RESEARCH TRIANGLE INSTITUTE

SUBCONTRACT No. 11213(4949A-72)
RTI PROJECT OU-295
OCD WORK UNIT 1154C

DECEMBER 1968

AD 685869

FINAL REPORT
R-OU-295

STATISTICAL ANALYSIS OF NFSS PROTECTION CATEGORIES

DDC
APR 11 1969
A

by

R.O. Lyday, G.M. Botkin, E.L. Hill, and F.G. Giesbrecht

Reproduced by the
CLEARINGHOUSE
for Federal Scientific & Technical
Information Springfield Va 22151

This document has been approved for public release and sale; its distribution is unlimited.

RESEARCH TRIANGLE PARK, NORTH CAROLINA 27709

B7

RESEARCH TRIANGLE INSTITUTE
OPERATIONS RESEARCH AND ECONOMICS DIVISION
RESEARCH TRIANGLE PARK, NORTH CAROLINA

OCD Review Notice

This report has been reviewed in the Office of Civil Defense and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Office of Civil Defense.

FINAL REPORT R-OU-295

Statistical Analysis of NFSS Protection Categories

by

R. O. Lyday, Jr., G. M. Botkin, E. L. Hill, and F. G. Giesbrecht

December 1968

for

OFFICE OF CIVIL DEFENSE
OFFICE OF THE SECRETARY OF THE ARMY
Washington, D.C. 20310

through

Stanford Research Institute

under

Subcontract No. 11213(4949A-72)
OCD Work Unit 1154C

This document has been approved for public release and sale; its distribution is unlimited.

FINAL REPORT

R-OU-295

Statistical Analysis of NFSS Protection Categories

by

R. O. Lyday, Jr., G. M. Botkin, E. L. Hill, and F. G. Giesbrecht

RESEARCH TRIANGLE INSTITUTE
Post Office Box 12194
Research Triangle Park, North Carolina

Approved by:

Edward L. Hill
Group Leader

Ralph L. Ely, Jr.
Ralph L. Ely, Acting Director
Operations Research and Economics
Division

December 1968

ACKNOWLEDGEMENTS

The authors wish to express appreciation for the assistance given by Mr. Ahmed A. Qadeer and Mr. Herbert H. Hill in the planning, data collection, and data preparation phases of this project.

In addition, the authors wish to acknowledge the participation of Messrs. M. D. Wright, R. L. Hedgecock, and C. T. Sawyer in the extensive field work necessary to obtain data for both this project and OCD Work Unit 1159C.

ABSTRACT

The objective of this research was to determine the relationship between the center protection factors (PF's) of a large sample of facilities as evaluated in accordance with the Engineering Manual (PF-COMP) and the center PF's of the same facilities as evaluated in the NFSS prior to February 1967. The 334 buildings in the statistical sample were selected from San Jose, Albuquerque, New Orleans, Detroit, and Providence. In addition to PF's reported in NFSS Phases 1 and 2 and PF's calculated by PF-COMP using RTI collected data, the following separate estimates of the center PF were determined: NFSS Phase 1 and 2 methods using RTI input data, PF-COMP using NFSS input data, and PF-COMP using NFSS input data supplemented by additional building data collected by RTI. As a result of this statistical analysis, conclusions regarding the relationship of the seven PF estimates are:

1) Revised NFSS PF's for individual buildings should not be estimated nor is any advantage seen in revised estimates of Phase 2 shelter PF's available in a geographic area such as a county. This conclusion is drawn because NFSS Phase 2 (P2-NFSS) PF's are nonconservative (high) when compared to Engineering Manual-RTI (EM-RTI) results and because of the difficulty in obtaining Phase 2 PF values other than by PF category.

2) PF's calculated using NFSS Phase 1 and 2 procedures and RTI collected input data (P1-RTI and P2-RTI) are both conservative (low) when compared to EM-RTI results. The nonconservative results determined in the NFSS are therefore attributed to data collection discrepancies.

3) Many buildings surveyed in the NFSS prior to February 1967 have PF's less than 40 and are consequently not contained in Phase 2 data files. The regression equation developed for the total sample to determine the relationship between P1-NFSS and EM-RTI could be used to estimate PF's of buildings in this category. These results would be useful in damage assessment when analysis of areas as large as a county are made.

4) Procedures have been established whereby NFSS Phase 1 and 2 input data collected prior to February 1967 can be processed by PF-COMP. However, because of input discrepancies noted in NFSS data when compared to RTI collected data, this method of estimating revised values for shelter stories is not recommended.

5) A comparison of NFSS Phase 2 data with EM-RTI data indicated that (a) each procedure identified shelter on the same story for 327 stories; (b) there are 41 stories identified as shelter stories by the NFSS that were not found to have shelter by PF-COMP; and (c) PF-COMP identified 133 shelter stories that are not contained in NFSS files. The conclusion is that the current use of PF-COMP will substantially increase the number of shelter stories in the NFSS.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
LIST OF FIGURES	vi
LIST OF TABLES	vi
I. INTRODUCTION	1
II. SAMPLE DATA	3
A. Sample of Buildings	3
B. Protection Factor Computations	3
C. Preparation of Data for Analysis	7
III. STATISTICAL ANALYSIS	9
A. Objective	9
B. Statistical Technique	9
C. Regression Analyses Considered	12
D. Discussion	16
IV. RESULTS	18
A. Relationship Between NFSS Phase 1 and PF-COMP Results	18
B. Relationship Between NFSS Phase 2 and PF-COMP Results	26
C. PF-COMP Calculations Using NFSS Data	31
V. CONCLUSIONS	32
REFERENCES	34
APPENDIX A - Contractual Scope of Work	A-1
APPENDIX B - Sample Building Data	B-1
APPENDIX C - Buildings Not Used in Regression Analysis	C-1
APPENDIX D - Example of Regression Analysis Printout	D-1
APPENDIX E - Data Displays	E-1

LIST OF FIGURES

Number		Page
1	Relation Between Regression Line, Points of Scatter Diagram, and Standard Error of Estimate	10
2	Relationship Between P1-NFSS and EM-RTI Protection Factors	13
3	Relationship Between ln (P1-NFSS) and ln (EM-RTI) Protection Factors	15
4	Relationship Between P1-NFSS and EM-RTI Reduction Factors	17

LIST OF TABLES

I	Protection Factor Categories	5
II	Calculation of Regression Line and Related Quantities for the Regression Example Data	10
III	Comparison of P1-NFSS Results with EM-RTI Results (Standard Regression)	19
IV	Comparison of P1-NFSS Results with EM-RTI Results (Regression Line Forced Through Origin)	20
V	Comparison of P1-NFSS Results with EM-RTI Results for Specific Building Characteristics	22
VI	Regression Analysis Results Used in Estimating Variation of NFSS Phase 1 Results	24
VII	Regression Analysis Results for Work Unit 1115A Phase 1 Data	25
VIII	Comparison of P2-NFSS Results with EM-RTI Results	27
IX	Shelter Spaces and Shelter Stories in Sample Buildings	28
X	Comparison of P2-NFSS Results with EM-RTI Results for Specific Building Characteristics	29
IX	Regression Analysis Results Used in Estimating Variation of NFSS Phase 2 Results	30

Statistical Analysis of NFSS Protection Categories

I. INTRODUCTION

The National Fallout Shelter Survey (NFSS) was designed to identify fallout shelter space in all buildings other than single family dwellings. Before February 1967, Phase 1 of the NFSS used a computer program at the National Bureau of Standards (NBS) to obtain a "first estimate" of the protection factors in the buildings, and Phase 2 was a follow-up to more completely identify and locate the probable shelter areas in the buildings. In Phase 1, the basic dimensions and structural information were recorded on Film Optical Scanning Device for Input to Computers (FOSDIC) forms and processed through the NFSS/NBS computer program [Ref. 1]. The output from this program was a listing of the protection factors (PF) within each building. Manual corrections to the computer results were made in Phase 2 to account for aperture sill heights, areaways, and partitions not reported in Phase 1.

In 1964, the Research Triangle Institute (RTI) began writing a computer program (PF-COMP) [Refs. 2 and 3] to calculate the protection factors in a building by procedures more nearly like those of the detailed Engineering Manual method.[1/] This program was designed to consider the effects of sill heights, areaways, and partitions, thereby eliminating the "manual corrections" carried out in Phase 2. The program output provides the shelter analyst with a detailed analysis of the protection factor at the center of each story of a structure and displays the PF's for eight other predetermined locations on each story. It also provides estimates of the shelter boundaries and number of shelter spaces available on each story. This program (PF-COMP) replaced the Phase 1 and Phase 2 NFSS procedures for shelter evaluation in February 1967.

To date, approximately 182 million shelter spaces with a PF of at least 40 have been identified in the total NFSS [Ref. 7]. This is far short of the number needed to shelter the total U. S. population. However, many buildings have areas within them with PF's just below the "cutoff" point (PF 40) and thus their indication as shelter is highly dependent on the accuracy of the shelter evaluation programs. In addition, the results of OCD Work Unit 1115A [Ref. 8] showed that the NFSS Phase 1 PF's were generally substantially lower than hand calculated PF's determined

---

1/ The term "Engineering Manual" refers to the PF computational method described in References 4 and 5 and contained in Reference 6 as the "Detailed Procedure." The PF-COMP Program initially was based on data presented in Reference 6, supplemented by Radiation Shielding Analysis charts dated June 1964. Subsequent revisions to the "Engineering Manual" method have been incorporated in PF-COMP to keep it current with the shielding state-of-the-art.

using the Engineering Manual procedure for the same facility, although NFSS Phase 2 results for eight of the 32 sample buildings were nonconservative. Because of the small sample of only 32 buildings in that study, it was not possible to determine reliably a useful relationship between the EM PF and the NFSS PF. The PF-COMP Program now enables Engineering Manual type results to be obtained for buildings without performing tedious hand calculations.

The objective of the present research was to determine the relationship between the center PF's of a large sample of facilities as evaluated in accordance with the Engineering Manual and the center PF's of the same facilities as evaluated in the NFSS prior to February 1967. Mathematical relationships for estimating revised PF values for NFSS structures with selected characteristics are given. The sources that contribute to the total variance between the Engineering Manual PF and the NFSS PF are also identified and PF estimates are given for buildings which could be recalculated using PF-COMP procedures and NFSS Phase 1 and 2 input data.

The scope of work for this contract is given in Appendix A.

II. SAMPLE DATA

A. Sample of Buildings

Under OCD Work Unit 1159C, Structural Characteristics of NFSS Buildings [Ref. 9], the frequencies of occurrence of selected structural attributes in a statistical sample of National Fallout Shelter Survey (NFSS) buildings in the cities of Providence, New Orleans, Detroit, Albuquerque, and San Jose were determined. The structural characteristics analyzed included: dimensions, number of stories, apertures, foundation, substructure, exterior walls, frame, roof, floors, and interior partitions. Additional data necessary for protection factor analyses by the NFSS/NBS and PF-COMP Computer Programs were also obtained for use in this project.

A sufficient number of buildings were surveyed in each city to give a relative standard error of approximately twenty percent for an estimate of a structural attribute which occurs in twenty-five percent of the buildings in each city. To achieve this degree of statistical accuracy, it was estimated that a sample of 309 buildings would be sufficient, divided among the cities as follows:

Providence	67
New Orleans	60
Detroit	74
Albuquerque	53
San Jose	55

A sample of this size obviously enables a more accurate determination of the relationship between Engineering Manual PF's and NFSS PF's to be made than was possible using the 32 buildings surveyed under OCD Work Unit 1115A.

The geographic areas surveyed were the entire Standard Metropolitan Statistical Areas of the above cities, except for the portion of the Providence SMSA that lies in Massachusetts. Special facilities (tunnels, caves, etc.) and buildings where licenses have been refused were excluded from consideration. A random sample of buildings to be surveyed was selected from the remainder of the NFSS buildings (NFSS facility numbers) in the SMSA. In addition to the basic sample in each SMSA, alternate buildings were selected in order to have substitute buildings for those where entry was denied and in order to enlarge the sample when time permitted the survey of additional buildings; 334 buildings were actually surveyed.

B. Protection Factor Computations

Engineers and analysts from RTI visited the local building inspectors, city engineers, city planning personnel, and others to collect data for each building from building plans, Sanborn Maps, geological maps, building codes, etc. A visit

was then made to each building site to verify these data and to obtain any additional data necessary to determine the following separate estimates of the center PF for each shelter story:

1) PF reported under NFSS Phase 1 (P1-NFSS).
2) PF reported under NFSS Phase 2 (P2-NFSS).
3) PF by NFSS Phase 1 methods using RTI input data (P1-RTI).
4) PF by NFSS Phase 2 methods using RTI input data (P2-RTI).
5) PF from PF-COMP using NFSS Phase 1 and 2 building input data (EM-NFSS).
6) PF from PF-COMP using NFSS Phase 1 and 2 input data plus additional building data collected by RTI survey teams (EM-NFSS and RTI).
7) PF from PF-COMP using building input data collected by RTI survey teams (EM-RTI).

NFSS Phase 1 (P1-NFSS) PF's were previously calculated by the National Bureau of Standards using Architect-Engineer (AE) supplied input data, and NFSS Phase 2 (P2-NFSS) PF's were determined by the AE's by modifying Phase 1 PF's as required. Data for calculating the remaining PF's were collected in the field survey phase of Work Unit 1159C as described above and actual PF calculations were performed under the present project. Procedures used and problems encountered in obtaining the NFSS PF's and in calculating the remaining five PF's are contained in the following sections:

1. Phase 1-NFSS

NFSS Phase 1 input data for the sample buildings were obtained on computer tape from the master NFSS files at the National Bureau of Standards (NBS). However, output data from the PF computations were not contained on computer tape at NBS or at the National Civil Defense Computer Facility (NCDCF) where official NFSS records are now maintained. Therefore, it was necessary to review computer printouts to obtain NFSS Phase 1 output data. Information for facilities survey through 1963 were available in Office of Civil Defense (OCD) Pentagon Files; printouts for facilities surveyed in later years had to be obtained from that part of the OCD data bank at the Institute for Defense Analyses (IDA). In addition to the PF of each story of all building parts, the contributions (reduction factors) from the ceiling and from each wall were obtained from these printouts.

2. Phase 2-NFSS

In Phase 2 of the NFSS, the AE's collected data regarding aperture sill heights, areaways, and interior partitions; these data were recorded on the front of the Phase 2 Data Collection Form (DCF). The effect of these building parameters on the PF were determined and the PF category, as shown in Table I, was reported on the front side of the DCF for each shelter story. Details of

these calculations were sometimes, but not always, reported on the back side of the Phase 2 Data Collection Form (DCF) for each shelter story. Only data located on the front side of the Phase 2 DCF were recorded on NFSS computer tapes at NCDCF. Of the 292 shelter stories with a Phase 2 NFSS PF reported, 132 were reported to be in a PF category different (higher or lower) than reported in NFSS Phase 1. In many cases, the back of the DCF could not be obtained and in many other cases the computations were not reported on the DCF. Therefore, only the PF category for some shelter stories was available for analysis of Phase 2 PF's. The values used in analyses involving Phase 2 results for such stories are also shown on Table I.

Many buildings and building parts analyzed in Phase 1 were not reported in Phase 2 because the adjusted PF did not meet the prescribed minimum of 40. In buildings that were divided into "building parts" for PF analysis in Phase 1, it was quite common for only one part to be contained in Phase 2 records. These buildings presented considerable problems of identification in this analysis because such results in Phase 2 were labeled as "Part 00" with no relationship to Phase 1 parts given. Shelter marking sketches were evaluated, when available, from the Corps of Engineers or Naval Facilties Engineering Command, and engineering judgments were made to correlate Phase 1 part numbers with Phase 2 results for such facilities.

Table 1

PROTECTION FACTOR CATEGORIES

Protection Factor (PF)		Reduction Factor (RF)	
Category	Range	Range	RF Used In Phase 2 Analysis*
8	over 1,000	Less than .0010	.001
7	500 - 1,000	.0020 to .0010	.002
6	250 - 499	.0040 to .0020+	.003
5	150 - 249	.0067 to .0040+	.006
4	100 - 149	.0100 to .0067+	.009
3	70 - 99	.0143 to .0100+	.012
2	40 - 69	.0250 to .0143+	.020
1	20 - 39	.0500 to .0250+	.038
0	10 - 19	.1000 to .0500+	.075

*NFSS Phase 1 Reduction Factor (RF) data computed by NBS and furnished to the AE were reported to only three decimal places; therefore, the values used by RTI in analysis of Phase 2 PF's when only the PF category was known are the means of the RF range rounded to the third decimal place.

3. Phase 1-RTI

Data obtained in the RTI field survey of the sample buildings were used to prepare FOSDIC forms for all buildings using NFSS Phase 1 instructions [Ref. 10]. The division of complex buildings into building parts again presented identification difficulties. Marking sketches, NFSS FOSDIC forms, or NFSS Phase 2 DCF's were quite often difficult or impossible to obtain and some such data were required to assign RTI building part numbers that would correspond to NFSS assigned numbers. Because of the sensitivity of the NFSS/NBS Program to erasures and other indications that might cause errors in interpretation of input data, many FOSDIC forms had to be processed several times to get acceptable results.

4. Phase 2-RTI

Using NFSS Phase 2 procedures [Ref. 11], adjustments were made to the Phase 1-RTI PF's to account for aperture sill heights, areaways, and interior partitions. The actual values calculated using these procedures were used in analyses involving Phase 2-RTI data. The data for the building characteristics required to make the PF and RF adjustments were also obtained in the field survey phase of OCD Work Unit 1159C.

5. Engineering Manual-NFSS

All NFSS building data required in Phase 1 and 2 calculations were reported on Phase 1 FOSDIC forms and on the front of Phase 2 DCF's.[2/] Records of these are maintained on computer tape at the National Bureau of Standards and NCDCF, respectively. Manual transcription of data from these records to a form suitable for processing by the PF-COMP Program would have been a tedious and time-consuming task and would have led to transcription errors. Therefore, a computer program was written to extract NFSS data and reorganize it for use by the PF-COMP Program. NFSS data (especially for contaminated planes and interior partitions) collected prior to February 1967 are not nearly as extensive as those normally collected for the PF-COMP Program, but could be modified for processing. These results indicate the PF's that could be obtained if the earlier NFSS data were recalculated using a program based on the Engineering Manual.

6. Engineering Manual-NFSS and RTI

As indicated above, NFSS data collected in Phases 1 and 2 do not describe a building as completely as data collected for processing by the PF-COMP Program. Therefore, NFSS data were supplemented by more complete data collected

---

2/ It is noted that only the detailed NFSS Phase 2 calculations using these building data were reported on the back of the DCF and consequently not always available.

for PF-COMP analyses and PF's in the sample buildings were then calculated by the PF-COMP Program. Interior partition data and the single azimuthal sector per side used to describe contaminated planes in the NFSS were replaced by PF-COMP data. This was accomplished by replacing the punch cards containing interior partition data and contaminated plane data, which were used to calculate the Engineering Manual-NFSS PF described in paragraph 5 above, with comparable cards containing PF-COMP data.

7. Engineering Manual-RTI

Sufficient building data were collected in the field survey phase of OCD Work Unit 1159C to make Engineering Manual type calculations using the PF-COMP Program. These data were submitted on Shielding Analysis Forms, described in Reference 2, to the National Civil Defense Computer Facility for processing by the PF-COMP Program in effect in February 1967. Due to the lack of urgency and the availability of more building plans than were indicated to be available to NFSS survey personnel (based on review of FOSDIC Item 21, Survey Method Code), it is assumed that the RTI collected data are more nearly correct and complete than those collected in the NFSS. Therefore, PF's calculated by the PF-COMP computer program using these data were used as the base against which the other PF's were compared in this project.

C. Preparation of Data for Analysis

Data for each story of the Work Unit 1159C buildings determined to be adequate for this analysis were prepared on punched cards for machine analysis. Listings of the data for the 901 stories analyzed and a discussion of how these data were obtained are given by city in Appendix B. Included in the data for each story are the PF's and reduction factors determined by each of the seven methods described in Section II.B., Structural Classification (PV Code), Use Class Code, number of shelter spaces determined in the P2-NFSS and EM-RTI calculations, and the following selected NFSS reported building characteristics estimated to be of most significance in PF computations:

1) Average aperture sill height.
2) Minimum aperture sill height.
3) Average percent apertures for the detector story.
4) Maximum percent apertures for the detector story.
5) Height of detector above or below first story floor level.
6) Total overhead weight.
7) Weight of ceiling.
8) Weight of floor.
9) Average exterior wall mass.

10) Average wall exposure (for basements only).

11) Average interior partition weight.

12) Average percent apertures of story above.

13) Average exterior wall weight of story above.

14) Average percent apertures of story below.

15) Average wall weight of story below.

For several reasons, all of the buildings surveyed under Work Unit 1159C were not analyzed in this project and are therefore not listed in Appendix B. A list of those buildings not analyzed in this project is given in Appendix C; they were not included in this analysis for one of the following reasons:

1) Correspondence of NFSS building part numbers and RTI assigned part numbers could not be determined. Shelter marking sketches, NFSS Phase 1 FOSDIC forms, or Phase 2 DCF's were required to identify part numbers assigned to complex buildings in the NFSS and these were not always available, especially during the field survey phase. Therefore, if such data were not available, it was impossible to determine which portion of a complex building should be compared with RTI results. In many cases the RTI analyst considered it necessary to break a building into multiple parts, whereas the NFSS submission was done as a single building part. Conversely, many buildings subdivided into parts in the NFSS were done as one part by RTI.

2) The number of stories assigned to a building in the NFSS did not match the number of stories assigned by the RTI field survey teams.

3) The EM-NFSS PF or the EM-RTI PF was not obtained. The EM-NFSS data extraction program yielded the NFSS building characteristics which are listed in Appendix B and which were used in determining the relationship of PF to selected building parameters. The EM-RTI PF was the base against which other PF's and RF's were analyzed.

III. STATISTICAL ANALYSIS

A. Objective

The objective of this analysis was to describe the relationships among the various PF estimates, taking into account various building characteristics. For example, the model used to describe the relationship between the NFSS Phase 1 (P1-NFSS) PF and the PF-COMP (EM-RTI) PF is:

$$Y = KZ + C, \qquad (1)$$

where Y = EM-RTI PF, Z = P1-NFSS PF, C = a bias in the estimated PF's, and K, which is a function of building characteristics (X_1, X_2, ..., X_k), is determined in the analysis.

B. Statistical Technique

The principal statistical technique used to analyze data of these types is called general linear model analysis, or simply "regression" analysis. As stated in Reference 12, "Regression analysis may be defined as the estimation or prediction of the value of one variable from the values of other given variables." Using this procedure in the preceding example, an expression could be determined for K as a function of the variables X_1, X_2, ..., X_k.

An illustration of this technique is given by the following simple example from pages 146-161 of Reference 13. The first two columns of Table II give ten pairs of values which are also graphically represented in Figure 1 as a scatter diagram. The problem is to determine the linear equation that will yield for each X-value a certain Y-value (Ye) which will be an estimate of the actual Y-value. The linear equation for the line of best fit can be written in the form:

$$Ye = a + bX. \qquad (2)$$

The *method of least squares* is the method of fitting a line to a set of n points in such a way that $\Sigma(Y-Ye)^2$ has its smallest value, where the sum is calculated for the given n pairs of values of X and Y. The problem now has been reduced to finding, for the given pairs of values of X and Y, the constants a and b of equation (2) in such a way that $\Sigma(Y-Ye)^2$ is minimized. By the methods of the differential calculus, values for a and b are determined by the following two linear equations:

$$an + b\Sigma X = \Sigma Y \qquad (3)$$

$$a\Sigma X + b\Sigma X^2 = \Sigma XY. \qquad (4)$$

Table II

CALCULATION OF REGRESSION LINE AND RELATED QUANTITIES FOR THE REGRESSION EXAMPLE DATA[3/]

X	Y	XY	X^2	Y^2	Y_e	$Y - Y_e$	$(Y - Y_e)^2$
45	6.53	293.85	2025	42.6409	7.28	−0.75	0.5625
42	6.20	264.60	1764	39.6900	6.75	−0.45	0.2025
56	9.52	533.12	3136	90.6304	9.22	0.30	0.0900
48	7.50	360.00	2304	56.2500	7.81	−0.31	0.0961
42	6.99	293.58	1764	48.8601	6.75	0.24	0.0576
35	5.90	206.50	1225	34.8100	5.52	0.38	0.1444
58	9.49	550.42	3364	90.0601	9.57	−0.08	0.0064
40	6.20	248.00	1600	35.4400	6.40	−0.20	0.0400
39	6.55	255.45	1521	42.9025	6.22	0.33	0.1089
50	8.72	436.00	2500	76.0384	8.16	0.56	0.3136
455	72.70	3441.52	21203	560.3224			1.6220

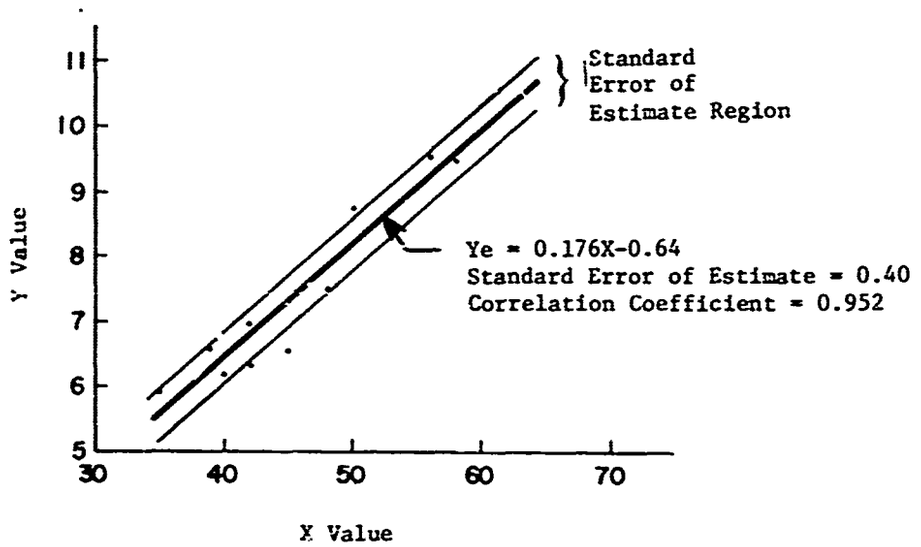


Fig. 1. Relation Between Regression Line, Points of Scatter Diagram, and Standard Error of Estimate[3/]

3/ Source: Reference 13.

The quantities required in the solution of these equations are also given in Table II. The equation of the line of regression of Y and X takes the form:

$$Ye = -0.64 + 0.176X. \qquad (5)$$

The standard error associated with this equation is called the "standard error of the estimate" and is given by:

$$Se = \sqrt{\frac{\Sigma(Y-Ye)^2}{N}} \quad . \qquad (6)$$

The standard error for this example is 0.40, which indicates that about two-thirds of the observed values of Y fall within a region bounded by two lines drawn parallel to the line of regression at a vertical distance of 0.40 from it as shown on Figure 1. A measure of the correspondence between the X and Y values can be obtained by the "correlation coefficient" which is given by:

$$R = \sqrt{\frac{\Sigma(Ye-\bar{Y})^2}{\Sigma(Y-Ye)^2+\Sigma(Y-\bar{Y})^2}} \quad . \qquad (7)$$

In this example, the correlation coefficient is 0.952. The larger the correlation coefficient is in absolute value, the closer the points lie to a straight line and the stronger is the evidence of a linear relationship.

Because of numerous calculations required in this statistical analysis, a computer program was used. This program is a part of the "TSAR System" [Ref. 14], which is a set of programs written by Duke University Computation Center, Durham. North Carolina, for the IBM 360, Model 75 Computer. The output from this program, which is discussed in detail in Appendix D, contains estimates of K and C (Equation 1) and an indication of the most important variables (X) by giving the correlation coefficient for each regression. The standard error given in the output is the root mean square of the deviations of data points from the regression line.

C. Regression Analyses Considered

As an example of the types of analyses performed, those pertaining to the relationship of the NFSS Phase 1 (P1-NFSS) computation and the RTI Engineering Manual (EM-RTI) computations are explained in some detail.

1. Protection Factors

The first attempt was to find constants K and C such as to allow one to predict

$$\text{EM-RTI PF} = K\ (\text{P1-NFSS PF}) + C. \qquad (8)$$

The regression or least squares estimates for K and C are 0.650 and 94. The analysis of variance associated with this regression analysis is as follows:

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression due to C	15,370,123	1	
Regression due to K given C	12,272,790	1	21,272,790
Residual (error)	19,077,371	338	56,442
Total	46,720,284	340	

Figure 2 shows a plot of the 340 data points and the fitted function. The figure also shows parallel lines, 238 units above and below the fitted line. This value (238 units) is the standard error of the estimate and is computed as the square root of the average squared deviation of the predicted EM-RTI values from the observed values. These lines represent approximations to the 66% confidence limits for predicted individual EM-RTI PF values for a given P1-NFSS PF value. In other words, this band should cover the true EM-RTI PF value approximately two-thirds of the time.

2. Logarithms of Protection Factors

A second attempt was to fit a function of the type:

$$\ln\ (\text{EM-RTI PF}) = K \ln\ (\text{P1-NFSS PF}) + C. \qquad (9)$$

The values for K and C which minimize the deviations of the predicted ln (EM-RTI PF) values from the observed are 0.731 and 1.378. The analysis of variance associated with this equation is as follows:

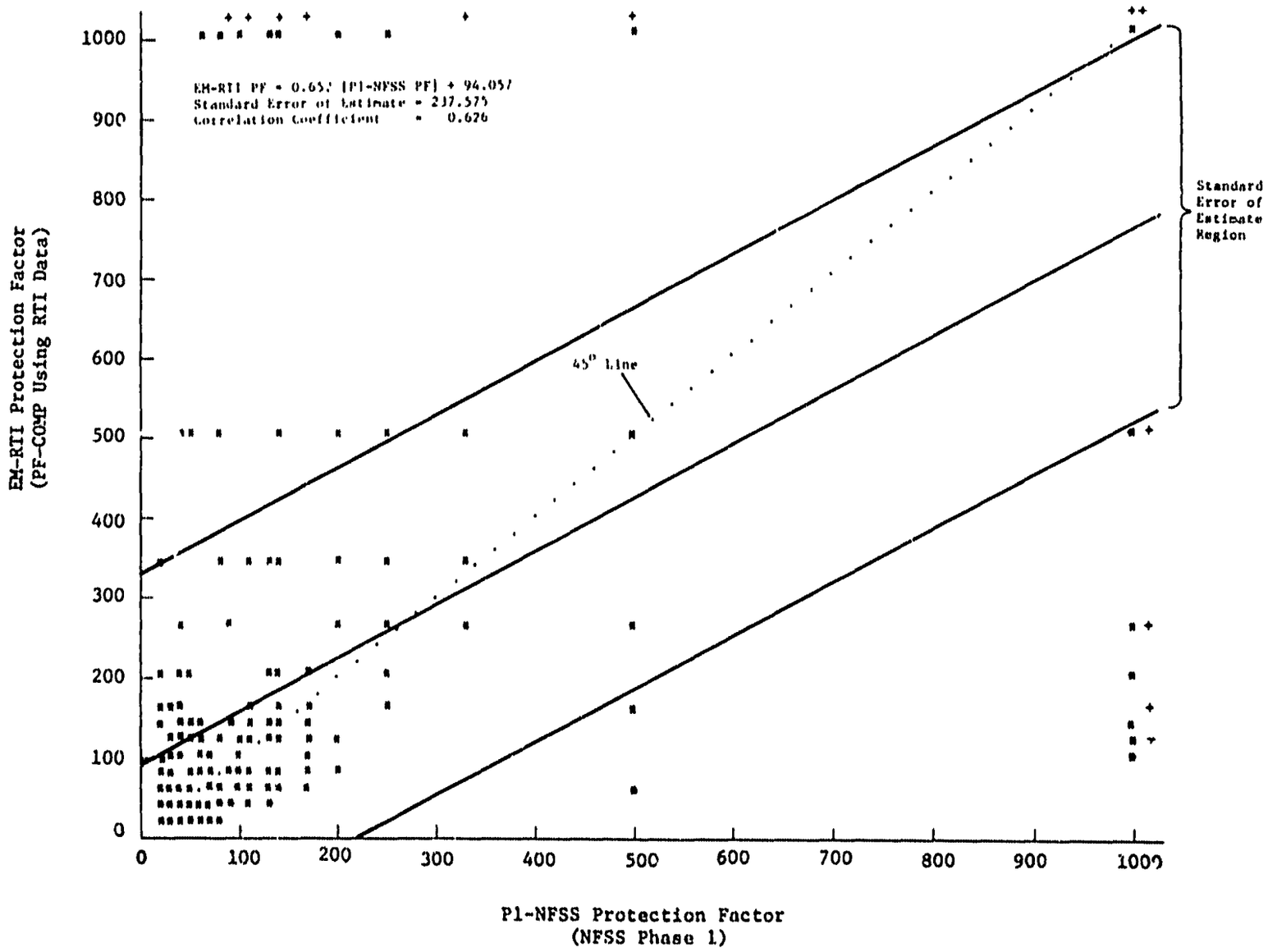


Fig. 2. Relationship Between P1-NFSS and EM-RTI Protection Factors. (Total Sample - 340 Shelter Stories)

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression due to C	7,159.72	1	
Regression due to K given C	238.67	1	238.67
Residual (error)	231.43	338	0.685
Total	7,629.82	340	

Figure 3 shows the plot of the data, the fitted line and the 66% confidence band. Over the whole scale this appears to be a better fit than the PF analysis shown in Figure 2. However, if attention is focused on the region of PF's less than 100, the results lose much of their appeal.

3. Reduction Factors

A final analysis was attempted, using the reciprocals of protection factors, i.e., reduction factors. The values of K and C in the equation

$$\text{EM-RTI RF} = K\ (\text{P1-NFSS RF}) + C \qquad (10)$$

are 0.595 and 0.005. The analysis of variance table appropriate to this equation is as follows:

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression due to C	0.097581	1	
Regression due to K given C	0.025662	1	0.025662
Residual (error)	0.052969	338	0.000157
Total	0.176212	340	

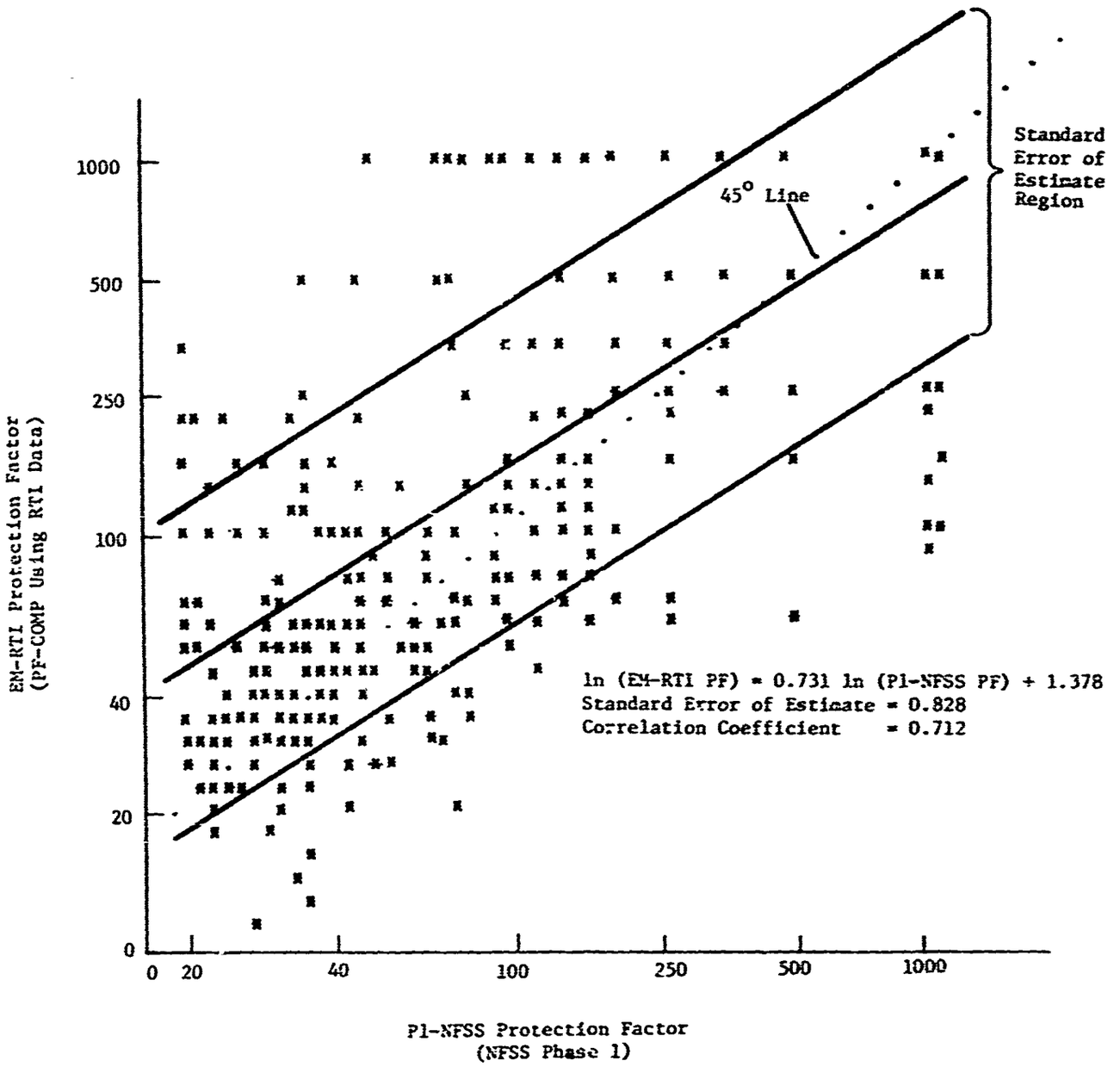


Fig. 3. Relationship Between ln (P1-NFSS) and ln (EM-RTI) Protection Factors (Total Sample - 340 Shelter Stories)

A second regression line, forced to go through the origin, was also attempted. The value of K in the equation

$$\text{EM-RTI RF} = K\ (\text{P1-NFSS RF}) \qquad (11)$$

is 0.773. The analysis of variance table for this regression becomes:

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression due to K	0.119654	1	0.119654
Residual (error)	0.056558	339	0.000167
Total	0.176212	340	

Both of these regression lines are shown in Figure 4. An examination of these two analyses suggests that there is an improvement in the fit of the regression line when it is not forced through the origin; i.e., the mean square of the residual error is less.

D. Discussion

An examination of the data displays and the regression lines shown in Figures 2 through 4 indicates relatively poor fits for all regression lines. Consequently, it was difficult to determine an "optimum" curve-fitting method for the data. The above analysis indicates that the use of logarithms gives slightly better results, followed by reduction factors and protection factors in that order. Nevertheless, reduction factors were used due to their immediate availability from NFSS records and their ease of interpretation.

Separate values of K were calculated for each of the five cities to determine whether fundamental differences in NFSS survey procedures, differences in building construction practice, etc., caused significant differences from city to city. Similarly, when it appeared that the relationship describing a certain PF estimate was fundamentally different for buildings with certain characteristics, separate estimates of K were computed.

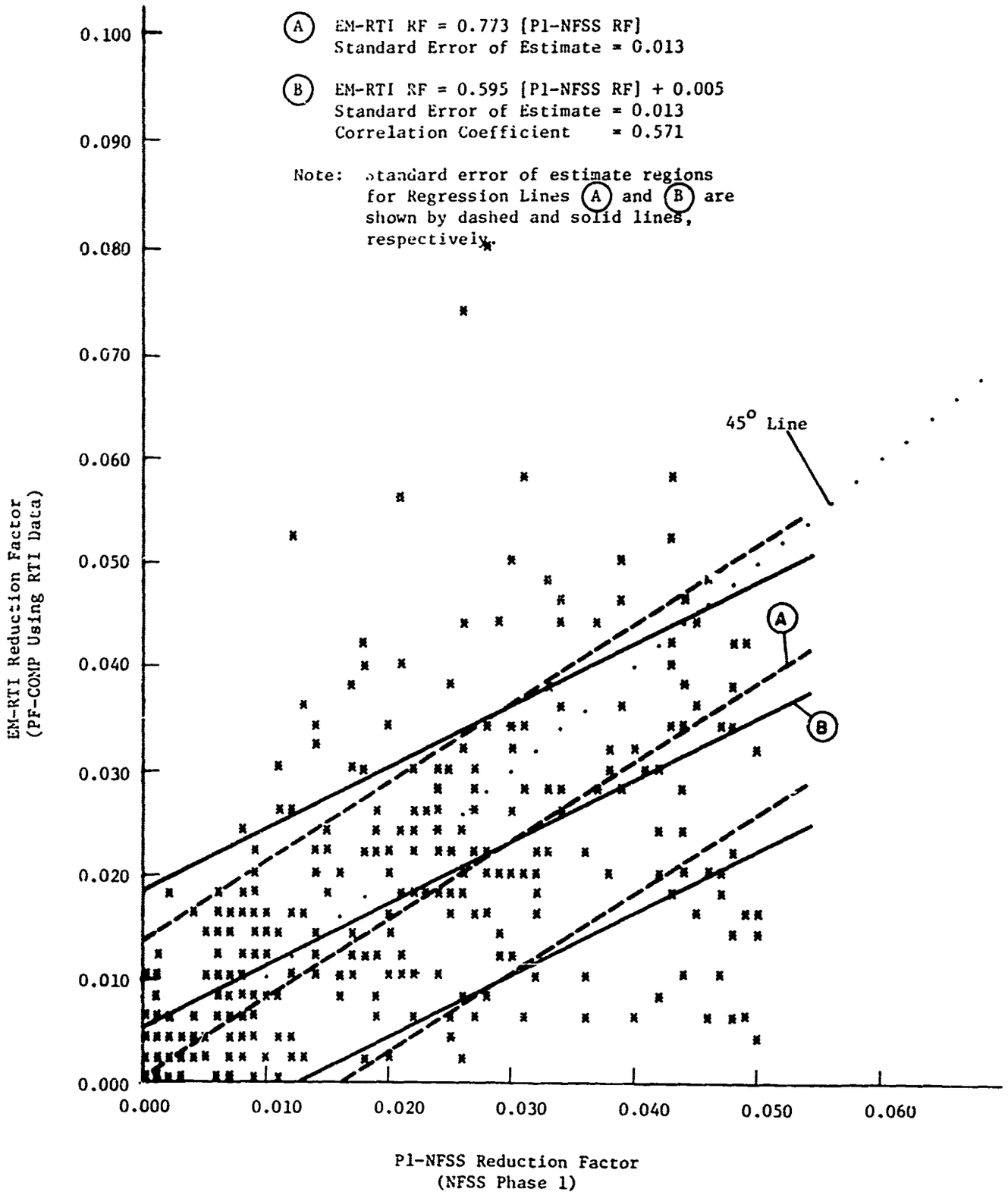


Fig. 4. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Total Sample - 340 Shelter Stories)

IV. RESULTS

A. Relationship Between NFSS Phase 1 and PF-COMP Results

1. Total Sample and Individual City Results

A comparison of NFSS Phase 1 (P1-NFSS) results with PF-COMP (EM-RTI) results, which are based on Engineering Manual procedures, indicates the overall difference in computer results due to both procedural differences in the methods and variations in collection and reporting of field data.

a. Linear Regression Using Reduction Factors

The linear regression equations determined by comparing P1-NFSS and EM-RTI results (with all building characteristics included) are shown in Table III for all eligible stories in the sample and for the eligible stories in each city. To be eligible for inclusion in this analysis, it was required that each story have P1-NFSS, P1-RTI, and EM-RTI PF's available so that comparisons of these three results would be based on the same sample size. The relationship of the RF's obtained using P1-NFSS and EM-RTI procedures for the 340 total sample stories is shown in Figure 4 (repeated in Appendix E as Figure E-1) along with the resultant regression line.[4/]

It is difficult to discern the trends in the mathematical relationship between the P1-NFSS and EM-RTI results, which are based on reduction factors, by inspection of the multiplicative factor (K) and the constant (C). Therefore, the equations were solved for P1-NFSS reduction factors corresponding to PF's of 20, 40, and 100 and the resultant EM-RTI PF's are also given in Table III. The results for the total sample and for each of the cities indicate that NFSS Phase 1 PF's are conservative (low) for PF values of 20 and 40 when compared to Engineering Manual results (PF-COMP), but all sample results are nonconservative (high) for NFSS Phase 1 PF's of 100. Solving the equation to determine the PF at which results become nonconservative (high) for the total sample gives a PF of 74. There are significant differences noted in results from one city to another, with San Jose NFSS Phase 1 results appearing to be the most conservative (low). However, the correlation coefficient for San Jose is the smallest (0.387).

4/ Similar illustrations for the remaining 42 regression analyses are shown in Appendix E.

A comparison of results for all stories in all of the cities that have a protection factor less than 100 gave a K of 0.347, with a C of 0.014, and a correlation coefficient of 0.255. This indicated that breakdown of the total sample by PF range was not a significant parameter.

Table III

COMPARISON OF P1-NFSS RESULTS WITH EM-RTI RESULTS*
(Standard Regression)

Sample	Sample Size	EM-RTI RF = K [P1-NFSS RF] + C				Estimated EM-RTI PF When P1-NFSS PF Is:		
		K	C	Standard Error	Correlation Coefficient	20	40	100
All Cities	340	0.595	0.005	0.013	0.571	29	50	91
Providence	58	0.735	0.005	0.009	0.712	24	43	81
Detroit	47	0.875	0.003	0.014	0.685	21	40	85
New Orleans	117	0.655	0.005	0.013	0.590	26	47	87
Albuquerque	28	0.730	0.004	0.008	0.843	25	45	88
San Jose	90	0.353	0.007	0.013	0.387	41	63	95

*See Figures E-1 through E-6 of Appendix E for displays of the data analyzed in each sample.

b. Linear Regression (Through the Origin) Using Reduction Factors

Forcing the regression line through the origin elimates the constant (C) in the equation, with the relationship between PF methods then expressed as a function of a single multiplicative factor (K). However, as discussed in Section III, these results are not as statistically significant as the results determined when the regression line is not forced through the origin.

Therefore, only the results of comparing P1-NFSS and EM-RTI data (Table IV) are discussed in this report although similar regression equations for all other comparisons are given on the data displays contained in Appendix E.

Analysis of Table IV indicates that all estimated EM-RTI protection factors are higher than P1-NFSS results, i.e., the P1-NFSS PF's are indicated always to be conservative. This is in contrast with results shown in Table III, where P1-NFSS PF's in all samples become nonconservative somewhere between 40 and 100.

Table IV

COMPARISON OF P1-NFSS RESULTS WITH EM-RTI RESULTS*
(Regression Line Forced Through Origin)

Sample	Sample Size	EM-RTI RF = K [P1-NFSS RF]		Estimated EM-RTI PF When P1-NFSS PF Is:		
		K	Standard Error	20	40	100
All Cities	340	0.773	0.013	26	52	129
Providence	58	0.943	0.009	21	42	106
Detroit	47	0.962	0.014	21	42	104
New Orleans	117	0.810	0.013	25	49	123
Albuquerque	28	0.861	0.008	23	46	116
San Jose	90	0.571	0.014	35	70	175

*See Figures E-1 through E-6 of Appendix E for displays of the data analyzed in each sample.

2. Significance of Building Characteristics

The correlation coefficient is a measure of the importance of each variable in the regression analysis. A review of the regression analysis results (the TSAR regression analysis printout for P1-NFSS vs. EM-RTI is shown in Appendix D) indicated that no single parameter or group of parameters added significantly to the correlation coefficient. However, based on results of these analyses and engineering judgment, separate estimates of K were made for basements, upper stories, and each of these further subdivided into stories with roof contribution of $\geq$50 percent or <50 percent of the total contribution. These results, shown in Table V, indicate that no significant increase in the correlation coefficient is obtained by these subdivisions of the total sample. However, knowledge that the shelter story is a basement gives an equation with a correlation coefficient approximately the same as that for the total sample and a smaller standard error. It is noted that only basements with <50 percent roof contribution are predicted to have EM-PF's greater than 100 (conservative) when the NFSS Phase 1 PF is 100.

Also shown in Table V are results obtained by subdividing the total sample by NFSS Use Class and Structural Classification. Each of these groupings, other than Government and Public Service Use Class, enables slightly better estimates of EM-PF's to be made than those made for the total sample or for the subdivision by basement and above-grade stories. NFSS Phase 1 PF's for Educational, Industrial, and Steel-Framed buildings are conservative when compared to each of the three estimated EM-RTI results. All three estimates of EM-RTI PF's for commercial buildings indicate that NFSS Phase 1 PF's are nonconservative (high) for each estimate; this is based on a relatively large sample of 141 stories.

Table V

COMPARISON OF P1-NFSS RESULTS WITH EM-RTI
RESULTS FOR SPECIFIC BUILDING CHARACTERISTICS*

Sample	Sample Size	EM-RTI RF = K [P1-NFSS RF] + C				Estimated EM-RTI PF When P1-NFSS PF Is:		
		K	C	Standard Error	Correlation Coefficient	20	40	100
Total Sample	340	0.595	0.005	0.013	0.571	29	50	91
Basements	116	0.800	0.003	0.009	0.573	23	43	91
Roof Contribution ≥50% of Total RF	98	0.880	0.003	0.009	0.603	21	40	85
Roof Contributuion <50% of Total RF	18	0.577	0.002	0.007	0.498	32	61	129
Above-Grade Stories	224	0.543	0.007	0.014	0.487	29	49	80
Roof Contribution ≥50% of Total RF	25	0.660	0.007	0.016	0.539	25	43	74
Roof Contribution <50% of Total RF	199	0.535	0.007	0.014	0.484	30	49	81
Use Class								
Residential	55	0.744	0.005	0.008	0.609	24	42	80
Educational	43	0.776	0.002	0.008	0.679	25	47	102
Religious	6**	-	-	-	-	-	-	-
Gov't & Public Service	41	0.520	0.005	0.013	0.459	32	56	98
Commerical	141	0.931	0.005	0.009	0.673	19	35	70
Industrial	14	0.410	0.004	0.007	0.601	41	70	123
Amusement	4	-	-	-	-	-	-	-
Transportation	3	-	-	-	-	-	-	-
Structural Class								
Wood Frame	8	-	-	-	-	-	-	-
Wall-Bearing	82	0.882	0.002	0.010	0.605	22	42	92
Steel-Framed	96	0.614	0.002	0.007	0.602	31	58	123
Reinforced-Concrete Framed	119	0.628	0.004	0.010	0.554	28	51	97
Composite-Framed	2	-	-	-	-	-	-	-

*See Figure E-1 and E-7 through E-20 of Appendix F for displays of the data analyzed in each sample.

**Results for sample sizes of 10 or less are not reported.

3. Analysis of Variation

The preceding Sections IV.A.1. and 2. have described a large variation in NFSS Phase 1 (P1-NFSS) results and PF-COMP (EM-RTI) results. Sources of variation that are present in PF estimates include simple measurement errors (such as incorrect estimates of dimensions or mass thicknesses), and procedural differences (differences arising from the use of shorter approximate methods to calculate the PF, instead of more detailed procedures). PF's for the sample buildings calculated by NFSS Phase 1 procedures and using RTI collected input data (P1-RTI) can be used to estimate these variations. NFSS Phase 1 results were noted in Table IV, and repeated in Table VI. to be conservative for PF values of approximately 74 or less and nonconservative for larger values when compared to EM-RTI results. An estimate of variation due to simple measurement errors and other input discrepancies can be obtained by comparing estimates of P1-NFSS with estimates of P1-RTI. Solution of the equations with results shown in Table VI indicates that differences in input data collected by AE's and by RTI analysts cause AE estimates (P1-NFSS) to be nonconservative (high) above a PF of approximately 32 when compared to RTI estimates (P1-RTI). This indicates that the AE-estimated building characteristics are nonconservative when compared to RTI data; e.g., mass thicknesses were probably over-estimated as found in Reference 8. It was also noted in reviewing sample building data that many buildings contained partial basements and the AE's almost always chose to break the building into parts to account for this characteristic. This was done because the NFSS/NBS Program assumed the basement area to be the same as the first story area. Division of buildings into parts considerably reduced the amount of roof and ground contribution.

By comparing P1-RTI results with EM-RTI results, similar estimates of variation due to procedural differences in the NFSS/NBS Computer Program and the PF-COMP Computer Program can be determined. PF values shown in Table VI for this regression indicate that all three P1-RTI estimates are conservative when compared to EM-RTI estimates. The correlation coefficient for this regression is relatively large.

The above comparisons indicate that Phase 1 NFSS results are often nonconservative (high) when compared to EM-RTI results because of input data differences.

Table VI

REGRESSION ANALYSIS RESULTS USED IN ESTIMATING VARIATION OF NFSS PHASE 1 RESULTS*

Regression (Ind. vs. Dep.)	Sample Size	Dependent RF = K[Independent PF]+C				Estimated Dependent PF When Independent PF Is:		
		K	C	Standard Error	Correlation Coefficient	20	40	100
P1-NFSS vs. EM-RTI	340	0.595	0.005	0.013	0.571	29	50	91
P1-NFSS vs. P1-RTI	340	0.679	0.010	0.017	0.507	23	37	60
P1-RTI vs. EM-RTI	340	0.573	0.003	0.010	0.736	32	58	115

*See Figures E-1, E-21, and E-22 of Appendix E for displays of the data analyzed in each sample.

4. Analysis of Work Unit 1115A Data

NFSS PF results for 32 buildings were analyzed under OCD Work Unit 1115A [Ref. 8]; however, the statistical technique of regression analysis was not used to compare these findings. Although the sample size was quite small, results of regressions for P1-NFSS vs. EM (hand calculations), P1-RTI vs. EM (hand calculations), and P1-NFSS vs. P1-RTI are shown in Table VII.

Both P1-NFSS and P1-RTI results for the 32 buildings are quite conservative when compared to Engineering Manual hand calculations. This is the same result noted in Table VI for P1-RTI vs. EM-RTI, but the P1-NFSS vs. EM-RTI regression indicates nonconservative results for PF's above 74.

Comparison of protection factors for P1-NFSS vs. P1-RTI data for the 32 buildings in Table VII with comparable results in Table VI (the current sample) indicates amazing similarity of results.

Table VII

REGRESSION ANALYSIS RESULTS FOR WORK UNIT 1115A PHASE 1 DATA*

Regression (Ind. vs. Dep.)	Sample Size	Dependent RF = K[Independent RF]+C				Estimated Dependent PF When Independent PF Is:		
		K	C	Standard Error	Correlation Coefficient	20	40	100
P1-NFSS vs. EM	32	0.292	+0.004	0.008	0.194	54	88	145
P1-NFSS vs. P1-RTI	32	0.561	+0.012	0.012	0.258	25	38	57
P1-RTI vs. EM	32	0.496	-0.001	0.006	0.714	42	88	253

*See Figures E-23 through E-25 of Appendix E for displays of the data analyzed in each sample.

B. Relationship Between NFSS Phase 2 and PF-COMP Results

1. Total Sample and Individual City Results

NFSS Phase 2 results would normally be of most significance in this analysis, because the results of this phase determined those buildings to be marked as fallout shelters. However, due to problems discussed in Section II.B.2., only the protection factor category was known for 133 shelter stories. Consequently, analyses based on NFSS Phase 2 data should be interpreted accordingly.

Results of the regression analyses of P2-NFSS and EM-RTI results are shown in Table VIII for all eligible stories in the sample and for the eligible stories in each city. To be included in this analysis, it was required that each story have P2-NFSS, P2-RTI, and EM-RTI PF's available so that comparisons of these three results would be based on the same sample size. Estimated EM-RTI PF's for P2-NFSS PF's of 20 are not given in Table VIII and later tables based on NFSS Phase 2 data because only stories with a PF of at least 40 are included in the NFSS Phase 2.

Phase 1 results served as an initial estimate of PF's which were adjusted upward in almost all cases in Phase 2. Having previously analyzed the Phase 1 results in Section IV.A., the results displayed in Table VIII are as expected other than the PF 40 estimate in Detroit and for the PF 100 estimate in Albuquerque. The NFSS Phase 2 (P2-NFSS) estimated PF's for Detroit are lower than NFSS Phase 1 (P1-NFSS) estimated PF's as indicated by the decreased K factor and the increased EM-RTI PF estimate for an NFSS PF 40. This result is very likely due to the large number of partial basements in Detroit which yielded results in Phase 1 that were subsequently lowered in Phase 2. In Albuquerque, changes in PF Category were made in 30 of the 41 sample shelter stories. The Phase 2 results are as expected at the PF 40 point (even though P2-NFSS is nonconservative at that point) but indicate considerable reduction in PF in higher PF shelter stories. This indicates that the AE recognized additional sources of contribution in many of the shelter stories; e.g., areaways or over-estimated wall weights.

There are very significant increases in the correlation coefficients in Detroit and San Jose from the NFSS Phase 1 analysis to the NFSS Phase 2 analysis. There is a significant decrease noted in the correlation coefficient for Albuquerque. For the total sample, P2-NFSS results are equal to EM-RTI estimates at PF 40 and then become nonconservative.

Table VIII

COMPARISON OF P2-NFSS RESULTS WITH EM-RTI RESULTS*

Sample	Sample Size	EM-RTI RF = K[P2-NFSS RF]+C				Estimated EM-RTI PF When P2-NFSS PF Is:	
		K	C	Standard Error	Correlation Coefficient	40	100
All Cities	292	0.890	0.003	0.011	0.657	40	84
Providence	45	0.745	0.005	0.008	0.720	42	80
Detroit	52	0.399	0.010	0.014	0.953	50	72
New Orleans	90	1.016	0.002	0.009	0.537	36	82
Albuquerque	41	1.193	-0.002	0.011	0.389	36	112
San Jose	64	0.820	0.003	0.011	0.698	43	88

*See Figures E-26 through E-31 of Appendix E for displays of the data analyzed in each sample.

Although the PF-COMP (EM-RTI) determination of shelter spaces was not verified by return visits to the buildings, Table IX shows an interesting correlation of these data to those noted in the NFSS Phase 2 (P2-NFSS). Total sample shelter spaces with a PF of at least 100 identified by PF-COMP are identical to those identified in the NFSS Phase 2, although there is considerable variation from city to city. PF-COMP indicates that there are approximately 50 percent more spaces with a PF of at least 40 than were identified in the NFSS Phase 2 for the total sample.

Table IX also shows the results for numbers of stories found to have shelter space of at least PF 40. Each procedure identified shelter on the same story for 327 stories; there are 41 stories identified as shelter stories by the NFSS that were not found to have shelter by PF-COMP; and PF-COMP identified 133 shelter stories that are not contained in NFSS files. This latter result is primarily due to the NFSS/NBS Phase 1 Computer Program being conservative for the lower PF values.

Table IX

SHELTER SPACES AND SHELTER STORIES IN SAMPLE BUILDINGS

CITY	SPACES				SHELTER STORIES (PF > 40)		
	P2-NFSS		EM-RTI		Common to Both P2-NFSS and EM-RTI	P2-NFSS Only	EM-RTI Only
	PF > 40	PF > 100	PF > 40	PF > 100			
Providence	24,951	18,688	71,248	52,022	71	6	15
Detroit	18,114	15,342	13,936	4,774	56	5	13
New Orleans	126,698	77,592	169,448	63,484	107	22	60
Albuquerque	25,320	15,396	23,513	5,542	32	3	4
San Jose	18,169	10,429	42,392	11,300	61	5	41
	213,252	137,449	320,537	137,122	327	41	133

2. Significance of Building Characteristics

Table X contains results of regression analyses obtained by subdividing the total sample by basement and above-grade stories, by Use Class, and by Structural Classification. For the Use Class and Structural Classification subdivisions, all stories with P2-NFSS and EM-RTI results are included, whereas the analysis for the total sample, basement, and above-grade stories also required that the shelter story have a P2-RTI estimate.

Table X

COMPARISON OF P2-NFSS RESULTS WITH EM-RTI RESULTS FOR SPECIFIC BUILDING CHARACTERISTICS*

Sample	Sample Size	EM-RTI RF = K[P2-NFSS RF]+C				Estimated EM-RTI PF When P2-NFSS PF Is:	
		K	C	Standard Error	Correlation Coefficient	40	100
Total Sample	292	0.890	0.003	0.011	0.657	40	84
Basements	131	0.884	0.003	0.010	0.551	40	84
Above-Grade Stories	161	0.920	0.004	0.012	0.579	37	76
Use Class							
Residential	88	0.544	0.009	0.013	0.283	44	69
Educational	47	0.913	0.002	0.010	0.533	40	90
Religious	7	-	-	-	-	-	-
Gov't & Public Service	68	1.410	-0.002	0.015	0.729	30	83
Commercial	151	1.210	-0.002	0.012	0.647	35	99
Industrial	16	0.397	0.006	0.008	0.558	63	100
Amusement	4	-	-	-	-	-	-
Transportation	3	-	-	-	-	-	-
Structural Class							
Wood Frame	8	-	-	-	-	-	-
Wall-Bearing	98	0.829	0.004	0.011	0.493	40	81
Steel-Framed	119	0.958	0.002	0.014	0.484	39	86
Reinforced Concrete-Framed	157	1.233	-0.001	0.013	0.681	34	88
Composite-Framed	2	-	-	-	-	-	-

*See Figure E-26 and E-32 through E-41 of Appendix E for displays of the data analyzed in each sample.

3. Analysis of Variation

The comparison of P2-NFSS results with EM-RTI estimates indicates that NFSS Phase 2 results are nonconservative. The RTI calculations using NFSS Phase 2 procedures and RTI input data can be used to estimate the influence of procedural differences and variations due to differences in RTI and NFSS input data.

Table XI indicates that the differences in input data noted for NFSS Phase 1 results are compounded by the application of NFSS Phase 2 adjustments. P2-NFSS estimates are quite nonconservative when compared to results from the RTI analysis using NFSS Phase 2 methods (P2-RTI).

The analysis of procedural differences between NFSS Phase 2 methods and the PF-COMP Program are shown by the comparison of P2-RTI vs. EM-RTI results. This indicates that NFSS Phase 2 procedures as applied by RTI give conservative results when compared to EM-RTI results.

Table IX

REGRESSION ANALYSIS RESULTS USED IN ESTIMATING VARIATION OF NFSS PHASE 2 RESULTS*

Regression (Ind. vs. Dep.)	Sample Size	Dependent RF = K[Independent RF]+C				Estimated Dependent PF When Independent PF Is:	
		K	C	Standard Error	Correlation Coefficient	0	100
P2-NFSS vs. EM-RTI	292	0.890	0.003	0.011	0.657	0	84
P2-NFSS vs. P2-RTI	292	0.945	0.008	0.016	0.781	32	57
P2-RTI vs. EM-RTI	292	0.528	0.004	0.010	0.507	58	108

*See Figures E-26, E-42, and E-43 of Appendix E for displays of the data analyzed in each sample.

C. PF-COMP Calculations Using NFSS Data

NFSS data collected prior to February 1967 are not nearly as extensive as those normally collected for the PF-COMP Program, but were modified for PF-COMP processing as described in Section II.B.5. Processing these data by PF-COMP indicates the PF's that could be obtained if the earlier NFSS data were recalculated using a program based on the Engineering Manual. The regression equation to compare these results (EM-NFSS) with PF-COMP (EM-RTI) results is:

$$\text{EM-RTI RF} = 0.121[\text{EM-NFSS RF}] + 0.013, \qquad (12)$$

with a small correlation coefficient of 0.354 and a very large standard error of 0.016. Results from this equation indicate that the EM-NFSS results are quite variable when compared to EM-RTI results. For example, when the EM-NFSS PF's are 40 and 100, the corresponding EM-RTI PF's are 62 and 70. Calculated values of EM-NFSS PF's would be conservative below a PF of 69. Because of input differences noted previously in Sections IV.A. and B., this method of estimating revised values for NFSS shelter stories is less reliable than using the equations for NFSS Phase 2

The use of RTI collected data for contaminated planes and interior partitions to supplement NFSS data is described in Section II.B.6. (EM-NFSS & RTI). The relationship of these results to EM-RTI data is given by:

$$\text{EM-RTI RF} = 0.187[\text{EM-NFSS \& RTI RF}] + 0.013, \qquad (13)$$

which also has a small correlation coefficient of 0.419 and a large standard error of 0.014. This equation is not significantly different from the equation above for EM-NFSS data.

V. CONCLUSIONS

Mathematical relationships for estimating revised Protection Factor values for NFSS structures using existing NFSS Phase 1 and 2 data were developed. Unfortunately, none of these relationships proved to be "optimum" due to the poor data fits for all regression lines developed. As a result of this statistical analysis, several conclusions regarding the relationship of the seven PF estimates are presented:

1) Revised NFSS PF's for individual buildings should definitely not be estimated nor is any advantage seen in revised estimates of Phase 2 shelter PF's available in a geographic area such as a county. This conclusion is drawn because NFSS Phase 2 (P2-NFSS) PF's are nonconservative (high) when compared to Engineering Manual-RTI (EM-RTI) results and because of the difficulty in obtaining Phase 2 PF values other than PF Category (see Section II.A.2.). The results in Phase 2 are not sufficiently nonconservative to cause alarm, since the regression indicates the estimated EM PF to be 40 when the NFSS PF is 40, i.e., it doesn't appear that shelters now indicated to be acceptable would drop below PF 40.

2) PF's calculated using NFSS Phase 1 and 2 procedures and RTI collected input data (P1-RTI and P2-RTI) are both conservative (low) when compared to Engineering Manual-RTI (EM-RTI) results. However, as stated above, original NFSS results are nonconservative when compared to EM-RTI results. The nonconservative results determined in the NFSS are therefore attributed to data collection discrepancies. This, of course, assumes the RTI collected data to be more nearly correct than NFSS data and it is pointed out that this assumption <u>was not verified</u> by replication of a sample of buildings to estimate the RTI field data variation. One substantiation is that earlier analysis of the relationship between P1-NFSS and EM-RTI PF's under OCD Work Unit 1115A gave results almost identical to those of this study.

3) Many buildings surveyed in the NFSS prior to February 1967 have PF's less than 40 and are consequently not contained in Phase 2 data files. The regression equation developed for the total sample to determine the relationship between P1-NFSS and EM-RTI could be used to estimate PF's of buildings in this category. These results would be useful in damage assessment when analysis of areas as large as a county are made. No advantage is gained by using regression equations for subdivisions of the total sample by specific building characteristics. Obtaining data for this type of analysis would be difficult due to lack of NFSS Phase 1 output data in NFSS computer files.

4) Procedures have been established whereby NFSS Phase 1 and 2 input data collected prior to February 1967 can be processed by the PF-COMP Computer Program now used in the NFSS. However, because of input discrepancies noted in NFSS data when compared to RTI collected data, this method of estimating revised values for shelter stories is not recommended. This procedure would give PF's for each story of a building, but would not be reliable.

5) A comparison of NFSS Phase 2 data with EM-RTI data indicated that (a) each procedure identified shelter on the same story for 327 stories; (b) there are 41 stories identified as shelter stories by the NFSS that were not found to have shelter by PF-COMP; and (c) PF-COMP identified 133 shelter stories that are not contained in NFSS files. The conclusion is that the current use of PF-COMP will substantially increase the number of shelter stories in the NFSS.

REFERENCES

1. L. V. Spencer and C. Eisenhauer. Description of Computer Program for the National Fallout Shelter Survey. National Bureau of Standards Report No. 7826. Washington: U. S. Department of Commerce, March 1963.

2. E. L. Hill, T. Johnson, and R. O. Lyday, Jr. Computer Program for Analysis of Building Protection Factors. RM-205-1 (Parts I and II). Durham, N.C.: Research Triangle Institute, 6 July 1965.

3. R. O. Lyday, Jr., M. D. Wright, and E. L. Hill. PF-COMP Computer Program for Fallout Protection Factor Analysis of Buildings. RM-252-1 (Parts I and II). Research Triangle Park, N. C.: Research Triangle Institute, February 1968.

4. Office of Civil Defense. Design and Review of Structures for Protection from Fallout Gama Radiation. PM-100-1. Interim Edition. Washington: Office of Civil Defense, Department of Defense, February 1965.

5. Office of Civil Defense. Design and Review of Structures for Protection from Fallout Gama Radiation. Washington: Office of Civil Defense, Department of Defense, October 1961.

6. Office of Civil Defense. Shelter Design and Analysis, Volume 1, Fallout Protection. TR-20 (Vol. 1). Washington: Office of Civil Defense, Department of Defense:

   a. September 1962 (First Printing).
   b. November 1962 (Second Printing).
   c. September 1963 (Third Printing).
   d. May 1964 (Fourth Printing).
   e. June 1965.
   f. July 1967 (Title changed to Fallout Radiation Shielding).

7. Office of Civil Defense. Selected Statistics on the Fallout Shelter Program. Washington: Office of Civil Defense, Department of Defense, October 1968.

8. E. L. Hill, et al. Analysis of Survey Data. Final Report R-OU-81 (Parts I and II). Research Triangle Park, N.C.: Research Triangle Institute, February 1964.

9. E. L. Hill, A. A. Qadeer, and A. B. Nicholls. Structural Characteristics of NFSS Buildings. Final Report R-OU-237 (Volumes I, II, III, IV and V). Research Triangle Park, N. C.: Research Triangle Institute, June 1967.

10. Office of the Chief of Engineers. Instructions for Filling Out DD Form 1356 (1 Nov 61): National Fallout Shelter Survey - Phase 1. Washington: Office of the Chief of Engineers, U. S. Army Corps of Engineers, 1 December 1961.

11. Office of the Chief of Engineers. Phase 2 Fallout Shelter Survey Instructions. Washington: Office of the Chief of Engineers, U. S. Army Corps of Engineers, 15 March 1962.

12. E. J. Williams, Regression Analysis. New York: John Wiley and Sons, Inc., 1959.

13. H. L. Alder and E. B. Roessler. Introduction to Probability and Statistics. San Francisco: W. H. Freeman and Company, 1960.

14. Tele-Storage and Retrieval System, User's Manual. Durham, N.C.: Duke Computation Center, November 1967.

Appendix A

Contractual Scope of Work

Subcontract Number: 11213(4949A-72)

The Subcontractor shall furnish all facilities, personnel, and services required to perform the following Statement of Work:

(1) Make a preliminary examination of data on approximately 309 buildings, collected under OCD Subtask 1159C "Structural Characteristics of NFSS Buildings," for adequacy related to the present task.

(2) Make a statistical analysis of the data, providing comparisons of the following separate estimates of the protection factor (PF) of each building:

(a) PF reported under NFSS Phase 1;

(b) PF reported under NFSS Phase 2;

(c) PF's calculated by NFSS Phase 1 and 2 procedures, using Subcontractor's building data;

(d) PF calculated by Subcontractor's computer program, (PF-COMP, CDC-3600) using building data obtained in NFSS Phase 1 and 2;

(e) PF calculated by Subcontractor's computer program, using building data obtained in NFSS Phase 1 and 2, supplemented by Subcontractor's data on inputs not required under NFSS procedures; and,

(f) PF calculated by Subcontractor's computer program, using Subcontractor's building data.

(3) Provide mathematical relationships useful in grossly estimating revised PF values for NFSS structures, by various building categories.

(4) Provide a final report covering all work, including a tabulation of the PF values prescribed in paragraph (2), by building, building type, city, etc.

(5) Develop graphic displays to depict the mathematical relationships provided under Task (3).

(6) Investigate alternative means of examining NFSS Phase 2 results due to the availability of only PF Categories on NFSS computer tapes.

(7) Illustrate the variation in the statistical analysis of reduction factors instead of protection factors.

Appendix B

Sample Building Data

I. INTRODUCTION

This appendix contains data for each story of the buildings surveyed under OCD Work Unit 1159C that were determined to be adequate for analysis in this project. Included are the seven estimates of PF, reduction factors, structural classification, Use Class Code, number of shelter spaces determined in the Phase 2-NFSS and Engineering Manual-RTI calculations, and selected building characteristics.

The data for each building story were prepared on three punch cards and are presented herein in a printout format. A description of the column headings is contained in Section II and data for Providence, Detroit, New Orleans, Albuquerque, and San Jose are contained in Sections III through VII. When an element of data is not applicable or not obtainable, the column is left blank. For example, structural classification and Use Class Codes are given only for stories that were reported in Phase 2 of the NFSS, i.e., those of at least PF 40.

II. KEY TO DATA ON CARDS

Card Number	Column Heading	Description
1	OBS NO	The "Observation Number" is a number assigned in ascending sequence to identify each individual story analyzed and is the first column of data on each punch card.
	STANDARD LOCATION	The National Location Code (NLC) assigned in the NFSS Phase 1 to define the geographic area in which the building is located.
	FACILITY NUMBER	A five-digit number assigned in the NFSS Phase 1 to identify each building.
	PART NO.	Building part number assigned in the NFSS Phase 1.
	STORY NO.	Story number of the shelter story for which data are reported.
	PV CODE	Structural Classification (PV Code) for the building assigned in NFSS Phase 1 and reported herein for only those stories of buildings contained in NFSS Phase 2 files.
	USE CODE	Use Class Code for the building assigned in the NFSS Phase 1 and reported herein for only those stories of buildings contained in NFSS Phase 2 files.
	RUN 1	Data from NFSS Phase 1 calculations (P1-NFSS).
	ROOF CONT	Roof contribution to the detector in the center of the story analyzed.
	TOTAL RF	Total reduction factor (roof and ground contributions) for the detector.
	RUN 2	Data from NFSS Phase 2 calculations (P2-NFSS).
	TOTAL RF	Total reduction factor (roof and ground contributions) for the detector location. Since only PF categories were reported in the NFSS Phase 2, the RF's were obtained as described in Table I.
	RUN 3	Data from calculations using NFSS Phase 1 methods and RTI input data (P1-RTI).
	ROOF CONT	Roof contribution to the detector in the center of the story analyzed.
	TOTAL RF	Total reduction factor (roof and ground contributions) for the detector.

Card Number	Column Heading	Description
1 (cont'd.)	RUN 4	Data from calculations using NFSS Phase 2 methods and RTI input data (P2-RTI).
	TOTAL RF	Total reduction factor (roof and ground contributions) for the detector location. Calculated RF's are reported.
	RUN 5	Data from PF-COMP calculations using NFSS Phase 1 and Phase 2 building input data (EM-NFSS).
	TOTAL RF	Total reduction factor (roof and ground contributions) for the detector.
	RUN 6	Data from PF-COMP calculations using NFSS input data plus additional building data collected by RTI survey teams (EM-NFSS & RTI).
	TOTAL RF	Total reduction factor (roof and ground contributions) for the detector.
	RUN 7	Data from PF-COMP calculations using building input data collected by RTI survey teams (EM-RTI).
	ROOF CONT	Roof contribution to the detector in the center of the story analyzed.
	TOTAL RF	Total reduction factor (roof and ground contributions) for the detector.
2	OBS NO	The "Observation Number" is a number assigned in ascending sequence to identify each individual story analyzed and is the first column of data on each punch card
	SPACES RUN 2	Shelter spaces determined by Architect-Engineers in the NFSS Phase 2 (P2-NFSS).
	PF-40	Number of spaces with a PF of at least 40 on the detector story.
	PF-100	Number of spaces with a PF of at least 100 on the detector story.
	SPACES RUN 7	Shelter spaces determined by the PF-COMP Computer Program using RTI input data (EM-RTI). It is noted that these are only machine estimates and were not verified by a return visit to the building or a review of building plans.
	PF-40	Number of spaces with a PF of at least 40 on the detector story.
	PF-100	Number of spaces with a PF of at least 100 on the detector story.

Card Number	Column Heading	Description
2 (cont'd.)	AVG APER SILL HT.	Average of the aperture sill heights reported in NFSS Phase 2 for the detector story.
	MIN APER SILL HT.	Minimum value of the aperture sill height reported in NFSS Phase 2 for the detector story.
	AVG % APER	Average of the percent apertures reported in NFSS Phase 2 for the detector story.
	MAX. % APER	Maximum percent apertures reported in NFSS Phase 2 for detector story.
	HT OF DET	Height of the detector above or below the first story floor level as determined from NFSS Phase 1 data.
	TOTAL OVER-HEAD WT.	Total overhead weight in pounds per square foot (psf) as determined from NFSS Phase 1 data.
	FLOOR WT.	Mass thickness (psf) of the detector story floor as determined from NFSS Phase 1 data.
	CEILING WT.	Mass thickness (psf) of the floor above the detector as determined from NFSS Phase 1 data.
	AVG EXT WALL MASS	Average exterior wall mass thickness (psf) for the detector story as determined from NFSS Phase 1 data.
3	OBS NO	The "Observation Number" is a number assigned in ascending sequence to identify each individual story analyzed and is the first column of data on each punch card.
	AVG % BSMT EXPO	Average percent wall exposure for the detector story (for basements only) as determined from NFSS Phase 1 data.
	AVG INT PARTITION WEIGHT	Average interior partition mass thickness (psf) for the detector story as determined from NFSS Phase 1 data.
	STORY ABOVE	
	AVG % APER	Average of the percent apertures for the story above the detector story as determined from NFSS Phase 1 data.

Card Number	Column Heading	Description
3 (cont'd.)	AVG EXT WALL MASS	Average exterior wall mass thickness (psf) for the story above the detector story as determined from NFSS Phase 1 data.
	STORY BELOW	
	AVG % APER	Average of the percent apertures for the story below the detector story as determined from NFSS Phase 1 data.
	AVG EXT WALL MASS	Average exterior wall mass thickness (psf) for story below the detector story as determined from NFSS Phase 1 data.
	RUN 1 PF[1/]	PF reported under NFSS Phase 1 (P1-NFSS).
	RUN 2 PF	PF reported under NFSS Phase 2 (P2-NFSS).
	RUN 3 PF	PF by NFSS Phase 1 methods using RTI input data (P1-RTI).
	RUN 4 PF	PF by NFSS Phase 2 methods using RTI input data (P2-RTI).
	RUN 5 PF	PF from PF-COMP using NFSS building input data (EM-NFSS).
	RUN 6 PF	PF from PF-COMP using NFSS input data plus additional building data collected by RTI survey teams (EM-NFSS & RTI).
	RUN 7 PF	PF from PF-COMP using building input data collected by RTI survey teams (EM-RTI).

1/ Reduction factors (RF) for each of the seven PF estimates were reported to three decimal places; therefore, those RF's reported as 0.000 were arbitrarily assigned a PF of 1009 (the reciprocal of the RF).

III. Providence, Rhode Island Data

CARD 1 PROVIDENCE

OBS NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
1	17210007	707	1	0	31	55	.019	.019	.012	.014	.019	.019	.018	.018	.010	.012
2	17210007	707	1	1			.	.	.	.	.	.	.455	.181	.057	.123
3	17220003	60	1	0			.	.	.	.	.	.	.003	.003	.035	.045
4	17220003	60	1	1			.	.	.	.	.	.	.094	.216	.112	.169
5	17240007	298	1	0	35	51	.001	.019	.019	.011	.048	.048	.002	.004	.017	.025
6	17240007	298	1	1			.	.	.	.	.	.	.063	.137	.088	.175
7	17240007	298	1	2			.	.	.	.	.	.	.088	.163	.057	.126
8	17240008	364	1	0	32	61	.004	.004	.004	.012	.012	.012	.003	.003	.016	.016
9	17240008	364	1	1			.	.	.	.	.	.	.245	.274	.136	.149
10	17240016	708	1	0	36	49	.009	.010	.010	.020	.020	.020	.009	.009	.010	.015
11	17240016	753	1	0	36	79	.019	.020	.020	.002	.003	.003	.021	.021	.001	.002
12	17240016	753	1	1			.	.	.	.008	.016	.016	.192	.124	.005	.010
13	17240016	753	1	2			.	.	.	.018	.021	.020	.219	.115	.012	.017
14	17240016	753	1	3			.	.	.	.046	.048	.047	.304	.172	.039	.041
15	17240018	929	1	0	36	11	.003	.006	.009	.	.	.	.025	.025	.000	.009
16	17240018	929	1	1			.	.	.	.	.	.	.326	.142	.002	.074
17	17240018	929	1	2			.	.	.	.	.	.	.165	.075	.010	.061
18	17240018	929	1	3			.	.	.	.	.	.	.213	.171	.052	.094
19	17240018	931	1	0	36	11	.003	.012	.012	.002	.008	.008	.026	.026	.000	.009
20	17240018	931	1	1			.	.	.	.004	.066	.066	.359	.372	.002	.088
21	17240018	931	1	2			.	.	.	.013	.078	.078	.214	.213	.010	.064
22	17240018	931	1	3			.	.	.	.	.	.	.204	.201	.052	.092
23	17240039	2014	1	0	32	54	.008	.008	.008	.	.	.	.007	.007	.007	.008
24	17240039	2014	1	1			.	.	.	.	.	.	.250	.352	.039	.118
25	17240039	2073	1	0	32	61	.008	.008	.008	.030	.030	.030	.007	.007	.016	.016
26	17240039	2073	1	1			.	.	.	.	.	.	.215	.218	.162	.247
27	17240043	2435	1	2			.	.	.	.009	.069	.069	.244	.171	.005	.034
28	17240043	2435	1	3			.	.	.	.046	.093	.093	.206	.172	.037	.060
29	17240043	2439	1	2			.	.	.	.009	.044	.044	.235	.143	.008	.038
30	17240043	2443	1	1			.	.	.	.002	.060	.060	.295	.165	.001	.027
31	17240043	2443	1	2			.	.	.	.009	.044	.044	.225	.085	.006	.024
32	17240043	2443	1	3			.	.	.	.047	.091	.091	.210	.121	.038	.068
33	17240043	2446	1	1			.	.	.	.002	.061	.061	.355	.210	.001	.034
34	17240043	2446	1	2			.	.	.	.009	.049	.049	.207	.100	.006	.026
35	17240043	2446	1	3			.	.	.	.047	.075	.075	.192	.125	.038	.056
36	17240046	2919	1	0	32	55	.014	.014	.020	.016	.017	.017	.014	.014	.011	.011
37	17240046	2919	1	1			.	.	.	.070	.081	.079	.091	.104	.052	.065
38	17240046	2943	1	0	36	11	.022	.022	.022	.030	.030	.030	.018	.017	.017	.021
39	17240046	2943	1	1			.	.	.	.039	.072	.061	.247	.086	.025	.057
40	17240046	2943	1	2			.	.	.	.065	.085	.080	.066	.056	.039	.060
41	17240046	2943	1	3			.	.	.	.	.	.	.094	.106	.075	.092
42	17240046	2943	1	4			.	.	.	.	.	.	.210	.303	.158	.177
43	17240046	2994	1	0	43	51	.008	.008	.008	.008	.010	.010	.007	.007	.005	.005
44	17240046	2994	1	1			.	.	.	.039	.078	.075	.124	.189	.026	.090
45	17240046	2994	1	2			.	.	.	.064	.094	.094	.053	.086	.038	.066
46	17240046	2994	1	3			.	.	.	.	.	.	.072	.096	.061	.096
47	17240046	2994	1	4			.	.	.	.	.	.	.096	.111	.105	.129
48	17240046	2994	1	5			.	.	.	.	.	.	.152	.158	.199	.216
49	17240046	3025	1	0	43	51	.000	.000	.001	.001	.001	.001	.000	.000	.000	.001
50	17240046	3025	1	1			.	.	.	.	.	.	.293	.154	.000	.099
51	17240046	3025	1	2			.000	.027	.	.000	.031	.030	.020	.139	.000	.030
52	17240046	3025	1	3			.	.	.	.000	.025	.025	.054	.063	.000	.026
53	17240046	3025	1	4			.	.	.	.001	.034	.032	.058	.066	.000	.031
54	17240046	3025	1	5			.	.	.	.005	.069	.068	.062	.052	.003	.030
55	17240046	3025	1	6			.	.	.	.018	.064	.063	.065	.060	.012	.037
56	17240046	3025	1	7			.	.	.	.	.	.	.093	.082	.052	.076
57	17240046	3035	1	0	36	51	.025	.025	.025	.026	.026	.026	.025	.016	.009	.016
58	17240046	3035	1	1			.	.	.	.	.	.	.203	.201	.015	.069
59	17240046	3035	1	2			.	.	.	.046	.069	.069	.078	.086	.024	.049
60	17240046	3035	1	3			.	.	.	.078	.095	.095	.116	.080	.036	.063
61	17240046	3035	1	4			.	.	.	.	.	.	.161	.101	.064	.088
62	17240046	3035	1	5			.	.	.	.	.	.	.295	.173	.128	.143
63	1724 046	3041	1	-1	43	51	.	.	.001	.	.	.	.000	.	.000	.000
64	1724 046	3041	1	0	43	51	.000	.000	.038	.	.	.	.000	.	.000	.005
65	1724 046	3041	1	1	43	51	.000	.010	.010	.	.	.	.024	.	.000	.035
66	1724 046	3041	1	2	43	51	.000	.009	.009	.	.	.	.002	.	.000	.004
67	1724 046	3041	1	3	43	51	.000	.010	.010	.	.	.	.003	.	.000	.002
68	1724 046	3041	1	4	43	51	.000	.009	.009	.	.	.	.001	.	.000	.002
69	1724 046	3041	1	5	43	51	.000	.008	.008	.	.	.	.001	.	.000	.002
70	1724 046	3041	1	6	43	51	.000	.011	.011	.	.	.	.003	.	.000	.002
71	1724 046	3041	1	7	43	51	.000	.010	.010	.	.	.	.001	.	.000	.003
72	1724 046	3041	1	8	43	51	.000	.008	.008	.	.	.	.003	.	.000	.005
73	1724 046	3041	1	9	43	51	.000	.012	.012	.	.	.	.002	.	.000	.002
74	1724 046	3041	1	10	43	51	.000	.009	.009	.	.	.	.002	.	.000	.002
75	1724 046	3041	1	11	43	51	.000	.008	.008	.	.	.	.002	.	.000	.002
76	1724 046	3041	1	12	43	51	.000	.007	.007	.	.	.	.002	.	.000	.002
77	1724 046	3041	1	13	43	51	.000	.007	.007	.	.	.	.002	.	.000	.002
78	1724 046	3041	1	14	43	51	.000	.006	.006	.	.	.	.002	.	.001	.003
79	1724 046	3041	1	15	43	51	.000	.006	.020	.	.	.	.002	.	.006	.009
80	1724 046	3041	1	16	43	51	.000	.006	.012	.	.	.	.005	.	.000	.002
81	1724 046	3041	1	17	43	51	.000	.015	.009	.	.	.	.005	.	.000	.002

CARD 1 PROVIDENCE (CONTINUED)

OBS NO	STANDARD LOCATION NUMBER	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
82	1724 046	3041	1	18	43	51	.000	.008	.008	.	.	.	.005	.	.000	.002
83	1724 046	3041	1	19	43	51	.000	.006	.005	.	.	.	.034	.	.000	.002
84	1724 046	3041	1	20	43	51	.000	.006	.006	.	.	.	.004	.	.000	.002
85	1724 046	3041	1	21			.000	.005	.	.	.	.	.004	.	.000	.002
86	1724 046	3041	1	22	43	51	.000	.005	.020	.	.	.	.004	.	.000	.002
87	1724 046	3041	1	23	43	51	.000	.005	.012	.	.	.	.004	.	.000	.004
88	1724 046	3041	1	24	43	51	.	.	.012	.	.	.	.004	.	.000	.005
89	1724 046	3041	1	25	43	51	.002	.022	.012	.	.	.	.005	.	.003	.007
90	1724 046	3041	1	26			.019	.032	.	.	.	.	.024	.	.030	.033
91	17240047	3141	1	0	32	55	.008	.008	.008	.012	.012	.012	.006	.007	.009	.009
92	17240047	3141	1	1			.	.	.	.	.	.	.195	.252	.098	.192
93	17240049	3271	1	1	57	86	.002	.014	.009	.	.	.	.042	.033	.005	.020
94	17240049	3271	1	2			.021	.027	.	.	.	.	.023	.055	.037	.054
95	17240049	3285	1	0	35	53	.014	.014	.020	.023	.023	.023	.014	.012	.013	.013
96	17240049	3285	1	1			.	.	.	.	.	.	.207	.200	.098	.130
97	17240049	3285	1	2			.	.	.	.	.	.	.319	.276	.201	.220
98	17240056	3586	1	0	21	11	.012	.014	.014	.035	.046	.046	.013	.013	.020	.022
99	17240056	3586	1	1			.	.	.	.	.	.	.605	.585	.050	.425
100	17240056	3586	1	2			.	.	.	.	.	.	.531	.445	.129	.389
101	17240056	3586	1	0	21	11	.012	.020	.020	.042	.000	.000	.020	.016	.020	.033
102	17240056	3586	1	1			.	.	.	.	.	.	.309	.322	.050	.312
103	17240056	3586	1	2			.	.	.	.	.	.	.468	.283	.129	.323
104	17240056	3589	1	0	21	11	.012	.012	.012	.033	.038	.038	.013	.013	.020	.026
105	17240056	3589	1	1			.	.	.	.	.	.	.578	.326	.050	.353
106	17240056	3589	1	2			.	.	.	.	.	.	.498	.265	.129	.316
107	17240056	3593	1	0	57	11	.000	.001	.001	.000	.002	.002	.000	.000	.000	.000
108	17240056	3593	1	1			.	.	.	.	.	.	.381	.363	.000	.111
109	17240056	3593	1	2			.001	.034	.	.003	.043	.024	.205	.181	.001	.026
110	17240056	3593	1	3			.007	.034	.	.011	.056	.056	.137	.104	.007	.046
111	17240056	3593	1	4			.	.	.	.046	.080	.080	.145	.105	.036	.071
112	17240056	3596	1	0	57	11	.000	.003	.003	.000	.001	.001	.001	.000	.000	.000
113	17240056	3596	1	1			.	.	.	.001	.086	.086	.402	.170	.000	.093
114	17240056	3596	1	2			.001	.044	.	.003	.029	.015	.240	.084	.001	.023
115	17240056	3596	1	3			.007	.039	.	.011	.035	.035	.173	.074	.007	.049
116	17240056	3596	1	4			.	.	.	.	.	.	.178	.100	.036	.077
117	17240056	3603	1	0	21	11	.010	.013	.013	.046	.094	.094	.014	.014	.024	.036
118	17240056	3603	1	1			.	.	.	.	.	.	.313	.314	.058	.315
119	17240056	3603	1	2			.	.	.	.	.	.	.512	.277	.145	.333
120	17240056	3604	1	0	21	11	.010	.014	.020	.046	.062	.062	.017	.017	.024	.034
121	17240056	3604	1	1			.	.	.	.	.	.	.425	.322	.058	.292
122	17240056	3604	1	2			.	.	.	.	.	.	.415	.307	.145	.346
123	17240056	3608	1	0	21	11	.010	.011	.011	.036	.039	.039	.013	.013	.024	.030
124	17240056	3608	1	1			.	.	.	.	.	.	.277	.414	.058	.336
125	17240056	3608	1	2			.	.	.	.	.	.	.441	.306	.145	.322
126	17240056	3612	1	0	21	11	.010	.012	.012	.046	.048	.048	.011	.010	.022	.026
127	17240056	3612	1	1			.	.	.	.	.	.	.375	.518	.074	.375
128	17240056	3612	1	2			.	.	.	.	.	.	.315	.436	.189	.402
129	17240060	3951	1	0	35	51	.008	.009	.009	.019	.019	.019	.008	.008	.012	.012
130	17240060	3951	1	1			.	.	.	.	.	.	.428	.390	.056	.133
131	17240060	3951	1	2			.	.	.	.	.	.	.334	.305	.158	.222
132	17240060	3965	1	0	34	11	.004	.007	.007	.006	.032	.032	.024	.023	.002	.007
133	17240060	3965	1	1			.	.	.	018	.098	.098	.510	.343	.009	.074
134	17240060	3965	1	2			.	.	.		.	.	.379	.361	.050	.091
135	17240060	3966	1	0	34	11	.004	.006	.00		.036	.036	.009	.010	.002	.011
136	17240060	3966	1	1			.	.	.		.	.	.269	.327	.006	.077
137	17240060	3966	1	2			.	.	.	.	.	.	.338	.339	.049	.090
138	17240062	4093	1	0	35	23	.006	.018	.018	.008	.009	.009	.007	.	.000	.001
139	17240062	4093	1	1			.	.	.	.021	.045	.033	.138	.	.003	.012
140	17240062	4093	1	2			.	.	.	.045	.071	.060	.260	.	.011	.021
141	17240063	4129	1	1	43	45	.000	.000	.001	.000	.010	.003	.006	.	.000	.009
142	17240063	4129	1	2	43	45	.000	.000	.001	.001	.004	.002	.002	.	.000	.006
143	17240063	4129	1	3	43	45	.001	.001	.002	.004	.022	.010	.007	.	.000	.007
144	17240063	4129	1	4			.028	.026	.	.026	.039	.035	.032	.	.006	.016
145	17240065	4280	1	0	34	11	.005	.006	.006	.007	.011	.011	.007	.009	.004	.007
146	17240065	4280	1	1			.	.	.	.041	.096	.096	.264	.194	.018	.112
147	17240065	4280	1	2			.	.	.	.	.	.	.292	.172	.101	.125
148	17240065	4301	1	0	34	11	.005	.006	.006	.007	.013	.013	.005	.006	.004	.008
149	17240065	4301	1	1			.	.	.	.	.	.	.282	.297	.021	.183
150	17240065	4301	1	2			.	.	.	.	.	.	.340	.319	.141	.187
151	17240065	4312	1	0	34	11	.005	.006	.006	.007	.041	.041	.005	.013	.004	.013
152	17240065	4312	1	1			.	.	.	.041	.096	.096	.265	.167	.018	.105
153	17240065	4312	1	2			.	.	.	.	.	.	.311	.154	.101	.126
154	17240065	4320	1	0	34	11	.006	.007	.007	.007	.015	.015	.007	.006	.005	.009
155	17240065	4320	1	1			.	.	.	.	.	.	.291	.326	.018	.145
156	17240065	4320	1	2			.	.	.	.	.	.	.385	.290	.101	.144
157	1.240070	4651	1	0	35	21	.005	.014	.020	.005	.017	.017	.006	.006	.004	.010
158	17240070	4651	1	1			.	.	.	.016	.034	.024	.032	.036	.013	.029
159	17240070	4651	1	2			.	.	.	.006	.077	.075	.258	.171	.054	.082
160	17240072	4725	1	0	43	72	.011	.014	.012	.016	.022	.022	.012	.013	.016	.019
161	17240072	4725	1	1			.	.	.	.	.	.	.079	.171	.058	.098
162	17240072	4725	1	2			.	.	.	.	.	.	.215	.164	.113	.143

CARD 1 PROVIDENCE (CONTINUED)

DES NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL HF	RUN 2 TOTAL HF	RUN 3 ROOF CONT	RUN 3 TOTAL HF	RUN 4 TOTAL HF	RUN 5 TOTAL HF	RUN 6 TOTAL HF	RUN 7 ROOF CONT	RUN 7 TOTAL HF
163	17240072	4725	1	3			.	.	.	.	.	.	.309	.254	.243	.282
164	17240074	4636	1	0	36	51	.004	.005	.005	.003	.004	.004	.004	.004	.003	.003
165	17240074	4636	1	1			.	.	.	.013	.085	.084	.102	.129	.011	.095
166	17240074	4636	1	2			.	.	.	.023	.052	.052	.063	.062	.020	.047
167	17240074	4636	1	3			.	.	.	.096	.086	.084	.079	.068	.046	.074
168	17240074	4636	1	4			.	.	.	.	.	.	.175	.101	.129	.204
169	17240074	4656	1	0	35	23	.013	.013	.013	.001	.007	.007	.012	.005	.000	.001
170	17240074	4656	1	1			.	.	.	.002	.033	.033	.068	.118	.000	.055
171	17240074	4656	1	2			.	.	.	007	.026	.026	.114	.081	.002	.016
172	17240074	4930	1	0	57	23	.006	.006	.006	.001	.001	.001	.006	.	.000	.000
173	17240074	4930	1	1			.021	.027	.	.016	.040	.035	.040	.	011	.025
174	17240074	4930	1	2			.	.	.	.	.	.	.109	.	.088	.095
175	17240074	4936	1	0	36	23	.001	.001	.006	.002	.005	.005	.003	.015	.000	.004
176	17240074	4936	1	1			.002	.040	.	.004	.050	.050	.120	.089	.003	.032
177	17240074	4936	1	2			.009	.028	.	.015	.043	.043	.032	.039	.012	.034
178	17240074	4936	1	3			.	.	.	.062	.081	.081	.062	.063	.050	.068
179	17240074	4940	1	0			.	.	.	.002	.049	.049	.006	.020	.000	.010
180	17240074	4940	1	1			.003	.030	.	.003	.058	.049	.056	.208	.002	.031
181	17240074	4940	1	2	36	23	.012	.023	.023	.011	.040	.040	.016	.054	.005	.025
182	17240074	4940	1	3			.	.	.	.046	.099	.099	.092	.074	.031	.057
183	17240074	4942	1	0			.008	.011	.	.001	.002	.002	.007	.	.000	.000
184	17240074	4942	1	1			.	.	.	.004	.009	.009	.110	.	.001	.004
185	17240074	4942	1	2			.	.	.	.026	.029	.029	.065	.	.009	.011
186	17240074	4942	1	3			.	.	.	.	.	.	.148	.	.083	.085
187	17240117	6403	1	0	58	61	.001	.007	.001	.	.	.	.000	.	.000	.000
188	17240117	6403	1	1			.004	.023	.	.	.	.	.044	.	.000	.044
189	17240117	6403	1	2	58	61	.026	.045	.020	.	.	.	.041	.	.005	.016
190	17240117	6403	1	3			.	.	.	.	.	.	.312	.	.170	.196
191	17250002	4067b	1	1			.	.	.	.	.	.	.	.323	.061	.175
192	17250002	4067b	1	0			.	.	.	.	.	.	.154	.	.061	.131
193	17250002	4067b	1	2			.	.	.	.	.	.	.	.	.229	.277
194	17250002	4068b	1	0	43	12	.003	.013	.020	.	.	.	.004	.	.019	.023
195	17250002	4068b	1	1			.	.	.	.	.	.	.150	.	.061	.164
196	17250002	4068b	1	2			.	.	.	.	.	.	.077	.	.229	.295
197	17250005	1153	1	0	32	86	.019	.020	.020	.	.	.	.017	.017	.002	.002
198	17250005	1153	1	1			.	.	.	.	.	.	.502	.551	.161	.425
199	17240043	2436	1	2			.019	.048	.	.009	.044	.044	.135	.143	.006	.038
200	17240062	4086	1	0	43	12	.001	.009	.009	.005	.017	.017	.002	.	.005	.013
201	17240062	4086	1	1	43	12	.007	.021	.021	.021	.021	.018	.034	.	.012	.023
202	17240062	4086	1	2			.	.	.	.014	.076	.053	.099	.	.019	.049
203	17240062	4086	1	3			.	.	.	.024	.088	.078	.261	.	.017	.054
204	17240062	4093	1	0	35	23	.002	.002	.002	.008	.009	.009	.002	.	.000	.001
205	17240062	4093	1	1	35	23	.007	.008	.008	.021	.045	.033	.063	.	.003	.012
206	17240062	4093	1	2			.033	.036	.	.045	.071	.060	.070	.	.011	.021

CARD 2 PROVIDENCE

DES NO	SPACES RUN 2 PF-40	RUN 2 PF 100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
1	28	1	44	9		0	0.00	0	-7	80	0	70	200
2			0	0	0.00	0	20.00	20	3	10	70	0	140
3			0	0	1.50	0	5.00	10	-9	170	0	90	280
4			0	0	0.00	0	30.00	30	3	80	90	0	225
5	40	0	0	0	2.25	0	20.00	30	-4	210	0	70	200
6			0	0	0.00	0	25.00	40	3	140	70	70	130
7			0	0	0.00	0	15.00	20	13	70	70	70	130
8	569	569	767	0	3.00	3	2.50	10	-7	170	0	160	330
9			0	0	0.00	0	32.50	40	3	10	160	0	160
10	13	13	10	0		0	0.00	0	-7	90	0	80	265
11	167	0	181	181	.75	0	5.00	10	-11	100	0	70	200
12			362	0	0.00	0	52.00	69	3	30	70	10	170
13			570	0	0.00	0	42.50	50	17	20	10	10	120
14			0	0	0.00	0	42.50	50	29	10	10	10	120
15	24	24	21	21	1.50	0	10.00	10	-5	210	3	50	150
16			0	0	0.00	0	15.00	20	3	160	50	50	70
17			0	0	0.00	0	15.00	20	11	110	50	50	80
18			0	0	0.00	0	15.00	20	19	60	50	50	80
19	22	0	21	21	1.50	0	5.00	10	-5	200	0	50	150
20			0	0	0.00	0	15.00	20	3	150	50	50	70
21			0	0	0.00	0	15.00	20	11	100	50	50	80
22			0	0	0.00	0	15.00	20	19	50	50	50	80
23	18	18	23	23		0	8.00	0	-5	140	0	70	200
24			0	0	0.00	0	15.00	20	3	70	70	0	90
25	174	174	13	0	.75	0	2.50	10	-9	140	0	70	200
26			0	0	0.00	0	42.50	50	3	70	70	0	100
27			0	0	0.00	0	10.00	10	11	100	50	50	120
28			0	0	0.00	0	10.30	10	19	50	50	50	120

CARD 2 PROVIDENCE (CONTINUED)

DAY	SPACES RUN 2 PF-40	SPACES RUN 2 PF 101	SPACES RUN 2 PF-40	SPACES RUN 2 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
29													
30			0	0	0.00	0	10.10	10	11	100	50	50	120
31			0	0	0.00	0	10.10	10	3	150	0	50	120
32			10	0	0.00	0	10.10	10	11	100	50	50	120
33			0	0	0.00	0	10.10	10	19	50	50	50	120
34			0	0	0.00	0	10.10	10	3	150	0	50	120
35			0	0	0.00	0	10.10	10	11	100	50	50	120
36			0	0	0.00	0	10.10	10	19	50	50	50	120
37	161	0	183	43		0	0.10	0	-9	100	0	80	450
38			0	0	0.00	0	20.10	40	3	20	80	0	300
39	34	0	89	0		0	0.10	0	-7	50	0	10	300
40			0	0	0.00	0	15.10	20	3	40	10	10	160
41			0	0	0.00	0	12.50	20	15	30	10	10	160
42			0	0	0.00	0	15.10	20	27	20	10	10	120
43			0	0	0.00	0	15.10	20	39	10	10	10	120
44	120	123	198	198		0	0.10	0	-7	120	0	50	140
45			0	0	0.00	0	17.50	30	3	70	50	10	60
46			0	0	0.00	0	30.10	40	19	60	10	10	60
47			0	0	0.00	0	30.10	40	30	50	10	10	60
48			0	0	0.00	0	30.10	40	41	40	10	10	60
49			0	0	0.00	0	30.10	40	52	30	10	10	60
50	48	43	82	82		0	0.10	0	-7	780	0	100	300
51			0	0	0.00	0	64.50	79	3	680	100	100	240
52			0	0	0.00	0	50.10	50	23	580	100	100	240
53			0	0	0.00	0	50.10	50	35	480	100	100	240
54			0	0	0.00	0	50.10	50	47	380	100	100	160
55			0	0	0.00	0	50.10	50	59	280	100	100	160
56			0	0	0.00	0	50.10	50	71	180	100	100	160
57			0	0	0.00	0	50.10	50	83	80	100	100	160
58	95	0	102	0		0	0.10	0	-6	60	0	10	240
59			0	0	0.00	0	22.25	59	3	50	10	10	200
60			0	0	0.00	0	12.50	20	15	40	10	10	160
61			0	0	0.00	0	12.50	20	25	30	10	10	160
62			0	0	0.00	0	12.50	20	35	20	10	10	120
63			0	0	0.00	0	12.50	20	45	10	10	10	120
64	671	671	840	840	0.00	0	5.10	10	-27	999	0	200	450
65	0	0	840	840	0.00	0	5.10	10	-12	999	0	100	450
66	360	363	0	0	0.00	0	50.10	50	3	999	100	100	300
67	320	323	2800	2800	0.00	0	50.10	50	43	999	100	100	160
68	087	087	2800	2800	0.00	0	50.10	50	54	999	100	100	160
69	060	063	2800	2422	0.00	0	50.10	50	65	999	100	100	160
70	060	063	2012	2119	0.00	0	50.10	50	76	999	100	100	160
71	060	0	2800	2800	0.00	0	50.10	50	87	999	100	100	160
72	060	063	2800	2345	0.00	0	50.10	50	98	999	100	100	160
73	060	063	2800	1658	0.00	0	50.10	50	109	999	100	100	160
74	470	0	2800	2466	0.00	0	50.10	50	120	999	100	100	160
75	546	545	2800	2800	0.00	0	50.10	50	131	999	100	100	120
76	546	545	2800	2800	0.00	0	50.10	50	142	999	100	100	120
77	546	545	2800	2800	0.00	0	50.10	50	153	999	100	100	120
78	1008	1003	2268	2168	0.00	0	50.10	50	164	999	100	100	120
79	455	0	2062	704	0.00	0	50.10	50	175	999	100	100	120
80	425	0	1749	1749	0.00	0	50.10	50	186	999	100	100	120
81	255	253	1749	1749	0.00	0	50.10	50	197	999	100	100	120
82	255	253	1749	1749	0.00	0	50.10	50	208	999	100	100	120
83	595	593	1749	1749	0.00	0	50.10	50	219	900	100	100	120
84	595	593	1749	1749	0.00	0	50.10	50	230	800	100	100	120
85			1749	1749	0.00	0	50.10	50	241	700	100	100	120
86	185	0	693	224	0.00	0	50.10	50	252	600	100	100	120
87	185	0	391	172	0.00	0	50.10	50	263	500	100	100	120
88	180	0	649	669	0.00	0	50.10	50	274	400	100	100	120
89	180	0	649	572	0.00	0	50.10	50	285	300	100	100	120
90			0	0	0.00	0	50.10	50	296	200	100	100	120
91	28	24	21	21		0	50.10	50	307	100	100	100	120
92			0	0	0.00	0	0.10	0	-7	130	0	70	255
93	762	762	819	0	0.00	0	22.25	59	3	50	70	0	150
94			0	0	0.00	0	17.50	40	3	200	0	100	110
95	200	0	230	24	.75	0	20.10	40	18	100	100	100	110
96			0	0	0.00	0	2.50	10	-10	110	0	90	300
97			0	0	0.00	0	29.75	89	3	20	90	10	80
98	11	0	12	0	.75	0	29.75	79	16	10	10	10	50
99			0	0	0.00	0	5.00	10	-6	110	0	80	150
100			0	0	0.00	0	7.50	20	3	30	80	10	30
101	11	0	0	0	.75	0	7.50	20	11	20	10	10	30
102			0	0	0.00	0	5.00	13	-6	110	0	80	150
103			0	0	0.00	0	7.50	27	3	30	80	10	30
104	11	0	12	0	.75	0	7.50	20	11	20	10	10	30
105			0	0	0.00	0	5.00	10	-6	110	0	80	150
106			0	0	0.00	0	7.50	20	3	30	80	10	30
107	12	12	14	14	1.50	0	7.50	20	11	20	10	10	30
108			0	0	0.00	0	5.50	10	-6	380	0	80	150
109			0	0	0.00	0	7.50	20	3	300	80	80	110
							7.50	20	11	220	80	80	110

CARD 2 PROVIDENCE (CONTINUED)

OBS NO	SPACES RUN 2 PF-40	PF 100	RUN 7 PF-40	PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
110			0	0	0.00	0	7.50	20	19	140	80	80	110
111			0	0	0.00	0	7.50	20	27	60	80	80	110
112	12	12	14	14	1.50	0	5.00	10	-6	350	0	80	150
113			0	0	0.00	0	5.00	10	3	300	80	80	110
114			95	0	0.00	0	5.00	10	11	220	80	80	110
115			0	0	0.00	0	5.00	10	19	140	80	80	110
116			0	0	0.00	0	5.00	10	27	50	80	80	110
117	16	0	0	0	1.50	0	5.00	10	-6	120	0	90	150
118			0	0	0.00	0	10.00	20	3	30	90	10	35
119			0	0	0.00	0	10.00	20	11	20	10	10	35
120	16	0	0	0	.75	0	5.00	10	-6	120	0	90	150
121			0	0	0.00	0	10.00	20	3	30	90	10	35
122			0	0	0.00	0	10.00	20	11	20	10	10	35
123	16	0	2	0	.75	0	5.00	10	-6	120	0	90	150
124			0	0	0.00	0	10.00	20	3	30	90	10	35
125			0	0	0.00	0	10.00	20	11	20	10	10	35
126	10	0	10	0	1.50	0	2.50	10	-6	120	0	90	150
127			0	0	0.00	0	10.00	20	3	30	90	10	35
128			0	0	0.00	0	10.00	20	11	20	10	10	35
129	10	10	19	4		0	0.00	0	-5	110	0	100	180
130			0	0	0.00	0	22.50	40	3	10	100	0	120
131			0	0	0.00	0	25.00	40	13	10	0	0	120
132	21	21	26	26		0	0.00	0	-5	150	0	70	160
133			0	0	0.00	0	20.00	20	3	80	70	70	120
134			0	0	0.00	0	20.00	20	11	10	70	70	120
135	21	21	16	16		3	0.00	0	-5	150	0	70	160
136			0	0	0.00	0	20.00	20	3	50	70	70	120
137			0	0	0.00	0	20.00	20	11	10	70	70	120
138	42	0	400	400	1.50	0	15.00	20	-8	40	0	60	200
139			336	0	0.00	0	15.00	20	3	80	60	60	120
140			57	0	0.00	0	15.00	20	14	20	60	60	120
141	378	375	2126	736	0.00	0	12.50	20	3	510	0	140	145
142	378	375	2059	250	3.00	3	12.50	20	16	370	140	140	170
143	2160	2160	2013	48	3.00	3	12.50	20	30	230	140	140	170
144			43	0	3.00	3	12.50	20	44	90	140	140	170
145	15	15	15	15		0	0.00	0	-5	150	0	70	180
146			0	0	0.00	0	15.00	20	3	50	70	70	130
147			0	0	0.00	0	15.00	20	11	10	70	70	100
148	14	14	18	18		0	0.00	0	-5	150	0	70	180
149			0	0	0.00	0	15.00	20	3	80	70	70	130
150			0	0	0.00	0	15.00	20	11	10	70	70	100
151	14	14	13	0		0	0.00	0	-5	150	0	70	180
152			0	0	0.00	0	15.00	20	3	80	70	70	130
153			0	0	0.00	0	15.00	20	11	10	70	70	100
154	70	70	75	75		0	0.00	0	-5	150	0	70	180
155			0	0	0.00	0	15.00	20	3	80	70	70	130
156			0	0	0.00	0	15.00	20	11	10	70	70	100
157	140	0	214	164	2.25	0	27.50	40	-6	150	0	70	150
158			0	0	0.00	0	30.00	40	3	80	70	70	150
159			0	0	0.00	0	22.50	30	14	10	70	70	150
160	52	0	48	0	1.50	0	5.00	10	-7	100	0	60	130
161			0	0	0.00	0	15.00	20	3	40	60	10	130
162			0	0	0.00	0	20.00	20	14	30	10	10	130
163			0	0	0.00	0	20.00	20	25	20	10	10	130
164	10	10	26	26	0.00	0	2.50	10	-3	100	0	50	150
165			0	0	0.00	0	22.25	79	3	50	50	10	120
166			0	0	0.00	0	15.00	30	13	40	10	10	120
167			0	0	0.00	0	15.00	30	23	30	10	10	120
168			0	0	0.00	0	15.00	30	33	20	10	10	120
169	26	0	87	57		0	0.00	0	-5	90	0	40	300
170			0	0	0.00	0	20.00	20	3	50	40	40	200
171			108	0	0.00	0	20.00	20	17	10	40	40	200
172	554	554	455	455		0	0.00	0	-9	150	0	50	250
173			0	0	0.00	0	30.00	30	3	100	50	50	160
174			0	0	0.00	0	30.00	30	15	50	50	50	160
175	96	96	167	167	.75	0	2.50	10	-8	270	0	70	200
176			0	0	0.00	0	25.00	30	3	230	70	70	150
177			0	0	0.00	0	25.00	30	14	130	70	70	150
178			0	0	0.00	0	25.00	30	25	60	70	70	150
179			125	0	3.00	3	30.00	30	-7	240	0	60	200
180			0	0	0.00	0	30.00	30	3	190	60	60	150
181	300	0	0	0	0.00	0	30.00	30	15	120	60	60	150
182			0	0	0.00	0	30.00	30	26	60	60	60	150
183			146	146	2.25	0	5.00	10	-7	120	0	30	200
184			573	221	0.00	0	17.50	20	3	90	30	30	160
185			509	0	0.00	0	17.50	20	15	60	30	30	160
186			0	0	0.00	0	17.50	20	23	30	30	30	160
187	2760	2760	1008	1008	.75	0	7.50	10	-12	250	0	80	300
188			0	0	0.00	0	30.00	30	3	170	80	80	160

CARD 2 PROVIDENCE (CONTINUED)

DES NO	SPACES RUN 2 PF-40	RUN 2 PF-100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL WT.	MIN. APER SILL WT	AVG % APER	MAX. % APER	WT OF DET	TOTAL OVER-HEAD WT.	FLOOR WT.	CEILING WEIGHT	AVG EXT WALL MASS
189	640	3	2560	0	0.00	0	30.0	30	18	90	80	80	160
190			0	0	0.00	0	30.0	30	33	10	80	80	160
191			0	0	0.00	0	30.0	30	3	120	60	60	120
192			0	0	1.50	0	5.00	10	-6	180	0	60	150
193			0	0	0.00	0	30.0	30	13	60	60	60	120
194	200	1	72	0	1.50	0	30.0	30	-6	180	0	60	150
195			0	0	0.00	0	30.0	30	3	120	60	60	120
196			0	0	0.00	0	30.0	30	13	60	60	60	120
197	20	1	28	28		0	0.0	0	-7	90	0	80	250
198			0	0	0.00	0	22.25	59	3	10	80	0	170
199			0	0	0.00	0	10.0	10	11	100	50	50	120
200	40	43	339	0	.75	0	5.0	10	-6	400	0	70	200
201	551	1	345	0	0.00	0	12.50	20	3	330	70	70	200
202			0	0	0.00	0	15.0	20	15	230	70	70	70
203			0	0	0.00	0	15.00	20	25	190	70	70	70
204	115	115	400	400	2.25	0	7.50	20	-8	200	0	80	150
205	656	655	336	0	0.00	0	7.50	20	3	140	60	60	100
206			57	0	0.00	0	20.0	20	14	90	60	60	120

CARD 3 PROVIDENCE

DES NO	AVG % ASMT EXPO	AVG INT PARTITION WEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
1	90	0.00	20.00	140			53	83	53	53	56	56	83
2		0.00			0.00	200					2	6	8
3	55	15.00	30.00	225							333	333	22
4		0.00			5.00	250					11	5	6
5	60	24.75	25.00	130			53	53	21	21	500	250	40
6		25.00	15.00	130	20.00	200					16	7	6
7		0.00			25.00	150					11	6	8
8	90	0.00	32.50	160			250	250	83	83	333	333	63
9		0.00			2.50	350					4	4	7
10	82	0.00					100	100	50	50	111	111	67
11	90	22.50	52.00	170			50	50	333	333	48	48	500
12		0.00	42.50	120	5.00	200			63	63	5	8	100
13		0.00	42.50	120	52.00	170			48	50	5	9	59
14		0.00			42.50	120			21	21	3	6	24
15	77	0.00	15.00	70			167	111			40	40	111
16		0.00	15.00	80	10.00	150					3	7	14
17		0.00	15.00	80	15.00	70					6	13	16
18		0.00			15.00	80					5	6	10
19	70	0.00	15.00	70			83	83	125	125	38	38	111
20		0.00	15.00	80	5.00	150			15	15	3	3	11
21		0.00	15.00	80	15.00	70			13	13	5	5	16
22		0.00			15.00	80					5	5	11
23	80	0.00	15.00	90			123	125			143	143	125
24		0.00			0.0	200					4	3	8
25	90	0.00	42.50	108			125	125	33	33	143	143	63
26		0.00			2.50	200					5	5	4
27		0.00	10.00	120	10.00	120			14	14	4	6	29
28		0.00			10.00	120			11	11	5	6	17
29		0.00	10.00	120	10.00	120			23	23	4	7	26
30		0.00	10.00	120					17	17	3	6	37
31		0.00	10.00	120	10.00	120			23	23	4	12	42
32		0.00			10.00	120			11	11	5	8	15
33		0.00	10.00	120					16	16	3	5	29
34		0.00	10.00	120	10.00	120			20	20	5	10	38
35		0.00			10.00	120			13	13	5	6	18
36	87	24.75	20.00	300			71	50	59	59	71	71	91
37		45.00			0.00	450			12	13	11	10	12
38	90	45.00	15.00	160			45	45	33	33	56	59	48
39		0.00	12.50	160	0.00	300			14	16	4	12	18
40		0.00	15.00	120	15.00	160			12	13	15	18	17
41		0.00	15.00	120	12.50	160					11	9	11
42		0.00			15.00	120					5	3	6
43	90	45.00	17.50	60			125	125	100	100	143	143	200
44		0.00	30.00	60	0.00	140			13	13	8	5	11
45		0.00	30.00	60	17.50	60			11	11	19	12	15
46		0.00	30.00	60	30.00	60					14	10	10
47		0.00	30.00	60	30.00	60					10	9	8
48		0.00			30.00	60					7	6	5
49	96	24.75	44.50	240			1000	1000	1000	1000	1000	1000	1000
50		22.50	50.00	240	0.00	300					3	6	10
51		0.00	50.00	240	44.50	240	37		32	33	50	7	33
52		0.00	50.00	160	50.00	240			40	40	19	16	36
53		0.00	50.00	160	50.00	240			29	31	17	15	32
54		0.00	50.00	160	50.00	160			14	15	16	19	33
55		0.00	50.00	160	50.00	150			16	16	15	17	27
56		0.00			50.00	160					11	12	13

CARD 3 PROVIDENCE (CONTINUED)

DAS NO	AVG % ASMT OPEN	AVG INT PARTITION HEIGHT	STORY ABOVE AVG % APEM	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APEM	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
57	85	0.00	22.25	200			40	50	38	38	40	63	63
58		0.00	12.50	160	0.00	240					5	5	14
59		0.00	12.50	160	22.25	200			14	14	13	12	20
60		0.00	12.50	120	12.50	160			11	11	9	13	16
61		0.00	12.50	120	12.50	160					6	10	11
62		0.00			12.50	120					3	6	7
63		0.00	5.00	450				1000			1000		1000
64	40	0.00	50.00	300	5.00	450	1000	25			1000		167
65		45.00	50.00	160	5.00	450	100	100			42		30
66		74.75	50.00	160	50.00	300	111	111			500		250
67		74.75	50.00	160	50.00	160	100	100			333		500
68		74.75	50.00	160	50.00	160	111	111			1000		500
69		74.75	50.00	160	50.00	160	125	125			1000		500
70		74.75	50.00	160	50.00	160	91	91			333		500
71		74.75	50.00	160	50.00	160	100	100			1000		333
72		40.00	50.00	160	50.00	160	125	125			333		200
73		40.00	50.00	120	50.00	160	83	83			500		500
74		40.00	50.00	120	50.00	160	111	111			500		500
75		40.00	50.00	120	50.00	120	125	125			500		500
76		40.00	50.00	120	50.00	120	143	143			500		500
77		40.00	50.00	120	50.00	120	143	143			500		500
78		40.00	50.00	120	50.00	120	167	167			500		333
79		40.00	50.00	120	50.00	120	167	50			500		111
80		0.00	50.00	120	50.00	120	167	83			200		500
81		0.00	50.00	120	50.00	120	67	111			200		500
82		0.00	50.00	120	50.00	120	125	125			200		500
83		0.00	50.00	120	50.00	120	167	167			250		500
84		0.00	50.00	120	50.00	120	167	167			250		500
85		0.00	50.00	120	50.00	120	200				250		500
86		0.00	50.00	120	50.00	120	200	50			250		500
87		0.00	50.00	120	50.00	120	200	83			250		250
88		0.00	50.00	120	50.00	120		83			250		200
89		0.00	50.00	120	50.00	120	45	83			200		143
90		0.00			50.00	120	31				42		30
91	90	0.00	22.25	150			125	125	83	83	167	143	111
92		0.00			0.00	275					5	4	5
93		0.00	20.00	110			71	111			24	30	50
94		5.00			17.50	110	37				43	18	19
95	82	10.00	29.75	80			71	50	43	43	71	83	77
96		22.50	29.75	80	2.50	300					5	5	6
97		10.00			29.75	80					3	4	5
98	80	0.00	7.50	30			71	71	22	22	77	77	45
99		0.00	7.50	30	5.00	150					2	2	2
100		0.00			7.50	30					2	2	3
101	70	0.00	7.50	30			50	50	1000	1000	50	63	30
102		0.00	7.50	30	5.00	150					3	3	3
103		0.00			7.50	30					2	4	3
104	90	0.00	7.50	30			83	83	26	26	77	77	38
105		0.00	7.50	30	5.00	150					2	3	3
106		0.00			7.50	30					2	4	3
107	80	0.00	7.50	110			1000	000	500	500	1000	1000	1000
108		0.00	7.50	110	5.00	150					3	3	9
109		0.00	7.50	110	7.50	110	29		23	42	5	6	38
110		0.00	7.50	110	7.50	110	29		18	15	7	10	22
111		0.00			7.50	110			13	13	7	10	14
112	75	0.00	5.00	110			333	333	1000	1000	1000	1000	1000
113		0.00	5.00	110	5.00	150			12	12	2	6	11
114		0.00	5.00	110	5.00	110	23		34	67	4	12	43
115		0.00	5.00	110	5.00	110	26		29	29	6	14	29
116		0.00			5.00	110					6	10	13
117	72	0.00	10.00	35			77	77	11	11	71	71	28
118		0.00	10.00	35	5.00	150					3	3	3
119		0.00			10.00	35					2	4	3
120	57	0.00	10.00	35			71	50	16	16	59	59	29
121		0.00	10.00	35	5.00	150					2	3	3
122		0.00			10.00	35					2	3	3
123	80	0.00	10.00	35			91	91	26	26	77	77	33
124		0.00	10.00	35	5.00	150					4	2	3
125		0.00			10.00	35					2	3	3
126	67	0.00	10.00	35			83	83	21	21	91	100	38
127		0.00	10.00	35	2.50	150					3	2	3
128		0.00			10.00	35					3	2	2
129	82	0.00	22.50	120			111	111	53	53	125	125	83
130		0.00	25.00	120	0.00	160					2	3	9
131		0.00			22.50	120					3	3	5
132	67	15.00	20.00	120			143	143	31	31	42	43	143
133		0.00	20.00	120	0.00	160			10	10	3	3	14
134		0.00			20.00	120					3	3	11
135	70	0.00	20.00	120			167	167	28	28	111	100	91
136		0.00	20.00	120	0.00	160					4	3	13
137		0.00			20.00	120					3	3	11

CARD 3 PROVIDENCE (CONTINUED)

	AVG % CONT CARD	AVG EXT MANIFESTATION HEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
13	40	10.00	15.00	120			56	56	111	111	143		1000
13		22.50	15.00	120	15.00	200			22	30	7		83
14		22.50			15.00	120			14	17	4		46
141		0.00	12.50	170			1000	1000	100	333	167		111
142		24.75	12.50	170	12.50	145	1000	1000	250	500	500		167
143		24.75	12.50	170	12.50	170	1000	500	45	100	143		143
144		24.75			12.50	170	56		26	29	31		63
145	72	0.00	15.00	130			167	167	91	91	143	111	143
146		0.00	15.00	100	0.00	130			10	10	4	5	9
147		0.00			15.00	130					3	6	8
148	72	0.00	15.00	130			167	167	77	77	200	167	125
149		0.00	15.00	100	0.00	130					4	3	5
150		0.00			15.00	130					3	3	5
151	72	0.00	15.00	130			167	167	24	24	200	77	77
152		0.00	15.00	100	0.00	130			10	10	4	6	10
153		0.00			15.00	130					3	6	8
154	67	0.00	15.00	130			143	143	67	67	143	167	111
155		0.00	15.00	10	0.00	130					3	3	7
156		0.00			15.00	130					3	3	7
157	27	24.75	15.00	150			71	53	59	59	167	167	100
158		22.50	22.50	150	27.50	150			29	42	31	28	34
159		0.00			30.00	150			13	13	4	6	12
160	40	40.00	15.00	130			71	53	45	45	83	77	53
161		30.00	20.00	130	5.00	130					13	6	10
162		0.00	20.00	130	15.00	130					5	6	7
163		0.00			20.00	130					3	4	4
164	67	15.00	22.25	120			200	200	250	250	250	250	333
165		0.00	15.00	120	2.50	150			12	12	10	8	11
166		0.00	15.00	120	22.25	120			19	19	16	15	21
167		0.00	15.00	120	15.00	120			12	12	13	15	14
168		0.00			15.00	120					6	10	9
169	37	0.00	20.00	200			77	77	143	143	83	200	1000
170		0.00	20.00	200	0.00	300			30	30	15	8	18
171		0.00			20.00	200			38	39	9	12	63
172	93	0.00	10.00	160			167	167	1000	1000	167		1000
173		20.00	10.00	160	0.00	250	37		25	29	25		40
174		25.00			30.00	150					9		11
175	82	20.00	25.00	150			1000	167	200	200	333	67	250
176		0.00	25.00	150	2.50	230	25		22	20	8	11	31
177		0.00	25.00	150	25.00	150	36		23	23	31	26	29
178		0.00			25.00	150			12	12	16	16	15
179	50	20.00	30.00	150					20	20	167	50	100
180		0.00	30.00	150	30.00	230	33		17	20	18	5	32
181		0.00	30.00	150	30.00	150	43	43	25	25	63	19	40
182		0.00			30.00	150			10	10	11	14	18
183	75	22.50	17.50	160			91		500	500	143		1000
184		0.00	17.50	160	5.00	200			111	111	9		250
185		0.00	17.50	160	17.50	160			34	34	15		91
186		0.00			17.50	160					7		12
187	92	40.00	10.00	160			143	1000			1000		1000
188		0.00	10.00	160	7.50	330	43				23		23
189		0.00	10.00	160	30.00	150	22	50			24		63
190		0.00			30.00	150					3		5
191		0.00										3	4
192	67	0.00									5		8
193		0.00											4
194	70	0.00	10.00	120			77	50			250		43
195		0.00	30.00	120	30.00	150					7		8
196		0.00			30.00	120					13		3
197	90	0.00	22.25	170			50	50			59	59	500
198		0.00			0.00	250					2	2	2
199		0.00					21		23	23	4	7	24
200	73	0.00	12.50	200			111	111	59	59	500		77
201		0.00	15.00	70	5.00	230	48	48	48	58	29		43
202		0.00	15.00	70	12.50	200			13	19	18		21
203		0.00			15.00	70			11	13	7		10
204	77	22.50	7.50	100			500	500	111	111	500		1000
205		22.50	20.00	120	7.50	150	125	125	23	30	16		83
206		45.00			7.50	100	28		14	17	14		49

IV. Detroit, Michigan Data

CARD 1 DETROIT

OBS NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
207	45310001	151	1	0	32	31	.003	.019	.009	.003	.010	.010	.012	.007	.002	.005
208	45310001	151	1	1			.	.	.	.040	.054	.049	.150	.121	.032	.051
209	45320010	1218	1	0	35	71	.009	.009	.009	.001	.001	.001	.008	.	.000	.000
210	45320010	1218	1	1			.	.	.	.003	.050	.015	.123	.	.002	.074
211	45320010	1218	1	2			.	.	.	.012	.023	.018	.082	.	.011	.019
212	45320028	79[illegible]	1	0	36	47	.003	.007	.006	.010	.011	.011	.005	.005	.006	.008
213	45320028	79[illegible]	1	1			.	.	.	.	.	.	.343	.300	.040	.117
214	45320028	79[illegible]	1	2			.	.	.	.	.	.	.269	.299	.245	.296
215	45320028	79[illegible]	2	0	36	47	.005	.006	.006	.012	.013	.013	.006	.007	.007	.009
216	45320028	79[illegible]	2	1			.	.	.	.	.	.	.314	.153	.039	.098
217	45320028	79[illegible]	2	2			.	.	.	.	.	.	.284	.254	.236	.280
218	45320035	1629	1	0	57	51	.001	.001	.001	.002	.005	.005	.000	.000	.000	.001
219	45320035	1629	1	1			.000	.044	.	.001	.029	.018	.134	.145	.000	.038
220	45320035	1629	1	2			.001	.027	.	.004	.045	.030	.023	.022	.001	.015
221	45320035	1629	1	3			.	.	.	.008	.091	.057	.052	.099	.003	.037
222	45320035	1629	1	4			.006	.045	.	.020	.080	.065	.047	.051	.010	.044
223	45320035	1629	1	5			.	.	.	.051	.099	.087	.053	.045	.024	.054
224	45320035	1629	1	6			.	.		.	.	.	.122	.092	.075	.101
225	45320035	1629	2	0	57	51	.022	.022	.022	.	.	.	.018	.018	.056	.057
226	45320035	1629	2	1			.	.	.	.	.	.	.300	.274	.101	.190
227	45320035	1629	2	2			.	.	.	.	.	.	.284	.142	.094	.109
228	45320035	1649	1	0	32	52	.022	.022	.022	.038	.038	.038	.019	.019	.028	.029
229	45320035	1649	1	1			.	.	.	.	.	.	.367	.387	.159	.224
230	45320057	469	1	0	35	71	.001	.002	.006	.	.	.	.007	.	.003	.004
231	45320057	1469	1	1			.007	.028	.	.	.	.	.076	.	.024	.061
232	45320057	.469	1	2			.	.	.	.	.	.	.099	.	.157	.186
233	45320059	1576	1	0	35	49	.007	.007	.007	.002	.002	.002	.008	.009	.001	.001
234	45320059	1576	1	1			.	.	.	.	.	.	.155	.183	.028	.145
235	45320059	1576	1	2			.	.	.	.	.	.	.239	.275	.246	.285
236	45320094	286	0	0	32	43	.009	.011	.009	.010	.011	.011	.015	.	.007	.007
237	45320094	286	0	1			.	.	.	.	.	.	.097	.	.060	.129
238	45330026	6092	1	0	36	61	.000	.000	.001	.	.	.	.000	.000	.000	.000
239	45330026	6092	1	1	36	61	.000	.019	.019	.	.	.	.049	.041	.001	.008
240	45330026	6092	1	2			.001	.039	.	.	.	.	.034	.036	.013	.058
241	45330026	6092	1	3			.	.	.	.	.	.	.083	.047	.214	.247
242	45330036	6229	1	0	36	62	.001	.001	.001	.000	.000	.000	.004	.004	.000	.000
243	45330036	6229	1	1	36	62	.007	.020	.038	.000	.022	.021	.111	.238	.009	.020
244	45330036	6229	1	2			.	.	.	.011	.043	.029	.150	.197	.023	.036
245	45330036	6229	1	3			.	.	.	.	.	.	.320	.194	.033	.071
246	45330040	3447	1	0	36	11	.006	.006	.006	.028	.028	.028	.006	.	.014	.017
247	45330040	3447	1	1			.	.	.	.	.	.	.218	.	.021	.049
248	45330040	3447	1	2			.019	.038	.	.	.	.	.070	.	.034	.061
249	45330040	3447	1	3			.	.	.	.	.	.	.083	.	.064	.099
250	45330040	3447	1	4			.	.	.	.	.	.	.183	.	.156	.184
251	45330040	3454	1	0	43	51	.001	.001	.001	.002	.002	.002	.000	.000	.000	.001
252	45330040	3454	1	1			.001	.043	.	.002	.070	.070	.092	.098	.001	.058
253	45330040	3454	1	2			.002	.048	.	.007	.041	.041	.036	.024	.005	.021
254	45330040	3454	1	3			.007	.039	.	.025	.053	.053	.033	.044	.021	.036
255	45330040	3454	1	4			.	.	.	.	.	.	.051	.045	.091	.103
256	45330051	8[illegible]	1	0	43	53	.000	.000	.035	.000	.000	.000	.000	.000	.000	.000
257	45330051	8[illegible]	1	1			.000	.031	.	.000	.037	.032	.034	.055	.000	.058
258	45330051	88	1	2	43	53	.000	.016	.009	.000	.009	.006	.003	.008	.000	.009
259	45330051	88	1	3	43	53	.000	.009	.006	.000	.006	.003	.003	.006	.000	.008
260	45330051	88	1	4	43	53	.000	.007	.006	.000	.007	.005	.002	.006	.000	.008
261	45330051	8[illegible]	1	5	43	53	.000	.006	.005	.000	.006	.004	.002	.005	.000	.007
262	45330051	8[illegible]	1	6	43	53	.001	.009	.009	.000	.004	.002	.004	.005	.000	.006
263	45330051	88	1	7	43	53	.006	.010	.010	.003	.005	.005	.008	.009	.002	.008
264	45330051	88	1	8			.	.	.	.027	.033	.033	.080	.082	.024	.035
265	45330062	6234	2	0	36	61	.003	.011	.006	.	.	.	.011	.	.005	.011
266	45330062	6234	2	1			.005	.040	.	.	.	.	.071	.	.008	.048
267	45330062	6234	2	2			.	.	.	.	.	.	.111	.	.014	.063
268	45330062	6234	2	3			.	.	.	.	.	.	.108	.	.027	.070
269	45330062	6234	2	4			.	.	.	.	.	.	.144	.	.060	.106
270	45330062	6234	2	5			.	.	.	.	.	.	.240	.	.167	.203
271	45330100	468[illegible]	1	0			.	.	.	.017	.017	.017	.014	.014	.016	.016
272	45330100	468[illegible]	1	1			.	.	.	.	.	.	.494	.338	.083	.140
273	45330100	468[illegible]	1	2			.	.	.	.	.	.	.295	.295	.285	.257
274	45330112	5136	1	0	32	55	.006	.006	.006	.021	.021	.021	.005	.018	018	.015
275	45330112	5136	1	1			.	.	.	.	.	.	.159	.183	.083	.101
276	45330147	5696	1	0	36	53	.019	.019	.019	.054	.054	.054	.020	.017	.021	.024
277	45330147	5696	1	1			.	.	.	.077	.091	.091	.215	.184	.032	.050
278	45330147	5896	1	2			.	.	.	.	.	.	.677	.676	.022	.034
279	45330147	5896	1	3			.	.	.	.	.	.	.242	.172	.058	.071
280	45330155	2026	0	0			.	.	.	.001	.001	.001	.008	.005	.000	.000

CARD 1 DETROIT (CONTINUED)

LINE NO.	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	OV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL HF	RUN 2 TOTAL HF	RUN 3 ROOF CONT	RUN 3 TOTAL HF	RUN 4 TOTAL HF	RUN 5 TOTAL HF	RUN 6 TOTAL HF	RUN 7 ROOF CONT	RUN 7 TOTAL HF
281	43330155	2626	0	1			.	.	.	.002	.058	.058	.162	.080	.000	.042
282	43330155	2626	0	2			.000	.038	.	.004	.042	.042	.054	.041	.001	.032
283	43330155	2626	0	3			.001	.026	.	.008	.042	.042	.052	.037	.003	.032
284	43330155	2626	0	4			.	.	.	.015	.057	.057	.132	.057	.006	.041
285	43330155	2626	0	5			.	.	.	.	.	.	.158	.118	.015	.068
286	43330155	2626	0	6			.	.	.	.	.	.	.138	.103	.035	.076
287	43330155	2626	0	7			.	.	.	.	.	.	.222	.155	.130	.136
288	43330165	4936	1	0	51	29	.006	.006	.006	.010	.010	.010	.006	.006	.008	.009
289	43330165	4936	1	1			.	.	.	.035	.055	.048	.175	.093	.034	.043
290	43330165	4936	2	0	51	29	.	.	.006	.009	.010	.010	.006	.005	.008	.008
291	43330165	4936	2	1			.	.	.	.033	.062	.040	.157	.059	.033	.044
292	43330166	5626	1	0	57	31	.019	.026	.003	.	.	.	.019	.020	.005	.010
293	43330166	5626	1	1			.	.	.	.	.	.	.158	.078	.018	.032
294	43330266	5137	1	0	32	53	.009	.009	.009	.006	.006	.006	.009	.	.003	.003
295	43330266	5137	1	1			.	.	.	.026	.037	.032	.132	.	.020	.026
296	43330266	5005	1	0	36	61	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
297	43330266	5005	1	1			.040	.046	.	.000	.033	.023	.161	.099	.000	.034
298	43330266	5005	1	2			.	.	.	.009	.030	.011	.105	.061	.000	.024
299	43330266	5005	1	3			.	.	.	.001	.036	.014	.049	.049	.000	.024
300	43330266	5005	1	4			.	.	.	.010	.034	.024	.116	.121	.009	.029
301	43330293	3262	2	0	57	72	.000	.010	.001	.003	.006	.006	.005	.015	.001	.001
302	43330293	3262	2	1			.000	.026	.	.003	.066	.066	.146	.103	.003	.044
303	43330293	3262	2	2			.001	.042	.	.009	.049	.049	.152	.084	.010	.024
304	43330293	3262	2	3			.	.	.	.029	.087	.075	.102	.063	.015	.035
305	43330293	3262	2	4			.	.	.	.	.	.	.125	.087	.006	.113
306	43330293	3268	1	0	36	11	.002	.021	.009	.	.	.	.010	.009	.000	.007
307	43330293	3268	1	1			.	.	.	.	.	.	.261	.170	.001	.061
308	43330293	3268	1	2			.	.	.	.	.	.	.184	.074	.006	.041
309	43330293	3268	1	3			.	.	.	.	.	.	.171	.128	.039	.066
310	43330293	3268	2	0	36	11	.001	.016	.005	.001	.039	.009	.005	.008	.000	.007
311	43330293	3268	2	1			.	.	.	.002	.031	.031	.194	.058	.001	.035
312	43330293	3268	2	2			.	.	.	.009	.023	.023	.061	.020	.005	.025
313	43330293	3268	2	3			.	.	.	.047	.055	.055	.118	.072	.030	.046
314	43330293	3268	3	0	36	11	.002	.021	.009	.002	.044	.044	.004	.011	.008	.012
315	43330293	3268	3	1			.	.	.	.	.	.	.208	.195	.001	.053
316	43330293	3268	3	2			.	.	.	.	.	.	.079	.130	.005	.050
317	43330293	3268	3	3			.	.	.	.	.	.	.140	.163	.035	.074
318	43330315	3045	1	0	61	31	.006	.007	.006	.021	.021	.021	.006	.	.015	.015
319	43330315	3045	1	1			.	.	.	.069	.078	.078	.144	.	.049	.070
320	43330334	3994	1	0	35	49	.005	.020	.005	.	.	.	.023	.033	.008	.006
321	43330334	3994	1	1			.	.	.	.	.	.	.295	.442	.170	.161
322	43330334	3994	1	2			.	.	.	.	.	.	.233	.264	.212	.247
323	43330382	2[illegible]	1	0	57	53	.006	.006	.006	.	.	.	.006	.006	.004	.006
324	43330382	2[illegible]	1	1			.	.	.	.	.	.	.123	.132	.008	.055
325	43330382	2[illegible]	1	2			.	.	.	.	.	.	.080	.076	.030	.054
326	43330382	2[illegible]	1	3			.	.	.	.	.	.	.185	.176	.115	.136
327	43330460	3533	1	0	36	51	.001	.002	.006	.003	.007	.007	.004	.	.001	.006
328	43330460	3533	1	1			.002	.026	.	.007	.045	.025	.049	.	.013	.020
329	43330460	3533	1	2			.012	.026	.	.025	.043	.043	.015	.	.078	.091
330	43330460	3533	1	3			.	.	.	.	.	.	.394	.	.006	.116
331	43330526	3314	1	0	35	53	.012	.012	.020	.025	.025	.025	.011	.011	.014	.015
332	43330526	3314	1	1			.	.	.	.	.	.	.156	.194	.052	.177
333	43330526	3314	1	2			.	.	.	.	.	.	.144	.144	.275	.285
334	43330527	3354	1	0	31	53	.008	.038	.008	.032	.033	.033	.007	.007	.018	.016
335	43330527	3354	1	1			.	.	.	.	.	.	.133	.187	.062	.115
336	43330542	3614	1	0	57	44	.029	.032	.026	.019	.019	.019	.035	.029	.015	.015
337	43330542	3614	1	1			.	.	.	.019	.019	.019	.321	.405	.245	.288
338	43330555	445[illegible]	1	0	35	29	.024	.025	.025	.	.	.	.010	.013	.045	.045
339	43330555	445[illegible]	1	1			.	.	.	.	.	.	.239	.275	.145	.160
340	43330555	453[illegible]	1	0	32	86	.022	.022	.022	.033	.033	.033	.017	.017	.021	.022
341	43330555	453[illegible]	1	1			.	.	.	.	.	.	.427	.432	.199	.317
342	43330561	3[illegible]	1	0	61	52	.006	.006	.012	.	.	.	.008	.	.005	.005
343	43330561	3[illegible]	1	1			.	.	.	.	.	.	.305	.	.377	.113
344	43330651	8[illegible]	4	0	43	11	.	.	.001	.001	.001	.001	.008	.	.000	.000
345	43330651	8[illegible]	4	1	43	11	.	.	.005	.001	.054	.054	.132	.	.001	.077
346	43330651	8[illegible]	4	2	43	11	.	.	.006	.003	.015	.015	.058	.	.008	.021
347	43330651	8[illegible]	4	3	43	11	.	.	.005	.008	.018	.018	.027	.	.044	.053
348	43330651	8[illegible]	4	4	43	11	.	.	.005	.000	.046	.046	.026	.	.000	.020
349	43330651	8[illegible]	4	5	43	11	.	.	.003	.000	.024	.024	.000	.	.000	.014
350	43330651	8[illegible]	4	6	43	11	.	.	.003	.000	.020	.020	.008	.	.000	.014
351	43330651	8[illegible]	4	7	43	11	.	.	.009	.000	.016	.015	.058	.	.000	.013
352	43330651	8[illegible]	4	8	43	11	.	.	.009	.000	.011	.011	.058	.	.000	.012
353	43330651	8[illegible]	4	9	43	11	.	.	.009	.000	.010	.010	.056	.	.000	.015
354	43330651	8[illegible]	4	10	43	11	.	.	.009	.000	.010	.010	.005	.	.000	.012
355	43330651	8[illegible]	4	11	43	11	.	.	.005	.000	.009	.009	.005	.	.000	.011
356	43330651	8[illegible]	4	12	43	11	.	.	.005	.000	.009	.009	.008	.	.000	.011
357	43330651	8[illegible]	4	13	43	11	.	.	.006	.000	.009	.009	.010	.	.000	.010
358	43330651	8[illegible]	4	14	43	11	.	.	.006	.001	.012	.012	.012	.	.000	.010
359	43330651	8[illegible]	4	15	43	11	.	.	.006	.003	.014	.014	.010	.	.002	.012
360	43330651	8[illegible]	4	16	43	11	.	.	.006	.014	.025	.025	.021	.	.010	.020
361	43330651	8[illegible]	4	17	43	11	.	.	.020	.004	.004	.004	.006	.	.003	.002

CARD 2 DETROIT

035 NJ	SPACES RUN 2 PF-40	RUN 2 PF 100	RUN 7 PF-40	PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	W/ OF DET	TOTAL OVER-HEAD WT.	FLOOR WT.	CEILING HEIGHT	AVG EXT WALL MASS
207	919	919	231	231	1.50	0	15.00	20	-9	170	0	110	80
208			0	0	0.00	0	30.00	40	3	60	110	0	66
209	24	24	30	30		0	0.00	0	-7	80	0	60	773
210			0	0	0.00	0	14.75	59	3	20	60	10	113
211			198	0	0.00	0	5.00	20	15	10	10	10	113
212	26	26	277	277		0	0.00	0	-9	150	0	70	150
213			0	0	0.00	0	25.00	30	3	90	70	70	100
214			0	0	0.00	0	25.00	30	18	10	70	70	100
215	120	120	131	131		0	0.00	0	-9	150	0	70	150
216			0	0	0.00	0	10.00	20	3	90	70	70	140
217			0	0	0.00	0	10.00	20	18	10	70	70	103
218	86	86	116	116	0.00	0	2.50	10	-9	340	0	50	385
219			27	0	0.00	0	32.50	69	3	290	50	50	150
220			353	3	0.00	0	20.00	40	23	240	50	50	110
221			0	0	0.00	0	40.00	40	36	190	50	50	110
222			0	0	0.00	0	40.00	40	49	140	50	50	110
223			0	0	0.00	0	40.00	40	62	90	50	50	110
224			0	0	0.00	0	35.00	40	75	40	50	50	110
25	42	0	0	0		0	0.00	0	-10	70	0	50	173
226			0	0	0.00	0	27.25	59	3	20	50	10	120
227			0	0	0.00	0	15.00	30	16	10	10	10	128
228	96	0	35	0		0	0.00	0	-7	90	0	80	60
229			0	0	0.00	0	32.50	69	3	10	80	0	80
230	65	65	97	97	1.50	0	10.00	10	-7	220	0	80	170
231			0	0	0.00	0	22.50	40	3	140	80	80	95
232			0	0	0.00	0	17.50	40	15	50	80	80	93
233	10	10	44	44		0	0.00	0	-6	140	0	60	40
234			0	0	0.00	0	10.00	40	3	80	60	60	60
235			0	0	0.00	0	7.50	30	15	20	60	60	43
236	11	11	14	14		0	0.00	0	-10	110	0	60	150
237			0	0	0.00	0	47.25	59	3	50	60	0	100
238	21	21	29	29		0	0.00	0	-7	490	0	120	990
239	162	0	403	309	0.00	0	5.00	20	3	370	120	120	110
240			0	0	0.00	0	20.00	20	17	250	120	120	110
241			0	0	0.00	0	20.00	20	29	130	120	120	110
242	72	72	55	55		0	0.00	0	-7	290	0	100	110
243	0	0	94	0	0.00	0	27.50	50	3	190	100	70	110
244			0	0	0.00	0	27.50	40	16	120	70	70	110
245			0	0	0.00	0	27.50	40	29	50	70	70	110
246	13	13	28	0		0	0.00	0	-6	60	0	10	140
247			0	0	0.00	0	7.50	20	3	30	10	10	140
248			0	0	0.00	0	7.50	20	15	40	10	10	138
249			0	0	0.00	0	7.50	20	26	30	10	10	135
250			0	0	0.00	0	7.50	20	37	20	10	10	135
251	102	102	64	64		0	0.00	0	-6	300	0	60	150
252			0	0	0.00	0	17.50	30	3	240	60	50	110
253			327	0	0.00	0	22.50	30	16	190	50	50	80
254			0	0	0.00	0	22.50	30	26	140	50	50	80
255			0	0	0.00	0	22.50	30	36	90	50	50	80
256	0	0	168	168	.75	0	2.50	10	-13	850	0	100	790
257			0	0	0.00	0	24.75	69	3	750	100	100	113
258	360	360	600	14	0.00	0	24.75	69	13	650	100	100	105
259	432	432	600	170	0.00	0	24.75	69	26	550	100	100	105
260	432	432	600	196	0.00	0	24.75	69	39	450	100	100	105
261	432	432	600	315	0.00	0	24.75	69	52	350	100	100	105
262	408	408	600	350	0.00	0	24.75	69	65	250	100	100	105
263	378	378	600	277	0.00	0	24.75	69	78	150	100	100	105
264			0	0	0.00	0	24.75	69	91	50	100	100	105
265	42	42	35	12	2.25	0	15.00	30	-11	60	0	10	308
266			0	0	0.00	0	20.00	40	3	50	10	10	235
267			0	0	0.00	0	25.00	40	19	40	10	10	150
268			0	0	0.00	0	25.00	40	33	30	10	10	148
269			0	0	0.00	0	25.00	40	47	20	10	10	148
270			0	0	0.00	0	25.00	40	52	10	10	10	148
271			32	0		0	0.00	0	-5	120	0	100	990
272			0	0	0.00	0	20.00	30	3	20	100	10	70
273			0	0	0.00	0	20.00	30	23	10	10	10	70
274	91	91	66	0		0	0.00	0	-7	120	0	100	200
275			0	0	0.00	0	17.50	40	3	20	100	0	150
276	47	0	28	0		0	0.00	0	-5	80	0	20	140
277			0	0	0.00	0	37.25	89	3	60	20	20	110
278			0	0	0.00	0	30.00	30	15	40	20	20	110
279			0	0	0.00	0	30.00	30	25	20	20	20	110
280			24	24		0	0.00	0	-7	380	0	50	798
281			0	0	0.00	0	45.00	50	3	330	50	50	110
282			0	0	0.00	0	45.00	50	13	280	50	50	110
283			0	0	0.00	0	45.00	50	23	230	50	50	110
284			0	0	0.00	0	45.00	50	33	180	50	50	110
285			0	0	0.00	0	45.00	50	43	130	50	50	110
286			0	0	0.00	0	45.00	50	53	80	50	50	110
287			0	0	0.00	0	45.00	50	63	30	50	50	110

CARD 2 DETROIT (CONTINUED)

OBS NO	SPACES RUN 2 PF-40	RUN 2 PF 100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
283	13	13	56	56		0	0.00	0	-4	150	0	70	150
284			0	0	0.00	0	29.75	69	3	80	70	0	70
285	16	16	18	18		0	0.00	0	-4	150	0	70	150
291			0	0	0.00	0	34.50	69	3	80	70	0	70
292	75	75	121	121	1.50	0	10.00	20	-6	80	0	60	195
293			16	0	0.00	0	15.00	30	3	20	60	0	138
294	24	24	17	17		0	0.00	0	-7	130	0	70	990
295			0	0	0.00	0	22.25	89	3	60	70	0	145
296	210	210	347	347		0	0.00	0	-7	850	0	200	990
297			0	0	0.00	0	32.25	59	3	650	200	200	110
298			105	0	0.00	0	54.50	59	18	450	200	200	110
299			56	0	0.00	0	54.50	59	29	250	200	200	110
300			0	0	0.00	0	54.50	59	40	50	200	200	110
301	63	63	96	96	.75	0	10.00	20	-6	390	0	70	228
302			0	0	0.00	0	17.50	40	3	320	70	80	93
303			114	0	0.00	0	17.50	40	15	240	80	80	90
304			0	0	0.00	0	15.00	30	24	160	80	80	90
305			0	0	0.00	0	15.00	30	33	80	80	80	90
306	54	54	66	66	1.50	0	20.00	20	-6	220	0	60	140
307			0	0	0.00	0	30.00	30	3	160	60	60	80
308			0	0	0.00	0	30.00	30	12	100	60	60	80
309			0	0	0.00	0	30.00	30	21	40	60	60	80
310	35	35	42	42	1.50	0	10.00	20	-6	220	0	60	125
311			0	0	0.00	0	15.00	30	3	160	60	60	70
312			0	0	0.00	0	15.00	30	12	100	60	60	70
313			0	0	0.00	0	15.00	30	21	40	60	60	60
314	24	24	31	0	3.00	3	20.00	20	-6	220	0	60	140
315			0	0	0.00	0	30.00	30	3	160	30	60	80
316			0	0	0.00	0	30.00	30	12	100	60	60	80
317			0	0	0.00	0	30.00	30	21	40	60	60	80
318	1015	1015	198	0		0	0.00	0	-9	140	0	60	203
319			0	0	0.00	0	27.50	40	3	50	60	0	180
320	34	34	47	47	1.50	0	17.50	40	-5	140	0	120	150
321			0	0	0.00	0	42.25	59	3	20	120	10	145
322			0	0	0.00	0	30.00	0	18	10	10	10	140
323	481	481	622	622		0	0.00	0	-9	150	0	60	[illegible]
324			0	0	0.00	0	44.75	79	3	90	60	30	70
325			0	0	0.00	0	22.50	50	27	60	30	30	70
326			0	0	0.00	0	12.50	20	39	30	30	30	70
327	170	170	105	105	3.00	3	5.00	10	-6	260	0	70	140
328			301	0	0.00	0	20.00	20	3	190	70	70	110
329			0	0	0.00	0	20.00	20	13	120	70	70	110
330			0	0	0.00	0	20.00	20	23	50	70	70	110
331	124	0	149	0		0	0.00	0	-7	130	0	40	150
332			0	0	0.00	0	39.50	79	3	90	40	40	130
333			0	0	0.00	0	15.00	30	18	40	40	40	105
334	19	19	31	0		0	0.00	0	-5	100	0	50	990
335			0	0	0.00	0	29.75	89	3	50	50	0	70
336	344	0	304	0	.75	0	7.50	10	-7	80	0	70	150
337			0	0	0.00	0	20.00	20	3	10	70	0	70
338	52	0	0	0	0.00	0	5.00	20	-7	160	0	150	105
339			0	0	0.00	0	15.00	40	3	10	150	0	78
340	16	0	11	0		0	0.00	0	-4	50	0	70	990
341			0	0	0.00	0	39.50	79	3	10	70	0	40
342	40	0	71	71		0	0.00	0	-7	140	0	120	805
343			0	0	0.00	0	17.50	40	3	20	120	0	115
344	3092	3092	240	240		0	0.00	0	-10	999	0	70	796
345	306	306	0	0	0.00	0	12.50	30	3	999	70	60	93
346	571	367	246	0	0.00	0	12.50	30	33	950	60	60	93
347	988	423	0	0	0.00	0	12.50	30	44	890	60	60	90
348	618	618	127	0	0.00	0	12.50	30	55	830	60	60	90
349	325	271	202	0	0.00	0	22.50	30	66	770	60	60	90
350	433	404	241	0	0.00	0	22.50	30	77	710	60	60	90
351	433	404	304	0	0.00	0	22.50	30	88	650	60	60	90
352	433	321	326	0	0.00	0	22.50	30	99	590	60	60	90
353	433	321	269	0	0.00	0	22.50	30	110	530	60	60	90
354	433	346	303	0	0.00	0	22.50	30	121	470	60	60	90
355	468	381	339	0	0.00	0	22.50	30	132	410	60	60	90
356	468	381	370	0	0.00	0	22.50	30	143	350	60	60	90
357	468	468	401	0	0.00	0	22.50	30	154	290	60	60	90
358	468	335	413	0	0.00	0	22.50	30	165	230	60	60	90
359	335	335	413	0	0.00	0	22.50	30	176	170	60	60	90
360	335	285	202	0	0.00	0	22.50	30	187	110	60	60	90
361	307	0	0	0	0.00	0	22.50	30	198	50	60	60	90

CARD 3 DETROIT

OBS NO	AVG % BSMT EXPO	AVG INT PARTITION WEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
207	67	0.00	30.00	68			53	111	100	100	83	143	200
208		0.00			15.00	80			19	20	7	8	20
209	90	0.00	14.75	113			111	111	1000	1000	125		1000
210		0.00	5.00	113	0.00	773			20	67	8		14
211		0.00			14.75	113			43	56	12		53
212	90	22.50	25.00	100			143	167	91	91	200	200	125
213		0.00	25.00	100	0.00	150					3	3	9
214		0.00			25.00	100					4	3	3
215	90	5.00	10.00	140			167	167	77	77	167	143	111
216		0.00	10.00	103	0.00	150					3	7	10
217		0.00			10.00	140					4	4	4
218	90	10.00	32.00	150			1000	1000	200	200	1009	1009	1000
219		0.00	20.00	110	2.50	385	23		34	56	7	7	26
220		10.00	40.00	110	32.00	150	37		22	33	43	45	67
221		10.00	40.00	110	20.00	110			11	18	19	10	27
222		10.00	40.00	110	40.00	110	22		13	15	21	20	23
223		10.00	35.00	110	40.00	110			10	11	19	22	19
224		10.00			40.00	110					8	11	10
225	90	5.00	27.25	120			45	45			56	56	18
226		0.00	15.00	128	0.00	173					3	4	5
227		0.00			27.25	120					4	7	9
228	90	0.00	32.00	80			45	45	26	26	53	53	34
229		0.00			0.00	60					3	3	4
230	77	42.50	22.50	95			500	167			250		250
231		22.50	17.50	93	10.00	170	36				13		16
232		20.00			22.50	95					10		5
233	90	0.00	10.00	60			143	143	500	500	125	111	1000
234		0.00	7.50	43	0.00	40					6	5	7
235		0.00			10.00	60					4	4	4
236	82	10.00	47.25	100			91	111	91	91	67		143
237		0.00			0.00	150					2		8
238	90	22.50	5.00	110			1009	1009			1009	1009	1009
239		0.00	20.00	110	0.00	990	53	53			20	24	125
240		0.00	20.00	110	5.00	110	26				29	26	17
241		0.00			20.00	110					12	21	4
242	90	22.50	27.50	110			1000	1000	1009	1009	250	250	1009
243		22.50	27.50	110	0.00	110	50	25	45	46	9	4	50
244		0.00	27.50	110	27.50	110			23	34	7	5	26
245		0.00			27.50	110					3	5	14
246	90	17.50	7.50	140			167	167	36	36	167		59
247		0.00	7.50	138	0.00	140					5		20
248		0.00	7.50	135	7.50	140	26				14		16
249		0.00	7.50	135	7.50	138					12		10
250		0.00			7.50	135					5		5
251	90	22.50	17.50	110			1000	1000	500	500	1009	1009	1000
252		0.00	22.50	80	0.00	150	23		14	14	11	10	17
253		0.00	22.50	80	17.50	110	21		24	24	28	42	48
254		0.00	22.50	80	22.50	80	26		19	19	30	23	28
255		0.00			22.50	80					20	22	10
256	90	0.00	24.75	113			1009	26	1009	1009	1009	1009	1009
257		0.00	24.75	105	2.50	790	32		27	31	29	18	17
258		20.00	24.75	105	24.75	113	63	111	111	167	333	125	111
259		20.00	24.75	105	24.75	105	111	167	167	333	333	167	125
260		20.00	24.75	105	24.75	105	143	167	143	200	500	167	125
261		20.00	24.75	105	24.75	105	167	167	167	230	500	200	143
262		20.00	24.75	105	24.75	105	111	111	250	500	250	200	167
263		20.00	24.75	105	24.75	105	100	100	200	200	125	111	125
264		20.00			24.75	105			30	30	13	12	29
265	80	0.00	20.00	235			91	167			91		91
266		0.00	25.00	150	15.00	338	25				14		21
267		0.00	25.00	148	20.00	235					9		16
268		0.00	25.00	148	25.00	150					9		14
269		0.00	25.00	148	25.00	148					7		9
270		0.00			25.00	148					4		5
271	90	22.50	20.00	70					59	59	71	71	63
272		0.00	20.00	70	0.00	990					2	3	7
273		0.00			20.00	70					3	3	4
274	65	30.00	17.50	150			167	167	48	48	200	56	56
275		0.00			0.00	200					6	10	10
276	90	22.50	37.25	110			53	53	19	19	50	59	42
277		0.00	30.00	110	0.00	140			11	11	5	5	20
278		0.00	30.00	110	37.25	110					13	13	29
279		0.00			30.00	110					4	6	14
280	90	0.00	45.00	110					1000	1000	125	200	1009
281		0.00	45.00	110	0.00	798			17	17	6	13	24
282		0.00	45.00	110	45.00	110	26		24	24	19	24	31
283		0.00	45.00	110	45.00	110	28		24	24	19	27	31
284		0.00	45.00	110	45.00	110			18	18	8	18	24
285		0.00	45.00	110	45.00	110					6	8	15
286		0.00	45.00	110	45.00	110					7	10	13
287		0.00			45.00	110					5	6	7

CARD 3 DETROIT (CONTINUED)

OBS NO	AVG % ASH CARB	AVG EXT PARTITION WEIGHT	STONY ABOVE AVG % APER	STONY ABOVE AVG EXT WALL MASS	STONY BELOW AVG % APER	STONY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
285	90	45.00	59.75	78			167	167	100	100	167	167	111
289		0.00			0.00	150			18	25	6	11	23
290	90	22.50	54.50	70				167	100	100	167	200	125
291		0.00			0.00	150			16	25	6	17	23
292	75	25.00	15.00	138			38	333			56	50	100
293		22.50			10.00	193					6	13	31
294	90	0.00	22.25	145			111	111	167	167	111		333
295		0.00			0.00	990			27	31	8		38
296	90	24.75	32.25	110			1000	1000	1000	1000	1000	1000	1000
297		0.00	54.50	110	0.00	990	21		30	45	6	10	20
298		0.00	54.50	110	32.25	110			33	91	10	16	42
299		0.00	54.50	110	54.50	110			28	71	20	25	42
300		0.00			54.50	110			29	42	8	8	34
301	77	30.00	17.50	93			100	1000	167	167	200	67	1000
302		0.00	17.50	90	10.00	228	38		15	15	7	10	23
303		0.00	15.00	90	17.50	93	24		20	20	7	12	42
304		0.00	15.00	90	17.50	90			11	13	10	16	29
305		0.00			15.00	90					8	11	9
306	60	0.00	30.00	80			48	111			100	111	143
307		0.00	30.00	80	20.00	140					4	6	16
308		0.00	30.00	80	30.00	80					10	14	24
309		0.00			30.00	40					8	8	15
310	75	0.00	15.00	70			63	167	11	111	200	125	143
311		0.00	15.00	70	10.00	125			32	32	5	17	20
312		0.00	15.00	60	15.00	70			43	43	16	50	40
313		0.00			15.00	70			18	18	8	14	22
314	60	0.00	30.00	80			48	111	23	23	250	91	83
315		0.00	30.00	80	20.00	140					5	5	11
316		0.00	30.00	80	30.00	80					13	8	17
317		0.00			30.00	80					7	6	13
318	67	24.75	27.50	180			143	167	48	48	167		67
319		0.00			0.00	203			13	10	7		14
320	80	40.00	42.25	140			50	167			43	30	125
321		0.00	30.00	140	17.50	160					3	2	6
322		0.00			42.25	140					4	4	4
323	90	0.00	44.75	70			125	125			167	167	167
324		0.00	22.50	70							8	8	18
325		0.00	12.50	70	44.75	70					11	12	19
326		0.00			22.50	70					5	6	7
327	67	20.00	20.00	110			500	167	143	143	250		167
328		0.00	20.00	110	5.00	140	38		22	38	20		50
329		0.00	20.00	110	20.00	110	38		23	23	67		11
330		0.00			20.00	110					11		9
331	90	0.00	39.50	130			83	50	40	40	91	91	63
332		0.00	15.00	105	0.00	150					6	5	6
333		0.00			39.50	130					7	7	4
334	90	0.00	29.75	70			125	125	30	30	143	143	56
335		0.00			0.00	990					8	5	9
336	80	22.50	20.00	70			31	50	53	53	29	34	56
337		0.00			7.50	150			53	53	3	2	3
338	77	20.00	15.00	78			40	40			100	77	22
339		0.00			5.00	105					4	4	6
340	90	0.00	39.50	40			45	45	30	30	59	59	45
341		0.00			0.00	990					2	2	3
342	90	20.00	17.50	115			167	83			125		200
343		0.00			0.00	605					3		9
344	90	20.00	12.50	93				1000	1000	1000	125		1000
345		0.00	12.50	93	0.00	798		167	19	19	8		13
346		20.00	12.50	90	12.50	93		167	67	67	17		48
347		20.00	12.50	90	12.50	93		167	56	56	143		19
348		20.00	22.50	90	12.50	90		167	22	22	167		50
349		20.00	22.50	90	12.50	90		333	42	42	125		63
350		20.00	22.50	90	22.50	90		333	50	50	125		71
351		20.00	22.50	90	22.50	90		111	63	63	125		77
352		20.00	22.50	90	22.50	90		111	91	91	125		83
353		20.00	22.50	90	22.50	90		111	100	100	167		67
354		20.00	22.50	90	22.50	90		111	100	100	200		83
355		20.00	22.50	90	22.50	90		167	111	111	200		91
356		20.00	22.50	90	22.50	90		167	111	111	125		91
357		20.00	22.50	90	22.50	90		167	111	111	100		100
358		20.00	22.50	90	22.50	90		167	83	83	83		100
359		20.00	22.50	90	22.50	90		167	71	71	100		83
360		20.00	22.50	90	22.50	90		167	40	40	48		50
361		20.00			22.50	90		50	11	11	12		16

V. New Orleans, Louisiana Data

CARD 1 NEW ORLEANS

USS NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF COUNT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
362	52420089	23	1	1			.	.	.	.000	.002	.002	.322	.356	.000	.010
363	52420089	35	1	1			.	.	.	.000	.002	.002	.226	.365	.000	.010
364	52420089	36	1	1			.	.	.	.000	.002	.002	.212	.420	.000	.010
365	52420010	99	1	0	36	45	.001	.018	.006	.	.	.	.007	.006	.006	.013
366	52420016	220	1	1	57	45	.000	.033	.020	.	.	.	.000	.062	.000	.048
367	52420016	220	1	2	57	45	.000	.031	.020	.	.	.	.022	.014	.000	.010
368	52420016	220	1	3	57	45	.000	.018	[illegible]	.	.	.	.016	.013	.000	.009
369	52420016	220	1	4	57	45	.000	.014	.009		.	.	.013	.011	.000	.008
370	52420016	220	1	5	57	45	.001	.012	[illegible]	.	.	.	.013	.011	.000	.008
371	52420016	220	1	6			.	.	.	.	.	.	.048	.045	.012	.019
372	52420030	228	1	1	36	43	.002	.040	.020	.	.	.	.099	.110	.002	.038
373	52420030	228	1	2			.009	.037	.	.	.	.	.091	.084	.006	.019
374	52420030	228	1	3			.	.	.	.	.	.	.066	.100	.026	.039
375	52420030	228	2	1	36	43	.008	.029	.020	.022	.054	.048	.090	.077	.007	.043
376	52420030	228	2	2			.	.	.	.	.	.	.231	.121	.032	.052
377	52420030	228	2	3			.	.	.	.034	.077	.077	.135	.118	.024	.089
378	52420070	222	1	1			.000	.034	.	.000	.026	.	.028	.034	.000	.027
379	52420070	222	1	2	57	59	.000	.007	.007	.000	.005	.005	.009	.005	.000	.005
380	52420070	222	1	3	57	59	.000	.012	.012	.000	.003	.003	.008	.003	.000	.009
381	52420070	222	1	4	57	59	.000	.011	.011	.000	.007	.007	.007	.016	.000	.025
382	52420070	222	1	5	57	59	.000	.009	.009	.000	.027	.027	.009	.013	.000	.021
383	52420070	222	1	6	57	59	.001	.024	.024	.001	.022	.022	.010	.014	.000	.025
384	52420070	222	1	7	57	59	.001	.020	.020	.003	.021	.021	.013	.015	.002	.021
385	52420070	222	1	8			.026	.043	.	.012	.047	.047	.036	.038	.010	.040
386	52420070	225	1	0	57	61	.000	.002	.038	.	.	.	.000	.000	.000	.013
387	52420070	225	1	1			.000	.033	.	.061	.024	.024	.043	.046	.000	.048
388	52420070	225	1	2	57	61	.002	.017	.017	.006	.022	.022	.010	.029	.004	.014
389	52420070	225	1	3			.	.	.	.036	.043	.048	.042	.063	.033	.043
390	52420075	280	1	3	57	54	.007	.014	.014	.003	.008	.009	.009	.012	.002	.010
391	52420075	295	1	1			.004	.030	.	.031	.058	.055	.036	.038	.018	.049
392	52420075	295	1	2	36	54	.011	.017	.017	.052	.063	.063	.014	.015	.031	.038
393	52420075	295	1	3			.035	.039	.	.	.	.	.030	.030	.057	.064
394	52420075	295	1	4			.	.	.	.	.	.	.112	.111	.141	.15.
395	52420075	521	1	1			.001	.044	.	.006	.026	.011	.182	.040	.003	.019
396	52420075	521	1	2	57	54	.004	.022	.022	.016	.025	.019	.014	.026	.011	.018
397	52420075	521	1	3			.016	.039	.	.046	.067	.053	.050	.029	.038	.045
398	52420075	521	1	4			.	.	.	.	.	.	.135	.087	.140	.147
399	52420075	522	1	1			.001	.034	.	.001	.027	.027	.141	.030	.000	.043
400	52420075	522	1	2	57	59	.003	.008	.008	.003	.011	.011	.009	.010	.002	.012
401	52420075	522	1	3	57	59	.009	.024	.024	.015	.033	.031	.017	.020	.011	.026
402	52420075	522	1	4			.	.	.	.	.	.	.052	.046	.065	.080
403	52420075	526	1	1			.008	.046	.	.005	.054	.054	.115	.108	.009	.047
404	52420075	526	1	2	37	59	.013	.024	.024	.015	.025	.025	.027	.038	.014	.022
405	52420075	526	1	3			.042	.030	.	.025	.034	.034	.031	.039	.020	.033
406	52420075	526	1	4			.035	.044	.	.038	.046	.046	.043	.050	.034	.045
407	52420075	526	1	5			.	.	.	.065	.071	.071	.052	.065	.062	.072
408	52420075	526	1	6			.	.	.	.	.	.	.108	.111	.112	.121
409	52420075	526	1	7			.	.	.	.	.	.	.214	.197	.248	.258
410	52420077	179	1	2			.	.	.	.	.	.	.059	.	.000	.043
411	52420077	179	1	3			.	.	.	.	.	.	.066	.	.000	.046
412	52420077	179	1	4			.	.	.	.	.	.	.103	.	.000	.031
413	52420077	179	1	5			.	.	.	.	.	.	.083	.	.002	.029
414	52420077	179	1	6			.	.	.	.	.	.	.147	.	.024	.048
415	52420086	361	1	0	43	51	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
416	52420086	361	1	1	43	51	.000	.044	.009	.000	.019	.004	.080	.052	.000	.010
417	52420086	361	1	2	43	51	.000	.012	.009	.000	.003	.003	.013	.007	.000	.003
418	52420086	361	1	3	43	51	.000	.005	.003	.000	.001	.001	.005	.008	.000	.003
419	52420086	361	1	4	43	51	.000	.003	.003	.000	.003	.003	.004	.009	.000	.003
420	52420086	361	1	5	43	51	.000	.001	.002	.000	.003	.003	.005	.007	.000	.002
421	52420086	361	1	6	43	51	.000	.022	.022	.000	.014	.014	.014	.029	.000	.006
422	52420086	361	1	7			.000	.027	.	.000	.007	.007	.021	.015	.000	.005
423	52420086	361	1	8			.001	.040	.	.001	.006	.006	.013	.015	.000	.005
424	52420086	361	1	9			.003	.031	.	.003	.007	.007	.013	.021	.002	.005
425	52420086	361	1	10			.015	.032	.	.015	.024	.024	.025	.025	.010	.015
426	52420086	361	1	11			.	.	.	.086	.092	.092	.088	.007	.064	.069
427	52420086	365	1	0	57	53	.000	.000	.001	.	.	.	.000	.000	.000	.000
428	52420086	365	1	1			.	.	.	.	.	.	.070	.046	.000	.011
429	52420086	365	1	2	57	53	.000	.009	.006	.	.	.	.006	.010	.000	.009
430	52420086	365	1	3	57	53	.001	.017	.009	.	.	.	.014	.015	.000	.008
431	52420086	365	1	4	57	53	.007	.021	.021	.	.	.	.015	.014	.010	.022
432	52420086	365	1	5			.	.	.	.	.	.	.066	.050	.009	.042
433	52420086	377	1	0	43	51	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
434	52420086	377	1	1	43	51	.000	.008	.003	.000	.028	.028	.011	.067	.000	.023
435	52420086	377	1	2	43	51	.000	.001	.001	.000	.003	.002	.001	.004	.000	.004
436	52420086	377	1	3	43	51	.000	.001	.001	.000	.009	.003	.001	.005	.000	.005
437	52420086	377	1	4	43	51	.000	.002	.003	.000	.007	.004	.001	.009	.000	.004
438	52420086	377	1	5	43	51	.000	.005	.003	.000	.006	.003	.003	.011	.000	.004
439	52420086	377	1	6	43	51	.000	.005	.003	.000	.005	.003	.002	.005	.000	.003
440	52420086	377	1	7	43	51	.000	.004	.004	.000	.012	.012	.001	.004	.000	.003
441	52420086	377	1	8	43	51	.000	.005	.003	.000	.009	.009	.002	.005	.000	.003

CARD 1 NEW ORLEANS (CONTINUED)

DES NO.	STANDARD LOCATION	FACILITY NUMBER	PLANT NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
442	52420086	377	1	9	43	51	.000	.005	.003	.000	.007	.007	.001	.005	.000	.003
443	52420086	377	1	10	43	51	.000	.004	.004	.000	.005	.005	.001	.005	.000	.003
444	52420086	377	1	11	43	51	.000	.003	.003	.000	.005	.005	.001	.004	.000	.002
445	52420086	377	1	12	43	51	.000	.005	.002	.000	.004	.004	.001	.005	.000	.002
446	52420086	377	1	13	43	51	.000	.004	.004	.000	.004	.004	.001	.005	.000	.002
447	52420086	377	1	14	43	51	.000	.004	.004	.000	.004	.004	.002	.005	.000	.002
448	52420086	377	1	15	43	51	.000	.004	.004	.000	.003	.003	.038	.036	.000	.002
449	52420086	377	1	16	43	51	.001	.007	.006	.000	.003	.003	.007	.006	.000	.002
450	52420086	377	1	17	43	51	.004	.008	.006	.001	.005	.005	.010	.008	.000	.003
451	52420086	377	1	18			.028	.032	.	.016	.020	.020	.033	.031	.016	.019
452	52420086	385	1	1			.000	.027	.	.000	.026	.026	.022	.021	.000	.021
453	52420086	385	1	2	57	53	.000	.012	.012	.000	.003	.003	.002	.002	.000	.001
454	52420086	385	1	3	57	53	.000	.012	.012	.000	.004	.004	.001	.001	.000	.001
455	52420086	385	1	4	57	53	.001	.012	.009	.001	.010	.010	.002	.002	.000	.002
456	52420086	385	1	5			.007	.025	.	.005	.023	.023	.019	.021	.004	.018
457	52420086	385	1	6			.	.	.	.034	.061	.061	.117	.130	.032	.052
458	52420086	386	1	1			.	.	.	.	.	.	.067	.062	.029	.091
459	52420086	386	1	2	57	53	.013	.029	.020	.	.	.	.021	.015	.031	.035
460	52420086	386	1	3			.	.	.	.	.	.	.047	.031	.054	.059
461	52420086	386	1	4			.	.	.	.	.	.	.166	.107	.120	.125
462	52420086	393	1	0	43	51	.000	.000	.001	.000	.001	.001	.000	.000	.000	.000
463	52420086	393	1	1			.030	.034	.	.000	.024	.024	.063	.064	.000	.026
464	52420086	393	1	2	43	51	.000	.005	.005	.000	.006	.006	.002	.003	.000	.009
465	52420086	393	1	3	43	51	.000	.020	.020	.000	.028	.028	.022	.032	.000	.016
466	52420086	393	1	4			.000	.043	.	.001	.023	.023	.049	.048	.000	.017
467	52420086	393	1	5	43	51	.000	.024	.024	.002	.020	.020	.022	.020	.001	.017
468	52420086	393	1	6	43	51	.001	.020	.020	.006	.020	.020	.016	.015	.004	.019
469	52420086	393	1	7	43	51	.004	.018	.018	.020	.032	.032	.015	.015	.017	.030
470	52420086	393	1	8			.016	.028	.	.085	.096	.096	.037	.026	.069	.080
471	52420086	395	1	0	43	54	.004	.006	.006	.001	.006	.006	.004	.005	.000	.006
472	52420086	395	1	1			.017	.039	.	.008	.036	.022	.036	.035	.005	.027
473	52420086	395	1	2			.	.	.	.015	.028	.024	.080	.081	.010	.027
474	52420086	398	1	1			.	.	.	.004	.087	.084	.129	.148	.005	.117
475	52420086	398	1	2	43	51	.003	.024	.024	.008	.029	.029	.014	.025	.008	.026
476	52420086	398	1	3	43	51	.006	.018	.018	.013	.025	.025	.018	.026	.012	.041
477	52420086	398	1	4			.012	.043	.	.021	.034	.034	.027	.026	.018	.041
478	52420086	398	1	5			.	.	.	.035	.048	.048	.033	.033	.029	.056
479	52420086	398	1	6			.	.	.	.062	.083	.083	.134	.079	.054	.087
480	52420086	398	1	7			.	.	.	.	.	.	.175	.175	.097	.138
481	52420086	398	1	8			.	.	.	.	.	.	.313	.309	.221	.259
482	52420086	407	1	1			.003	.036	.	.	.	.	.076	.076	.024	.041
483	52420086	407	1	2	36	52	.011	.023	.023	.	.	.	.034	.032	.053	.059
484	52420086	407	1	3			.	.	.	.	.	.	.124	.098	.137	.143
485	52420086	417	1	1	57	53	.001	.021	.021	.	.	.	.076	.055	.000	.018
486	52420086	417	1	2	57	53	.002	.006	.006	.	.	.	.010	.007	.000	.007
487	52420086	417	1	3	57	53	.005	.009	.009	.	.	.	.011	.013	.000	.006
488	52420086	417	1	4	57	53	.013	.017	.017	.	.	.	.020	.020	.002	.038
489	52420086	417	1	5			.	.	.	.	.	.	.054	.058	.005	.027
490	52420086	417	1	6			.	.	.	.	.	.	.159	.164	.015	.045
491	52420086	464	1	0	57	41	.001	.0[illegible]	.006	.	.	.	.003	.005	.000	.000
492	52420086	464	1	1			.	.	.	.	.	.	.195	.050	.000	.013
493	52420086	464	1	2			.003	.049	.	.	.	.	.049	.026	.000	.010
494	52420086	464	1	3			.012	.044	.	.	.	.	.044	.052	.004	.019
495	52420086	464	1	4			.	.	.	.	.	.	.110	.080	.030	.043
496	52420086	464	2	0	57	41	.004	.028	.006	.	.	.	.007	.006	.002	.021
497	52420086	464	2	1			.	.	.	.	.	.	.158	.080	.006	.046
498	52420086	464	2	2			.	.	.	.	.	.	.096	.081	.035	.055
499	52420086	466	1	0	34	51	.000	.000	.003	.003	.007	.007	.000	.000	.002	.002
500	52420086	466	1	1			.004	.029	.	.011	.019	.014	.019	.021	.008	.014
501	52420086	466	1	2			.017	.037	.	.048	.052	.050	.019	.020	.037	.044
502	52420086	466	1	3			.	.	.	.	.	.	.117	.082	.189	.196
503	52420087	309	1	0	51	41	.001	.002	.002	.000	.002	.002	.001	.001	.000	.000
504	52420087	316	1	1			.	.	.	.000	.042	.041	.106	.088	.000	.076
505	52420087	316	1	2	57	53	.000	.026	.020	.000	.013	.013	.019	.015	.000	.018
506	52420087	316	1	3	57	53	.000	.018	.018	.000	.027	.025	.016	.016	.000	.022
507	52420087	316	1	4	57	53	.000	.028	.028	.001	.032	.030	.017	.018	.000	.021
508	52420087	316	1	5	57	53	.001	.021	.021	.002	.027	.024	.016	.028	.002	.024
509	52420087	316	1	6	57	53	.003	.017	.017	.008	.028	.026	.017	.021	.008	.029
510	52420087	316	1	7	57	53	.009	.021	.021	.031	.047	.047	.022	.025	.037	.056
511	52420087	316	1	8			.	.	.	.	.	.	.055	.050	.209	.227
512	52420088	163	1	0	57	41	.000	.016	.003	.	.	.	.001	.005	.001	.006
513	52420088	163	1	1			.	.	.	.	.	.	.201	.064	.003	.014
514	52420088	163	1	2			.000	.045	.	.	.	.	.078	.053	.008	.018
515	52420088	163	1	3	57	41	.004	.034	.028	.	.	.	.039	.030	.026	.035
516	52420088	163	1	4			.	.	.	.	.	.	.188	.096	.003	.108
517	52420088	807	1	1	57	12	.	.	.020	.	.	.	.117	.081	.000	.048
518	52420088	807	1	2			.	.	.	.	.	.	.078	.037	.000	.046
519	52420088	807	1	3			.	.	.	.	.	.	.077	.037	.000	.034
520	52420088	807	1	4			.	.	.	.	.	.	.067	.026	.000	.032
521	52420088	807	1	5			.	.	.	.	.	.	.047	.021	.000	.021
522	52420088	807	1	6	57	12	.	.	.020	.	.	.	.041	.018	.000	.018

CARD 1 NEW ORLEANS (CONTINUED)

BLDG NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
523	52420088	607	1	7	57	12	.	.	.020	.	.	.	.038	.017	.000	.015
524	52420088	607	1	8			.	.	.	.	.	.	.039	.017	.000	.014
525	52420088	607	1	9			.	.	.	.	.	.	.046	.020	.000	.013
526	52420088	607	1	10			.	.	.	.	.	.	.072	.033	.001	.013
527	52420088	607	1	11			.	.	.	.	.	.	.173	.087	.006	.016
528	52420092	236	1	1			.000	.026	.	.010	.064	.061	.093	.039	.010	.073
529	52420092	236	1	2	57	11	.000	.015	.006	.000	.030	.023	.006	.008	.000	.024
530	52420092	236	1	3	57	11	.000	.030	.020	.000	.036	.028	.014	.008	.000	.019
531	52420092	236	1	4			.000	.047	.	.000	.045	.040	.024	.009	.000	.020
532	52420092	236	1	5			.000	.050	.	.001	.059	.053	.030	.019	.000	.031
533	52420092	236	1	6	57	11	.000	.033	.020	.002	.044	.039	.027	.017	.000	.028
534	52420092	236	1	7	57	11	.001	.024	.024	.005	.043	.043	.024	.016	.002	.027
535	52420092	236	1	8	57	11	.004	.025	.025	.013	.048	.048	.025	.017	.005	.029
536	52420092	236	1	9			.016	.033	.	.035	.067	.067	.036	.029	.017	.038
537	52420092	236	1	10			.	.	.	.	.	.	.096	.086	.057	.077
538	52420093	602	1	1			.	.	.	.	.	.	.224	.083	.000	.161
539	52420093	602	1	2			.	.	.	.	.	.	.035	.024	.000	.005
540	52420093	602	1	3			.	.	.	.	.	.	.030	.021	.000	.005
541	52420093	602	1	4			.	.	.	.	.	.	.025	.017	.000	.004
542	52420093	602	1	5			.	.	.	.	.	.	.024	.020	.000	.004
543	52420093	602	1	6			.	.	.	.	.	.	.022	.015	.000	.004
544	52420093	602	1	7			.	.	.	.	.	.	.020	.013	.000	.003
545	52420093	602	1	8	57	11	.	.	.020	.	.	.	.019	.012	.000	.003
546	52420093	602	1	9	57	11	.	.	.020	.	.	.	.018	.011	.000	.003
547	52420093	602	1	10	57	11	.	.	.020	.	.	.	.017	.011	.000	.003
548	52420093	602	1	11	57	11	.	.	.020	.	.	.	.019	.012	.001	.005
549	52420093	602	1	12			.	.	.	.	.	.	.036	.026	.019	.022
550	52420093	602	2	1			.	.	.	.	.	.	.215	.142	.000	.159
551	52420093	602	2	2			.	.	.	.	.	.	.030	.024	.000	.013
552	52420093	602	2	3			.	.	.	.	.	.	.026	.022	.000	.011
553	52420093	602	2	4			.	.	.	.	.	.	.030	.019	.000	.010
554	52420093	602	2	5			.	.	.	.	.	.	.028	.017	.000	.009
555	52420093	602	2	6			.	.	.	.	.	.	.021	.015	.000	.009
556	52420093	602	2	7			.	.	.	.	.	.	.020	.014	.000	.008
557	52420093	602	2	8	57	11	.	.	.020	.	.	.	.018	.01	.000	.008
558	52420093	602	2	9	57	11	.	.	.020	.	.	.	.017	.012	.000	.007
559	52420093	602	2	10	57	11	.	.	.020	.	.	.	.016	.011	.000	.007
560	52420093	602	2	11	57	11	.	.	.020	.	.	.	.018	.013	.001	.008
561	52420093	602	2	12			.	.	.	.	.	.	.035	.030	.019	.025
562	52420093	602	3	1			.	.	.	.	.	.	.299	.158	.000	.180
563	52420093	602	3	2			.	.	.	.000	.037	.025	.028	.024	.000	.015
564	52420093	602	3	3			.	.	.	.000	.028	.019	.024	.022	.000	.014
565	52420093	602	3	4			.	.	.	.000	.031	.025	.023	.026	.000	.013
566	52420093	602	3	5			.	.	.	.000	.027	.022	.025	.023	.000	.012
567	52420093	602	3	6			.	.	.	.000	.024	.018	.023	.018	.000	.011
568	52420093	602	3	7			.	.	.	.000	.021	.021	.021	.016	.000	.010
569	52420093	602	3	8	57	11	.	.	.020	.000	.019	.019	.019	.014	.000	.010
570	52420093	602	3	9	57	11	.	.	.020	.000	.018	.018	.017	.013	.000	.009
571	52420093	602	3	10	57	11	.	.	.020	.001	.018	.018	.016	.013	.000	.009
572	52420093	602	3	11	57	11	.	.	.020	.004	.020	.020	.018	.015	.001	.010
573	52420093	602	3	12			.	.	.	.028	.044	.044	.035	.031	.019	.027
574	52420095	203	1	1	43	51	.	.	.038	.	.	.	.199	.	.000	.129
575	52420095	203	1	2	43	51	.003	.038	.038	.	.	.	.011	.	.000	.032
576	52420095	203	1	3	43	51	.009	.040	.020	.	.	.	.012	.	.002	.026
577	52420095	203	1	4	43	51	.	.	.020	.	.	.	.022	.	.006	.026
578	52420095	203	1	5	43	51	.	.	.039	.	.	.	.051	.	.019	.036
579	52420095	203	1	6			.	.	.	.	.	.	.161	.	.071	.085
580	52420096	79	1	1	57	49	.003	.026	.009	.001	.002	.001	.133	.031	.000	.002
581	52420096	79	1	2			.	.	.	.004	.024	.019	.088	.083	.003	.026
582	52420096	79	1	3			.	.	.	.012	.028	.019	.126	.100	.008	.037
583	52420096	79	2	1	57	49	.	.	.020	.002	.048	.047	.191	.181	.001	.027
584	52420096	79	2	2			.	.	.	.007	.010	.009	.188	.095	.004	.007
585	52420096	79	2	3			.	.	.	.041	.044	.042	.104	.101	.030	.035
586	52420096	79	3	1	57	49	.001	.039	.020	.	.	.	.095	.156	.001	.020
587	52420096	79	3	2			.005	.037	.	.	.	.	.092	.076	.004	.006
588	52420096	79	3	3			.	.	.	.	.	.	.060	.099	.030	.035
589	52420122	118	1	1			.000	.042	.	.001	.014	.008	.165	.013	.001	.007
590	52420122	118	1	2			.000	.032	.	.000	.027	.017	.021	.008	.000	.009
591	52420122	118	1	3	57	41	.001	.025	.009	.001	.025	.016	.057	.004	.000	.006
592	52420122	118	1	4			.004	.050	.	.003	.034	.028	.083	.023	.001	.015
593	52420122	118	1	5			.015	.044	.	.009	.037	.032	.063	.045	.006	.028
594	52420122	118	1	6			.	.	.	.024	.085	.074	.089	.065	.020	.044
595	52420122	119	1	1	57	41	.002	.020	.028	.	.	.	.153	.161	.001	.042
596	52420122	119	1	2			.004	.030	.	.	.	.	.235	.077	.002	.032
597	52420122	119	1	3			.015	.033	.	.	.	.	.143	.090	.010	.033
598	52420122	119	1	4			.	.	.	.	.	.	.154	.089	.049	.074
599	52420122	119	1	5			.	.	.	.	.	.	.126	.091	.042	.076
600	52420127	603	1	0	58	69	.	.	.006	.006	.015	.015	.001	.021	.000	.024
601	52420127	603	1	1			.	.	.	.007	.007	.007	.010	.004	.001	.001
602	52420127	606	1	0	58	69	.	.	.006	.	.	.	.000	.002	.000	.002

CARD 1 NEW ORLEANS (CONTINUED)

ESS NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF COUNT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF COUNT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF COUNT	RUN 7 TOTAL RF
603	524C0122	600	1	1			.	.	.	.	.	.	.029	.002	.000	.000
604	524C0136	55	1	1	36	21	.002	.025	.009	.002	.068	.058	.218	.	.001	.037
605	524C0136	55	1	2	36	21	.015	.031	.020	.009	.031	.017	.038	.	.005	.019
606	524C0136	55	1	3			.	.	.	.047	.077	.060	.150	.	.033	.047
607	524C0142	184	1	0	36	23	.002	.006	.006	.	.	.	.003	.001	.000	.001
608	524C0142	184	1	1	36	23	.011	.015	.015	.	.	.	.098	.009	.002	.004
609	524C0142	184	1	2			.	.	.	.	.	.	.080	.021	.011	.015
610	524C0142	184	1	3			.	.	.	.	.	.	.221	.090	.073	.075
611	524C0086	400	2	0	43	11	.000	.000	.001	.000	.001	.001	.000	.	.000	.000
612	524C0086	400	2	1	43	11	.000	.007	.007	.001	.073	.073	.009	.	.001	.003
613	524C0086	400	2	2	43	11	.000	.002	.003	.020	.075	.074	.003	.	.017	.018
614	524C0086	400	2	3	43	11	.000	.001	.002	.000	.068	.047	.002	.	.000	.009
615	524C0086	400	2	4	43	11	.000	.006	.003	.000	.057	.047	.002	.	.000	.008
616	524C0086	400	2	5	43	11	.000	.009	.006	.000	.049	.041	.003	.	.000	.007
617	524C0086	400	2	6	43	11	.000	.009	.006	.000	.051	.043	.005	.	.000	.006
618	524C0086	400	2	7	43	11	.000	.007	.009	.000	.047	.047	.004	.	.000	.006
619	524C0086	400	2	8	43	11	.000	.006	.006	.000	.043	.043	.003	.	.000	.005
620	524C0086	400	2	9	43	11	.000	.004	.004	.000	.036	.036	.002	.	.000	.005
621	524C0086	400	2	10	43	11	.000	.004	.004	.000	.043	.043	.002	.	.000	.005
622	524C0086	400	2	11	43	11	.000	.004	.004	.000	.035	.035	.002	.	.000	.004
623	524C0086	400	2	12	43	11	.000	.003	.003	.000	.032	.032	.002	.	.000	.004
624	524C0086	400	2	13	43	11	.001	.004	.004	.002	.031	.031	.002	.	.001	.005
625	524C0086	400	2	14	43	11	.006	.009	.009	.019	.045	.045	.007	.	.013	.017
626	524C0087	551	3	1	36	22	.005	.031	.020	.007	.025	.022	.280	.	.006	.034
627	524C0087	551	3	2			.018	.047	.	.019	.041	.032	.070	.	.007	.018
628	524C0087	551	3	3			.	.	.	.	.	.	.110	.	.035	.046

CARD 2 NEW ORLEANS

ESS NO	SPACES RUN 2 PF-40	RUN 2 PF-100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
362			193	47	0.00	0	5.00	10	3	200	0	80	200
363			193	47	0.00	0	20.00	20	3	30	0	10	120
364			193	47	0.00	0	32.50	40	3	30	0	10	120
365	90	90	18	0		0	0.00	0	-5	100	0	70	160
366	5080	0	0	0	0.00	0	79.00	79	3	730	0	130	100
367	3360	0	8090	0	3.00	3	58.00	58	17	600	130	130	100
368	6720	2520	8400	555	3.00	3	58.00	58	29	470	130	130	100
369	6720	2520	8400	2702	3.00	3	58.00	58	41	340	130	130	100
370	6720	2520	8400	2840	3.00	3	58.00	58	53	210	130	130	100
371			6457	0	3.00	3	58.00	58	65	80	130	130	100
372	1200	0	0	0	0.00	0	22.50	30	3	210	0	70	120
373			720	0	0.00	0	20.00	30	17	140	70	70	120
374			0	0	0.00	0	20.00	30	31	70	70	70	120
375	682	0	0	0	0.00	0	12.50	20	3	210	0	70	120
376			0	0	0.00	0	15.00	20	17	140	70	70	120
377			0	0	0.00	0	15.00	20	31	70	70	70	120
378			214	0	0.00	0	22.25	69	3	650	0	80	80
379	264	264	1042	776	0.00	0	12.50	50	12	570	80	80	83
380	264	0	1147	349	.75	0	5.00	20	21	490	80	80	83
381	264	0	292	0	.75	0	5.00	20	30	410	80	80	83
382	264	264	459	0	.75	0	5.00	20	39	330	80	80	83
383	550	0	274	0	.75	0	5.00	20	48	250	80	80	83
384	550	0	380	0	.75	0	5.00	20	57	170	80	80	83
385			0	0	.75	0	5.00	20	66	90	80	80	83
386	0	0	202	9	0.00	0	2.50	10	-5	380	0	90	170
387			0	0	0.00	0	34.75	59	3	290	90	90	140
388	160	0	1148	0	0.00	0	32.50	50	15	200	90	90	120
389			0	0	0.00	0	32.50	50	30	110	90	90	120
390	247	0	489	0	1.00	0	20.00	40	32	140	80	80	120
391			0	0	0.00	0	24.75	69	3	120	0	30	130
392	180	0	0	0	0.00	0	20.00	50	20	90	30	30	130
393			0	0	0.00	0	20.00	50	37	60	30	30	130
394			0	0	0.00	0	20.00	50	54	30	30	30	130
395			1826	0	0.00	0	34.75	79	3	210	0	50	90
396	1805	0	2501	0	0.00	0	52.00	69	22	160	50	50	90
397			0	0	0.00	0	44.50	69	34	110	50	50	90
398			0	0	0.00	0	44.50	69	46	60	50	50	90
399			0	.0	0.00	0	22.25	69	3	230	0	50	90
400	291	291	689	24	.75	0	5.00	20	22	180	50	50	90
401	485	0	60	0	.75	0	5.00	20	34	130	50	50	90
402			0	0	.75	0	5.00	20	46	80	50	50	90
403			0	0	0.00	0	20.00	40	3	80	0	10	240
404	287	0	387	0	0.00	0	10.00	20	15	70	10	10	240
405			0	0	0.00	0	10.00	20	27	60	10	10	180
406			0	0	0.00	0	10.00	20	39	50	10	10	180
407			0	0	0.00	0	10.00	20	51	40	10	10	180

CARD 2 NEW ORLEANS (CONTINUED)

OBS NO	SPACES RUN 2 PF-40	RUN 2 PF 100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
408			0	0	0.00	0	10.00	20	63	30	10	10	180
409			0	0	0.00	0	10.00	20	75	20	10	10	180
410			0	0	0.00	0	69.00	69	14	240	50	50	50
411			0	0	0.00	0	69.00	69	28	190	50	50	50
412			0	0	0.00	0	69.00	69	42	140	50	50	50
413			0	0	0.00	0	69.00	69	56	90	50	50	50
414			0	0	0.00	0	69.00	69	70	40	50	50	50
415	46	46	92	92		0	0.00	0	-8	710	0	60	180
416	883	331	1009	322	0.00	0	54.25	79	3	650	60	60	130
417	883	331	1440	1022	0.00	0	59.00	59	20	590	60	60	130
418	1104	1104	1440	941	0.00	0	59.00	59	33	530	60	60	130
419	1104	1104	1440	945	0.00	0	59.00	59	46	470	60	60	130
420	1104	1104	1440	1183	0.00	0	59.00	59	59	410	60	60	130
421	441	0	1440	783	0.00	0	59.00	59	72	350	60	60	130
422			1440	801	0.00	0	59.00	59	85	290	60	60	130
423			1440	797	0.00	0	59.00	59	98	230	60	60	130
424			1440	768	0.00	0	59.00	59	111	170	60	60	130
425			1298	0	0.00	0	59.00	59	124	110	60	60	130
426			0	0	0.00	0	59.00	59	137	50	60	60	130
427	1378	1379	582	582		0	0.00	0	-9	420	0	70	180
428			1583	0	0.00	0	44.00	89	3	350	70	70	65
429	1929	1929	2427	18	0.00	0	25.00	50	22	280	70	70	90
430	861	861	2427	790	0.00	0	25.00	50	36	210	70	70	90
431	1148	0	1089	0	0.00	0	25.00	50	50	140	70	70	90
432			0	0	0.00	0	25.00	50	64	70	70	70	90
433	205	205	410	410		0	0.00	0	-9	999	0	80	200
434	182	182	501	0	0.00	0	34.50	69	3	999	80	80	213
435	175	175	1497	1009	2.00	2	27.50	40	21	999	80	80	155
436	1710	1710	1646	771	2.00	2	27.50	40	33	999	80	80	155
437	1710	1710	1710	936	1.50	0	30.00	40	45	999	80	80	150
438	1710	1710	1710	1032	1.50	0	30.00	40	57	999	80	80	150
439	1710	1710	1710	1101	1.50	0	30.00	40	[illegible]	999	80	80	150
440	1710	1710	1710	1170	1.50	0	30.00	40	81	970	80	80	150
441	1710	1710	1710	1242	.50	0	39.75	59	93	890	80	80	146
442	1710	1710	1710	1309	.50	0	39.75	59	105	810	80	80	146
443	1710	1710	1710	1376	.50	0	39.75	59	117	730	80	80	146
444	1710	1710	1710	1417	.50	0	39.75	59	129	650	80	80	146
445	1710	1710	1710	1398	.50	0	39.75	59	141	570	80	80	146
446	1710	1710	1710	1473	.50	0	39.75	59	153	490	80	80	146
447	1710	1710	1710	1544	.50	0	39.75	59	165	410	80	80	146
448	1710	1710	1710	1609	.50	0	39.75	59	177	330	80	80	146
449	707	707	1710	1683	.50	0	39.75	59	189	250	80	80	146
450	707	707	1710	1563	.50	0	39.75	59	201	170	80	80	146
451			1628	0	.50	0	39.75	59	213	90	80	80	146
452			174	0	0.00	0	22.25	89	3	460	0	80	140
453	175	0	332	332	.50	0	27.50	50	19	380	80	80	140
454	175	0	332	332	.50	0	27.50	50	30	300	80	80	140
455	218	219	332	332	.50	0	27.50	50	41	220	80	80	140
456			226	0	.50	0	27.50	50	52	140	80	80	140
457			0	0	.50	0	27.50	50	63	60	80	80	140
458			0	0	0.00	0	34.75	89	3	110	0	30	140
459	128	0	0	0	0.00	0	25.00	50	20	80	30	30	140
460			0	0	0.00	0	25.00	50	35	50	30	30	140
461			0	0	0.00	0	25.00	50	50	20	30	30	140
462	196	196	530	530		0	0.00	0	-8	590	0	60	150
463			374	0	0.00	0	44.75	89	3	530	60	60	160
464	1303	1303	2040	239	0.00	0	37.50	40	25	470	60	60	130
465	892	0	1232	0	0.00	0	37.50	40	35	410	60	60	130
466			1290	0	0.00	0	37.50	40	45	350	60	60	130
467	892	0	1320	0	0.00	0	37.50	40	55	290	60	60	130
468	892	0	1171	0	0.00	0	37.50	40	65	230	60	60	130
469	892	0	0	0	0.00	0	37.50	40	75	170	60	60	130
470			0	0	0.00	0	37.50	40	85	110	60	60	130
471	140	140	108	108		0	0.00	0	-9	140	0	50	100
472			0	0	0.00	0	17.25	59	3	90	50	50	120
473			21	0	0.00	0	7.50	30	15	40	50	50	120
474			0	0	0.00	0	32.25	89	3	150	0	20	138
475	300	0	57	0	1.00	1	42.50	50	15	130	20	20	180
476	300	0	0	0	1.00	1	42.50	50	26	110	20	20	180
477			0	0	1.00	1	42.50	50	37	90	20	20	180
478			0	0	1.00	1	42.50	50	48	70	20	20	180
479			0	0	1.00	1	42.50	50	59	50	20	20	180
480			0	0	1.00	1	42.50	50	70	30	20	20	180
481			0	0	1.00	1	42.50	50	81	10	20	20	180
482			0	0	0.00	0	19.75	59	3	30	0	10	120
483	65	0	0	0	0.00	0	10.00	20	17	20	10	10	120
484			0	0	0.00	0	10.00	20	31	10	10	10	120
485	518	0	689	0	0.00	0	2.50	10	3	230	0	40	78
486	870	870	1036	378	.75	0	2.50	10	25	190	40	40	83
487	777	777	1036	955	.75	0	2.50	10	39	150	40	40	88

CARD 2 NEW ORLEANS (CONTINUED)

CAS NO	SPACES RUN 6 PF-40	RUN 6 PF 100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
488	516	1	0	0	.75	0	2.50	19	53	110	40	40	60
489			117	0	.75	0	2.50	10	67	70	40	40	65
490			0	0	.75	0	5.00	10	81	30	40	40	70
491	125	93	125	125	2.25	0	42.50	59	-6	260	0	50	150
492			352	12	0.00	0	32.50	50	3	210	50	50	140
493			556	0	0.00	0	40.00	40	19	150	50	50	140
494			124	0	0.00	0	40.00	40	33	110	50	50	140
495			0	0	0.00	0	40.00	40	45	60	50	50	140
496	89	73	110	0	1.50	0	22.50	30	-8	150	0	50	150
497			0	0	0.00	0	20.00	30	3	100	50	50	130
498			0	0	0.00	0	22.50	30	19	50	50	50	130
499	389	389	108	108	.75	0	7.50	10	-9	290	0	130	220
500			676	2	0.00	0	22.75	69	3	150	130	50	150
501			0	0	0.00	0	19.75	59	21	130	50	50	150
502			0	0	0.00	0	19.75	59	37	50	50	50	150
503	19	19	41	41		0	0.00	0	-14	200	0	0	360
504			0	0	0.00	0	51.75	89	3	430	0	50	90
505	562	0	774	0	1.50	0	35.00	50	24	330	50	50	90
506	725	0	325	0	1.50	0	35.00	50	36	330	50	50	90
507	562	0	427	0	1.50	0	35.00	50	48	290	50	50	90
508	725	0	4	0	1.50	0	35.00	50	60	250	50	50	90
509	725	0	0	0	1.50	0	35.00	50	72	150	50	50	90
510	725	0	0	0	1.50	0	35.00	50	84	130	50	50	90
511			0	0	1.50	0	35.00	50	95	50	50	50	90
512	260	261	288	288	2.00	2	32.50	50	-5	540	0	130	200
513			745	0	0.00	0	40.00	40	3	410	130	120	200
514			853	0	0.00	0	40.00	40	16	290	120	120	160
515	403	0	0	0	0.00	0	40.00	40	33	170	120	120	160
516			0	0	0.00	0	40.00	40	48	50	120	120	160
517	835	1	0	0	0.00	0	30.00	30	3	430	0	40	150
518			0	0	1.00	1	44.00	69	12	390	40	40	50
519			0	0	0.00	0	15.00	20	22	350	40	40	40
520			0	0	0.00	0	15.00	20	32	310	40	40	40
521			90	0	0.00	0	15.00	20	42	270	40	40	40
522	835	0	212	0	0.00	0	15.00	20	52	230	40	40	40
523	835	1	331	0	0.00	0	15.00	20	62	190	40	40	40
524			452	0	0.00	0	15.00	20	72	150	40	40	40
525			558	0	0.00	0	15.00	20	82	110	40	40	40
526			681	0	0.00	0	15.00	20	92	70	40	40	40
527			408	0	0.00	0	15.00	20	102	30	40	40	40
528			0	0	0.00	0	40.00	40	3	500	0	50	140
529	100	100	43	0	3.00	3	40.00	40	15	450	50	50	140
530	100	0	141	0	3.00	3	40.00	40	27	450	50	50	140
531			79	0	3.00	3	40.00	40	39	350	50	50	140
532			0	0	3.00	3	40.00	40	51	300	50	50	140
533	100	0	0	0	3.00	3	40.00	40	63	250	50	50	140
534	100	0	0	0	3.00	3	40.00	40	75	200	50	50	140
535	100	1	0	0	3.00	3	40.00	40	87	150	50	50	140
536			0	0	3.00	3	40.00	40	99	100	50	50	140
537			0	0	3.00	3	40.00	40	111	50	50	50	140
538			0	0	0.00	0	12.50	50	3	950	0	80	100
539			1074	795	1.50	0	36.00	62	18	900	80	80	100
540			1074	837	1.50	0	36.00	62	26	820	80	80	100
541			1074	991	1.50	0	36.00	62	34	740	80	80	100
542			1074	1110	1.50	0	36.00	62	42	650	80	80	100
543			1074	1219	1.50	0	36.00	62	50	550	80	80	100
544			1074	1336	1.50	0	36.00	62	58	500	80	80	100
545	124	0	1074	1447	1.50	0	36.00	62	66	420	80	80	100
546	124	0	1074	1560	1.50	0	36.00	62	74	340	80	80	100
547	124	0	1074	1598	1.50	0	36.00	62	82	250	80	80	100
548	124	0	1074	1122	1.50	0	36.00	62	90	150	80	80	100
549			241	0	1.50	0	36.00	62	98	100	80	80	100
550			0	0	0.00	0	12.50	50	3	950	0	80	100
551			265	0	1.50	0	36.00	62	18	900	80	80	100
552			326	0	1.50	0	36.00	62	26	820	80	80	100
553			392	0	1.50	0	36.00	62	34	740	80	80	100
554			430	2	1.50	0	36.00	62	42	650	80	80	100
555			467	30	1.50	0	36.00	62	50	550	80	80	100
556			500	52	1.50	0	36.00	62	58	500	80	80	100
557	62	0	540	75	1.50	0	36.00	62	66	420	80	80	100
558	62	0	578	102	1.50	0	36.00	62	74	340	80	80	100
559	62	0	604	114	1.50	0	36.00	62	82	250	80	80	100
560	62	0	574	95	1.50	0	36.00	62	90	150	80	80	100
561			0	0	1.50	0	36.00	62	98	100	80	80	100
562			0	0	0.00	0	24.75	89	3	950	0	80	100
563			164	0	1.50	0	36.00	62	18	900	80	80	100
564			218	0	1.50	0	36.00	62	26	820	80	80	100
565			267	0	1.50	0	36.00	62	34	740	80	80	100
566			317	0	1.50	0	36.00	62	42	650	80	80	100
567			362	0	1.50	0	36.00	62	50	550	80	80	100

CARD 2 NEW ORLEANS (CONTINUED)

OBS NO	SPACES RUN 2 PF-40	RUN 2 PF 100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
568			386	0	1.50	0	36.00	62	58	500	80	80	100
569	62	0	397	0	1.50	0	[illegible]	62	65	420	80	80	100
570	62	0	414	9	1.50	0	[illegible]	62	74	340	80	80	100
571	62	0	434	18	1.50	[illegible]	36.00	62	82	260	80	80	100
572	62	0	413	0	1.50	[illegible]	36.00	62	90	180	80	80	100
573			0	0	1.50	0	36.00	62	98	100	80	80	100
574	0	0	0	0	0.00	0	22.25	69	3	180	0	30	80
575	0	0	0	0	0.00	0	25.00	30	17	150	30	30	80
576	40	0	0	0	0.00	0	25.00	30	29	120	30	30	80
577	40	0	0	0	0.00	0	25.00	30	41	90	30	30	80
578	0	0	0	0	0.00	0	25.00	30	53	60	30	30	80
579			0	0	0.00	0	25.00	30	65	30	30	30	80
580	805	805	2672	1476	0.00	0	20.00	20	3	190	0	60	175
581			0	0	0.00	0	47.25	59	14	120	60	60	175
582			0	0	0.00	0	47.25	59	39	60	60	60	175
583	107	0	0	0	0.00	0	7.50	20	3	180	0	60	105
584			734	147	0.00	0	27.50	50	14	120	60	60	115
585			0	0	0.00	0	27.50	50	39	60	60	60	115
586	107	0	354	0	0.00	0	10.10	30	3	180	0	60	86
587			734	214	0.00	0	20.10	40	14	120	60	60	100
588			0	0	0.00	0	20.00	40	39	60	60	60	100
589			772	118	[illegible]	0	35.00	40	3	310	0	50	95
590			680	256	0.00	0	35.00	40	15	260	50	50	95
591	281	281	741	591	0.00	0	35.00	40	27	210	50	50	95
592			742	0	0.00	0	35.00	40	39	160	50	50	95
593			0	0	0.00	0	35.00	40	51	110	50	50	95
594			0	0	0.00	0	35.00	40	63	50	50	50	95
595	600	0	0	0	0.00	0	30.00	50	3	260	0	50	80
596			0	0	0.00	0	30.00	50	16	210	50	50	80
597			0	0	0.00	0	30.00	50	30	160	50	50	80
598			0	0	0.00	0	30.00	50	42	110	50	50	80
599			0	0	0.00	0	30.00	50	54	50	50	50	80
600	1298	1080	320	0	1.50	0	7.50	10	-19	230	0	60	80
601			3624	2944		0	0.00	0	3	170	60	0	90
602	1075	765	577	577	2.25	0	35.00	50	-15	270	0	80	200
603			1474	638		0	0.00	0	3	190	80	0	80
604	1030	405	0	0	0.00	0	27.50	30	3	190	0	80	160
605	540	0	789	0	0.00	0	30.00	30	17	110	80	80	160
606			0	0	0.00	0	30.00	30	30	30	80	80	160
607	366	366	490	390	3.00	3	17.50	30	-7	190	0	70	160
608	671	0	941	160	0.00	0	27.50	40	3	120	70	50	160
609			223	0	0.00	0	35.00	40	16	70	50	50	120
610			0	0	0.00	0	35.00	40	28	20	50	50	120
611	380	380	147	147		0	0.00	0	-11	999	0	170	178
612	480	480	535	447	0.00	0	19.75	59	3	999	170	100	215
613	148	148	568	0	3.00	3	29.75	59	19	999	100	100	120
614	2720	2720	204	14	3.00	3	29.75	59	32	999	100	100	120
615	2720	2720	224	56	3.00	3	29.75	59	45	999	100	100	120
616	2284	2284	224	95	3.00	3	29.75	59	58	999	100	100	120
617	1985	1985	224	109	3.00	3	29.75	59	71	950	100	100	120
618	1020	1020	224	125	3.00	3	29.75	59	84	850	100	100	120
619	2284	2284	224	143	3.00	3	29.75	59	97	750	100	100	120
620	2720	2720	224	161	3.00	3	29.75	59	110	650	100	100	120
621	2720	2720	224	173	3.00	3	29.75	59	123	550	100	100	120
622	2720	2720	224	190	3.00	3	29.75	59	136	450	100	100	120
623	2720	2720	224	197	3.00	3	29.75	59	149	350	100	100	120
624	2720	2720	224	179	3.00	3	29.75	59	162	250	100	100	120
625	1020	1020	219	0	3.00	3	29.75	59	175	150	100	100	120
626	238	0	0	0	0.00	0	20.00	30	3	150	60	50	140
627			216	0	0.00	0	25.00	30	17	100	50	50	140
628			0	0	0.00	0	25.00	30	30	50	50	50	140

CARD 3 NEW ORLEANS

OBS NO	AVG % BSMT EXPO	AVG INT PARTITION WEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
352		0.00							500	500	3	3	100
363		0.00							500	500	4	3	100
364		0.00							500	500	5	2	100
365	70	24.75	40.00	160			56	167			143	167	77
366		0.00	58.00	100			30	50			1089	16	21
367		22.50	58.00	100	79.00	100	32	50			45	71	100
368		22.50	53.00	100	58.00	100	56	111			63	77	111
369		22.50	58.00	100	58.00	100	71	111			77	91	125
370		22.50	58.00	100	58.00	100	83	111			77	91	125
371		22.50			58.00	100					21	22	53
372		0.00	20.00	120			25	50			10	9	26

CARD 3 NEW ORLEANS (CONTINUED)

BLDG NO	AVG % ASMT EXPO	AVG INT PARTITION HEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
373		0.00	20.00	120	22.50	120	27				11	12	53
374		0.00			20.00	120					15	10	26
375		0.00	15.00	120			34	50	19	21	10	13	23
376		0.00	15.00	120	12.50	120					4	8	19
377		0.00			15.00	120					7	8	11
378		0.00	12.50	83			29		13	13	36	29	37
379		0.00	5.00	83	22.25	80	143	143	38		111	200	200
380		0.00	5.00	83	12.50	83	83	83	200	200	125	167	111
381		0.00	5.00	83	5.00	83	91	91	333	333	143	63	40
382		0.00	5.00	83	5.00	83	111	111	143	143	111	77	48
383		0.00	5.00	83	5.00	83	42	42	37	37	100	71	40
384		0.00	5.00	83	5.00	83	50	50	45	45	77	67	48
385		0.00			5.00	83	23		48	48	28	26	25
386	80	0.00	34.75	140			500	26	21	21	1009	1009	77
387		0.00	32.50	120	2.50	170	30				23	22	21
388		0.00	32.50	120	34.75	140	59	59	42	42	100	34	71
389		0.00			32.50	120			45	45	24	16	23
390		0.00					71	71	21	21	111	83	100
391		0.00	20.00	130			33		125	125	28	26	20
392		0.00	20.00	130	24.75	130	59	59	17	17	71	67	26
393		0.00	20.00	130	20.00	130	26		16	16	33	33	16
394		0.00			20.00	130					9	9	7
395		0.00	52.00	90			23		38	91	12	25	53
396		0.00	44.50	90	34.75	90	45	45	48	53	71	38	56
397		0.00	44.50	90	52.00	90	26		15	19	25	34	22
398		0.00			44.50	90					12	11	7
399		0.00	5.00	90			29		37	37	24	33	23
400		0.00	5.00	90	22.25	90	125	125	91	91	111	100	83
401		0.00	5.00	90	5.00	90	42	42	30	32	59	50	38
402		0.00			5.00	90					19	22	13
403		0.00	10.00	240			22		19	19	9	9	21
404		0.00	10.00	180	20.00	240	42	42	40	40	37	26	45
405		0.00	10.00	180	10.00	240	33		29	29	32	26	30
406		0.00	10.00	180	10.00	180	23		22	22	23	20	22
407		0.00	10.00	180	10.00	180			14	14	16	15	14
408		0.00	10.00	180	10.00	180					9	9	8
409		0.00			10.00	180					5	5	4
410		0.00	49.00	50	0.00	180					17		23
411		0.00	49.00	50	69.00	90					15		22
412		0.00	49.00	50	69.00	90					10		32
413		0.00	49.00	50	69.00	90					12		34
414		0.00			69.00	90					7		21
415	90	0.00	54.25	130			1009	1000	1009	1009	1009	1009	1009
416		0.00	59.00	130	0.00	180	23	111	53	250	13	19	100
417		49.50	59.00	130	54.25	130	83	111	333	333	77	143	333
418		49.50	59.00	130	59.00	130	200	333	1000	1000	200	125	333
419		49.50	59.00	130	59.00	130	333	333	333	333	250	111	333
420		49.50	59.00	130	59.00	130	1000	500	333	333	200	143	500
421		49.50	59.00	130	59.00	130	45	45	71	71	71	34	167
422		49.50	59.00	130	59.00	130	37		143	143	48	67	200
423		49.50	59.00	130	59.00	130	25		167	167	77	67	200
424		49.50	59.00	130	59.00	130	32		143	143	77	48	167
425		49.50	59.00	130	59.00	130	31		42	42	40	40	67
426		49.50			59.00	130			11	11	11	11	14
427	90	0.00	44.50	65			1009	1000			1009	1009	1009
428		0.00	25.00	90	0.00	180					14	22	91
429		49.50	25.00	90	44.50	65	111	167			167	100	111
430		49.50	25.00	90	25.00	90	59	111			71	67	125
431		49.50	25.00	90	25.00	90	48	48			67	71	45
432		49.50			25.00	90					15	20	24
433	90	37.50	34.50	213			1009	1000	1009	1009	1009	1009	1009
434		37.50	27.50	155	0.00	200	125	333	36	36	91	15	43
435		67.50	27.50	155	34.50	213	1000	1000	333	500	1000	250	250
436		67.50	30.00	150	27.50	155	1000	1000	111	333	1000	200	200
437		67.50	30.00	150	27.50	155	500	333	143	250	1000	111	250
438		67.50	30.00	150	30.00	150	200	333	167	333	333	91	250
439		67.50	30.00	150	30.00	150	200	333	200	333	500	200	333
440		67.50	30.00	150	30.00	150	250	250	83	83	1000	250	333
441		67.50	39.75	148	30.00	150	200	333	111	111	500	200	333
442		67.50	39.75	148	39.75	148	200	333	143	143	1000	200	333
443		67.50	39.75	148	39.75	148	250	250	200	200	1000	200	333
444		67.50	39.75	148	39.75	148	333	333	200	200	1000	250	500
445		67.50	39.75	148	39.75	148	200	500	250	250	1000	200	500
446		67.50	39.75	148	39.75	148	250	250	250	250	1000	200	500
447		67.50	39.75	148	39.75	148	250	250	250	250	500	200	500
448		20.00	39.75	148	39.75	148	250	250	333	333	26	26	500
449		20.00	39.75	148	39.75	148	143	167	333	333	143	167	500
450		20.00	39.75	148	39.75	148	125	167	200	200	100	125	333
451		20.00			39.75	148	51		50	50	38	32	53
452		0.00	27.50	140			37		38	38	45	48	48
453		0.00	27.50	140	22.25	140	83	83	333	333	500	500	1000

CARD 3 NEW ORLEANS (CONTINUED)

DES NO	AVG % ASMT EXPO	AVG EXT PARTITION WEIGHT	STORY ABOVE AVG % APEM	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APEM	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
454		0.00	27.50	140	27.50	140	83	83	250	250	1000	1000	1000
455		0.00	27.50	140	27.50	140	83	111	100	100	500	500	500
456		0.00	27.50	140	27.50	140	40		43	43	53	48	56
457		0.00			27.50	140			16	16	9	8	19
458		0.00	25.00	140							15	16	11
459		0.00	25.00	140	34.75	140	34	50			48	67	29
460		0.00	25.00	140	25.00	140					21	32	17
461		0.00			25.00	140					6	9	8
462	90	0.00	44.75	160			1009	1000	1000	1000	1009	1009	1009
463		0.00	37.50	130	0.00	150	29		42	42	16	16	39
464		0.00	37.50	130	44.75	160	200	200	167	167	500	333	111
465		0.00	37.50	130	37.50	130	50	50	36	36	45	31	63
466		0.00	37.50	130	37.50	130	23		43	43	20	21	50
467		0.00	37.50	130	37.50	130	42	42	50	50	45	50	59
468		0.00	37.50	130	37.50	130	50	50	50	50	63	67	53
469		0.00	37.50	130	37.50	130	56	56	31	31	67	67	33
470		0.00			37.50	130	36		10	10	27	38	13
471	80	0.00	17.25	120			167	167	167	167	250	200	167
472		0.00	7.50	120	0.00	100	26		28	45	28	29	37
473		0.00			17.25	120			36	42	13	12	37
474		0.00	42.50	180					11	12	8	7	9
475		2.50	42.50	180	32.25	138	42	42	34	34	71	40	38
476		2.50	42.50	180	42.50	180	56	56	40	40	56	38	24
477		2.50	42.50	180	42.50	180	23		29	29	37	38	24
478		2.50	42.50	180	42.50	180			21	21	30	30	18
479		2.50	42.50	180	42.50	180			12	12	7	13	11
480		2.50	42.50	180	42.50	180					6	5	7
481		2.50			42.50	180					3	3	4
482		0.00	10.00	120			28				13	13	24
483		0.00	10.00	120	19.75	120	43	43			29	31	17
484		0.00			10.00	120					8	10	7
485		0.00	2.50	83			48	48			13	18	56
486		0.00	2.50	68	2.50	76	167	167			100	143	143
487		0.00	2.50	68	2.50	83	111	111			91	77	167
488		0.00	2.50	68	2.50	68	59	59			50	50	26
489		0.00	5.00	70	2.50	68					19	17	37
490		0.00			2.50	68					6	6	22
491	67	0.00	32.50	140			22	167			333	200	1009
492		0.00	40.00	140	42.25	150					5	20	77
493		0.00	40.00	140	32.50	140	20				20	38	100
494		0.00	40.00	140	40.00	140	23				23	19	53
495		0.00			40.00	140					9	13	23
496	67	0.00	20.00	130			36	167			143	167	48
497		0.00	22.50	130	22.50	150					6	13	22
498		0.00			20.00	130					10	12	18
499	75	0.00	22.25	150			1009	333	143	143	1009	1009	500
500		45.00	19.75	150	7.50	220	34		53	71	53	48	71
501		0.00	19.75	150	22.25	150	27		19	20	53	50	23
502		0.00			19.75	150					9	12	5
503	62	24.75					500	500	500	500	1000	1000	1009
504		0.00	35.00	90					24	24	9	11	13
505		0.00	35.00	90	61.75	90	38	50	77	77	53	67	56
506		0.00	35.00	90	35.00	90	56	56	37	40	63	63	45
507		0.00	35.00	90	35.00	90	36	50	31	33	59	56	48
508		0.00	35.00	90	35.00	90	48	48	37	42	63	36	42
509		0.00	35.00	90	35.00	90	59	59	36	38	59	48	34
510		0.00	35.00	90	35.00	90	48	48	21	21	45	40	16
511		0.00			35.00	90					18	20	4
512	25	0.00	40.00	200			56	333			1000	200	167
513		0.00	40.00	160	32.50	200					5	16	71
514		0.00	40.00	160	40.00	200	22				14	19	56
515		0.00	40.00	160	40.00	160	29	50			26	33	29
516		0.00			40.00	160					10	10	9
517		0.00	44.50	50				50			9	12	21
518		0.00	15.00	40	30.00	150					14	27	22
519		0.00	15.00	40	44.50	50					13	27	29
520		0.00	15.00	40	15.00	40					15	38	3.
521		0.00	15.00	40	15.00	40					21	48	48
522		0.00	15.00	40	15.00	40		59			24	56	56
523		0.00	15.00	40	15.00	40		50			26	59	67
524		0.00	15.00	40	15.00	40					26	59	71
525		0.00	15.00	40	15.00	40					22	50	77
526		0.00	15.00	40	15.00	40					14	30	77
527		0.00			15.00	40					6	11	63
528		0.00	40.00	140			38		16	15	11	26	14
529		10.00	40.00	140	40.00	140	67	167	33	43	167	125	42
530		10.00	40.00	140	40.00	140	33	50	28	36	71	125	53
531		10.00	40.00	140	40.00	140	21		22	25	42	111	50
532		10.00	40.00	140	40.00	140	20		17	19	33	53	32
533		10.00	40.00	140	40.00	140	30	50	23	26	37	59	36
534		10.00	40.00	140	40.00	140	42	42	23	23	42	63	37

CARD 3 NEW ORLEANS (CONTINUED)

DES NO	AVG % ASMT EXPO	AVG INT PARTITION HEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
535		10.00	40.00	140	40.00	140	40	40	21	21	40	59	34
536		10.00	40.00	140	40.00	140	30		15	15	28	34	26
537		10.00			40.00	140					10	12	13
538		0.00	36.00	100							4	12	6
539		7.50	36.00	100	12.50	100					29	42	200
540		7.50	36.00	100	36.00	100					33	48	200
541		7.50	36.00	100	36.00	100					40	59	250
542		7.50	36.00	100	36.00	100					42	50	250
543		7.50	36.00	100	36.00	100					45	67	250
544		7.50	36.00	100	36.00	100					50	77	333
545		7.50	36.00	100	36.00	100		50			53	83	333
546		7.50	36.00	100	36.00	100		50			56	91	333
547		7.50	36.00	100	36.00	100		50			59	91	333
548		7.50	36.00	100	36.00	100		50			53	83	200
549		7.50			36.00	100					28	38	45
550		0.00	36.00	100							5	7	6
551		7.50	36.00	100	12.50	100					33	42	77
552		7.50	36.00	100	36.00	100					38	45	91
553		7.50	36.00	100	36.00	100					33	53	100
554		7.50	36.00	100	36.00	100					36	59	111
555		7.50	36.00	100	36.00	100					48	67	111
556		7.50	36.00	100	36.00	100					50	71	125
557		7.50	36.00	100	36.00	100		50			56	77	125
558		7.50	36.00	100	36.00	100		50			59	83	143
559		7.50	36.00	100	36.00	100		50			63	91	143
560		7.50	36.00	100	36.00	100		50			56	77	125
561		7.50			36.00	100					29	33	40
562		0.00	36.00	100							3	6	6
563		7.50	36.00	100	24.75	100			27	40	36	42	67
564		7.50	36.00	100	36.00	100			36	53	42	45	71
565		7.50	36.00	100	36.00	100			32	40	43	38	77
566		7.50	36.00	100	36.00	100			37	45	40	43	83
567		7.50	36.00	100	36.00	100			42	56	43	56	91
568		7.50	36.00	100	36.00	100			48	48	48	63	100
569		7.50	36.00	100	36.00	100		50	53	53	53	71	100
570		7.50	36.00	100	36.00	100		50	56	56	59	77	111
571		7.50	36.00	100	36.00	100		50	56	56	63	77	111
572		7.50	36.00	100	36.00	100		50	50	50	56	67	100
573		7.50			36.00	100			23	23	29	32	37
574		0.00	25.00	80				26			5		8
575		99.00	25.00	80	22.25	80	26	26			91		31
576		99.00	25.00	80	25.00	80	25	50			83		38
577		99.00	25.00	80	25.00	80		50			45		38
578		99.00	25.00	80	25.00	80		25			20		28
579		0.00			25.00	80					6		12
580		0.00	47.25	173			38	111	500	1000	7	32	500
581		0.00	47.25	173	20.00	173			42	53	11	12	38
582		0.00			47.25	173			36	53	8	10	27
583		0.00	27.50	115				50	21	21	5	6	37
584		0.00	27.50	115	7.50	103			100	111	5	11	143
585		0.00			27.50	115			23	24	10	10	29
586		0.00	20.00	100			26	50			11	6	50
587		0.00	20.00	100	10.00	88	27				11	13	167
588		0.00			20.00	100					17	10	29
589		0.00	35.00	95			24		71	125	6	77	143
590		10.00	35.00	95	35.00	95	31		37	59	48	125	111
591		10.00	35.00	95	35.00	95	40	111	40	63	18	250	167
592		10.00	35.00	95	35.00	95	20		29	36	12	43	67
593		10.00	35.00	95	35.00	95	23		27	31	16	22	36
594		10.00			35.00	95			12	14	11	15	23
595		0.00	30.00	80			50	50			7	6	24
596		0.00	30.00	80	30.00	80	33				4	13	31
597		0.00	30.00	80	30.00	80	30				7	11	30
598		0.00	30.00	80	30.00	80					6	11	14
599		0.00			30.00	80					8	11	13
600	90	49.50	0.00	90				167	67	67	1000	48	42
601		22.50			7.50	80			143	143	100	250	1000
602	90	0.00	0.00	80				167			100	500	500
603		0.00			35.00	200					34	500	1000
604		0.00	30.00	160			40	111	15	17	5		27
605		49.50	30.00	160	27.50	160	32	50	32	59	26		53
606		49.50			30.00	160			13	17	7		21
607	50	24.75	27.50	150			167	167			333	1000	1000
608		22.50	35.00	120	17.50	160	67	67			10	111	250
609		22.50	35.00	120	27.50	160					13	48	67
610		22.50			35.00	120					5	11	13
611	90	0.00	19.75	213			1000	1000	1000	1000	1000		1000
612		25.00	29.75	120	0.00	178	143	143	14	14	111		333
613		20.00	29.75	120	19.75	213	500	333	13	14	333		56
614		20.00	29.75	120	29.75	120	1000	500	15	21	500		111
615		20.00	29.75	120	29.75	120	167	333	18	21	500		125

CARD 3 NEW ORLEANS (CONTINUED)

DIS NO	AVG % BSHT EXPO	AVG INT PARTITION WEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
016		20.00	29.75	120	29.75	120	111	167	20	24	333		143
017		20.00	29.75	120	29.75	120	111	167	20	23	200		167
018		20.00	29.75	120	29.75	120	143	111	21	21	250		167
019		20.00	29.75	120	29.75	120	167	167	23	23	333		200
020		20.00	29.75	120	29.75	120	250	250	28	28	500		200
021		20.00	29.75	120	29.75	120	250	250	23	23	500		200
022		20.00	29.75	120	29.75	120	250	250	29	29	500		250
023		20.00	29.75	120	29.75	120	333	333	31	31	500		250
024		20.00	29.75	120	29.75	120	250	250	32	32	500		200
025		20.00			29.75	120	111	111	22	22	143		59
026		0.00	25.00	140			32	50	40	45	4		29
027		7.50	25.00	140	20.00	140	21		24	31	14		56
028		7.50			25.00	140					9		22

VI. Albuquerque, New Mexico Data

CARD 1 ALBUQUERQUE

NO.	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
629	53110010	42	1	0	57	51	.002	.004	.004	.001	.001	.001	.003	.004	.000	.002
630	53110010	42	1	1			.	.	.		.	.	.172	.324	.000	.163
631	53110010	42	1	2			.	.	.		.	.	.125	.219	.001	.084
632	53110010	42	1	3			.	.	.	.	.	.	.140	.211	.017	.081
633	53110010	42	1	4			.	.	.	.	.	.	.114	.235	.115	.150
634	53110021	135	1	0	57	21	.014	.020	.020	.009	.017	.017	.024	.022	.005	.014
635	53110021	135	1	1			.	.	.	.	.	.	.413	.331	.029	.121
636	53110021	135	1	2			.	.	.	.	.	.	.428	.333	.122	.181
637	53110024	67	1	0	35	23	.006	.006	.006	.007	.007	.007	.008	.006	.002	.016
638	53110024	69	1	1			.015	.030	.	.019	.025	.025	.013	.032	.003	.012
639	53110024	69	1	2			.	.	.	.086	.092	.092	.171	.052	.027	.032
640	53110024	70	1	0	57	23	.009	.010	.010	.005	.005	.005	.011	.	.005	.011
641	53110024	70	1	1			.	.	.	.012	.059	.044	.187	.	.008	.042
642	53110024	70	1	2			.	.	.	.	.	.	.213	.	.073	.130
643	53110027	138	1	0	32	31	.012	.018	.018	.044	.047	.047	.015	.	.038	.040
644	53110027	138	1	1			.	.	.	.	.	.	.167	.	.071	.096
645	53110027	153	1	0	57	54	.000	.004	.004	.000	.005	.005	.001	.001	.000	.001
646	53110027	153	1	1			.	.	.	.000	.065	.065	.083	.112	.000	.071
647	53110027	153	1	2	57	54	.001	.027	.020	.001	.035	.035	.052	.061	.031	.28
648	53110027	153	1	3			.041	.048	.	.016	.041	.041	.039	.068	.012	.051
649	53110027	154	1	0	59	51	.000	.000	.001	.004	.004	.005	.000	.000	.001	.002
650	53110027	154	1	1			.	.	.	.	.	.	.080	.184	.018	.126
651	53110027	154	1	2			.	.	.	.	.	.	.080	.051	.000	.132
652	53110027	154	1	3			.	.	.	.	.	.	.104	.089	.000	.090
653	53110027	154	1	4			.	.	.	.000	.091	.091	.057	.055	.000	.060
654	53110027	154	1	5			.	.	.	.000	.072	.072	.047	.046	.000	.052
655	53110027	154	1	6			.	.	.	.000	.058	.058	.040	.040	.000	.044
656	53110027	154	1	7			.	.	.	.000	.047	.047	.036	.035	.000	.039
657	53110027	154	1	8			.000	.045	.	.000	.038	.038	.035	.032	.000	.035
658	53110027	154	1	9			.000	.043	.	.000	.036	.036	.030	.029	.000	.033
659	53110027	154	1	10			.000	.041	.	.000	.035	.035	.028	.027	.000	.030
660	53110027	154	1	11			.000	.039	.	.000	.032	.032	.026	.026	.000	.028
661	53110027	154	1	12			.001	.037	.	.001	.031	.031	.025	.025	.000	.028
662	53110027	154	1	13			.003	.038	.	.003	.042	.042	.026	.026	.002	.029
663	53110027	154	1	14			.012	.044	.	.009	.043	.043	.033	.033	.008	.034
664	53110027	154	1	15			.	.	.	.030	.061	.061	.079	.079	.032	.056
665	53110027	160	1	0	57	51	.005	.005	.001	.000	.000	.000	.004	.004	.000	.001
666	53110027	177	1	0	43	53	.002	.002	.002	.004	.004	.004	.002	.002	.002	.002
667	53110027	177	1	1			.004	.034	.	.009	.031	.031	.040	.042	.005	.035
668	53110027	177	1	2	43	53	.011	.015	.015	.025	.028	.028	.013	.015	.014	.021
669	53110027	177	1	3			.033	.043	.	.063	.074	.074	.060	.038	.039	.051
670	53110027	177	1	4			.	.	.	.	.	.	.137	.131	.117	.131
671	53110027	180	1	0	57	31	.004	.004	.020	.026	.028	.028	.015	.	.014	.015
672	53110027	200	1	1	38	45	.	.	.020	.000	.024	.024	.031	.021	.000	.025
673	53110027	200	1	2	38	45	.	.	.020	.000	.018	.018	.014	.014	.000	.020
674	53110027	200	1	3	38	45	.	.	.020	.000	.018	.018	.013	.013	.000	.016
675	53110027	200	1	4	38	45	.	.	.020	.000	.013	.013	.012	.012	.000	.010
676	53110027	200	1	5	38	45	.	.	.009	.000	.009	.009	.011	.011	.000	.009
677	53110027	200	1	6	38	45	.	.	.009	.000	.007	.007	.010	.010	.000	.008
678	53110027	200	1	7	38	45	.	.	.006	.000	.005	.005	.009	.009	.000	.007
679	53110027	200	1	8	38	45	.	.	.006	.000	.010	.010	.008	.008	.000	.006
680	53110027	200	1	9	38	45	.	.	.020	.000	.007	.007	.008	.008	.000	.012
681	53110027	200	1	10	38	45	.	.	.009	.000	.007	.007	.008	.008	.000	.008
682	53110027	200	1	11	38	45	.	.	.009	.001	.007	.007	.008	.009	.000	.008
683	53110027	200	1	12	38	45	.	.	.020	.006	.010	.010	.014	.014	.004	.010
684	53110027	200	1	13	38	45	.	.	.039	.026	.030	.030	.051	.051	.021	.027
685	53110027	204	1	0	57	45	.	.	.002	.000	.001	.001	.001	.000	.000	.000
686	53110027	204	1	1	57	45	.	.	.038	.000	.058	.058	.	.	.000	.103
687	53110027	204	1	2	57	45	.	.	.036	.	.	.	.064	.072	.009	.071
688	53110027	204	1	3	57	45	.	.	.038	.000	.071	.071	.050	.046	.000	.040
689	53110027	204	1	4	57	45	.	.	.039	.000	.072	.072	.040	.050	.000	.041
690	53110027	204	1	5	57	45	.	.	.038	.001	.052	.052	.035	.047	.000	.039
691	53110027	204	1	6	57	45	.	.	.038	.003	.044	.044	.034	.043	.001	.034
692	53110027	204	1	7	57	45	.	.	.038	.013	.043	.043	.058	.049	.008	.036
693	53110027	204	1	8	57	45	.	.	.038	.	.	.	.084	.086	.055	.116
694	53110027	205	1	0	57	55	.	.	.003	.003	.003	.003	.002	.002	.001	.002
695	53110027	205	1	1			.	.	.	.014	.053	.053	.115	.070	.012	.070
696	53110027	205	1	2			.	.	.	.061	.069	.069	.058	.069	.054	.066
697	53110033	107	1	0	57	22	.003	.026	.020	.023	.025	.025	.004	.	.011	.024
698	53110033	107	1	1			.	.	.	.053	.094	.087	.180	.	.034	.070
699	53110033	107	1	2			.	.	.	.	.	.	.154	.	.129	.157
700	53110036	128	1	0	34	39	.013	.019	.019	.013	.014	.014	.013	.014	.016	.026
701	53110036	128	1	1			.	.	.	.045	.098	.098	.238	.231	.027	.53
702	53110046	00002	1	0	36	49	.	.	.006	.002	.016	.016	.035	.006	.000	.007
703	53110046	00002	1	1			.	.	.	.003	.050	.037	.177	.096	.001	.036
704	53110046	00002	1	2			.	.	.	.012	.044	.035	.120	.048	.005	.027
705	53110046	00002	1	3			.	.	.	.002	.008	.001	.160	.069	.035	.053
706	53110046	00003	1	0	36	49	.	.	.006	.002	.023	.023	.005	.007	.000	.005
707	53110046	00003	1	1			.	.	.	.003	.051	.037	.164	.087	.001	.041
708	53110046	00003	1	2			.	.	.	.012	.049	.039	.117	.045	.005	.032
709	53110046	00003	1	3			.	.	.	.002	.008	.002	.151	.064	.035	.057
710	53110046	00302	1	2			.	.	.	.006	.025	.019	.068	.	.002	.031
711	53110046	00302	1	3			.	.	.	.036	.049	.045	.084	.	.019	.042
712	53110046	00303	1	0	57	49	.	.	.012	.001	.008	.008	.007	.	.000	.003
713	53110046	00303	1	1			.	.	.	.001	.039	.025	.145	.	.000	.023
714	53110046	00303	1	2			.	.	.	.006	.025	.019	.061	.	.002	.031
715	53110046	00303	1	3			.	.	.	.036	.049	.045	.085	.	.019	.042
716	53110053	35	1	0	35	44	.007	.010	.010	.017	.018	.018	.006	.006	.010	.015
717	53110053	35	1	1			.	.	.	.	.	.	.335	.369	.041	.108
718	53110053	35	1	2			.	.	.	.	.	.	.302	.364	.110	.169
719	53110056	118	1	0	52	21	.018	.047	.020	.	.	.	.012	.016	.019	.030
720	53110027	186	3	1			.	.	.	.	.	.	.	.	.056	.136
721	53110028	86	2	0	57	22	.004	.005	.003	.004	.005	.005	.002	.	.001	.002
722	53110028	86	2	1	57	22	.015	.020	.020	.015	.024	.021	.	.	.011	.019
723	53110028	86	2	2			.	.	.	.006	.095	.091	.045	.	.068	.073
724	53110046	00221	1	1			.	.	.	.006	.045	.045	.249	.	.001	.024
725	53110046	00351	1	1			.	.	.	.006	.036	.036	.242	.	.001	.023

CARD 2 ALBUQUERQUE

GRID NO	SPACES RUN 2 PF-40	SPACES RUN 2 PF 100	SPACES RUN 7 PF-40	SPACES RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
629	127	127	62	62	0.00	0	2.[illegible]	10	-8	220	0	60	150
630			0	0		0	0.00	0	3	160	60	50	50
631			0	0		0	0.00	0	14	110	50	50	43
632			0	0		0	0.00	0	25	60	50	50	43
633			0	0	0.00	0	22.50	40	14	90	60	60	80
634	75	0	23	9	.75	0	2.50	10	-9	90	0	30	150
635			0	0	0.00	0	15.00	30	3	60	30	30	50
636			0	0	0.00	0	15.00	30	14	30	30	30	50
637	10	13	19	3		0	0.00	0	-6	160	0	50	210
638			47	0	0.00	0	20.00	30	3	110	50	50	120
639			0	0	0.00	0	20.00	30	15	60	50	50	120
640	100	103	41	0	1.50	0	15.00	40	-7	140	0	50	150
641			8	0	0.00	0	27.50	30	3	90	50	50	70
642			0	0	0.00	0	30.00	30	14	40	50	50	70
643	38	0	0	0	1.50	0	5.00	10	-9	70	0	40	120
644			0	0	0.00	0	7.50	20	3	30	40	0	190
645	272	272	330	330	1.50	0	5.10	10	-7	550	0	150	150
646			0	0	0.00	0	35.00	40	3	400	150	150	120
647	750	0	0	0	0.00	0	22.50	40	15	250	150	150	80
648			0	0	0.00	0	22.50	40	25	100	150	150	80
649	750	750	270	270		0	0.00	0	-12	990	0	90	150
650			0	0	0.00	0	49.56	69	3	900	90	60	90
651			0	0	0.00	0	14.75	59	21	840	60	60	70
652			0	0	0.00	0	14.75	59	33	780	60	60	70
653			0	0	0.00	0	14.75	59	45	720	60	60	70
654			0	0	0.00	0	14.75	59	57	660	60	60	70
655			0	0	0.00	0	14.75	59	69	600	60	60	70
656			0	0	0.00	0	14.75	59	81	540	60	60	70
657			0	0	0.00	0	14.75	59	93	480	60	60	70
658			0	0	0.00	0	14.75	59	105	420	60	60	70
659			0	0	0.00	0	14.75	59	117	360	60	60	70
660			0	0	0.00	0	14.75	59	129	300	60	60	70
661			0	0	0.00	0	14.75	59	141	240	60	60	70
662			0	0	0.00	0	14.75	59	153	180	60	60	70
663			0	0	0.00	0	14.75	59	165	120	60	60	70
664			0	0	0.00	0	14.75	59	177	60	60	60	70
665	245	245	203	203		0	0.00	0	-9	150	0	80	150
666	740	740	234	234		0	0.10	0	-6	200	0	40	150
667			0	0	0.00	0	24.75	69	3	150	40	40	120
668	532	0	778	0	0.00	0	7.50	20	19	120	40	40	120
669			0	0	0.00	0	7.50	20	31	80	40	40	120
670			0	0	0.00	0	7.50	20	43	40	40	40	120
671	386	3	44	0	3.00	3	10.00	30	-7	160	0	70	150
672	450	0	0	0	0.00	0	25.00	50	3	910	70	70	115
673	934	0	743	0	3.00	3	40.00	40	21	840	70	70	200
674	1634	0	948	0	3.00	3	40.00	40	34	770	70	70	200
675	1634	0	1924	0	3.00	3	40.00	40	47	700	70	70	200
676	1866	1863	2070	137	3.00	3	40.00	40	60	630	70	70	200
677	1866	1863	2199	543	3.00	3	40.00	40	73	560	70	70	200
678	2101	2101	2335	811	3.00	3	40.00	40	86	490	70	70	200
679	2101	2101	2347	997	3.00	3	40.00	40	99	420	70	70	200
680	1634	0	1799	0	3.00	3	40.00	40	112	350	70	70	200
681	1866	1863	1954	454	3.00	3	40.00	40	125	290	70	70	200
682	1866	1863	2041	554	3.00	3	40.00	40	138	210	70	70	200
683	1634	0	1675	0	3.00	3	40.00	40	151	140	70	70	200
684	0	0	0	0	3.00	3	40.00	40	164	70	70	70	200
685	900	900	363	363		0	0.00	0	-12	490	0	80	150
686	0	0	0	0	0.00	0	10.00	10	3	410	80	50	60
687	0	0	0	0	0.00	0	79.10	79	28	360	50	50	20
688	0	0	0	0	0.00	0	79.00	79	40	310	50	50	20
689	0	0	0	0	0.00	0	79.00	79	52	250	50	50	20
690	0	0	0	0	0.00	0	79.40	79	64	210	50	50	20
691	0	0	0	0	0.00	0	79.40	79	76	160	50	50	20
692	0	0	0	0	0.00	0	79.10	79	88	110	50	50	20
693	0	0	0	0		0	0.10	0	100	60	50	50	50
694	62	62	14	14		0	0.00	0	-6	190	0	60	150
695			0	0	0.00	0	7.50	20	3	130	60	60	75
696			0	0		0	0.00	0	20	70	60	60	65
697	21	0	84	0	0.00	0	12.50	30	-7	150	0	70	200
698			0	0	0.00	0	12.50	30	3	80	70	40	140
699			0	0	0.00	0	22.50	30	19	40	40	40	120
700	10	1	10	0	0.00	0	2.50	10	-5	80	0	60	180
701			0	0	0.00	0	5.00	20	3	20	60	0	130
702	52	54	95	95	1.50	0	5.10	10	-6	230	0	50	150
703			0	0	0.00	0	20.00	30	3	150	50	50	70
704			0	0	0.00	0	20.00	30	12	100	50	50	70
705			0	0	0.00	0	20.00	30	21	50	50	50	70
706	58	54	70	70	1.50	0	5.00	10	-6	200	0	50	150
707			0	0	0.00	0	20.00	30	3	150	50	50	70
708			0	0	0.00	0	20.00	30	12	100	50	50	70
709			0	0	0.00	0	20.00	30	21	50	50	50	70
710			0	0	0.00	0	28.00	40	14	110	50	50	40
711			0	0	0.00	0	28.00	40	25	60	50	50	40
712	69	0	74	74	1.50	0	10.00	10	-7	210	0	50	120
713			13	0	0.00	0	17.50	30	3	160	50	50	50
714			0	0	0.00	0	28.00	40	14	110	50	50	40
715			0	0	0.00	0	28.00	40	25	60	50	50	40
716	63	63	36	0	0.00	0	2.50	10	-9	120	0	50	150
717			0	0	0.00	0	15.00	20	3	70	50	30	80
718			0	0	0.00	0	15.00	20	14	40	30	30	30
719	58	0	6	0	2.25	0	7.50	10	-7	120	0	90	150
720			0	0	0.00	0	20.00	30	3	70	60	30	90
721	337	337	328	328	.75	0	2.50	10	-7	150	0	50	150
722	73	0	113	0	0.00	0	19.75	59	3	100	50	50	150
723			0	0	0.00	0	12.50	30	17	50	50	50	150
724			57	0	0.00	0	35.00	50	3	240	80	80	40
725			94	0	0.00	0	35.00	50	3	240	80	80	40

CARD 3 ALBUQUERQUE

OBS NO	AVG % ASMT EXMD	AVG EXT PARTITION WEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
629	90	0.00	0.00	58			250	250	1000	1000	333	250	500
630		0.00	0.00	43	2.50	150					6	3	6
631		0.00	0.00	43	0.00	58					8	5	12
632		0.00			0.00	43					7	5	12
633		0.00			5.00	40					9	4	7
634	70	22.50	15.00	50			50	50	59	59	42	45	71
635		17.50	15.00	50	2.50	150					2	3	8
636		0.00			15.00	50					2	3	6
637	75	0.00	20.00	120			167	167	143	143	125	167	63
638		22.50	20.00	120	0.00	210	33		40	40	3	31	83
639		20.00			20.00	140			11	11	6	19	31
640	90	22.50	27.50	70			100	100	200	200	91		91
641		45.00	10.00	70	15.00	150			17	23	5		24
642		0.00			27.50	70					5		8
643	80	45.00	7.50	190			56	56	21	21	67		25
644		45.00			5.00	140					6		10
645	72	5.00	35.00	120			250	250	200	200	1000	1000	1000
646		0.00	22.50	80	5.00	150			15	15	12	9	14
647		0.00	22.50	80	35.00	140	37	50	29	29	19	16	36
648		0.00			22.50	80	21		24	24	26	15	24
649	90	10.00	49.50	90			1000	1000	200	200	1000	1000	500
650		22.50	14.75	70	0.00	150					13	5	8
651		0.00	14.75	70	49.50	90					13	20	8
652		0.00	14.75	70	14.75	70					10	11	11
653		0.00	14.75	70	14.75	70			11	11	18	18	17
654		0.00	14.75	70	14.75	70			14	14	21	22	19
655		0.00	14.75	70	14.75	70			17	17	25	25	23
656		0.00	14.75	70	14.75	70			21	21	28	29	26
657		0.00	14.75	70	14.75	70	22		26	26	30	31	29
658		0.00	14.75	70	14.75	70	23		28	28	33	34	30
659		0.00	14.75	70	14.75	70	24		29	29	36	37	33
660		0.00	14.75	70	14.75	70	[illegible]		31	31	38	38	36
661		0.00	14.75	70	14.75	70			32	32	40	40	36
662		0.00	14.75	70	14.75	70	20		24	24	38	38	34
663		0.00	14.75	70	14.75	70	23		23	23	30	30	29
664		0.00			14.75	70			16	16	13	13	18
665	90	12.50	2.50	80			200	1000	1000	1000	250	250	1000
666	90	0.00	24.75	120			500	500	250	250	500	500	500
667		0.00	7.50	120	0.00	150	29		32	32	25	24	29
668		0.00	7.50	120	24.75	120	67	67	36	36	77	67	48
669		0.00	7.50	120	7.50	120	23		14	14	17	26	20
670		0.00			7.50	120					7	8	8
671	75	0.00	10.00	100			250	50	36	36	200		67
672		15.00	40.00	200	2.50	150		50	42	42	32	48	40
673		0.00	40.00	200	25.00	115		50	56	56	71	71	50
674		0.00	40.00	200	40.00	200		50	56	56	77	77	63
675		0.00	40.00	200	40.00	200		50	77	77	83	83	100
676		0.00	40.00	200	40.00	200		111	111	111	91	91	111
677		0.00	40.00	200	40.00	200		111	143	143	100	100	125
678		0.00	40.00	200	40.00	200		167	200	200	111	111	143
679		0.00	40.00	200	40.00	200		167	100	100	125	125	167
680		0.00	40.00	200	40.00	200		50	143	143	125	125	63
681		0.00	40.00	200	40.00	200		111	143	143	125	125	125
682		0.00	40.00	200	40.00	200		111	143	143	125	111	125
683		0.00	40.00	200	40.00	200		50	100	100	71	71	100
684		0.00			40.00	200		25	33	33	20	20	37
685	80	5.00	10.00	60				500	1000	1000	1000	1000	1000
686		5.00	79.00	20	0.00	150		25	17	17			10
687		10.00	79.00	20	10.00	60		25			16	14	14
688		10.00	79.00	20	79.00	20		25	14	14	28	22	25
689		10.00	79.00	20	79.00	20		25	14	14	25	28	24
690		10.00	79.00	20	79.00	20		25	19	19	29	21	24
691		10.00	79.00	20	79.00	20		25	23	23	29	23	29
692		10.00	0.00	50	79.00	20		25	23	23	17	28	28
693		5.00			79.00	25		25			12	12	9
694	87	0.00	7.50	75				333	333	333	500	500	500
695		0.00	0.00	65	0.00	150			19	19	9	14	14
696		0.00			7.50	75			14	14	17	14	15
697	52	49.50	12.50	140			38	50	40	40	250		42
698		0.00	22.50	120	12.50	200			11	11	6		14
699		0.00			12.50	140					6		8
700	85	49.50	5.00	130			53	53	71	71	77	71	38
701		0.00			2.50	180			10	10	4	4	19
702	60	0.00	20.00	70				167	63	63	200	167	143
703		35.00	20.00	70	5.00	150			20	27	6	10	24
704		17.50	20.00	70	20.00	70			23	29	8	21	37
705		17.50			20.00	70			11	12	6	14	19
706	57	0.00	20.00	70				167	43	43	200	143	200
707		35.00	20.00	70	5.00	150			28	27	6	11	24
708		17.50	20.00	70	20.00	70			28	26	9	22	31
709		17.50			20.00	70			11	12	7	16	18
710		10.00	20.00	40	17.50	40			48	53	17		32
711		10.00			20.00	40			28	22	12		24
712	67	0.00	17.50	50				83	125	125	143		333
713		10.00	20.00	40	10.00	120			26	49	7		43
714		10.00	20.00	40	17.50	50			48	53	16		32
715		10.00			20.00	40			28	22	12		24
716	98	49.50	15.00	80			100	100	56	56	167	167	67
717		0.00	15.00	30	2.50	150					3	3	9
718		0.00			15.00	86					3	3	6
719	72	0.00	20.00	60			21	50			83	63	33
720		0.00											7
721	77	0.00	19.75	150			200	333	200	200	500		500
722		0.00	12.50	150	2.50	150	36	50	42	48			53
723		0.00			19.75	150			11	11	22		14
724		20.00							22	22	4		42
725		20.00							28	28	4		43

VII. San Jose, California Data

CARD 1 SAN JOSE

OBS NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
726	72810008	74	1	0	51	55	.019	.019	.020	.009	.009	.009	.019	.016	.007	.007
727	72810008	74	1	1			.	.	.	.	.	.	.329	.287	.213	.264
728	72810008	85	1	0	36	49	.000	.000	.001	.001	.001	.001	.000	.000	.000	.000
729	72810008	85	1	1	36	49	.001	.013	.013	.008	.009	.009	.030	.003	.002	.002
730	72810008	85	1	2	36	49	.008	.022	.022	.033	.033	.033	.035	.004	.010	.010
731	72810008	85	1	3			.	.	.	.	.	.	.178	.063	.060	.060
732	72810008	86	1	0	57	45	.003	.006	.003	.	.	.	.006	.005	.001	.002
733	72810008	86	1	1			.	.	.	.	.	.	.238	.157	.006	.037
734	72810008	86	1	2			.	.	.	.	.	.	.209	.135	.029	.051
735	72810008	88	1	0	43	11	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
736	72810008	88	1	1			.000	.047	.	.001	.017	.017	.022	.030	.000	.010
737	72810008	88	1	2	43	11	.002	.006	.006	.002	.002	.002	.002	.000	.000	.001
738	72810008	88	1	3			.012	.036	.	.010	.010	.010	.020	.006	.007	.010
739	72810008	88	1	4			.	.	.	.047	.048	.048	.192	.031	.045	.047
740	72810008	204	1	0	57	55	.	.	.001	.	.	.	.000	.000	.001	.002
741	72810008	204	1	1			.	.	.	.	.	.	.169	.203	.003	.184
742	72810008	204	1	2			.	.	.	.	.	.	.034	.051	.008	.054
743	72810008	204	1	3			.	.	.	.	.	.	.041	.047	.015	.071
744	72810008	204	1	4			.	.	.	.	.	.	.033	.039	.030	.074
745	72810008	204	1	5			.	.	.	.	.	.	.037	.041	.059	.098
746	72810008	204	1	6			.	.	.	.	.	.	.141	.125	.110	.216
747	72810009	108	1	0	57	53	.	.	.001	.001	.001	.001	.000	.000	.000	.000
748	72810009	108	1	1			.	.	.	.008	.074	.074	.067	.085	.000	.037
749	72810009	108	1	2			.	.	.	.048	.058	.055	.042	.022	.035	.046
750	72810009	108	1	3			.	.	.	.005	.050	.031	.049	.054	.000	.030
751	72810009	108	1	4			.	.	.	.033	.066	.053	.300	.298	.029	.055
752	72810009	118	1	2			.	.	.	.	.	.	.042	.061	.000	.010
753	72810009	118	1	3			.	.	.	.	.	.	.122	.115	.000	.009
754	72810009	209	1	0	32	53	.	.	.020	.095	.095	.095	.020	.020	.056	.057
755	72810009	209	1	1			.	.	.	.	.	.	.158	.156	.089	.094
756	72810010	121	1	0	57	51	.001	.001	.001	.005	.005	.005	.014	.014	.000	.000
757	72810010	121	1	1			.003	.028	.	.045	.072	.072	.065	.084	.000	.034
758	72810010	121	1	2			.023	.046	.	.000	.010	.008	.078	.077	.000	.005
759	72810010	121	1	3			.000	.048	.	.000	.015	.009	.028	.036	.000	.006
760	72810010	121	1	4			.000	.036	.	.000	.014	.011	.056	.040	.000	.006
761	72810010	121	1	5			.000	.026	.	.000	.013	.010	.056	.020	.000	.008
762	72810010	121	1	6	57	51	.000	.020	.020	.000	.010	.008	.036	.016	.000	.009
763	72810010	121	1	7			.000	.048	.	.000	.041	.041	.075	.021	.000	.014
764	72810010	121	1	8			.001	.029	.	.001	.032	.032	.031	.019	.000	.013
765	72810010	121	1	9			.008	.029	.	.002	.027	.027	.033	.022	.000	.012
766	72810010	121	1	10			.	.	.	.004	.031	.031	.076	.058	.005	.015
767	72810010	134	1	0	57	51	.001	.001	.002	.000	.001	.001	.000	.001	.000	.000
768	72810010	134	1	1			.	.	.	.000	.086	.086	.109	.203	.000	.171
769	72810010	134	1	2			.	.	.	.000	.071	.071	.137	.118	.000	.042
770	72810010	134	1	3			.000	.049	.	.000	.059	.059	.112	.123	.000	.042
771	72810010	134	1	4			.	.	.	.000	.044	.044	.123	.104	.000	.037
772	72810010	134	1	5			.000	.042	.	.000	.033	.033	.077	.076	.000	.030
773	72810010	134	1	6			.000	.033	.	.000	.026	.026	.061	.059	.000	.027
774	72810010	134	1	7			.000	.026	.	.000	.021	.021	.050	.049	.000	.024
775	72810010	134	1	8	57	51	.001	.024	.024	.001	.020	.020	.043	.043	.000	.023
776	72810010	134	1	9	57	51	.003	.025	.025	.002	.020	.020	.041	.040	.000	.022
777	72810010	134	1	10			.012	.032	.	.005	.023	.023	.085	.084	.002	.022
778	72810010	134	1	11			.	.	.	.009	.064	.064	.078	.078	.006	.031
779	72810011	140	1	1	57	54	.000	.021	.020	.000	.048	.040	.054	.093	.000	.040
780	72810011	140	1	2			.	.	.	.000	.016	.016	.088	.025	.000	.015
781	72810011	140	1	3			.004	.046	.	.006	.033	.033	.079	.050	.000	.019
782	72810011	140	1	4			.	.	.	.	.	.	.105	.102	.024	.046
783	72810017	213	1	0	57	22	.	.	.003	.020	.021	.021	.034	.034	.013	.014
784	72810017	213	1	1			.	.	.	.	.	.	.046	.046	.058	.063
785	72810017	213	1	2			.	.	.	.	.	.	.370	.370	.199	.210
786	72810019	158	1	0	57	53	.008	.008	.008	.005	.005	.005	.007	.	.006	.007
787	72810019	158	1	1			.	.	.	.036	.074	.074	.203	.	.320	.373
788	72810019	158	1	2			.	.	.	.	.	.	.338	.	.270	.315
789	72810046	217	1	0	53	43	.	.	.009	.003	.004	.004	.008	.005	.001	.002
790	72810046	217	1	1			.	.	.	.045	.085	.085	.326	.284	.037	.094
791	72810065	178	1	0	57	51	.001	.001	.002	.001	.001	.001	.001	.004	.000	.001
792	72810065	178	1	1			.014	.042	.	.009	.052	.052	.203	.156	.007	.019
793	72810065	178	1	2			.	.	.	.	.	.	.274	.280	.244	.255
794	72810097	34583	1	0	59	49	.008	.009	.009	.016	.018	.018	.009	.009	.012	.016
795	72810097	34583	1	1			.	.	.	.	.	.	.130	.115	.049	.081
796	72810097	84381	1	0	59	49	.003	.007	.006	.003	.003	.003	.006	.006	.002	.013
797	72810097	84381	1	1			.	.	.	.015	.044	.021	.232	.116	.008	.026
798	72810097	84381	1	2			.	.	.	.	.	.	.154	.090	.064	.073
799	72810097	84383	1	0	59	49	.000	.000	.001	.000	.000	.000	.005	.005	.000	.000
800	72810097	84383	1	1			.	.	.	.032	.069	.015	.220	.264	.001	.034
801	72810097	84383	1	2			.	.	.	.035	.056	.041	.070	.075	.026	.052
802	72810102	1181	1	0	32	46	.012	.012	.006	.017	.017	.017	.010	.010	.049	.051
803	72810102	1181	1	1			.	.	.	.042	.089	.089	.361	.245	.072	.107
804	72810102	1183	1	0	51	61	.022	.022	.020	.028	.029	.029	.020	.024	.024	.025
805	72810102	1183	1	1			.	.	.	.	.	.	.167	.338	.251	.279

CARD 1 SAN JOSE (CONTINUED)

OBS NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
806	72810106	4703	1	0	59	12	.000	.005	.005	.000	.003	.003	.039	.032	.000	.014
807	72810106	4703	1	1			.	.	.	.000	.041	.015	.207	.130	.000	.021
808	72810106	4703	1	2			.	.	.	.000	.031	.013	.117	.060	.000	.015
809	72810106	4703	1	3			.001	.045	.	.001	.021	.010	.098	.047	.000	.015
810	72810106	4703	1	4			.004	.043	.	.006	.021	.016	.077	.041	.004	.017
811	72810106	4703	1	5			.	.	.	.036	.048	.043	.089	.057	.029	.041
812	72810106	4704	1	0	59	12	.001	.009	.009	.000	.010	.010	.007	.005	.000	.020
813	72810106	4704	1	1			.003	.033	.	.001	.035	.023	.080	.059	.000	.022
814	72810106	4704	1	2			.012	.038	.	.004	.035	.024	.065	.037	.003	.020
815	72810106	4704	1	3			.	.	.	.028	.057	.048	.102	.090	.025	.042
816	72810109	1001	1	1			.000	.047	.	.000	.026	.026	.056	.083	.000	.033
817	72810109	1001	1	2	35	54	.000	.023	.023	.000	.022	.022	.014	.019	.000	.018
818	72810109	1001	1	3	36	54	.002	.021	.021	.003	.020	.020	.018	.017	.003	.017
819	72810109	1001	1	4			.027	.043	.	.	.	.051	.041	.040	.035	.048
820	72810114	222	1	0	52	55	.	.	.020	.019	.028	.028	.019	.022	.017	.024
821	72810114	222	1	1			.	.	.	.	.	.	.583	.613	.130	.379
822	72810160	501	1	0	22	26	.014	.014	.020	.045	.045	.045	.014	.	.030	.031
823	72810160	501	1	1			.	.	.	.	.	.	.422	.	.313	.484
824	72810162	1714	1	0	59	11	.003	.004	.004	.007	.007	.007	.003	.003	.005	.006
825	72810162	1714	1	1			.	.	.	.022	.057	.076	.146	.203	.016	.145
826	72810162	1714	1	2			.	.	.	.035	.052	.041	.087	.070	.024	.040
827	72810162	1714	1	3			.	.	.	.052	.055	.067	.213	.129	.038	.061
828	72810162	1714	1	4			.	.	.	.	.	.	.181	.141	.061	.087
829	72810162	1714	1	5			.	.	.	.	.	.	.184	.151	.095	.120
830	72810162	1714	1	6			.	.	.	.	.	.	.215	.187	.160	.184
831	72810165	118	1	0	59	41	.000	.000	.001	.000	.002	.002	.000	.000	.000	.000
832	72810165	118	1	1			.000	.035	.	.000	.089	.089	.086	.030	.000	.096
833	72810165	118	1	2	59	41	.000	.022	.022	.000	.035	.025	.008	.028	.000	.024
834	72810165	118	1	3	59	41	.001	.019	.019	.000	.026	.017	.073	.073	.000	.021
835	72810165	118	1	4			.004	.030	.	.003	.034	.025	.128	.138	.003	.025
836	72810165	118	1	5			.	.	.	.044	.071	.070	.184	.168	.036	.070
837	72810165	235	1	0	57	23	.	.	.009	.000	.001	.001	.041	.021	.000	.006
838	72810165	235	1	1			.	.	.	.001	.015	.015	.103	.064	.000	.007
839	72810165	235	1	2			.	.	.	.004	.015	.015	.020	.025	.003	.010
840	72810165	235	1	3			.	.	.	.015	.026	.026	.187	.130	.012	.024
841	72810165	236	1	0	52	31	.	.	.009	.009	.009	.009	.008	.009	.007	.008
842	72810165	236	1	1			.	.	.	.049	.063	.063	.097	.274	.023	.048
843	72810165	243	1	0	52	23	.	.	.020	.034	.038	.038	.021	.021	.033	.050
844	72810165	243	1	1			.	.	.	.	.	.	.274	.301	.225	.243
845	72810165	303	1	0	59	49	.025	.025	.025	.006	.006	.006	.023	.028	.004	.004
846	72810165	303	1	1			.	.	.	.132	.047	.047	.218	.155	.024	.045
847	72810165	407	1	0	35	53	.006	.006	.006	.000	.000	.000	.005	.005	.000	.000
848	72810165	407	1	1			.	.	.	.003	.034	.034	.199	.156	.002	.055
849	72810165	407	1	2			.	.	.	.	.	.	.304	.263	.124	.132
850	72810165	411	1	0	59	11	.020	.020	.006	.012	.012	.012	.079	.079	.009	.009
851	72810165	411	1	1			.	.	.	.	.	.	.523	.457	.112	.431
852	72810165	411	1	2			.	.	.	.	.	.	.571	.518	.244	.436
853	72810165	3801	1	1	32	69	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
854	72810165	3904	1	0	59	41	.000	.000	.001	.001	.001	.001	.000	.000	.000	.000
855	72810165	3904	1	1			.	.	.	.001	.053	.038	.002	.006	.000	.052
856	72810165	3904	1	2			.002	.031	.	.006	.023	.019	.006	.003	.004	.027
857	72810165	3904	1	3			.021	.046	.	.036	.046	.043	.065	.046	.029	.048
858	72810165	4001	1	0	59	12	.001	.001	.002	.001	.004	.004	.018	.018	.000	.011
859	72810165	4001	1	1			.	.	.	.004	.056	.043	.306	.222	.002	.035
860	72810165	4001	1	2			.	.	.	.021	.061	.054	.118	.088	.015	.037
861	72810165	4005	1	0	59	12	.006	.000	.001	.000	.000	.000	.020	.030	.000	.001
862	72810165	4005	1	1			.	.	.	.000	.014	.007	.287	.235	.000	.005
863	72810165	4005	1	2			.004	.049	.	.003	.014	.008	.091	.079	.001	.005
864	72810165	4005	1	3			.021	.049	.	.021	.035	.029	.071	.078	.012	.016
865	72810165	4008	1	0	59	12	.000	.000	.001	.000	.000	.000	.036	.066	.000	.004
866	72810165	4008	1	1			.	.	.	.000	.015	.007	.289	.213	.000	.003
867	72810165	4008	1	2			.004	.058	.	.002	.011	.019	.091	.023	.000	.003
868	72810165	4008	1	3			.021	.058	.	.016	.027	.021	.071	.059	.011	.014
869	72810165	4012	1	0	32	23	.000	.000	.009	.004	.005	.005	.054	.	.003	.004
870	72810165	4012	1	1			.	.	.	.	.	.	.378	.	.189	.254
871	72810165	4106	1	1			.001	.029	.	.001	.029	.025	.364	.098	.000	.019
872	72810165	4106	1	2	59	12	.007	.024	.024	.004	.021	.018	.111	.045	.001	.018
873	72810165	4105	1	3			.	.	.	.028	.040	.038	.106	.055	.013	.021
874	72810165	4112	1	0	59	23	.007	.011	.009	.001	.003	.003	.013	.013	.000	.004
875	72810165	4112	1	1			.	.	.	.003	.031	.011	.103	.100	.001	.010
876	72810165	4115	1	0	59	23	.003	.017	.006	.001	.001	.001	.059	.040	.000	.012
877	72810165	4115	1	1			.	.	.	.003	.071	.037	.278	.198	.002	.046
878	72810165	4115	1	2			.	.	.	.026	.085	.068	.152	.149	.018	.036
879	72810165	4209	1	0	59	26	.000	.000	.001	.000	.009	.009	.000	.	.000	.004
880	72810165	4209	1	1			.000	.026	.	.001	.018	.004	.004	.	.000	.007
881	72810165	4209	1	2	59	26	.003	.028	.028	.003	.004	.003	.009	.	.001	.002
882	72810165	4209	1	3			.012	.028	.	.016	.016	.016	.017	.	.000	.000
883	72810165	4209	1	4			.	.	.	.	.	.	.004	.	.071	.072
884	72810165	4211	1	0	59	29	.000	.007	.007	.000	.002	.002	.005	.004	.000	.000
885	72810165	4211	1	1			.	.	.	.000	.006	.003	.109	.111	.000	.003
886	72810165	4211	1	2	59	29	.000	.024	.024	.000	.052	.052	.028	.029	.000	.029

CARD 1 SAN JOSE (CONTINUED)

OBS NO	STANDARD LOCATION	FACILITY NUMBER	PART NO.	STORY NO.	PV CODE	USE CODE	RUN 1 ROOF CONT	RUN 1 TOTAL RF	RUN 2 TOTAL RF	RUN 3 ROOF CONT	RUN 3 TOTAL RF	RUN 4 TOTAL RF	RUN 5 TOTAL RF	RUN 6 TOTAL RF	RUN 7 ROOF CONT	RUN 7 TOTAL RF
887	72810165	4211	1	3	59	29	.000	.019	.019	.000	.024	.024	.024	.024	.000	.024
888	72810165	4211	1	4	59	29	.000	.016	.016	.000	.021	.021	.021	.021	.000	.020
889	72810165	4211	1	5	59	29	.000	.015	.015	.000	.018	.018	.018	.018	.000	.018
890	72810165	4211	1	6	59	29	.000	.013	.020	.000	.017	.017	.016	.016	.000	.016
891	72810165	4211	1	7	59	29	.000	.012	.020	.000	.015	.015	.015	.015	.000	.015
892	72810165	4211	1	8	59	29	.000	.011	.020	.000	.014	.014	.013	.013	.000	.014
893	72810165	4211	1	9	59	29	.000	.010	.020	.000	.014	.014	.012	.012	.000	.013
894	72810165	4211	1	10	59	29	.000	.009	.009	.000	.013	.013	.011	.011	.000	.012
895	72810165	4211	1	11	59	29	.000	.016	.009	.000	.012	.012	.023	.023	.000	.011
896	72810165	4211	1	12	59	29	.000	.017	.006	.000	.011	.011	.023	.023	.000	.010
897	72810165	4211	1	13	59	29	.000	.016	.003	.000	.011	.011	.022	.022	.000	.010
898	72810165	4211	1	14			.001	.016	.	.000	.010	.010	.021	.021	.000	.009
899	72810165	4211	1	15	59	29	.007	.021	.009	.000	.009	.009	.026	.026	.000	.009
900	72810165	4211	1	16			.	.	.	.000	.013	.013	.069	.069	.000	.012
901	72810009	116	1	1			.024	.026	.	.	.	.	.093	.154	.000	.012

CARD 2 SAN JOSE

OBS NO	SPACES RUN 2 PF-40	SPACES RUN 2 PF 100	SPACES RUN 7 PF-40	SPACES RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AV % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
726	332	0	349	349	0.00	0	2.50	10	-8	100	0	90	120
727			0	0	0.00	0	22.75	79	3	10	90	0	130
728	50	50	117	117		0	0.10	0	-4	330	0	100	440
729	660	0	1142	906	0.00	0	12.50	20	3	230	100	100	240
730	660	0	1142	0	0.00	0	12.50	20	20	150	100	100	120
731			0	0	0.00	0	12.50	20	41	30	100	100	120
732	10	10	15	15		0	0.10	0	-6	170	0	70	120
733			0	0	0.00	0	17.50	30	3	100	70	70	70
734			0	0	0.00	0	15.00	30	15	30	70	70	70
735	280	200	241	241		0	0.00	0	-6	410	0	150	165
736			713	248	0.00	0	19.75	69	3	260	150	70	235
737	595	595	1468	1064	0.00	0	12.50	20	20	190	70	70	185
738			1452	504	0.00	0	17.50	30	32	120	70	70	168
739			0	0	0.00	0	20.50	30	44	50	70	70	150
740	359	359	187	187		0	0.10	0	-9	470	0	70	100
741			0	0	0.00	0	42.10	69	3	400	70	70	100
742			0	0	0.00	0	37.10	79	24	330	70	70	100
743			0	0	0.00	0	37.40	79	36	260	70	70	100
744			0	0	0.00	0	37.40	79	48	190	70	70	100
745			0	0	0.00	0	37.40	79	60	120	70	70	100
746			0	0	0.00	0	37.40	79	72	50	70	70	100
747	1971	1971	569	569		0	0.40	0	-14	330	0	80	150
748			0	0	0.00	0	20.40	40	3	236	80	80	110
749			0	0	0.00	0	20.40	30	20	170	80	80	110
750			0	0	0.00	0	20.40	30	35	90	80	80	110
751			0	0	0.00	0	5.40	10	53	10	80	80	100
752			1046	0	0.00	0	15.40	30	17	130	50	50	130
753			1981	79	0.00	0	15.40	30	30	50	50	50	130
754	285	0	0	0		0	0.40	0	-5	90	0	80	145
755			0	0	0.00	0	17.50	40	3	10	80	0	100
756	130	135	141	151	.75	0	5.40	20	-7	750	0	70	150
757			0	0	0.00	0	17.50	40	3	690	70	70	165
758			690	399	0.00	0	15.40	35	24	620	70	70	165
759			690	383	0.00	0	15.40	30	36	550	70	70	165
760			690	361	0.00	0	15.40	30	48	490	70	70	165
761			690	198	0.00	0	15.40	30	60	410	70	70	165
762	170	0	690	141	0.00	0	15.40	30	72	340	70	70	165
763			440	0	0.00	0	30.80	30	84	270	70	70	130
764			401	0	0.00	0	30.40	30	96	200	70	70	130
765			340	0	0.00	0	30.40	30	108	130	70	70	130
766			525	0	0.00	0	30.40	30	120	60	70	70	130
767	84	84	114	114		0	0.40	0	-7	620	0	50	150
768			0	0	0.00	0	46.75	69	3	570	50	50	130
769			0	0	0.00	0	59.50	59	21	520	50	50	130
770			0	0	0.00	0	59.50	59	32	470	50	50	130
771			0	0	0.00	0	59.40	59	43	420	50	50	130
772			0	0	0.00	0	59.40	59	54	370	50	50	130
773			0	0	0.00	0	59.40	59	65	320	50	50	130
774			0	0	0.00	0	59.40	59	76	270	50	50	130
775	235	0	76	0	0.00	0	59.00	59	87	220	50	50	130
776	235	0	110	0	0.00	0	59.00	59	98	170	50	50	130
777			22	0	0.00	0	59.00	59	109	120	50	50	130
778			0	0	0.00	0	59.50	59	120	70	50	50	130
779	343	0	0	0	0.00	0	5.40	10	3	340	0	90	70
780			512	0	0.00	0	5.40	10	18	250	90	90	70
781			344	0	0.00	0	5.00	10	28	160	90	90	70
782			0	0	0.00	0	5.40	10	38	70	90	90	70
783	225	225	147	0	.75	0	2.50	10	-9	190	0	120	150

CARD 2 SAN JOSE (CONTINUED)

OBS NO	SPACES RUN 2 PF-40	RUN 2 PF 100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
784			0	0	0.00	0	15.00	40	3	70	120	60	85
785			0	0	0.00	0	17.50	50	16	10	60	60	55
786	104	104	89	89		0	0.00	0	-14	130	0	60	150
787			0	0	0.00	0	22.25	69	3	70	60	60	76
788			0	0	0.00	0	2.50	10	19	10	60	60	80
789	102	102	154	154		0	0.00	0	-12	130	0	100	220
790			0	0	0.00	0	27.50	40	3	30	100	0	170
791	113	113	100	100		0	0.00	0	-6	210	0	100	130
792			221	0	0.00	0	34.50	69	3	110	100	100	100
793			0	0		0	0.00	0	13	10	100	100	100
794	40	40	73	0		0	0.00	0	-9	140	0	70	100
795			0	0	0.00	0	37.25	69	3	70	70	0	100
796	117	117	55	0	1.50	0	2.50	10	-9	170	0	60	235
797			725	0	0.00	0	12.50	20	3	110	60	60	230
798			0	0	0.00	0	12.50	20	17	50	60	60	180
799	49	49	44	44		0	0.00	0	-8	270	0	90	245
800			0	0	0.00	0	50.00	50	3	150	90	100	210
801			0	0	0.00	0	50.00	50	19	50	100	100	170
802	24	24	0	0		0	0.00	0	-7	140	0	40	120
803			0	0	0.00	0	47.25	69	3	100	40	0	60
804	14	0	80	0		0	0.00	0	-6	90	0	80	150
805			0	0		0	0.00	0	3	10	80	0	40
806	150	150	107	63	.75	0	5.00	20	-10	450	0	80	145
807			149	0	0.00	0	30.00	50	3	400	80	80	120
808			592	0	0.00	0	27.50	50	13	320	80	80	120
809			658	0	0.00	0	27.50	50	23	240	80	80	120
810			632	0	0.00	0	27.50	50	33	150	80	80	120
811			0	0	0.00	0	27.50	50	43	50	80	80	120
812	484	484	176	0	.75	0	2.50	10	-7	240	0	80	120
813			111	0	0.00	0	15.00	20	3	190	60	60	110
814			348	0	0.00	0	15.00	20	13	120	60	60	100
815			0	0	0.00	0	15.00	20	23	60	60	60	100
816			0	0	0.00	0	20.00	50	3	420	0	110	105
817	466	0	503	0	1.50	0	5.00	10	16	310	110	110	100
818	466	0	607	0	1.50	0	5.00	10	30	200	110	110	100
819			0	0	1.50	0	5.00	10	42	90	110	110	100
820	4	0	13	0		0	0.00	0	-4	90	0	80	150
821			0	0	0.00	0	32.25	59	3	10	80	0	100
822	75	0	10	0		0	0.00	0	-6	110	0	100	120
823			0	0	0.00	0	59.00	69	3	10	100	0	10
824	97	97	145	105	0.00	0	5.00	20	-6	150	0	70	120
825			0	0	0.00	0	37.25	69	3	90	70	10	120
826			0	0	0.00	0	44.50	59	20	70	10	10	80
827			0	0	0.00	0	44.50	59	30	50	10	10	80
828			0	0	0.00	0	44.50	59	40	50	10	10	80
829			0	0	0.00	0	44.50	59	50	40	10	10	80
830			0	0	0.00	0	44.50	59	60	30	10	10	80
831	63	63	96	96		0	0.00	0	-3	540	0	100	165
832			0	0	0.00	0	7.50	30	3	440	100	90	165
833	400	0	123	0	0.00	0	15.00	30	16	350	90	90	165
834	400	0	95	0	0.00	0	15.00	30	29	250	90	90	165
835			0	0	0.00	0	15.00	30	42	170	90	90	165
836			0	0	0.00	0	20.00	30	55	90	90	90	110
837	278	217	95	95	1.50	0	12.50	20	-7	270	0	80	320
838			444	170	0.00	0	12.50	20	3	190	80	80	120
839			287	0	0.00	0	15.00	20	13	110	80	80	120
840			2	0	0.00	0	15.00	20	25	30	80	80	120
841	52	44	161	151	.75	0	5.00	20	-10	150	0	120	200
842			0	0	0.00	0	12.50	30	3	30	120	0	150
843	85	0	0	0		0	0.00	0	-4	100	0	80	150
844			0	0	0.00	0	10.00	10	3	20	80	0	150
845	135	0	151	151		0	0.00	0	-5	90	0	50	130
846			0	0	0.00	0	12.50	20	3	40	50	0	120
847	708	704	157	157		0	0.00	0	-11	150	0	70	120
848			0	0	0.00	0	17.50	30	3	90	70	70	120
849			0		0.00	0	7.50	20	21	10	70	70	95
850	30	33	40	0		0	0.00	0	-8	100	0	90	100
851			0	0	0.00	0	69.00	69	3	10	70	0	10
852			0	0	0.00	0	69.00	69	14	10	0	0	10
853	135	136	272	272		0	0.00	0	3	300	0	0	450
854	837	837	226	226		0	0.00	0	-10	450	0	100	350
855			0	0	0.00	0	12.50	50	3	350	100	100	210
856			0	0	0.00	0	10.00	40	16	290	100	100	195
857			0	0	0.00	0	10.00	40	29	190	100	100	195
858	76	76	74	74	1.50	0	7.50	10	-6	240	0	70	130
859			0	0	0.00	0	27.50	30	3	170	70	70	100
860			0	0	0.00	0	17.50	30	12	100	70	70	100
861	74	74	61	61		0	0.00	0	-6	310	0	70	130
862			329	54	0.00	0	44.50	59	3	240	70	70	130
863			394	46	0.00	0	44.50	59	12	170	70	70	130

CARD 2 SAN JOSE (CONTINUED)

OBS NO	SPACES RUN 2 PF-40	RUN 2 PF 100	RUN 7 PF-40	RUN 7 PF-100	AVG APER SILL HT.	MIN. APER SILL HT	AVG % APER	MAX. % APER	HT OF DET	TOTAL OVER-HEAD HT.	FLOOR HT.	CEILING HEIGHT	AVG EXT WALL MASS
664			127	0	0.00	0	44.50	59	21	100	70	70	130
665	79	79	91	69		0	0.00	0	-6	310	0	70	130
666			569	161	0.00	0	44.50	59	3	240	70	70	130
667			569	184	0.00	0	44.50	59	12	170	70	70	130
668			209	0	0.00	0	44.50	59	21	100	70	70	130
669	189	189	122	122	2.25	0	37.50	50	-7	160	0	150	188
670			0	0	0.00	0	56.75	69	3	10	150	0	33
671			47	0	0.00	0	25.00	40	3	210	0	70	100
672	60	0	282	0	0.00	0	20.00	20	12	140	70	70	100
673			23	0	0.00	0	20.00	20	21	70	70	70	100
674	1750	1750	556	556	.75	0	12.50	20	-5	140	0	70	150
675			2116	0	0.00	0	40.00	40	3	70	70	0	150
676	200	200	195	0	1.50	0	10.00	20	-10	170	0	80	140
677			0	0	0.00	0	22.50	40	3	90	80	10	130
678			0	0	0.00	0	22.50	40	16	80	10	10	130
679	201	201	331	331		0	0.00	0	-8	340	0	100	150
680			1549	310	0.00	0	7.50	10	3	240	100	60	100
681	105	0	1804	725	0.00	0	5.00	10	24	180	60	60	80
682			1490	109	0.00	0	5.00	10	32	120	60	60	80
683			0	0	0.00	0	5.00	10	40	60	60	60	80
684	58	58	327	327		0	0.00	0	-8	999	0	70	150
685			80	7	0.00	0	10.00	20	3	999	70	70	150
686	292	0	0	0		0	0.00	0	21	999	70	70	100
687	292	0	13	0		0	0.00	0	36	970	70	70	100
688	292	0	148	0		0	0.00	0	51	900	70	70	100
689	292	0	270	0		0	0.00	0	66	830	70	70	100
690	292	0	270	0		0	0.00	0	81	760	70	70	100
691	292	0	270	0		0	0.00	0	96	690	70	70	100
692	292	0	270	0		0	0.00	0	111	620	70	70	100
693	145	0	270	0		0	0.00	0	126	550	70	70	100
694	232	87	259	0		0	0.00	0	141	480	70	70	100
695	232	87	270	0	0.00	0	40.00	40	156	410	70	70	100
696	262	204	270	0	0.00	0	40.00	40	171	340	70	70	100
697	116	116	270	0	0.00	0	40.00	40	186	270	70	70	100
698			270	9	0.00	0	40.00	40	201	200	70	70	100
699	261	261	270	76	0.00	0	40.00	40	216	130	70	70	100
900			270	0	0.00	0	40.00	40	231	60	70	70	100
901			1471	0	0.00	0	15.00	20	3	20	50	0	100

CARD 3 SAN JOSE

OBS NO	AVG % ASMT EXPO	AVG INT PARTITION WEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
726	90	5.00	22.25	133									
727		0.00			2.50	123	53	50	111	111	53	63	143
728	55	0.00	12.50	240							3	3	4
729		45.00	12.50	120	0.00	440	1009	1000	1000	1000	1009	1009	1009
730		0.00	12.50	120	12.50	240	77	77	111	111	33	333	500
731		0.00			12.50	120	45	45	30	30	29	250	100
732	75	0.00	17.50	78							6	16	17
733		0.00	15.00	70	0.00	120	167	333			167	200	500
734		0.00			17.50	78					4	6	27
735	90	0.00	19.75	235							5	7	26
736		0.00	12.50	185	0.00	165	1009	1000	1009	1009	1009	1009	1009
737		0.00	17.50	168	19.75	235	21		59	59	45	33	100
738		0.00	20.00	150	12.50	165	125	125	500	500	500	1009	1000
739		0.00			17.50	168	28		100	100	50	167	100
740	90	22.50	42.00	100					21	21	5	32	21
741		0.00	37.00	100	0.00	100		1000			1009	1009	500
742		0.00	37.00	100	42.00	100					6	5	5
743		0.00	37.00	100	37.00	100					29	20	19
744		0.00	37.00	100	37.00	100					24	21	14
745		0.00	37.00	100	37.00	100					30	26	14
746		0.00			37.00	100					27	24	10
747	90	0.00	20.00	110							7	8	5
748		0.00	20.00	110	0.00	150		1000	1000	1000	1009	1009	1009
749		0.00	20.00	110	20.00	110			14	14	15	12	27
750		0.00	5.00	100	20.00	110			17	18	24	45	22
751		0.00			20.00	110			28	32	20	19	33
752		10.00	15.00	130	17.50	130			15	19	3	3	18
753		10.00			15.00	130					24	16	100
754	90	0.00	17.50	100							8	9	111
755		0.00			0.00	145		50	11	11	50	50	18
756	90	0.00	17.50	165							6	6	13
757		0.00	15.00	165	5.00	158	1000	1000	200	200	71	71	1000
758		0.00	15.00	165	17.50	165	36		14	14	15	12	29
759		0.00	15.00	165	15.00	165	22		100	125	13	13	200
760		0.00	15.00	165	15.00	165	21		67	111	36	28	167
761		0.00	15.00	165	15.00	165	28		71	91	18	25	167
							38		77	100	18	50	125

CARD 3 SAN JOSE (CONTINUED)

OHS NO	AVG % BSMT EXPO	AVG INT PARTITION HEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
762		0.00	30.00	130	15.00	165	58	50	100	125	20	63	111
763		0.00	30.00	130	15.00	165	21		24	24	13	48	71
764		0.00	30.00	130	30.00	130	34		31	31	32	53	77
765		0.00	30.00	130	30.00	130	34		37	37	30	45	83
766		0.00			30.00	130			32	32	13	17	67
767	90	0.00	46.75	130			1000	500	1000	1000	1000	1000	1000
768		20.00	59.00	130	0.00	150			12	12	9	5	6
769		0.00	59.00	130	46.75	130			14	14	7	8	24
770		0.00	59.00	130	59.00	130	20		17	17	9	8	24
771		0.00	59.00	130	59.00	130			23	23	8	10	27
772		0.00	59.00	130	59.00	130	24		30	30	13	13	33
773		0.00	59.00	130	59.00	130	30		38	38	16	17	37
774		0.00	59.00	130	59.00	130	38		48	48	20	20	42
775		0.00	59.00	130	59.00	130	42	42	50	50	23	23	43
776		0.00	59.00	130	59.00	130	40	40	50	50	24	25	45
777		0.00	59.00	130	59.00	130	31		43	43	12	12	45
778		0.00			59.00	130			16	16	13	13	32
779		0.00	5.00	70			48	48	25	25	19	11	25
780		0.00	5.00	70	5.00	70			63	63	11	40	67
781		0.00	5.00	70	5.00	70	22		30	30	13	20	53
782		0.00			5.00	70					10	10	27
783	80	0.00	15.00	85				333	48	48	29	29	71
784		0.00	17.50	55	2.50	150					22	22	16
785		0.00			15.00	85					3	3	5
786	90	2.50	22.25	78			125	125	200	200	143		143
787		0.00	2.50	80	0.00	158			14	14	5		3
788		0.00			22.25	78					3		3
789	77	0.00	27.50	170				111	250	250	125	125	500
790		0.00			0.00	220			12	12	3	4	11
791	90	0.00	34.50	100			1000	500	1000	1000	1000	250	1000
792		0.00	0.00	100	0.00	130	24		19	19	5	6	53
793		0.00			34.50	100					4	4	4
794	85	0.00	37.25	100			111	111	56	56	111	111	63
795		0.00			0.00	100					7	9	12
796	70	2.50	12.50	230			143	167	333	333	167	167	77
797		0.00	12.50	180	2.50	235			23	48	4	9	50
798		0.00			12.50	230					6	11	14
799	90	0.00	50.00	210			1000	1000	1000	1000	200	200	1000
800		22.50	40.00	170	0.00	245			14	67	5	4	29
801		0.00			50.00	210			18	24	14	13	19
802	90	0.00	47.25	60			83	167	59	59	100	100	20
803		0.00			0.00	120			11	11	3	4	9
804	82	0.00	0.00	40			45	50	34	34	50	42	40
805		22.50			0.00	150					6	3	4
806	60	0.00	50.00	120			200	200	333	333	26	31	71
807		0.00	27.50	120	5.00	143			24	67	5	7	48
808		0.00	27.50	120	30.00	120			32	77	9	17	67
809		0.00	27.50	120	27.50	120	22		48	100	10	21	67
810		0.00	27.50	120	27.50	120	23		48	63	13	24	59
811		0.00			27.50	120			21	23	11	18	24
812	50	0.00	15.00	110			111	111	100	100	143	200	50
813		0.00	15.00	100	2.50	120	30		29	43	13	17	45
814		0.00	15.00	100	15.00	110	26		29	42	15	27	50
815		0.00			15.00	100			18	21	10	11	24
816		0.00	5.00	100			21		38	38	18	12	30
817		0.00	5.00	100	20.00	105	43	43	45	45	71	53	56
818		0.00	5.00	100	5.00	100	48	48	50	50	56	59	59
819		0.00			5.00	100	23			20	24	25	21
820	75	0.00	32.25	100				50	36	36	53	45	42
821		0.00			0.00	150					2	2	3
822	90	0.00	49.00	10			71	50	22	22	71		32
823		0.00			0.00	120					2		2
824	90	0.00	37.25	120			250	250	143	143	333	333	167
825		0.00	44.50	80	5.00	120			11	13	7	5	7
826		0.00	44.50	80	37.25	120			19	24	11	14	25
827		0.00	44.50	80	44.50	80			10	15	5	8	16
828		0.00	44.50	80	44.50	80					6	7	11
829		0.00	44.50	80	44.50	80					5	7	8
830		0.00			44.50	80					5	5	5
831	90	0.00	7.50	165			1000	1000	500	500	1000	1000	1000
832		0.00	15.00	165	0.00	165	29		11	11	12	33	10
833		62.50	15.00	165	7.50	165	45	45	29	40	125	50	42
834		0.00	15.00	165	15.00	165	53	53	38	59	14	14	48
835		0.00	20.00	110	15.00	165	33		29	40	8	8	40
836		0.00			15.00	165			14	14	5	6	14
837	65	0.00	12.50	120				111	1000	1000	24	48	167
838		0.00	15.00	120	12.50	300			67	67	10	16	143
839		0.00	15.00	120	12.50	120			67	67	50	40	100
840		0.00			15.00	120			38	38	5	8	42
841	87	0.00	12.50	150				111	111	111	125	111	125
842		0.00			5.00	200			16	16	16	4	21

CARD 3 SAN JOSE (CONTINUED)

GIS NJ	AVG % ASMT EXPO	AVG INT PARTITION WEIGHT	STORY ABOVE AVG % APER	STORY ABOVE AVG EXT WALL MASS	STORY BELOW AVG % APER	STORY BELOW AVG EXT WALL MASS	RUN 1 PF	RUN 2 PF	RUN 3 PF	RUN 4 PF	RUN 5 PF	RUN 6 PF	RUN 7 PF
843	47	0.00	10.00	150									
844		0.00			0.00	150		50	26	26	48	48	20
845	90	22.50	12.50	128							4	3	4
846		22.50			0.00	150	40	40	167	167	43	50	250
847	90	0.00	17.50	120					21	21	5	6	22
848		0.00	7.50	98	0.00	120	167	167	1009	1009	200	200	1000
849		0.00			17.50	120			29	29	5	6	18
850	90	0.00	69.00	10			50	167	83	83	3	4	8
851		0.00	69.00	10	0.00	100					13	13	111
852		0.00			69.00	10					2	2	2
853		0.00									2	2	2
854	90	0.00	12.50	213			1009	1000	1009	1009	1009	1009	1009
855		22.50	10.00	195	0.00	350	1009	1000	1000	1000	1009	1009	1009
856		22.50	10.00	195	12.50	213			19	26	500	167	19
857		0.00			10.00	195	32		43	53	167	333	37
858	90	5.00	27.50	100			22		22	23	15	22	21
859		0.00	17.50	100	7.50	130	1000	500	250	250	56	56	91
860		0.00			27.50	100			18	23	3	5	29
861	90	22.50	44.50	130					16	19	9	11	27
862		22.50	44.50	130	0.00	130	1009	1000	1009	1009	50	26	1000
863		0.00	44.50	130	44.50	130			71	143	3	4	200
864		0.00			44.50	130	20		63	125	11	13	200
865	90	22.50	44.50	130			20		29	34	14	13	63
866		22.50	44.50	130	0.00	130	1009	1000	1009	1009	28	15	250
867		0.00	44.50	130	44.50	130			67	143	3	5	333
868		0.00			44.50	130	20		91	53	11	43	333
869	75	25.00	56.75	33			20		37	48	14	17	71
870		45.00			37.50	188	1009	111	200	200	19		250
871		0.00	20.00	100							3		4
872		40.00	20.00	100	25.00	100	34		34	40	3	11	53
873		40.00			20.00	100	42	42	48	56	9	22	100
874	30	45.00	40.00	150					25	26	9	18	48
875		35.00			12.50	150	91	111	333	333	77	77	250
876	80	5.00	22.50	130					32	91	10	10	100
877		0.00	22.50	130	10.00	140	59	167	1000	1000	17	25	83
878		0.00			22.50	130			14	27	4	5	22
879	90	0.00	7.50	100					12	17	7	7	28
880		0.00	5.00	80	0.00	150	1009	1000	111	111	1009		250
881		0.00	5.00	80	7.50	100	38		56	250	12		143
882		0.00	5.00	80	5.00	80	50	50	250	333	111		500
883		0.00			5.00	80	36		63	63	59		125
884	50	0.00	19.00	150							16		14
885		0.00	0.00	100	0.00	150	143	143	500	500	200	250	1000
886		0.00	0.00	100	10.00	150			167	333	5	9	333
887		0.00	0.00	100	0.00	100	42	42	19	19	36	34	34
888		0.00	0.00	100	0.00	100	53	53	42	42	42	42	42
889		0.00	0.00	100	0.00	100	63	63	48	48	48	48	50
890		0.00	0.00	100	0.00	100	67	67	56	56	56	56	56
891		0.00	0.00	100	0.00	100	77	50	59	59	63	63	63
892		0.00	0.00	100	0.00	100	83	50	67	67	67	67	67
893		0.00	0.00	100	0.00	100	91	50	71	71	77	77	71
894		0.00	40.00	100	0.00	100	100	50	71	71	83	83	77
895		0.00	40.00	100	0.00	100	111	111	77	77	91	91	83
896		0.00	40.00	100	40.00	100	56	111	83	83	43	43	91
897		0.00	40.00	100	40.00	100	59	167	91	91	43	43	100
898		0.00	40.00	100	40.00	100	63	333	91	91	45	45	100
899		0.00	40.00	100	40.00	100	63		100	100	48	48	111
900		0.00			40.00	100	48	111	111	111	38	38	111
901		0.00					38		77	77	14	12	83
											11	6	83

Appendix C

Buildings Not Used in Regression Analysis

This appendix contains a list of those buildings not analyzed in the regression analysis; they were not included in this analysis for one of the following reasons:

1) Correspondence of NFSS building part numbers and RTI assigned part numbers could not be determined. Shelter-marking sketches, NFSS Phase 1 FOSDIC forms or Phase 2 DCF's were required to identify part numbers assigned to complex buildings in the NFSS and these were not always available. Therefore, if such data were not available it was impossible to determine which portion of a complex building should be compared with RTI results. In many cases the RTI analyst considered it necessary to break a building into multiple parts, whereas the NFSS submission was done as a single building part. Conversely, many buildings subdivided into parts in the NFSS were done as one part by RTI.

2) The number of stories assigned to a building in the NFSS did not match the number of stories determined by the RTI field survey teams.

3) The EM-NFSS PF or the EM-RTI PF was not obtained. The EM-NFSS data extraction program yielded the NFSS building characteristics (listed in Appendix B) used in determining the relationship of PF to selected building parameters. The EM-RTI PF was the base against which other PF's and RF's were analyzed.

Providence, Rhode Island

Standard Location	Facility Number
17220003	00061
17240009	00447
17240046	03002
17240046	03040
17240050	03339
17240056	03584
17240062	04086
17240062	04092
17240063	02014
17240063	04135
17240065	04318
17240074	04827
17240074	04881
17240074	04894
17240084	06068
17240090	06870
17240091	06925

Detroit, Michigan

Standard Location	Facility Number
43330005	03504
43310015	00250
43320015	00399
43330041	04079
43330042	02780
43330077	05320
43330079	06035
43330080	04476
43330097	04957
43330107	05530
43330109	06086
43330115	05273
43330115	05286
43330123	05416

Detroit, Michigan (Cont'd.)

Standard Location	Facility Number
43330134	05450
43330136	05778
43330153	04853
43330158	04511
43330161	05230
43330174	02912
43330187	02738
43330195	02259
43330240	01095
43330282	03249
43330290	01659
43330294	00017
43330331	01292
43330382	00029
43330409	04372
43330413	06278
43330448	03247
43330461	03541
43330464	03571
43330464	03578
43330492	04004
43330510	03098

New Orleans, Louisiana

Standard Location	Facility Number
52420060	00371
52420022	00070
52420071	00225
52420074	00410
52420075	00286
52420086	00350
52420086	00486
52420088	00161
52420091	00027

New Orleans, Louisiana (Cont'd.)

Standard Location	Facility Number
524200[illegible]	00533
52420101	00038
52420111	00041
52420142	00198
52420130	00136
52420137	00035
52420155	00425
52420160	00142

Albuquerque, New Mexico

Standard Location	Facility Number
53110002	00008
53110006	00006
53110007	00001
53110007	00002
53110007	00004
53110008	00105
53110010	00038
53110015	00211
53110018	00029
53110019	00099
53110021	00127
53110024	00063
53110024	00065
53110024	00073
53110024	00203
53110027	00139
53110027	00148
53110027	00156
53110046	80805
53110046	86530
53110046	89930
53110046	89940
53110046	90381

Albuquerque, New Mexico (Cont'd.)

Standard Location	Facility Number
53110047	00077
53110047	00078
53110056	00118
53110060	00111
53110066	00108

San Jose, California

Standard Location	Facility Number
72810002	00003
72810002	00201
72810005	00022
72810006	00041
42810008	00072
72810012	00146
72810046	00271
72810097	34102
72810163	00601
72810165	03903
72810165	03908
72810165	04207

Appendix D

Example of Regression Analysis Printout

Figure D-1 is an example of the printout from the TSAR program used to compute the regression equations for this project. Included in the printout are a correlation, mean and standard deviation matrix and a regression equation that is recomputed as each variable is included. The variables used are identified in Table D-I. The two sections of the example printout are: A. Correlation, Mean, and Standard Deviation Matrix, and B. Example of Stepwise Multiple Regression.

Section

A This figure gives the Correlation, Mean, and Standard Deviation Matrix.

B As found in the TSAR Manual,[1/] the headings are defined as follows:

N = The number of observations. Observations for which any of the variables are blank (no score) will be ignored.

FINCLUDE and FDELETE specify the threshold F values which determine what variables are included in and deleted from the partial regression. To be included, a variable must have an F value greater than FINCLUDE; to be deleted, a variable must have an F value less than FDELETE.

MULT R = Multiple Correlation Coefficient = the square root of the ratio of the regression sums of squares to the total sums of squares. $(\text{MULT R})^2$ is sometimes called the coefficient of determination, and is the proportion of the total sums of squares accounted for by the regression.

SE EST = Standard error of estimate = the error associated with the regressions equation at a given point.

$$\text{SE EST} = S_D \quad (1 - \text{MULT } R^2)/DF$$

where S_D is the standard deviation of the dependent variable.

F value -- this F is distributed as $F(N_V, DF)$ where DF is N minus the number of estimated parameters in the regression equation (number of variables plus one for the constant term, if any) and $N_V = N - DF - 1$ = the number of included variables. This F value gives the significance of the regression equation. It is the ratio of the regression sum of squares x $(1/N_V)$ to the residual sum of squares x (1/DF). Another method of calculating F is $\frac{(\text{MULTR})^2 \times DF}{(1 - \text{MULT R})^2 \times NV}$.

1/ Tele-Storage and Retrieval System, User's Manual. Durham, N. C.: Duke Computation Center, November 1967.

Section

B (cont'd.)

BETA = Partial regression coefficient. $BETA_I$ measures the average increase in the dependent variable per unit increase in the ith independent variable when the other independent variables are held constant.

The values for BETA are obtained by solving a system of equations of the form

$$b_0 N + b_1 x_1 + b_2 + x_2 + \ldots + b_k x_k = y$$

$$b_0 x_1 + b_1 x_1^2 + b_1 x_1 x_2 + \ldots + b_k x_1, x_k = x_1 y$$

.....

$$b_0 x_k + b_1 x_k x_1 + b_2 x_k x_2 + \ldots + b_k x_k^2 = x_k y .$$

SE BETA = the Standard Error of Beta = the error associated with beta.

$$\text{SE BETA} = (E_{DD})(E_{II})/DF$$

NOR B = Normalized Beta = BETA ($MEAN_I$)

B = The regression coefficient = BETA $\frac{S_D}{S_I}$ where S_D is the standard deviation of the dependent variable, and S_I is the standard deviation of the independent variable.

SE B = Standard Error of B = the error associated with each B (regression coefficient).

$$\text{SE B} = (\text{SE BETA}) \times \frac{S_D}{S_I} .$$

F = The F value which indicates the significance of adding the variables, $F = \left(\frac{\text{BETA}}{\text{SE BETA}}\right)^2$ and is distributed by F(1,DF).

MULTIPLE REGRESSION ANALYSIS - STEPWISE - N = 340. CORRELATIONS, MEANS, STANDARD DEVIATIONS

	CL1	F1	SILL	APER	CLWT	OHWT	HT	EXPO	INPAR	FLWT	WWT	MINSL	MAXAP	APERA	WWTA	APERB	WWTB
RF1	3093	-5160	-3133	3613	2883	-3086	9073	-4963	-2957	-2469	-2282	-1327	3875	-0391	-1549	2249	3464
CL1		-0021	-1231	-1886	-1702	-5281	-1356	1109	-0622	-2205	0870	-1172	-2144	-2248	-2442	-1453	-0907
F1			0931	-5624	-7375	-0838	-4910	7633	-0070	0100	3161	-1229	-5917	0320	1396	-5242	-5401
SILL				0214	0162	1486	0720	0734	1548	2104	0159	7992	0094	0344	0000	0591	-0839
APER					4607	1100	5109	-6504	2345	-1026	-2407	1659	8193	5705	0765	8505	4580
CLWT						2800	5014	-6292	1543	3150	-2786	2177	5585	-0085	-0547	4653	7120
OHWT							1415	-0947	2862	3427	0005	1959	1790	1303	2173	1011	2157
HT								-6463	1851	0156	-2313	1917	4721	1912	-0707	5862	2903
EXPO									-0864	0769	3294	-0892	-5529	-1345	0370	-6361	-5071
INPAR										0640	0162	1090	1684	2265	1783	2386	1010
FLWT											0719	1706	0008	-0401	-0265	-1097	1414
WWT												-0388	-2846	0131	1484	-2059	-1751
MINSL													1630	0736	0469	1982	1036
MAXAP														3172	0082	6156	4843
APERA															2679	5087	1274
WWTA																0745	1004
APERB																	3804

MULTIPLE REGRESSION ANALYSIS - STEPWISE - N = 340. CORRELATIONS, MEANS, STANDARD DEVIATIONS

	RF7	MEANS,	STANDARD DEVIATION
RF1	5712	0.01938529	14.61588081
CL1	2746	0.00506176	7.05346270
F1	-3191	0.27941176	0.57081394
SILL	-1621	0.59644117	0.93802251
APER	1362	18.74411764	17.12608227
CLWT	1146	44.35294117	40.87384891
OHWT	-2447	305.3970	247.5544
HT	-0139	29.92647058	48.77620804
EXPO	-2664	4.10588235	3.45063725
INPAR	-3052	10.81176470	17.91468868
FLWT	-1942	71.23529411	27.07365548
WWT	-1758	157.5352	117.3643
MINSL	-0578	0.27647058	0.85187834
MAXAP	1969	30.09117647	24.05476627
APERA	-1309	24.87941176	16.33131399
WWTA	-1766	116.2705	46.54705824
APERB	0375	14.86102941	18.28623578
WWTB	2275	85.92647060	97.89876719
RF1		0.01694118	15.22988286

Fig. D-1a. Correlation, Means, and Standard Deviation Matrix

MULTIPLE REGRESSION ANALYSIS - STEPWISE - N = 340. DEPENDENT VARIABLE RF7 . FINCLUDE = 1.0000. FDELETE = 1.0000

MULT 7	SE EST	DF	F	VAR	BETA	SE BETA	NOR B	B	SE B	F
0.0000	0.0152299	339	0.00000000	'CON'			16.94117647	0.01694118		
				RF1 INCLUDED						
0.5712	0.0125186	338	163.7463	RF1	0.57127304	0.04464346	11.53951873	0.59527179	0.04651890	163.7463
				'CON'			16.94117647	0.00540166		
				INPAR INCLUDED						
0.5888	0.0123463	337	89.42243552	RF1	0.52710430	0.04609133	10.64732531	0.54924755	0.04802759	130.7839
				INPAR	-0.14933454	0.04609133	-1.37260056	-0.00012695	0.03918380	10.49740649
				'CON'			16.94117647	0.00766645		
				CL1 INCLUDED						
0.5985	0.0122546	336	62.53163965	RF1	0.49101048	0.04803992	9.91824275	0.51163746	0.05005804	104.4664
				CL1	0.11321712	0.04597961	1.23739472	0.24445915	0.09927948	6.06308445
				INPAR	-0.15296757	0.04577273	-1.40599332	-0.00013004	0.03891295	11.16824708
				'CON'			16.94117647	0.00719153		
				WWTB INCLUDED						
0.6058	0.0121887	335	48.56878460	RF1	0.43987361	0.05334708	8.88539651	0.45835758	0.05558815	67.98988469
				CL1	0.13709919	0.04705552	1.49841135	0.29602548	0.10160258	8.48884624
				INPAR	-0.17727149	0.04690224	-1.62938155	-0.00015070	0.03987318	14.28534115
				WWTB	0.10551547	0.04895745	1.41046551	0.00001641	0.00761619	4.64509598
				'CON'			16 94117647	0.00677628		
				WWT INCLUDED						
0.6097	0.0121615	334	39.52806837	RF1	0.42043692	0.05463169	8.49268108	0.43809916	0.05692672	59.22600180
				CL1	0.14874133	0.04752527	1.62565281	0.32116325	0.10261687	9.79521867
				INPAR	-0.18068424	0.04684760	-1.66074963	-0.00015361	0.03982673	14.87530312
				WWT	-0.07168798	0.04536637	-1.46549558	-0.00000930	0.00588700	2.49703452
				WWTB	0.10109519	0.04892845	1.35137798	0.00001573	0.00761168	4.26911680
				'CON'			16.94117647	0.00859771		

Fig. D-1b. Example of Stepwise Multiple Regression

Table D-I

Variables Used in Example of Regression Analysis

Variable	Description
RF1	Total reduction factor (roof and ground contributions) to the detector in the center of the story analyzed from NFSS Phase 1 calculations (P1-NFSS).
CL1	Roof contribution to the detector in the center of the story analyzed from NFSS Phase 1 calculations (PL1-NFSS).
F1	Basement indicator -- it is assigned a value of 1 for basements and 0 or -1 for above ground stories.
SILL	Average of the aperture sill heights reported in NFSS Phase 2 for the detector story.
APER	Average of the percent apertures reported in NFSS Phase 1 for the detector story.
CLWT	Mass thickness (psf) of the floor above the detector as determined from NFSS Phase 1 data.
OHWT	Total overhead weight in pounds per square foot (psf) as determined from NFSS Phase 1 data.
HT	Height of the detector above the first story floor level as determined from NFSS Phase 1 data.
EXPO	Average percent wall exposure for the detector story (for basements only) as determined from NFSS Phase 1 data.
INPAR	Average interior partition mass thickness (psf) for the detector story as determined from NFSS Phase 1 data.
FLWT	Mass thickness (psf) of the detector story floor as determined from NFSS Phase 1 data.
WWT	Average exterior wall mass thickness (psf) for the detector story as determined from NFSS Phase 1 data.
MINSL	Minimum value of the aperture sill height reported in NFSS Phase 2 for the detector story.
MAXAP	Maximum percent apertures reported in NFSS Phase 2 for detector story.
APERA	Average of the percent apertures for the story above the detector story as determined from NFSS Phase 1 data.
WWTA	Average exterior wall mass thickness (psf) for the story above the detector story as determined from NFSS Phase 1 data.

(continued)

Table D-1 (Continued)

Variable	Description
APERB	Average of the percent apertures for the story below the detector story as determined from NFSS Phase 1 data.
WWTB	Average exterior wall mass thickness (psf) for story below the detector story as determined from NFSS Phase 1 data.
RF7	Total reduction factor (roof and ground contributions) to the detector in the center of the story analyzed from PF-COMP calculations using building input data collected by RTI survey teams (EM-RTI).

Appendix E

Data Displays

This appendix contains displays of data for each of the 43 samples selected for this study. These samples were analyzed to determine the relationships between selected pairs of seven methods of calculating reduction factors. Each display contains the linear regression line obtained by this analysis along with its associated standard error of estimate and correlation coefficient. In addition, the regression line forced through the origin with its associated standard error of estimate is included.

Observations indicated on the displays by asterisks (*) may represent more than one shelter story if the values are very similar for more than one shelter story. If the results of one method were to equal the results of another method, the regression line would be a 45° Line. The 45° Line is indicated by dots (.) for orientation.

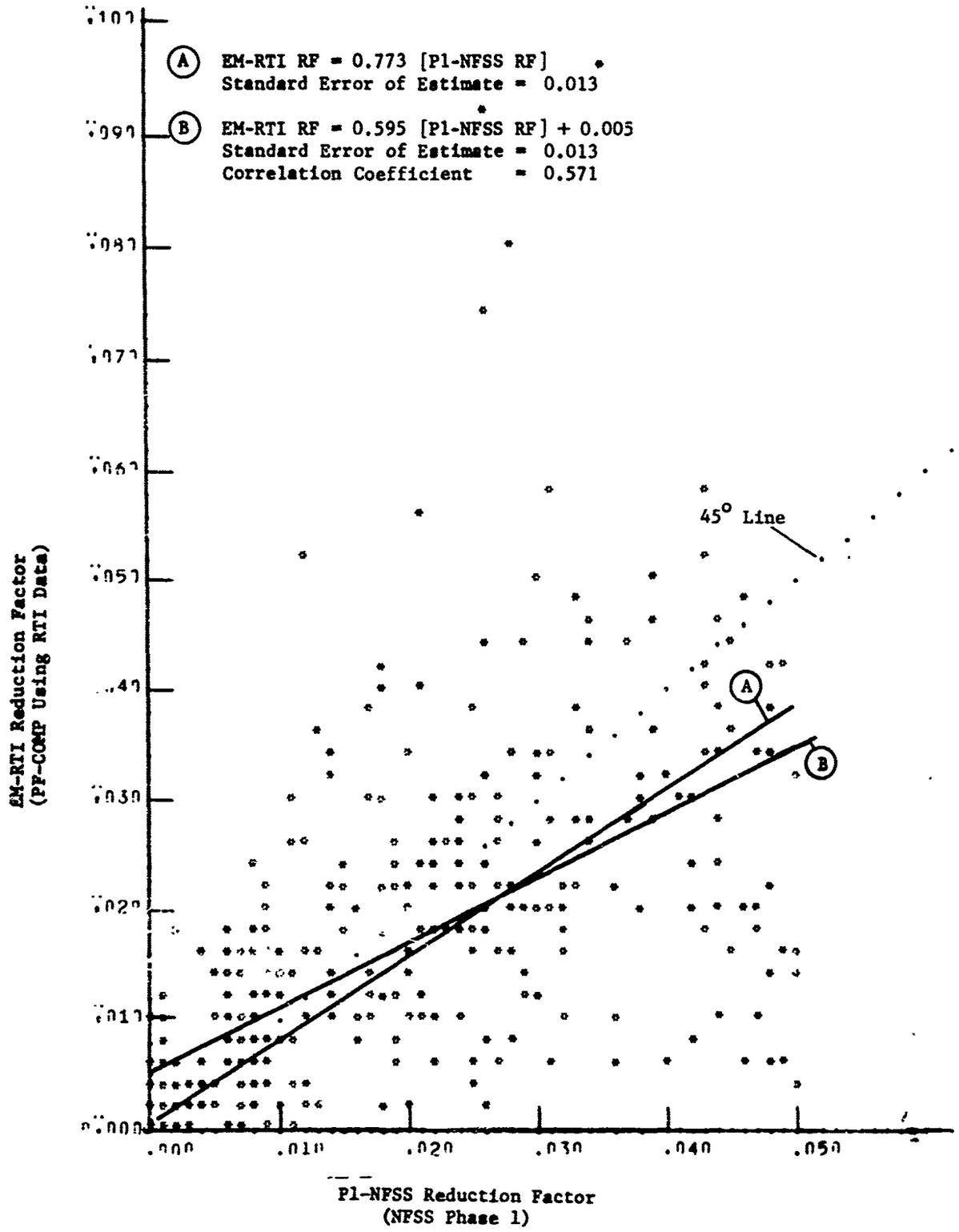


Fig. E.1. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Total Sample - 340 Shelter Stories)

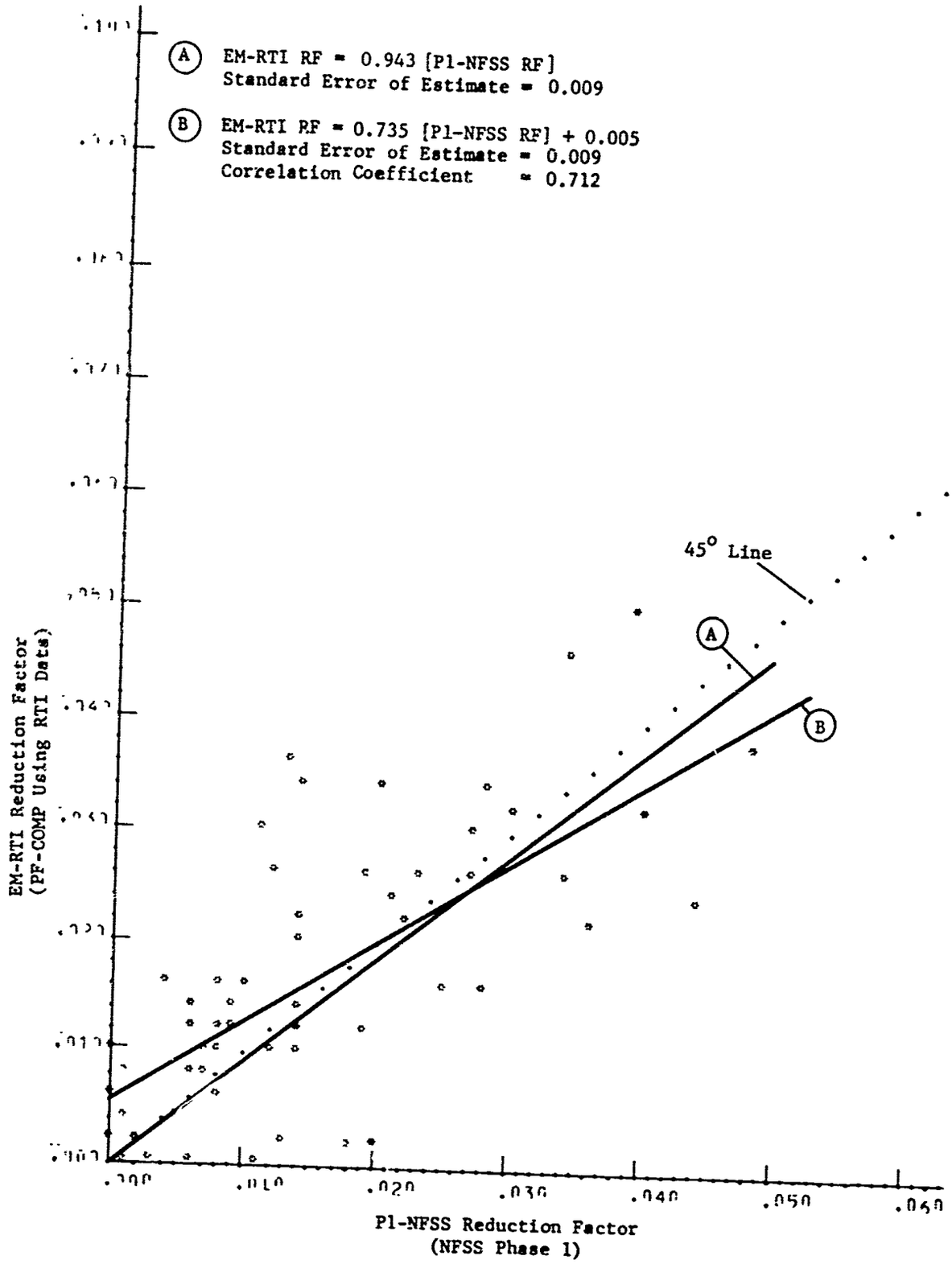


Fig. E.2. Relationship Between P1-NFSS and EM-RTI Reduction Factors (Providence - 58 Shelter Stories)

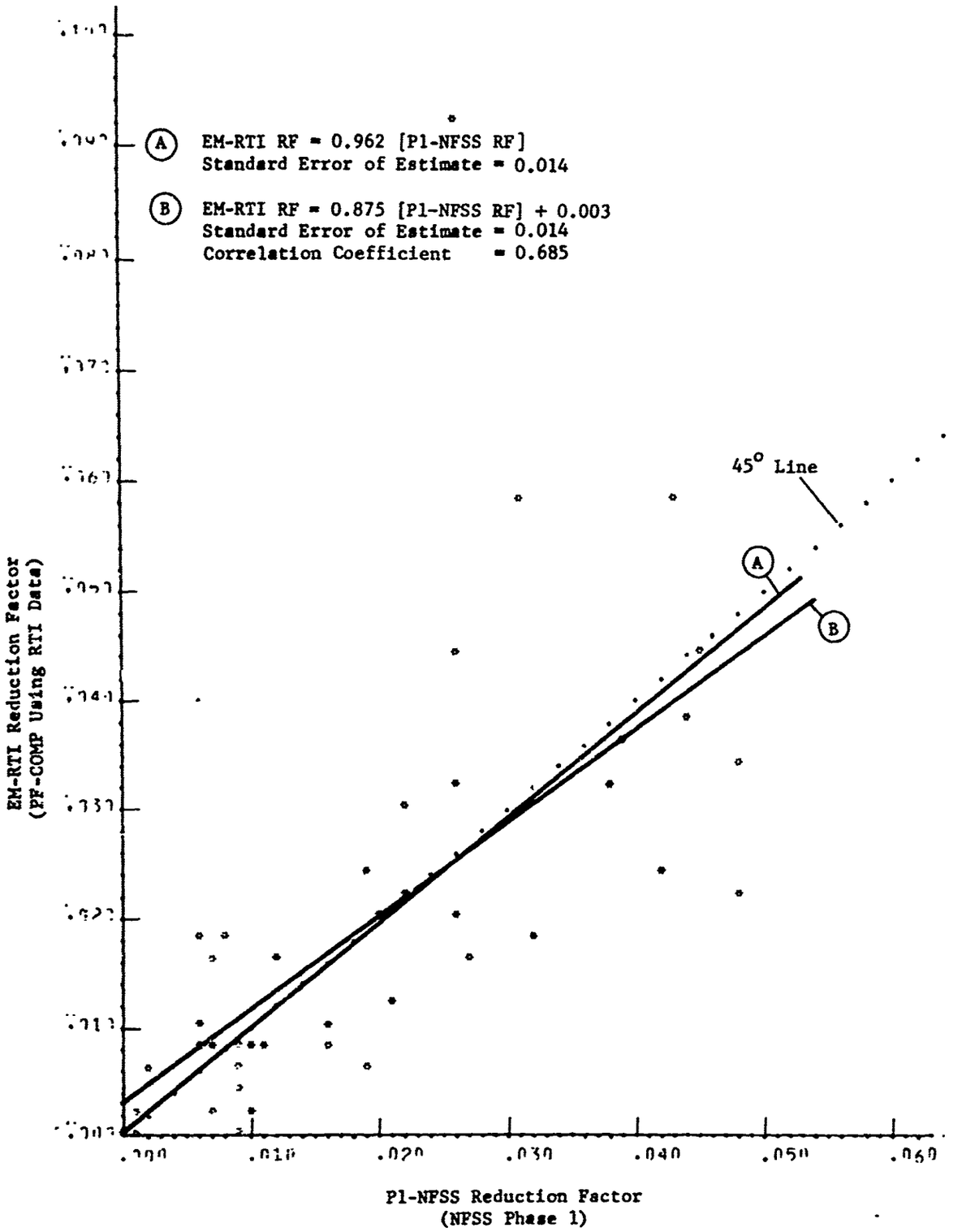


Fig. E.3. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
(Detroit - 47 Shelter Stories)

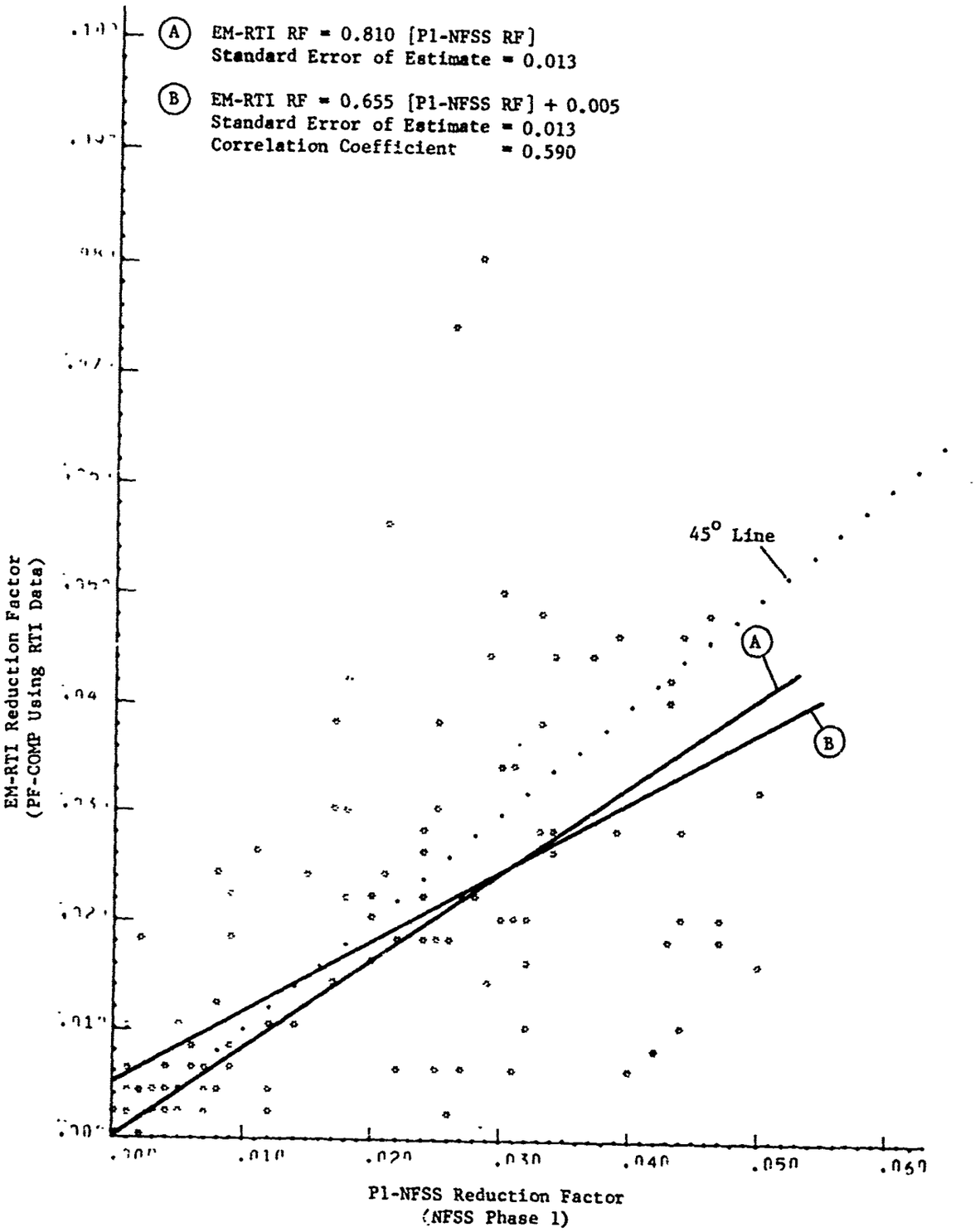


Fig. E.4. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (New Orleans - 117 Shelter Stories)

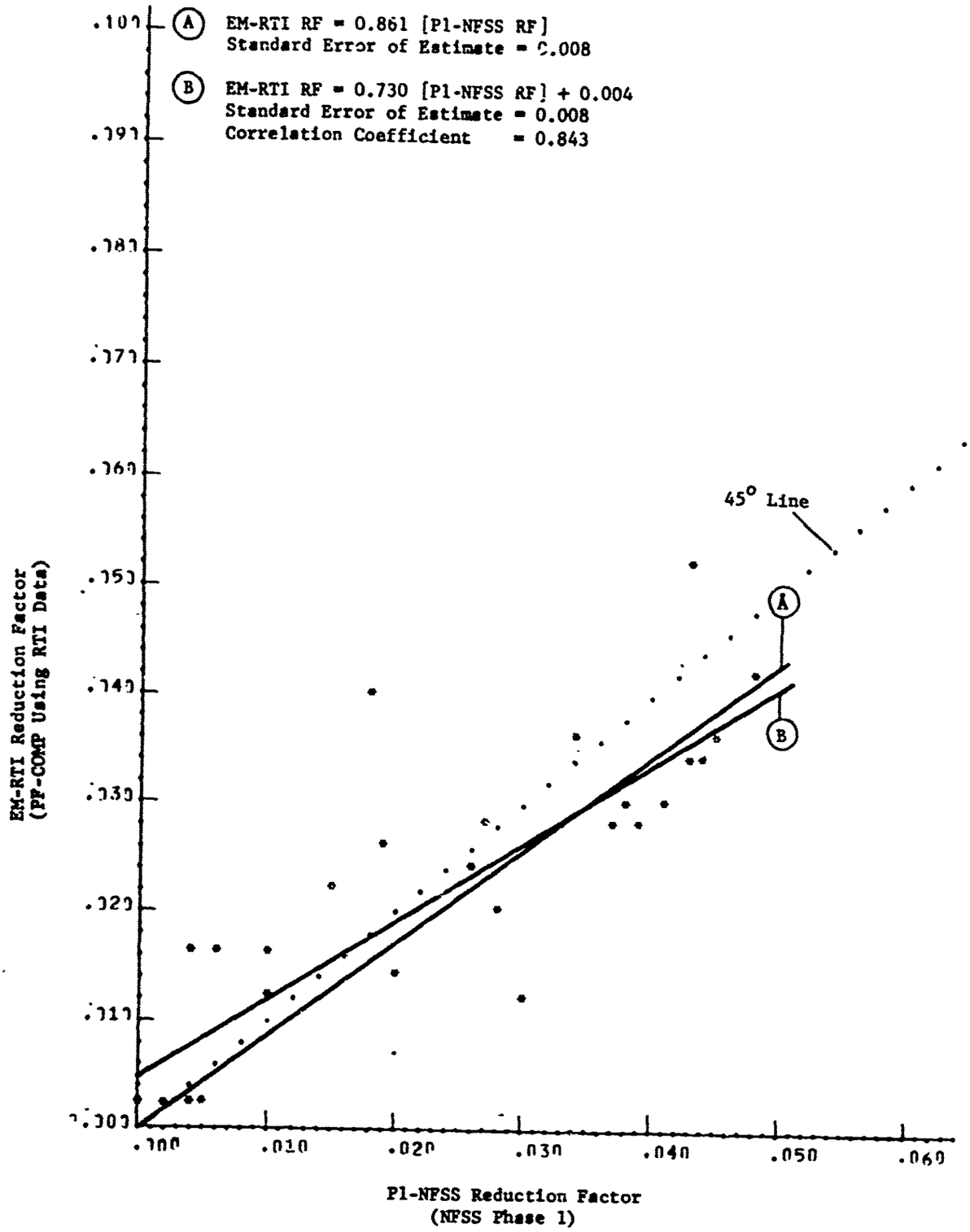


Fig. E.5. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Albuquerque - 28 Shelter Stories)

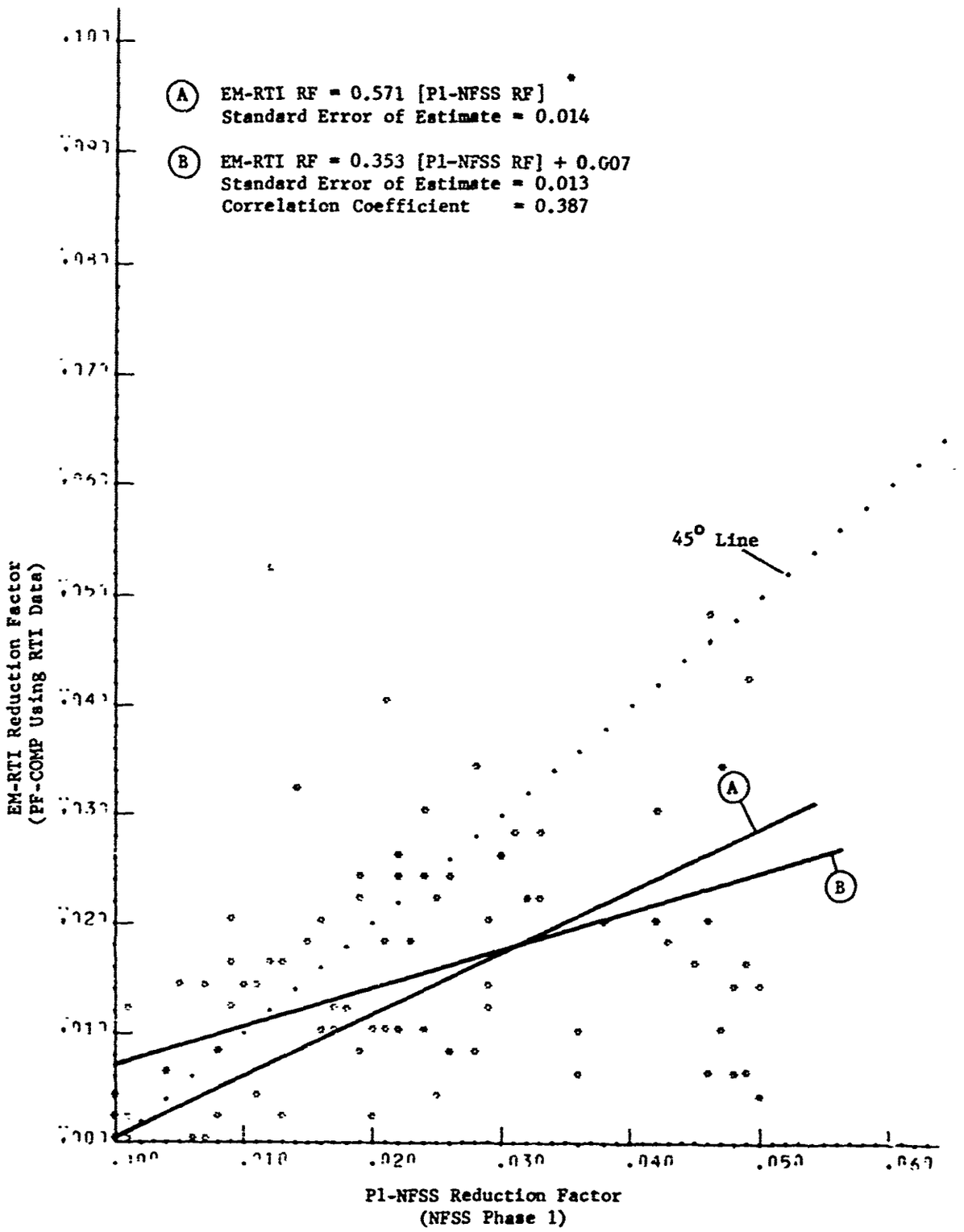


Fig. E.6. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
(San Jose - 90 Shelter Stories)

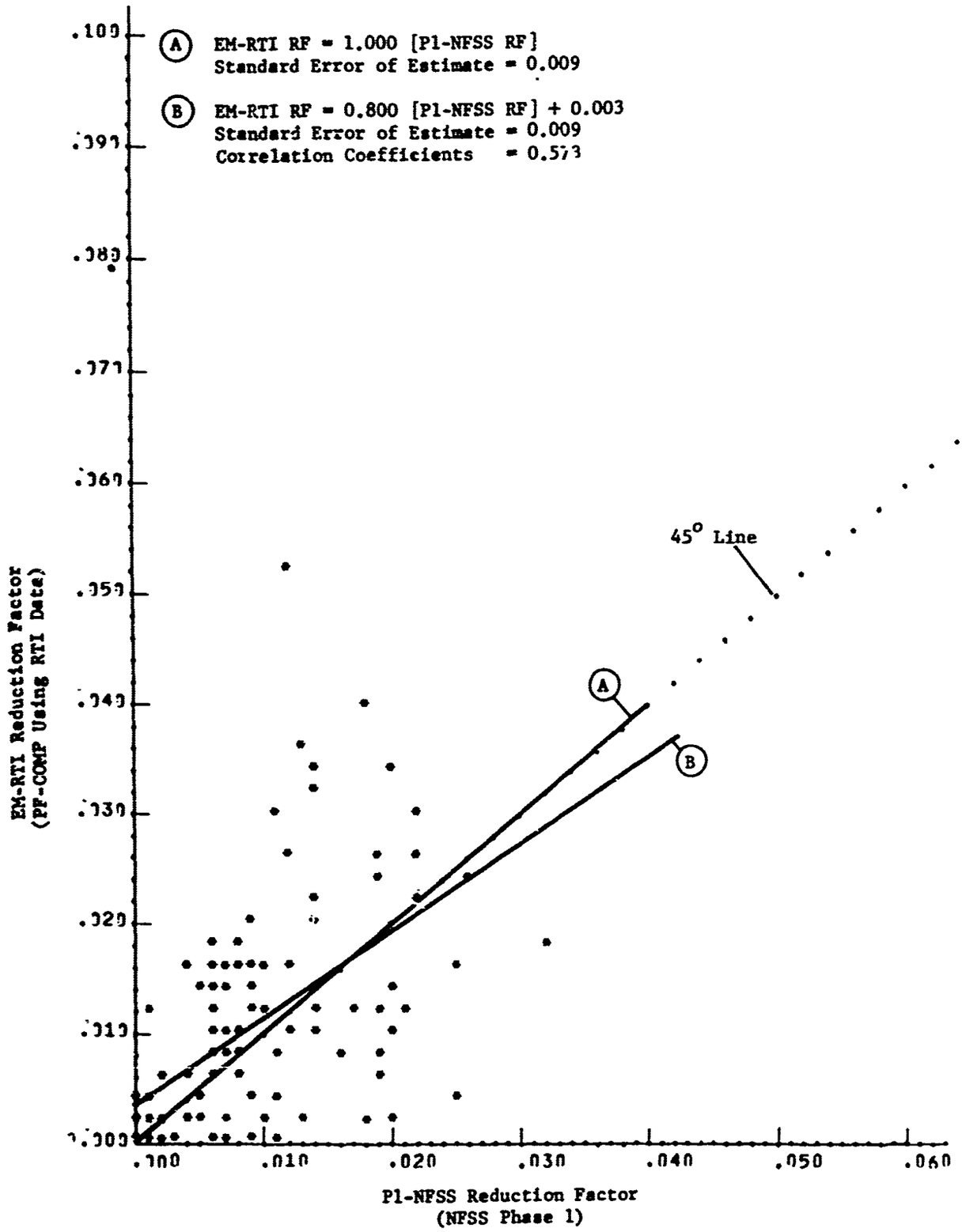


Fig. E.7. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
(Basements - 116 Shelter Stories)

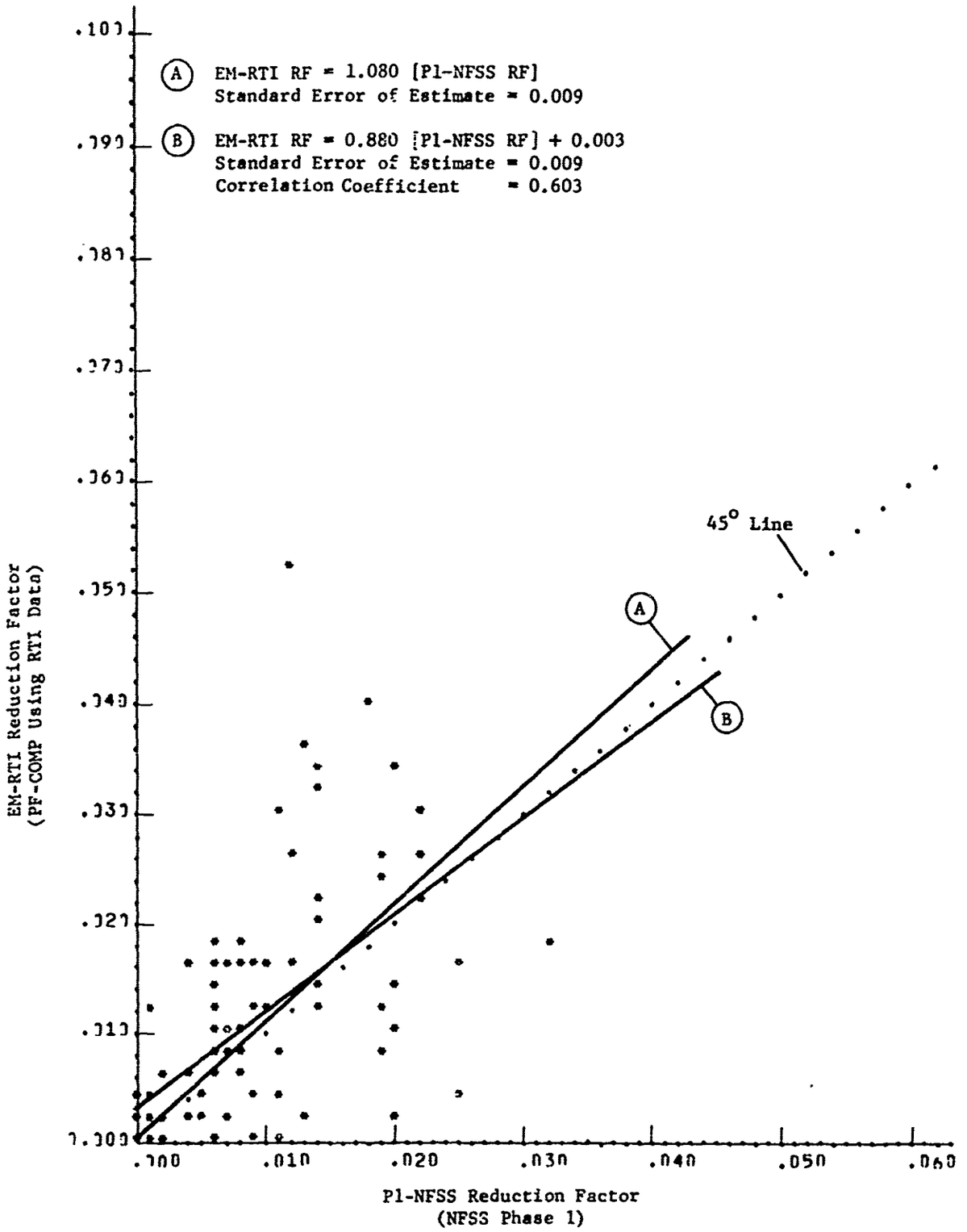


Fig E.8. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
(Basement with Roof Contribution ≥50% of Total RF – 98 Shelter Stories)

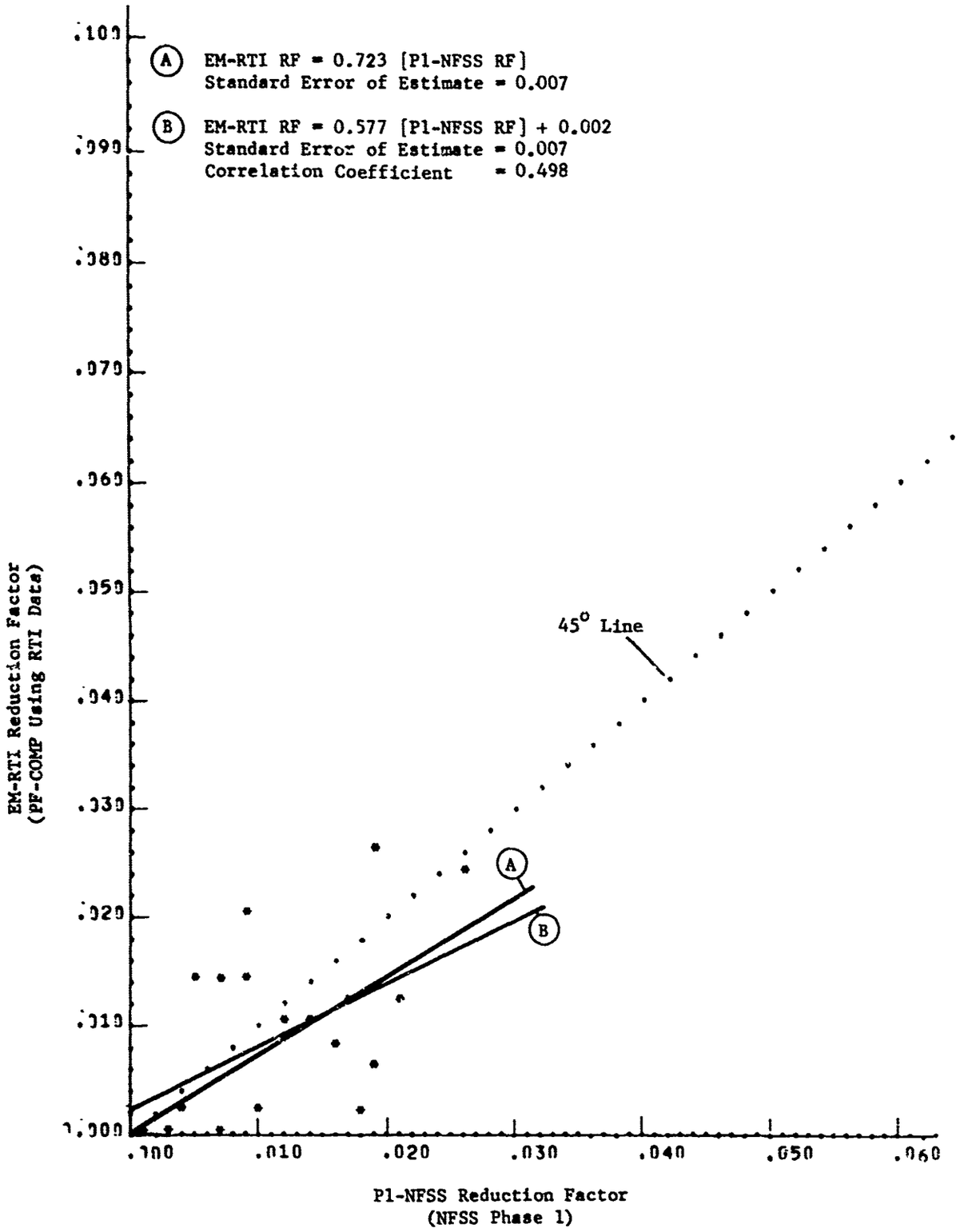


Fig. E.9. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Basement with Roof Contribution <50% of Total RF - 18 Shelter Stories)

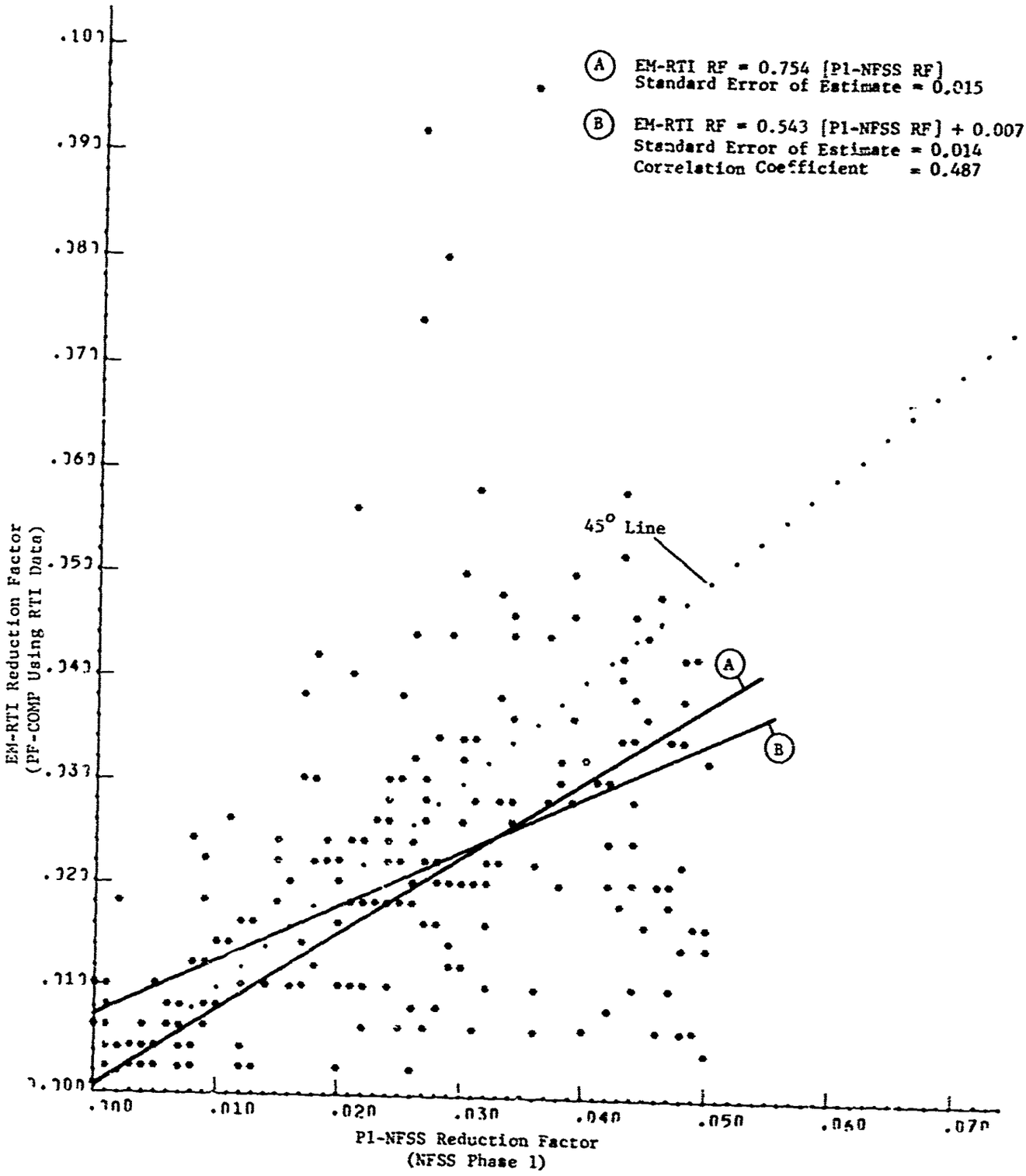


Fig. E.10. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Above Grade Stories - 224 Shelter Stories)

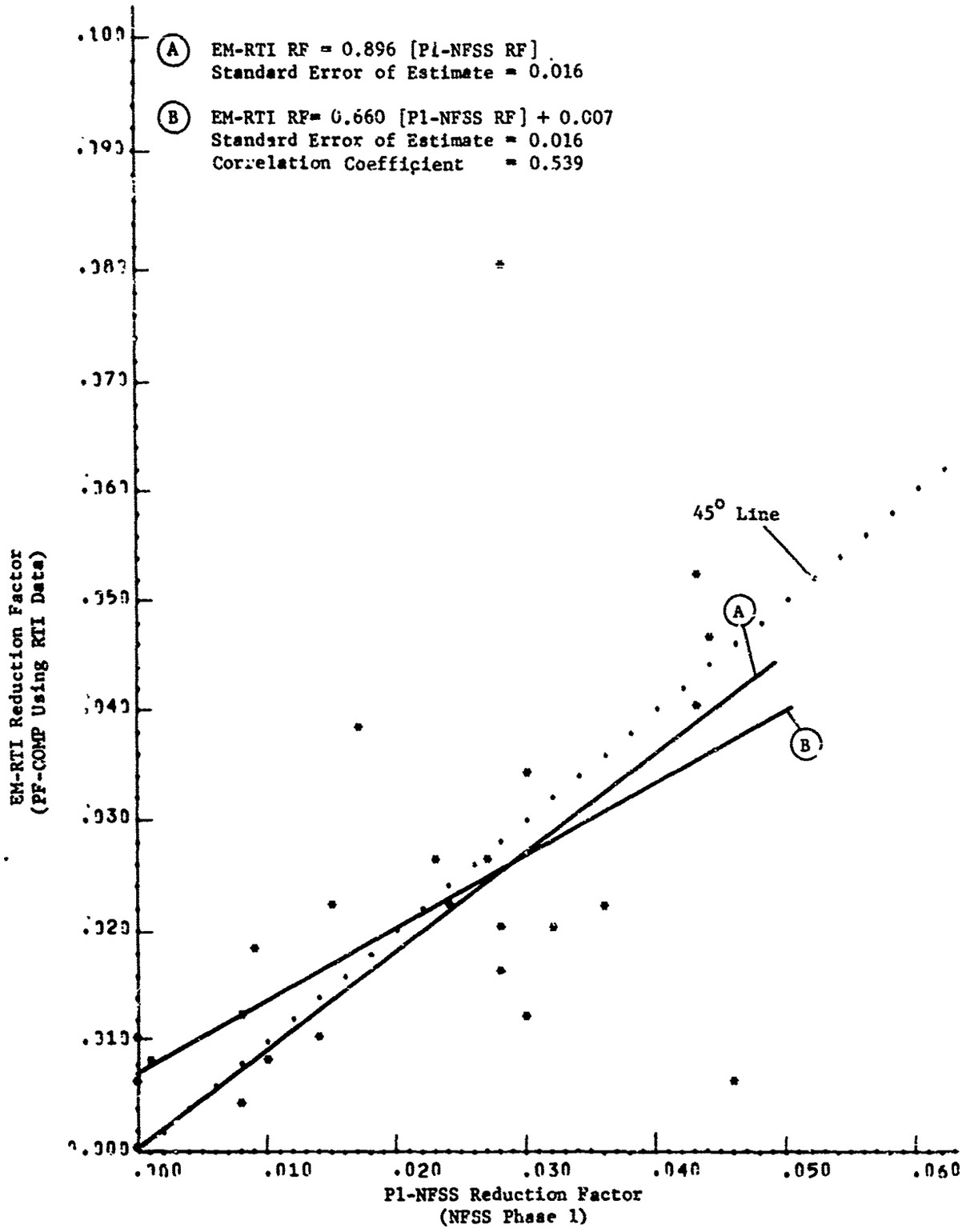


Fig. E.11. Relationship Between P1-NFS[illegible] EM-RTI Reduction Factors.
(Above Grade Stories with Roof Contribution ≥ 50% of Total RF - 25 Shelter Stories)

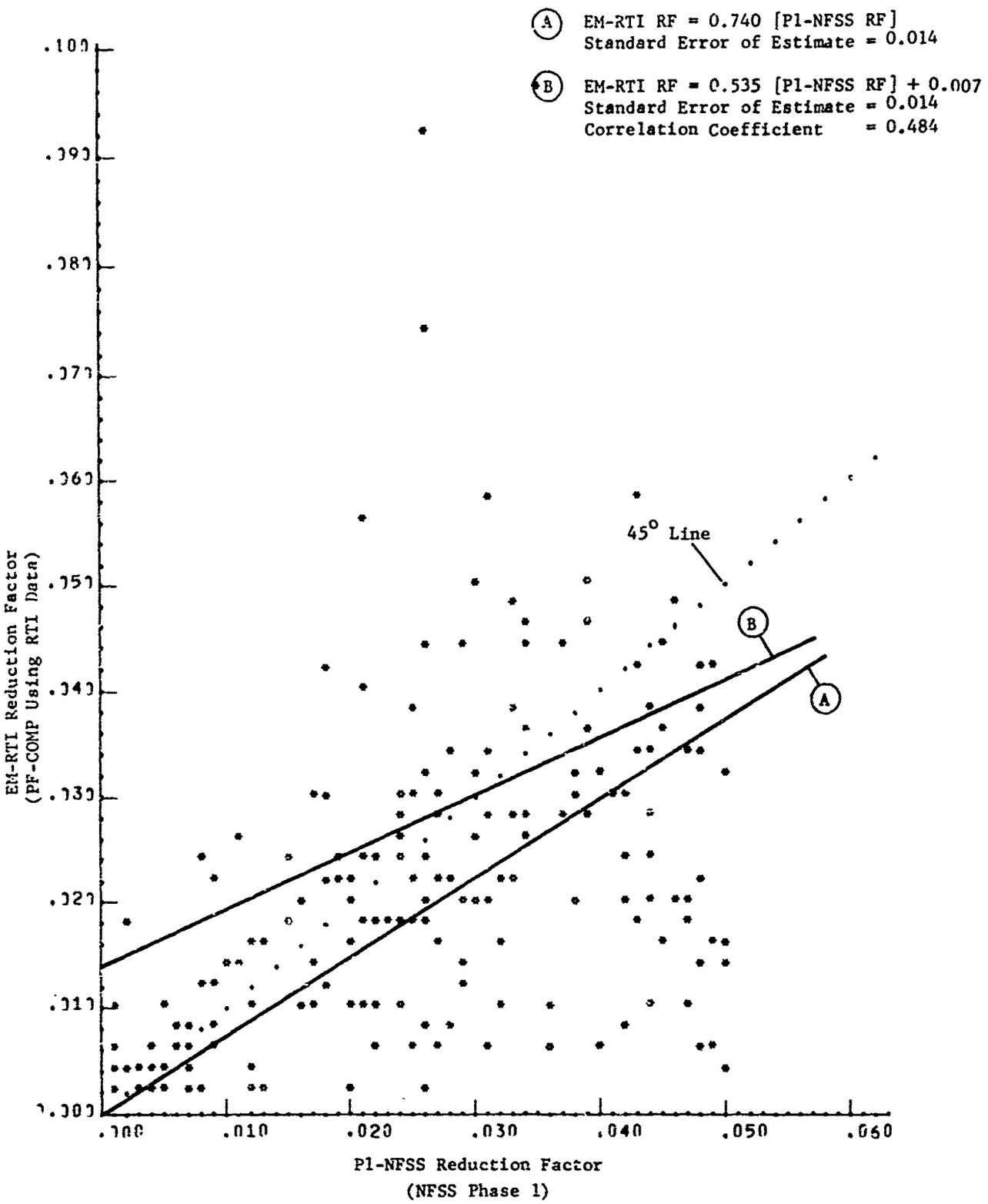


Fig. E.12. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
(Above Grade Stories with Roof Contribution < 50% of Total RF - 199 Shelter Stories)

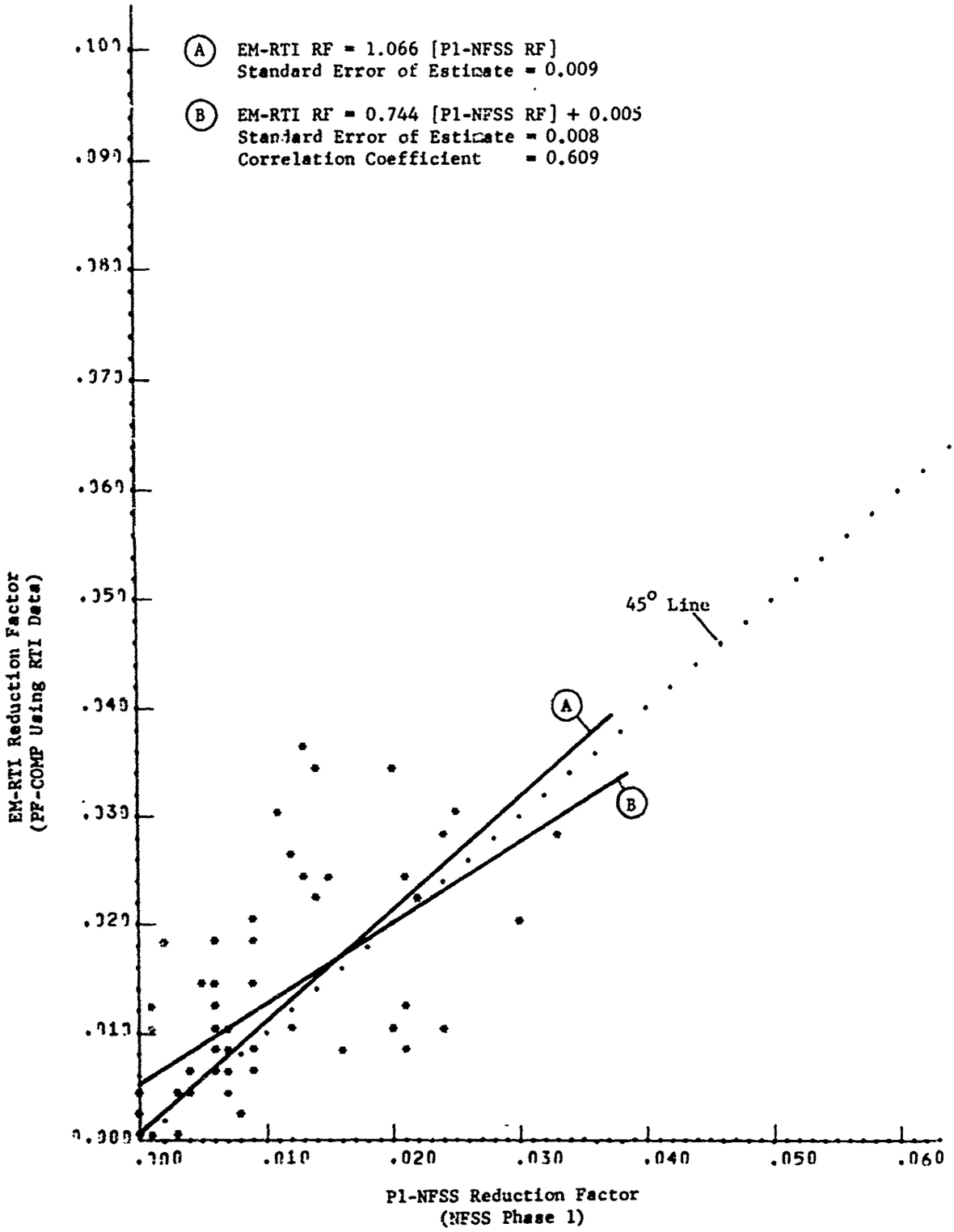


Fig. E.13. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
Use Class Residential - 55 Shelter Stories)

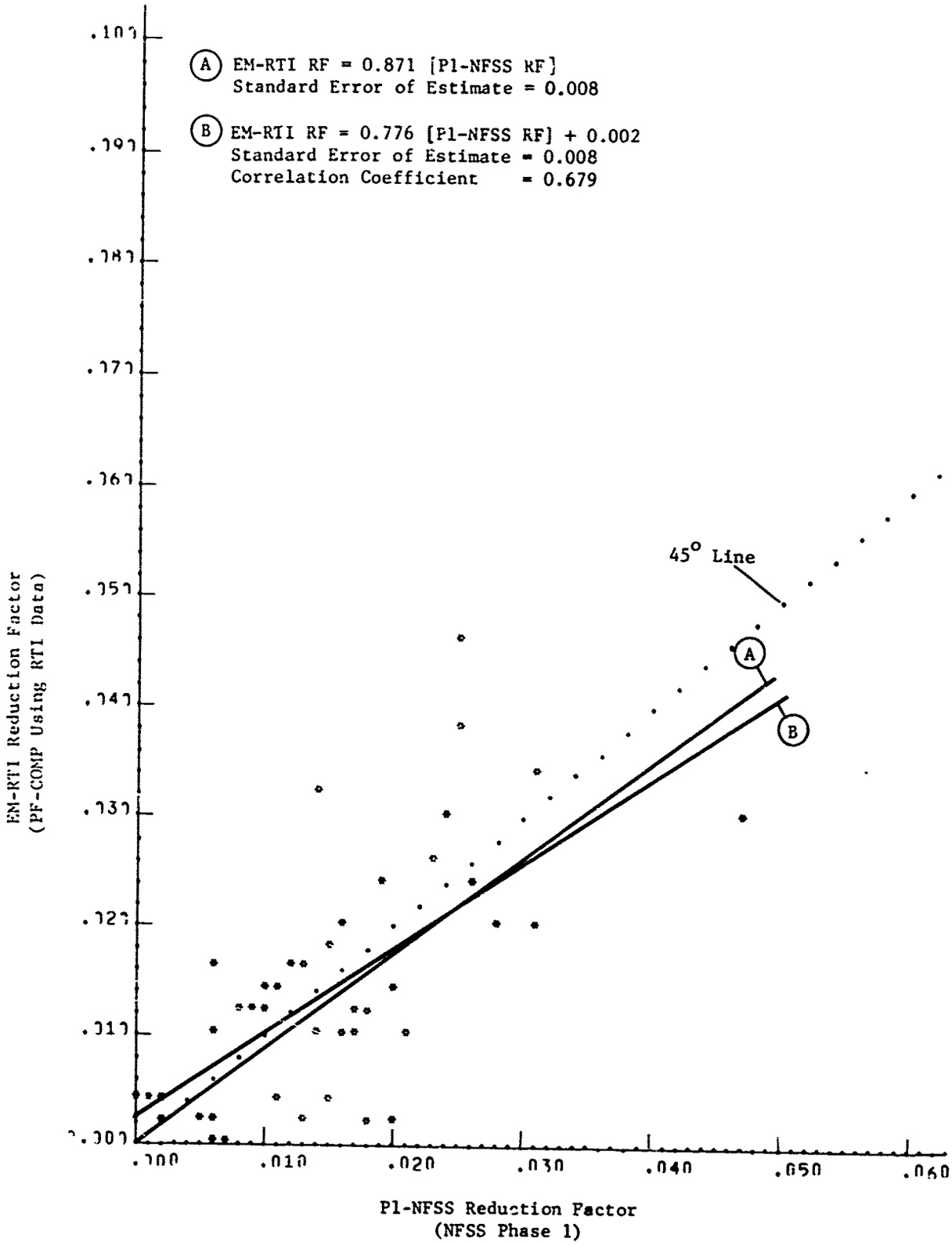


Fig. E-14. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Use Class Educational - 43 Shelter Stories)

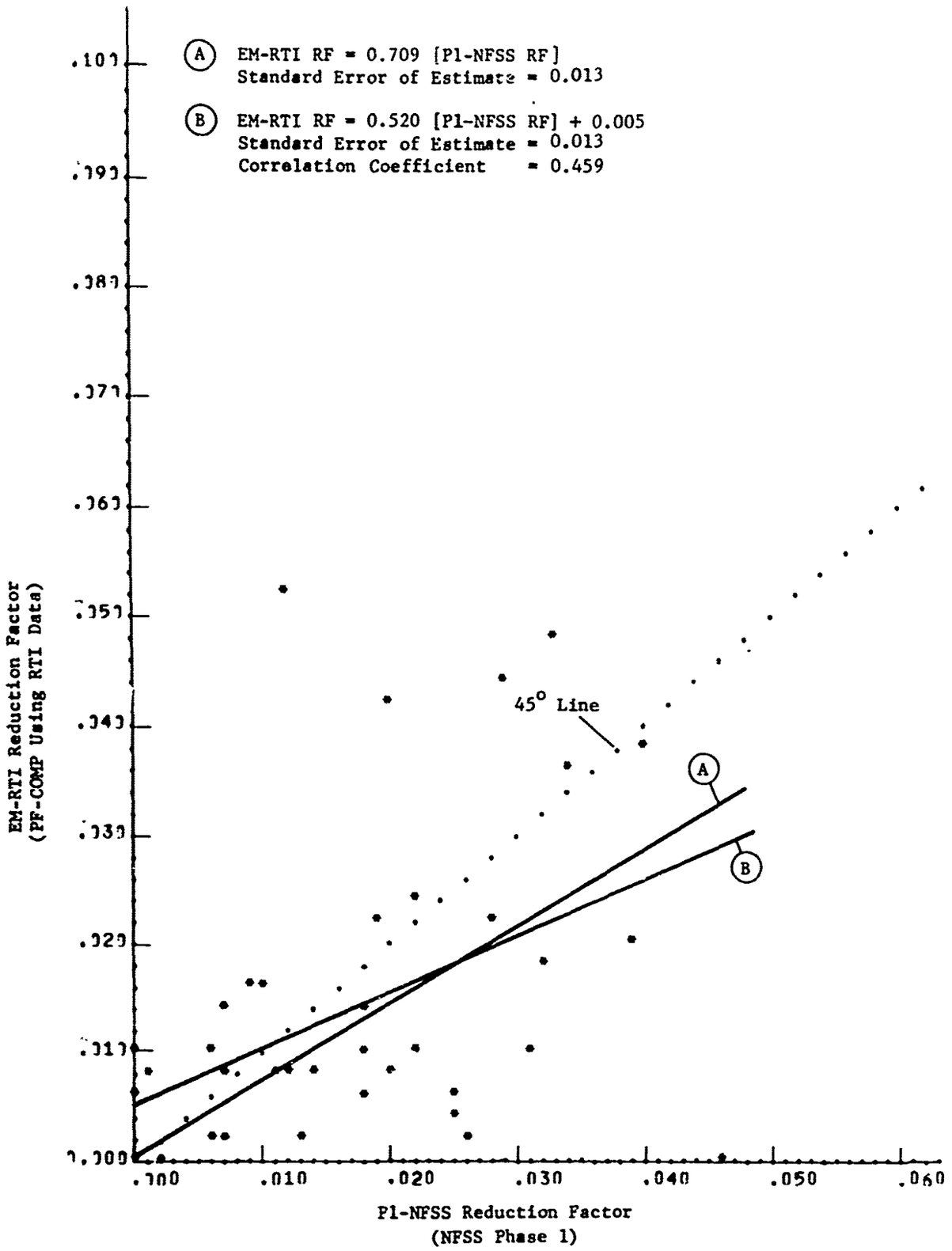


Fig. E.15. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
(Use Class Government and Public Service - 41 Shelter Stories)

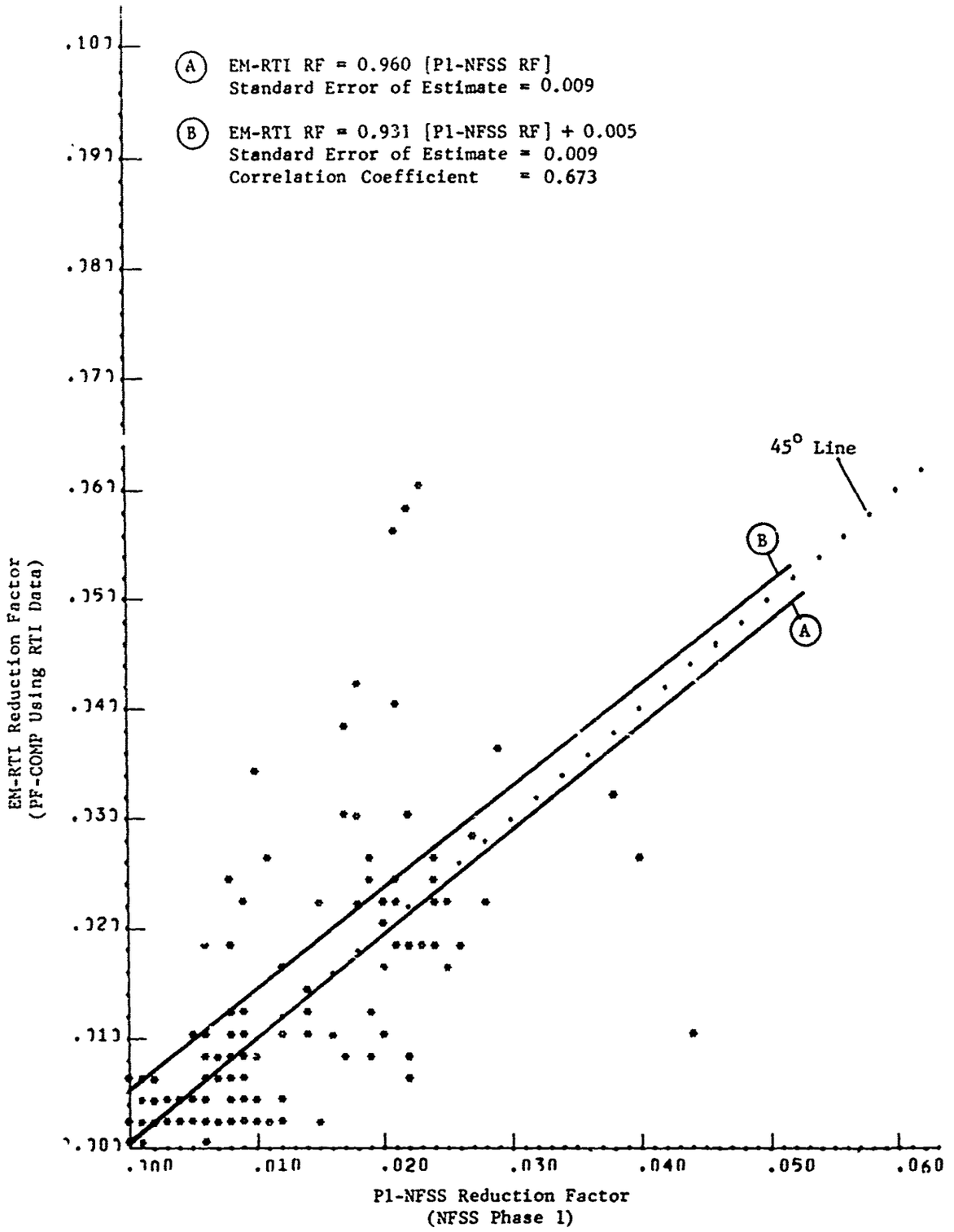


Fig. E.16. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
(Use Class Commercial - 141 Shelter Stories)

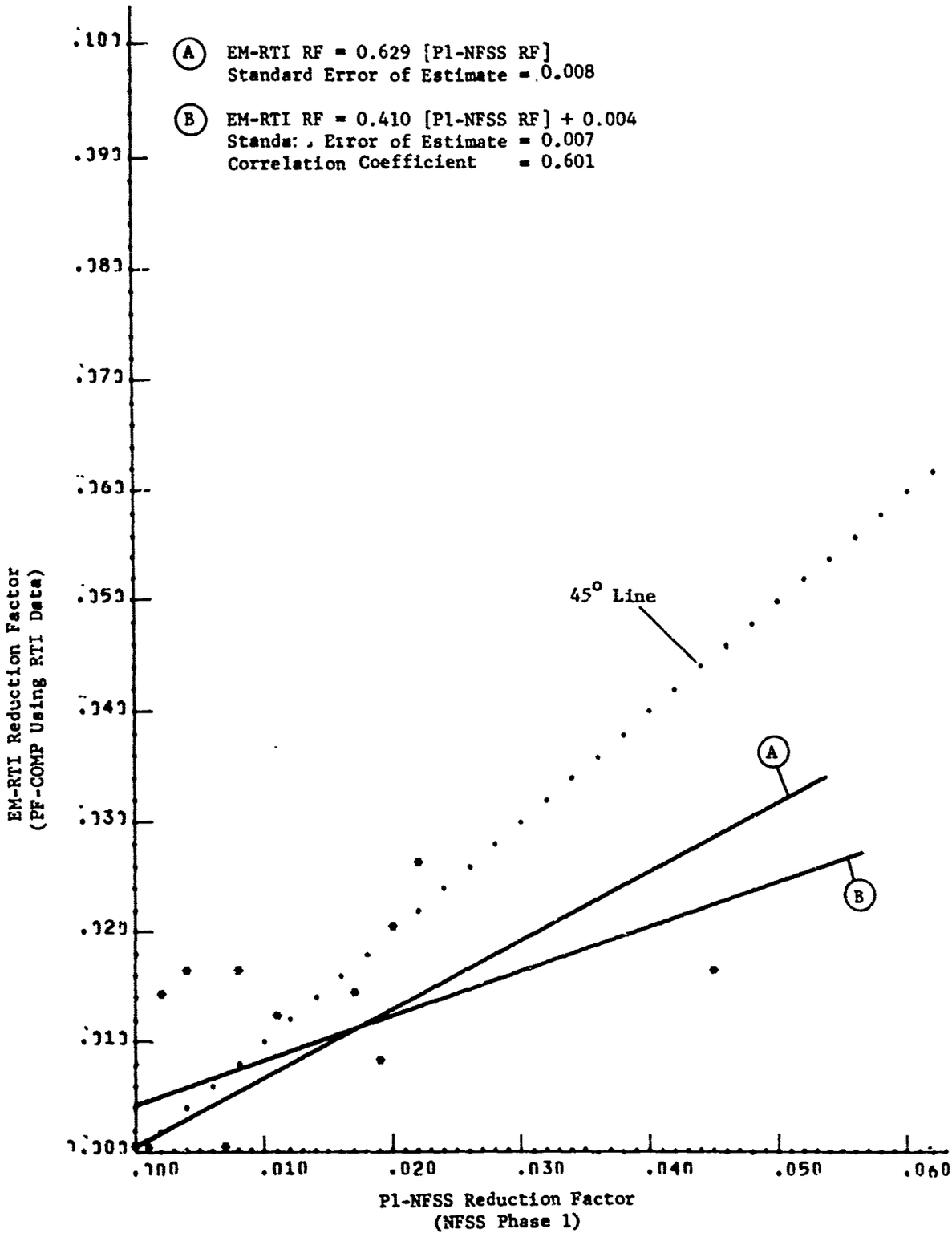


Fig. E.17. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Use Class Industrial - 14 Shelter Stories)

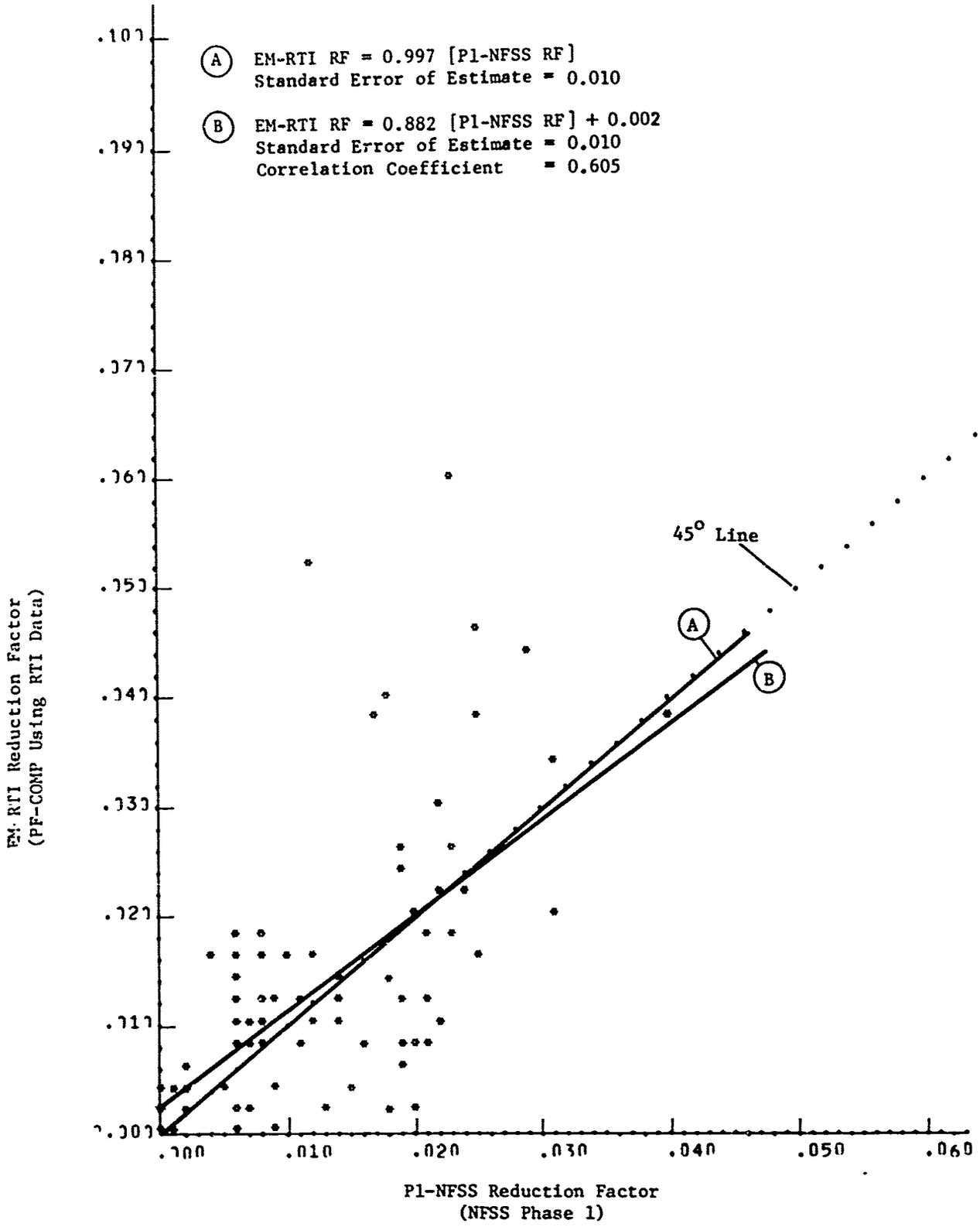


Fig. E.18. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Structural Classification Wall-Bearing - 82 Shelter Stories)

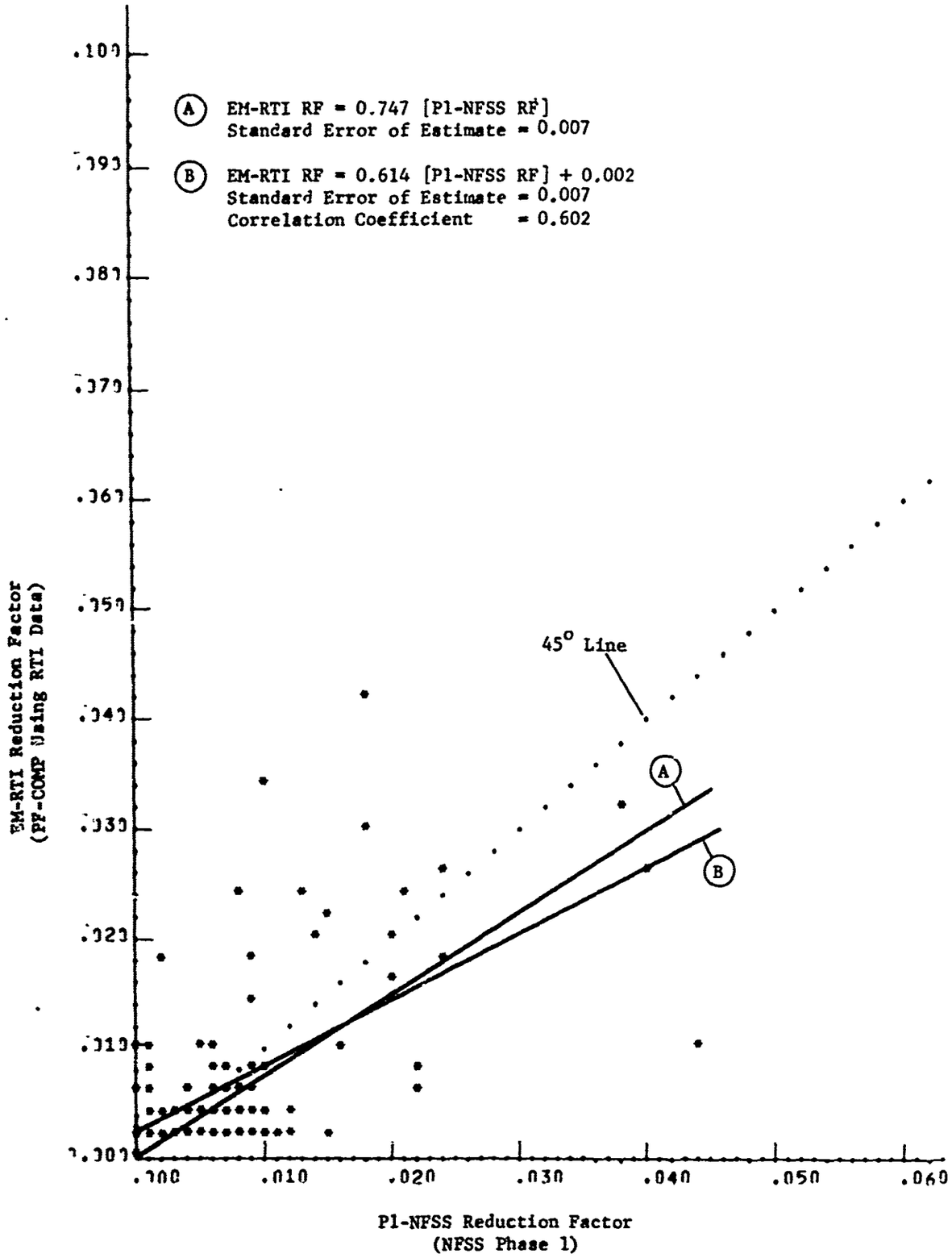


Fig. E.19. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Structural Classification Steel-Framed - 96 Shelter Stories)

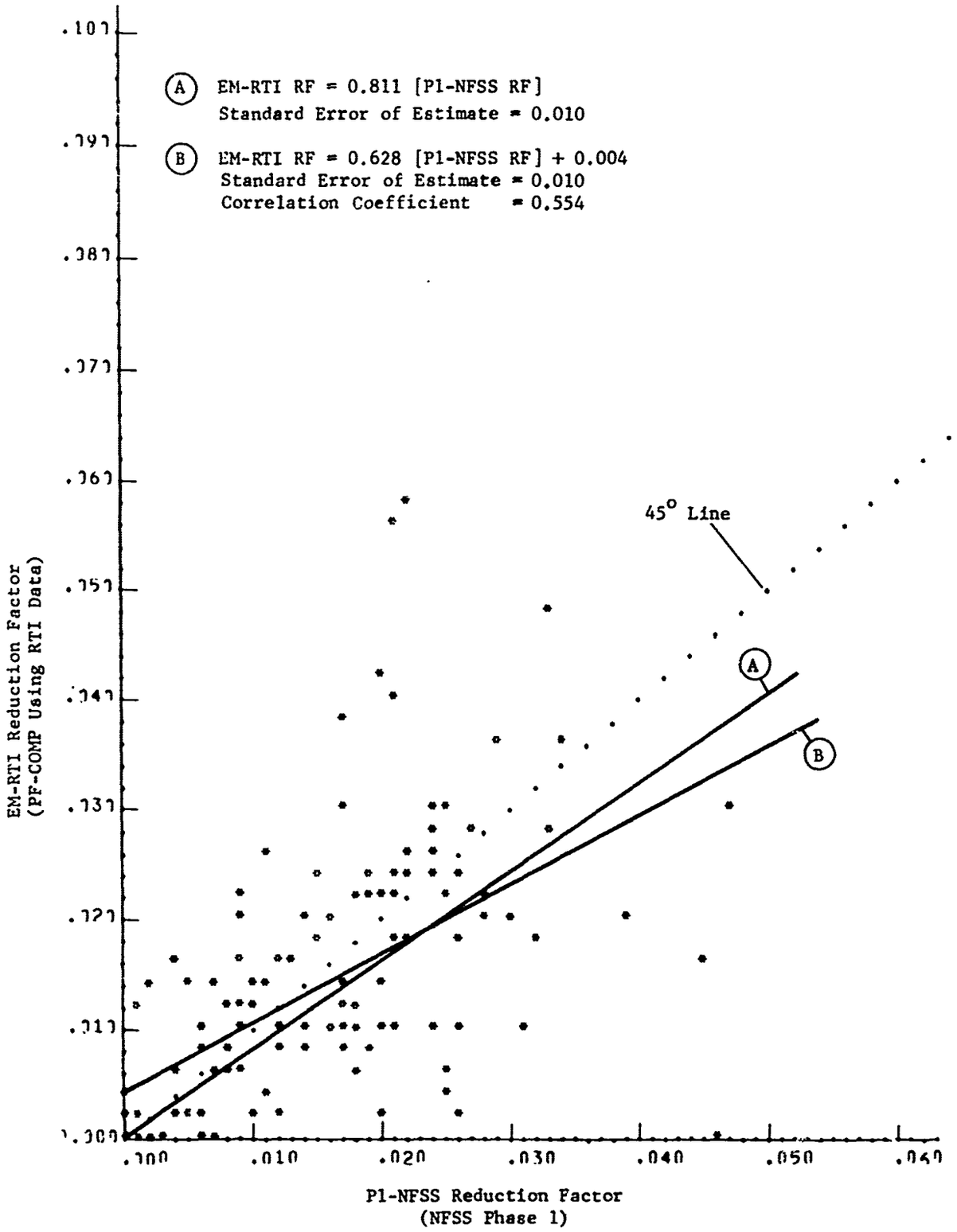


Fig. E.20. Relationship Between P1-NFSS and EM-RTI Reduction Factors. (Structural Classification Reinforced-Concrete Framed 119 Shelter Stories)

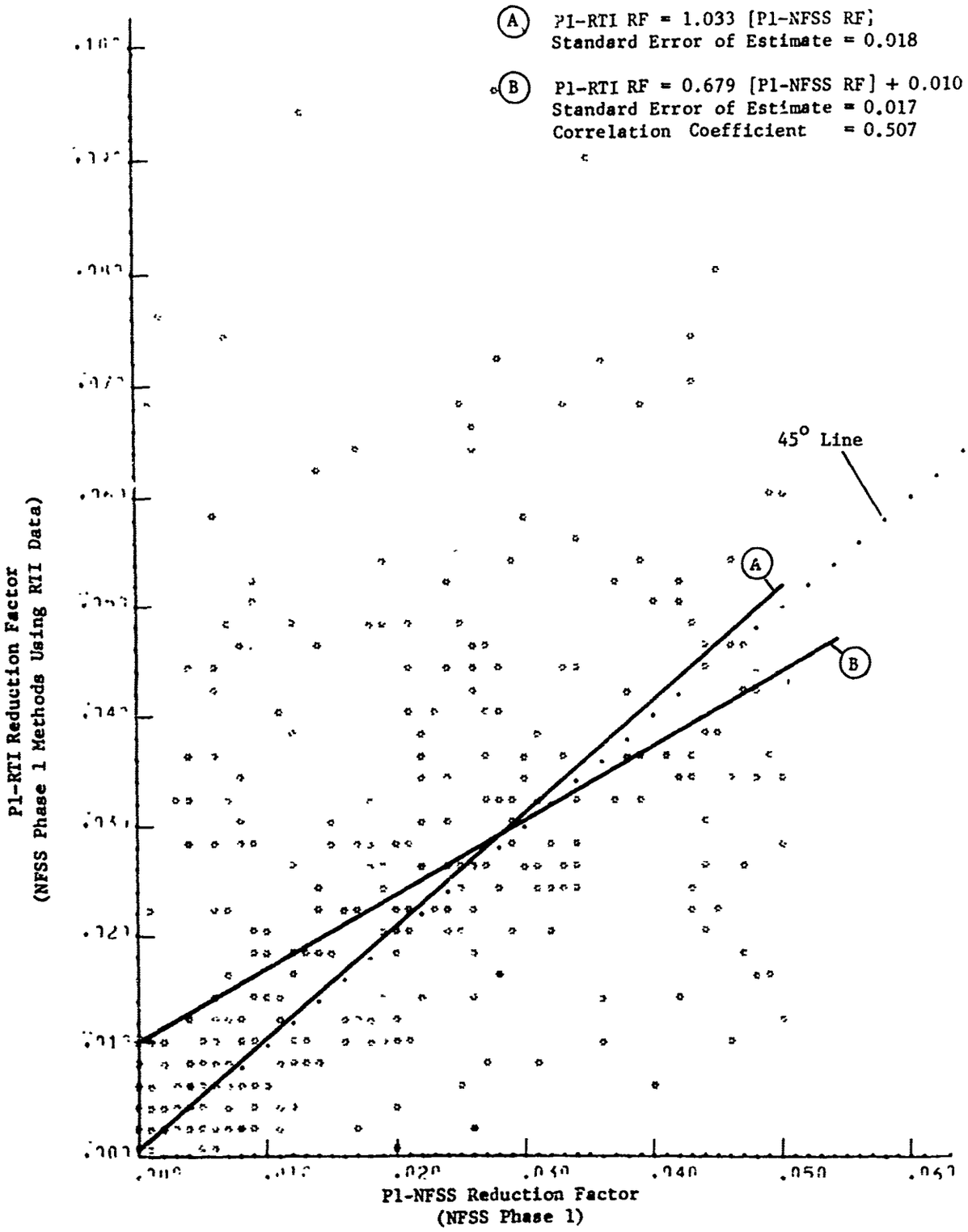
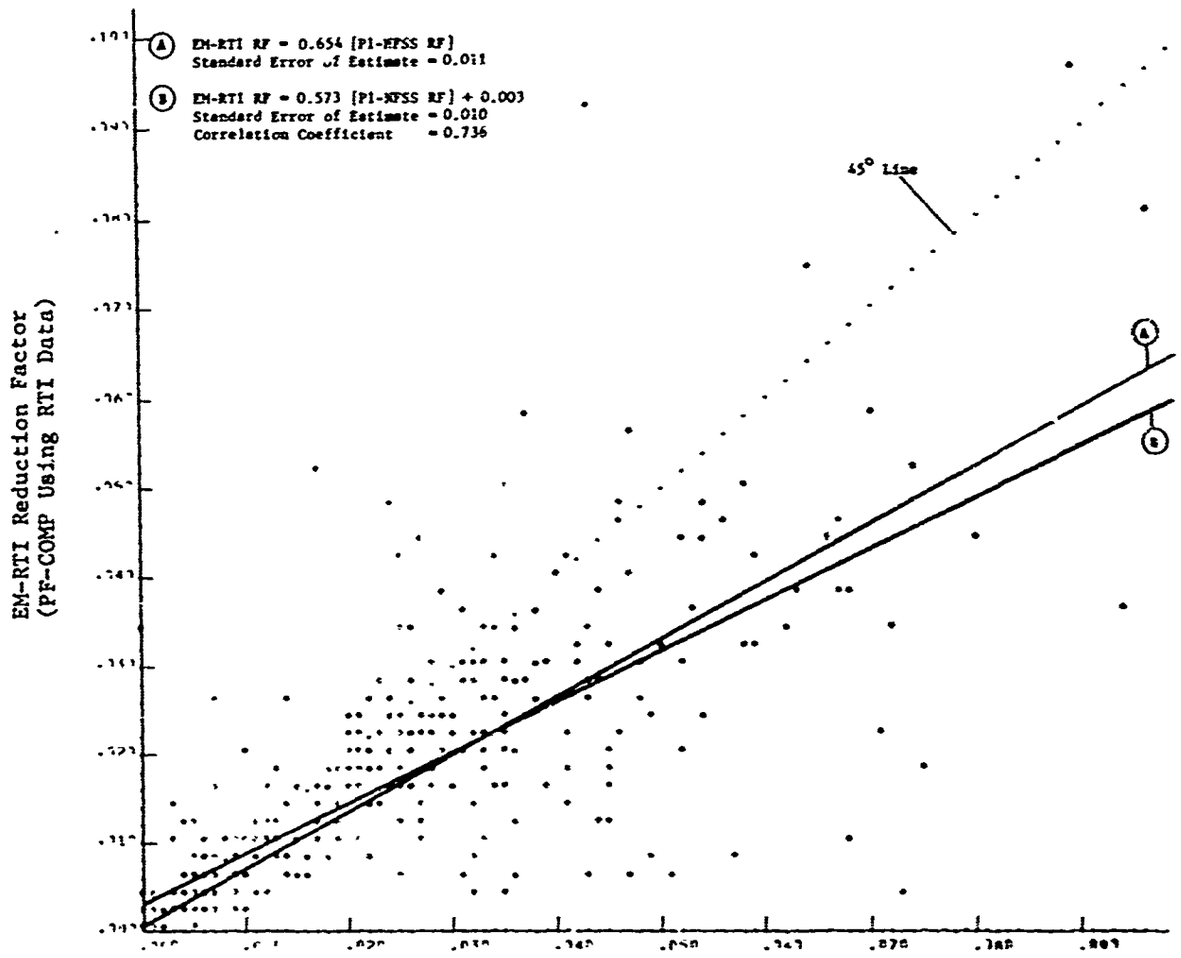


Fig. E.21. Relationship Between P1-NFSS and P1-RTI Reduction Factors. (Total Sample -340 Shelter Stories)



P1-RTI Reduction Factor
(NFSS Phase 1 Methods Using RTI Data)

Fig. E.22. Relationship Between P1-RTI and EM-RTI Reduction Factors
(Total Sample - 340 Shelter Stories)

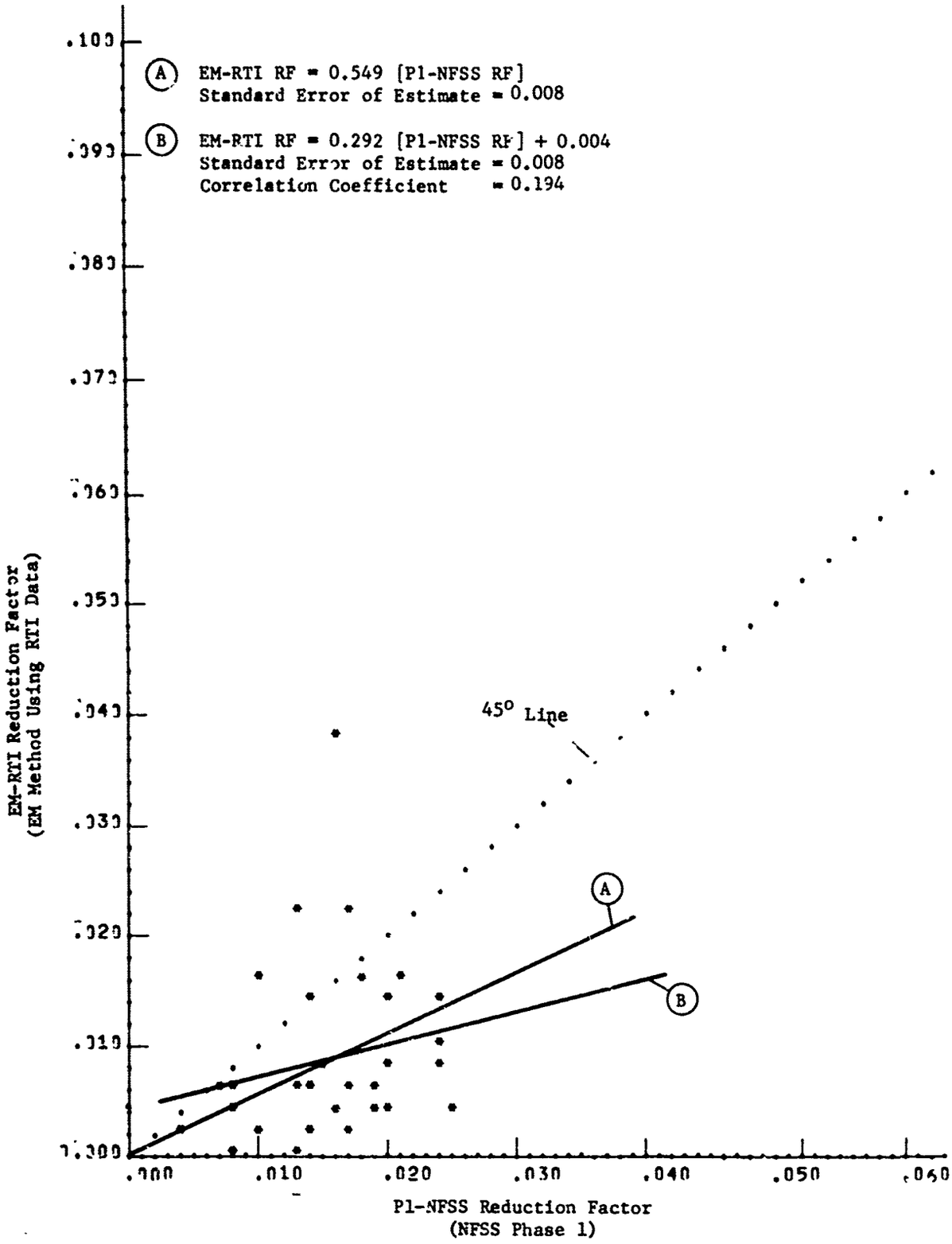


Fig. E.23. Relationship Between P1-NFSS and EM-RTI Reduction Factors.
(Work Unit 1115A Phase 1 Data - 32 Shelter Stories)

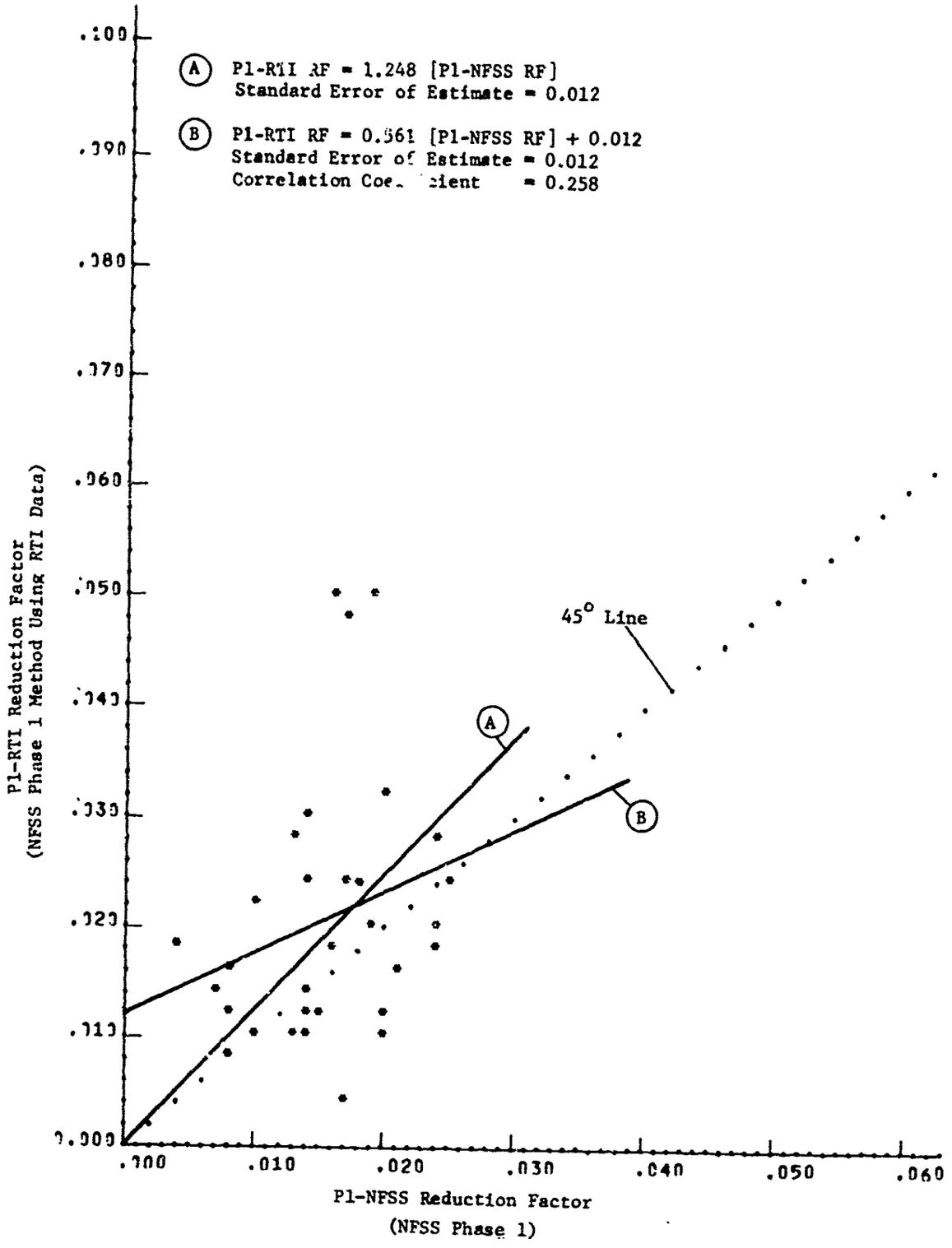


Fig. E.24. Relationship Between P1-NFSS and P1-RTI Reduction Factors. (Subtask 1115A Phase 1 Data - 32 Shelter Stories)

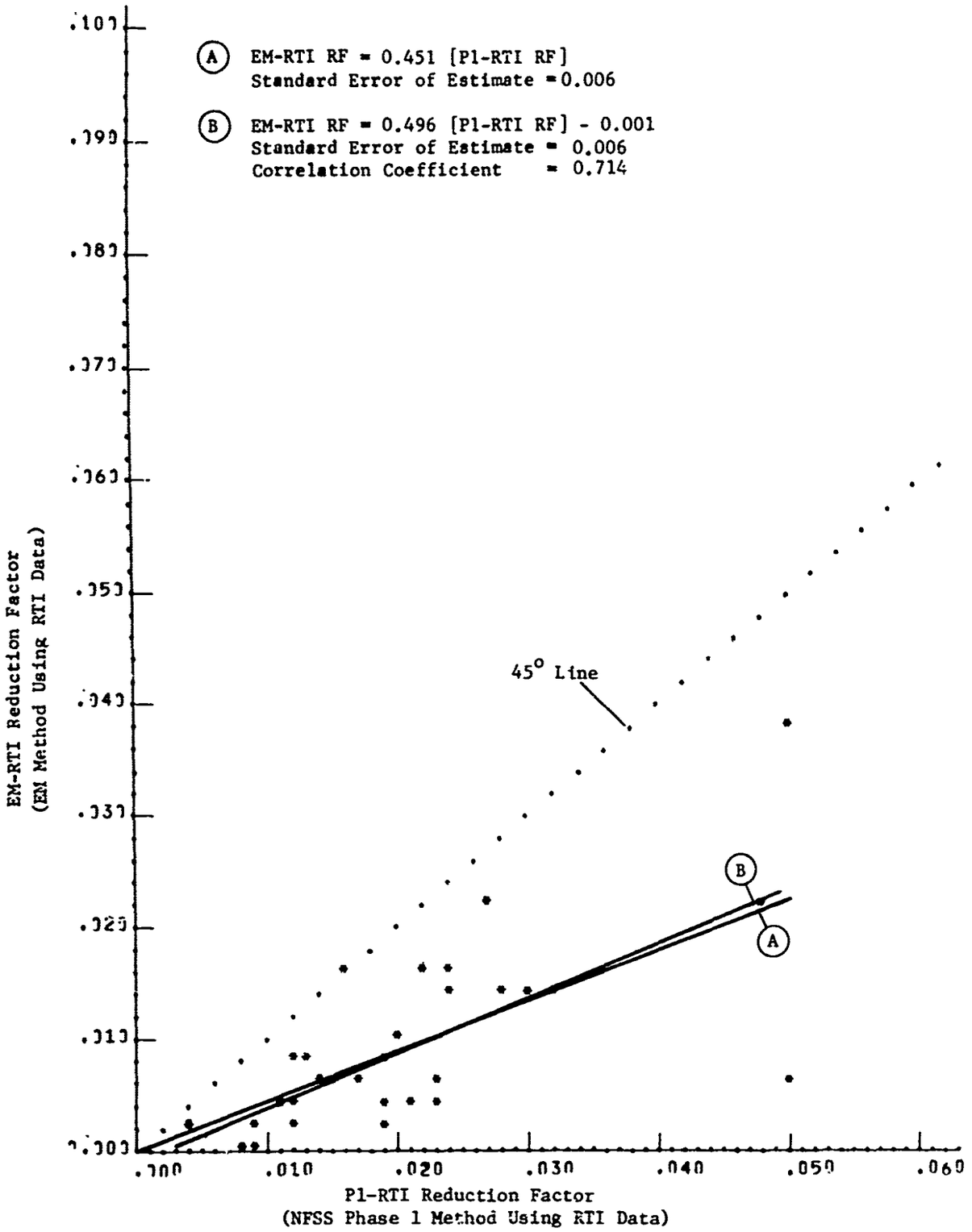


Fig. E.25. Relationship Between P1-RTI and EM-RTI Reduction Factors.
(Subtask 1115A Phase 1 Data - 32 Shelter Stories)

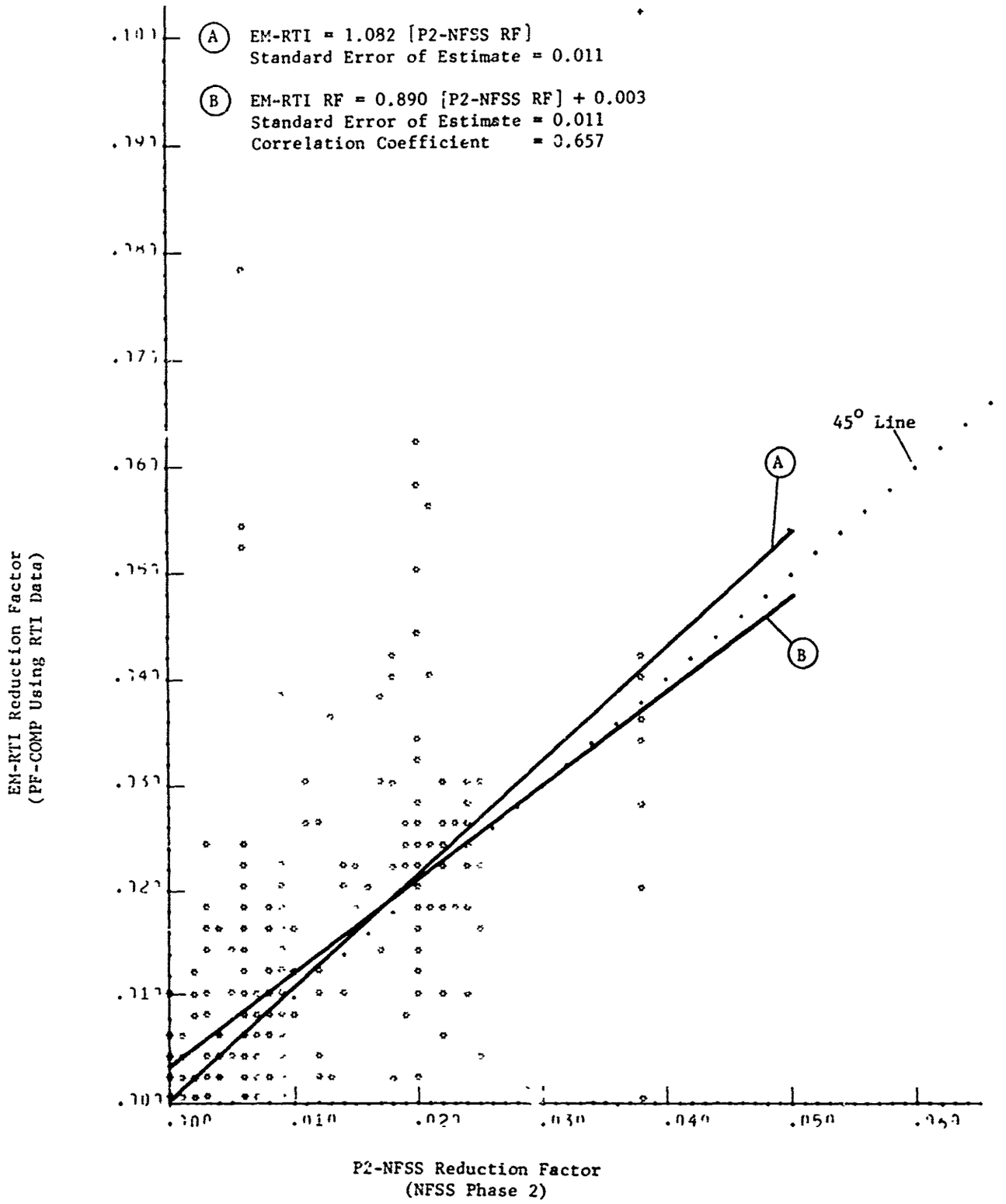


Fig. E.26. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Total Sample - 292 Shelter Stories)

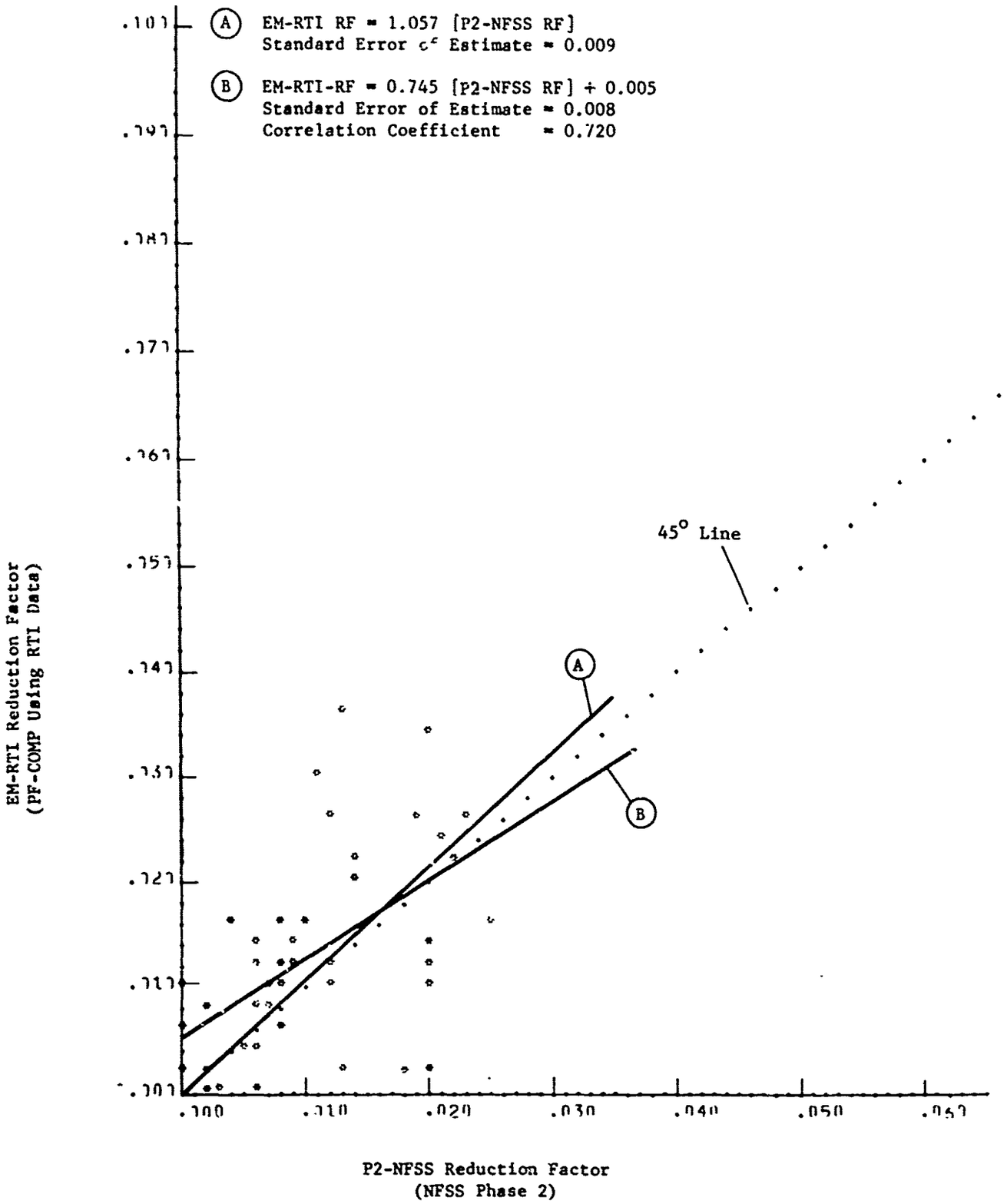


Fig. E.27. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Providence - 45 Shelter Stories)

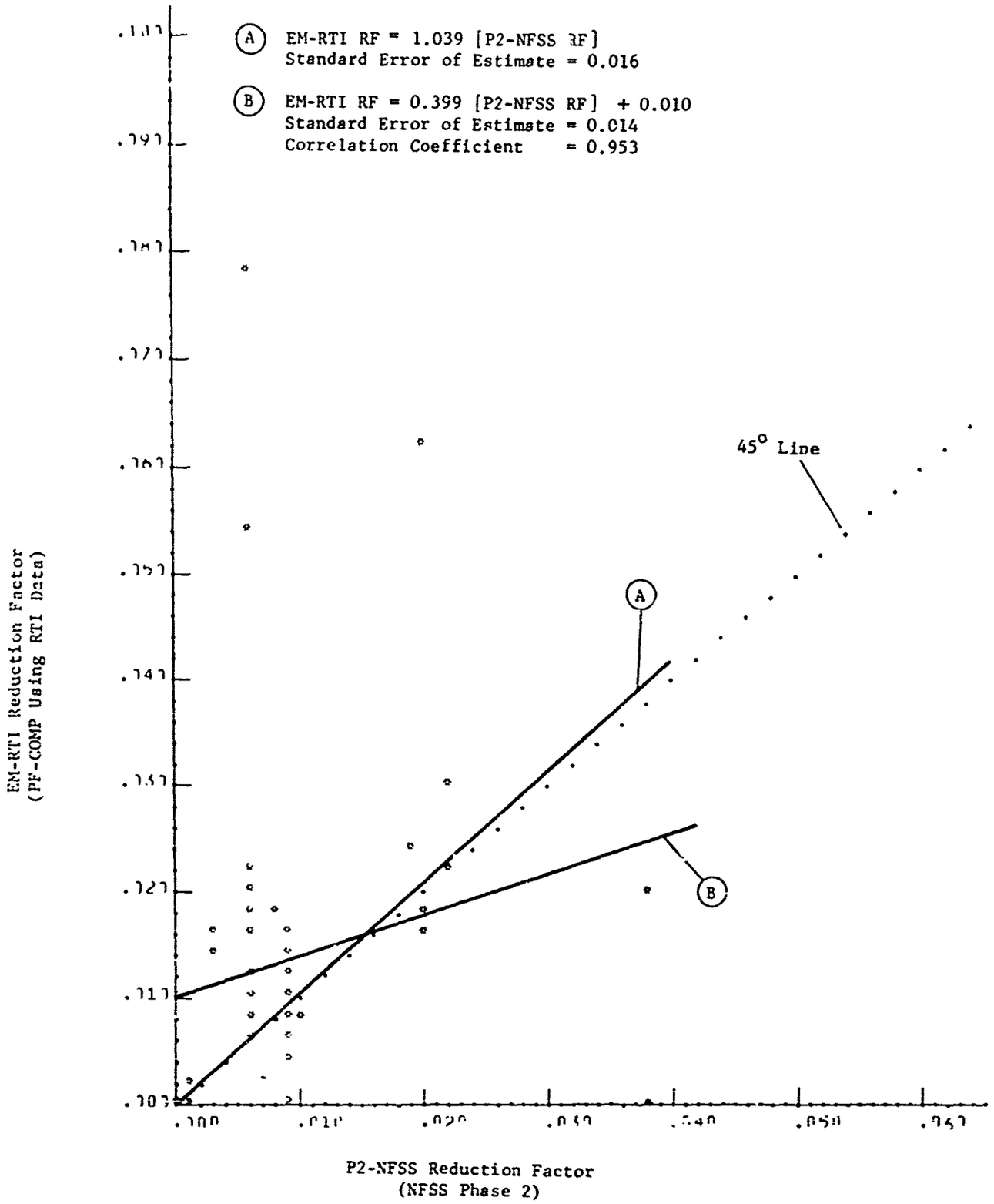


Fig. E.28. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Detroit - 52 Shelter Stories)

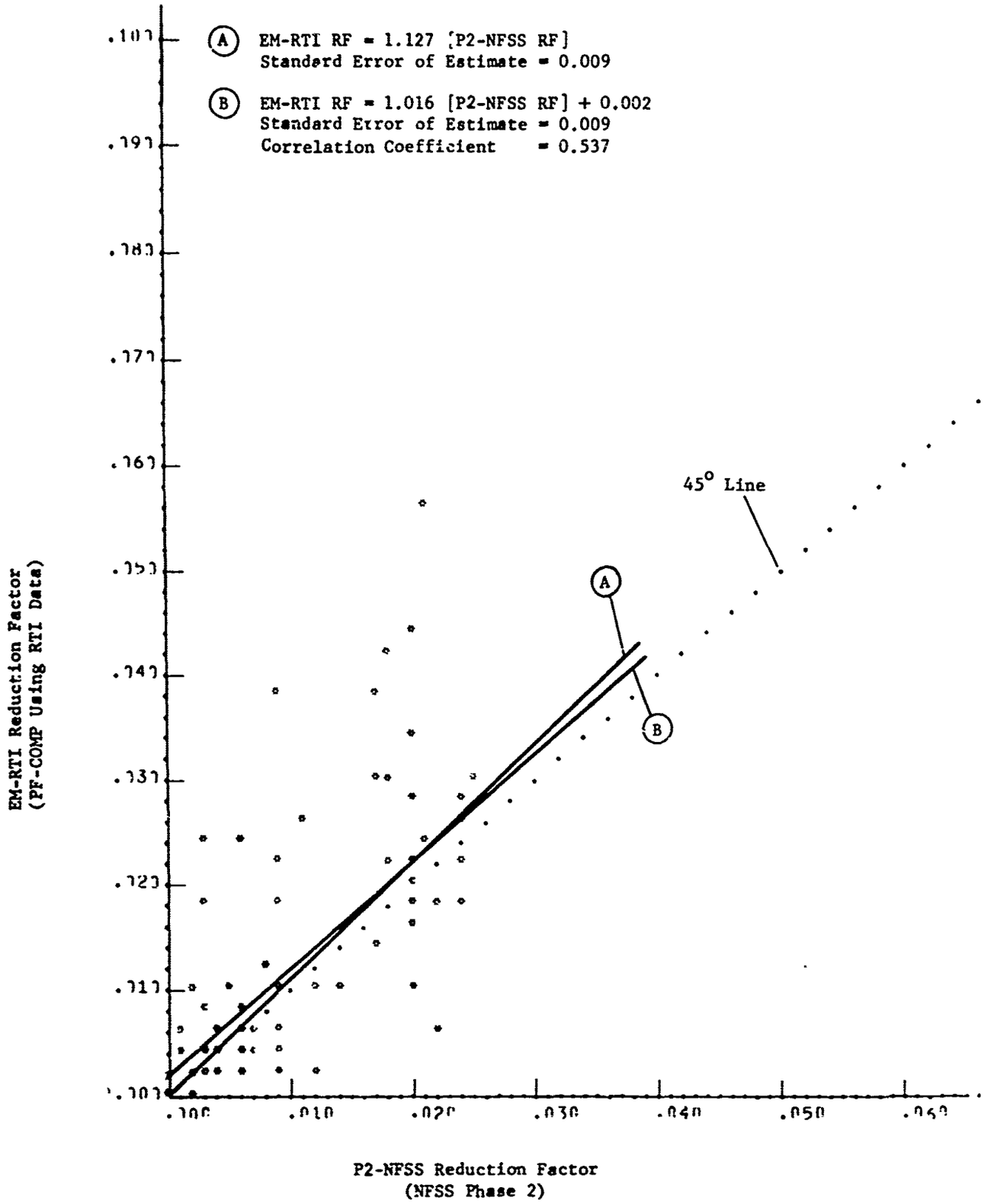


Fig. E.29. Relationship Between P2-NFSS and EM-RTI Reduction Factors. (New Orleans - 90 Shelter Stories).

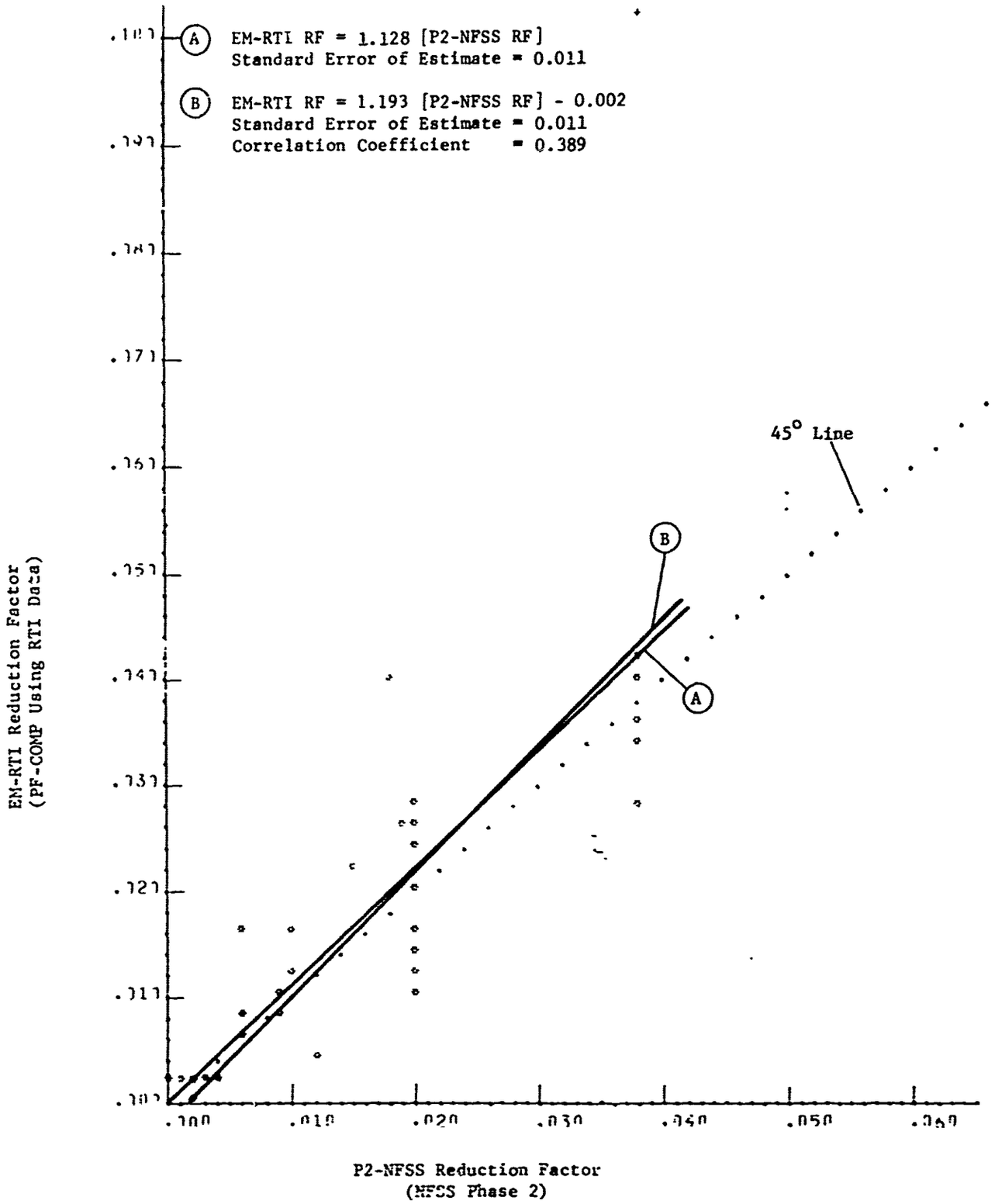


Fig. E.30. Relationship Between P2-NFSS and EM-RTI Reduction Factors. (Albuquerque - 41 Shelter Stories)

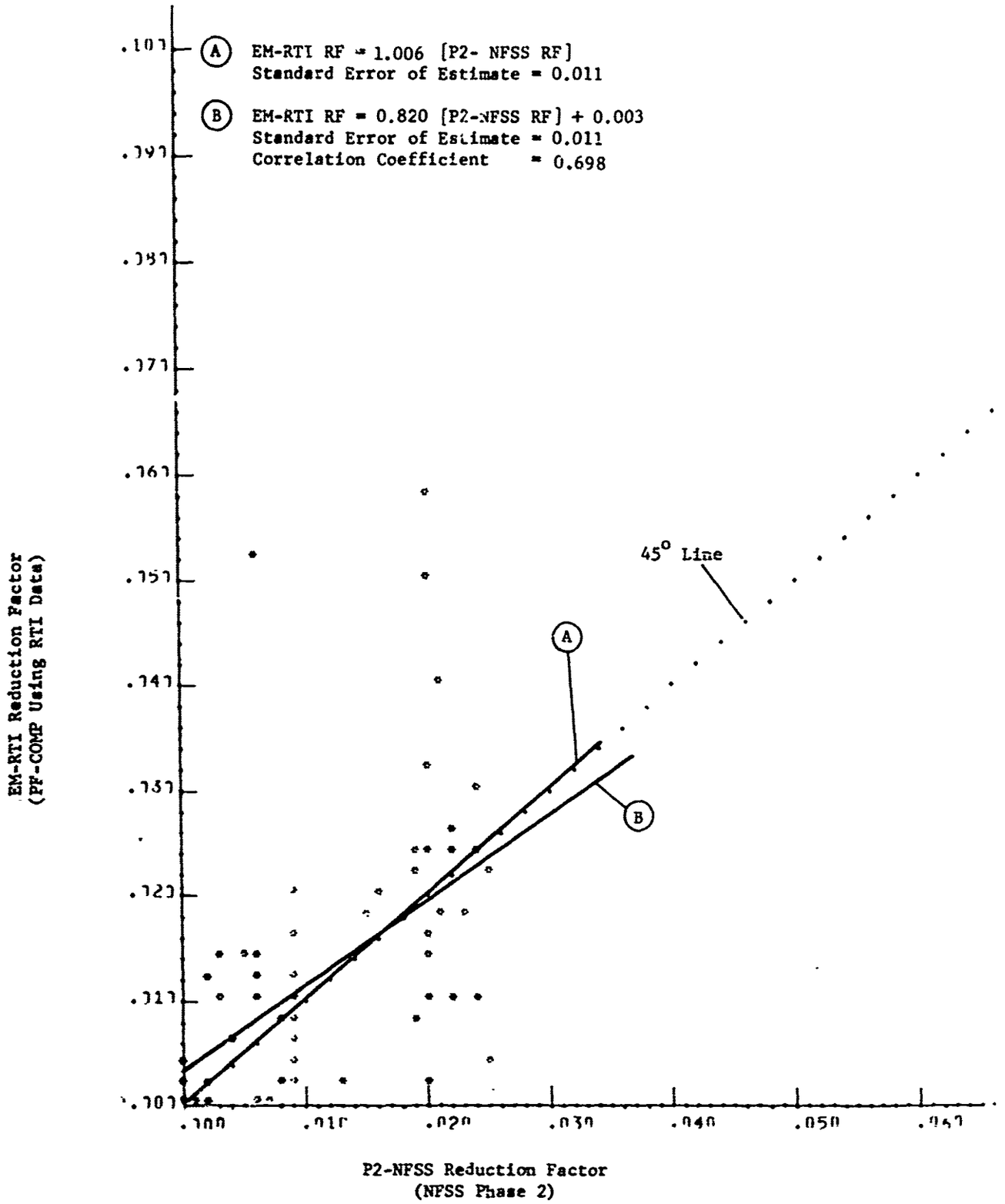


Fig. E.31. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(San Jose - 64 Shelter Stories)

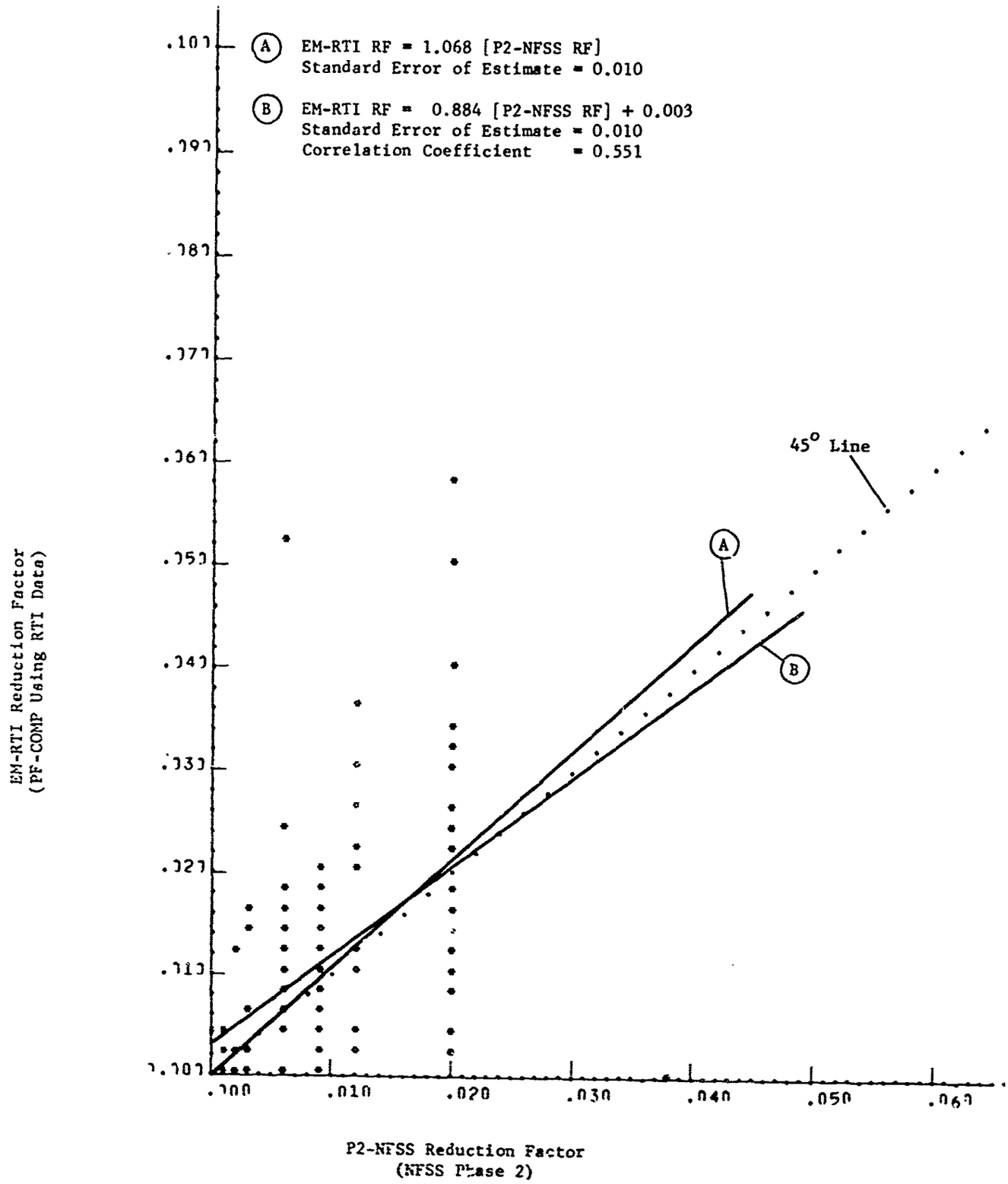


Fig. E.32. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Basements - 131 Shelter Stories)

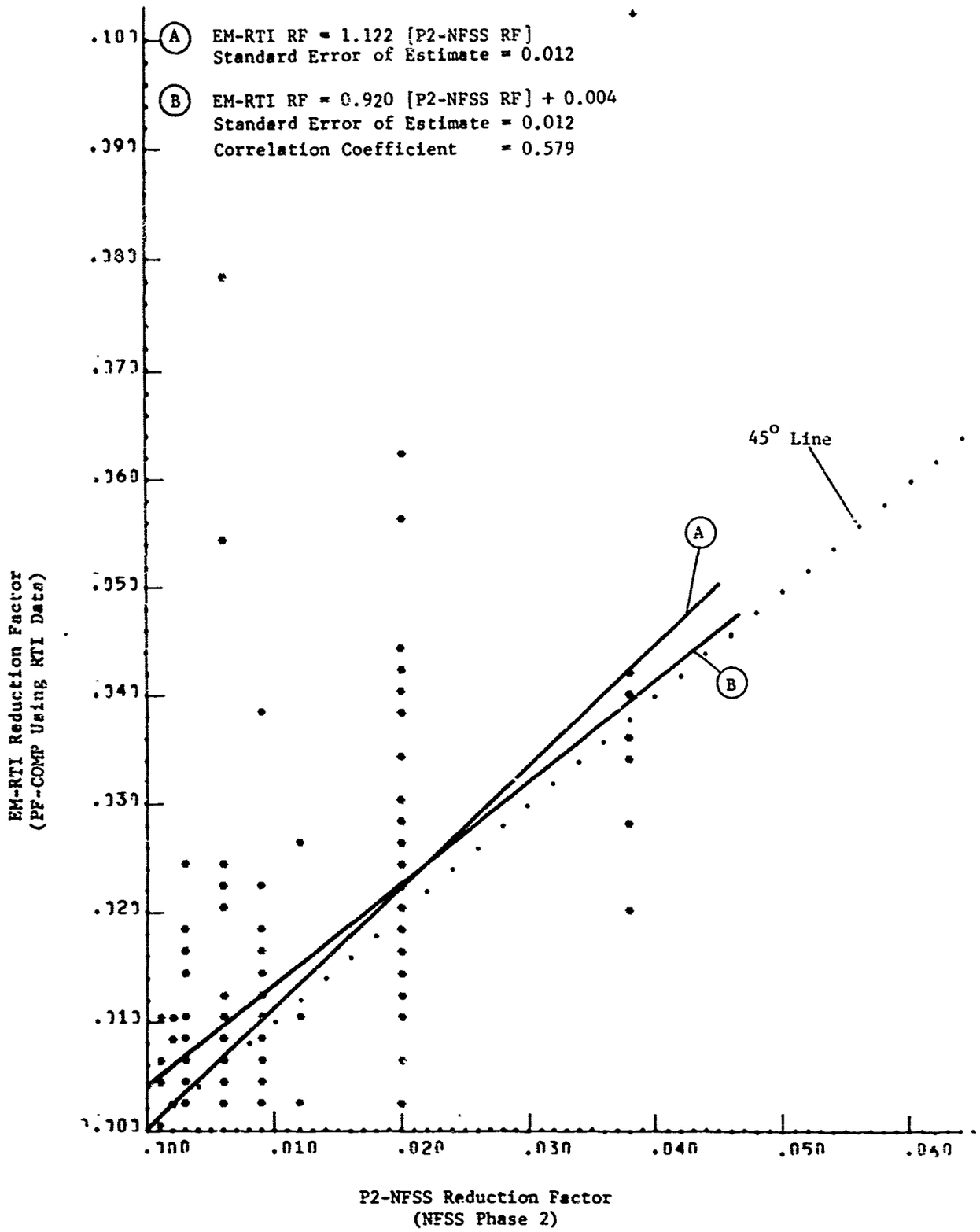


Fig. E.33. Relationship Between P2-NFSS and EM-RTI Reduction Factors. (Above-Grade Stories - 161 Shelter Stories)

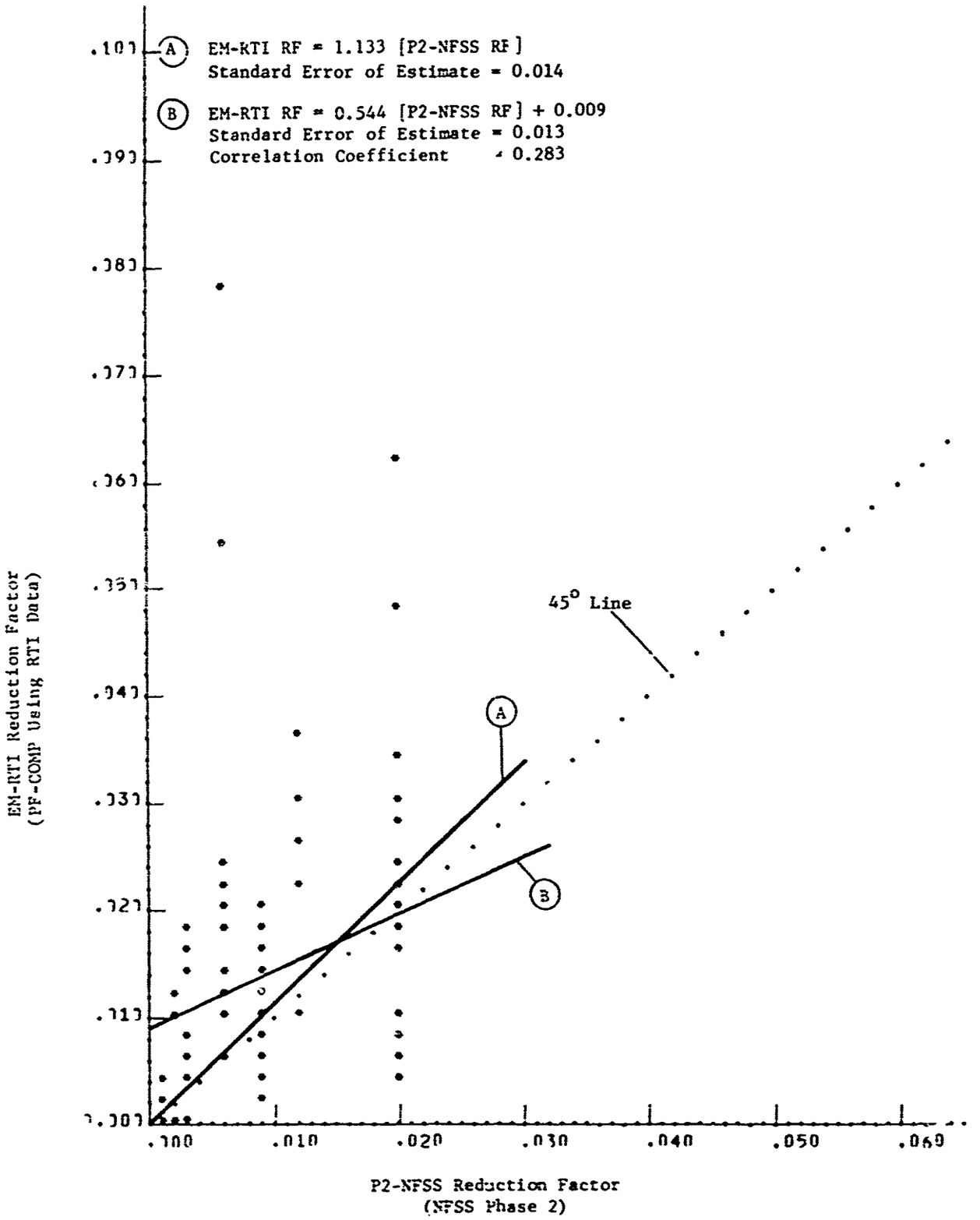


Fig. E.34. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Use Class Residential - 88 Shelter Stories)

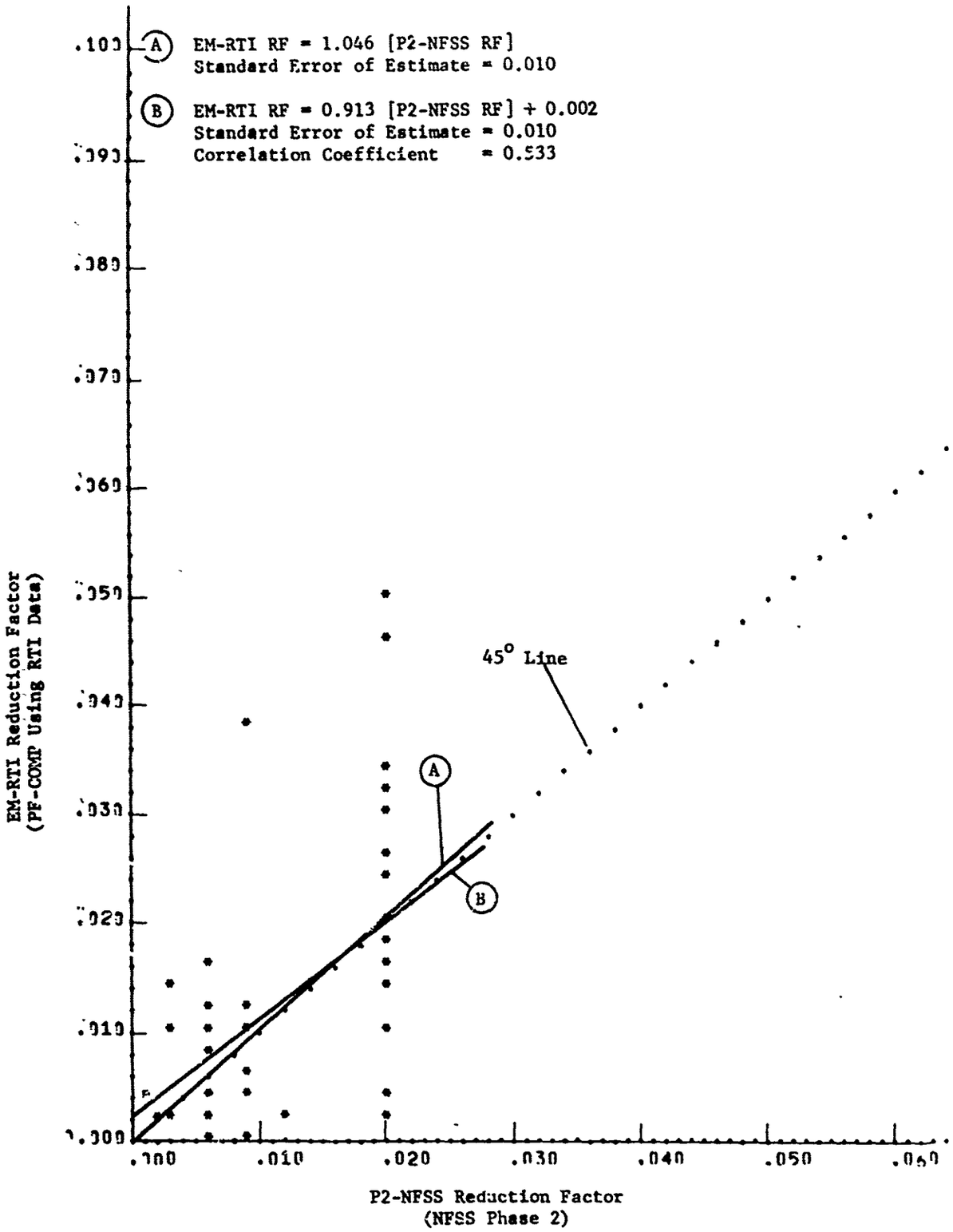


Fig. E.35. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Use Class Educational - 47 Shelter Stories)

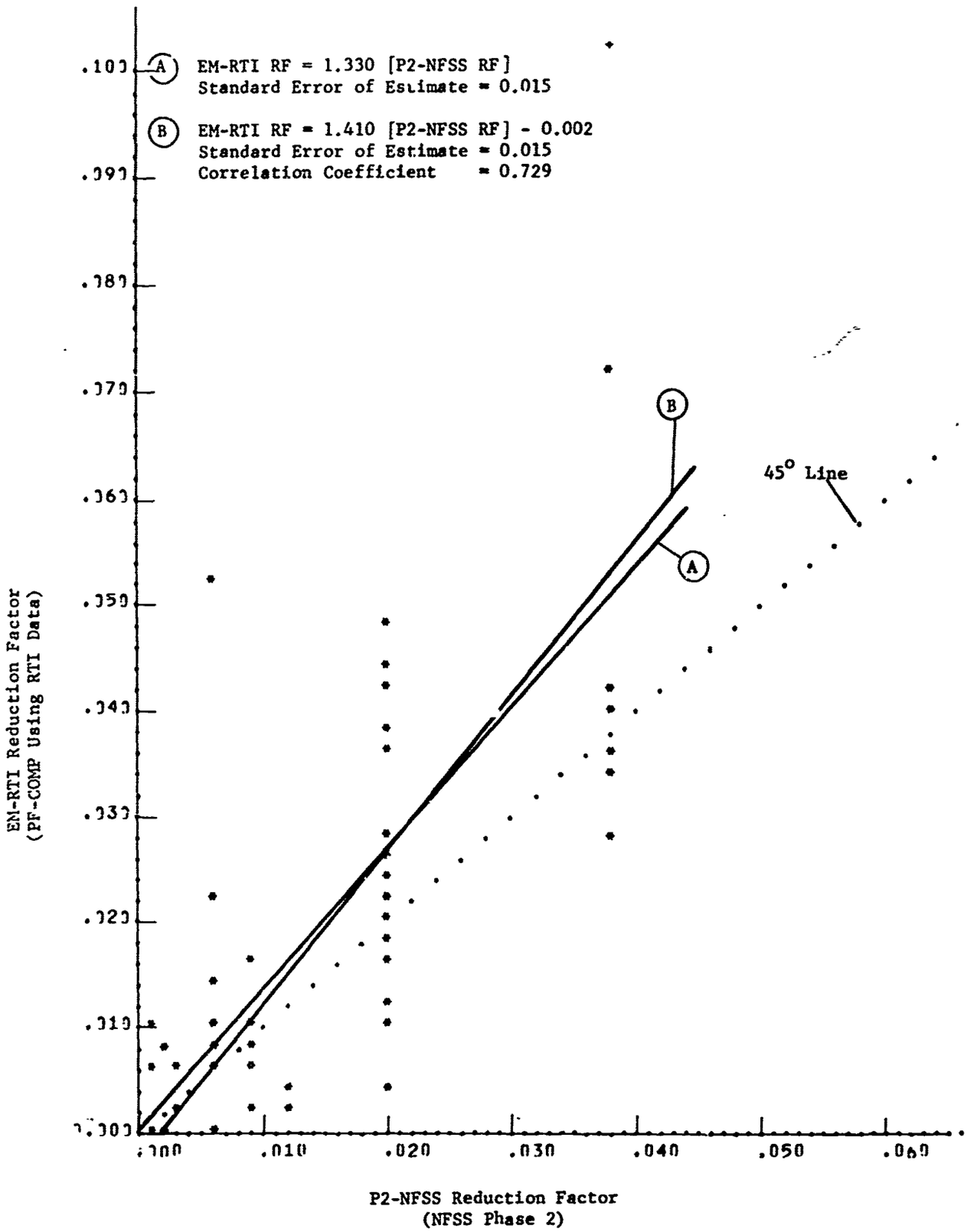


Fig. E.36. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Use Class Government and Public Service - 68 Shelter Stories)

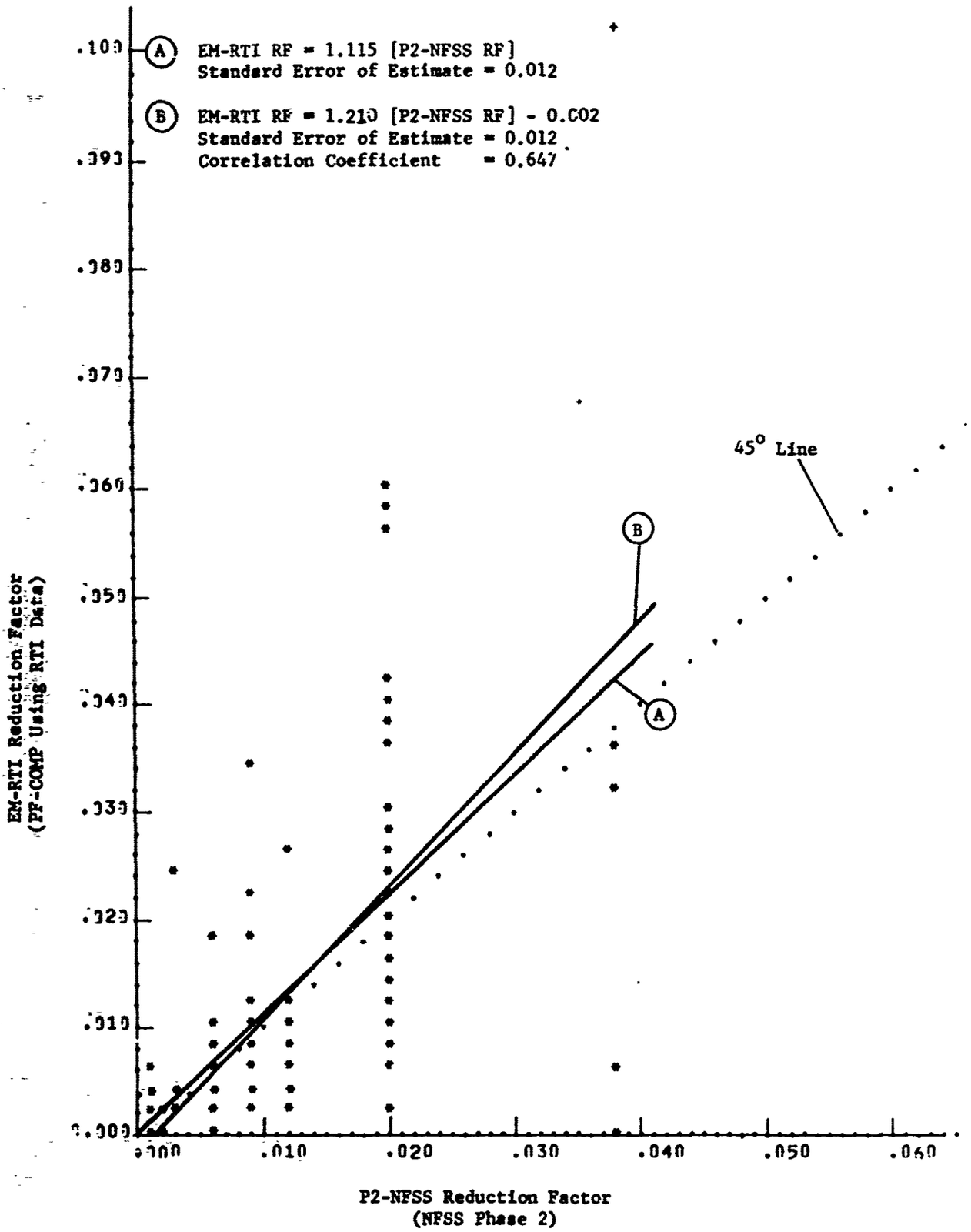


Fig. E.37. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Use Class Commercial - 151 Shelter Stories)

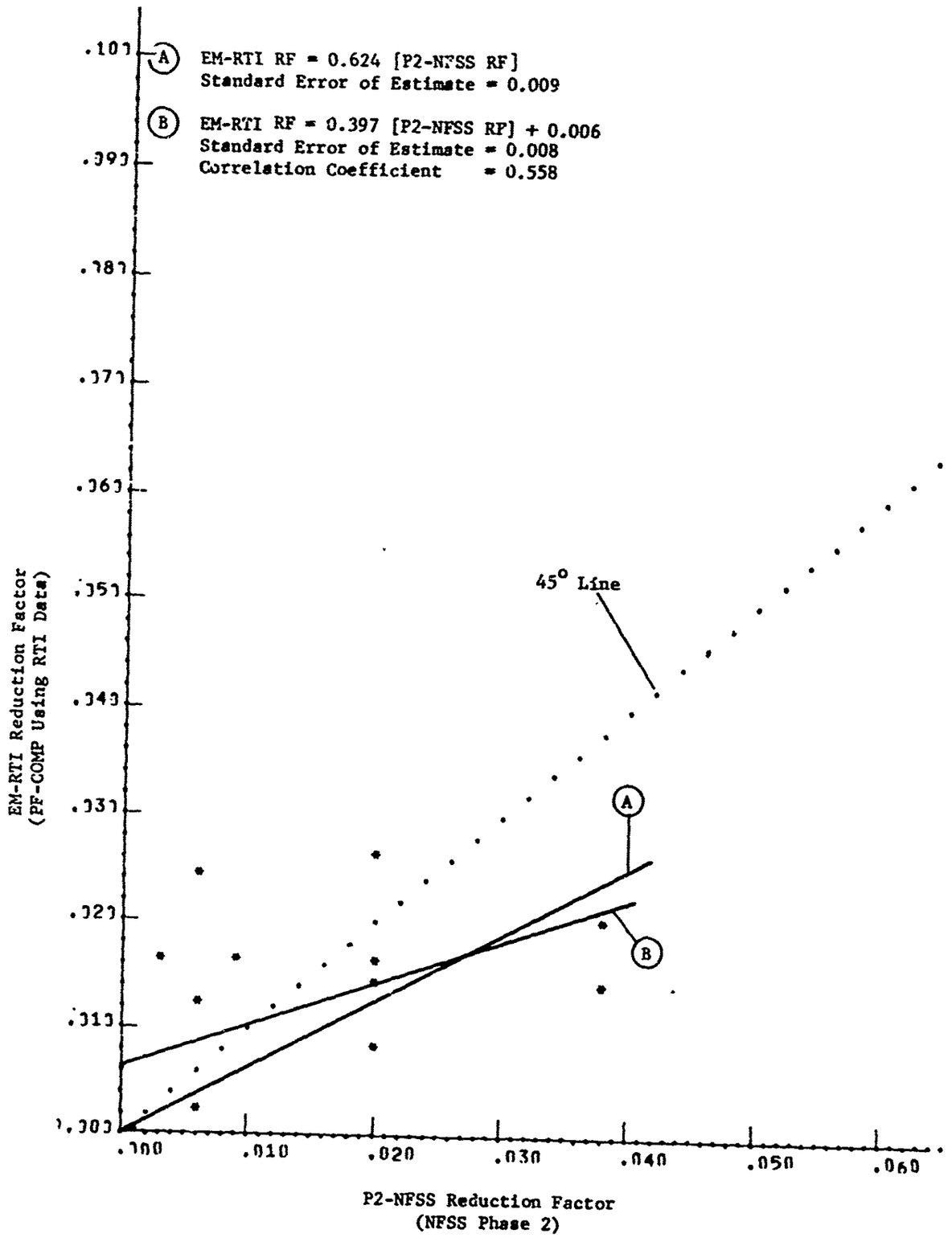


Fig. E.38. Relationship Between P2-NFSS and EM-RTI Reduction Factors. (Use Class Industrial - 16 Shelter Stories)

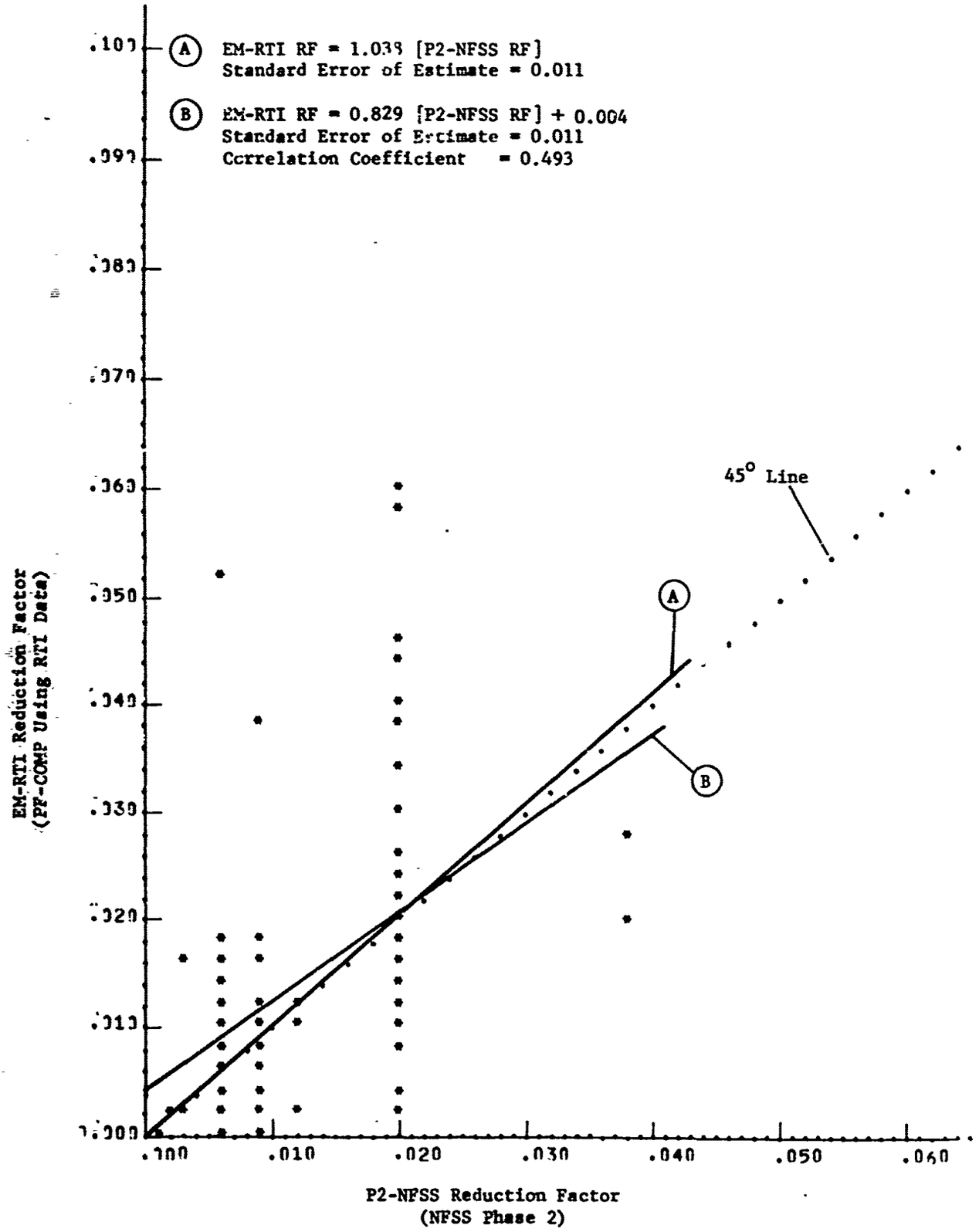


Fig. E.39. Relationship Between P2-NFSS and EM-RTI Reduction Factors. (Structural Classification Wall-Bearing - 98 Shelter Stories)

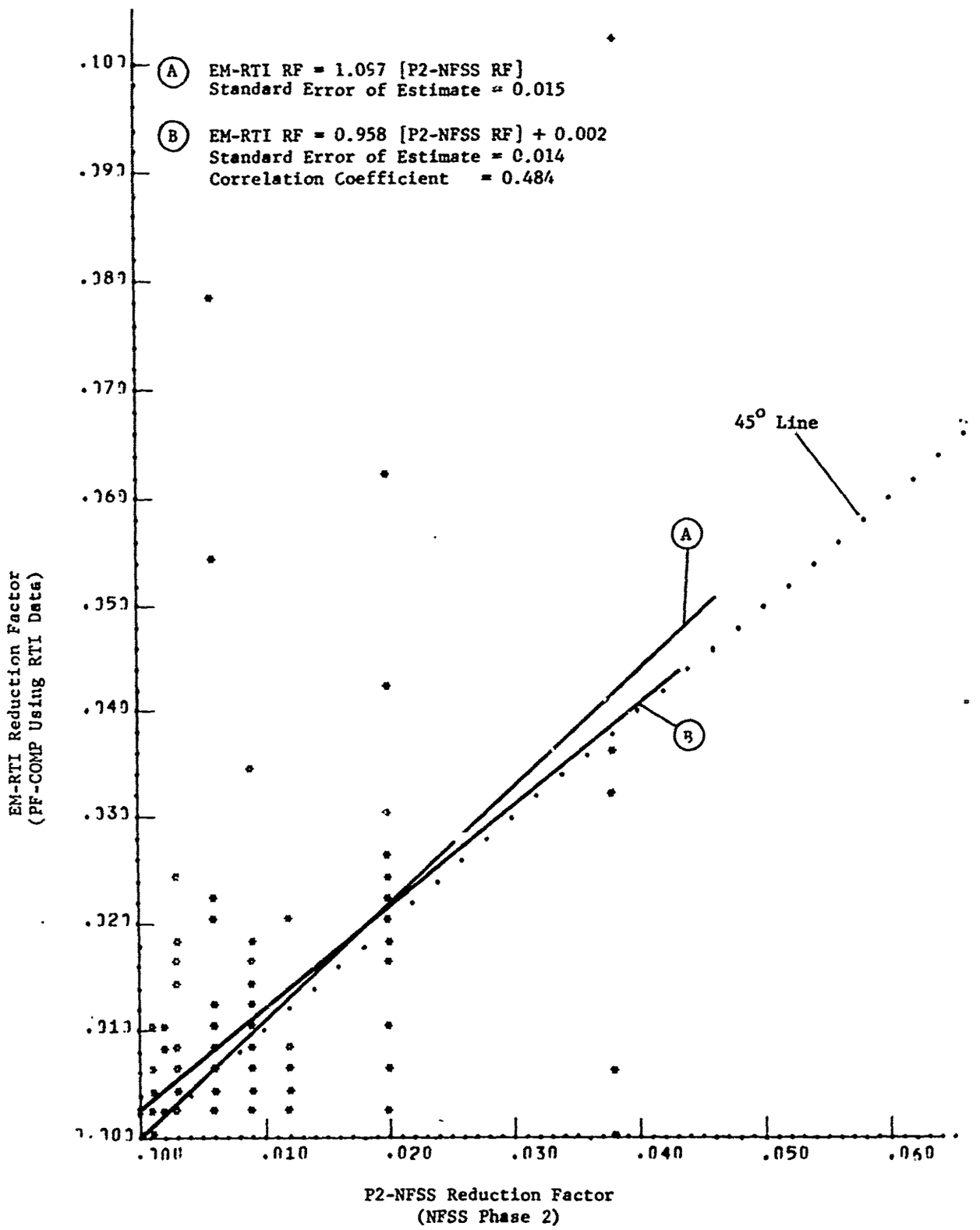


Fig. E.40. Relationship Between P2-NFSS and EM-RTI Reduction Factors. (Structural Classification Steel-Framed - 119 Shelter Stories)

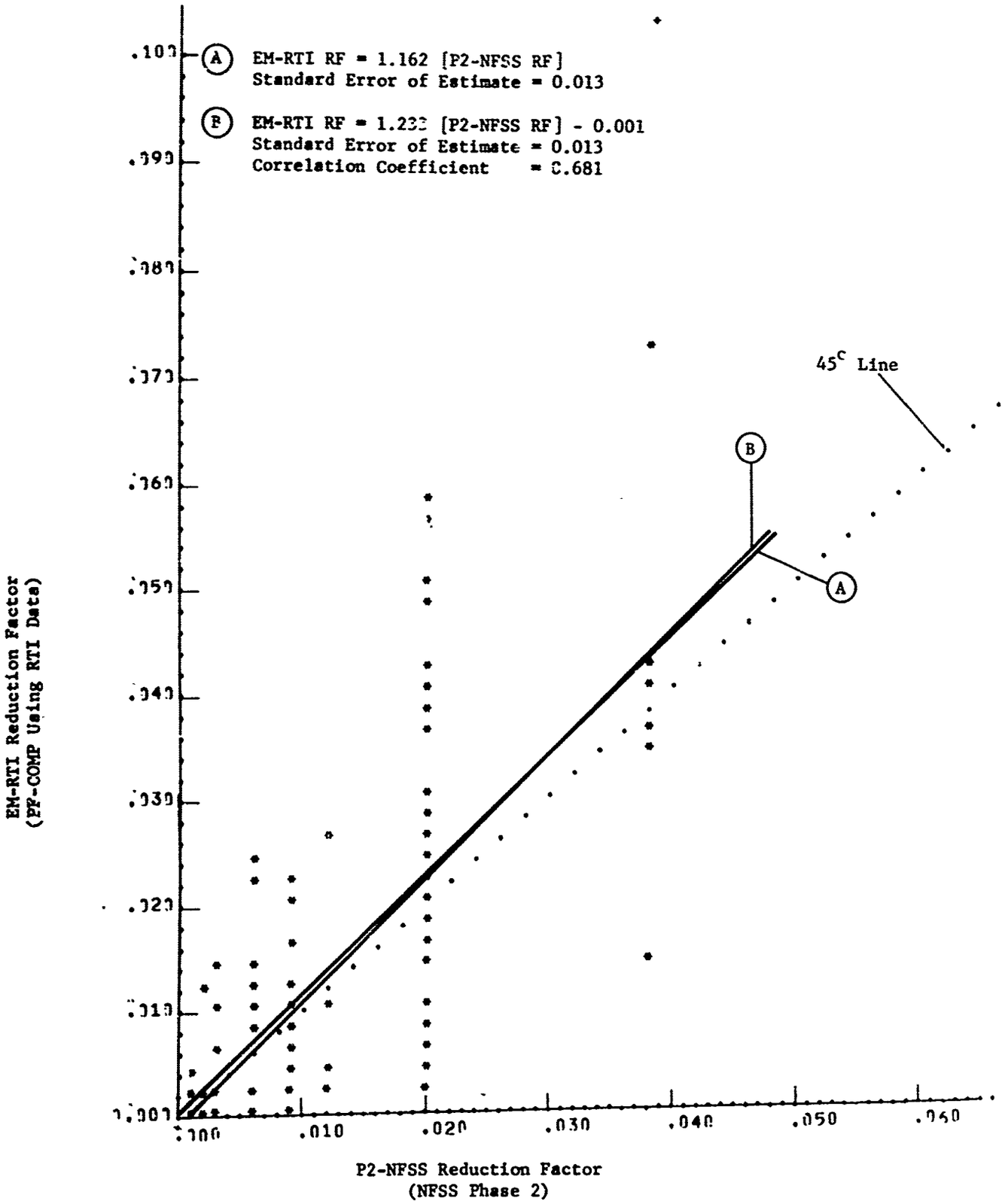


Fig. E.41. Relationship Between P2-NFSS and EM-RTI Reduction Factors.
(Structural Classification Concrete-Framed - 157 Shelter Stories)

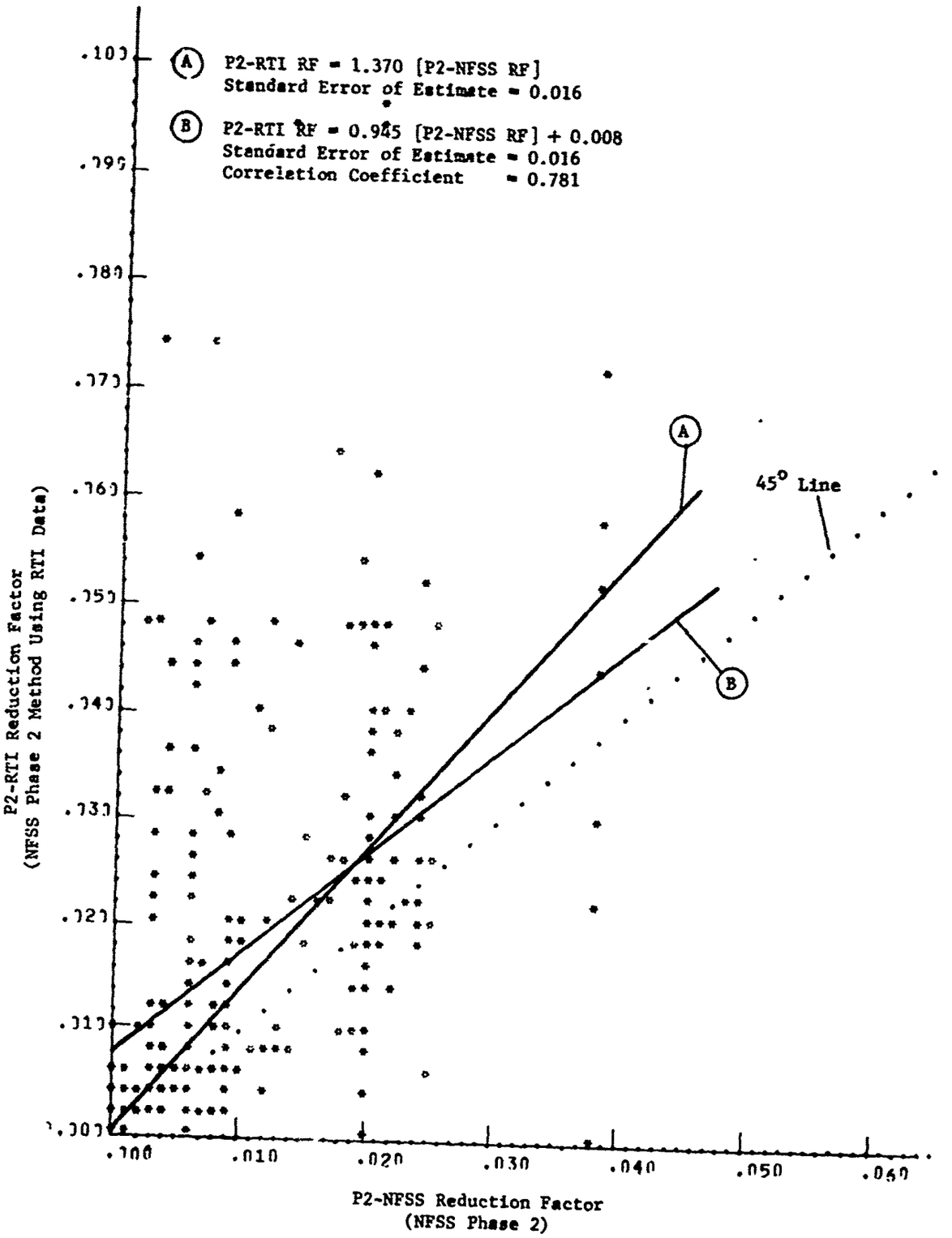


Fig. E.42 Relationship Between P2-NFSS and P2-RTI Reduction Factors. (Total Sample - 292 Shelter Stories)

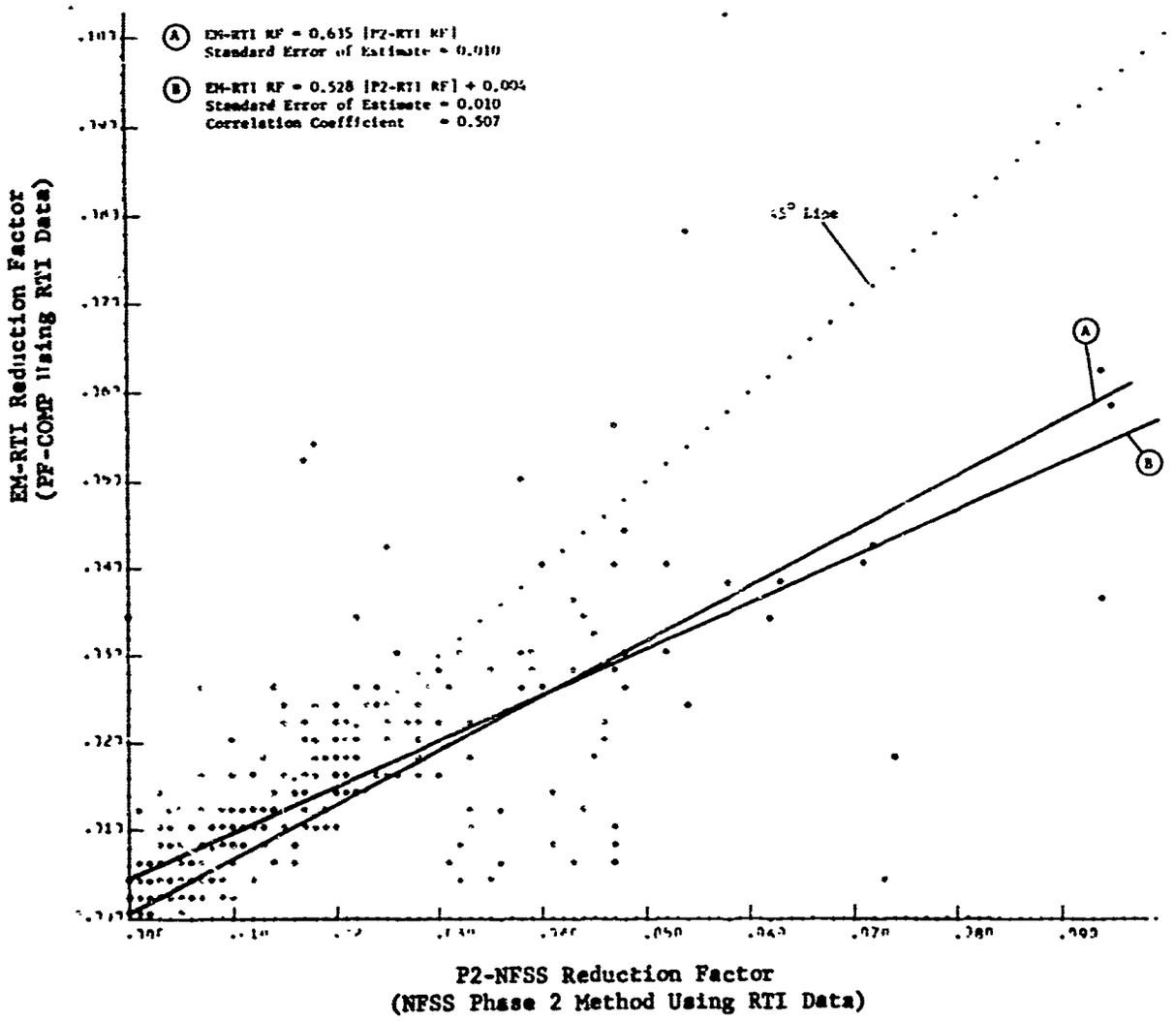


Fig. E.43, Relationship Between P2-RTI and EM-RTI Reduction Factors. (Total Sample - 292 Shelter Stories)

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)
Research Triangle Institute
P.O. Box 12194
Research Triangle Park, North Carolina 27709

2a. REPORT SECURITY CLASSIFICATION
Unclassified

2b. GROUP

3. REPORT TITLE

STATISTICAL ANALYSIS OF NFSS PROTECTION CATEGORIES

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)
Final Report: August 1966 - December 1968

5. AUTHOR(S) (First name, middle initial, last name)

R. O. Lyday, G. M. Botkin, E. L. Hill, and F. G. Giesbrecht

6. REPORT DATE
December 1968

7a. TOTAL NO. OF PAGES
133

7b. NO. OF REFS
14

8a. CONTRACT OR GRANT NO.
Stanford Research Institute
Subcontract No. 11213(4949A-72)

b. PROJECT NO.
Research Triangle Inscitute Project
c. CU-295
OCD Work Unit 1154C
d.

9a. ORIGINATOR'S REPORT NUMBER(S)
R-OU-295

9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)

10. DISTRIBUTION STATEMENT
This document has been approved for public release and sale; its distribution is unlimited.

11. SUPPLEMENTARY NOTES

12. SPONSORING MILITARY ACTIVITY
Office of Civil Defense
Office of the Secretary of the Army
Washington, D. C. 20310

13. ABSTRACT

The objective of this research was to determine the relationship between the center PF's of a sample of 334 facilities as evaluated in accordance with the Engineering Manual (PF-COMP) and the center PF's of the same facilities as evaluated in the NFSS prior to February 1967. In addition to PF's reported in NFSS Phases 1 and 2 and PF's calculated by PF-COMP using RTI collected data, the following separate estimates of the center PF were determined: NFSS Phase 1 and 2 methods using RTI input data, PF-COMP using NFSS input data, and PF-COMP using NFSS input data supplemented by additional building data collected by RTI. Conclusions regarding the relationship of the seven PF estimates are: 1) Revised NFSS PF's for individual buildings should not be estimated nor is any advantage seen in revised estimates of Phase 2 shelter PF's available in a geographic area such as a county. This conclusion is drawn because NFSS Phase 2 (P2-NFSS) PF's are nonconservative (high) when compared to Engineering Manual-RTI (EM-RTI) results and because of the difficulty in obtaining Phase 2 PF values other than by PF category. 2) PF's calculated using NFSS Phase 1 and 2 procedures and RTI collected input data (P1-RTI and P2-RTI) are both conservative (low) when compared to EM-RTI results. The nonconservative results determined in the NFSS are therefore attributed to data collection discrepancies. 3) Many buildings surveyed in the NFSS prior to February 1967 have PF's less than 40 and are consequently not contained in Phase 2 data files. The regression equation developed for the total sample to determine the relationship between P1-NFSS and EM-RTI could be used to estimate PF's of buildings in this category. 4) Procedures have been established whereby NFSS Phase 1 and 2 input data collected prior to February 1967 can be processed by PF-COMP. However, because of input discrepancies noted in the NFSS data when compared to RTI collected data, this method of estimating revised values for shelter stories is not recommended.

DD FORM 1 NOV 65 1473 REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

Unclassified

Security Classification

Unclassified

Security Classification

14. KEY WORDS	LINK A ROLE	LINK A WT	LINK B ROLE	LINK B WT	LINK C ROLE	LINK C WT
Buildings						
Surveys						
National Fallout Shelter Su[illegible]v						
Construction						
Fallout Shelters						
Shelters						
Structures						
Shielding						
Civil Defense Systems						
Protection Factor						

Unclassified

Security Classification