

This application note will provide a basis for creation of a Predictive Maintenance (PM) data collector route.

Establishing an efficient PM data collector route is a logical process that will provide a smooth flow for data collection. A haphazardly created route can result in improper data collection, missed measurements, duplicated measurements, and excessive data storage requirements. Detailed investigation of the plant layout and machine construction will be required to create the machine route.

This application note assumes that a machine list has been developed which defines each machine, the measurement points for each machine, and the measurement parameters for each point. See the application note "PM Program - Part 1" for information regarding machine list development.

### ROUTES

Once the list of machines, the measurement points, and measurement parameters have been tabulated a data collection route can be created. A plant layout diagram will be necessary to determine the progression from machine to machine and point to point.

A plant with a large machine list may be split into several routes. Each route will be a logical progression from measurement point to measurement point. The progression may not necessarily flow from one machine to the next in a consistent way. Certain routes may have the data collected based upon the proximity of the measurement points, while other routes may be created which encompass machines on a single floor or part of the plant.

When a route has been developed it should be walked through. This means following the route instructions exactly, progressing from each point to the next. This walk through will determine whether the route is efficient for data collection or requires slight modifications. It will identify other requirements such as required access clearances or ladders needed to get to each measurement point. It will, also, define the time required for completion of the data collection for each route. These criteria may dictate creation of a new route based upon the machinery access or time required for data collection. Now is the time to massage the route(s) before implementation of the data collection process.

### EXAMPLE

The diagram shows a route, which starts in the pump room, progresses to the compressor room, and finishes in the fan room. Route construction often involves clustering the machines into groups based upon their locations relative to each other. Other items such as enclosures, access panels, or piping may influence the route layout. After the route has been created a practice walk through may identify adjustments that may be required.

Data collection in the pump room begins with Pump #3. Due to the proximity of Pump #2 and Pump #3 the data collection progress from one pump to the other with Pump #1 being the last machine to monitored in the pump room. Notice that for Pump #3 and #2 the data is collected from the pump towards the motor while the data is collected in the reverse order for Pump #1.

Also, notice that the motor inboard measurement of the compressor machine train was taken on the south side instead of the north side. If no interfering structures were present this reading could have been obtained on either side, whichever side has the easiest access.

Data collection in the fan room follow the same sequence for each fan with this route ending at the south exit door of the fan room.

### Route Checklist

1. Machine List
2. Route(s) Developed
3. Practice Walk Through

