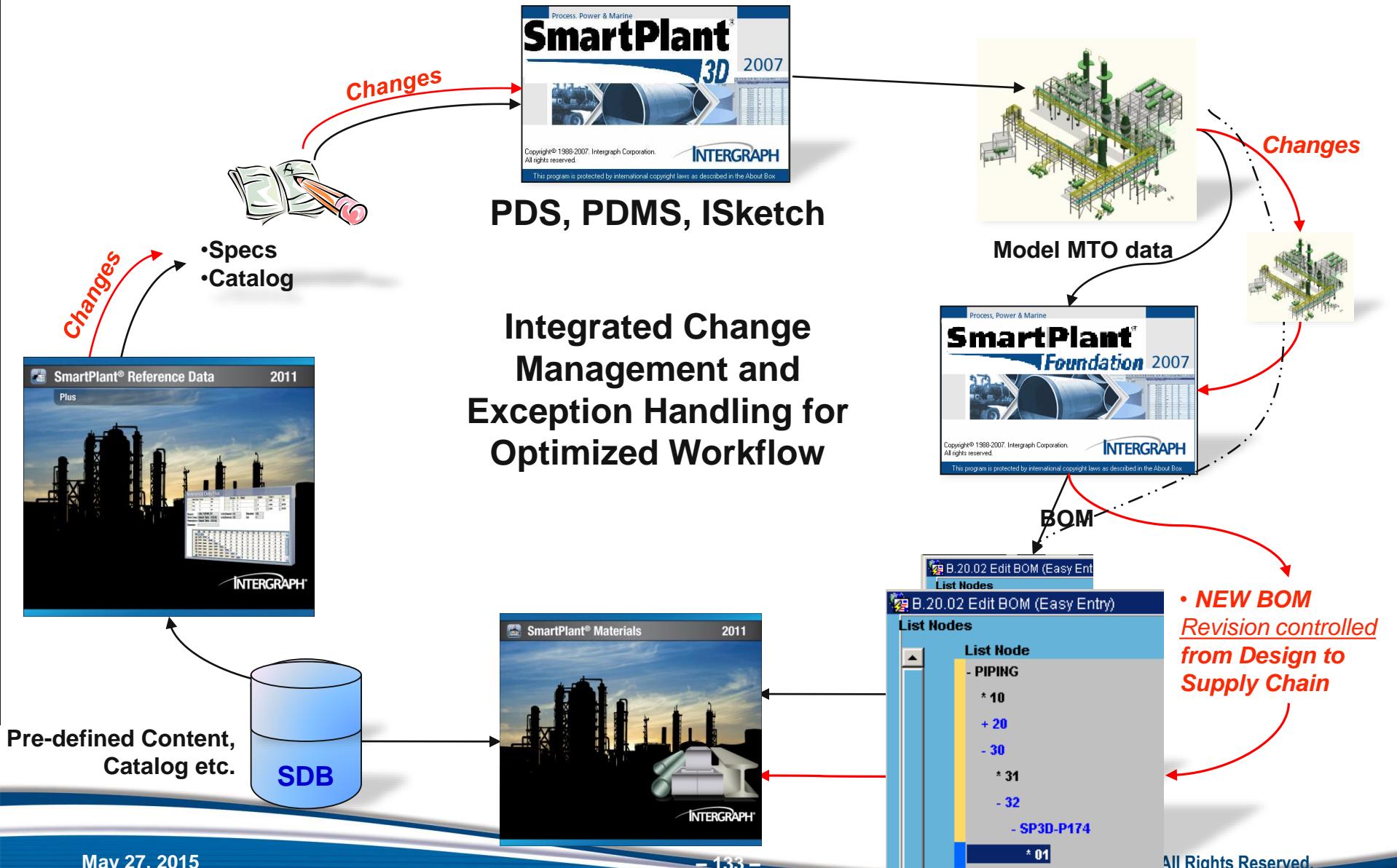
Sample								
Piping Material Specification Line Class: SDB_1CS15 Rev. No.: 0								
P_SERVICE:	Process	CORROSION ALLOW.:	0.063 in. (1.6 mm)					
P_RATING_CLASS:	Top-003	P_RATING_CLASS:	150, ASME B16.3a - 1998					
P_TEMP_LIMIT:	-20F to 800F	P_CORR_ALLOWANCE:	0.063 in (0.05 in MN)					
P_MATERIAL_TYPE:	Carbon Steel	P DESIGN_CODE:	ASME B31.3-1999					
P_STRESS_RELIEF:	Per ASME B31.3	P EXAMINATION:	Per ASME B31.3					
GENERAL NOTES:	10, 20, 30, 40							
Pressure - Temperature Rating								
Temp. C	-29	93	149	204	260	316	371	427
Press. kPag	285	260	230	200	170	140	110	80
Temp. F	-20	200	300	400	500	600	700	800
Press. Pag	41	38	33	29	25	20	16	12
ITEM	Rev. Notes	NPS1	NPS2	Comm.Code	Description			
Pipes & Tubes	.5 - 1.5	-	PPPAB0PEACRAAG	Pipe, B36.10M, PE, A 106 Gr. B, SMLS				
	2 - 24	-	PPPAB0BEADLAAB	Pipe, B36.10M, BE, A 53 Gr. B, Welded				
	26 - 30	-	PPPAB0BEAEAAH	Pipe, B36.10M, BE, API 5L Gr. B, DSAW, Straight Seam				
	36 - 48	-	PPPABQBEAEAAH	Pipe, B36.10M, BE, API 5L Gr. B, DSAW, Straight Seam				
Forged Fittings	.5 - 1.5	-	ONIPABQPEACKAIA	Nipple, B36.10M, PHE, A 106 Gr. B, 4" Long, SMLS				
	.75 - 1.5	.5 - 1	OSGCAMSBEACKZZZ	Cou. Swage, MSS SP-91, BBE, A 234 Gr. WPB				
	.75 - 1.5	.5 - 1	OSGEAMSEBEASTAAC	Ecc. Swage, MSS SP-91, BBE, A 403 Gr. WP304.EFW				
	3 - 48	.5 - 2	OSOCAM95SSWACGZZZ	Sockelot, MSS SP-97, CL3000, SWE, A105/A103N				
	3 - 48	.5 - 2	OTHLAM95TFACGZZZ	Threadsolut, MSS SP-97, CL3000, FTE, A105/A103N				
	3 - 48	.5 - 1.5	OL45AP25SWACGZZZ	45 Deg Latrol, Manuf. Std, CL3000, SWE, A105/A103N				
	3 - 48	.5 - 1.5	OL45AP25TFACGZZZ	45 Deg Latrol, Manuf. Std, CL3000, FTE, A105/A103N				
	2 - 48	.5 - 1.5	OEBLAP25SWACGZZZ	Elbowlet, Manuf. Std, CL3000, SWE, A105/A103N				
	2 - 48	.5 - 1.5	OEBLAP25TFACGZZZ	Elbowlet, Manuf. Std, CL3000, FTE, A105/A103N				
	.5 - 1.5	-	OE90AB25SWACGZZZ	90 Deg. Elbow, B16.11, CL3000, SWE, A105/A103N				
	.5 - 1.5	-	OE45AB25SWACGZZZ	45 Deg. Elbow, B16.11, CL3000, SWE, A105/A103N				
	.5 - 1.5	-	OETEAB25SWACGZZZ	Equal Tee, B16.11, CL3000, SWE, A105/A103N				
	.75 - 2	.5 - 1.5	ORTEAAB25SWACGZZZ	Rad. Tee, B16.11, CL3000, SWE, A105/A103N				
	.5 - 2	-	OPLRAB27MACGZZZ	Plug Round Head, B16.11, MTE, A105/A103N				
	.5 - 1.5	-	OCPLAB25SWACGZZZ	Cplg., B16.11, CL3000, SWE, A105/A103N				
	.75 - 1.5	.5 - 1	OCPRAP25SWACGZZZ	Rad. Cplg., Manuf. Std, CL3000, SWE, A105/A103N				
	.5 - 1.5	-	OCPRLAB25TFACGZZZ	Cplg., B16.11, CL3000, FTE, A105/A103N				
	.75 - 1.5	.5 - 1	OCPRAP25TFACGZZZ	Rad. Cplg., Manuf. Std, CL3000, FTE, A105/A103N				
	.5 - 1.5	-	OCAPAB25SWACGZZZ	Cap, B16.11, CL3000, SWE, A105/A103N				
	.5 - 1.5	-	OCAPAB25TFACGZZZ	Cap, B16.11, CL3000, FTE, A105/A103N				
	.5 - 1.5	-	OUNGOAMTSSSWACGZZZ	Union, MSS SP-83, CL3000, SWE, A105/A103N				
BW Fittings	3 - 48	2 - 42	BRECARBMBEACKZZZ	Cee Reducer, B16.9, BE, A 234 Gr. WPB				
	3 - 48	2 - 42	BREEARMBEACKZZZ	Ecc. Reducer, B16.9, BE, A 234 Gr. WPB				
	20 - 48	2 - 12	BWEELAM9BEAGABA	Waitelet, MSS SP-97, BE, A105/A103N, SMLS				
	2 - 48	-	BE5LAMBMBEACKZZZ	90 Deg. Elbow 1.5D, B16.9, BE, A 234 Gr. WPB				
	2 - 48	-	BE4LAMBMBEACKZZZ	45 Deg. Elbow 1.5D, B16.9, BE, A 234 Gr. WPB				
	2 - 48	-	BTEELAMBMBEACKZZZ	Eq. Tee, B16.9, BE, A 234 Gr. WPB				
	2 - 48	-	BCAPABMBEACKABA	Cop, B16.9, BE, A 234 Gr. WPB, SMLS				
	18 - 48	8 - 42	BRPAAP1BEADLZZZ	Reinforcing Pad, B31.3, BE, A 53 Gr. B				
	.5 - 1.5	-	FSWABLDRFACGZZZ	SW Fig. B16.5, CL150, RF, A105/A103N				
	.5 - 1.5	-	FSWABLDFACGZZZ	SW Fig. B16.5, CL150, FF, A105/A103N				
Flanges	.5 - 1.5	-	FSWABLIRFACGZZZ	SW Fig. B16.5, CL300, RF, A105/A103N				
	.5 - 24	-	FBLABLDRFACGZZZ	Blind Fig., B16.5, CL150, RF, A105/A103N				
	.5 - 24	-	FBLABLIRFACGZZZ	Blind Fig., B16.5, CL300, RF, A105/A103N				
	26 - 48	-	FBLABLDRFACGZZZ	Blind Fig., B16.47 Sr. B, CL150, RF, A105/A103N				
	2 - 24	-	FSOABLDRFACGZZZ	SO Fig. Hub Type, B16.5, CL150, RF, A105/A103N				
	2 - 24	-	FSOABLIRFACGZZZ	SO Fig. Hub Type, B16.5, CL300, RF, A105/A103N				

Page 1 of 4

QUESTIONS?

Labs 23 - 37

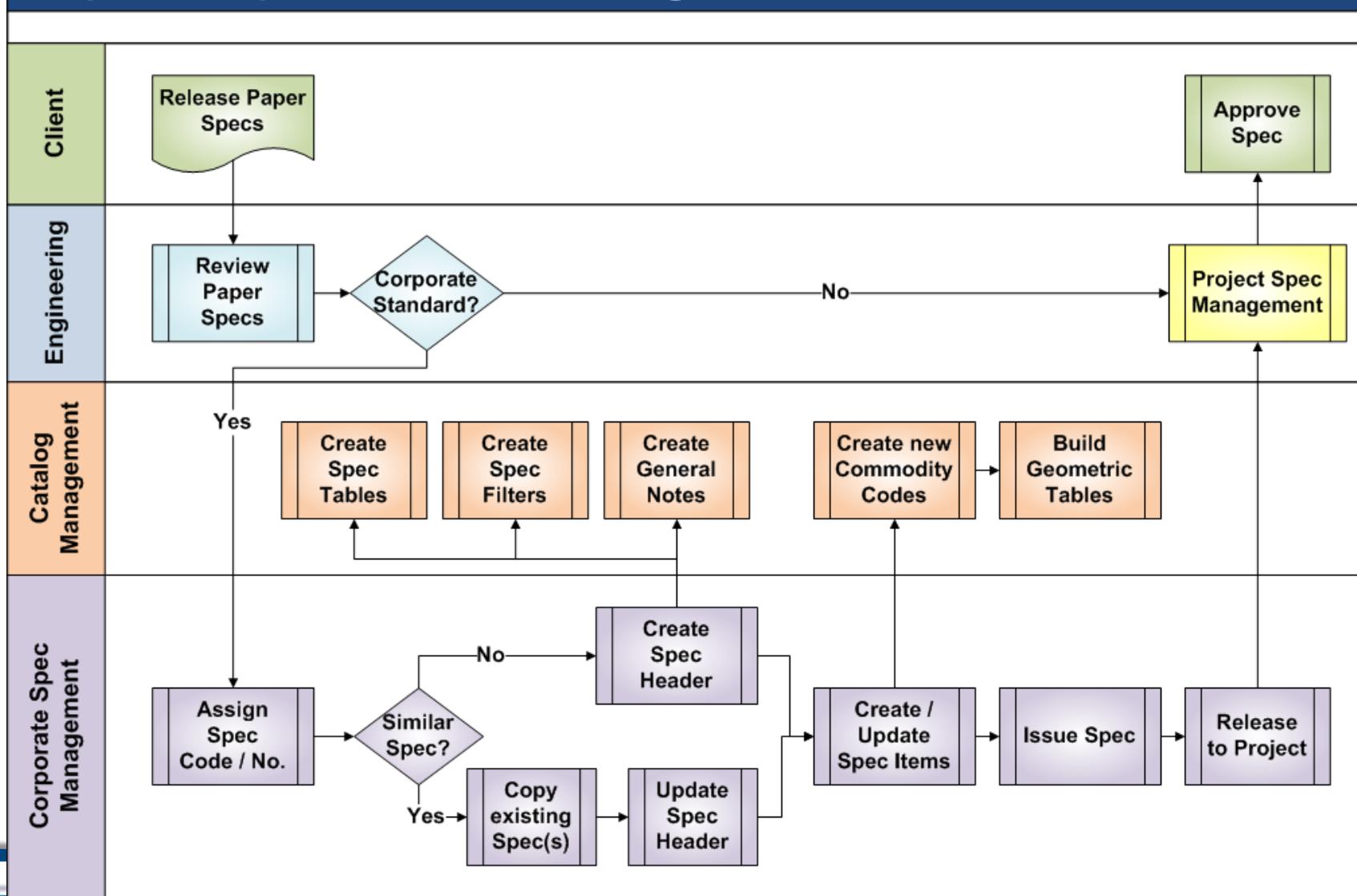
DAY 4 - SUMMARY



Spec Management Workflow - 1



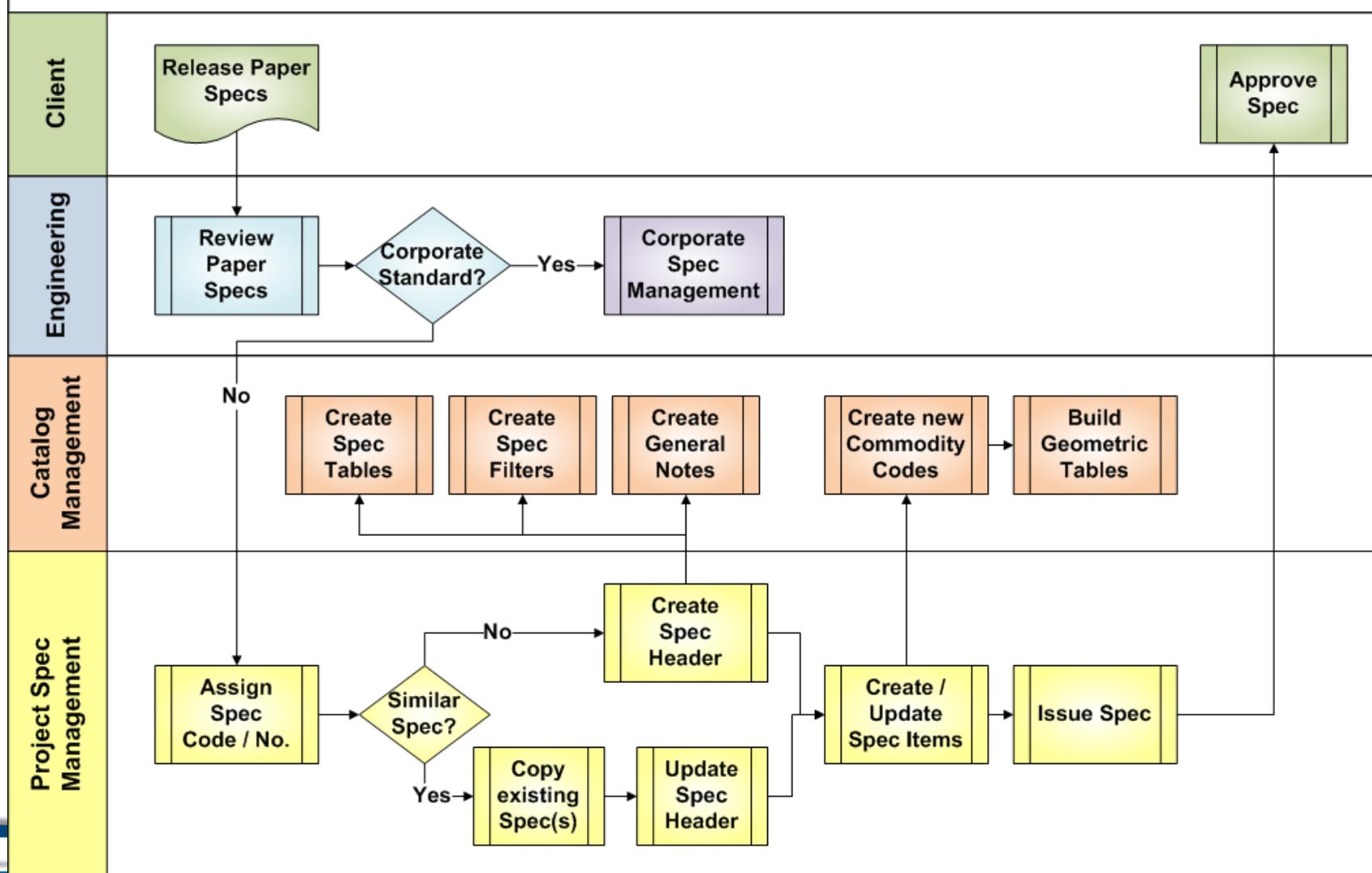
Corporate Spec Creation / Management



Spec Management Workflow - 2



Project Spec Creation / Management



Commodity Code – Data Relationships

CK = A53/106/5L Gr. B,
C = SMLS, 07 = XS, 05
= PE, 01 = BBE

Material, End Prep,
Rating, Schedule,
Operator, Alias

Pipe = Group + Part +
Material + Alias +
Schedule + End Prep

Group
(S.10.02)

PP – Pipe, PF –
Fitting, FB - Bolts

Data
(Group & Details)
(S.20.01, S.20.02)

Commodity
Tables
(A.50.02)

Commodity
Tables
(A.50.02)

Commodity Rule
(S.10.01)

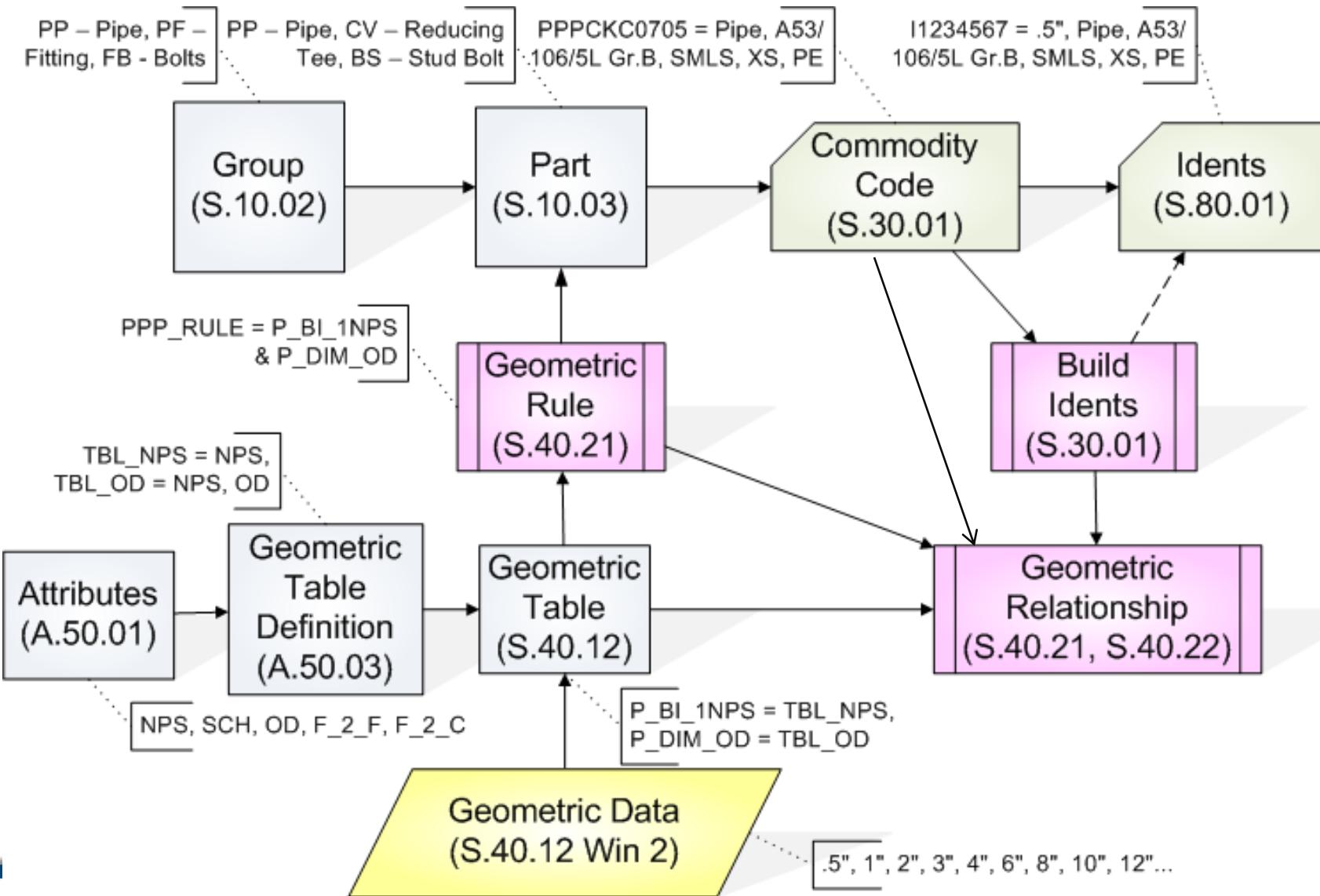
Part
(S.10.03)

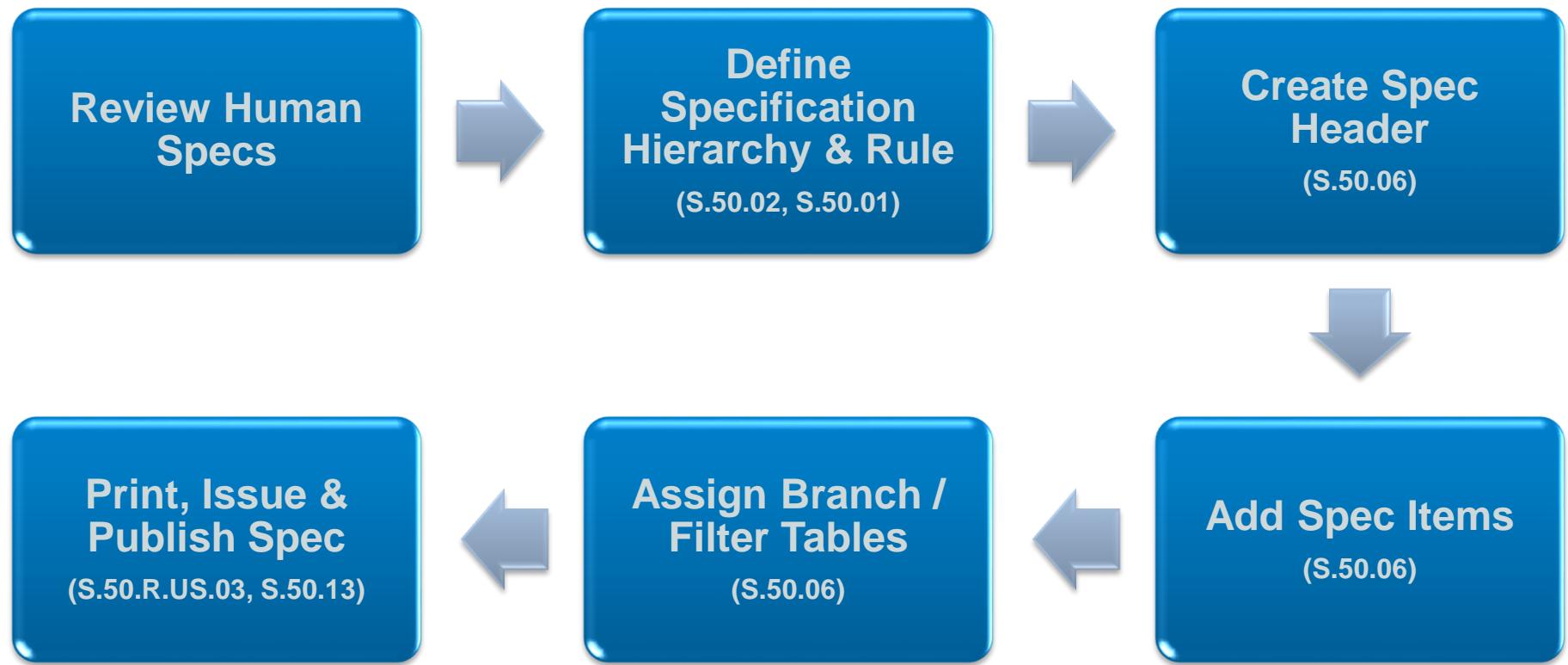
PP – Pipe, CV –
Reducing Tee, BS –
Stud Bolt

Commodity
Code
(S.30.01)

PPPKC0705 = Pipe,
A53/106/5L Gr.B,
SMLS, XS, PE

Ident – Data Relationships





End of Day 4



- Via which screen can items be added to a spec?
- What is a Short Code?
- TRUE / FALSE: A Spec can have overlapping sizes for a given Short Code?
- What is an Option Code?
- What is the significance of the Geometric field in the Geometric tab of the S.50.06 Specification Management Window 2 (Spec Items)?
- TRUE / FALSE: A Spec Item can have only 1 Note?
- From which screen(s) can we generate Idents?
- TRUE / FALSE: The Material code specified in the Spec Header Details tab stops us from adding commodity codes with different materials to the spec?

- The Spec Item Idents tab in the S.50.06 Specification Management Window 3 (Spec Items) does not show all the idents. What could cause this to happen?
- Clicking on the Build Idents button for a Spec Item does not generate any idents. What could cause this to happen?
- List the following tasks in the correct sequence?
 1. Create a Spec
 2. Add Commodity Codes
 3. Issue the Spec
 4. Go home
 5. Build a Model
 6. Create Idents
 7. Add a Spec Filter

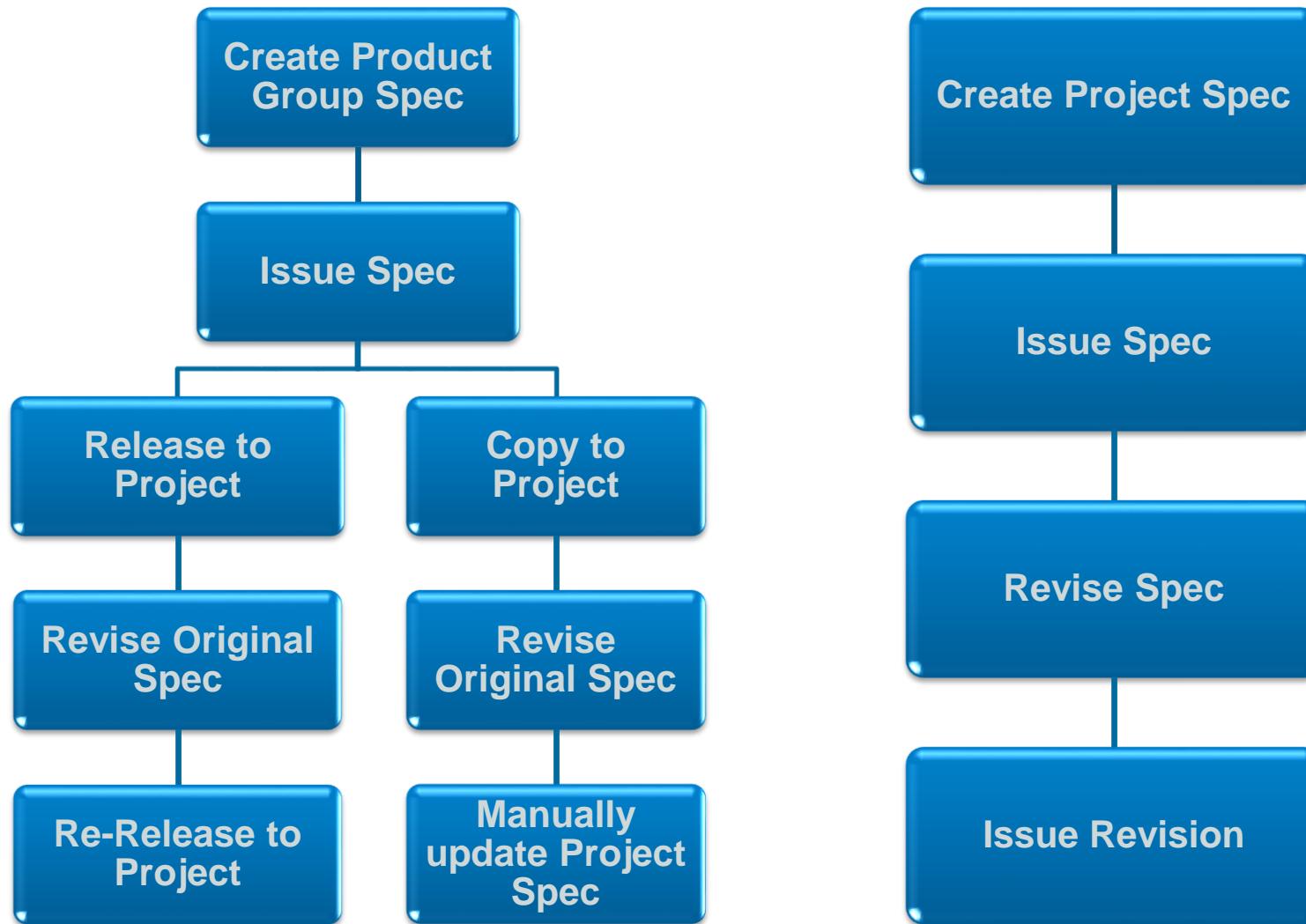
- Which is a better alternative and why?
 - Create Spec from scratch or Copy existing Spec
 - Standard Corporate Spec or Project Spec?
 - Reference Corporate Spec in a Project or Copy Corporate Spec to a Project?
 - Spec Header Geometric Filter or Item Geometric Filter?
 - Spec Header Notes or Item Notes

- The Big Picture
- Smart Plant Reference Data
 - Product Group / Project
 - Spec Workflow
 - Catalog Management
 - Spec Management
 - Create & Print Spec
 - Issue, Revise, Release, Copy and Publish Spec

- **Issue Spec:** finalizes the spec. To make additional changes it has to be revised. To ensure that the spec is complete, users typically export it to SP3D and verify it against a test model, prior to issuing it.
- **Revise Spec:** updates the rev no. and allows the user to make changes to the spec.
- **Release Spec:** makes the spec available to projects as a reference. Subsequent updates to the Spec are applied to the project by releasing the revision. No changes can be made to the Spec at the Project level.

- **Copy Spec to Project:** The entire Master (Product Group) Spec can be copied to the project. Subsequent changes to the Spec have to be made manually in the Project. These changes are not propagated back to the Master Spec.
- **Publish Spec:** is a work process by which a spec is made available to external (outside Smart Plant) entities.

Assign Specs to a Project



- SPRD Revision Tracking shows
 - Who made the change and when was it made?
 - What changed between subsequent (or any two) revisions?
 - When the spec was created, issued, published, revised, released?
 - What changes have been made to a spec since it was copied to the project?
- Export to SP3D
 - Transfer Everything (Replace) or just the Delta (Add / Delete / Modify)
 - Users can see what has been sent so far and what was transmitted in a particular transmittal
- SP3D Revision Tracking shows
 - Impact of the changes on the Model
- SP Materials shows
 - BOM changes across revisions
 - Delta quantities that need to be Requisition, Ordered
 - Impact to construction schedules based on forecasted delivery

S.50.13 Issue / Release / Revise / Publish Spec



S.50.13 Issue/Release Project Spec

Specification Revisions

Project / PG SDB	Revision 2	Rev. Character	Revision Date 19-AUG-2008	Active <input checked="" type="checkbox"/>	Display <input type="checkbox"/>
---------------------	---------------	----------------	------------------------------	--	----------------------------------

Display Options

<input type="radio"/> Project Only	<input type="radio"/> Project Revision
<input type="radio"/> Product Group Only	<input type="radio"/> Spec Revision
<input checked="" type="radio"/> Both	<input checked="" type="radio"/> Highest Spec Revision

Specification Header

Issue Client

					Description
					300# CS
					304L SS Pipe, ANSI Class 150 V
					Class 150, CS...
					st
					CS...
					Carbon Steel, 0.063"
					600, Carbon Steel, 0.063"
					Class 150, 304 Stainless Steel,
					Class 300, Stainless Steel 304
					PAS 1057 25CA01B1 (simplified)
					6B
					Class 300, A106B (CCD)
					Class 150, 316 SS
					Class 150, 316 Stainless Steel
					Class 300, CS (CCA)
					Class 300,CS (CCB)
					Carbon Steel 1
					Carbon Steel 1

Demo

Unissue Spec Copy Spec Revise Spec Delete Spec Force Delete Spec

A.60.02.01 Create New Project



A.60.02.01 Create new Project

Parameters for Create new Project

Project	Description	Password	Project Group	Proposal Project
PLANT1	Plant 1	*****	DEFAULT	<input type="checkbox"/>

Defaults for the User Securities

User: SPROSDB

Product Group: SDB

Discipline: PIPING

Nls Description: English

Role: SUPERUSER

Set default role active:

View Name: [empty input field]

Create new Project

A.20.10 Release Spec

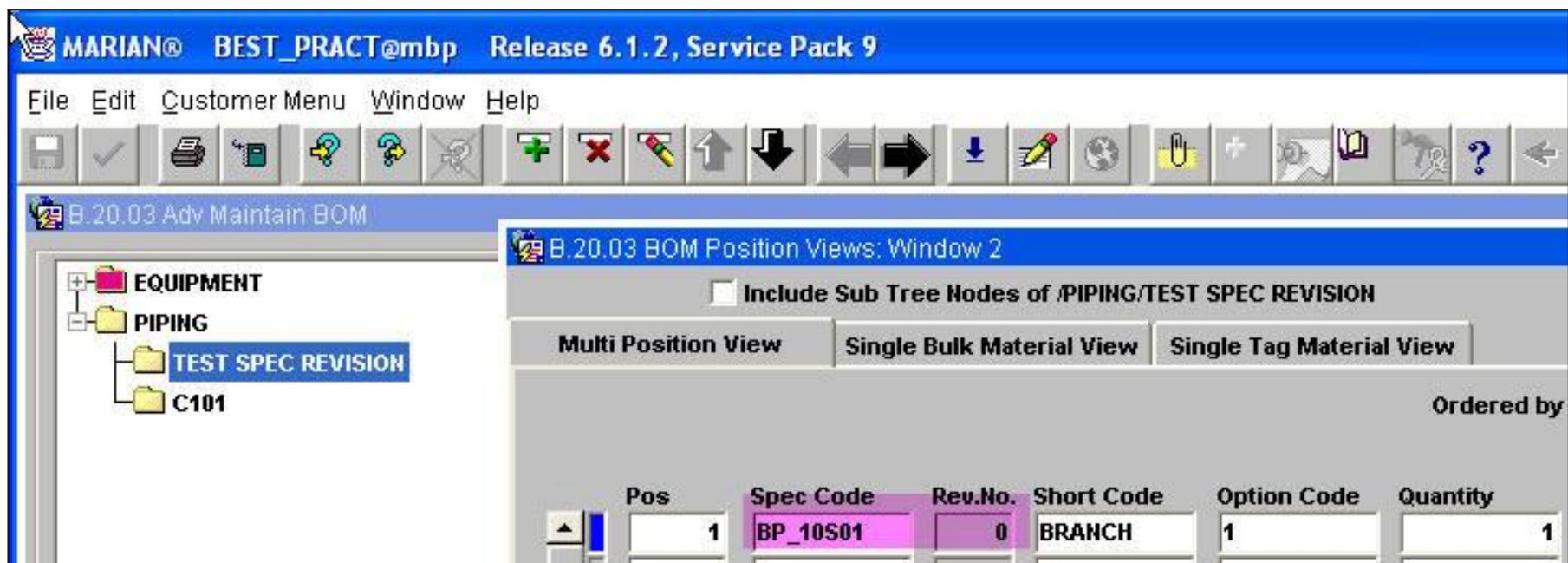


A.20.10 Release Spec

Spec Type	Short Desc	Description	
SDB_SPECS	Sample Specs	Sample Specs	
Specification Headers			
<input type="checkbox"/>	Spec Code	Short Desc	Description
<input checked="" type="checkbox"/>	ADA	0 300# CS	300# CS
<input type="checkbox"/>	CBA	0 304L SS Pipe	304L SS Pipe, ANSI Class 150 Valves, SW/BW fittings
<input type="checkbox"/>	DG_1CS150	0 Class 150, CS...	Class 150, CS...
<input type="checkbox"/>	HCP_TEST	0 hcp test	hcp test
<input checked="" type="checkbox"/>	SDB_1CS150	0 Class 150, CS...	Class 150, CS...
<input type="checkbox"/>	SDB_1CS300	0 Class 300, CS	Class 300, Carbon Steel, 0.063" C.A., Process
<input type="checkbox"/>	SDB_1CS600	0 Class 600, CS	Class 600, Carbon Steel, 0.063" C.A., Process
<input type="checkbox"/>	SDB_1SS150	0 Class 150,304 SS	Class 150, 304 Stainless Steel, 0.000" C.A., Process
<input type="checkbox"/>	SDB_1SS300	0 Class 300,304 SS	Class 300, Stainless Steel 304
<input type="checkbox"/>	SDB_25CA01B1	0 PAS 1057 25CA01B1	PAS 1057 25CA01B1 (simplified example)
<input type="checkbox"/>	SDB_2CS300	0 Class 300, A106B	Class 300, A106B (CCD)
<input type="checkbox"/>	SDB_2SS150	0 Class 150, 316 SS	Class 150, 316 Stainless Steel
<input type="checkbox"/>	SDB_3CS300	0 Class 300, CS	Class 300, CS (CCA)
<input type="checkbox"/>	SDB_4CS300	0 Class 300,CS	Class 300,CS (CCB)

B.20.03 Maintain BOM

- Released specs are visible in BoM screens



QUESTIONS?

Labs 38 - 45

- **TRUE / FALSE:** A new spec can be generated by copying multiple specs in a single operation?
- Name the two Revision cycles (checkboxes)?
- Issuing a spec causes which of the following?
 1. eMails a copy of the spec to the client
 2. Prints a copy of the spec on your local printer
 3. Freezes the spec and prevents further changes
 4. Updates the revision no. of the spec
 5. Lets your manager know, that you have completed your work and are going home
 6. Automatically updates all projects using that specs
- A Spec must be issued before it is published

■ Spec Management Workflow tasks

- Product Group
 - Maintain Table Details
 - Create Commodity Codes
 - Create Corporate Specs
 - Issue / Publish Specs
- Project
 - Review Paper Specs
 - Review existing Corporate Specs
 - Create a new Project Spec from scratch – OR –
 - Release Corporate Spec to Project for “AS IS” use – OR –
 - Copy Spec into Project
 - Build missing Commodity Codes at the Product Group Level
 - Maintain Project Notes
 - Update Spec by changing Spec Header Geometrics, Size Ranges, Adding / Deleting Spec items, Option Codes and assigning project notes

End of Day 5



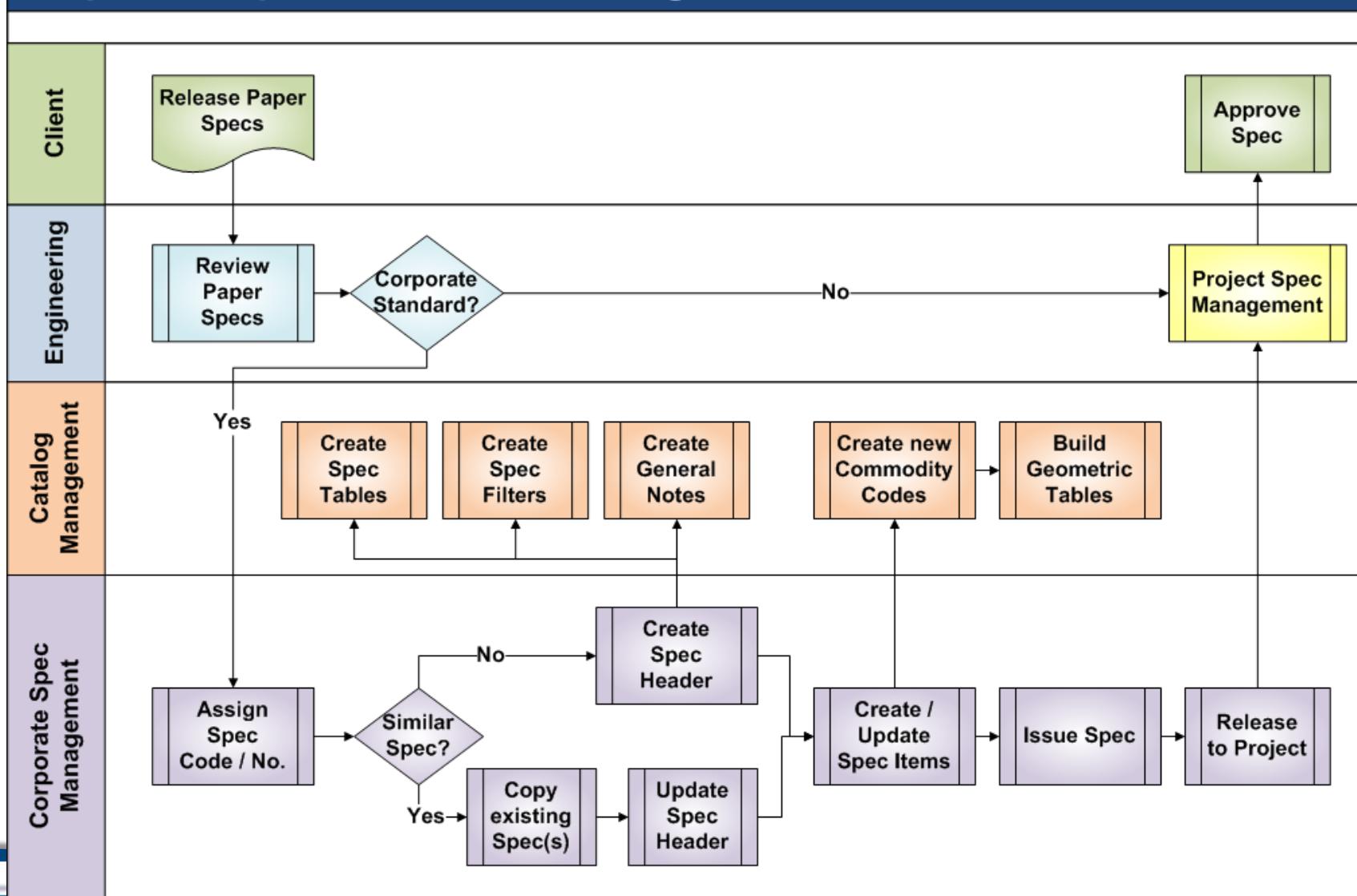
- **What is a Commodity Code?**
- **In which screen do we maintain Commodity Codes?**
- **What is a Commodity Rule?**
- **What are Commodity Groups / Parts?**
- **What are Table Group / Details?**
- **What is an Ident?**
- **What is a Geometric Table?**
- **What is a Commodity Geometric Relationship?**
- **What is a Geometric Rule?**
- **From which screen(s) can we generate Idents?**

- **What is a Spec?**
- **In which screen do we maintain Specs?**
- **What information is specified in the Specification Limits tab?**
- **What is a Spec Header Geometric?**
- **What is a Short Code?**
- **What is an Option Code?**
- **What is the significance of the Geometric field in the Geometric tab of the S.50.06 Specification Management Window 2 (Spec Items)?**

Spec Management Workflow - 1



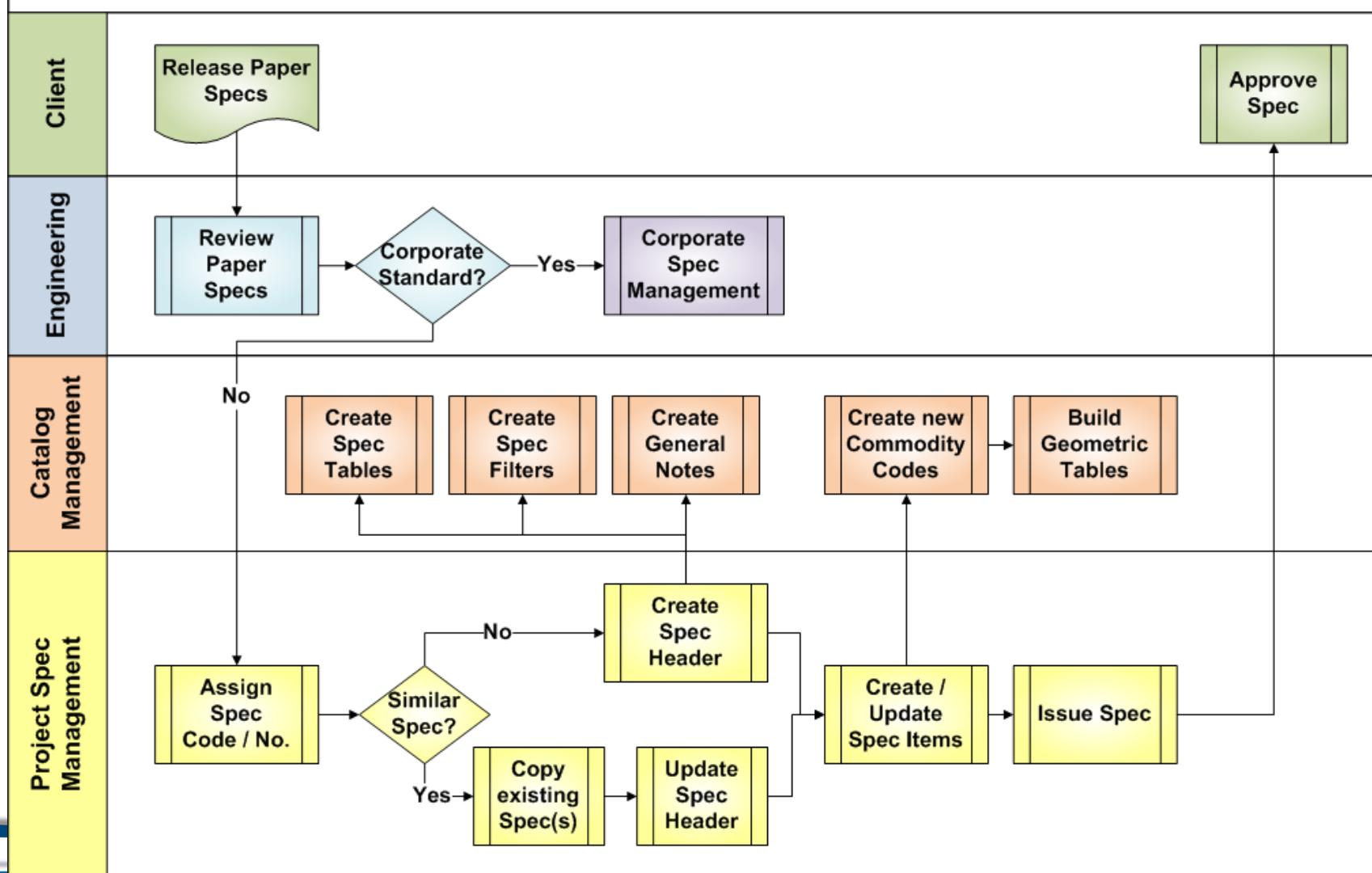
Corporate Spec Creation / Management



Spec Management Workflow - 2



Project Spec Creation / Management



QUESTIONS?

Smart Plant Reference Data Training

Timothy Foreman

