South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

February 3, 2012

Ms. Maxine Sauer
BP West Coast Products LLC
2350 E. 223rd Street
Carson, CA 90810

Re: Rule 1173 Compliance Plan

Application Number:	527965
Plan Owner/Operator:	BP West Coast Products LLC
Facility ID:	131003
Site Address:	2350 E. 223rd Street Carson, CA 90810

Dear Ms. Sauer:

Reference is made to your application (A/N 527965) for revision of your facility's Rule 1173 Compliance Plan. This application has been submitted in accordance with the requirements under Rule 1173 – Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants. This revised Rule 1173 Compliance Plan has been reviewed and approved and is subject to the conditions listed below. This approved plan supersedes the plan approved on June 24, 2010, under Application No. 510012.

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CONDITIONS

1. The operator shall install and operate atmospheric PRD monitoring systems in accordance with all data and specifications submitted with the application under which the plan is approved, unless otherwise specified below. A current list of PRDs is provided in the attached tables.

2. All 401 atmospheric PRDs subject to Rule 1173(h)(1)(B), as listed in attached Table IV, shall be equipped with electronic valve monitoring devices after July 1, 2010.

3. The operator shall use a Continuous Valve Monitoring System (CVMS), which shall include a process pressure monitoring and recording system and an electronic valve monitoring device, to determine and document the release duration and quantity from each PRD.

4. The CVMS shall be defined to include electronic valve monitoring devices (acoustic and/or pressure), process pressure and temperature sensors or transmitters, receivers, and the data acquisition and recording systems. Continuous recording shall be defined as the recorded pressure readings and electronic valve monitoring readings at a minimum of one minute intervals (more frequent if a release detected). The data recording system shall be accurately synchronized with the time and date of the measurement.

5. The operator shall ensure that the CVMS for each atmospheric PRD is properly maintained and kept in good operating condition at all times when the process equipment it serves is in operation, except when it is taken out of service for the following reasons:

   a. Failure, breakdown, or unplanned maintenance of the data acquisition or recording system, which shall not exceed 48 hours cumulatively in any calendar quarter. The operator shall report the time period that the data recording system is out of service in the quarterly report.

   b. Planned maintenance of the CVMS, which shall not exceed 7 days in a calendar year, unless the operator has notified the District by e-mail within 24 hours of taking the CVMS out of service, detailing the specific reason for the maintenance. All notifications shall be forwarded to the following e-mail address: refinery_compliance@aqmd.gov.

6. The operator shall use the following equation(s) or other alternative District-approved methodology to determine the Volatile Organic Compound (VOC) emissions from a PRD release. The operator shall submit a plan application in order for the District to evaluate any alternative VOC emissions estimation methodology.

PRD Equation for Vapor or Gas Service

$$W_s = \frac{(ACK_d K_b K_c)(P+14.7)}{3600\sqrt{\frac{(T+460)Z}{M}}}$$

$$W_{voc} = W_s * VOC * t$$

$$W_{TVOC} = \sum W_{voc}$$

Where:

A = Relief Valve Orifice Size

$$C = Sizing\ Coefficient = 520\sqrt{k\left(\frac{2}{k+1}\right)^{\frac{k+1}{k-1}}}$$

k = Cp/Cv = Specific Heat Ratio for the released gas
Kd = Effective Coefficient of Discharge (use Kd = 0.975 in absence of manufacturer's PRD specific data)
Kb = Capacity Correction Factor
Kc = Combination Correction Factor. (Kc =1 if no rupture disk; Kc = 0.9 if rupture disk)
M = Molecular Weight of the released gas
P = Pressure (psig), as measured with Process Pressure Monitoring System
T = Temperature (°F)
t = Recorded Duration of Release in Seconds by Electronic Monitoring Device
VOC = weight percent VOC in the released gas
Ws = Flow through the PRD, lb/sec
Wvoc = Flow of VOCs through the PRD
W_{TVOC} = Total VOC Released during the Event, lbs
Z = Compressibility Factor

PRD Equation for Liquid Service

$$Q = 0.63 A K_d K_w K_v \sqrt{\frac{P}{G}}$$

M = Q*8.34*G*t

Q = flow rate, (U.S. gallon per second)
Kd = Rated Coefficient of Discharge (use Kd = 0.65 in absence of manufacturer's PRD specific data)
Kw = Capacity Correction Factor (Kw = 1 for atmospheric back pressure)
Kv = Correction Factor due to Viscosity (assume = 1)
P = Pressure (psig), as measured with Process Pressure Monitoring System
G = Specific Gravity of the liquid at flowing temperature
M = Release per Event in lbs
t = Recorded Duration of Release in Seconds by Electronic Monitoring Device

Mair = M – Md - Mr

Where

Mair = lb of emissions released into the air from liquid PRDs

Md = lb of liquid recovered from drain. The operator may use the volume and the density of the liquid to determine the mass of the liquid recovered, or direct

weight scale measurement. The amount of liquid recovered shall not include cleanup material, absorbent, and cleaning solution, or any material other than the liquid released by the liquid PRD.

M_r = lb of liquid recovered by cleanup crew. The operator may use the volume and the density of the liquid to determine the mass of the liquid recovered, or direct weight scale measurement. The amount of liquid recovered shall not include cleanup material, absorbent, and cleaning solution, or any material other than the liquid released by the liquid PRD.

For each PRD release event, it shall be assumed that the PRD is fully open for the duration of the release recorded by the monitoring device. Any alternative in determining the release duration or quantity shall be evaluated and approved in writing by the District.

If the operator wants to determine the amount of emissions for a release from a PRD event by excluding the amount of liquid recovered, the operator shall maintain records of the weight of the excluded materials as defined by M_d and M_r

7. The operator shall calibrate and maintain each pressure and temperature sensor and electronic valve monitoring device in accordance with manufacturer's specifications.

8. All components of the CVMS shall be made available to District personnel for inspection, upon request.

9. The operator shall keep adequate records to show compliance with all plan conditions. Such records shall be made available to District personnel upon request. The operator shall maintain records for at least five years.

10. The provisions of this plan will not apply to any PRDs that are determined to be no longer subject to Rule 1173(h), including PRDs that have been removed, tied into a closed system, have been modified so that they fall under the provisions of Rule 1173(h)(1)(G), or are located on equipment which is out of service and is hydrocarbon free. If the operator makes any changes allowed under this condition, the operator shall submit an updated inventory to the District within 12 months, identifying changes to the inventory.

Please contact Mr. Rafik Beshai at (909) 396-3611, or by e-mail at rbeshai@aqmd.gov, if you have any questions.

Sincerely,

Jay Chen, P.E.
Senior AQ Engineering Manager
Refinery, Waste Management, and
Terminal Permitting
Engineering and Compliance

cc: Compliance
A/N 527965

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LIST OF TABLES

Table I – Rule 1173 PRDs Removed Since Previous Plan Submittal

Table II – Rule 1173 PRDs Scheduled for Connection to Control System

Table III – PRDs Exempt from Requirements of (h)(1)(A) – (h)(1)(F) by (h)(1)(G)

Table IV – PRDs Subject to Rule 1173(h)(1)

Table I - Rule 1173 PRDs Removed Since Previous Plan Submittal

PRD ID	Unit	Size	Change Description
03PSV5092	0302	1 x 2	Tied into Flare
05PSV5042	0500	0.5 x 1	< 10% VOC
27PSV5005	2702	3 x 4	Tied into Closed System
27PSV5031	2700	3 x 4	Tied into Flare
28PSV5001	2800	1 x 2	PRD Removed from service
28PSV5005	2800	2 x 3	PRD Removed from service
28PSV5008	2800	2 x 3	PRD Removed from service
28PSV5010	2800	2 x 3	PRD Removed from service
28PSV5019	2800	3 x 4	PRD Removed from service
28PSV5020	2800	1 x 2	PRD Removed from service
55PSV5069	5500	2 x 3	Tied into flare
55PSV5088	5500	4 x 6	Tied into Flare

Table II - Rule 1173 PRDs Scheduled for Connection to Control System

PRD ID	Location	Size	Current Monitoring Type	Schedule for Connecting to Control System

No PRDs Scheduled to be connected to closed system

Table III - PRDs exempt from requirements of (h)(1)(A) - (h)(1)(F) by (h)(1)(G)

PRD ID	Location	Size	Monitor Type
06PSV5002	0600	0.75 x 1	N/A
06PSV5003	0600	0.75 x 1	N/A
06PSV5013	0600	1.5 x 3	N/A
09PSV5000	0900	0.75 x 1	N/A
09PSV5001	0900	0.75 x 1	N/A
09PSV5002	0900	0.75 x 1	N/A
09PSV5013	0900	3 x 4	N/A
09PSV5033	0900	1.5 x 2.5	N/A
09PSV5036	0900	2 x 3	N/A
11PSV5001	1100	1.5 x 1.5	N/A
11PSV5002	1100	1.5 x 1.5	N/A
11PSV5003	1100	1.5 x 1.5	N/A
11PSV5004	1100	1.5 x 1.5	N/A
11PSV5005	1100	1.5 x 1.5	N/A
11PSV5006	1100	1.5 x 1.5	N/A
11PSV5007	1100	1.5 x 1.5	N/A
11PSV5067	1100	0.75 x 1	N/A
11PSV5068	1100	0.75 x 1	N/A
11PSV5069	1100	0.75 x 1	N/A
11PSV5070	1100	0.75 x 1	N/A
11PSV5108	1100	0.75 x 1	N/A
11PSV5111	1100	1 x 2	N/A
19PSV5014	1900	1 x 2	N/A
19PSV5025	1900	1 x 2	N/A
19PSV5026	1900	1 x 2	N/A
23PSV5036	2300	3 x 4	N/A
31PSV5019	3100	1 x 2	N/A
31PSV5027	3100	0.75 x 1	N/A
31PSV5043	3100	0.75 x 1	N/A
32PSV5034	3200	1.5 x 3	N/A
32PSV5036	3200	0.75 x 1	N/A
32PSV5039	3200	0.75 x 1	N/A
32PSV5041	3200	1 x 2	N/A
32PSV5043	3200	1.5 x 3	N/A
34PSV5006	3400	1 x 2	N/A
34PSV5008	3400	1 x 2	N/A
34PSV5015	3400	0.75 x 1	N/A
34PSV5016	3400	0.75 x 1	N/A
34PSV5034	3400	1 x 2	N/A
34PSV5036	3400	0.75 x 1	N/A
34PSV5038	3400	1 x 2	N/A
34PSV5039	3400	0.75 x 1	N/A
34PSV5043	3400	1 x 2	N/A
38PSV5006	3800	4 x 6	N/A
38PSV5008	3800	3 x 4	N/A
38PSV5010	3800	3 x 4	N/A
38PSV5018	3800	4 x 6	N/A
38PSV5019	3800	3 x 4	N/A
51PSV5011	5100	1 x 2	N/A
51PSV5014	5100	1 x 2	N/A
51PSV5017	5100	1 x 2	N/A
52PSV5001	5200	1.5 x 2.5	N/A
52PSV5029	5200	1 x 2	N/A
52PSV5032	5200	1 x 2	N/A
52PSV5033	5200	1 x 2	N/A
61PSV5001	6100	0.75 x 1	N/A
61PSV5011	6100	1 x 2	N/A
61PSV5012	6100	1 x 2	N/A
61PSV5044	6100	1 x 2	N/A
61PSV5045	6100	2 x 3	N/A
61PSV5046	6100	1 x 2	N/A
61PSV5094	6100	0.75 x 1	N/A
63PSV5001	6300	3 x 4	N/A
63PSV5020	6300	0.75 x 1	N/A
63PSV5028	6300	0.75 x 1	N/A
63PSV5029	6300	0.75 x 1	N/A
63PSV5057	6300	0.75 x 1	N/A
65PSV5036	6500	1.5 X 2.5	N/A
68PSV5014	6800	1 x 1	N/A

Table III - PRDs exempt from requirements of (h)(1)(A) - (h)(1)(F) by (h)(1)(G)

PRD ID	Location	Size	Monitor Type
68PSV5015	6800	1 x 1	N/A
68PSV5016	6800	1 x 1	N/A
68PSV5017	6800	1 x 1	N/A
75PSV5240	7500	1.5 X 2	N/A
75PSV5241	7500	1.5 X 2	N/A
75PSV5262	7500	1 x 2	N/A
75PSV5263	7500	1 x 2	N/A
75PSV5265	7500	1 x 2	N/A

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
03PSV5014	0301	1.5 x 3	Acoustic
03PSV5020	0301	4 x 6	Acoustic
03PSV5029	0301	3 x 4	Acoustic
03PSV5055	0301	6 x 10	Acoustic
03PSV5056	0301	6 x 10	Acoustic
03PSV5057	0301	6 x 10	Acoustic
03PSV5058	0301	6 x 10	Acoustic
03PSV5059	0301	1 x 2	Acoustic
03PSV5086	0302	1 x 2	Acoustic
03PSV5152	0302	0.75 x 1	Acoustic and/or Pressure
03PSV5164	0302	1.5 x 2	Acoustic
05PSV5006	0500	6 x 8	Acoustic
05PSV5017	0500	1 x 2	Acoustic
05PSV5018	0500	4 x 6	Acoustic
05PSV5019	0500	4 x 6	Acoustic
05PSV5020	0500	4 x 6	Acoustic
05PSV5021	0500	3 x 4	Acoustic
05PSV5022	0500	2 x 3	Acoustic
05PSV5023	0500	2 x 3	Acoustic
05PSV5024	0500	2 x 3	Acoustic
05PSV5025	0500	2 x 3	Acoustic
05PSV5026	0500	3 x 4	Acoustic
05PSV5027	0500	3 x 4	Acoustic
05PSV5069	0500	1 x 2	Acoustic
06PSV5000	0600	3 x 4	Acoustic and/or Pressure
06PSV5004	0600	2.5 x 4	Acoustic and/or Pressure
06PSV5007	0600	1 x 2	Acoustic
06PSV5010	0600	4 x 6	Acoustic and/or Pressure
06PSV5015	0600	2.5 x 4	Acoustic
06PSV5016	0600	3 x 4	Acoustic and/or Pressure
06PSV5017	0600	1 x 2	Acoustic
06PSV5020	0600	1 x 2	Acoustic
06PSV5021	0600	0.75 x 1	Acoustic
06PSV5023	0600	1.5 x 2.5	Acoustic
06PSV5024	0600	2 x 3	Acoustic
06PSV5029	0600	3 x 4	Acoustic and/or Pressure
06PSV5030	0600	1 x 2	Acoustic
06PSV5032	0600	2 x 3	Acoustic and/or Pressure
06PSV5033	0600	1.5 x 2	Acoustic
06PSV5035	0600	1 x 2	Acoustic and/or Pressure
06PSV5036	0600	1 x 2	Acoustic
09PSV5029	0901	1.5 x 3	Acoustic and/or Pressure
11PSV5058	1100	1 x 2	Acoustic
11PSV5072	1100	2 x 3	Acoustic and/or Pressure
11PSV5090	1100	4 x 6	Acoustic and/or Pressure
11PSV5091	1100	4 x 6	Acoustic and/or Pressure
11PSV5092	1100	4 x 6	Acoustic and/or Pressure
11PSV5093	1100	4 x 6	Acoustic and/or Pressure
11PSV5094	1100	4 x 6	Acoustic and/or Pressure
11PSV5095	1100	4 x 6	Acoustic and/or Pressure

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
11PSV5110	1100	1.5 x 2.5	Acoustic and/or Pressure
11PSV5113	1100	0.75 x 1	Acoustic and/or Pressure
11PSV5136	1100	1.5 x 2.5	Acoustic
11PSV5143	1101	1.5 x 2	Acoustic and/or Pressure
12PSV5034	1200	1 x 2	Acoustic and/or Pressure
13PSV5024	1300	6 x 8	Acoustic
13PSV5025	1300	4 x 6	Acoustic
13PSV5026	1300	4 x 6	Acoustic
13PSV5044	1300	4 x 6	Acoustic
13PSV5053	1300	6 x 10	Acoustic
13PSV5054	1300	6 x 10	Acoustic
13PSV5065	1300	8 x 10	Acoustic
13PSV5066	1300	8 x 10	Acoustic
13PSV5067	1300	0.75 x 1	Acoustic and/or Pressure
13PSV5072	1300	6 x 8	Acoustic
13PSV5073	1300	6 x 8	Acoustic
13PSV5074	1300	1 x 2	Acoustic
14PSV5009	1400	4 x 6	Acoustic
19PSV5000	1900	1.5 X 2	Acoustic
19PSV5001	1900	1 x 2	Acoustic
19PSV5003	1900	6 x 8	Acoustic
19PSV5005	1900	2 x 3	Acoustic
19PSV5009	1900	1 x 2	Acoustic and/or Pressure
19PSV5012	1900	3 x 4	Acoustic
19PSV5017	1900	2 x 3	Acoustic
19PSV5028	1900	1 x 2	Acoustic
19PSV5029	1900	1.5 x 2	Acoustic
19PSV5034	1900	1.5 x 2	Acoustic
19PSV5035	1900	2 x 3	Acoustic
19PSV5038	1900	1.5 x 2	Acoustic
19PSV5040	1900	1.5 x 2	Acoustic
19PSV5045	1900	1.5 x 3	Acoustic
19PSV5047	1900	1.5 x 3	Acoustic
21PSV5013	2101	2 x 3	Acoustic
21PSV5014	2101	1 x 2	Acoustic
21PSV5015	2101	1 x 2	Acoustic
21PSV5016	2101	1.5 x 2	Acoustic
21PSV5023	2101	3 x 4	Acoustic
21PSV5025	2101	3 x 4	Acoustic
21PSV5026	2101	3 x 4	Acoustic
21PSV5027	2101	3 x 4	Acoustic
21PSV5028	2101	3 x 4	Acoustic
21PSV5029	2101	3 x 4	Acoustic
21PSV5030	2101	3 x 4	Acoustic
21PSV5031	2101	1.5 x 2.5	Acoustic
21PSV5042	2102	1.5 x 2.5	Acoustic
21PSV5043	2102	2.5 x 4	Acoustic
21PSV5047	2102	2 x 3	Acoustic
21PSV5050	2102	3 x 4	Acoustic
21PSV5053	2102	3 x 4	Acoustic

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
21PSV5065	2101	1.5 X 2.5	Acoustic
22PSV5007	2101	4 x 6	Acoustic
22PSV5009	2101	4 x 6	Acoustic
22PSV5010	2101	4 x 6	Acoustic
22PSV5011	2101	4 x 6	Acoustic
22PSV5012	2101	4 x 6	Acoustic
22PSV5013	2101	4 x 6	Acoustic
22PSV5016	2101	1 x 2	Acoustic
22PSV5017	2101	1 x 2	Acoustic
22PSV5030	2101	1.5 x 2.5	Acoustic
22PSV5041	2102	1.5 x 2	Acoustic
22PSV5052	2102	2 x 3	Acoustic
22PSV5054	2102	2 x 3	Acoustic
22PSV5055	2102	2 x 3	Acoustic
22PSV5056	2102	2 x 3	Acoustic
22PSV5058	2102	2 x 3	Acoustic
22PSV5062	2101	1 x 2	Acoustic
22PSV5063	2101	1 x 2	Acoustic
22PSV5067	2101	1.5 x 2	Acoustic
23PSV5033	2300	1 x 2	Acoustic and/or Pressure
23PSV5047	2300	0.5 x 2	Acoustic and/or Pressure
23PSV5048	2300	0.5 x 1	Acoustic and/or Pressure
25PSV5000	2500	1.5 x 2.5	Acoustic
25PSV5004	2500	3 x 4	Acoustic
25PSV5010	2500	1.5 x 2	Acoustic
25PSV5016	2500	3 x 4	Acoustic
26PSV5001	2600	4 x 6	Acoustic
26PSV5002	2600	3 x 4	Acoustic
26PSV5003	2600	2 x 3	Acoustic
26PSV5005	2600	1.5 x 2	Acoustic
26PSV5007	2600	1.5 x 2	Acoustic
26PSV5008	2600	3 x 4	Acoustic and/or Pressure
26PSV5009	2600	3 x 4	Acoustic
26PSV5010	2600	3 x 4	Acoustic
27PSV5002	2701	4 x 6	Acoustic
27PSV5004	2701	3 x 4	Acoustic
27PSV5011	2702	4 x 6	Acoustic
27PSV5014	2700	2.5 x 4	Acoustic
27PSV5020	2700	1 x 2	Acoustic
27PSV5024	2700	4 x 6	Acoustic
29PSV5047	2901	4 x 6	Acoustic
29PSV5049	2901	1.5 x 2	Acoustic
29PSV5050	2901	6 x 8	Acoustic
29PSV5051	2901	6 x 8	Acoustic
29PSV5054	2901	1.5 x 2	Acoustic
29PSV5059	2903	0.75 x 1	Acoustic
29PSV5060	2903	1.5 x 2.5	Acoustic
29PSV5063	2901	1.5 X 2	Acoustic
29PSV5064	2901	1 x 2	Acoustic
29PSV5065	2901	1 x 2	Acoustic

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
29PSV5072	2901	6 x 8	Acoustic
29PSV5073	2901	6 x 8	Acoustic
29PSV5075	2903	3 x 4	Acoustic
29PSV5077	2901	1.5 x 2.5	Acoustic
31PSV5005	3100	1 x 2	Acoustic
31PSV5007	3100	0.75 x 1	Acoustic and/or Pressure
31PSV5009	3100	0.75 x 1	Acoustic and/or Pressure
31PSV5017	3100	0.75 x 1	Acoustic and/or Pressure
31PSV5018	3100	0.75 x 1	Acoustic and/or Pressure
31PSV5020	3100	1.5 x 2	Acoustic and/or Pressure
31PSV5024	3100	0.75 x 1	Acoustic and/or Pressure
31PSV5025	3100	1.5 x 2.5	Acoustic and/or Pressure
31PSV5026	3100	0.75 x 1	Acoustic and/or Pressure
31PSV5032	3100	1 x 2	Acoustic and/or Pressure
31PSV5035	3100	1 x 2	Acoustic and/or Pressure
31PSV5038	3100	1.5 x 3	Acoustic and/or Pressure
31PSV5039	3100	1.5 x 3	Acoustic and/or Pressure
31PSV5041	3100	2 x 3	Acoustic and/or Pressure
31PSV5042	3100	0.75 x 2	Acoustic and/or Pressure
31PSV5044	3100	1 x 2	Acoustic and/or Pressure
31PSV5045	3100	1 x 2	Acoustic and/or Pressure
31PSV5047	3100	1 x 2	Acoustic and/or Pressure
31PSV5048	3100	1.5 x 2	Acoustic
31PSV5049	3100	1 x 2	Acoustic and/or Pressure
31PSV5050	3100	1 x 2	Acoustic and/or Pressure
31PSV5052	3100	2 x 3	Acoustic
31PSV5056	3100	1 x 2	Acoustic and/or Pressure
31PSV5058	3100	1 x 2	Acoustic and/or Pressure
32PSV5020	3200	6 x 8	Acoustic
32PSV5027	3200	8 x 10	Acoustic
32PSV5028	3200	8 x 10	Acoustic
32PSV5029	3200	6 x 8	Acoustic
32PSV5035	3200	1.5 x 2	Acoustic and/or Pressure
32PSV5040	3200	1.5 x 2	Acoustic and/or Pressure
32PSV5048	3200	1.5 x 2.5	Acoustic and/or Pressure
32PSV5049	3200	1.5 x 2.5	Acoustic and/or Pressure
32PSV5058	3200	1 x 2	Acoustic
34PSV5014	3400	0.75 x 1	Acoustic and/or Pressure
34PSV5021	3400	1 x 2	Acoustic and/or Pressure
34PSV5023	3400	8 x 10	Acoustic
34PSV5024	3400	6 x 8	Acoustic
34PSV5027	3400	1.5 x 2	Acoustic and/or Pressure
34PSV5030	3400	3 x 4	Acoustic
34PSV5032	3400	6 x 8	Acoustic
34PSV5033	3400	0.75 x 1	Acoustic and/or Pressure
34PSV5035	3400	0.75 x 0.75	Acoustic and/or Pressure
34PSV5037	3400	0.75 x 1	Acoustic and/or Pressure
34PSV5040	3400	1 x 2	Acoustic and/or Pressure
34PSV5042	3400	0.75 x 1	Acoustic and/or Pressure
34PSV5044	3400	1 x 2	Acoustic and/or Pressure

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
35PSV5000	3500	4 x 6	Acoustic
35PSV5001	3500	1 x 2	Acoustic and/or Pressure
35PSV5006	3500	1.5 x 2	Acoustic and/or Pressure
35PSV5007	3500	4 x 6	Acoustic
35PSV5008	3500	1 x 2	Acoustic and/or Pressure
35PSV5011	3500	1.5 x 2	Acoustic and/or Pressure
39PSV5013	3904	1 x 2	Acoustic and/or Pressure
40PSV5001	4000	2 x 3	Acoustic
40PSV5012	4000	4 x 6	Acoustic
40PSV5016	4000	2 x 3	Acoustic
40PSV5017	4000	3 x 4	Acoustic
40PSV5020	4000	1 x 2	Acoustic and/or Pressure
40PSV5022	4000	3 x 4	Acoustic
40PSV5024	4000	4 x 6	Acoustic
40PSV5030	4000	4 x 6	Acoustic
40PSV5032	4000	1 x 2	Acoustic and/or Pressure
40PSV5041	4000	6 x 8	Acoustic
40PSV5042	4000	6 x 8	Acoustic
40PSV5043	4000	6 x 8	Acoustic
40PSV5044	4000	6 x 8	Acoustic
40PSV5047	4000	1 x 2	Acoustic and/or Pressure
40PSV5048	4000	1 x 2	Acoustic and/or Pressure
40PSV5050	4000	1 x 2	Acoustic and/or Pressure
40PSV5054	4000	1 x 2	Acoustic
40PSV5056	4000	0.75 x 1	Acoustic and/or Pressure
40PSV5057	4000	6 x 8	Acoustic
40PSV5059	4000	3 x 4	Acoustic
40PSV5065	4000	4 x 6	Acoustic
40PSV5068	4000	1 x 2	Acoustic
40PSV5070	4000	1 x 2	Acoustic and/or Pressure
40PSV5074	4000	1 x 2	Acoustic
40PSV5075	4000	1 x 2	Acoustic and/or Pressure
40PSV5076	4000	4 x 6	Acoustic
40PSV5077	4000	3 x 4	Acoustic
40PSV5078	4000	3 x 4	Acoustic
40PSV5079	4000	3 x 4	Acoustic
40PSV5080	4000	4 x 6	Acoustic
40PSV5083	4000	1 x 2	Acoustic and/or Pressure
40PSV5104	4000	1 x 2	Acoustic and/or Pressure
40PSV5105	4000	1 x 2	Acoustic and/or Pressure
40PSV5106	4000	1 x 2	Acoustic and/or Pressure
40PSV5107	4000	6 x 8	Acoustic
40PSV5108	4000	6 x 8	Acoustic
40PSV5109	4000	6 x 8	Acoustic
40PSV5110	4000	4 x 6	Acoustic
40PSV5111	4000	4 x 6	Acoustic
40PSV5112	4000	6 x 8	Acoustic
40PSV5113	4000	4 x 6	Acoustic
40PSV5114	4000	4 x 6	Acoustic
40PSV5115	4000	4 x 6	Acoustic

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
40PSV5116	4000	4 x 6	Acoustic
40PSV5120	4000	6 x 8	Acoustic
40PSV5121	4000	1.5 x 2.5	Acoustic
40PSV5123	4000	1.5 x 2.5	Acoustic
40PSV5126	4000	1 x 2	Acoustic and/or Pressure
40PSV5127	4000	1 x 2	Acoustic and/or Pressure
40PSV5133	4000	6 x 8	Acoustic
40PSV5134	4000	6 x 8	Acoustic
40PSV5135	4000	1.5 x 2	Acoustic
44PSV5000	4400	1 x 2	Acoustic and/or Pressure
44PSV5009	4400	3 x 4	Acoustic
44PSV5014	4400	6 x 8	Acoustic
44PSV5015	4400	6 x 8	Acoustic
44PSV5021	4400	3 x 4	Acoustic
45PSV5000	4500	2 x 3	Acoustic
45PSV5019	4500	3 x 4	Acoustic
45PSV5022	4500	1 x 2	Acoustic and/or Pressure
47PSV5002	4700	3 x 4	Acoustic
48PSV5001	4801	8 x 10	Acoustic
48PSV5021	4801	8 x 10	Acoustic
48PSV5080	4800	4 x 6	Acoustic
48PSV5084	4800	4 x 6	Acoustic
48PSV5086	4800	4 x 6	Acoustic
48PSV5087	4800	6 x 8	Acoustic
51PSV5008	5100	1 x 2	Acoustic and/or Pressure
51PSV5013	5100	1 x 2	Acoustic and/or Pressure
51PSV5016	5100	1 x 2	Acoustic and/or Pressure
51PSV5036	5100	1.5 x 2.5	Acoustic
51PSV5056	5100	6 x 8	Acoustic
51PSV5057	5100	6 x 8	Acoustic
52PSV5010	5200	1.5 x 3	Acoustic
52PSV5013	5200	1 x 1.5	Acoustic and/or Pressure
52PSV5017	5200	3 x 4	Acoustic
52PSV5034	5200	6 x 8	Acoustic
52PSV5036	5200	6 x 8	Acoustic
52PSV5042	5200	1 x 2	Acoustic
52PSV5048	5200	0.75 x 1	Acoustic and/or Pressure
54PSV5002	5400	4 x 6	Acoustic
55PSV5006	5500	2 x 3	Acoustic
55PSV5012	5500	2 x 3	Acoustic
55PSV5025	5500	4 x 6	Acoustic
55PSV5028	5500	6 x 8	Acoustic
55PSV5029	5500	6 x 8	Acoustic
55PSV5033	5500	0.75 x 1	Acoustic
55PSV5038	5500	1.5 x 2	Acoustic
55PSV5039	5500	6 x 8	Acoustic
55PSV5040	5500	4 x 6	Acoustic
55PSV5050	5500	1.5 x 3	Acoustic
55PSV5052	5500	4 x 6	Acoustic
55PSV5053	5500	4 x 6	Acoustic

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
55PSV5059	5500	4 x 6	Acoustic
55PSV5063	5500	4 x 6	Acoustic
55PSV5065	5500	3 x 4	Acoustic
55PSV5066	5500	4 x 6	Acoustic
55PSV5074	5500	4 x 6	Acoustic
55PSV5077	5500	4 x 6	Acoustic
55PSV5079	5500	1 x 2	Acoustic
55PSV5081	5500	3 x 4	Acoustic
55PSV5085	5500	8 x 10	Acoustic
57PSV5000	5700	1.5 x 2.5	Acoustic
57PSV5002	5700	1.5 x 3	Acoustic
57PSV5004	5700	1.5 x 3	Acoustic
57PSV5018	5700	1.5 x 3	Acoustic
57PSV5031	5700	1 x 2	Acoustic
59PSV5196	5900	1 x 2	Acoustic
61PSV5019	6100	8 x 10	Acoustic
61PSV5020	6100	8 x 10	Acoustic
61PSV5021	6100	8 x 10	Acoustic
61PSV5022	6100	4 x 6	Acoustic
61PSV5023	6100	8 x 10	Acoustic
61PSV5024	6100	8 x 10	Acoustic
61PSV5025	6100	6 x 8	Acoustic and/or Pressure
61PSV5027	6100	6 x 8	Acoustic and/or Pressure
61PSV5033	6100	1 x 2	Acoustic and/or Pressure
61PSV5034	6100	1 x 2	Acoustic and/or Pressure
61PSV5049	6100	1 x 2	Acoustic and/or Pressure
61PSV5082	6100	0.75 x 1	Acoustic and/or Pressure
61PSV5096	6100	1 x 2	Acoustic
62PSV5000	6200	3 x 4	Acoustic
62PSV5002	6200	1 x 2	Acoustic and/or Pressure
62PSV5017	6200	1 x 3	Acoustic
62PSV5019	6200	1 x 2	Acoustic
62PSV5020	6201	1 x 1	Acoustic
62PSV5021	6200	2 x 3	Acoustic
62PSV5024	6200	1 x 2	Acoustic
62PSV5033	6200	1.5 x 3	Acoustic
63PSV5005	6300	8 x 10	Acoustic
63PSV5006	6300	8 x 10	Acoustic
63PSV5007	6300	8 x 10	Acoustic
63PSV5008	6300	4 x 6	Acoustic
63PSV5030	6300	1 x 2	Acoustic and/or Pressure
63PSV5038	6300	6 x 8	Acoustic
63PSV5039	6300	6 x 8	Acoustic
63PSV5058	6300	1 x 2	Acoustic
66PSV5000	6600	4 x 6	Acoustic
66PSV5004	6600	3 x 4	Acoustic
66PSV5007	6600	1.5 x 2	Acoustic
68PSV5000A	6801	0.75 x 1	Acoustic
68PSV5000B	6801	1 x 2	Acoustic and/or Pressure
68PSV5022	6800	1 x 1	Acoustic and/or Pressure

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
68PSV5023	6800	1.5 x 2.5	Acoustic and/or Pressure
68PSV5024	6800	1.5 x 2.5	Acoustic and/or Pressure
70PSV5002	7001	2 x 3	Acoustic
70PSV5003	7001	2 x 3	Acoustic
70PSV5006	7000	3 x 4	Acoustic
70PSV5008	7000	3 x 4	Acoustic
70PSV5011	7000	1 x 2	Acoustic
70PSV5013	7000	1 x 2	Acoustic
70PSV5014	7000	4 x 6	Acoustic
70PSV5026	7000	2 x 3	Acoustic
70PSV5027	7000	2 x 3	Acoustic
70PSV5051	7000	1.5 x 2	Acoustic
73PSV5001	7300	2 x 3	Acoustic
73PSV5003	7300	2 x 3	Acoustic
73PSV5005	7300	1.5 x 3	Acoustic
73PSV5007	7300	1.5 x 3	Acoustic
73PSV5009	7300	1.5 x 3	Acoustic
73PSV5012	7300	1.5 x 3	Acoustic
75PSV5110	7502	0.75 x 1	Acoustic
75PSV5238	7500	2 x 3	Acoustic and/or Pressure
75PSV5239	7500	2 x 3	Acoustic and/or Pressure
75PSV5304	7502	4 x 6	Acoustic
75PSV5410	6100	1 x 1	Acoustic
75PSV5555	3200	1.5 x 3	Acoustic
75PSV5558	5400	1.5 X 3	Acoustic
75PSV5583	7502	2 x 3	Acoustic
75PSV5584	7502	1 x 2	Acoustic
83PSV5078	8300	1 x 2	Acoustic
84PSV5096	8400	3 x 4	Acoustic
84PSV5121	8400	6 x 8	Acoustic
84PSV5122	8400	6 x 8	Acoustic
84PSV5123	8400	3 x 4	Acoustic
90PSV6750	9000	6 x 8	Acoustic
90PSV6866	9000	1 x 2	Acoustic
90PSV6874	9000	2 x 3	Acoustic
90PSV6875	9000	1.5 x 2	Acoustic
90PSV6876	9000	1.5 x 2	Acoustic
90PSV6897	9000	6 x 8	Acoustic
90PSV7122	9000	1.5 x 2	Acoustic
95PSV0188	9000	0.75 x 1	Acoustic and/or Pressure
95PSV0189	9000	0.75 x 1	Acoustic
95PSV0190	9000	0.75 x 1	Acoustic
95PSV6991	9000	1.5 x 2	Acoustic
95PSV7035	9000	2 x 3	Acoustic
95PSV7036	9000	2.5 x 4	Acoustic
95PSV7042	9000	4 x 6	Acoustic
95PSV7045	9000	2 x 3	Acoustic
95PSV7046	9000	2.5 x 4	Acoustic
95PSV7052	9000	4 x 6	Acoustic
95PSV7056	9000	1 x 2	Acoustic

Table IV - PRDs Subject to Rule 1173 (h)(1)

PRD ID	Location	Size	Electronic Process Parameter Monitoring
95PSV7066	9000	1 x 2	Acoustic