

Chemistry Building Maintenance Analysis

Chemistry Mechanical System Maintenance Analysis						
Fiscal Year	Category	Total Hours	Total Labor Cost	Total Materials Cost	Total Contract Cost	Grand Total
18	PREVENTIVE	75	\$ 3,527	\$ 22,586	\$ -	\$ 26,113
19	PREVENTIVE	97	\$ 4,536	\$ 7,957	\$ -	\$ 12,493
20	PREVENTIVE	138	\$ 5,466	\$ 23,279	\$ -	\$ 28,745
21	PREVENTIVE	99	\$ 4,286	\$ 7,417	\$ -	\$ 11,703
22	PREVENTIVE	87	\$ 3,770	\$ 25,355	\$ -	\$ 29,125
Grand Total		496	\$ 21,584	\$ 86,595	\$ -	\$ 108,179

Fiscal Year	Category	Total Hours	Total Labor Cost	Total Materials Cost	Total Contract Cost	Grand Total
18	CORRECTIVE	535	\$ 24,972	\$ 9,634	\$ 10,076	\$ 44,682
19	CORRECTIVE	482	\$ 22,189	\$ 8,808	\$ 822	\$ 31,819
20	CORRECTIVE	475	\$ 18,313	\$ 2,505	\$ 16,872	\$ 37,690
21	CORRECTIVE	370	\$ 15,454	\$ 4,728	\$ 4,435	\$ 24,617
22	CORRECTIVE	241	\$ 9,794	\$ 2,150	\$ 189,165	\$ 201,109
Grand Total		2103	\$ 90,721	\$ 27,824	\$ 221,371	\$ 339,916

Maintenance Analysis:

NMSU performs regularly scheduled preventive maintenance on the building and fume hood ventilation system for the Chemistry Buildings. A cost analysis was generated for the period of Fiscal Year 18 through May 10, 2021 with a straight-line projection to forecast the remainder of FY 2022. During this time frame NMSU spent \$448,095.00 to perform maintenance and repairs on the systems. Preventive maintenance expenditures account for 24% of the total expense with the remaining 76% on Corrective maintenance. NMSU anticipates reducing corrective maintenance by 25% in FY 2025 with an additional reduction of 30% in FY2026. The projected corrective maintenance savings are \$72,535.00 in FY2025 and \$70,504.00 in FY 2026. This is a combination of labor and materials and our plan is to reinvest the savings into the preventive maintenance program and continued enhancement of the mechanical systems.

Project Benefits:

Performing the project will revitalize the existing systems while extending the useful life. All enhancements will bring the systems up to current ASHRAE recommendations. These are steps that will reduce our deferred maintenance backlog and improve the Facility Condition Index for the Chemistry building. Additionally, upgrading our systems with energy efficient motors and digital controls will provide utility savings.

Project Development:

Facilities Operations needs to be an active participant in the project design. The Maintenance Analysis is based upon a detailed work order review from AiM. The Mechanical shop is the subject matter experts in regards to system deficiencies and challenges. At a minimum we recommend the following items be addressed as part of the project:

1. Create a dedicated comfort ventilation system for the 3 buildings
2. Create a dedicated ventilation system for all fume hoods in the 3 buildings.
3. Commission both systems and upload copies of the commissioning report in AiM

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4. Address root causes of Too Hot/Too Cold trouble calls that remain after commissioning