



**FORD MOTOR COMPANY
PRODUCT DEVELOPMENT CENTER (PDC)
FUELED VEHICLE REVISIONS
DEARBORN, MICHIGAN**

Completion Date: 2006

Gross Area: 2.3 Million SF

Construction Cost: \$3 Million

Responsibility: Architectural, Mechanical & Electrical Engineering Design Services

Reference: Mr. David Courvall, Ford Land, PDC Property Manager, 313.248.2646

DiClemente Siegel Design Inc.'s architects and engineers were chosen for a two-year construction program at the 2.3 million SF Ford Motor Company Product Development Center (PDC) involving modifications to the facility to allow the presence of fueled and operating vehicles.

The project was complex because of the number of areas affected and the combination of activities required. The PDC is one of the FMC's "flagship" facilities for design and the DiClemente Siegel Design project team is mindful of the project's significance to key design activities at the facility.

In 2003, DiClemente Siegel Design performed an evaluation of the PDC to determine where fueled vehicles were present and what type of vehicle activity was planned in each area. Ford PDC building representatives completed a questionnaire to outline their intended use for each building area.

Their feedback identified five different types of uses:

1. Fueled vehicles present, observed only with less than ¼ tank of gas.
2. Fueled vehicles present and engines running, with no work on the vehicles and less than ¼ tank of gas.
3. Fueled vehicles present, with work on the vehicle body.
4. Fueled vehicles present, with work on the vehicle body and engine.
5. Fueled vehicles present, with the engine running, and a full tank of gas.

These different uses and activities have different code requirements. The study identified the building code requirements, associated with each use. The study also indicated an estimated cost associated with modifying the building to allow the proposed activities to be code compliant. Ford department leaders were then able to prioritize their activities in order to reduce the implementation project cost.

The project included increasing the sprinkler density of over 700,000 square feet of the building. Several areas of the building will require fire rated separations to be classified as "repair garages." Ventilation systems were added or upgraded to provide 1.5 CFM/square foot of outside air and carbon monoxide monitoring will be added where engines operate.

