

The logo for Northrop Grumman is a large, blue, slanted parallelogram shape that occupies the left side of the slide. Inside this shape, the text "THE VALUE OF PERFORMANCE." is written in a small, white, sans-serif font. Below this, the words "NORTHROP GRUMMAN" are written in a larger, white, bold, sans-serif font, with a thin white curved line underneath.

*THE VALUE OF PERFORMANCE.*  
**NORTHROP GRUMMAN**

# Parts Management

## Sector/Corporate Standardization

23 Apr 13

PSMC Representative  
Consulting Engineer

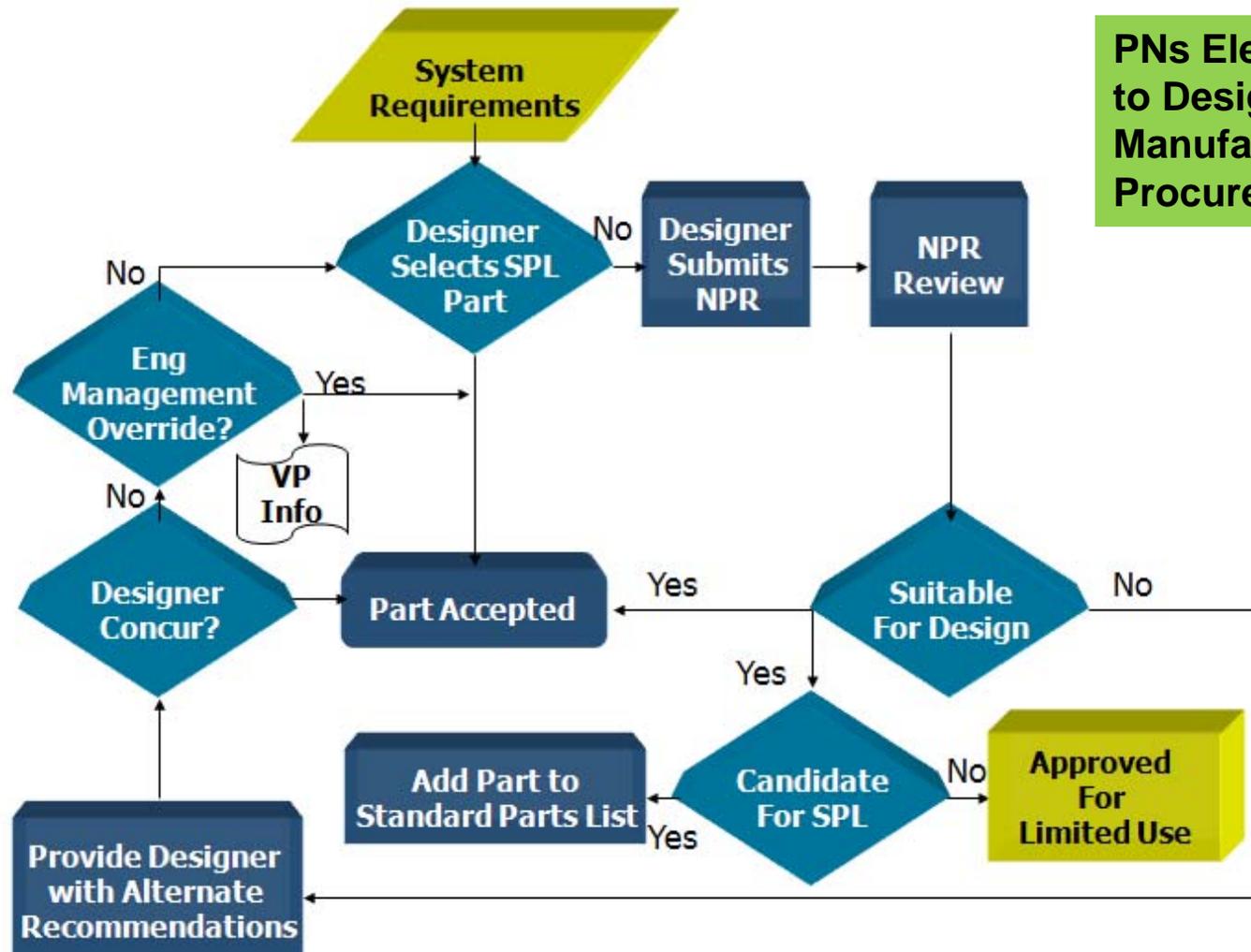
# SPLs/Preferred Supplier Listings

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- The objective is to reduce cost and risk by standardizing designs
- The Industry average cost for introducing a new part into inventory is \$9400
  - Ref- Coopers & Lybrand – 1991 dollars
  - In 2008 DSCC estimated the cost at >\$27K for gov't programs
  - Saving a few cents/dollars on a part can be expensive if it introduces a new part or supplier into the system
- Standardization reduces the overhead required to:
  - Select and review new parts and suppliers
  - Certify and track new parts and suppliers
  - Create design libraries (schematic symbol and footprints)
  - Procure, kit, store and manage parts
  - Resolve part/supplier issues
  - Program manufacturing machines
  - Develop manufacturing processes
  - .....

Standardization Matters

# Integrated Electronic New Part Request Workflow



**PNs Electronically fed to Design Manufacturing Procurement**

Minimize new part introductions and obsolescence problems

# New Part Request Integrated to CAD Model Requests



**Request has been submitted for signoff.**  
**If you would like to add this part to the QPaRTS Library click the following link: [QPaRTS Library](#)**

Request ID: 200521    Request Status: IN REVIEW  
Request Justification: Testing Mil part    Created: 1/30/2006 1:38:03 PM  
Site: BVM - BVM    Modified: 1/30/2006 1:49:54 PM  
Program: JSFSD2    Submitted: 1/30/2006 1:49:55 PM  
Charge No: 123GO    Final:  
Required By (Date): 2/4/2006    Original User: JASKA, KEITH A  
Controlling User: JASKAKE    Last Modify User: JASKA, KEITH A  
Requesting User: IRANICA    IRANI, CATALINA

File Name	Description
<a href="#">View</a> gr_145k145_-.tif	tif file

First Part Number: M24308/4-326F    Description: CONNECTOR,ELEC,RECT,MIN,POLARIZED SHELL,PLUG,PIN  
Part Count: 1

Provides early visibility into what designers are considering

# New Part Approval Electronic Routing

Home Help Logoff HelpDesk

NPR Number   **IN REVIEW**

Action	Seq. No.	Name	Details
	20	Commodity Design Team By Part Technology	IMPM Approved 2/8/2006 7:35:50 PM
	25		DTRVW Approved 2/8/2006 NOTES: Preferred Supplier.
	30		CERVW
	30		ENGRG
	30		MANFC
	40		PURCH
	40		ENGRG
	50		CHAIR

Approval Actions  
[Reverse NPR](#)  
[Add Signer](#)  
[Refresh](#)

NPR Request  
[View This Request](#)

Links  
[NPR Request](#)  
[History](#)  
[Signoff Queue](#)

Notes can be entered on a per signer basis, and are listed below the approval state

Audit Trail and Metrics with Notes and Attachments

# SmartFind Search Tool - PaRTS

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- PaRTS Search Engine (Convergence Data Services SmartFind)
  - GUI front end - flexible UI that can show many columns of attributes
  - **Key word search**
  - **Parametric Searches**
  - **Standard Parts List Visibility**
  - **Inventory Visibility**
  - **Cost Visibility**
  - **Obsolescence Visibility**
- Design For Retrieval (Convergence Data Services DFR)
  - Underlying database in Oracle.
  - Data maintenance tool suite
  - LiveUpdate – see DFR changes real-time

Make Finding and Using Standard Parts Easy

# PaRTS Search Engine

- PaRTS provides key word search and parametric search capability along with Standard Parts List, Program Parts Selection Lists, Cost, Inventory and Obsolescence data.

The screenshot shows the PaRTS Search Engine interface. At the top, there are navigation links: Home, View Configuration, Release Notes, Help. Below that, it says 'Logged in as: rhyneri' with a Logout button. There are buttons for 'Parts Universe', 'Google', 'Cadstar', 'IHS', and 'IRC'. The search area includes a 'Search Text' field with 'connector circular', a 'Search Type' dropdown set to 'Standard', and a 'Sort Field' dropdown set to 'Relevance'. There is a 'List Filter' section with an 'Upload File' link. The 'Attribute Filter' section is circled in red and contains links for 'Add Filter(s)', 'Add Key Attribute(s)', and 'Clear Filter(s)', along with 'Check All' and 'UnCheck All' buttons. Below this is a table of attributes with checkboxes and dropdown menus. At the bottom, there are 'Search' and 'Reset' buttons. The search results section shows a breadcrumb trail: 'Root\Corporate Catalog\Northrop Grumman Part\Interconnects\Connector\Circular Connector\MIL Circular Connector'. The 'Search Results' section shows a tree view on the left and a table of results on the right. The table has columns for 'Item Number (Corporate Part Number)', 'Qualifier', and 'Item Description'. Two items are visible, each with an 'Add to Cart' link and a globe icon.

- Punch out to IHS catalog data

- Refine by Key Attributes

- Links to external data
- Information Handling Services
- XSB

- Key word search:

Standard Parts List flags also integrated into CAD tool menus

## Standard Parts List Parametric and Inventory Search

## Parts Management Process Baseline

- **Standard Parts List (SPL) – based on ten year history**
  - 7458 NHAs/per year used SPL parts. Multiple SPL applications on each
  - Assume that 50% of the NHAs would have generated at least one functional duplicate were it not for the SPL.
  - 3729 new part introductions avoided annually due to the SPL usage.
- **\$35M/year Cost avoidance over all part types**
- **New Part Request workflow**
  - Electronic New Part Request (NPR) workflow
  - Metrics generated directly by the workflow.
  - Rejected 613 NPRs and corrected part numbers on an additional 770 NPRs
- **\$6.4M/Year cost avoidance due to NPR process in 2012**

Parts Management reduces new part introductions

# Parts Management

- **Release computer based training for**
  - PARTs Search Engine – required for all designers
  - New Part Request workflow – onboarding
  - Standard Parts List – onboarding
- **Enterprise Material Authenticity Team**
  - Standardize processes and procedures across the corporation
- **DMSMS Pilot Tool released**
  - Real time DMS analysis
  - Shared DMS solutions tracking
- **One Vault**
  - Migrate to single data source model across sector/then corporate
  - Share data and CAD Models

Standardization and Cost Control requires continued diligence

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