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SOP

Western Municipal Water District

Standard Operating Procedures

Upper SARI System Earthquake Response

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APPROVED:

Wastewater Operations Manager

Date

Annual Reviewer				
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SAFETY

— NOTE FLOW RATES FOR ANY METERS — DISMANTLED ON MAINTENANCE. MEASURE FLOW DEPTH AT ~~THIS~~ PORE —

SAFETY

Introduction

* The Santa Ana Regional Interceptor or SARI Line as it is more commonly referred to be comprised of approximately 93 miles of 16 inch to 84 inch diameter pipes San Bernardino, Riverside and Orange Counties. The Upper SARI system includes reaches that are upstream of the Orange/Riverside County line. The total length of these upper reaches is approximately 72 miles. Reaches IV, IV-A, IV-B, IV-D, and IV-E include approximately 49 miles of gravity pipeline ranging from 16 to ~~80~~ inches. Pipeline materials include polyvinyl chloride (PVC) pipe, reinforced concrete pipe (RCP), vitrified clay pipe (VCP), high density polyethylene pipe (HDPE), PVC lined reinforced concrete pressure pipe (RCPP), concrete encased steel pipe, and cement mortar lined and coated (CMLC) steel pipe. Reach V is a low-pressure force main approximately 23 miles long, and is constructed of PVC and HDPE pipeline ranging in diameter from 24 to 30 inches. Watershed

* The Santa Ana Watershed Project Authority (SAWPA) owns the Upper SARI System and owns capacity rights in the section of the system downstream of the Orange/Riverside County line. The member agencies of SAWPA are San Bernardino Valley Municipal Water District (SBVMWD), Eastern Municipal Water District (EMWD), the Orange County Water District (OCWD), Inland Empire Utility Agency (IEUA), and Western Municipal Water District (WMWD). In addition to these member agencies, a number of additional discharges have been permitted to discharge into the SARI, but are not involved in the operations and maintenance of the pipeline. Discharges to the Upper SARI reaches consist of desalters, industrial dischargers, failsafe connections, domestic dischargers, and indirect dischargers. Of these, the six desalters constitute the majority of the effluent volume in SARI.

* SAWPA is responsible for the operation and maintenance, repair and replacement for Reach IV, IV-A, IV-B, IV-D, IV-E, and Reach V of the SARI System, including connection facilities and meters. SAWPA is also responsible for monitoring both the quality and quantity of wastewater discharged into the SARI System. SAWPA has been authorized to delegate these responsibilities by contract to a third party. Currently SAWPA has elected to delegate maintenance and monitoring activities to WMWD, IEUA and EMWD.

* Western Municipal Water District is responsible for maintenance activities for Reach IV-A (lower), IV-B, IV-D, IV-E, V, and, CRC. Inland Empire Utility Agency is responsible for maintenance of Reach IV-A (north of Pine Ave and El Prado).

EMWD is resp. for P&S

Purpose of Earthquake Response

Many known and unknown, potentially active faults are located within the general area of the Brine Line. These faults have the capability to produce significant ground accelerations which may result in a break and/or failure, and may cause an SSO from the Upper Brine Line conveyance system. In particular, Reach V runs approximately

parallel to the Elsinore fault zone, which runs in a northwest/southeast orientation just south of the City of Corona. This pipeline segment may be high risk for failure due to an earthquake event. The SARI also crosses the Yorba Linda fault line in Orange County.

An earthquake event of sufficient magnitude could result in damage to the Brine Line conveyance system resulting in a Sanitary Sewer Overflow (SSO). SAWPA Staff must be notified in the event that any damage occurs within this conveyance system. Should an earthquake be located near to this system, WMWD staff shall immediately deploy crew (s) to conduct inspections of the Brine Line Reaches to ensure the system has not sustained damage and if damage is noted it is immediately reported and sufficient action taken to contain and control ~~and~~ spills.

Earthquake Response Activation Sequence

In the event that an earthquake is either felt or is reported in a location of 40 miles or less from any Brine Line conveyance system with a magnitude of 5.0 or greater, the following action is to be taken:

1. SAWPA staff is to be notified that WMWD staff is initiating an inspection of the Brine Line conveyance system.
2. The WMWD supervisor is to be notified and coordinate all associated field activities.
3. The supervisor or his designee will determine the number of staff needing to respond and shall begin notification process.
4. All Brine Line inspections are to be documented, including digital photographs taken as needed.
5. SAWPA staff is to be frequently updated as to the progress of the inspections and any damage that has been discovered.
6. SAWPA staff will be the point for any regulatory or other notification requirements associated with the incident.

Note: if the earthquake is of significant magnitude the Western Emergency Response Center (EOC) may be activated and field activities will be coordinated from this location.

The following web site shall be used in monitoring local seismic activities:

? www.earthquake.usgs.gov/earthquakes/recenteqs.asp
Inspection Procedures

After it has been determined that an inspection of the Brine Line conveyance system is required as the result of an earthquake of sufficient magnitude, the following inspection procedures shall be undertaken:

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SAWPA or WMWD Supervisor to contact OCS Ops Center to advise of situation and request notification of any change.

1. The WMWD Collections Operations Supervisor or his designee shall take control of all field activities.
2. Contact shall be made with SAWPA staff as quickly as possible.
3. Staff shall be assigned specific Reaches of the Brine Line to physically inspect.
4. Each Reach of the Brine Line inspected shall be documented using the Brine Line Inspection Form (Attachment A)
5. Inspectors shall provide sufficient documentation of any noted conveyance system damage or failures using both written and digital photographs
6. Any spills noted shall be immediately reported to SAWPA staff and to the WMWD Collections Operations Supervisor.
7. SAWPA Staff, or the WMWD Collections Operations Supervisor, shall determine the extent to which inspections shall be conducted during each seismic event.

Spill Response Procedures

A response crew, which may include SAWPA, IEUA, EMWD, OCSD, and WMWD staff, as well as contractors, should be dispatched to the overflow site to conduct mitigation and containment activities. The first personnel who arrive have the responsibility of protecting public health and safety to the maximum extent possible. If it is determined that the overflow is not SAWPA's responsibility, however there is imminent danger to public health, public or private property, or the quality of waters of the United States, then emergency action should be taken by SAWPA's crew until the responsible party assumes the responsibility. The response crew should take the following actions upon arrival at an overflow location:

- Determine the cause of the overflow
- Take immediate action to stop the overflow. If an overflow on private property threatens public health, extraordinary measures may be taken to protect public health
- Identify and request any needed assistance or resources to determine the overflow cause and prevent further discharge
- Estimate volume of the SSO to the nearest 1,000 gallons
- Determine if private property is affected
- Request additional personnel, materials, supplies, or equipment that will expedite and minimize the impact of the overflow.

WMWD staff shall follow the Upper Santa Ana Regional Interceptor Overflow Response Plan (Attachment B) when responding to any SSO incident.

Areas to be inspected first are those closest to the earthquake epicenter