Jose O. Alvarez

PROFESSIONAL HISTORY:

Risk Management Professionals, Inc., Irvine, CA; Project Engineer

EDUCATION:

Bachelor of Science, Chemical Engineering
University of California, Riverside

Mr. Alvarez graduated from the University of California, Riverside with a Bachelor of Science degree in Chemical Engineering. Currently, Mr. Alvarez provides technical support as a Project Engineer for Risk Management Professionals.

Since joining Risk Management Professionals, Mr. Alvarez has been immersed in multiple aspects of the United States Environmental Protection Agency (US EPA) Risk Management Plan (RMP), Occupational Safety and Health Administration (OSHA) Process Safety Management (PSM) Program, and California Accidental Release Prevention (CalARP) Program development. Mr. Alvarez has been involved with:

- Process Hazard Analyses (PHAs) and Hazard Reviews (HRs), including Hazard & Operability (HAZOP) Study
- Layer of Protection Analysis (LOPA)
- Risk Management Plans (RMP) / Process Safety Management (PSM) Programs
- California Accidental Release Prevention (CalARP) Program
- Toxic and Flammable Gas and Liquid Dispersion Modeling
- Hazardous Materials Inventory Calculations

While Mr. Alvarez has experience in diverse product lines, all completed projects have used high-end qualitative and/or quantitative risk analysis techniques for decision-making. He has been involved in a variety of engineering projects across several industries, including the following fields:

- Petroleum (Production, Refining, Storage)
- Chemical Manufacturing

PROJECT EXPERIENCE

Process Hazard Analyses

Mr. Alvarez has been the technical scribe for PHAs and Hazard Reviews (HRs) using the HAZOP and LOPA methodologies for varying facilities. The following list is representative of projects that Mr. Alvarez has provided technical scribing support for in the conceptual design stages, detailed design stage, and operating cycle.

- *Sulfur Recovery Unit - Refinery, Garyville, LA* – Provided HAZOP/LOPA scribing support over the course of two weeks for the five-year redo PHA of the Sulfur Recovery Unit. The PHA was conducted in person and the PHA Team included personnel from various sectors of the refinery. Preparation support for the PHA included separation and delineation of P&IDs/PFDs into nodes, as well as pre-causing documentation of various hazard scenarios to be reviewed during session.
- *Straight Run Gas Plant - Refinery, Woods Cross, UT* – Provided remote HAZOP scribing support for a refinery in Woods Cross. The PHA specifically analyzed the conversion of rich gas and light hydrocarbons to isobutane and butane, so that it may then be sent for further processing. As part of the PHA, the Team reviewed relevant MOCs, previous incidents, external events, human factors, facility siting, and other general issues. Scribing support for this PHA was conducted remotely using Webex software over the course of two weeks.
- *HF Alkylation Unit - Refinery, Woods Cross, UT* – Provided remote HAZOP scribing support for a refinery in Woods Cross. There were several key members from the refinery involved in this PHA due to the high severity of this unit.
- *Temporary Rental Boiler - Refinery, Salt Lake City, UT* – Provided HAZOP/LOPA scribing support associated with the application of two temporary rental boilers that will be installed at a refinery in Salt Lake City. The PHA specifically reviewed the boiler feed water and steam from the rental boilers as well as the fuel supply and burner system for the rental boilers. The PHA Team included key representatives from the third-party rental boiler manufacturer who were also in charge of operating the boiler.
- *Cogen Boilers - Refinery, Salt Lake City, UT* – Provided HAZOP/LOPA scribing support over the course of six days for the five-year redo PHA of the Cogen Boiler Unit. The scope of this PHA involved taking a closer inspection at the recovery of the combustion gases and how those gases were transformed into thermal energy. This was an onsite PHA that involved working with several key engineers and operators at the facility.
- *LPG Unit - Refinery, Martinez, CA* – Provided HAZOP/LOPA scribing support for a five-year redo PHA for the storage, unloading, and transfer of LPG. Scribing support for this PHA occurred over a span of one week onsite with several refinery personnel.

CalARP/RMP/PSM Program Development and Updates

Mr. Alvarez has been deeply involved with the development of California Accidental Release Prevention (CalARP) Programs, RMP, and PSM Programs for certain industries and processes. As part of these efforts, he has conducted Offsite Consequence Analyses (OCA), external events analyses, dispersion modeling, recommendations review, program development, United States Environmental Protection Agency (US EPA) and Administering Agency (AA) submittals, and review. Mr. Alvarez has been working closely with regulators to help his clients stay ahead of regulatory requirement amendments. Below is a partial list of projects for which Mr. Alvarez has provided CalARP/RMP/PSM Program Development/Update support:

- *Polyurethane Foam Manufacturing - Chemical Manufacturing Plant, Riverside, CA* – Developed a five-year update of the Hazard Assessment/Offsite Consequence Analysis for an RMP/PSM Program 3 facility regulated for their onsite methyl formate and toluene diisocyanate storage and handling.

Industries Served

The following is a partial list of industries that Mr. Alvarez has managed and/or provided technical support:

- Oil and Gas
- Manufacturing/Chemical Processing
- Ammonia Refrigeration Systems
- Engineering, Procurement
  Construction and Management