

## Asphalt Blending and Storage

**Industry:** Chemical  
**Product:** Network Solutions  
MW100

### Introduction

A leading handler of specialty fluids was looking for a solution to manage various tank farms at many remote locations. The first application was to monitor level and temperature of asphalt storage tanks while performing light control duties including blending. The solution required data-logging, discrete control and a local operator interface for alarm monitoring and blending batches of asphalt. The data acquisition and basic control capabilities of the MW100 combined with a small touch panel operator interface is an excellent match.



### Application

Asphalt storage and batch blending at this facility is a relatively simple process using discrete control. The major functions of storage include: maintaining asphalt temperature in all tanks above asphalt freezing temperature by circulating hot-oil through a heat-exchanger, controlling oil flow by an on/off valve and circulating asphalt throughout the tank by an on/off mixer control. The major functions of batch blending include: operator input of volumes from tank one and tank two to blend into tank three, check for available asphalt from tank one and tank two as well as space in tank three, operator prompt to change manual manifold, automatic pump control for desired volumes of asphalt blend and annunciation to operator when phases are complete.



### Solution

The customer had two goals - remote monitoring of inventory levels and ability to blend batches using discrete control with a simple user interface. The MW100 combined with universal inputs, relay outputs and a small touch screen operator interface was the ideal solution. The sixty channels of math logic within the MW100, including If-Then-Else statements, easily provided enough control capabilities for the pump, hot-oil valves and mixers. The touch screen interface allowed the operator local monitoring of tank levels and temperatures as well as the ability to specify custom batch blending parameters. Headquarters, via the MW100's network interface, is able to remotely monitor inventory levels and download historical records.



Status Screen			
Faults		Interlocks	
UPS Power Loss (NC)		Pump Interlock	
Heat Trace Fault (NC)		H.O. Valve Tank 4 Interlock	
Hot Oil Heater Fault (NC)		H.O. Valve Tank 5 Interlock	
Pump Fault		H.O. Valve Tank 6 Interlock	
Mixer 4 Fault		Mixer Tank 4 Interlock	
Mixer 5 Fault		Mixer Tank 5 Interlock	
Mixer 6 Fault		Mixer Tank 6 Interlock	
Heat Valve 4 Fault	Alarms & Operations		
Heat Valve 5 Fault	Off	Hand	
Heat Valve 6 Fault	Blending	Load Out	

Blending					
Tank 4		Tank 5		Tank 6	
Level (1000 Gal)		Level (1000 Gal)		Level (1000 Gal)	
Temp. (F)		Temp. (F)		Temp. (F)	
Too Little Mix	Too Much to Blend	Blend 5 Vol		Blend 6 Vol	
Reset Blending		Start Blending			
Alarms & Interlocks				In Alarm	