

Inland Feeder Shutdown

Partnering and Problem Solving to Ensure Reliable Operations

In the early 2000s, Metropolitan constructed the Inland Feeder to transport water from the State Water Project at Devil Canyon to Diamond Valley Lake, the Lakeview Pipeline, or Colorado River Aqueduct. The California Department of Water Resources installed a flowmeter, IF-0, downstream of Devil Canyon to measure and bill the flow through the Inland Feeder to Metropolitan. During this low SWP supply year, Metropolitan did not plan on using the Inland Feeder, so DWR and Metropolitan coordinated a shutdown to allow DWR to replace the existing IF-0 flowmeter transducers and appurtenances to improve the accuracy of the meter.

C&D staff isolated the Inland Feeder from Devil Canyon to PC-1 and dewatered portions of the pipeline to allow DWR, contractors, and Metropolitan staff to have a safe work zone within the pipeline. SRS worked with the San Bernardino County Department of Public Works to acquire the necessary clearance for dewatering into the adjacent creek. Environmental Planning also supported the shutdown by performing a biological survey and monitoring the dewatering operations to ensure no impacts to the creek.

As we've learned during shutdowns, always be prepared for the unexpected and this shutdown was not unique. During pipeline isolation, DWR's primary isolation valve leaked-- this delayed the schedule as DWR addressed the leaking valve to ensure a safe work zone. DWR experienced another delay when the manufacturer sent the wrong transducers. These delays required DWR to reschedule training for Metropolitan staff on maintaining the new flowmeter during start-up testing. In addition, WSO's Maintenance Engineering and ESG's Field Survey staff had to reschedule 3D surveys and detailed measurements on the IF-0 flowmeter. Precise measurements and calculations are important to verify DWR's data and the IF-0 flowmeter parameters which affect the flow readings.

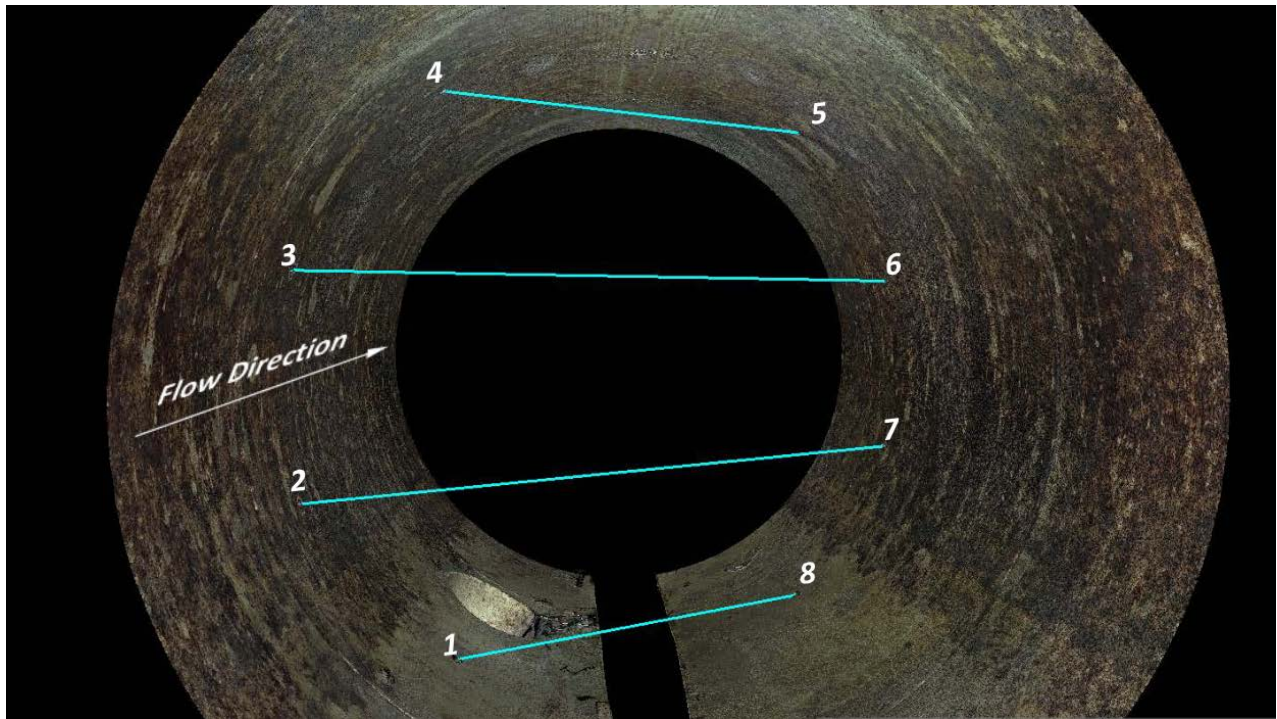
After the shutdown, Metropolitan and DWR compared measurements and noted a discrepancy at one of the transducer paths. Upon further review, it was determined that the laser measurement was distorted due to the light reflection and translucent transducers. The measurement was reevaluated and ultimately revised. This example shows the benefit of having multiple measurements performed that can be cross-checked and provide extra confidence that the meter is providing accurate flow measurements. This shutdown is another example of the adaptability of WSO staff, as well as the collaboration across groups and with our DWR partners, to do what it takes to ensure the reliability of our system and meet our customer expectations.



ESG's Matt Corcoran (Field Survey) preparing the 3D laser scanner to scan the Inland Feeder



WSO's Scott Radel (Maintenance Engineering) records handheld laser measurements



Point cloud image captured in the 3D survey illustrating the transducer paths



Close-up photo of a newly installed transducer used to determine the flow rate