

GREENTECH – PV Solar Cells

Calisolar Manufacturing Facility



OVERVIEW

As Process Engineering and Hazmat Consultants, IES provided process utilities and hazardous materials systems design at a new Solar Cell manufacturing facility as an F1- Occupancy in lieu of an H5- Occupancy in Sunnyvale California. IES led Engineering design and Code Compliance effort to implement a new design approach that complied with stringent local building codes while satisfying critical client standards. Our design team coordinated with end users and completed project design in a phenomenal time frame that achieved clients' "Time to Market" business goal.

PROJECT DETAILS

- Retrofit an existing 105,000 sq.ft. warehouse facility into a 55-megawatt solar cell manufacturing facility consisting of:
 - Silicon processing, casting and slicing area
 - Silicon wafer processing and cell fabrication area
 - 2,000 sq.ft. chemical storage & distribution
 - ~ 3,000 sq.ft. Slurry mixing area
 - ~ 15,000 sq.ft. Central Utilities Plant
- Industrial Ventilation and Scrubbed Exhaust Systems
- Process Systems design included central DIW, PCHW, PCW, AWW, HFW Treatment, Slurry Waste drainage and filtration, Process Vacuum, CDA, N2, Ar and O2 systems.
- Chemical Distribution Systems included HF, HNO3, HF, H2SO4, KOH, Acetic Acid, Surfactant and Ethylene Glycol,
- Specialty Toxic and Pyrophoric Gas Pad and distribution systems including NH3 and SiH4.

IES SOLUTIONS

- Avoided building H5-Occupancy Fabrication Facility, which resulted in saving about 3 to 6 months in project schedule and over \$2,000,000
- Obtained Building Permit in Record Time

LOCATION

Sunnyvale, California

TEAM (PARTNERS)

General Contractor - Devcon
 Architect – Devcon
 HazMat Consultant - IES
 Structural - Structural Engineers Inc.
 Mechanical & Process Engineering - IES

PROJECT DURATION

Design & Permit - 3 months
 Construction – 7 months

PROJECT VALUATION

\$10,000,000 - \$50,000,000

ABOUT IES

Integrated Engineering Services (IES) is an established firm providing innovative and cost-effective solutions to meet your complex engineering, design and operational needs.

When experience, knowledge and innovation matter most.

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