

Background Information for Lot Pay Factor Adjustment Schedules in Engineering
Brief #59A, Item P-401 Plant Mix Bituminous Pavements (Superpave)
Tuesday, July 25, 2006

The engineer/sponsor now have the option to select between two Percent Within Limits (PWL) lot pay factor adjustment schedules (pay schedule). Tables 5 and 6 of the specification are affected.

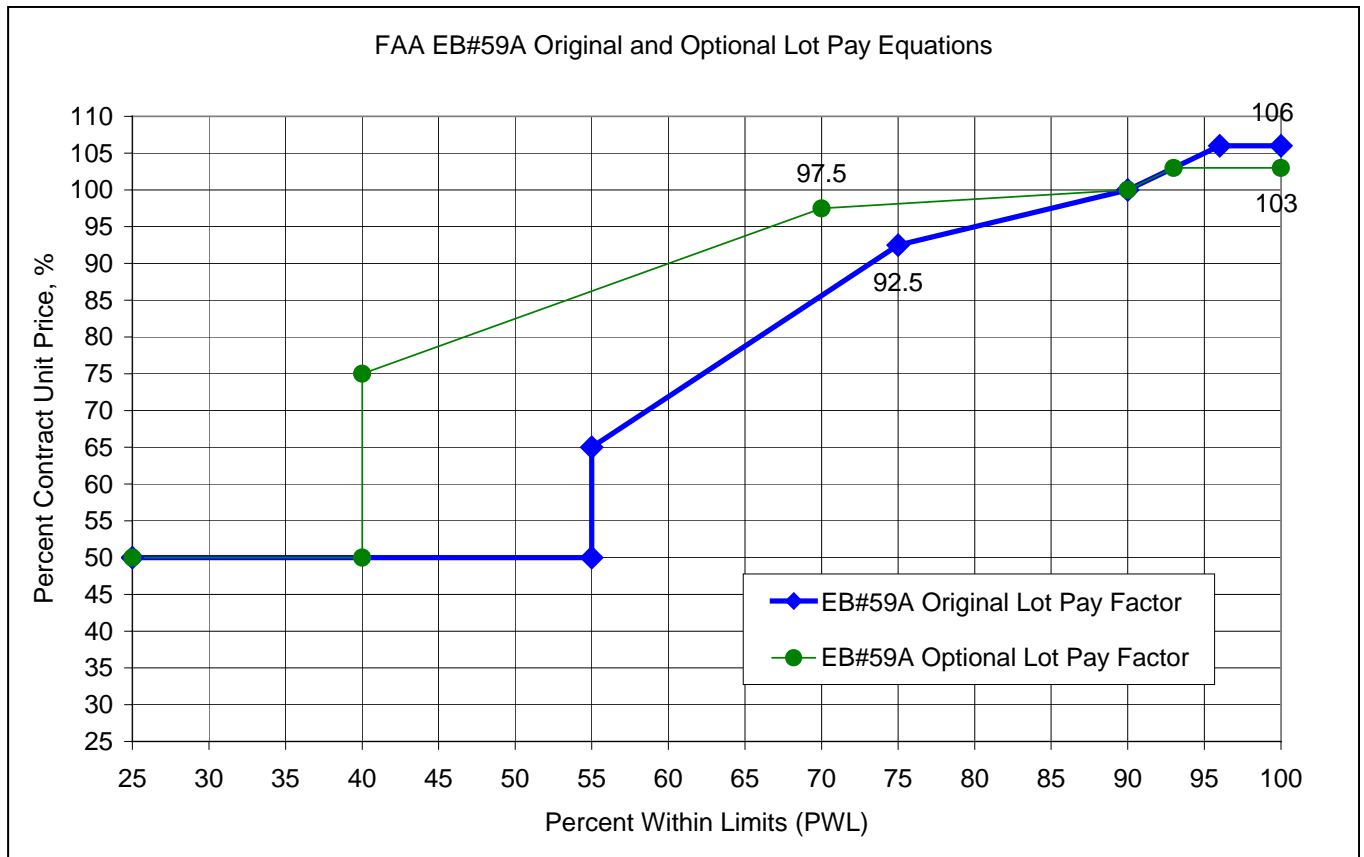
The original pay schedule issued with EB#59 remains. It is modeled after the pay schedule in AC 150/5370-10 Standards for Specifying Construction of Airports, Item P-401 Plant Mix Bituminous Pavements. This original pay schedule uses a lower specification limit based on maximum theoretical density (MTD) and upper and lower specification limits based on air voids. Pay factors, based on percentage of contract unit price, range from 65% at 55PWL to 106% at 96PWL and above. Density acceptance is based on single-sided PWL criteria and air voids acceptance is based two-sided PWL criteria. Density and air voids are evaluated using the original pay schedule.

The optional pay schedule is modeled after the average lot density values found in UFGS 32 12 15 (02749) Hot-Mix Asphalt (HMA) for Airfields (04-2006). This optional pay schedule uses both upper and lower specification limits based on MTD and upper and lower specification limits based on air voids. Pay factors, based on percentage of contract unit price, range from 75% at 40PWL to 103% at 93PWL and above. Density and air voids acceptance is based on two-sided PWL criteria. Density and air voids are evaluated using the optional pay schedule.

Below are comparison tables and a figure that illustrate the pay schedules available in EB#59A.

Lot Pay Factor Schedule

PWL	% Contract Unit Price	
	Current	Optional
100	106.00	103.00
96	106.00	103.00
93	103.00	103.00
90	100.00	100.00
85	97.50	99.38
80	95.00	98.75
75	92.50	98.13
70	86.00	97.50
55	65.00	86.25
40	reject	75.00
<40	reject	reject



Expected Average Lot Pay in the Long Run

Note: A contractor consistently averaging the MTD in this table and producing at a variability, based on coefficient of variation (standard deviation/average) = 1.3/94.5 can expect to average the percent contract unit price in this table.

Percent MTD	Percent Contract Unit Price		
	Original EB#59	Optional EB#59A	UFGS 32 12 15 pay factor
98.00	106.00	77.66	0
97.80	106.00	82.47	0
97.60	106.00	86.84	0
97.40	106.00	90.54	0
97.20	106.00	95.39	0
97.00	106.00	96.93	75
96.80	106.00	98.31	85.7
96.60	105.99	99.48	94.1
96.40	105.98	100.45	98.3
96.20	105.95	101.17	99.6
96.00	105.90	101.65	100
95.80	105.69	101.94	100
95.60	105.42	102.10	100
95.40	105.01	102.17	100
95.20	104.56	102.13	100
95.00	103.87	101.99	100
94.80	102.88	101.70	100
94.60	101.43	101.27	100
94.50	100.59	100.97	100
94.40	99.74	100.63	100
94.20	96.58	99.69	100
94.00	93.44	98.56	100
93.80	89.43	97.21	99.9
93.60	84.84	95.66	99.6
93.40	79.55	91.00	99.1
93.20	74.13	87.21	98.3
93.00	68.65	82.75	97.3
92.80	63.55	77.63	94.1

Jeffrey L. Rapol, Civil Engineer
 Federal Aviation Administration
 Office of Airport Safety and Standards
 Airport Engineering Division
 Washington D.C.