

The Birth of an Information Delivery Portal at Briggs & Stratton

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ABSTRACT

Information delivery portals have been around for years and yet there is still a considerable amount of confusion surrounding this technology and its potential. Briggs and Stratton has been a SAS® customer for nearly 20 years, progressing from simple columnar reports to an interactive distribution vehicle, the Information Delivery Portal, developed in SAS v9.1.3. This paper presents the birth of the Information Delivery Portal at Briggs and Stratton from a programmer's point of view. Some of the topics include:

- Definition of the SAS Information Delivery Portal and terminology within.
- B&S current environment and goal for the information delivery portal.
- The SAS Management Console – this includes users, groups, security, and the SAS Stored Process Manager.
- Pages and portlets – loading templates vs. manual building, sharing types.
- Portlet content – links, stored processes, and output.

The descriptions of most of the above topics also include live examples of screens and source code.

INTRODUCTION

As Y2K approached, Briggs and Stratton switched from a mainframe platform to a client server environment. Our SAS usage included data conversions, columnar reports, and queries using a combination of HTML and SAS. We grouped the reports and queries by security access and called it the Report Distribution System.

In 2004, we made the decision to upgrade from v8.2 to v9. but this entailed a whole new architecture. Instead of just providing a set of static information, our goal was to empower our users, enabling them to turn data into intelligence and make informed decisions quickly and with confidence. The new SAS Business Intelligence Architecture would allow this and the SAS Information Delivery Portal provided the delivery method.

Thus began the process of birthing an Information Delivery Portal at Briggs and Stratton.

BACKGROUND

THE SAS INFORMATION DELIVERY PORTAL®

The SAS Information Delivery Portal provides web based distributed access to address the efficient and effective delivery of information on an enterprise scale, and serves as a focal point for individuals to readily access and share the information sources they require to perform their jobs. This is accomplished by enabling information sources, including SAS enterprise applications, query and reporting systems, stored processes, developed applications, document stores, news feeds, alert and notification agents, and other digital resources to be aggregated to provide the primary goal of front end integration. The Portal accesses a common security and management framework so information sources are aggregated and secured. SAS user and group access to data and functions can be managed in one place. The Portal has a new interface to surface information in a customized role-based fashion and includes enhancements for end user personalization. The interface is easily navigated to require minimal user training and is 508 compliant.

An excerpt from a white paper, http://www.sas.com/technologies/bi/content_delivery/portal/factsheet.pdf, shows the following portal:



Definitions:

Page – a Web page that contains portlets. Each page is represented by a tab, either vertical or horizontal, in the portal's navigation bar. The page consists of 3 columns, which can be filled with any number of portlets. Users will only see the pages, portlets and content for which they have security to access, either read only or available for personalizing. When a person logs on, their permission tree is checked and the appropriate pages loaded to their portal.

Portlet – the rectangular components of a portal page used to organize contents.

Content types – links, SAS information maps, SAS reports, stored processes, alerts, applications, files, documents, packages, and publication and syndication channels. Each content type has a specific icon.

Menus:

There are several drop down menus standard in the Information Delivery Portal.

Options – add, edit, share and remove pages; change the page navigation; set preferences; view page history; and manage subscriptions and profiles.

Search – links to a Web page allowing the user to search any content type available to them on the portal.

Log Off – log off from the portal.

Help – links to a standard SAS help information, allowing you to view via contents, index, or search. This is available on every page of the portal.

THE ENVIRONMENT AT BRIGGS AND STRATTON CORPORATION

As of the writing of this paper, Briggs and Stratton is using v9.1.3 of the SAS Business Intelligence Architecture[®], without any of the service packs applied. We currently use the following BI software tools:

- SAS Information Delivery Portal.
- SAS Management Console.
- SAS Stored Processes.
- SAS Enterprise Guide[®] 2.0.
- SAS Add-In for Microsoft Office.

We will be upgrading when service pack 4 and Enterprise Guide 4.0 are released.

Our current operating environment includes:

- Client Tier (user's machine) – Internet Explorer 6.0, Windows XP.
- Server Tier (SAS servers) – Unix (IBM AIX 5.2).
- Web Tier (Web applications) – Tomcat 5 running in Windows server.
- Other software/hardware – GroupWise for email.
- Data sources: SAP, PeopleSoft, Pyramid, legacy systems, and other SAS data sources.

CONCEPTION

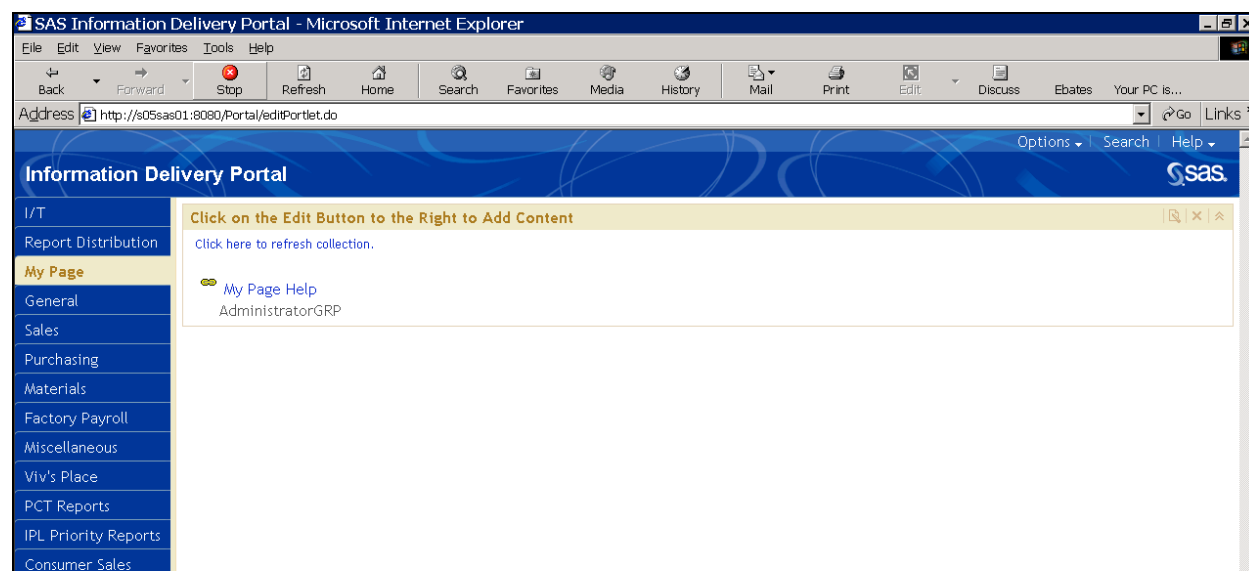
Briggs & Stratton began by attending the SAS class Introduction to the SAS Business Intelligence Client Tools. We especially concentrated on SAS Stored Processes, SAS Enterprise Guide, and the SAS Information Delivery Portal, the tools we knew we would use. We also purchased a set of the v9.1 manuals although many are also available as pdf downloads.

We combined the installation of the SAS Business Intelligence platform with the upgrade of our existing SAS programs, both v9.1.3 SAS provided a complete installation toolkit and assisted with on-site help. In only a few days we were up and running, building reports, stored process, portlets, and pages. But what to put on the portal?

DEVELOPMENT

Establishing a final goal was difficult as we had no idea of what our final portal would look like. We began by coding stored processes for simple reports, working in SAS Enterprise Guide and adding them to the Information Delivery Portal via the Stored Process Manager. We also learned how to create links and to add access to HTML pages and Microsoft application documents such as Excel and Word.

As time progressed, we developed a security platform using groups of users and ACT's in the SAS Management Console. We added general pages and secure pages, using both the batch process and manually building them in the IDP itself. We tied in our existing Report Distribution System and ended up with our Information Delivery Portal:



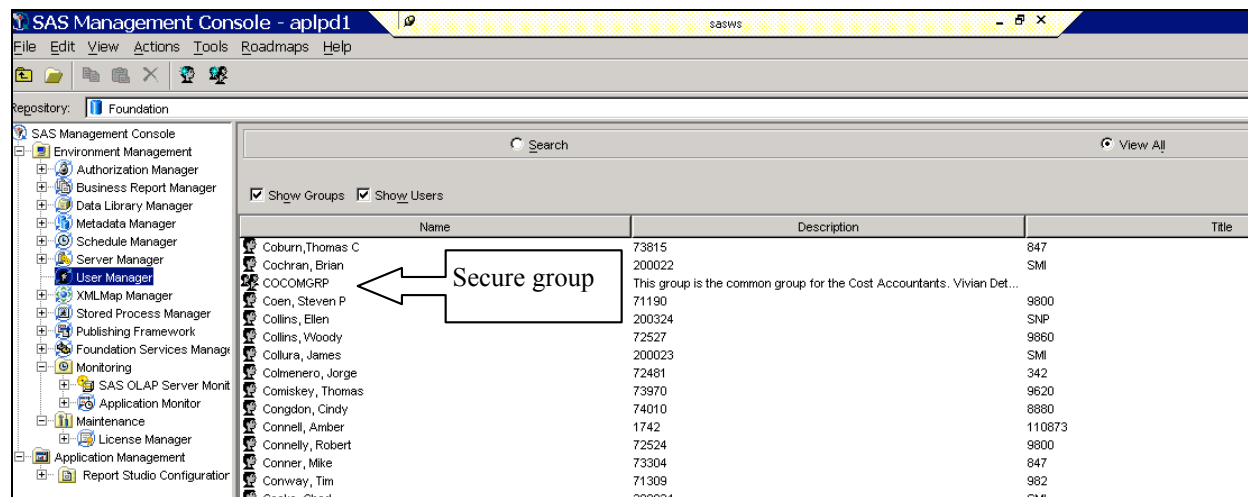
We now have a firm methodology established for building our portal. Basically, our production environment grows as follows:

- Set up the production environment to automatically start the LDAP logon, bypassing the public kiosk, and setting the default page navigation to vertical..
- Add users, groups, and security via the SAS Management Console.
- Develop reports with SAS Enterprise Guide, then add them to the portal via the SAS Management Console. Add security if applicable.
- Add links using a batch SAS process. Again, add security if applicable.
- Add portlets and pages either with a SAS batch process or via the portal. If the page is a general page, no security is required and all users will see the page. Otherwise, security is added and a content administrator is assigned via the SAS Management Console, and this person 'shares' the page to the secure group of users.

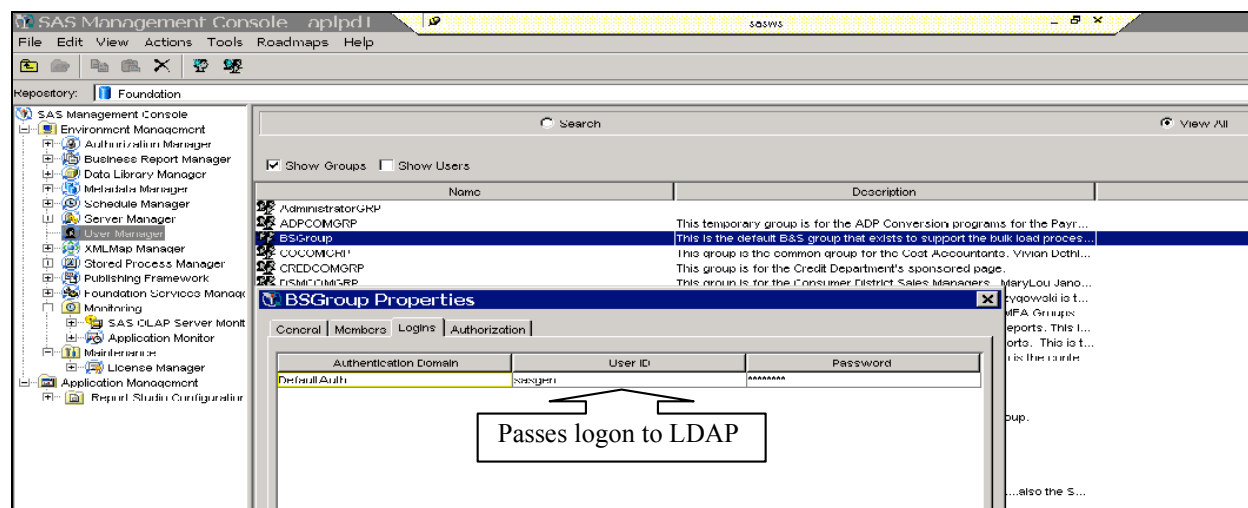
SAS MANAGEMENT CONSOLE

There are two methods for adding users and groups to the SAS Management Console. The first is a bulk process provided by SAS (see Tasks in <http://support.sas.com/rnd/eai/openmeta/v9/setup>). It utilizes canonical tables outside of the SAS Management Console and can be set up to run daily with adds and changes from a human resource system. The second method involves entering the users and groups manually to the SAS Management Console. As our target audience would start small and grow to only 1,500 users, we chose the manual method.

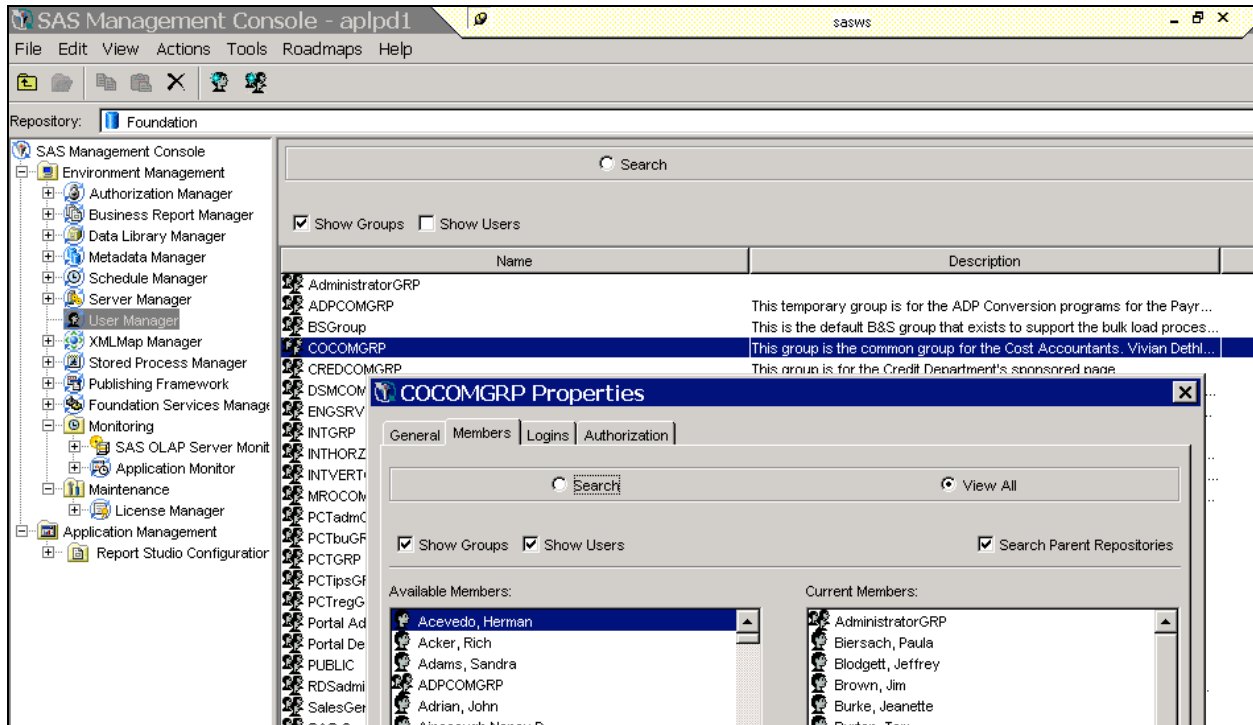
At Briggs and Stratton, our user/group environment looks like:



Each user gets added to an overall group BSGROUP, which has access to all non-secure reports, links, and pages. In addition, this group has the web sign-on which passes to LDAP so they can use their same Novell logon for the portal.

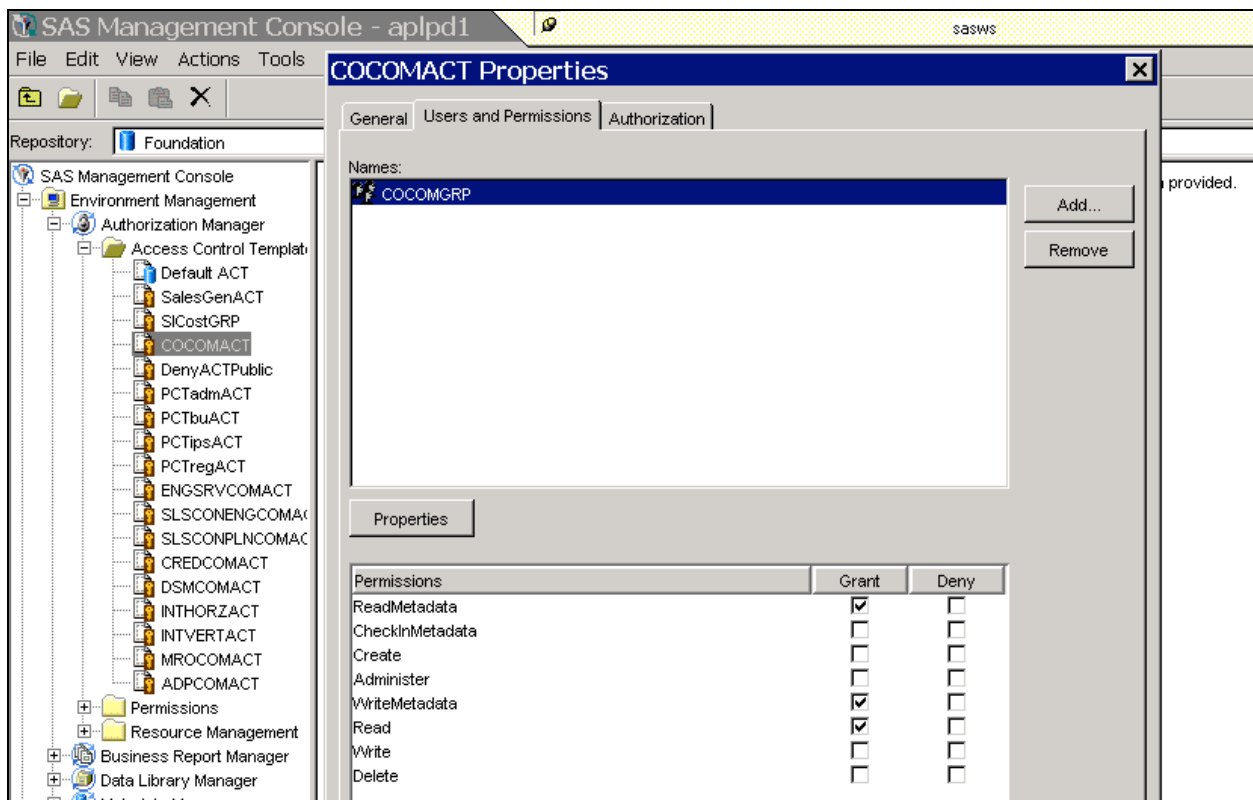


If the user has security permission to access a secure page, they are added to the secure user group for that page.

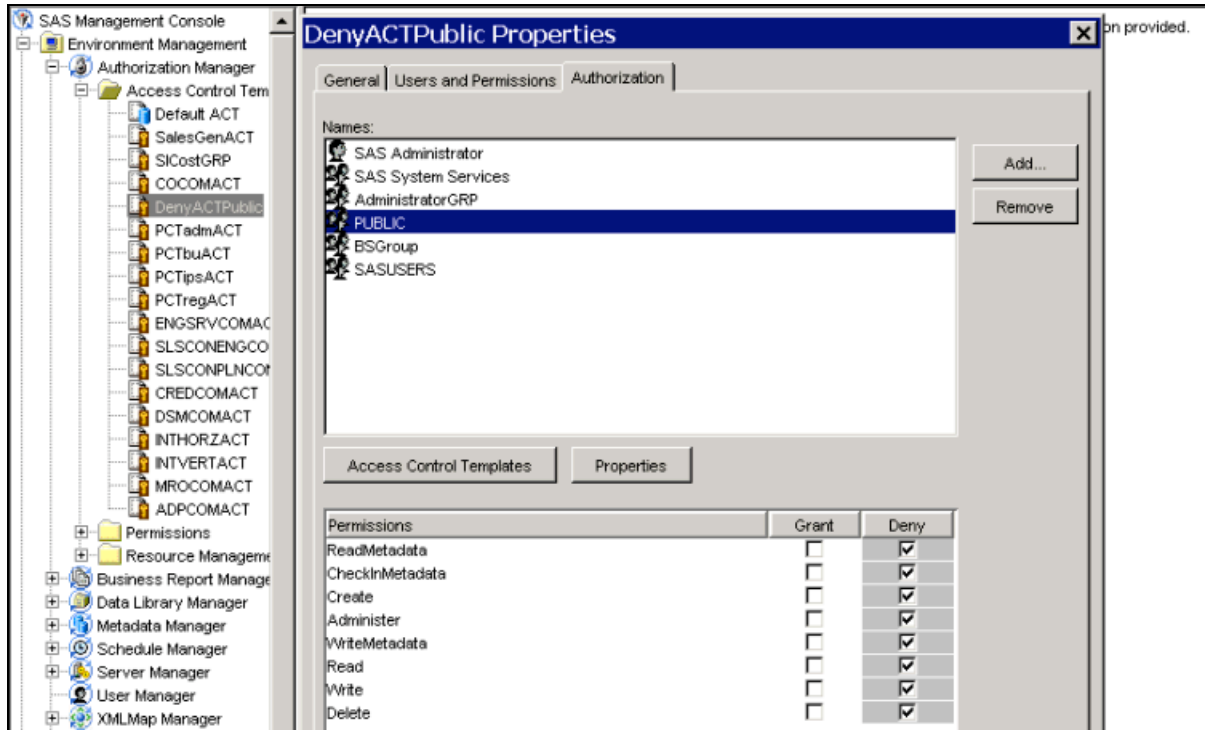


Note: Groups and members can be added to a group to apply this security.

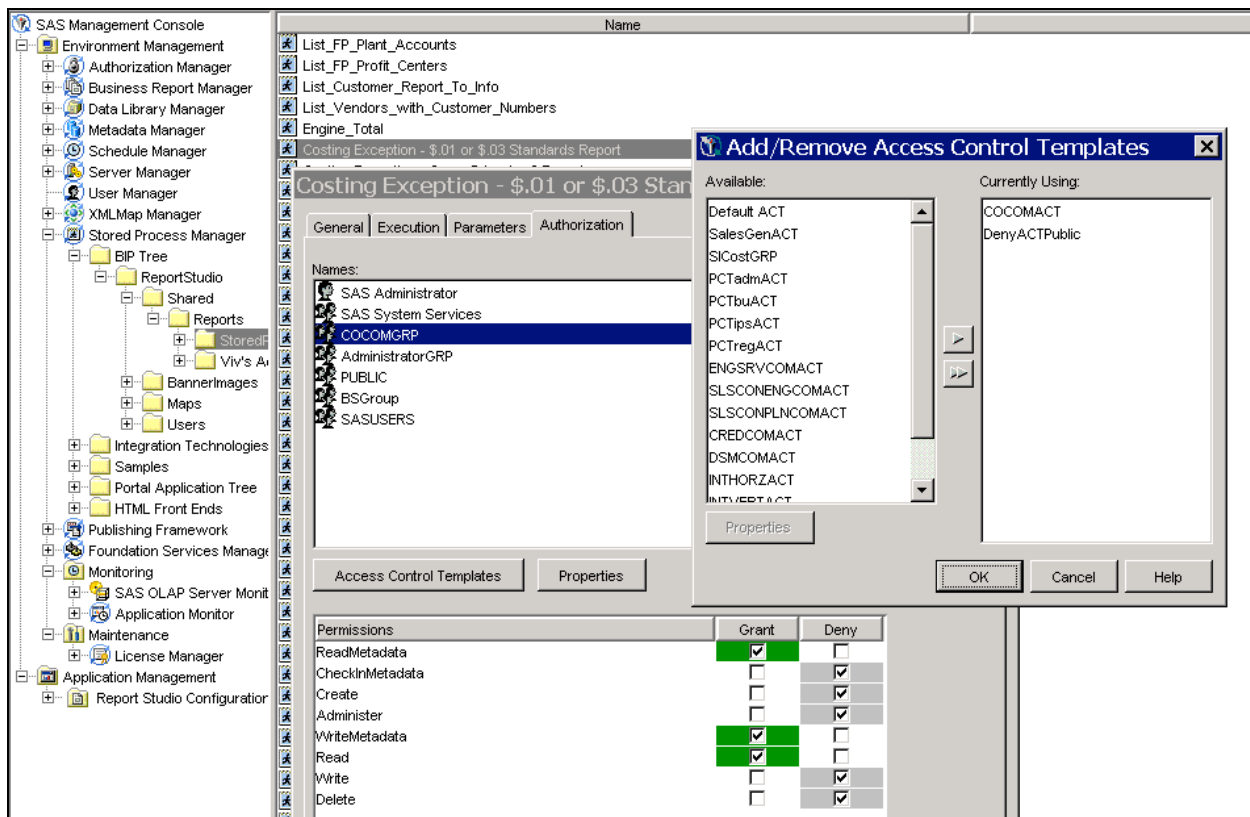
Each secure user group has an ACT associated with it.



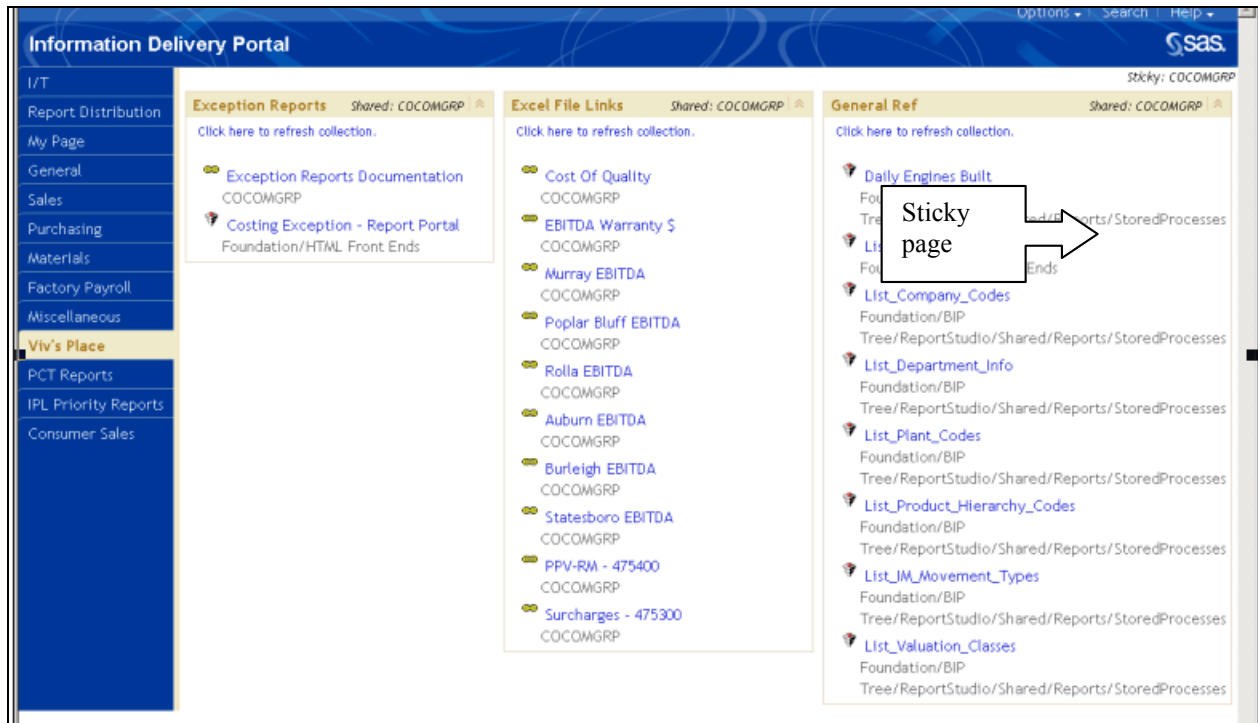
All reports and links developed for this group then have a DENYACT to prevent access to the general public



and a group ACT to allow that group to access the reports/links/page.



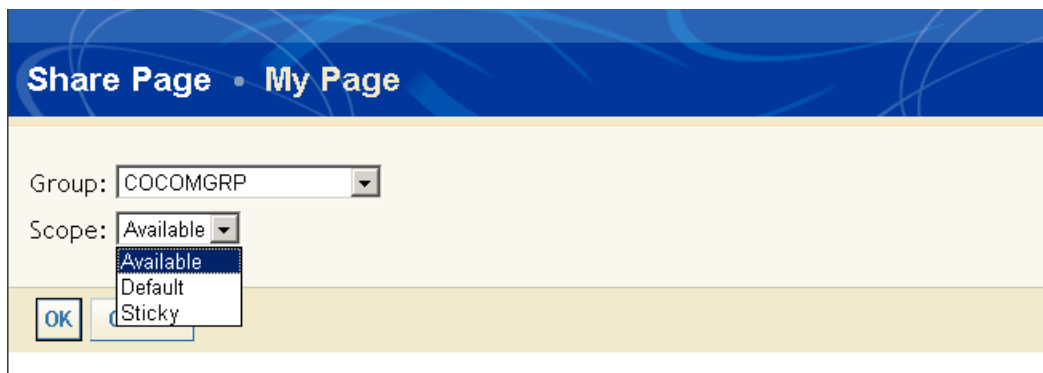
All of the above examples were used to create the page called Viv's Place:



This page was actually designed by a lead accountant at Briggs and Stratton. She's a regular user of SAS Enterprise Guide and, monthly, shared reports and Excel files with accountants at other plants via email. This page enables her to provide all the information from one central location.

This page is a secure page. The only users with security to access must belong to the group COCOMGRP. After the page was created, Viv, was set as the group content administrator. (Detailed instructions for this procedure can be found at http://support.sas.com/rnd/itech/doc9/portal_admin/security/ag_grant_groupadmin.html.) The content administrator is considered the 'owner' of the page and the only one who has an actual copy of the page and can share it.

She then 'shared' this page to the group as a sticky page.



As a sticky page, the authorized users do not have the ability to make changes to this page. However, the user can choose to delete this page from their portal, but can always add it back at a later date as Viv is the only one who can delete the page from the system. The other two page types are Default, wherein the page will automatically show the next time the user logs on, and Available, wherein the user has the option to add the page. In both these cases, the user can delete the page and add it back at a later date.

Because of the ACT assigned to the page, only the COCOMGRP group can see this page. In addition to the accountants set up in the group, the SAS administrator team was also added to the group.

There are three columns of portlets on the page. The first portlet, Exception Reports, consists of a link to an HTML document describing all the information available on the page:

Address <http://s05sas01:8080/Portal/viewItem.do?com.sas.portal.ItemId=51840>

Portal Page

Exception Reports Documentation

[Bookmark](#) [Publish](#) [E-mail](#)

Documentation for Costing Exception Reports

[\\$.01 or \\$.03 Standards](#)

- For the plant(s) entered:
 - Status is not equal to O, I, IN, IA, OR IU
 - Total Stock is not equal to 0
 - Standard equals \$.01 or \$.03

[Future Planned Price = 0](#)

- For the plant(s) entered:

and a stored process which is actually a portal to seven reports Viv developed in SAS EG:

Address <http://s05sas01:8080/Portal/viewItem.do?com.sas.portal.ItemId=51841>

Portal Page

Costing Exception - Report Portal

[Bookmark](#) [Publish](#) [E-mail](#)

Costing Exceptions Dashboard

Enter one or more plants (ex. 0005), or ALL for the Plant 1

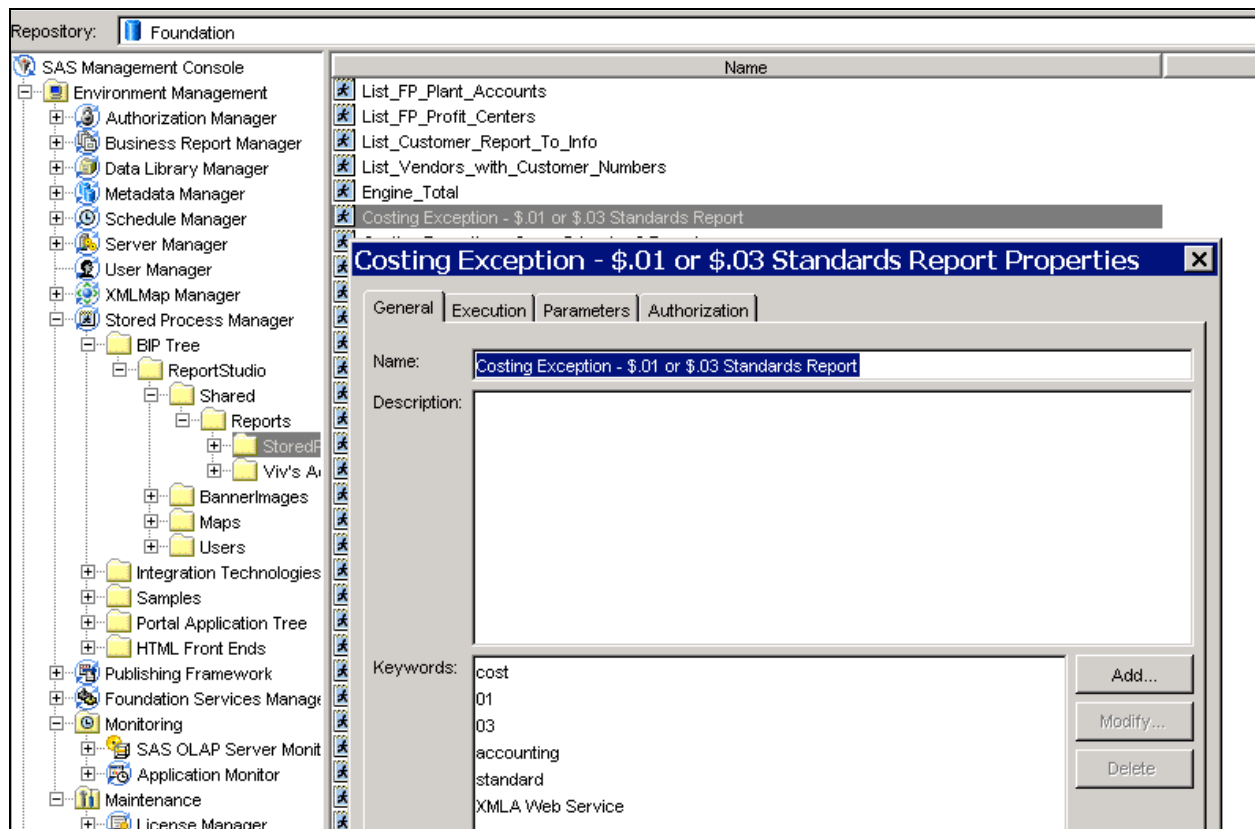
Plant 1	
Plant 2	
Plant 3	
Choose a Report	☒ \$.01 or \$.03 Standards ☐ Inactive or Obsolete Materials with Inventory ☐ Quantity Structure Not Checked ☐ No Scrap % ☐ Commercial Price 1 = 0 ☐ Future Planned Price 1 = 0 ☐ Info Records but no Standard
Output Format	☒ HTML ☐ Excel

Note: This uses a process called a 'chained' stored process which will be explained later. The code for this report portal and one of the corresponding reports can be found in Appendix A. All stored process at Briggs & Stratton also use a .jsp file (Java Server Page) which will also be explained below.

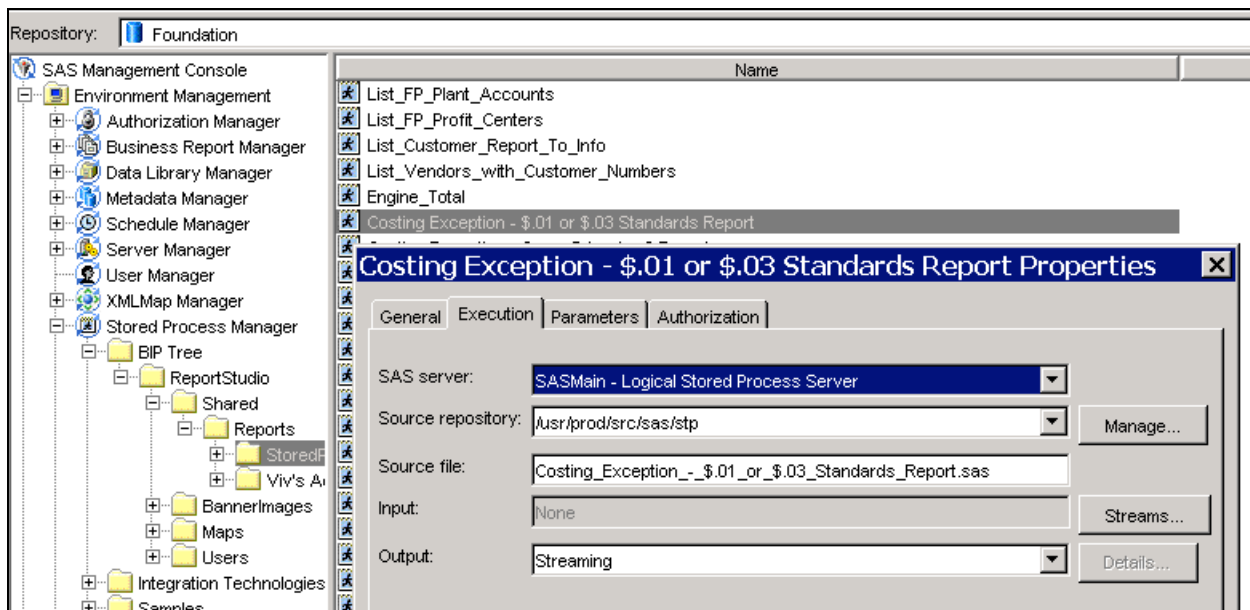
The second column consists of a portal filled with links to Excel files, updated monthly by Viv. Besides the security established for this page, allowing only her accountants to view it, the security built into Microsoft prevents plant accountants from viewing an Excel file to which they do not have access. We could have set up additional security within the SAS Management Console for each link, but this was not necessary.

The third column consists of a portlet with eight miscellaneous stored processes pertinent to the accountants' jobs.

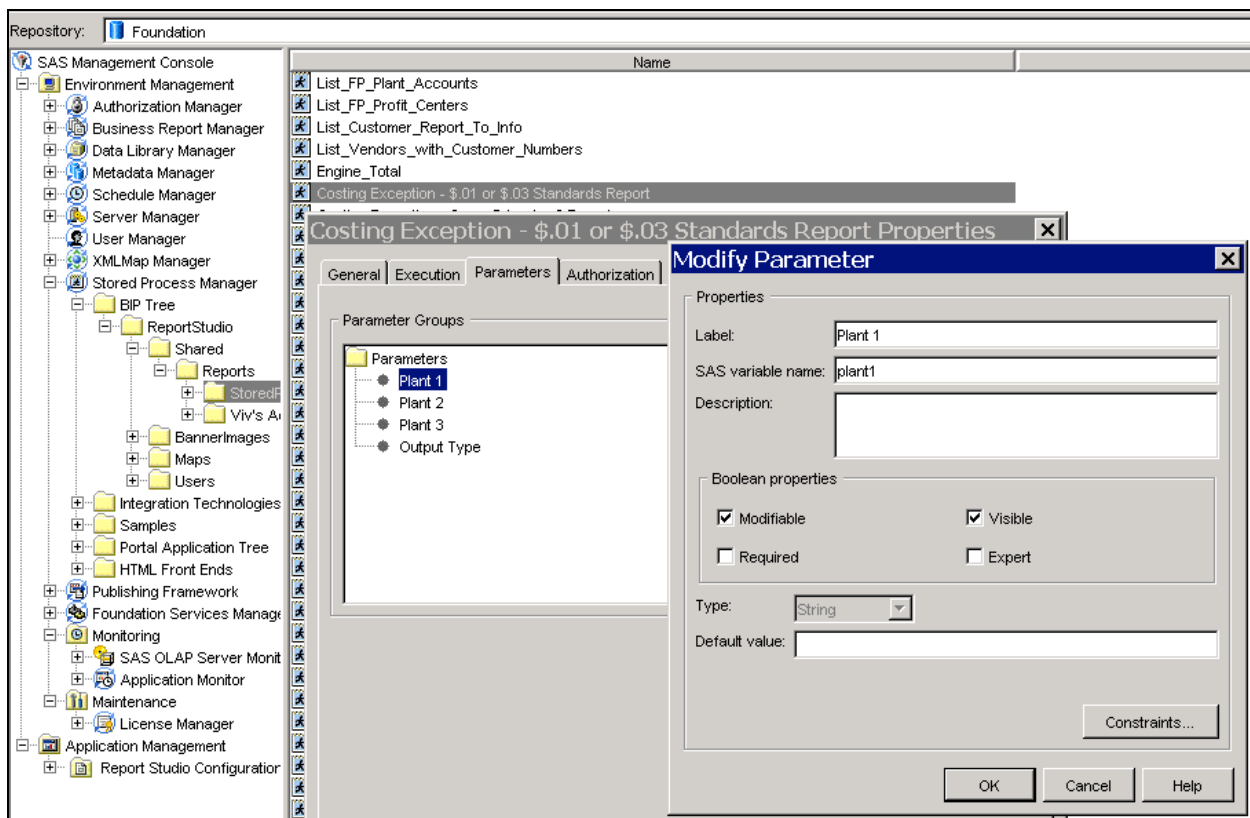
All of the stored processes above were developed in SAS Enterprise Guide, then 'tweaked' to run within the portal. This simply involved passing the variables as global variables and adding the %stpbegin and %stpend statements (see Appendix A). After being coded, the stored processes were added using the Stored Process Manager in the SAS Management Console.



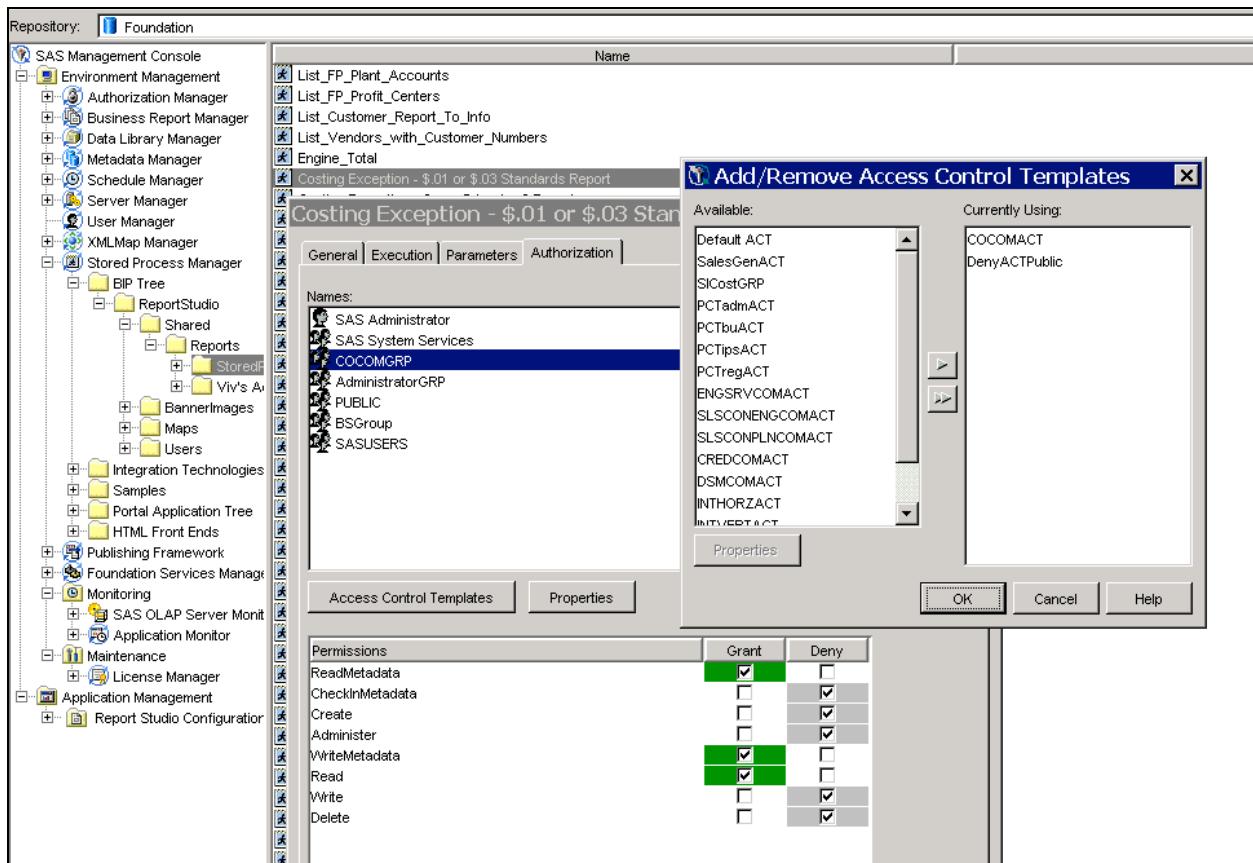
The general information contains the name, description, and keywords (for searching) of the report. We chose to use descriptive names and no descriptions as it takes up less room in the portlet.



The Execution parameters point to the appropriate SAS server, the directory on UNIX where the source code is located, the name of the source code file, and the output choice of streaming (needed for reports returning to HTML).

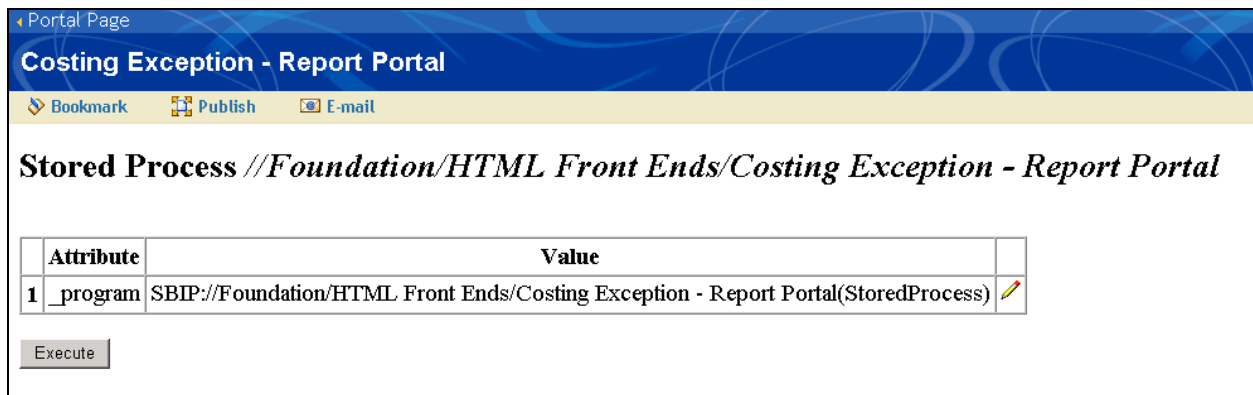


The Parameters are needed for stored processes being run without a .jsp or run directly from another stored process (chained) or from Excel. They can also be set to require the user to enter the information necessary to the report or to preload a set of possible values. The above field, plant1, is not required.



Finally, the authorization is added. Again, the DenyACTPublic prevents everyone from seeing the report, and the COCOMACT opens up the report to the group with this ACT level of security. The color on the Grant options is green, indicating this was overridden by the ACT. (Gray is inherited authority and white is explicitly overridden.)

An example of a .jsp file (Java Server Page) for the Costing Exception – Report Portal stored process is in Appendix B. (Note: It's named Costing_Exception_-_Report_Portal.jsp because this name cannot have spaces.) It is very basic HTML logic, with input text for the plant fields, radio buttons for the report types and output type, and a submit button which then transfers execution to the requested stored process. The stored process replaces the 'ugly box' normally generated when a stored process is execute.

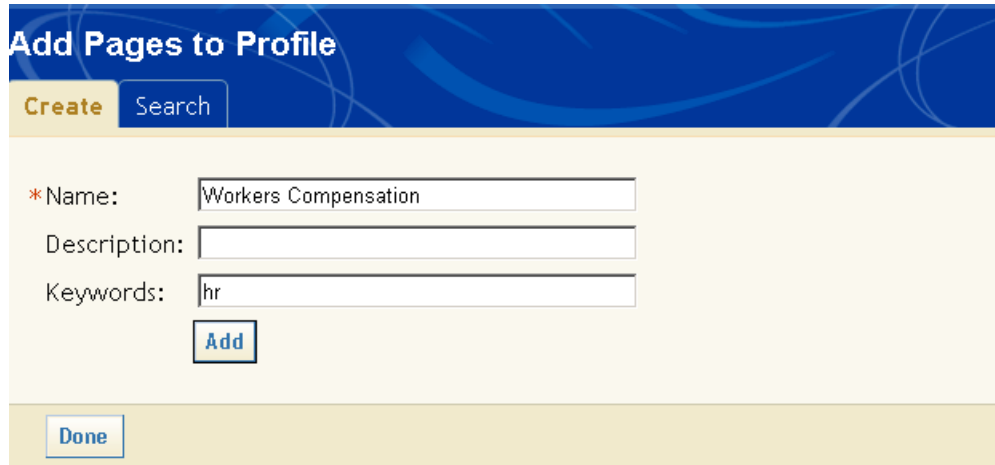


The 'ugly box' was difficult to work with, especially when there were input fields (not shown in the example). Plus it meant an extra step in the submission process. The .jsp allows execution to go from clicking on the stored process name directly to the stored process itself.

PAGES

There are two methods for adding a page to the portal. A user can simply go to the drop down Options menu and click on 'Add page', or a batch process can be used. The portlets and their content can also be added manually or within the same batch process. At Briggs & Stratton, we load the pages, portlets, and the available contents with one batch job, then add any further information manually before sharing. A sample of the batch load is in Appendix C.

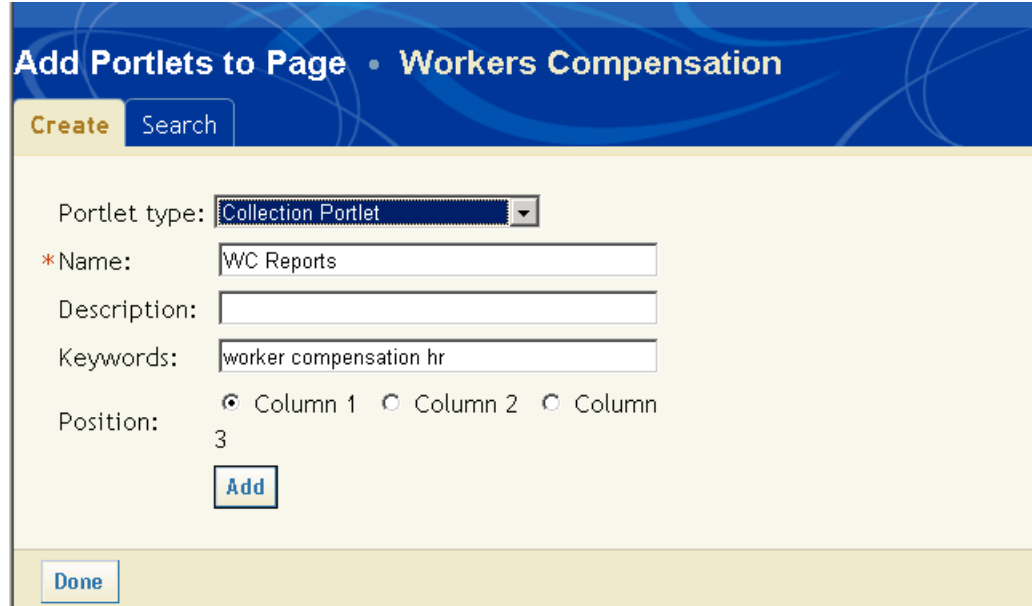
When you add a page manually via the drop down Options menu, this screen appears:



The screenshot shows a web form titled "Add Pages to Profile" with a blue header. Below the header is a yellow bar containing "Create" and "Search" buttons. The form fields include: "*Name:" with the value "Workers Compensation", "Description:" (empty), and "Keywords:" with the value "hr". There is an "Add" button below the keywords field. At the bottom of the form is a "Done" button.

You or a user can then add a new page or search for an existing page to add to your/his portal. Use appropriate keywords as this will help users find the page later on and 'Add' as many pages as desired. Be sure to click 'Done' when finished adding pages. After adding a page, you then begin to add portlets. You can add as many as necessary within the 3 columns on the page, but a lot of contents slows down the load process when the user access the page.

The same process is now performed for the portlets. The drop down Options menu contains an option to add a portlet, and takes you to this screen:



The screenshot shows a web form titled "Add Portlets to Page • Workers Compensation" with a blue header. Below the header is a yellow bar containing "Create" and "Search" buttons. The form fields include: "Portlet type:" with a dropdown menu showing "Collection Portlet", "*Name:" with the value "WC Reports", "Description:" (empty), and "Keywords:" with the value "worker compensation hr". There is an "Add" button below the keywords field. The "Position:" field has radio buttons for "Column 1", "Column 2", and "Column 3", with "Column 1" selected. At the bottom of the form is a "Done" button.

(This same screen is available to users to add an existing portlet to their page.) Again, fill in the information then 'Add' the portlet. When finished, click 'Done.' There are three types of portlets: a Collection Portlet stores a variety of report contents, links, etc.; a URL Display Portlet displays one URL in the portlet when the page is open (without requiring a link); and a WebDAV Repository Manager (needs Xythos). Briggs & Stratton uses primarily the Collection Portlet.

After adding the desired number of portlets, you now begin to add content to the portlets. Notice the three small icons in the top right corner of the portlet. The first allows you to change the contents of the portlet, the second, an X, allows you to delete the portlet, and the third, two arrows, allows you to minimize the portlet.



To add content to this empty portlet, click on the change icon:

The screenshot shows the "Edit Portlet • WC Reports" dialog box. It has a yellow background and a blue header. The form contains the following fields:

- *Name: WC Reports
- Description: (empty)
- Keywords: worker,compensation,hr
- Items: (empty list box with up/down arrows and delete icons on the right)

 At the bottom of the form is an "Add Items..." button. At the very bottom of the dialog are "OK" and "Cancel" buttons.

Note: this same screen is used to add items to the portlet, delete or change them (same icons on right), or move them up or down in the order they show in the portlet. To search for existing content:

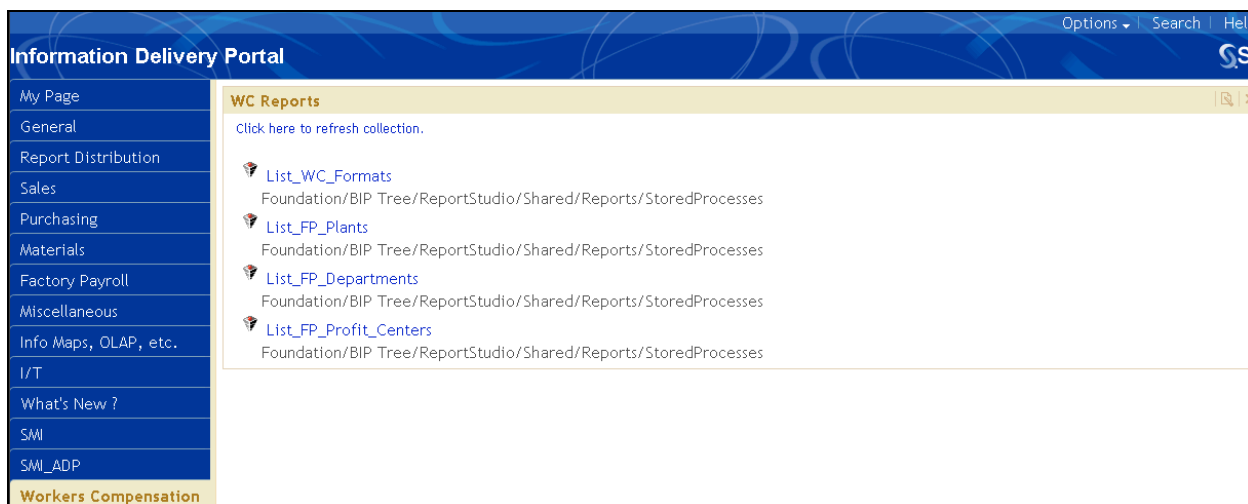
The screenshot shows the "Add Items to Portlet • WC Reports" dialog box. It has a yellow background and a blue header. The form contains the following elements:

- Keywords: wc
- Search button
- Content Types: Select All, Application, Link, Package, SAS Information Map, SAS Report, SAS Stored Process
- Search Results: Results/page: 20
- Table of search results:

	Type	Name	Description	Location	Creation Date
☐	✓	List_WC_Formats		Foundation/BIP Tree/ReportStudio/Shared/Reports/StoredProcesses	12/19/04

Below the table, it says "Results 1 - 1 of 1". There is an "Add" button next to the table and a "Done" button at the bottom of the dialog.

After searching for the desired content, click on the box next to the items to be added, then click 'Add'. Again, always click 'Done' when done within the screen. After adding some other content, you now have a very helpful portlet and page:



Unless this page is 'shared' out to others, it belongs only to the individual creating it. Additional portlets and content can be added or deleted, at any time, as desired by the 'owner' of the page.

Adding a page, with portlets and content, is an excellent way to understand the options available in the batch load program.

PORTLET CONTENT

The following content types are used at Briggs & Stratton:

Links:

A link is content accessible using a universal resource locator (URL). They can be added manually while editing the portlet (see above) or by using the LoadLink.sas template (see Appendix D).

Stored Processes

Stored processes are SAS programs stored in a central location and executed from the portal, creating reports or files. The output can either be returned to HTML, formatted as a report or an Excel file, or it can be used to create output files or native Excel documents. Briggs & Stratton elected to create native Excel documents as this is the way our queries presented the information. To get the Excel file to look the same we had to create a template (see Appendix E) and pull this into our reports (see Appendix A).

Alerts

An alert is an automatic notification of an electronic event. Alerts are displayed in the Alerts Portlet on one of the personal pages.

Files

A file of any type, including MS Excel, MS Word, text, etc. The above example of Viv's Place contains links to Excel files.

Applications

A Web application that has been made accessible from the portal.

DELIVERY

Finally, we set up email groups in GroupWise to notify users of their access. These were usually done by business groups such as plants. A class handout with pictures was developed and one member of our team conducted a training class. We rolled out our infant portal to the Information Technology department first. It consisted of just a few pages and some list and lookup reports against SAP and in-house data.

POST PARTUM (CONCLUSION)

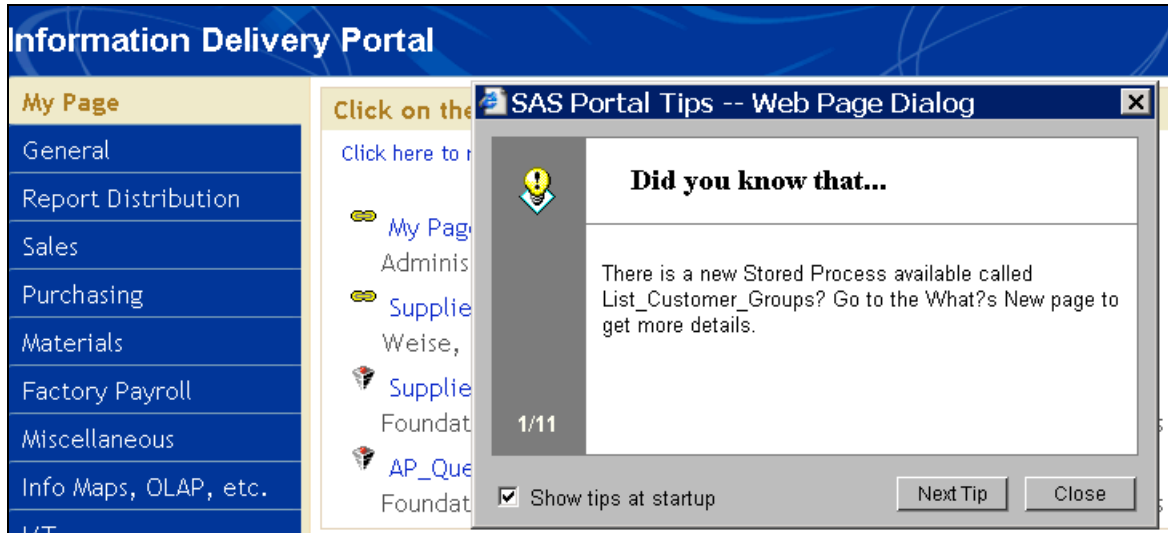
Some other growth pains included:

- Locating the settings to stop the portal and stored processes from timing out every 20 minutes.
- Removing pages – this currently involves logging on as saswbadm and deleting each user's copy manually. It is much easier to delete a sticky page with only one copy than the multiple pages created with a default page.
- Setting up promote procedures – we have this in place for the server tier, but the web tier (the SAS Management

Console) requires completely re-entering the security, groups, users, pages, and all content.

- Emailing reports from within the portal to work with GroupWise.

The Information Delivery Portal at Briggs and Stratton is constantly growing and evolving to meet the needs of our user community. Beyond reports, links, portlets, and pages, we were always looking for additional ways to add intelligence and content to the portal. Recently, we added a pop-up window with a SAS tip of the day,



The user can turn it off at any time and, later, turn it back on. Details will be available at the conference.

We've also converted the aforementioned Report Distribution System (SAS batch reports and queries wrapped around group security on Oracle tables). From the RDS page, the user executes a stored process which returns the following:

	Group ID	Group Description	Report ID	Report Description	Report State
☐	BSAG_WARR	BSAG - WARRANTY GROUP	IC_CLMSTAT	Claim Status Query	Production
☐	SIREPORTS	ALL REPORTS PERTAINING TO THE SALES INFORMATION SYSTEM	IC_DD_ENG	Duty Drawback Engines Query	Production
☐	SIREPORTS	ALL REPORTS PERTAINING TO THE SALES INFORMATION SYSTEM	IC_DD_PART	Duty Drawback Parts Query	Production
☐	BSAG_WARR	BSAG - WARRANTY GROUP	IC_DLRINFO	Dealer Information Query	Production
☐	TEST-JRS	(TEST-JRS) TEST GROUP	IC_DOWN_LD	Inv Control Download Screens (Inventory, Scrap)	Production
☐	GENACCTG	GENERAL ACCOUNTING USERS	IC_FP100I	Cost per 100 Query	Production
☐	GPR_INVTY	GENERAC INVENTORY REPORTS / QUERIES	IC_GINVTV	Generac Ending Inventory Balance Query	Production

There is a text box with a search button, allowing the user to search for a string and any items matching the search are returned. It maintains a list of preferred reports for each user, a list of all the reports for which the user has security, and all the reports for which the user does not have security. The user can easily add or remove reports from their preferred list, or submit a request to receive security for a specific report. (The code for this is complex and is available from the author via email.)

As of July, 2005, the Briggs & Stratton Information Delivery Portal has 9 general pages and 12 secure pages, with 2 more secure pages currently in development. Several of these pages were developed by and are maintained by the users themselves. I predict a long and healthy life for the Information Delivery Portal at Briggs & Stratton.

APPENDIX A

Costing_Exception_Report_Portal.sas

```
/* Begin EG generated code (do not edit this line) */
/* Application registered by Enterprise Guide Application Manager v1.3 */
*ProcessBody;
%let _ODSStyle=BSexec;
%stpbegin;
/* End EG generated code (do not edit this line) */
*****;
*
* STP:          Costing_Exception_Report_Portal.sas
* DESCRIPTION:  This stored process creates the costing Exception
*              portal.
* * * * *
*              CHANGE HISTORY
* 01/11/05 S.Weise Original version.
*****;

options ls=256 ;

title '<b><i>Costing Exceptions Dashboard'</i></b>';

data _null_ ;
  file print notitle ;
  put '<form action="/SASStoredProcess/do">' ;
  put '<p><B>Enter one or more plants (ex. 0005), or ALL in Plant 1</B></p>' ;
  put '<p>Plant 1 <input type="text" name="plant1" size="4">'
    '&nbsp;&nbsp;&nbsp;&nbsp;Plant 2 <input type="text" name="plant2" size="4">'
    '&nbsp;&nbsp;&nbsp;&nbsp;Plant 3 <input type="text" name="plant3" size="4"></p>' ;
  put '<p><B>Choose a report:</B></p>' ;
  put '<p><input type="radio" name="_PROGRAM"
    value="/BIP Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception
- $.01 or $.03 Standards Report" checked>$.01 or $.03 Standards</p>' ;
  put '<p><input type="radio" name="_PROGRAM"
    value="/BIP Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception
- Inactive Obsolete with Inv Report">Inactive or Obsolete Materials with I
nventory</p>' ;
  put '<p><input type="radio" name="_PROGRAM"
    value="/BIP Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception
- Qty Structure Not Checked Report">Quantity Structure Not Checked</p>' ;
  put '<p><input type="radio" name="_PROGRAM"
    value="/BIP Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception
- No Scrap % Report">No Scrap %</p>' ;
  put '<p><input type="radio" name="_PROGRAM"
    value="/BIP Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception
- Comm Price 1 = 0 Report">Commercial Price 1 = 0</p>' ;
  put '<p><input type="radio" name="_PROGRAM"
    value="/BIP Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception
- Future Planned Price 1 = 0 Report">Future Planned Price 1 = 0</p>' ;
  put '<p><input type="radio" name="_PROGRAM"
    value="/BIP Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception
- Info Records But No Standard Report">Info Records but no Standard</p>' ;
  put '<p><B>Choose an output format:</B></p>' ;
  put '<p><input type="radio" name="outtype" checked value="HTML">HTML <input
type="radio" name="outtype" value="XLS">Excel</p>' ;
  put '<p><input type="submit" value="Execute"></p>' ;
  put '</form>' ;
run ;

/* Begin EG generated code (do not edit this line) */
%stpend;
/* End EG generated code (do not edit this line) */
```

Costing_Exception_-_\$.01_or_\$.03_Standards_Report.sas

```
/* Begin EG generated code (do not edit this line) */
```

```

/* Application registered by Enterprise Guide Application Manager v1.3 */
*ProcessBody;
%global plant1 plant2 plant3 outtype ;

data _null_ ;
  if "&outtype" eq 'HTML' then
    call symput('_ODSStyle','Meadow') ;
  else
    call symput('_ODSDEST','tagsets.bsexcel') ;
  if "&_srvname" in ('qabsws' 'sv05sastest01') then
    call symput('tmplinc',"libname tpl '/usr/test/src/sas/stp'") ;
  else
    call symput('tmplinc',"libname tpl '/usr/prod/src/sas/stp'") ;
run ;
&tmplinc ;
ods path(prepend) tpl.bsexcel(read) ;

%stpbegin;
/* End EG generated code (do not edit this line) */

*****;
*
* STP:          Costing_Exception_-_$.01_or_$.03_Standards_Report.sas*;
* DESCRIPTION:  This stored process creates the costing analysis
*               exception report for standards of $.01 or $.03.
* * * * *
*               CHANGE HISTORY
* 01/11/05 S.Weise Original version.
*****;

options ls=132 ps=1000 center obs=max symbolgen nomprint source source2 ;

%assignlib(slmmprod) ;

data _null_ ;
  if "&plant1" gt ' ' then call symput('plant1',upcase("&plant1")) ;
  else
    call symput('plant1','ALL') ;
run;

PROC SQL;
CREATE TABLE std0103 AS SELECT
  SLMMPROD_COSTING_ANLY.PLANT FORMAT=$char4. AS Plant,
  SLMMPROD_COSTING_ANLY.PART FORMAT=$18. AS Part,
  SLMMPROD_COSTING_ANLY.PIDESC FORMAT=$40. AS Description,
  SLMMPROD_COSTING_ANLY.PRFCCTR FORMAT=$10. AS PCtr,
  SLMMPROD_COSTING_ANLY.VALCLASS FORMAT=$4. AS Val_Class,
  SLMMPROD_COSTING_ANLY.SPK FORMAT=$2. AS Spec_Proc,
  SLMMPROD_COSTING_ANLY.SPK_C FORMAT=$2. AS Spec_Proc_Costing,
  SLMMPROD_COSTING_ANLY.MPPPSTAT FORMAT=$2. AS Status,
  SLMMPROD_COSTING_ANLY.CST_100 FORMAT=DOLLAR11.2 AS Standard,
  SLMMPROD_COSTING_ANLY.ON_HAND FORMAT=COMMA13. AS Total_Stock,
  SLMMPROD_COSTING_ANLY.BALANCE FORMAT=DOLLAR13.2 AS Total_Value
FROM SLMMPROD.COSTING_ANLY AS SLMMPROD_COSTING_ANLY
WHERE ((SLMMPROD_COSTING_ANLY.PLANT IN ("&PLANT1", "&PLANT2", "&PLANT3") AND
  (SLMMPROD_COSTING_ANLY.MPPPSTAT NOT IN ('O','I','IN','IA','IU') AND
  (SLMMPROD_COSTING_ANLY.CST_100 IN (.01,.03) AND
  SLMMPROD_COSTING_ANLY.ON_HAND NOT = 0)))
OR ("&PLANT1" = 'ALL' AND
  (SLMMPROD_COSTING_ANLY.MPPPSTAT NOT IN ('O','I','IN','IA','IU') AND
  (SLMMPROD_COSTING_ANLY.CST_100 IN (.01,.03) AND
  SLMMPROD_COSTING_ANLY.ON_HAND NOT = 0))))
ORDER BY SLMMPROD_COSTING_ANLY.PLANT, SLMMPROD_COSTING_ANLY.ON_HAND DESCENDING
;
QUIT;

proc contents data=std0103
  out=testcnt (keep=nobs)
  nodetails

```

```

                                noprint;
run;

data _null_ ;
  set testcnt (obs=1) ;
  file print ;
  if nobs le 0 then do ;
    put 'No records found matching input criteria.' ;
    call symput('outtype','HTML') ;
  end ;
run ;

%macro createrpt ;
  %if &outtype eq HTML %then %do ;
    proc print noobs u data=std0103 ;
      title '$.01 or $.03 Standards Report' ;
    run ;
    title ' ' ;
    data _null_ ;
      file print notitles ;
      put '                                     *** End of Report ***' ;
    run ;
  %end ;
%else %do ;
  data _null_ ;
    rc = stpsrv_header('Content-type','application/vnd.ms-excel') ;
    rc = stpsrv_header('Content-disposition','attachment; filename=std0103.x
ls') ;
  run ;
  proc print noobs data=std0103 ;
    var plant part / style={htmlstyle="vnd.ms-excel.numberformat:@"} ;
    var description pctr val_class spec_proc spec_proc_costing
      status standard total_stock total_value ;
  run ;
%end ;
%mend createrpt ;
%createrpt ;

proc delete data=testcnt ;
run ;
proc delete data=std0103 ;
run ;

libname slmmprod clear ;

/* Begin EG generated code (do not edit this line) */
%stpend;
/* End EG generated code (do not edit this line) */

```

APPENDIX B

Costing_Exception_-_Report_Portal.jsp

```

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2 Final//EN">
<HTML>
<HEAD>
<TITLE></TITLE>
<HEAD>
<LINK rel="StyleSheet" type="text/css" href="stp.css">
</HEAD>
<BODY>
<FORM ACTION="/SASStoredProcess/do">
<P>
<Font Face="Verdana" Size=4 Color="Black">Costing Exceptions Dashboard</Font>
<BR><BR>
<Font Face="Verdana" Size=2 Color="Black">Enter one or more plants (ex. 0005), or ALL
for the Plant 1</Font>
</P>

```

```

<table class="Table" cellspacing="0" cellpadding="10">
  <tr>
    <td width="30%" class="l Header">Plant 1</td>
    <td width="50%" class=" Data"><input type="text" name="plant1" size="4"></td>
  </tr>
  <tr>
    <td width="30%" class="l Header">Plant 2</td>
    <td width="50%" class=" Data"><input type="text" name="plant2" size="4"></td>
  </tr>
  <tr>
    <td width="30%" class="l Header">Plant 3</td>
    <td width="50%" class=" Data"><input type="text" name="plant3" size="4"></td>
  </tr>
  <tr>
    <td width="30%" class="l Header">Choose a Report</td>
    <td width="50%" class=" Data">
      <input type="radio" name="_PROGRAM" value="/BIP
Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception - $.01 or $.03
Standards Report" checked> &nbsp; $.01 or $.03 Standards<BR>
      <input type="radio" name="_PROGRAM" value="/BIP
Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception - Inactive Obsolete
with Inv Report"> &nbsp; Inactive or Obsolete Materials with Inventory<BR>
      <input type="radio" name="_PROGRAM" value="/BIP
Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception - Qty Structure Not
Checked Report"> &nbsp; Quantity Structure Not Checked<BR>
      <input type="radio" name="_PROGRAM" value="/BIP
Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception - No Scrap %
Report"> &nbsp; No Scrap %<BR>
      <input type="radio" name="_PROGRAM" value="/BIP
Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception - Comm Price 1 = 0
Report"> &nbsp; Commercial Price 1 = 0<BR>
      <input type="radio" name="_PROGRAM" value="/BIP
Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception - Future Planned
Price 1 = 0 Report"> &nbsp; Future Planned Price 1 = 0<BR>
      <input type="radio" name="_PROGRAM" value="/BIP
Tree/ReportStudio/Shared/Reports/StoredProcesses/Costing Exception - Info Records But
No Standard Report"> &nbsp; Info Records but no Standard<BR>
    </td>
  </tr>
  <tr>
    <td width="30%" class="l Header">Output Format</td>
    <td width="50%" class=" Data"><input type="radio" name="outtype" checked
value="HTML"> &nbsp; HTML    <input type="radio" name="outtype" value="XLS"> &nbsp;
Excel</td>
  </tr>
</TABLE>
<BR>
<INPUT TYPE="SUBMIT" VALUE="Execute">
</FORM>
</BODY>
</HTML>

```

APPENDIX C

Load_Page.sas:

```

/*****
/** this pgm loads the News Page for the ADMIN      **/
/** group.                                           **/
*****/
options nosymbolgen;
options metaserver="cobcs2"
  metaport=8561
  metauser="saswbadm"
  metapass="xxxxxxx"
  metarepository="Foundation";
%let repositoryName=Foundation;

```



```

ODS path(prepend) tmp1.bsexcel(update);

proc template;
  define tagset tagsets.bsexcel;
    parent=tagsets.msoffice2k;
    define event doc;
      start:
        put '<html xmlns:o="urn:schemas-microsoft-com:office:office"' NL;
        put 'xmlns:x="urn:schemas-microsoft-com:office:excel">' NL;
      finish:
        put "</html>" NL;
      end;
    define event doc_head;
      start:
        put "<head>" NL;
        put VALUE NL;
        put "<style>" NL ;
        put "<!--" NL;
        trigger alignstyle;
        put "-->" NL;
        put "</style>" NL;
      finish:
        put "<!--[if gte mso 9]><xml>" NL;
        put "<x:ExcelWorkbook>" NL;
        put "  <x:ExcelWorksheets>" NL;
        put "    <x:ExcelWorksheet>" NL;
        put "      <x:Name>Sheet1</x:Name>" NL;
        put "      <x:WorksheetOptions>" NL;
        put "        <x:DisplayPageBreak/>" NL;
        put "        <x:Selected/>" NL;
        put "        <x:Gridlines/>" NL;
        put "      </x:ExcelWorksheet>" NL;
        put "    </x:ExcelWorksheets>" NL;
        put "  </x:ExcelWorkbook>" NL;
        put "</xml><![endif]-->" NL;
        put "</head>" NL;
      end;
    embedded_stylesheet=no;
  end;
run;

```

CONTACT INFORMATION

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 Email: Weise.Sheryl@basco.com

Additional background on the Briggs & Stratton use of SAS can be found on these web pages:

<http://www.sas.com/success/briggs.html>
http://www.sas.com/news/sascom/2004q4/feature_briggs.html
<http://www.sas.com/news/preleases/042103/news1.html>

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