Software - Bug #3258

AgWheelMinMagInterval(Cycle) being set in Load Sys Var file messes up Agitation

08/18/2016 03:05 PM - James Small

Status:	Feedback	**Start date:**	08/18/2016
Priority:	Normal	**Due date:**	
Assignee:	James Small	**% Done:**	0%
Category:		**Estimated time:**	0:00 h
Sprint/Milestone:	3.0	**Spent time:**	0:00 h
Type of Request:		**Return Material Authorization:**	
Product Type:		**Root Cause:**	
Serial No. Lot No.:		**Date Approved:**	
Followup Actions:			

Description

When the RIO first boots up and loads the Sys Var file, the RPMLoopTime(ticks/Cycle) is 0 because the FPGA has not run. It then sets AgWheelMinMagInterval(Cycle) to infinity. This causes the Agitation PV to be 0 until the System Variables file is reloaded.

The solution is as follows:

1. Modify the FPGA Code.vi so that the RPMLoopTime(Ticks) output from the FPGA does not write to the RPMLoopTime(ticks/Cycle) global. Instead, convert it to a single, multiply it by 2.5E-8, and divide 0.1 by the result. Convert that result to U32, and feed it into the "Hold Time (Cycles)" input on the FPGA, where the AgWheelMinMagInterval(Cycle) global currently writes to it. It will be fed via a feedback node.
2. Make a comment in the FPGA Code.vi pointing to the feedback node, stating that while it would be better practice to have that calculation on the FPGA itself rather than on the RIO, it's going on the RIO for now, in the interests of time.
3. Remove the code in the Retrieve System Variables from file.vi that involves reading from RPMLoopTime(ticks/Cycle) and writing to AgWheelMinMagInterval(Cycle) globals
4. Delete the RPMLoopTime(ticks/Cycle) and AgWheelMinMagInterval(Cycle) globals

History

#1 - 08/18/2016 03:36 PM - Chen Lim

- Status changed from New to Feedback

- Assignee changed from Chen Lim to James Small

Completed.