CALIFORNIA STEEL INDUSTRIES, INC.

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September 3, 2021

Ms. Rajinder Sahota
Deputy Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Comments by California Steel Industries, Inc., on ARB's GHG Reduction Strategies for Industrial Sector

Dear Ms. Sahota:

We appreciate the opportunity to provide comments regarding potential reduction strategies for Industrial Sector Greenhouse Gas (GHG) emissions. As ARB reviews potential modeling scenarios to reduce emissions in the industrial sector, we thought it was important to point out that some of the options you are considering will not be feasible for a company like California Steel Industries, Inc. (CSI). As detailed below, CSI has taken every practical measure that we can to be an efficient producer and minimize emissions of GHG, including looking at electrification. Without question, these efforts have placed CSI among the lowest GHG emitters for steel production facilities with the same processes, around the globe. This accomplishment is due, in no small part, to environmental requirements in California. We have chosen to meet or exceed those California-only regulations, rather than leave the state as other steel producers have done.

Given our difficulties in making further reductions in GHG emissions due to our required heat-intensive combustion processes, we ask that ARB avoid an all-or-nothing approach such as adopting a ban on combustion. We propose instead that ARB continue to work with CSI – and other heat-intensive industries where merited – to explore practicable options that might allow us to potentially lower our GHG emissions while avoiding leakage, as mandated by AB32.

BACKGROUND

CSI is the largest steel producer in the Western U.S. and one of the last survivors of the domestic steel industry in California. CSI produces about 1.5 million tons per year of steel sheet in various forms, using purchased steel slabs as our raw material. Steel slabs weighing about 25 tons each are reheated in natural gas-fired furnaces and hot rolled in our rolling mill. Some of the resulting coils are sold as Hot Rolled Steel Sheet, an ARB benchmarked product under Cap and Trade. Most of the Hot Rolled coil is further processed downstream as ARB benchmarked steel sheet products or as line pipe.

CSI is an Energy Intensive, Trade Exposed (EITE) facility under the GHG cap and trade program. In particular, just like similar steel mills around the world, CSI burns natural gas in large quantities as part of its production processes. Our gas consumption at current steel production levels is approximately 10,000 MMBtus per day to produce various forms of steel products. Nearly 75% of this natural gas utilization is for heating the 25-ton, nine-inch-thick slabs to approximately 2,300 degrees Fahrenheit, so they may converted into Hot Rolled Steel Sheet as thin as 1/16th of an inch. Additional ARB-benchmarked production of Pickled Sheet, Cold Rolled Annealed Sheet, and Galvanized Sheet make up the remainder of CSI's natural gas demand.

CSI has a proven history of implementing improvements in processes and installing new equipment and emission control technology as it is available and proven. Some of the improvements include:

- High efficiency motors for rolling mill (in progress, $36MM) (electricity)
- High efficiency boilers (NOx, CO, SOx, PM, GHG) (in progress, $2.2MM)
- Selective Catalytic Reduction (NOx) (in place in some units and in progress for our second reheat furnace)
- Facility wide fuel efficiency improvements (NOx, CO, SOx, PM, GHG)
- Waste heat steam generator (NOx, CO, SOx, PM, GHG)
- Afterburners to ensure complete combustion (CO)
- Mobile equipment switched to cleaner burning or electric units (NOx, CO, SOx, PM)
- Reduced VOCs through product approval program
- Wet Scrubbers (PM, Toxics)
- Baghouses, filtration and carbon absorber units and other various controls (PM, VOCs, Toxics)

Additionally, CSI employs all federal EPA "best practice" recommendations for reheat furnace carbon emission reduction that can be employed, without building an entirely new hot rolling plant.

In addition to these improvements, CSI has been analyzing alternatives to natural gas that might be incorporated into its processes. However, all of these options are unproven at the scale that CSI would need, and have issues that make them impracticable for adoption now.

1. Hydrogen as Fuel or Feedstock. We understand that there has been limited trial, small-scale implementation of this concept in the world. CSI has had discussions with our provider of industrial hydrogen in an effort to evaluate the potential for future development as a combustion fuel in our processes. We understand that in order to achieve meaningful hydrogen usage as a replacement for natural gas, hydrogen production must be heavily dependent upon renewable energy, which is still not a widespread practice. Otherwise, there is little chance for net carbon emission reduction. Additionally, use of hydrogen would appear to face significant logistical and transportation barriers, likely requiring pipeline conversions or replacement. The price of the fuel is also an issue for companies that use large amounts of fuel in their processes.

We are committed to environmental and safety excellence. We look forward to working with ARB to find ways to achieve California's GHG goals, while remaining globally competitive and preventing industrial leakage due to cap and trade program costs.

Best regards,

Shinji Tanaka
President & CEO
California Steel Industries, Inc.