

# Aleksandar Metulev

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## **PROFESSIONAL HISTORY:**

*Risk Management Professionals, Inc.; Irvine, California; Senior Engineer (2014 – Present)*

## **EDUCATION:**

*Bachelor of Science, Chemical Engineering, University of California, Irvine*

*Bachelor of Science, Materials Science and Engineering, University of California Irvine*

## **CERTIFICATIONS**

*LOPA Facilitation – Phillips 66*

## **PROFESSIONAL AFFILIATIONS:**

*American Institute of Chemical Engineers (AIChE)*

*Tau Beta Pi Engineering Honors Society*

*Omega Chi Epsilon Chemical Engineering Honors Society*

*Alpha Sigma Mu Materials Science Honors Society*

Mr. Aleksandar Metulev graduated from the University of California, Irvine with Bachelor of Science degrees in



both Chemical Engineering and Materials Science and Engineering. During his education he developed an innovative method to study the rheological properties of a fluid moving through a medical syringe needle. Furthermore, he was also involved as the materials lead in the development of the S-Wire, a patent pending, award winning, and innovative guidewire solution used for breast biopsy. As part of the guidewire team he was also involved in the creation of an extensive business plan.

Since joining Risk Management Professionals, Mr. Metulev has been immersed in multiple aspects of United States Environmental Protection Agency (US EPA) Risk Management Plan (RMP), Occupational Health and Safety Administration (OSHA) Process Safety

Management (PSM) Program, and California Accidental Release Prevention (CalARP) Program development. Mr. Metulev has been involved with:

- RMP/PSM Compliance Audits
- Emergency Action Plan Development
- PSM Programs and their individual elements
- Process Hazard Analysis (PHA), including Hazard & Operability (HAZOP) Studies
- What-if and Checklist Analysis
- Piping and Instrumentation Diagram (P&ID) drafting using AutoCAD software
- Operating Procedures

While Mr. Metulev 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 fields of:

- Gas Processing and Transport,
- Petroleum
- Aqueous and Anhydrous Ammonia Systems.
- Silane Production
- Pharmaceuticals
- Chemical Production

## **PROJECT EXPERIENCE**

### **Process Hazard Analysis (PHA)**

- Fluid Catalytic Cracking Unit, Northern California – Provided HAZOP/LOPA facilitation support for a refinery Fluid Catalytic Cracking Unit servicing upwards of 68,000 Barrels of Oil per day.
- Offshore Production Platforms, Southern California – Provided HAZOP facilitation support for three separate oil producing platforms.
- Selective Catalytic Reduction (SCR) Unit, Spokane, WA – Provided HAZOP facilitation support for an SCR unit used for reduction of NOx emissions.
- Ammonia Etching System, Orange, CA – Provided HAZOP facilitation support for the facility. The HAZOP included the Ammonia Etching System as well as all utilities and Ammonia storage.
- Well Site Injection Pumps, Tupman, CA – Provided HAZOP facilitation support for the facility. The HAZOP included injection of wastewater into well sites for gas/oil extraction.
- Ammonia Refrigeration System, City of Industry, CA - Provided HAZOP facilitation support for the facility. The HAZOP included the entire refrigeration system spanning including multiple compressors, high pressure vessels and refrigeration room evaporators.
- Ammonia Refrigeration System, Atlanta, GA - Provided HAZOP facilitation support for the facility. The HAZOP included the entire refrigeration system spanning including multiple compressors, high pressure vessels and refrigeration room evaporators.
- Batch Process - Pharmaceuticals, Torrance, CA – Provided HAZOP facilitation support for the facility. The HAZOP included two distinct batch processes utilizing Hydrofluoric Acid and piperidine.
- LARIC Project Support – Provided HAZOP scribing and documentation support for multiple units during the Tesoro LARIC project design phase.

- Floating Production Storage and Offloading (FPSO) Vessel - Design Phase, Houston, TX – Provided HAZOP scribing and documentation support. The HAZOP included the separations process associated with a deep see oil offloading vessel.
- Silane Production System, Moses Lake, WA – Provided HAZOP scribing and documentation support. The HAZOP studies included the distillation, hydrogenation and chemical storage. The chemicals involved were, monochlorosilane, dichlorosilane, trichlorosilane, silane tetrachloride and silane.

### **General HSE/PSM/RMP Support**

- High Temperature Materials Manufacturer, Huntington Beach, CA – Long term HSE/PSM/RMP Support. Assisted with review and development of multiple PSM/RMP documentation as well as other OSHA documentation. Involved with the implementation of multiple company-wide standards and facilitation of variety of risk assessment. Provided HSE and MOC support for the commissioning of a brand new facility, The elements included: Mechanical Integrity, Process Hazard Analysis, Pre-Startup Safety Review, Hot Work Permit, Management of Change Program, Incident Investigation Program, Employee Participation, Hazardous Communication Written Policy, Lock Out Tag Out Procedure, Failure Mode Effects Analysis.

### **Compliance Audit (CA)**

- Power Generation Plant, Kingman, AZ – Performed the triennial Compliance Audit for the facility. The Compliance Audit included the Selective Catalytic Reduction System as well as all utilities and Ammonia storage.
- Power Generation Plant, Hermiston, OR – Performed the triennial Compliance Audit for the facility. The Compliance Audit included the Selective Catalytic Reduction System as well as all utilities and Ammonia storage.
- Reverse Osmosis Water Treatment, Alameda, CA - Performed the triennial Compliance Audit for the facility. The Compliance Audit included the Ammonia Blending System as well as all utilities and Ammonia storage.
- Water Treatment Plant, Santa Fe, CA – Performed the triennial Compliance Audit for the facility. The Compliance Audit included the Chlorine and Ammonia Purification Systems as well as all utilities and Ammonia/Chlorine storage.

- Ammonia Refrigeration System, Union City, CA – Performed an Audit of the CalARP/PSM/RMP documentation. The Audit included the Ammonia Refrigeration System.

### **RMP/PSM Program Development and Updates**

- *Ammonia Refrigeration System, Atlanta, GA & Union City, CA*– Development of a full EPA RMP/OSHA PSM program, including development of documentation for the facility Process Safety Information, Process Hazard Analysis, Operating Procedures, Training, Mechanical Integrity, Management of Change, Pre-Startup Review, Incident Investigation, Employee Participation, Hot Work Permit, Contractors.
- *Refinery, Santa Maria, CA* – Developed and updated the full program for a CalARP Program Level 1 refinery.

### **Client Involvement**

The following is a partial list of clients that Mr. Metulev has managed and/or provided technical support

#### **Municipalities**

- City of Cerritos
- City of Downey
- City of Calexico
- City of Paramount
- Santa Barbara County

#### **Manufacturing**

- |   |                                |
|---|--------------------------------|
| • Rolls-Royce High Temperature Composites | • Cirtech Printed Circuits     |
| • Alcoa Fastening Systems                 | • REC Silicon                  |
| • Lisi Aerospace                          | • Bachem Americas              |
|   | • Medical Chemical Corporation |

#### **Ammonia Facilities**

- |                                     |                          |
|-------------------------------------|--------------------------|
| • Provender Partners (Cold Storage) | • Griffith Energy        |
| • Orchard Partners                  | • Hermiston Power Plant  |
| • Sunrise Growers                   | • Pepsi Bottling Company |

## **Oil and Gas**

- Sothern California Gas Company
- California Resources Corporation
- Occidental Petroleum
- BETA Offshore
- Chevron
- Matrix Oil Corporation
- Tesoro
- Phillips 66

