Illinois Power Company
Docket 50-461

PHOENIX STEEL CORPORATION
4001 PHILADELPHIA PIKE
CLAYMONT, DELAWARE 19703
(302) 798-1411
TELEX 83-5416

November 12, 1984

Mr. Paul Courtland
Nuclear Regulatory Commission
Engineering & General Communications Branch
Office of Inspection and Enforcement
Washington, D.C. 20555

Dear Paul:

Reference the two 15" x 15" x 1/2" carbon steel samples received 11/9/84 as shipped to me by Baldwin Associates, P.O. Box 306, Clinton, Illinois 61727, and identified as 12949A and 12949B.

We have completely analyzed these two pieces and find the following:

Mechanical Properties

	Yield, psi	Tensile, psi	Elongation, 8"
12949A	30,800	45,900	38%
	32,400	44,000	38%
12949B	38,100	49,700	27.5%
	38,400	48,500	24%

The two tests were run at 90° to each other and parallel to the cut edges of the sample. A standard flat strap tensile test was used.

Chemistry

	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	V	Sn
12949A	.01	.25	.012	.007	.01*	.03	.02	.01	.01	.007	.001*	.008
19249B	.05	.47	.012	.013	.01*	.02	.01	.001	.01	.003	.001*	.006

*less than

All of the above tests were run as standard producing mill results. No one was told that they were special.

Based on the results reported, the steel was not from the heat 81177-21 sold to Interstate Steel. Also, the material was not produced by Phoenix Steel. This conclusion is based on certain elements in the chemical analysis being much too low for a 100% scrap charge steelmaking shop, which Phoenix is. The material that we tested was probably produced in a hot metal steel mill.

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It is also significant that none of the material met the ASTM A-36 specifications of 36,000 psi minimum yield and 58,000 to 80,000 psi tensile.

It is my conclusion, based on the two samples submitted, that Phoenix Steel is not at fault for the mixed steel. I await your comments.

Sincerely,

PHOENIX STEEL CORPORATION

Robert L. Brooks
Manager, Quality Assurance

RLB/vh