In the medical products industry, control of pathogens is of critical importance. Optronic Laboratories instrumentation solutions provide the means by which to monitor and mitigate such risks and represent sound capital investments whose cost of ownership are easily justified, a fact well-known to many of our long-time clients.

In the case of one of our customers, a portion of the measurements to be performed by the OL 756 is to provide certification of UV transmittance of certain packaging materials per specifications. This is crucial because the company produces intravenous fluid products, and one of the important safeguards in their production process involves UV irradiation after packages are sealed. Along with other means, this final process step assures annihilation of a broad spectrum of pathogens, making the product safe for use in the treatment of patients. The OL 756 performs necessary measurements that are recorded with other pertinent batch data, maintained for audits, and a digest is reported to the FDA.

A common metric for determining the value of a capital investment, such as the purchase of the OL 756 Spectroradiometer, is the Internal Rate of Return (IRR). The IRR is defined as the rate at which the net present value of all the cash flows (both positive and negative) from a project or investment equal zero. Internal rate of return is used to evaluate the attractiveness of a project or investment. If the IRR of a new project exceeds a company’s required rate of return, that project is desirable. If IRR falls below the required rate of return, the project should be rejected. The formula for IRR is:

\[ 0 = P_0 + P_1/(1+IRR) + P_2/(1+IRR)^2 + P_3/(1+IRR)^3 + \ldots + P_n/(1+IRR)^n \]

where \( P_0, P_1, \ldots P_n \) equals the cash flows in periods 1, 2, \ldots n, respectively; and IRR equals the project’s internal rate of return. IRR is sometimes referred to as “economic rate of return (ERR).”

These UV transmittance measurements assure the safe production of therapeutic products valued in the millions of dollars. Even accounting for all components of the OL 756 solution offered, the IRR for this application is in excess of 10,000%.

This is just one example of how Optronic Laboratories Instrumentation solutions help our partners increase value and growth. Contact us now to learn more about how we can do the same for your enterprise!