

Figure 1: Flow Planning Product Families

## Product Family Configuration for DDQ/DM/FP

### Terms and Acronyms

Terms and acronyms can be found here

### Product Family and Route

A product family defines a product that is produced by a certain manufacturing plant. There are two different product families in PSI,

1. DDQ / Demand Manager high level product family
  2. Flow planning more granular product family.
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#### DDQ/Demand Manager Product Family

A typical product family chart as shown below is called a “Route”. The Route shows us a list of product families and their respective production steps. The group of DDQ / Demand Manager product family for OD – Order Dressing and for Sales. It should be coded as SPF – Sales Product Family. DDQ / Demand Manager product family is high level product family.

Product Families > This Route is for Nucor’s Crawfordsville, IN Plant.

#### Flow Planning Product Family

Here is another Route for more granular product family for FP- Flow planning, that gives more PF, especially this group of PF is for production. It should be coded as PF – Product Family in the related PL/SQL tables.

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### Understanding a Route

A route gives a link to see the connection between product family and Its process steps. If you follow the given numbers on cells, you can see some numbers repeat itself such as “1” and “3”. Those number are defined alternative use of for example CCM: the CCMs are alternative each other’s.

So, the numbers are used to define a process step that is related to certain Product Family’s production steps.

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## Demand Manager and Flow Planning DB Structure

Figure 2: Demand Manager and Flow Planning DB Structure

## Master Data for DDQ/DM

Figure 3: Master Data for DDQ/DM

## Database Structure and PL/SQL

The table MAT\_ST defines SPF for DDQ/DM and PF for Flow Planning.

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## Preparation of the Input Data for PL/SQL

Before start to prepare the Master Data, you need to have access to PL/SQL schemas: PSIMAIN and PSIMAIN\_FLOW for DEV01 environment. An input method to PL/SQL from the master data. We used the method from excel to PL/SQL in this paper.

Let's take a product family and start MD – Master Data for DDQ/DM. I took one PF- Product Family and one SPF – Sales Product Family as samples:

The expected Master Data for above given the Route would be in the Seven (7) Sheets: (those sheets are valid for both DDQ/DM and FP).

1. PFs
2. Nodes
3. FAGVP Insert
4. FAU\_ST Insert
5. MAT\_ST Insert
6. MATMDCHAR Insert
7. FAG\_ST Insert

Please see the sample MD for this PF in the DDQ Master Data Sample

We have 5 numbers on the related cells of the Route for the PF HR: CCM1, CCM2, HMILL, QC, and SHIP. And the production step is defined in the Step column with the order of the production process. There is a freedom to choose an alternative in order numbers here: You can choose 10, 20, 30... or 1,2,3 or 100, 200, etc.

## Product Family Routes

Figure 4: Product Family Routes

## FP Product Line

Figure 5: FP Product Line

## FP Product Lines

Figure 6: FP Product Lines

Please focus on the same Step and Prio. (Priority) numbers. If you have the same production process in the case of Nucor Indiana has two Casters, CCM1 and CCM2. The defined step numbers are the same 10 and the priority numbers are 0 or 1. This means take CCM1 which is 0 (zero) first, if it is busy go to CCM2 which has Priority 2!

Again, we Will focus on the Sheet “Nodes” In this Paper: As you can see I used the both types of product families in the insert sheet “Nodes”.

The following differences between the Master data of DDQ/DM and FP - Flow Planning Master Data:

1. The Master Data of DDQ/DM will be inserted into the PSIMAIN Schema whereas FP- Flow Planning 's Master Data will be inserted into the PSIMAIN\_FLOW Schema.
2. The Master Data of DDQ/DM will be inserted into the PL/SQL's table MAT\_ST “SPF” whereas FP- Flow Planning 's Master Data will be inserted into the PL/SQL's table MAT\_ST “PF”. Please check the excel sheet “MAT\_ST” about this.

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## PL/SQL Scripts

Probably, you would have more type of scripts, insert script for to add line(s) to the certain tables, delete script for existing line on the certain tables etc.

As mentioned before there are several ways to insert the Master Data to the PL/SQL. The given sample for from EXCEL to PL/SQL tables, and the Excel spreadsheet has also a formula.

### Sample Script for Delete

```
set echo on
set define off

-- Clear out data.

delete from FAGVP_ST
```

## FAG\_ST Table Line Numbers

Figure 7: FAG\_ST Table Line Numbers

```
where fau_st_id in (select fau_st_id from FAG_ST
where MAT_ST_ID_IN in ('**PUT THE FAMILY NAME HERE**','**PUT THE FAMILY NAME HERE**'));
```

### Sample Script for Adding Line

```
-- Insert data
```

```
rem Insert MAT_ST Insert
```

```
INSERT INTO MAT_ST (
    MAT_ST_ID, MAT_ST_VERSION, PRODUCTID, DESCRIPTION, UNIT, TYP, STATUS, SUBTYPE, PRODUCTTY
VALUES (
    '**PUT THE FAMILY NAME HERE**','1','**PUT THE FAMILY NAME HERE**','**PUT THE FAMILY
```

### Update FAG\_ST Table

Enter line number for each family separately to the AG\_LFDNR on the table FAG\_ST (PSIMAIN).

### The Last Step

There is another step to finish this configuration to sync the database against DDQ/DM PF – Product Family. We will then see the product families in DDQ and DM (ask Nucor NBT about it).

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