

PROJECT CONTROL DOCUMENT – TRP 9956 / 0408C

PROJECT TITLE: Technical Feasibility Study of Steelmaking by Molten Oxide Electrolysis

PROJECT DESCRIPTION: Molten oxide electrolysis (MOE) is an extreme form of molten salt electrolysis, a technology that has been used to produce tonnage metals such as aluminum, magnesium, lithium, sodium and the rare earth metals for over 100 years. Molten oxide electrolysis is totally carbon-free and produces no CO or CO₂, only O₂. The proposed research will assess the technical feasibility of the process at the bench scale while determining optimum values of process operating parameters. Most importantly an inert anode will be identified and its ability to sustain oxygen evolution will be demonstrated.

PRIMARY RESEARCH ORGANIZATION(S):

Massachusetts Institute of Technology
Department of Materials Science & Engineering
Cambridge, MA

PRINCIPAL INVESTIGATOR(S): Dr. Donald Sadoway

PROJECT PARTICIPANTS:

Dofasco	Gallatin Steel
Hylsa	Mittal Steel
Ipsco	Nucor
Praxair	Timken Company
US Steel	

PROJECT DURATION: 24 Months

PROJECT START DATE: 12/16/05

PROJECT BUDGET (excluding AISI Project Mgmt.): \$523,118

TECHNICAL PROJECT MANAGER: Bill Obenchain – AISI Washington, DC

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