

Assessor Task Guide

Digital Product Definition/Model Based Definition Checklist

REVISED December 2006

Notes

Rapid change of equipment capabilities requires changing quality control practices. Guide questions/examples must be interpreted in a non-prescriptive manner. They are not necessarily applicable to each supplier's manufacturing process. Please consult with a technical representative when supplier provides a different method to accomplish process intent.

Section A of the checklist is used to perform a basic DPD capability verification, Section B is used to perform PCMS capability verification, and Section C is used for MBD capability verification. The checklist for Section B and Section C is designed to build upon the basic DPD capability assessment from Section A, ensure that Section A is assessed prior to performing assessment for PCMS or MBD. The PCMS and MBD sections may be N/A if the supplier does not require PCMS or MBD capability.

The person performing the DPD assessment should review contract language for DPD and Tooling requirements prior to performing assessment (some questions may not be applicable based on contract review). The review should be performed for all sites sending dataset to the supplier to ensure that all site requirements are identified.

Definitions

Authority Dataset

This is the engineering definition provided in a 3D representation of the product, viewable on a Computer Aided Design (CAD) system. In addition to the Authority dataset (aka CAD model), the entire product definition may typically include additional media such as parts lists, part coordination documents, material specifications, etc.

The Authority dataset will exist in one of four possible formats.

- 1) The Authority dataset may include both the CAD model and fully dimensioned 2D drawing sheets.
- 2) It may include the CAD model and 2D drawing sheets having engineering requirements but not all linear dimensions.
- 3) Or the Authority dataset may only include the 3D model, with no 2D sheet and the engineering requirements displayed as text within the 3D viewing area of the model.
- 4) Or the Authority dataset may only include the 3D Model and the engineering requirements displayed as text within the 3D viewing area of the model, as well as the remaining engineering requirements (in 2D form - notes list, part lists, etc.).

All four formats are considered Digital Product Definition (DPD). The second case is a reduced content format, and is sometimes labeled as Reduced Dimension Drawing (RDD) or Simplified Drawing (SD). The third and fourth cases are termed Model Based Definition (MBD).

The purpose of the DPD/MBD checklist is to verify that the supplier has processes to use any of these formats received from any Boeing site, to manufacture and inspect the product.

ACCEPTANCE SOFTWARE

This is software used during manufacturing that potentially affects product conformity where there is no further, downstream verification of the product. (E.g., CAD, LEV, CMS, data handling/analysis, and in some cases, NC)

COORDINATE MEASUREMENT SYSTEMS (CMS)

CMS devices check the 3D shape of products. Typical examples are the fixed Coordinate Measurement Machine (CMM), and several portable devices, Theodolite, Laser Tracker, Photogrammetry (includes Videogrammetry), and Portable CMM.

DATASET DERIVATIVE

The media created any time data is extracted from a Authority dataset for machine programming, visual aids, inspection aides, FAIs, tool fabrication/measurement, plotting mylars, or what have you.

ENHANCED REFERENCE SYSTEM (ERS)

This is a permanent reference system usually for large assembly tools, with a large number of digitally-defined, fixed target locations readable by coordinate measurement systems. It provides better repeatability than conventional tooling datum features.

IGES, STEP, DXF, PARASOLID

Standardized formats for CAD data that are readable by multiple systems.

LOW END VIEWER (LEV)

An entry level, visualization CAD system used to view, analyze, extract, and print dimensional and other required data from the DPD dataset. Currently, the only Boeing approved LEV's used with our Boeing's MBD datasets are Enovia DMU and VisView.

MACHINE TO NOMINAL

At many suppliers, the NC machining process creates parts with excess material that must be further worked. Machine to Nominal controls seek to eliminate this practice, to improve flow, part fit and assembly. When coordinated with Boeing engineering, an NC process under sufficient control may allow use of standard tolerances in lieu of tighter ones.

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Checklist Question	what to look for...	Reference
A. Digital Product Definition:		
1. Is there a process to control configuration of datasets from receipt throughout the manufacturing and acceptance processes?	<ul style="list-style-type: none"> • Documented processes that control Boeing release authority dataset and other DPD/MBD derivatives (i.e. NC programs, Inspection plans, Tooling, etc.) from the point when the Boeing authority dataset is received, through derivative creation, performed programming, manufacturing planning (visual aids, in-process inspection, final inspection), first article inspection and anything else that is applicable. • There must be a process to ensure the original authority datasets are secure, backed up and can not be altered, and only the appropriate people have write access to part programs and inspection datasets. • Must have trained system administrator(s) with sole access to retrieve and store incoming customer datasets. • A process for the supplier to check dataset integrity upon receipt. • Segregation of datasets by status — (e.g., release, in-work and obsolete are minimum requirements) • Security – (Password and access protection, regular back up for disaster recovery and archive storage). 	D6-51991 1.1 AS9100 4.3, 7.5 A0436 4.0, 11.0
2. Is there a flow diagram of the complete documented DPD processes?	<ul style="list-style-type: none"> • There must be a flow diagram that documents the DPD processes and identifies the applicable procedure references. • Flow chart should include reference to affected organizations such as (engineering, manufacturing planning, tooling, inspection and procurement). 	D6-51991 1.6
3. Are documented DPD processes implemented with the defined authority for change control & maintenance?	<ul style="list-style-type: none"> • Look for approval or signature page • Notification to affected personnel and sub-tier suppliers when changes occur. • Processes should be under document control 	D6-51991 1.5
4. Do the documented DPD processes require customer notification of changes to the process?	<ul style="list-style-type: none"> • The supplier must have a process that notifies the customer when changes are incorporated into their DPD process and impacts the customer (simple typographic errors need not apply) 	D6-51991 1.3
5. Does the supplier verify dataset translations?	<ul style="list-style-type: none"> • When translations of digital datasets occur between CAD systems or digital equipment, a process must be in place to verify data. Examples of how this can be accomplished are using IGES_CHK, point cloud method or other software validation processes. • See matrix at end of this Guide for site-specific data exchange requirements. 	D6-51991 9.3 AS9100 4.3, 7.4 A0436 4.0, 11.0
6. Is the supplier's CAD system software compatible with Boeing site(s) design system software when required?	<ul style="list-style-type: none"> • Determine which Boeing sites send or will send datasets to the supplier. Note: The site specific data exchange requirements will determine the method of how you audit. (see PQAA) • Supplier data exchange software compliant to Boeing site requirements (e.g. encryption, file transfer protocol (FTP), web connection, etc...) • Ensure software levels and equipment matches DPD Capability questionnaire • See matrix at end of this Guide for site-specific data exchange requirements. • If system is not compatible, there must be documented process to verify Boeing received authority data is acceptable before release. 	D6-51991 2.1, 9.0 AS9100 4.3 A0436 4.0, 11.0
7. Is there a DPD process containing procedures for secure storage (with access control and archiving) for Customer supplied DPD data and derivative data?	<ul style="list-style-type: none"> • When customers provide digital data, this data is type design data. The supplier must have a documented process to protect type design data and ensure it is not altered. • There must be a process to ensure derivative datasets are secure, backed up and can not be altered. 	D6-51991 2.2

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Checklist Question	what to look for...	Reference
8. Does the supplier have a process that includes control of non current (obsolete) datasets and dataset derivatives?	<ul style="list-style-type: none">• The supplier must have a documented process and is compliant to make sure that the old (previous revision) datasets (models) cannot be used as authority or inspection when an obsolete revision is no longer used.• Segregation and clear identification of current and past revision level datasets in supplier's directories.• Ensure compliance to contract data retention requirements.	D6-51991 2.3 AS9100 7.3.7 A0436 11.0
9. Does the supplier have a process to control configuration of dataset derivative media?	<ul style="list-style-type: none">• The derivatives/media must have a revision level process to keep the derivatives/media current with authority dataset revisions that affects its configuration.• As an example look for these indicators:<ul style="list-style-type: none">• Creator/Date• Sketch Revision Level• Authority Dataset(s) Name, Location, Revision Level• Other Derivative Dataset(s) Name, Location, Revision Level• Feature Requirement(s) Identifier (e.g., GDT frame ID)• Product identification <p>Note: Derivatives are modified copies or extracted data from the original authority dataset. (NC/CNC type programs, visual aides, mylars, digital tool designs and tools, inspection datasets, FAI datasets, etc.)</p>	D6-51991 2.3, 8.0 AS9100 4.3, 7.5, 8. A0436 4.0
10. Are dataset derivatives traceable back to the current authority dataset?	<ul style="list-style-type: none">• Traceability is looking at whether or not the derivative can be clearly tied back to its Authority dataset, such as when visual aides or screen-prints are being used, they need to be traceable back to the current Authority dataset.	D6-51991 2.3 AS9100 4.3, 8. A0436 6.0
11. Does the planning package identify traceability to the current authority dataset?	<ul style="list-style-type: none">• The supplier needs to have a documented process to ensure the planning is traceable to the correct authority dataset.<ul style="list-style-type: none">• Planning used for route sheets, travelers, work instructions, NC programs, inspection, etc. will be traceable to the authority dataset that controls the configuration being built• Verify there is a change control process that updates all derivative dataset elements (NC programs, sketches / graphics, inspection plans, etc.) when the authority dataset is revised. This includes coordinated incorporation when required.	D6-51991 2.3 AS9100 4.3, 7.5 A0436 4.0
12. Does the supplier have a process to verify dimensional accuracy of derivative data outputs, including verification of plotted media, as compared to the authority dataset?	<ul style="list-style-type: none">• A process to assure accuracy of derivative media (e.g. mylars, tools, CMS programs, NC programs) from authority datasets.• Plotted mylar media should be validated at each point of use. Ref applicable document for plotted media	D6-51991 8.2.1 AS9100 4.3, 7.6, 8. A0436 4.0
13. Is the supplier inspection media: <ul style="list-style-type: none">• independently derived from and traceable to the authority dataset,• contain graphics and text sufficient to illustrate inspection operation and result for each product feature?	<ul style="list-style-type: none">• Inspection media (paper inspection plans, inspection datasets, CMM programs, mylars, media of inspection (MOI) tools, etc...) needs to be traceable to the authority dataset.• If the inspection media is created by an organization other than supplier Quality Assurance, there needs to be a documented process approved by QA.	D6-51991 8.2

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14. Is there a process in place to validate Product Acceptance Software (PAS) independent of the software developer?	<ul style="list-style-type: none">• A procedure independent of the software developer to determine that the software, and subsequent revisions, accomplishes its intended function.• Supplier PAS validation or other party certification of software for each approved version level are documented and records on file.• Training is provided and documented when new approved versions are installed.• When an artifact is used, a process must be in place for use to accept software functions and revisions.• Note: Typical applications for PAS are for Coordinate Measuring Machine (CMM), Portable CMM (PCMM), Optical Projection Ply Locating Machines (OLT's), CAD translation applications and analysis software,• See ARP9005 for guidance	D6-51991 3.1.4 AS9100 4.3, 7.6 A0436 4.0
15. Is there a documented process to require creation of plans and instructions for the building, configuration management, loading and testing of "Supplier developed" product acceptance software?	<ul style="list-style-type: none">• Software developed by suppliers requires plans and instructions for building, configuration management, loading and testing of code.• Training is provided and documented when new versions are installed• Process to control/identify current software version released for production.• Secure storage of software version Authority copy.• Alternatively, the supplier has a documented process when an Artifact is used to accept software functions and revisions.• Records of version level control of PAS validation• See ARP9005 for guidance	D6-51991 3.2
16. Does the supplier maintain certification/calibration requirements for: <ul style="list-style-type: none">• CMS equipment• NC equipment with inspection probe capability used for product acceptance• Plotters used to produce drawings, mylars and inspection tooling media	<ul style="list-style-type: none">• Look for procedures for certification requirements• Look for certification documentation and that Original Equipment Manufacturer (OEM) calibration/certification has been met.• Plotters should have a validation process to verify repeatability and accuracy of plots• Ply cutters should have a calibration process to verify repeatable and accuracy (Ref-D6-55902)	D6-51991 7.1
17. When CMS operations are performed in a non-controlled environment, does the process compensate for environmental variation?	<ul style="list-style-type: none">• Suppliers in some cases cannot measure in a temperature controlled room, when this happens, the supplier must have documented processes to:<ul style="list-style-type: none">• For CMM - Perform calculations to the measurements to compensate for the coefficient of thermal expansion changes (i.e. Ambient air temperature, temperature of measured item, and measurement equipment)• Use of certified and calibrated gages/instruments• For Portable Coordinate Measurement Systems (PCMS) see section B of this task guide.	D6-51991 7.1 AS9100 7.5.1.3, 7.6
18. Does the supplier's documented procedure for corrective action include reporting, tracking and resolving all transmission, hardware, software and dataset problems and deficiencies (Including Boeing provided datasets)?	<ul style="list-style-type: none">• Processes to report dataset or software discrepancies to customer, OEM and all affected personnel.• Process to prevent use of discrepant datasets or software• The supplier must have a documented process to disclose products inspected with discrepant media, equipment, and/or tooling on items shipped to Boeing and their customers.	D6-51991 5.2 AS9100 8.0 A0436 10.0

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19. Does the supplier have a process to ensure verification of all design requirements of the authority dataset? (e.g., all defined by feature control frames, annotation, specifications, notes and other specified requirements in the authority DPD dataset and associated parts list including dimensional and other properties)	<ul style="list-style-type: none">• When planning measurements for product acceptance, the suppliers QA must verify that all design requirements are identified and planned for inspection. Note: Compliance for this process is best verified by reviewing FAI documentation for a specific product.• Measurement process must have guidelines to ensure the appropriate quantity of individual measurements are taken on the feature being measured (i.e., quantity of surface points for measurement, CMM hits).• Process to ensure Key Characteristics identified on authority datasets are measured and the results are recorded for every unit.	D6-51991 8.3.1 AS9100 8. A0436 6.0, 8.0
20. Do procedures ensure release, acceptance, identification, secure access, and change control for tool design, tool inspection datasets and digitally defined tools?	<ul style="list-style-type: none">• There must be a documented process to review, revise and control tooling when authority dataset changes affect tooling configuration.• There must be a documented release process and secure storage of released tool design datasets.• Digital definition of physical tooling (including templates, check fixtures) must conform to digital engineering definition or approved tool design.• Tools and tool design/inspection datasets must be traceable to the authority dataset and the affected revision.•	D6-51991 10.1 AS9100 7.5 A0436 7.0
21. Is there a process to periodically verify accuracy and repeatability of digitally defined tooling used as media of inspection?	<ul style="list-style-type: none">• Media of inspection and other selected tooling is re-inspected for accuracy back to the digital tool definition based on a frequency that will prevent non conformance due to tool wear and stability, typically referred to as periodic tool inspection (PTI) Ref: D33200	D6-51991 10.2 AS9100 7.5 A0436 7.0
22. Does internal quality audits procedure include auditing or reviewing all internal and sub-tier operations for DPD data and related documentation?	<ul style="list-style-type: none">• Internal audit procedures identify DPD processes for review.• Review audit checklist for compliance.• Review internal audit records for evidence of having a completed internal audit for DPD processes.• Internal audit plan shall include provisions for audit of sub-tier supplier oversight.	D6-51991 4.1
23. Does the supplier have a process to flow down DPD requirements to sub-tier suppliers who receive digital data and does the process include Boeing right of access?	<ul style="list-style-type: none">• Supplier has contractual notes that flow Boeing DPD/MBD requirements to all their approved sub-tier suppliers.• Compare list of suppliers receiving datasets to list of suppliers approved to receive datasets.• Supplier has a documented process to manage changes and flow down DPD/MBD configuration changes.• When controlled datasets are provided to sub-tier suppliers, the supplier ensures sub-tier supplier is in compliance to Boeing ITAR, EAR and contract requirements prior to approval and release of DPD/MBD datasets.	D6-51991 6.1, 6.3 AS9100 7.4 A0436 5.0
24. Does the supplier have a process to assess, monitor and control sub-tier compliance with DPD requirements?	<ul style="list-style-type: none">• Supplier has assessed sub-tiers and ensures the proper capabilities to manage and use the Boeing DPD/MBD datasets being provided.• Supplier maintains records of sub-tier DPD capabilities (equipment and process)• Supplier has documented process to ensure sub-tier supplier's inspection planning is compliant when used to accept Boeing product.• Supplier documented processes ensure sub-tier datasets are verified when translations occur.• Supplier performs periodic review on their DPD/MBD sub-tier supplier to ensure they are in compliance to DPD requirements, Boeing ITAR, EAR and contract requirements.	D6-51991 6.2 AS9100 7.4 A0436 5.0

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25. Does the supplier define training requirements that: <ul style="list-style-type: none">Assure competence and maintain employee training records, including on-the-job-training, for all DPD system usersRespond to changes to the DPD process, equipment, or software?	<ul style="list-style-type: none">The supplier must have a documented process that ensures the appropriate quality assurance and other affected personnel responsible for product acceptance have proper training to use DPD/MBD/Product Acceptance Software for inspection planning, measuring and product/tool acceptance.The supplier must have a documented process that ensures other affected personnel responsible have proper training to use DPD/MBD when it directly affects their job function.The training must be formally documented and kept of file. This includes OJT when used as a training tool.Look for changes to the training program in response to changes to the DPD process, equipment, or software.	D6-51991 11.0 AS9100 6.2 A0436 6.0
B. Portable Coordinate Measurement Systems (PCMS):		
1. Does the supplier have a process to control critical functions of the PCMS? <ul style="list-style-type: none">a) Create acceptance criteria used by operator and quality assuranceb) Develop and use of scale factors to compensate measurements for coefficient of thermal expansion and to verify accuracyc) Establish, transform and manipulate coordinate systemsd) Establish data collection parameters and requirementse) Establish special targeting and target adapter requirementsf) Equipment handling, equipment set-up, multi-station set-up, field checks and calibrationsg) Data analysis, format, storage and reporting)	<ul style="list-style-type: none">The supplier must have a documented process to perform acceptance of PCMS and the process must cover each of the items A through G listed in the question.The supplier must have a process to have all users trained utilizing the OEM manuals, and Boeing contractual requirements.See D6-55902 for Optical Projection Ply Locating Machines (OLT's) qualifications.<ul style="list-style-type: none">OLT Calibration includes centerline and line width accuracy (standard tool used for validation)	D6-51991 7.2 AS9100 7.6 A0436 7.0
2. Does the supplier document inventory of all specific components used for PCMS measurements that affect the integrity of data collection	<ul style="list-style-type: none">Supplier needs to have a documented process that controls the targets, target adapters, certified verification lengths (commonly called scale bars) and all other components that affect the PCMS method of measuring.The supplier calibration process controls all target, target adapters and certified verification lengths.Supplier manufactured target, target adapters and certified verification lengths (scale bars) are design controlled and have evidence of being accepted by quality assurance prior to use.The supplier needs to have a process to remove any out of calibrated or suspect target, target adapters, certified verification lengths and equipment from being used until it can be corrected.	D6-51991 7.2 AS9100 7.6

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C. Model Based Definition (MBD): Contact DPD focal of site sending MBD data for assistance

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| 1. Does the supplier's CAD system have the ability to view annotation based on Boeing site-specific requirements? | <ul style="list-style-type: none"> • Determine which Boeing sites send or will send datasets to the supplier. Note: The site specific data exchange requirements will determine the method of how you audit. (see PQAA) • Supplier data exchange software compliant to Boeing site requirements (e.g. encryption, file transfer protocol (FTP), web connection, etc...) • Ensure software levels and equipment matches DPD Capability questionnaire • Compatibility requirements may involve CAD systems or data exchange software. • Suppliers may need the same Boeing CAD native software version or have the Boeing approved LEV to view the annotation. • See matrix at end of this Guide for site-specific data exchange requirements. If site is not listed in matrix, contact Procurement Agent for specific requirements | D6-51991
8.3, 9.0
AS9100 4.3
A0436 4.0,
11.0 |
| 2. Does the supplier have a process to create inspection planning from the authority dataset? | <ul style="list-style-type: none"> • Process to determine when manufacturing and/or inspection views/sketches are needed to supplement authority dataset. <p>Note: Is supplier utilizing equipment capability (CAD, LEV, CMS) to minimize/automate creation of inspection views? Preferred method is to utilize digital methods vs. creation of 2D media.</p> | D6-51991 8.3
AS9100 4.3,
7.5,. 8.
A0436 4.0 |
| 3. Is there a process in place to document FAI's for product produced from MBD datasets? | <ul style="list-style-type: none"> • Process for reduced content datasets (MBD, RDD, SD, etc.) to ensure all dimensioned, un-dimensioned features and general / flag note requirements are planned for verification. • Unique identification of each feature is required. Various acceptable methods are available to manage this data (e.g. 3D model, screen prints, sketches etc.) • Measurement planning must have guidelines to ensure the appropriate quantity of individual measurements are taken on the feature being measured (i.e., quantity of surface points for measurement, CMM hits). <p>Note: Compliance for this process is best verified by reviewing FAI documentation for a specific product or concurrently validating process.</p> | D6-51991
8.3.1
AS9100 8.
A0436 6.0 |
| 4. Does the supplier have a process to assure sub-tier suppliers' ability to work with MBD information? | <ul style="list-style-type: none"> • Supplier has assessed sub-tiers and ensures the proper capabilities to manage and use the Boeing DPD/MBD datasets being provided. • Supplier maintains records of sub-tier MBD capabilities (equipment and process) • Supplier has documented process to ensure sub-tier suppliers inspection planning is compliant when used to accept Boeing product. • Supplier documented processes ensure sub-tier CAD systems/format are verified when dataset translation occurs. | D6-51991 6.0
AS9100 7.4
A0436 5.0 |
| 5. Has the supplier identified specific training requirements for all functions associated with use and control of MBD datasets? (e.g. planning, purchasing, contract review and Mfg.) | <ul style="list-style-type: none"> • The supplier must have a documented process that ensures the appropriate quality assurance and other affected personnel responsible for product acceptance have proper training to use MBD for inspection planning, measuring and product/tool acceptance. • The supplier must have a documented process that ensures other affected personnel responsible have proper training to use MBD when it directly affects their job function. • The training must be formally documented and kept of file. This includes OJT when used as a training tool. • Look for changes to the training program in response to changes to the DPD/MBD process, equipment, or software. • Process to ensure quality assurance or other persons responsible for product acceptance been brought into the digital measurement and measurement planning process. • Process to train and document tasks when product acceptance or media generation is performed by non-QA personnel. • Process to encouraged and documented OJT. • Process to provide training for users of CAD, NC, CMS equipment. • Process to provide training when software changes are implemented. | D6-51991
11.0
AS9100 6.2
A0436 6.0 |

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Site Specific Data Exchange Formats & Delivery Method						
Digital Product Definition D6-51991 Revision H, Draft 10-23-06						
	Site	Delivery Method/Media	CAD Formats Supported	Synchronization Requirements	Verification method	Viewing MBD annotation
1	BCA Seattle	SNET CD-ROM 3.5" Disk 4mm Cassette 8mm Cassette 1/4" Cassette 36 Track Cassette	CATIA Native V4 CATIA Native V5 IGES	CATIA V4 = Yes (D6-56199) CATIA V5 = Yes (D6-56199) CATIA DMU = Yes (D6-56199) IGES = None	CATIA Native = None (D6-56199) IGES = IGES Check software STEP = Gage Model for translation	CATIA (annotation module) DMU LEV
2	BCA Long Beach	BPN/CITIS CD-ROM 3 1/2 Disk	Unigraphics (UG) Native IGES	UG = Yes (Memo) IGES = None	UG Native = None IGES = IGES Check software	N/A
3	IDS Long Beach (C17)	PSN	Unigraphics (UG) Native IGES SUPPAR STEP	UG = Yes (PSN Notification) IGES = None STEP = None	UG Native = None IGES = IGES Check Software STEP = Gage Model for translation	UG File as downloaded from PSN IGES SUPPAR STEP SUPPAR VisView LEV
4	IDS Southern CA (C130)	PSN	Unigraphics (UG) Native IGES SUPPAR STEP	UG = Yes (PSN Notification) IGES = None STEP = None	UG Native = None IGES = IGES Check Software STEP = Gage Model for translation	UG File as downloaded from PSN IGES SUPPAR STEP SUPPAR
5	IDS Huntington Beach, MBD requirements	BPN/CITIS CD-ROM 3.5" Disk	CATIA Native V5 R12 Unigraphics Native NX2	Yes- Quality clause Q029H	As received	Native environment
6	IDS Huntington Beach, DPD Requirements	BPN/CITIS CD-ROM	CATIA V4 UG II all versions	None	As received	N/A
7	IDS Puget Sound	CD-Rom 3.5" Disk	CATIA Native V4 CATIA Native V5 IGES	CATIA V4 = None CATIA V5 = None IGES = None	As received	N/A
8	IDS St. Louis	BPN/CITIS CD-Rom 3.5" Disk	Unigraphics (UG) Native IGES SUPPAR IGES Catia V5 Native	UG = None IGES SUPPAR = None IGES = None Catia = Yes (TBD)	As received	UG File as downloaded IGES SUPPAR Catia compatible LEV
9	IDS Wichita	SNET CD-ROM 3.5" Disk 4mm Cassette 8mm Cassette 1/4" Cassette 36 Track Cassette	CATIA Native V4 CATIA Native V5 IGES STEP	CATIA V4 = Yes (D6-56199) CATIA V5 = Yes (D6-56199) CATIA DMU = Yes (D6-56199) IGES = None	CATIA Native = None (D6-56199) IGES = IGES Check software STEP = Gage Model for translation	CATIA (annotation module) DMU LEV
10	IDS Mesa	CITIS CD_R	Unigraphics (UG) Native CATIA V5 IGES SUPPAR IGES STEP STL CATIA V5 PARASOLID	UG = None IGES SUPPAR = None IGES = None	UG Native = None IGES = IGES Check software	UG File as received IGES SUPPAR VisView LEV
11	IDS Huntsville	CD-ROM	Unigraphics (UG) Native IGES	UG = None IGES = None	UG Native = None IGES = IGES Check software	N/A
12	IDS El Segundo	BPN	IGES STEP Pro/Engineer ProductView	Yes - Quality clauses Q029 and Q029H.	As received.	ProductView (Low end viewer) Pro/Engineer (Native models)
13	IDS Philadelphia	CITIS CD-R	CATIA Native V4 UG Native STEP SUPPAR	CATIA Native V4 = none UG Native = none STEP SUPPAR = none	As received	CATIA (annotation module) UG File as received DMU LEV