

**PG&E: Pre-September 12, 2011 CPSD Memo Hydrotests with Spike Tests Unadvisable**

**Hydrotest Program hydrotests that will not have a spike test because the test is against a valve that is pressurized on the other side or exceeds valve seat test pressure**

| Ref Number   | Test Number | Test Date | Line | OD    | WT    | Grade  | Long seam | Class Location | Test Multiplier | MAOP | Min. Test P | % SMYS @ min. test | Max. Test P | % SMYS @ max test | Test Footage   | Limiting Factor   |
|--------------|-------------|-----------|------|-------|-------|--------|-----------|----------------|-----------------|------|-------------|--------------------|-------------|-------------------|----------------|---|
| 1            | 76 (Test 2) | 8/28/2011 | 300B | 34.00 | 0.500 | 52,000 | DSAW      | 1              | 1.25            | 894  | 1118        | 73.1               | 1223        | 79.97             | 51             | Tested upstream (MAOP 700) and downstream (MAOP 894) of MLV 0.45 assembly. Maximum test pressure equal to seat test pressure of 4 ea. 24" tap valves tested in closed position. |
| <b>Total</b> |             |           |      |       |       |        |           |                |                 |      |             |                    |             |                   | <b>51 feet</b> |   |

**Hydrotest Program hydrotests that will not have a spike test because, with elevation differences factored in, the spike test would exceed a safe test pressure**

| Ref Number   | Test Number | Test Date | Line | OD    | WT            | Grade  | Long seam |   |      |     |      |       | Max. Test P | % SMYS @ max test | Test Footage       | Limiting Factor   |
|--------------|-------------|-----------|------|-------|---------------|--------|-----------|---|------|-----|------|-------|-------------|-------------------|--------------------|---|
| 2            | 70          | 7/25/2011 | 300A | 34.00 | 0.344         | 52,000 | DSAW      | 3 | 1.5  | 631 | 947  | 90    | 1000        | 95.06             | 794                | 551' operating at 59.97% (one Class out). Pipe at 91.7% at min. test pressure including 18 psig static head. Cannot spike test without exceeding 100% SMYS  |
| 3            | 89S         | 8/16/2011 | 300B | 34.00 | 0.344         | 52,000 | DSAW      | 3 | 1.5  | 631 | 947  | 90    | 1037        | 98.55             | 3,848              | All pipe in test segment operating at 59.97% SMYS (one Class out). Pipe at 94.7% SMYS at min. test pressure including 49 psig static head. Cannot spike test without exceeding 100% SMYS.   |
| 4            | 89N         | 8/20/2011 | 300B | 34.00 | 0.375 & 0.344 | 52,000 | DSAW      | 3 | 1.5  | 631 | 947  | 90    | 1256        | 109.5/119.36      | 8,271              | Test segment has 603' of elevation differential (261 psig head). 433' pipe with 0.375 wt within 165' of maximum elevation stressed to 93% and 3483' pipe with 0.344 wt within 126' of maximum elevation stressed to 99%. Cannot spike test without exceeding 100% SMYS. |
| 5            | 80          | 8/26/2011 | 300B | 34.00 | 0.375         | 52,000 | DSAW      | 2 | 1.25 | 803 | 1004 | 87.53 | 1147        | 99.99             | 16,759             | 16,631' operating at 70.01% (one Class out). Pipe at 97.7% at min. test pressure including 116.5 psig static head. Cannot spike test without exceeding 100% SMYS  |
| <b>Total</b> |             |           |      |       |               |        |           |   |      |     |      |       |             |                   | <b>29,672 feet</b> |   |

**Hydrotest Program hydrotest that was not spike tested because it was a planned nitrogen test that was changed to a water test**

| Ref Number | Test Number | Test Date | Line | OD    | WT    | Grade  | Long seam |   |      |     |     |       | Max. Test P | % SMYS @ max test | Test Footage | Limiting Factor   |
|------------|-------------|-----------|------|-------|-------|--------|-----------|---|------|-----|-----|-------|-------------|-------------------|--------------|---|
| 6          | 76 (Test 4) | 8/28/2011 | 300B | 34.00 | 0.500 | 52,000 | DSAW      | 1 | 1.25 | 700 | 875 | 57.21 | 1008        | 62.97             | 403          | Tested 403' of pipe initially intended to to be tested with inert gas due to offset drip being in test section. |

**Total Ref Numbers 1-6: 5.71 miles**