

## The Client

The California Department of Primary Health Environmental Health Laboratory Branch (EHLB), located on the Department's Richmond campus, is responsible for analyzing environmental and biological samples for the presence and quantities of toxic substances such as pesticides and lead, physical agents such as asbestos, and biologically derived airborne contaminants such as molds.

## The Challenge

Richmond Labs is located within 200 yards of a huge cold storage facility with the hazard and potential to release anhydrous ammonia refrigerant into the air; sandwiched between the freeway and an industrial complex of refineries and factories.

The Lab operates a very sensitive ammonia analyzer and weather station equipment on the roof (among other locations), but their current technology does not allow for *realtime identification* of air-release hazards combined with incident notification — at best, it is historical data.

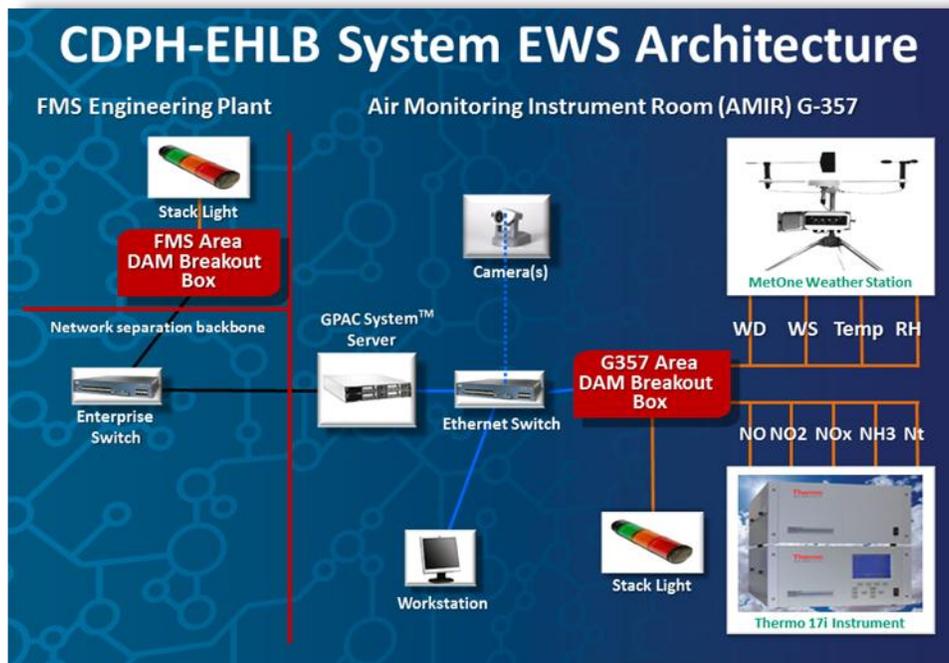
In the event that toxic material is released into the air, the EHLB is responsible to ensure that the Facilities Management Section (FMS) personnel respond appropriately. Emergency responses will vary according to the specific situation, whether the source is the freeway (a truck may have rolled over) or the industrial complex (a major accident or intentional violation may occur).

Use of the weather station to detect the wind direction and speed, in combination with the air-quality analyzer and enunciation sensors (flashing lights) would provide the desired result for the FMS.

- Due to the danger of not having the capability to respond with an air handler shut down within seconds of toxic material being released into the air, the health over 1350 staff on campus was threatened.
- The main challenge was to integrate the functionalities of both the weather station and the analytical equipment to provide an Early Warning System with alerts being sent out in real-time to respective responders.

## The Solution

The GPAC System™ delivered integration of a COTS system to provide real-time alerts and access to data and video across multi-vendor equipment. It provides an open-standard platform which enables integration with almost any off-the-shelf sensors, equipment, cameras or devices — and it does it cost-effectively, with *real-time access to data and video*. The software offers networked or stand-alone data acquisition, storage, and conditional triggering COTS capabilities to monitor wind direction and the rate of change of the ambient ammonia level to detect a potential leak. When a leak is detected — ambient levels transcend prior set trigger levels — the system activates warning lights to alert the FMS to execute their response procedure, such as an air handler shut down.



# Early Warning System

## Simple Implementation

ETCorp was commissioned by Richmond Labs to integrate data from its air quality analytical equipment and weather station with the GPAC System™. The GPAC System™ software was installed on a server, the FMS electricians installed and connected the wiring, and the result was an innovative Early Warning system (EWS) solution. The GPAC System™ software made it easy — Benefits With Simplicity — to integrate existing systems, sub-units and the various environmental sensors.

## Effective Results

Richmond Labs now pro-actively guards against the potential hazard of ammonia discharges and leaks.

- The Facilities Management personnel gained the ability to respond within seconds of an ammonia release
- The health over 1350 staff are now safeguarded on campus

The newly commissioned Early Warning System integrated a Model 17i Chemiluminescence NH<sub>3</sub> Analyzer with a MetOne Weather Station giving the client access to data anywhere, anytime, via the Internet. The whole system can be controlled via the Internet to retrieve data, set trigger alarms or provide scheduled data logging.

## About the GPAC System™

The GPAC System™ is one of the first Open Architecture products to provide the flexibility customers need to integrate all types of sensors into one monitoring solution in a plug 'n play fashion providing instant web visibility to the equipment, remote configurability, and the addition of vision through cameras. The cost-effective, scalable, and flexible networked system design allows our customers' systems to grow as requirements expand, opens new market areas for our partners, increases functionality, and brings instant web capability to any equipment or integration project. This flexibility is built into all aspects of the GPAC System™, allowing for any number of custom interfaces & secure integration with other sub-systems/units, surveillance, monitoring, or alarm solutions.

## Benefits From Simplicity

The GPAC System™ easily integrates equipments, sensors (input/output) and cameras from a diverse range of suppliers to provide real time alerts, video and the control of devices over secure web/cloud interface. This state of the art solution features:

- **Secure Real Time Data** – access data from any web browser with no need for a site visit
- **Secure Remote Access** – access data from any sensor, camera or device anytime, anywhere
- **Secure Integrated View** – view real-time camera footage alongside actual environmental parameters
- **Secure Data Sharing** – web-based monitoring allows multiple resource managers to access data simultaneously
- **Video Surveillance** – high resolution day/night vision from IP and analog cameras
- **In-depth Data Logs for Forensics** – forensic level logging capability
- **Early Warning** – alerts for impending issues before they occur; timely alert messages for critical data alarms triggered by sensors levels
- **Portability** – open standards/vendor neutral operating platform and data formats
- **Security** – hardened platform with secure access control, data quality and compliance checks
- **Scalability/Flexibility** – TCP/IP network base; quickly and easily deployed and expanded

