Application Note
FactoryTalk Batch – What do I get from Batch Reporting?

Introduction & Batch Listing
The nine configured reports provided with the Batch Reporting Package can be broken into four categories:

• Product History
• Material / Equipment History
• Batch performance
• Exceptions

All reports are accessible via a query window, which provides rapid and intuitive search functions. In general, specific batches can be queried on:

• Time / Date range: Give me all batches produced yesterday
• Process Cell: On line 3
• Recipe: Making lo-fat
• Batch ID: With batchID = Z12WX

When an initial query is initiated, a response report lists all batches that met the query criteria. From this listing, general data about the batch is found, along with icons to select detailed reports associated with a given batch.

Product History Reports
Two product history reports are available:

• Batch Summary Report
• Batch Detail Report

Batch Summary Report
The batch summary report gives an overview of a particular batch. The report displays:

• Recipe header information: Such as name, description, version
• Unit information: Which units were used, the time the batch was in the unit
• Critical set-point data: Showing the set-point, target, actual, and deviation

One can expand on Unit Information and see the Operations and the associated phases that were run, along with time stamps and durations. In general, this report gives a summary or snapshot of the batch.
**Batch Detail Report**

If more information about a batch is needed, the user would navigate to the Batch Detail Report. This report includes:

- **Phase detail:** For each phase lists: time/date, duration, formula parameters report parameters
- **Exceptions:** Any exception mode changes such as batch hold
- **Alarms:** Any alarms that occurred while the batch was executing
- **Failures:** Any phase failures that were generated by the process control subsystem

The Batch Summary and Detail reports are used when specific information about a particular batch is required.

**Material / Equipment History Reports**

There are three reports in this category:

- Material / Equipment Usage
- Forward Tracking
- Backward Tracing

All Material / Equipment History Reports are accessed from a query window.

**Material / Equipment Usage Report**

These reports identify:

- When, where, and quantity of a particular material consumption: *Identify all batches that consumed ‘flour’ last week*
- What batches were produced on a particular pieces of equipment: *Identify all batches that were produced on ‘Mixer 3’ during ‘June’*
Forward Tracking
Forward tracking reports identify all batches that consumed a particular lot of material: Identify all batches, produced ‘last Monday,’ that consumed ‘sugar’ with a manufacturer’s lot id of ‘CC78V.”

Backward Tracing
Backward tracing reports identify all the materials, along with their quantities and lot id’s, that were consumed in a particular batch.

Batch Performance Reports
Two reports fall into this category:
• Batch Duration
• Batch Execution

Batch Duration
Batch Duration shows the overall duration time for a selection of batches. The batches duration times are compared in a bar graph. This report gives a quick visual comparison of how batches performed (in overall time).

One would answer the question “How did the ‘fifteen’ batches I ran on ‘Wednesday’ that made ‘Diet-Lite’ perform across ‘three’ production shifts.”

Batch Execution
Batch Execution provides a quick visual presentation of overall phase durations. One could use this report to identify, within a given batch, the phases that took exceptionally long.
Batch Exception Reports

There is one report in this category:

- Batch Exception Report

Batch Exception Report

The Batch Exception report identifies batches that had exceptions, that is those batches that had:

- Out of Tolerance conditions
- Alarms
- Phase Failures
- Undesired mode changes: *Such as hold or abort*

The report is accessed through a query which allows one to list “all batches that were produced ‘last night’ on ‘line 7’ making the ‘no-salt’ product.” This is an ideal report for a supervisor to quickly identify the two problem batches out of the fifty that were produced in a given period of time, or associated with a particular product.

In addition to identifying the batches with exceptions, each exception is detailed. For example, one could quickly determine that while “producing batches of ‘lo-cal’ there was a ‘high temperature alarm’ for batch ‘GH17T’ being produced on ‘Mixer 4’ at ‘7:38pm.’”