

For the current system:

$$\lambda_1 = \frac{5}{24} = \frac{0.2083 \text{ products}}{\text{hr}},$$

$$\lambda_2 = \lambda_1 = \frac{0.2083}{\text{hr}},$$

$$\lambda_3 = a_3 + \sum_i \lambda_i p_{i3} = 0 + \lambda_1 * 0 + \lambda_2 * 0.1 = 0.2083 * 0.1$$

	Repair Station (per hour)	Inspection Station (per hour)	Combined Station (per hour)
Arrival Rate	0.2083	0.2083	0.0208
Service Rate	0.25	0.3333	0.05
w (mean time in system)	23.981	8	34.247
Product Total time at Facility:			

Table 1: Current System.

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For the proposed system:

$$\lambda_1 = a_1 + \lambda_2 * 0.1$$

$$\lambda_2 = \lambda_1$$

	Repair Station (per hour)	Inspection Station (per hour)
Arrival Rate	0.2315	0.2315
Service Rate	0.25	0.333
Performance Measures		

Table 2: Proposed System