| **Source** | **Emissions Unit** | **Source Test Results** | **Potential Control Equipment[[1]](#endnote-1)** | **Feedback from sources** | **DEQ Comment** |
| --- | --- | --- | --- | --- | --- |
| **Pre-1970 Boilers > 0.10 gr/dscf** |
| Boise Cascade (Pilot Rock)30-0016 | Early 1940s Babcock & Wilcox Dutch-oven boilers, 2 @ 20,000 lb steam/hr, 1 @ 8,000 lb steam/hr; Backup to NG fired boiler.  | Boiler 1: 0.08-0.17 and 0.4% (6 tests); Boiler 3: 0.08-0.19 and 0-1% (8 tests); Boiler 4: 0.06-0.10 (4 tests) | Need uniform, dry fuel; steady load.  | Company indicated concern about control device which requires an air flow system that is incompatible with natural draft stacks. Because boilers are backup, company could decide to stop using the boilers rather than control. | Different from other Dutch oven boilers with multiclones?  |
| Columbia Forest Products18-0014 | 1944 C& E Dutch oven BLR-S w/multiclone, 35,000 lb steam/hr1939 EF Huffman Dutch oven BLR-N at 12,500 lb steam/hr)  | BLR-S: 0.08 – 0.19 (11 tests); 5 – 17% (10 tests);  BLR-N: 0.09 – 0.14 (3 tests); 1 – 5% (3 tests) | Need controls |  |  |
| Frank Lumber22-2525 | 1969 Wyatt & Kipper spreader stoker boiler, 30,000 lb/hr steam, w/multiclone | ’89 - 0.19 ’97- 0.178 ‘04 -0.137 ’09 - 0.137  | Need controls | Already tuned well |  |
| Interfor Pacific18-0005 | 1939 Wickes Dutch oven boilers (2), 50,000 lb/hr ea, multiclones, economizer | Common stack – can comply with 0.1 during normal operations. Boiler 1 – 6% and 0.11; Boiler 2 – 2% and 0.15 | Looking at ESP  | Already does a lot of maintenance and tuning | Could run boiler harder, thinking of boiler changes to comply with boiler MACT, don’t want to be a synthetic minor |
| Swanson Group Roseburg10-0030 | 1968 Kipper boilers, pin hole grate, mechanical stoker, 31,800 lb steam/hr w/multiclone | 0.17 at 26,800 #/hr steam | Looking for used ESP  |  | > 26,800 then NG boiler starts up.  |
| **Post-1970 Boilers > 0.10 gr/dscf** |
| Collins (Fremont Sawmill)19-0002 | ’75 Wickes Dutch oven, 18,000 lb/yr, multiclone;’89 Trane-Murray Dutch oven, 24,000 lb/hr multiclone | Boiler 1: 0.13 Boiler 2: 0.09 | Needs controls | Already does a lot of maintenance, cannot meet 0.10 consistently |  0.1 gr/dscf permit limit |
| Prineville Sawmill07-0021 | HFB | 0.16 gr/dscf |  |  | 0.1 gr/dscf permit limit,not operating |
| Umpqua Lumber10-0027 | 1975 Wellons boiler w/multiclone, 20,000 lb/hr | 0.12 gr/dscf |  |  |  0.1 gr/dscf permit limit |
| **Pre-1970 Boilers < 0.10 gr/dscf** |
| Roseburg Forest Product facilities Riddle 10-0078 | 1968 Wyatt-Kipper spreader-stoker HFB, 110,000 lb steam/hr1978 Kipper spreader-stoker HFB, 70,000 lb/hr,  | 0.017 lb/M lb steam0.184 lb/M lb steam (BACT) | Western Pacific multiclone w/110 cyclones; 2006 dry ESPZurn multiclone (12 cyclones) with Ducon Spray tower wet scrubber | in anticipation of the original Boiler MACT | 0.2, 20%0.1; 20% |
| Roseburg Forest Product facilities Coquille06-0010 | 1958 Garrett & Schafer bentwood tube spreader-stoker HFB, 80,000 lb steam/hr;  | 0.038 lb/M lb steam | 2006 dry ESPs added after the existing multiclone controls  | in anticipation of the original Boiler MACT | 0.2, 20% |
| Swanson Group Glendale10-0045 | 1951 Babcock & Wilcox Dutch oven HFB, 125 MMBtu/hr | 0.025 lb/M lbs steam at 58,000 lb/hr | Multiclone and dry ESP |  | 0.2 |
| **Asphalt Plants** |
| Harney Rock and Paving13-0010 | Asphalt plant | 19% and 0.22 (‘99) | Wet scrubber~$32,000 |  |  |
| Humbert Asphalt37-0112 | Asphalt plant | 0.11 - 7/03 |  |  |  |
| Rogers Asphalt Paving 31-0001 | Asphalt plant | 0.11  | Wet scrubber~$32,000 |  |  |
| Valley Paving23-0031 | Asphalt plant | 0.231- 5/13 |  |  | Violation of 0.1 gr/dscf  |

1. Initial estimates, company needs to do an engineering assessment to confirm.

**CONTROL EQUIPMENT COST ESTIMATES**

**Hog Fuel Boilers**

|  |  |  |  |
| --- | --- | --- | --- |
| **Size** | **Control Technology** | **Cost (installed)** | **Source** |
|  | tune-up | $4,000 - $8,000 | Roseburg Forest Products/Boiler & Steam/Wellons  |
|  | comprehensive tune-up | $33,000 - $65,000 | Roseburg Forest Products |
| 50,000 lb/hr steam | multiclones | $100,000 | Wellons |
| 20,000 lb/hr steam | multiclones | $ 60,000 | Wellons |
|  | New ESP | $1.8 - $2.2 million | KC Cotrell/Wellons |
| 100,000 lb/hr | New boiler | $8 million |  |

Wet scrubber not used on HFB unless source has wastewater treatment facility

Baghouses not recommended, bags tend to catch on fire

**Asphalt Plants**

|  |  |  |
| --- | --- | --- |
| **Control Technology** | **Cost (installed)** | **Source** |
| Tune-up  | $5,000 if well maintained | CM Consulting |
| New scrubber | $25,000 - $60,000 | CM Consulting |
| New baghouse | $150,000 - $350,000 | CM Consulting |
| Used baghouse | $175,000 | JusDust |

 [↑](#endnote-ref-1)