



## MEMORANDUM

July 20, 2017

Mr. Nathan Eady  
Vice President  
SCS Tracer Environmental  
2601 Skyway Drive  
Santa Maria, California 93455

Re: Preliminary Fire Protection Review  
Line 901/903 Replacement Project  
Santa Barbara, San Luis Obispo & Kern Counties, California

Dear Mr. Eady:

This memorandum summarizes our preliminary fire protection evaluation for the proposed pump and valve stations planned as part of the potential Line 901/903 Replacement Project. This preliminary summary is based upon our review of the provided pump station site documents and our field survey of four existing sites which are representative of the facilities found throughout the project.

### I. General Fire Protection Requirements:

The general fire protection requirements for the existing and proposed pump stations include the evaluation of the following with respect to state and local codes and established standards:

- Individual site fire risk hazard scenarios
- Storage of flammable or combustible liquids, including crude oil
- Fire detection and suppression requirements
- Required emergency water supplies
- Fire department access to the site
- Site hazard management

The above items are generally addressed for compliance with the following:

- California Fire Code
- State, County and Local Ordinances
- NFPA Standards
- API Standards

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## II. Site Description Summary:

The proposed pipeline replacement project may include the following pump station sites:

- Las Flores Pump Station
- Gaviota Pump Station
- Sisquoc Pump Station
- Russell Ranch Pump Station
- Pentland Pump Station

The pump stations include crude oil booster pumps, line heating units, piping, valves, related appurtenances, control systems and pipeline access points.

The existing Las Flores Pump Station, operated by Plains, is located within the greater boundaries of the Santa Ynez Unit (SYU) facility which is currently owned and operated by ExxonMobil. Existing ExxonMobil crude oil storage tanks are located separately at a distance from the Las Flores pump station; there are no crude oil storage tanks on the Las Flores pump station. The remaining pump stations do not have crude oil storage tanks. As part of the proposed project, a crude oil storage tank may be added to the existing Sisquoc Pump Station (discussed in greater detail below).

The existing pipeline system currently has a total of fifteen (15) control valve stations. Site visits were conducted at two (2) typical valve stations located adjacent to Refugio and Santa Rosa Roads. As part of the proposed project, existing valve stations will be retained and approximately thirty-one (31) valve stations will be added.

The valve stations serve as pipeline sectional control valves with both manual and automatic valve operation capability. The valve stations include above ground isolation valves, control units and diesel powered emergency generators.

## III. Fire Protection Requirements:

A complete fire protection hazard evaluation/technical with accompanying master fire protection plan will be completed for each of the sites in conjunction with the final design and construction documents for the individual site. The following items will be addressed in the final fire protection master plan for all of the sites:

- Fire department emergency road access, design and maintenance.
- Defensible space and vegetation management.
- Fire extinguishers and general fire protection requirements per the California Fire Code and local ordinances.
- Hazard identification signage per the requirements of NFPA 704.
- Engineering recommendations in accordance with NFPA codes, API standards, the California Fire Code, and Santa Barbara County Fire Department (SBCFD) requirements.
- Site documents required to illustrate required fire protection systems.

### Pump Stations:

The existing pump stations represent higher fire risk hazards than the valve stations due to a combination of the booster pumps, heating units, valving, transfer equipment and associated appurtenances. The stations currently include a varied combination of the following fire protection measures:

- Fire detection (flame detection) systems
- Alarms
- Wet barrel fire hydrants connected to stored water sources
- Fire extinguishers
- NFPA 704 signage
- Emergency shut down stations
- Manual AFFF foam hand line system (Las Flores only)
- Spill containment areas

Based on the observed fire protection currently installed at the existing pump station sites, we do not anticipate a substantial increase in additional fire protection infrastructure for the existing stations, with the exception of the Sisquoc station. Upgrades and additions to the fire protection at the existing sites are currently being addressed on an individual basis.

### Sisquoc Pump Station:

An increased fire hazard risk will be associated with the Sisquoc Pump Station in conjunction with the potential installation of a large (120,000 bbls) crude oil floating roof storage tank at the site. The proposed crude oil storage tank will be approximately 134' in diameter with a 38' height, located in a 415' x 415' containment area.

AFFF foam fire protection will be required for the protection of this new tank installation, including separately controlled foam application systems for both the tank and the containment area. Our preliminary evaluation of the foam system design and application requirements is based on NFPA 11, Standard for Low Expansion Foam. The system components will include the following:

- Fixed foam delivery system for the containment area, utilizing foam discharge units located on the containment area perimeter walls and/or fixed foam monitors.
- Fixed foam delivery system for the floating roof tank, either top-of-seal or below-the-seal systems.
- New fire protection water storage tank, approximately 500,000 to 750,000 gallons of stored water pending the final tank and containment area design.
- AFFF concentrate storage tanks.
- UVIR flame detection and alarm system.
- Additional site hydrants

Control Valve Stations:

Per our site surveys and subsequent evaluation, the pipeline sectional control valve stations do not present a high risk of fire due to the limited equipment and their respective function. Fire protection requirements will primarily include vegetation management, emergency access and required hand held fire extinguishers. The stations will be continuously monitored for operational status as part of the overall pipeline system.

Thank you for the opportunity to provide this preliminary evaluation. Please contact our office with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Collings". The signature is written in a cursive style with a long, sweeping tail on the final letter.

Jack Collings, F.P.E.