

C₃ casper compliance controls



On July 6, the EPA finalized the Cross-State Air Pollution Rule (CSAPR, or "Casper"). Effective January 1, 2012, the Rule replaces the CAIR in 28 Eastern and Midwestern states. Consistent with the objectives of the CAIR, Casper aims to improve air quality by limiting power plant emissions across state lines, particularly those that relate to ozone and fine particulate (PM_{2.5}). It also sets forth caps for SO₂ and NO_x, based on local contributions to non-attainment. SO₂ limits are to be phased in—Phase I in 2012 and Phase II in 2014. Plants unable to meet required limits with changes in fuel and operating conditions will have to consider air pollution control upgrades or new control devices.



Conventional DSI technologies are often ineffective in reaching desired acid gas limits and negatively impact the performance of existing ESPs, resulting in higher PM emissions. Trying to get typical SNCR systems to remove higher amounts of NO_x risks ammonia slip resulting in potential, highly visible ammonium sulfate emissions downstream.

To cost effectively comply with Casper Phase I reductions, BoldEco has developed low-cost solutions which can be implemented within 6 months from order placement. Expanded C3 Systems can be installed in stages to comply with both Casper Phase I and II requirements. Each BoldEco C3 System is designed to reduce SO₂ and NO_x while enhancing the performance of downstream PM filtration equipment, with no impairment to plant operation. Installations include a quarterly monitoring and system optimization at no additional cost. Depending on long term plant strategy, C3 Systems can be designed to be portable for implementation at another plant or use in multi-plant testing programs.



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typical installation components

All BoldEco C3 Systems are comprised of maintenance friendly components, available on a quick-delivery basis, and are designed to be installed without the need for extensive foundations or balance-of-plant requirements.

The basic injection components arrive at site preassembled, and are set into place by our team of experienced installers. Each installation can be carried out on a semi-temporary basis, or as part of a permanent solution.

Typical equipment components:

- BoldEco twin super sac sorbent unloader
- sorbent mini mill (if employing SBC)
- BoldEco smart parts for its patent pending "FD Side Inlet Cooling Upgrade" to the APH to enhance ESP PM removal
- or an alternative option for ESP enhancement: BoldEco mini-GCT (one year installation time)
- BoldEco smart parts for its high efficiency SNCR Upgrade

phase I 2012 reduction efficiencies

Based on site conditions and required reductions, the following ranges of performance guarantees will be provided:

- SO₂ removal rate (30-80%)
- NO_x removal rate (30-50%)
- PM removal rate (10-50%)

sorbent choices

Sorbents employed may vary according to desired efficiency and relative cost:

- Sodium BiCarbonate (NaHCO₃ high efficiency, site-milled)
- Sodium Carbonate (Na₂CO₃ wet injection, no-milling)
- Hydrated Lime (Ca(OH)₂, low-cost)
- Magnesium Hydroxide (Mg(OH)₂, high reaction-no milling)
- Dolomitic Hydrate (50% Mg(OH)₂, 50% Ca(OH)₂)



ESP efficiency solutions

In those cases where DSI is implemented upstream of an ESP, BoldEco has several low-cost solutions available to mitigate any potential PM efficiency deterioration due to DSI, available for installation in the same time frame.

program highlights

- low capital cost
- sorbent flexibility
- semi-temporary or portable – utilize for multi plant testing
- includes quarterly monitoring and optimization
- competitive financing available

Available exclusively through:

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low-cost • guaranteed • retrofits & upgrades • financing

