# CONTROL ROOM MANAGEMENT (CRM) CONSULTING SERVICES

## OUR SOLUTIONS

Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations require pipeline operators to have and follow written control room management (CRM) procedures for those pipelines that have controllers monitoring and controlling regulated pipeline facilities using supervisory control and data acquisition (SCADA) systems. These CRM plans include requirements for operations, fatigue management, alarm management, change management, training, and extensive record keeping.

EN Engineering's team of professionals has extensive experience in Control Room Management compliance. We are well-versed in current and pending regulations and have executed both broad and focused projects on CRM compliance.

Current projects include development of a consolidated alarm management plan to be used across multiple control rooms, post-audit remediation support, and CRM team training development and execution to both gas and liquid controllers.

**ENCONSULTING**

## CRM Plan Services

- Develop and update Control Room Management plans

## CRM Audit

- Analysis of CRM plans and procedures for regulatory compliance
- Pre-Audit Preparation Support
- Post-Audit Response Support
- API 1165 HMI Audit and Implementation Support

## Operating Procedures

- Development of Normal, Abnormal, and Emergency Operating Procedures
- Develop Internal Communications procedures
- Create Shift Change procedures

## Fatigue Management

- Develop and conduct work load studies
- Facilitate Development of Strategic Hours of Service Plans
- Develop Staffing and Crew Sizing Plans

## Training

- Create & Review training plans
- Develop Controller Training Materials
- Develop and Conduct Team Training

## Alarm Management

- Develop Alarm Management Plans
- Provide Alarm Rationalization Assistance
- Develop Alarm Management Philosophy
- Construct Point-to-Point verification procedures