PUBLIC ABSTRACT

Applicant (primary) name: SRT Group Inc.

Applicant's address: 3250 Mary Street, Suite 407
Miami, FL 33133

Team Members Arizona Public Service Company
P.O. Box 355, Mail Station 4913
Fruitland, NM 87416

Harris Group Inc.
1000 Denny Way, Suite 800
Seattle, WA 98109

(Use continuation sheet if needed.)

Proposal Title: SRT/ISPRA Flue Gas Desulphurization Process

Commercial Application: Existing Facilities

Technology Type: Environmental

Estimated total cost of project:

Total Estimated Cost: $7,349,938

Estimated DOE Share: $3,674,969

Estimated Private Share: $3,674,969

PUBLIC ABSTRACT (cont'd)

Anticipated Project Site(s):	Four Corners Power Plant Farmington, NM 87416	
Type of Coal to be Used:	Primary Alternate (if any)	
Size or Scale of Project:	Flue Gas Desulphurization for a 3-MW Coal Plant	
Duration of Proposed Project: (from date of award)	18 Months	

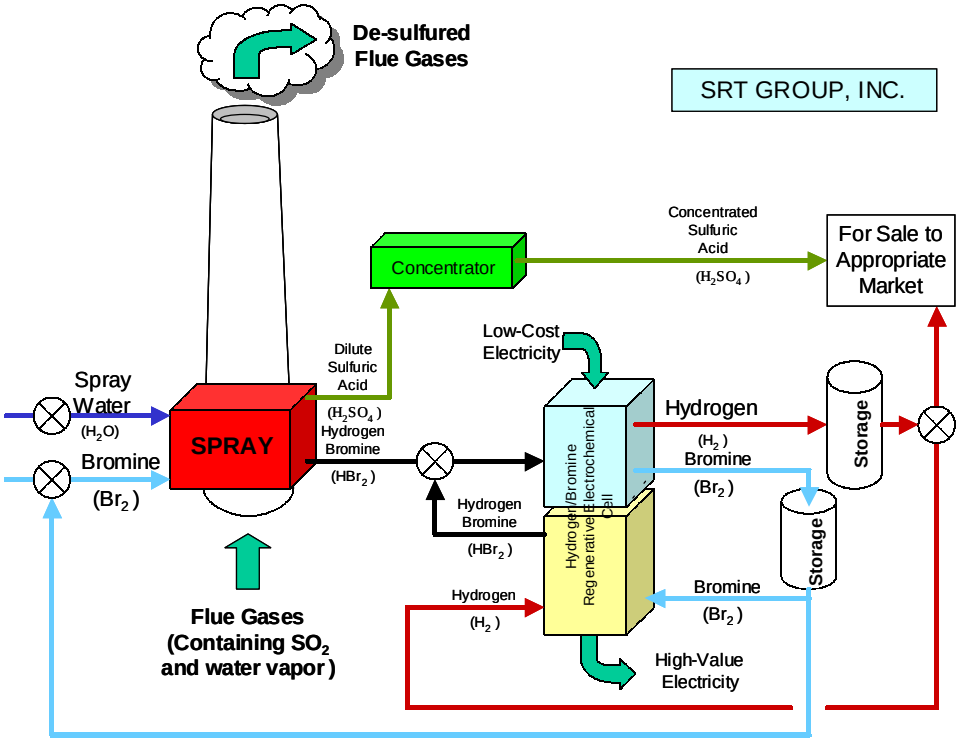
PRIMARY CONTACT: For additional information, interested parties should contact:	Name	Robin Parker
	Position	President
	Telephone Number	305-442-9966
	Company	SRT Group, Inc
	e-mail address	rzpst@compuserve.com
	Address	3250 Mary Street, Suite 407
	City	Miami, FL 33133

Alternative Contact:	Name	Lynn Montague
	Position	Project Manager
	Telephone Number	206-494-9544
	Company	Harris Group Inc.
	e-mail address lynn.montague@harrisgroup.com	
	Address	1000 Denny Way, Suite 8000
	City	Seattle, WA 98109

PUBLIC ABSTRACT (cont'd)

Brief description of project:

SRT Group, Inc., proposes partnering with the U.S. Department of Energy to test and commercialize a process for removing sulfur dioxide (SO_2) from the flue gas of coal-fired boilers. Wet scrubbing processes using lime and limestone as reagents are widely used as flue gas desulphurization (FGD) systems but have a major drawback in the expense of the reagent and large quantity of sludge produced. The SRT/ISPRA process offers an alternative wet scrubbing method by using a small amount of bromine (Br_2) as the reagent. In the process Br_2, SO_2, and water vapor (H_2O) react to produce sulfuric acid (H_2SO_4) and hydrogen bromide (HBr). The process has been demonstrated to remove more than 90% of the flue gas SO_2. It also has the added potential to aid in the reduction of nitrogen oxide (NOx) and mercury (Hg), which has been identified as goals of President Bush's Clear Skies Initiative.



SRT Flue Gas Process

A unique aspect of the SRT/ISPRA process is the regeneration of the reactant Br_2. In the electrolyzer, the HBr formed in the reactor is converted to Br_2 and H_2. Thus the reactant Br_2 is regenerated and a valuable fuel source H_2 is formed. The production of H_2 is in line with the current administrations support for developing hydrogen as a primary fuel for cars and trucks.

The process also has the ability to operate a H_2/Br_2 reversible cell. During on-peak hours the cell operates as a fuel cell by reacting H_2 with Br_2 to form HBr and power. To regenerate the chemicals, the cell operates as an electrolyzer, converting the HBr back to H_2 and Br_2.

The incorporation of the ISPRA FGD process with SRT's electrochemical HBr energy storage system enables a base-loaded, coal-fired plant to operate virtually SO_2 emission free, store off-peak energy, and produce marketable H_2 and H_2SO_4. The stored energy, in the form of H_2 and HBr, can be discharged during on-peak spikes and generation equipment outages, or for providing black start capability for peaking turbines.

The goal of the pilot trials is to demonstrate the SRT/ISPRA FGD process on a 3-MW scale. The trials will allow testing to determine the removal efficiency of SO_2, NOx, and Hg. Testing will also confirm the material and energy balance and allow for optimization of key operating parameters. Alternative methods to H_2SO_4 concentration, such as submersed combustion and evaporation, will be explored to determine if a more cost effective system can be found.