




Attachment RAI12

CALCULATION COVER SHEET

CALCULATION NUMBER:		N838SQUGOUT-035		REV: 1	PAGE i																		
CALCULATION TITLE:		Qualification of Masonry Block Wall No. A3-796.5-99-PQ-035																					
PROJECT NAME:		Oconee Nuclear Station, Unit 3																					
PROJECT NUMBER:		00003.22.0147	CLIENT:		Oconee Nuclear Station																		
SOFTWARE USAGE (Retain usage from prior revisions, if still applicable)																							
* Pre-Use Verification	Software Name	Version	Hardware Platform/ Operating System	Description of Functions, Features, Modules, Libraries, Modeling Techniques																			
	N/A																						
* Review Software Capabilities, Review Open Error Notices, Ensure Installation Test Completed and Access Control Satisfied, and Initial the Box, per DPR-3.5.																							
DESIGN VERIFICATION METHOD: <input checked="" type="checkbox"/> Design Review <input type="checkbox"/> Alternate Calculation <input type="checkbox"/> Qualification Testing		QA CONDITION <input type="checkbox"/> QA Condition 1 <input type="checkbox"/> QA Condition 2 <input type="checkbox"/> QA Condition 3 <input type="checkbox"/> QA Condition 4		SOFTWARE REVIEW CRITERIA <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">YES</th> <th style="text-align: left;">NA</th> <th style="text-align: left;">ITEM</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Software Capabilities Reviewed</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Open Error Notices Reviewed</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Software Used Correctly</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Software Results Documented</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Key Program Features Recorded</td> </tr> </tbody> </table>		YES	NA	ITEM	<input type="checkbox"/>	<input type="checkbox"/>	Software Capabilities Reviewed	<input type="checkbox"/>	<input type="checkbox"/>	Open Error Notices Reviewed	<input type="checkbox"/>	<input type="checkbox"/>	Software Used Correctly	<input type="checkbox"/>	<input type="checkbox"/>	Software Results Documented	<input type="checkbox"/>	<input type="checkbox"/>	Key Program Features Recorded
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	Preparer(s)	Verifier(s)		Approver																			
Signature																							
Printed Name	Daniel Williams	Tarun Sau		KENNETH R. BARLETT																			
Date	1-14-99	2-3-99		2-17-99																			

 TOTAL NUMBER OF PAGES IN DOCUMENT, INCLUDING ATTACHMENTS: 30

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STATEMENT OF PROBLEM:**FOR INFORMATION ONLY**

Revision 1 is to correct the drawing referenced in Reference 5, clarify the parameters for the qualification of the wall by comparison and to confirm the weight of the rollout door.

This calculation will evaluate masonry block walls not previously qualified as part of the response to IE Bulletin 80-11. This evaluation is needed as a result of USI-A46 (SQUG) equipment or cable tray (which may contain Safe Shutdown Equipment List (SSEL) conductors) that could be damaged due to potential seismic interactions with a masonry wall during a design basis event. This calculation evaluates the structural integrity of Wall No. A3-796.5-PQ-99-035 elevation 796'-6" between column lines P and Q and 99.

RELATIONSHIP TO NUCLEAR SAFETY:

This calculation was done in accordance with DE&S QA program. This calculation should be considered QA Condition 1 under the Duke Power QA Program. The Nuclear Safety Relationship of this calculation is that it resolves an outlier condition related to equipment identified to support the Safe Shutdown Equipment List (SSEL) per the resolution of USI A-46, SQUG.

FSAR APPLICABILITY:

Oconee Nuclear Station FSAR Section 3.7.

ANALYTICAL METHOD EMPLOYED:

Conventional structural analysis and comparison of subject block wall to similar previously qualified walls.

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REFERENCES:**FOR INFORMATION ONLY**

1. Specification For The Seismic Displacements and Response Spectra For The Turbine, Auxiliary, Reactor, and Standby Shutdown Facility Buildings; OS-027B.00-00-0002, Rev. 6.
2. IEB 80-11 Design Parameters; OSC-1288.
3. AISC, Manual of Steel Construction, Eighth Edition.
4. Oconee Nuclear Station Plant Drawing No. 0-1024-12, Oconee Nuclear Station Units 1-3, Auxiliary Building Unit-3.
5. Oconee Nuclear Station Plant Drawing No. 0-1029-04, Oconee Nuclear Station Units 1-3, Door Schedule, Auxiliary Building.
6. Oconee Nuclear Station Calculation No. OSC-1414-033, Seismic Qualification for Wall No. A2-796.5-RS-7475-0502.
7. Cookson Rolling Door Design Manual, The Cookson Company.

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ASSUMPTIONS:

None

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DISCUSSION:

This calculation addresses seismic qualification of Wall No. A3-796.5-PQ-99-035, which is adjacent to cable trays conservatively assumed to carry Safe Shutdown Equipment List (SSEL) Conductors. Due to proximity to potential SSEL conductors, failure of Wall No. A3-796.5-PQ-99-035 during a seismic event could result in failure of SSEL conductors. Qualification of Wall No. A3-796.5-PQ-99-035 will demonstrate by comparison of wall configuration and loading to walls previously qualified under the IE Bulletin 80-11 Program for Oconee. The IE Bulletin 80-11 acceptance criteria (Ref. 2) will be applied to the current wall evaluation. Wall No. A3-796.5-PQ-99-035 is an 8" thick block wall, and has five 4", one 3", and one 1" diameter penetration, one horizontal slot 28" x 2 1/2" masonry penetration, and a rolling door. Vertically, the wall height spans from the concrete floor to the concrete ceiling. Horizontally, the wall spans between two concrete columns.

The methodology used to qualify this wall will follow the same methodology used for wall A2-796.5-RS-7475-0502 in Calculation OSC-1414-033. Calculation No. OSC-1414-033 qualifies a 6" block wall. The wall evaluated in this calculation is an 8" thick block wall. Per Ref. 2, Page 6, out of plane flexural mode will always control overall wall acceptability

CALCULATION:

Wall Location: Elevation 796'-6"

Column Lines: 99 and between P-Q

Wall Parameters: Thickness = 8"

Width = 8'-0"

Height = 14'-5"

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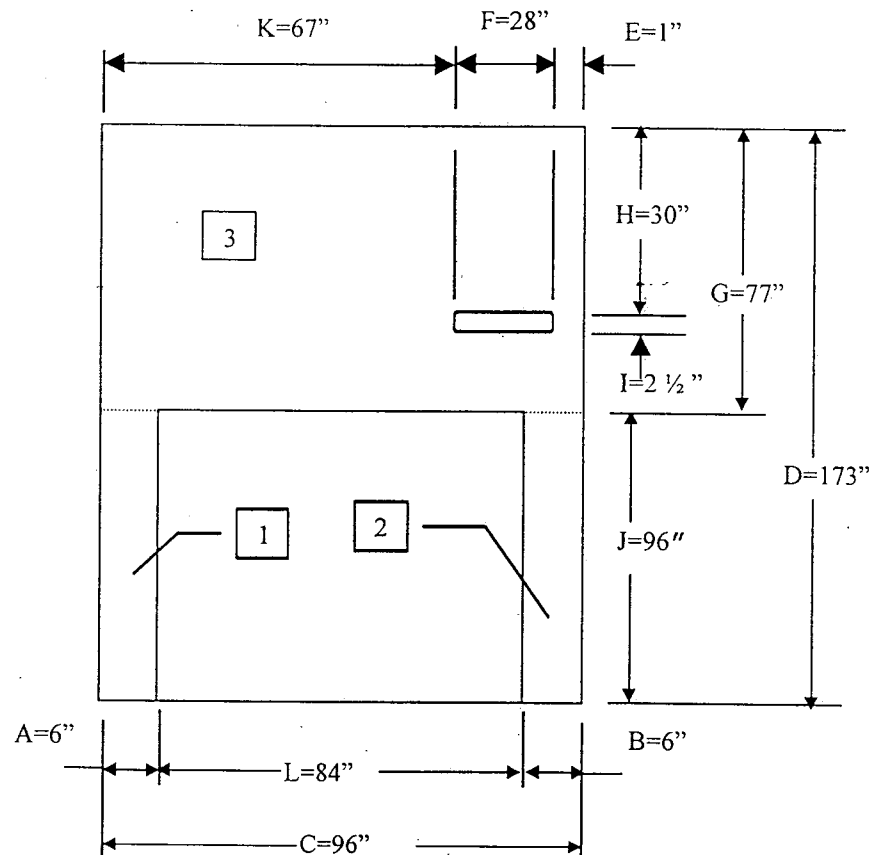


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Wall Connection (Top and Bottom): Concrete Floor and Concrete Ceiling
Wall Connection (Each Side): Concrete Columns

Penetrations: 28" x 2 1/2" Slotted Penetration
(5) 4" Diameter Penetration
(1) 3" Diameter Penetration
(1) 1" Diameter Penetration
84" x 96" Rolling Door

Attachments: None



Elev. Lkg. South

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Vertical span = 173"

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Horizontal span = 96"

$$2 \times 96'' = 192''$$

$$192'' > 173''$$

Vertical span controls. However, Parts 1 & 2 are 6" wide and will not contribute any significant stiffness to part 3. Part 3 will be evaluated independent of Parts 1 & 2 and as a horizontal span. Parts 1 & 2 are acceptable by observation and comparisons to the same parts of the 6" block Wall No. A2-796.5-RS-7475-0502, Calculation No. OSC-1414-033.

Determine the Wall Natural Frequency

Divide the wall into 3 parts:

Part 1 and 2 will span vertically.

Part 3 will span horizontally.

The (5) 4", (1) 1" and the (1) 3" diameter penetrations will be neglected since they do not take up an entire block. The door weight will be added to Part 3 with a weight of 700 lbs.

A := 6-in

F := 28-in

K := 67-in

B := 6-in

G := 77-in

L := 84-in

C := 96-in

H := 30-in

M := 700-lb

D := 173-in

I := 2.5-in

E := 1-in

J := 96-in

Where the openings are located the mass on either side of the openings will be added as a lump mass applied at the computed C.G. of the added mass considering a P-P beam that spans horizontally.

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Calculate the Total Weight on the Wall

$$Wt = \left[(J \cdot (A + B) + I \cdot (C - F) + C \cdot (H) + C \cdot (G - H - I)) \cdot \left[\frac{36.5 \frac{\text{lb}}{\text{ft}^2}}{144 \frac{\text{in}^2}{\text{ft}^2}} \right] \right] + M \quad Wt = 2.848 \cdot 10^3 \cdot \text{lb}$$

Calculate C.G. of Added Mass (M)

$$CG = \frac{\left[\left(A \cdot J \cdot \frac{A}{2} \right) + \left[B \cdot (J) \cdot \left(C - \left(\frac{B}{2} \right) \right) \right] + \left[K \cdot (I) \cdot \left(\frac{K}{2} \right) \right] + \left[C \cdot (H) \cdot \left(\frac{C}{2} \right) \right] + \left[C \cdot (G - H - I) \cdot \left(\frac{C}{2} \right) \right] + \left[E \cdot I \cdot \left(C - \frac{E}{2} \right) \right] \right] \cdot \frac{36.5 \frac{\text{lb}}{\text{ft}^2}}{144 \frac{\text{in}^2}{\text{ft}^2}} + \left[M \cdot \left(\frac{L}{2} + A \right) \right]}{Wt}$$

$$CG = 3.98 \text{ ft}$$

Calculate Added Mass (M) (Ref. 2, Pg.18)

$$M = \frac{\left[(J \cdot (A + B) + I \cdot (C - F)) \cdot \left(36.5 \frac{\text{lb}}{\text{ft}^2} \right) \cdot \left(\frac{1}{144} \frac{\text{ft}^2}{\text{in}^2} \right) \right] + M}{32.2 \frac{\text{ft}}{\text{sec}^2}} \quad M = 32.146 \text{ lb} \cdot \text{ft}^{-1} \cdot \text{sec}^2$$

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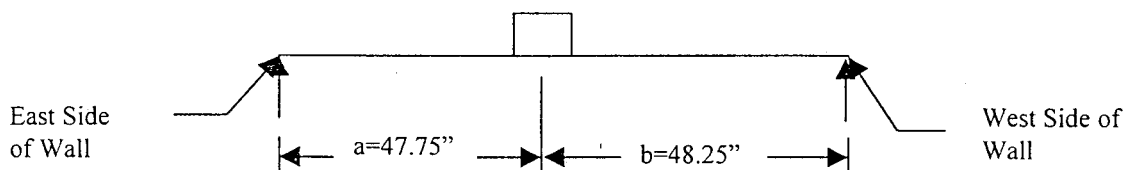
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Calculate Distributed Mass (M_b)(Ref. 2, Pg. 18)

$$M_b = \frac{(C) \cdot (G - 1) \cdot \left(\frac{36.5 \text{ lb}}{\text{ft}^2} \right) \cdot \frac{1 \cdot \text{ft}^2}{144 \text{ in}^2}}{32.2 \frac{\text{ft}}{\text{sec}^2}}$$

$$M_b = 56.3 \text{ lb} \cdot \text{ft}^{-1} \cdot \text{sec}^2$$

Evaluate Wall Natural Frequency (Ref. 2, Pg. 7, 19, 21, & 25)



$$L_{\text{eff.}} = (77 - 2.5) \cdot \text{in} \cdot \left(\frac{1 \cdot \text{ft}}{12 \cdot \text{in}} \right)$$

$$L_{\text{eff.}} = 6.21 \cdot \text{ft}$$

$$E = 1 \cdot 10^6 \cdot \frac{\text{lb}}{\text{in}^2}$$

$$a = 47.75 \cdot \text{in}$$

$$b = 48.25 \cdot \text{in}$$

$$I = 308.71 \cdot \frac{\text{in}^4}{\text{ft}} \cdot (L_{\text{eff.}})$$

$$I = 1.917 \cdot 10^3 \cdot \text{in}^4$$

$$EI = E \cdot I \cdot \frac{1 \cdot \text{ft}^2}{144 \cdot \text{in}^2}$$

$$EI = 1.331 \cdot 10^7 \cdot \text{lb} \cdot \text{ft}^2$$

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$$\alpha = \frac{\frac{((2 \cdot b) + a)^2}{12 \cdot b^2} + \frac{a^2}{28 \cdot b^2} - \frac{((2 \cdot b) + a) \cdot a}{10 \cdot b^2}}{\frac{a}{a + b}}$$

$$\alpha = 0.241$$

$$\beta = \frac{\frac{((2 \cdot a) + b)^2}{12 \cdot a^2} + \frac{b^2}{28 \cdot a^2} - \frac{((2 \cdot a) + b) \cdot b}{10 \cdot a^2}}{\frac{b}{a + b}}$$

$$\beta = 0.245$$

$$f_1 = \left(\frac{1}{2 \cdot \pi} \right) \cdot \left[\frac{(3 \cdot EI) \cdot (a + b)}{a^2 \cdot b^2 \cdot [M_{\text{Added}} + (\alpha + \beta) \cdot M_b]} \right]^{\frac{1}{2}}$$

$$f_1 = 23.05 \text{ sec}^{-1}$$

$$f_{1\text{min}} = .77 \cdot f_1$$

$$f_{1\text{min}} = 17.748 \text{ sec}^{-1}$$

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From Ref. 1, N-S Acceleration for Part 3 (Transverse to Wall) (Ref. 1, Appendix B, Page 6)

Elev. 796'-6", 2% Damping: $a = 0.67$ (Peak)

Elev. 822'-0", 2% Damping: (Governs for Part 3) $a = 0.95$ (Peak)

From Ref. 1, N-S Acceleration for Part 1 and 2, Use Zero Period (Ref. 2, Page 67d) to Find Acceleration (Transverse to Wall) (Ref. 1, Appendix B, Page 6)

Elev. 796'-6", 2% Damping: $a = 0.14$ (ZPA)

Elev. 822'-0", 2% Damping: $a = 0.20$ (ZPA)

Shear and Moment Distribution for Part 3 considering a P-P member (Ref. 3, Pg. 2-116, No. 8)

Calculate the uniform load (w) on the wall without considering the penetrations. Load acts downward when considering a horizontal span of Part 3.

a = acceleration (N-S, Peak Acc.)

L = length of wall

H = height of wall

W = weight of 8" block (Ref. 2, Pg.18)

$$a = 0.95$$

$$H = 6.4 \text{ ft}$$

$$L = 8.0 \text{ ft}$$

$$W = 36.5 \frac{\text{lb}}{\text{ft}^2}$$

$$w = W \cdot a \cdot L$$

$$w = 277.4 \cdot \text{lb} \cdot \text{ft}^{-1}$$

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Calculate the load from Part 1 and 2 with the load acting downward when applied to Part 3 when considering a horizontal span of Part 3.

a = acceleration (N-S, ZPA Acc.)

L = length of wall

H = height of wall

W = weight of 8" block (Ref. 2, Page 18)

$$a = 0.2$$

$$W = 36.5 \frac{\text{lb}}{\text{ft}^2}$$

$$H = 8 \text{ ft}$$

$$w = W \cdot a \cdot H$$

$$w = 58.4 \text{ lb} \cdot \text{ft}^{-1}$$

Calculate the load from the roll-up door. The doorframe is rigidly attached to the block wall and will respond with the wall. For the door use the same acceleration as used for the wall.

L = Length of door

W = Weight of door

a = acceleration (N-S, Peak Acc.)

$$a = 0.95$$

$$W = 700 \text{ lb}$$

$$L = 7 \text{ ft}$$

$$w = \frac{W \cdot a}{L}$$

$$w = 95 \text{ lb} \cdot \text{ft}^{-1}$$

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Calculate the load from the slotted hole with the load being subtracted from the uniform loads previously calculated.

a = acceleration (N-S, Peak Acc.)

L = length of slotted hole

H = height of slotted hole

W = weight of 8" block

$$a = 0.95$$

$$W = 36.5 \frac{\text{lb}}{\text{ft}^2}$$

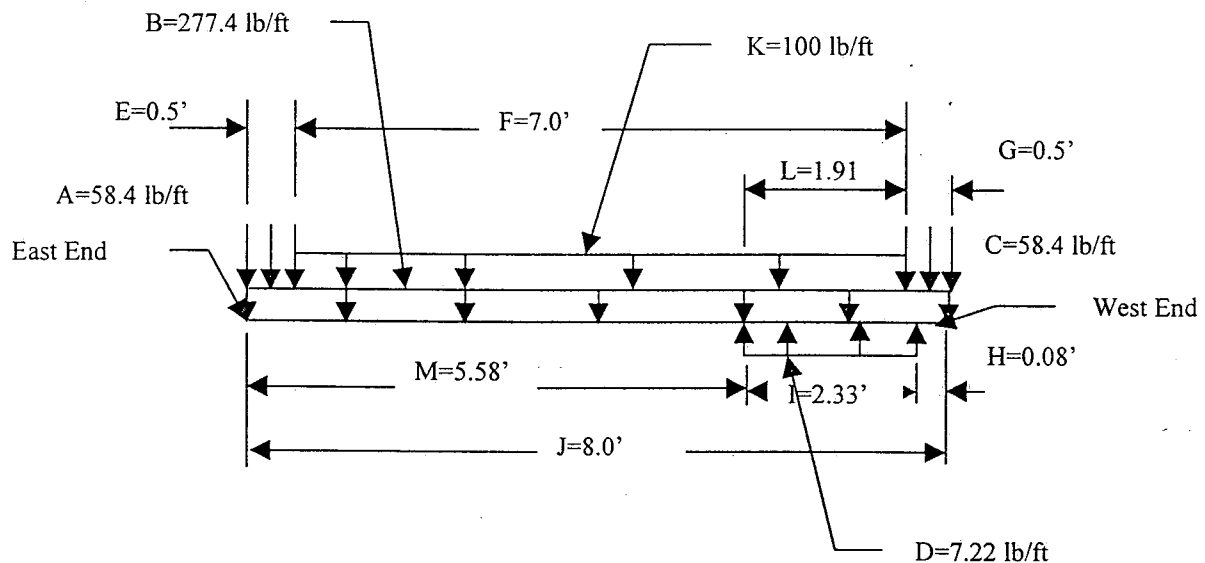
$$H = 2.5 \cdot \text{in} \cdot \left(\frac{1 \cdot \text{ft}}{12 \cdot \text{in}} \right)$$

$$H = 0.208 \text{ ft}$$

$$w = a \cdot (H) \cdot W$$

$$w = 7.22 \text{ lb} \cdot \text{ft}^{-1}$$

Transverse Loading Distribution for Part 3:



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Calculate the reactions for the east and west ends of the wall.

$$A = 58.4 \frac{\text{lb}}{\text{ft}}$$

$$C = 58.4 \frac{\text{lb}}{\text{ft}}$$

$$E = 0.5 \cdot \text{ft}$$

$$H = 0.08 \cdot \text{ft}$$

$$K = 100 \frac{\text{lb}}{\text{ft}}$$

$$F = 7 \cdot \text{ft}$$

$$I = 2.33 \cdot \text{ft}$$

$$L = 1.91 \cdot \text{ft}$$

$$B = 277.4 \frac{\text{lb}}{\text{ft}}$$

$$D = 7.22 \frac{\text{lb}}{\text{ft}}$$

$$G = 0.5 \cdot \text{ft}$$

$$J = 8.0 \cdot \text{ft}$$

$$M = 5.58 \cdot \text{ft}$$

Sum the moments around the west end to find the resultant load on the east side (R_E).

$$R_E = \frac{\left[A \cdot E \cdot \left(F + G + \frac{E}{2} \right) \right] + \left[K \cdot F \cdot \left(\frac{F}{2} + G \right) \right] + \left(B \cdot J \cdot \frac{J}{2} \right) + C \cdot G \cdot \left(\frac{G}{2} \right) - D \cdot I \cdot \left(H + \frac{I}{2} \right)}{J}$$

$$R_E = 1.486 \cdot 10^3 \cdot \text{lb}$$

Calculate the reaction on the west end of the wall (R_W) by summing the forces.

$$R_W = (A \cdot E) + (K \cdot F) + (B \cdot J) + (C \cdot G) - (D \cdot I) - R_E$$

$$R_W = 1.47 \cdot 10^3 \cdot \text{lb}$$

Determine values for shear diagram:

$$R_E - (B + A) \cdot E = 1.318 \cdot 10^3 \cdot \text{lb}$$

$$1318 \cdot \text{lb} - (B + K) \cdot (M - E) = -599.192 \cdot \text{lb}$$

$$-599.19 \cdot \text{lb} - (B + K - D) \cdot (L) = -1.306 \cdot 10^3 \cdot \text{lb}$$

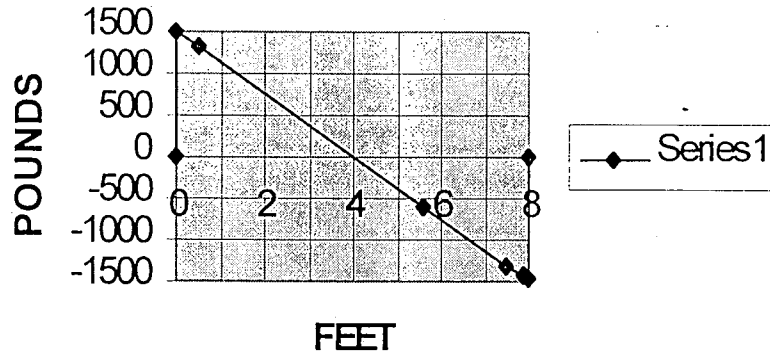
$$-1306 \cdot \text{lb} - (B + C - D) \cdot (G - H) = -1.444 \cdot 10^3 \cdot \text{lb}$$

$$-1444 \cdot \text{lb} - (B + C) \cdot (H) = -1.471 \cdot 10^3 \cdot \text{lb}$$

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Shear Diagram for Part 3



Determine location (X) of zero shear from east edge:

$$X = 0.5 \text{ ft} + \left[\frac{1318 \text{ lb} \cdot (5.08 \text{ ft})}{(1318 \text{ lb} + 599 \text{ lb})} \right]$$

$$X = 3.993 \text{ ft}$$

Use $x = 4 \text{ ft}$.

Determine the maximum moment located at $x = 4 \text{ ft}$:

$$0.5 \text{ ft} \cdot (1318 \text{ lb}) + (1486 \text{ lb} - 1318 \text{ lb}) \cdot (0.5 \text{ ft}) \cdot \left(\frac{1}{2} \right) = 701 \text{ lb} \cdot \text{ft}$$

$$701 \text{ lb} \cdot \text{ft} + \left(\frac{1}{2} \right) \cdot (4 \text{ ft} - 0.5 \text{ ft}) \cdot (1318 \text{ lb}) = 3.008 \cdot 10^3 \text{ lb} \cdot \text{ft}$$

The maximum moment at $x = 4 \text{ ft}$ is 3008 lb.-ft.

$$M_{\max} = 3008 \text{ lb} \cdot \text{ft}$$

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From the shear and moment diagrams the maximum values are:

$$V_{\max} = 1470 \text{ lbs.}$$

$$M_{\max} = 3008.0 \text{ lb-ft}$$

Check Stress of Critical Section of Part 3

Determine the section modulus for an 8" block using page 19 of Ref. 2.

$$L_{\text{eff.}} = 4.29 \text{ ft}$$

$$c = 3.8125 \text{ in}$$

$$I = 308.71 \cdot \frac{\text{in}^4}{\text{ft}} \cdot L_{\text{eff.}}$$

$$I = 1.324 \cdot 10^3 \cdot \text{in}^4$$

$$S = \frac{I}{c}$$

$$S = 347.375 \cdot \text{in}^3$$

$$M_{\max} = 3008.0 \cdot \text{ft} \cdot \text{lb}$$

$$\sigma = \frac{M_{\max}}{S}$$

$$\sigma = 103.911 \cdot \text{lb} \cdot \text{in}^{-2}$$

Actual stress is greater than the allowable stress of 23.4 PSI, which has a 67% increase. Use arching action to qualify Part 3.

Rev.	Orig.	Date	Chkd.	Date	
					Client/Project: <u>OCONEE NUCLEAR STATION</u>
					Subject: <u>QUALIFICATION OF MASONRY BLOCK</u>
					<u>WALL NO. A3-796.5-PQ-99-035</u>
					Calc. No.: <u>N838SQUGOUT-035</u> Sht. <u>15</u> of <u>19</u>
0	DRW	4-24-98	GNC	4-24-98	



Part 3 could not be qualified in flexural stress. Use Arching Action to qualify the wall. (Ref. 2, Pages 71, 71A, & 72)

ξ_c , Ref. 2, Page 71

d = Half Block Width

L = Half Wall Height

$S_c = 0.85(f_m')$

M_{Rated} = Rated Moment

$1/R$ = Rated Resisting Moment by Arching

Compressive Strength (f_m') = Y , (Ref. 2, Page 22.16)

Max. Moment = 3008 ft-lbs

$$X := \frac{1}{R}$$

$$d := \frac{7.625 \cdot \text{in}}{2}$$

$$d = 3.813 \cdot \text{in}$$

$$\epsilon_c := 0.00085$$

$$L := \frac{96 \cdot \text{in}}{2}$$

$$L = 48 \cdot \text{in}$$

$$Y := 1000 \cdot \frac{\text{lb}}{\text{in}^2}$$

$$S_c := 0.85 \cdot Y$$

$$S_c = 850 \cdot \text{lb} \cdot \text{in}^{-2}$$

$$X = \frac{4 \cdot d^2}{\epsilon_c \cdot L^2}$$

$$X = 29.688$$

From the table on Page 71 of Ref. 2 the Rated Resisting Moment by Arching (X_1) to be used is 0.6643. This number is conservative.

$$X_1 = 0.6443$$

Rev.	Orig.	Date	Chkd.	Date	
					Client/Project: <u>OCONEE NUCLEAR STATION</u>
					Subject: <u>QUALIFICATION OF MASONRY BLOCK</u>
					<u>WALL NO. A3-796.5-PQ-99-035</u>
					Calc. No.: <u>N838SQUGOUT-035</u> Sht. <u>16</u> of <u>19</u>
0	DRW	4-24-98	SWC	4-24-98	

FOR INFORMATION ONLY

Calculate the Rated Moment in Terms of Ft-Lbs. / Ft. Width (Ref. 2, Page 71)

$$X_1 = 0.6643 \quad S_c = 850 \frac{\text{lb}}{\text{in}^2} \quad d = 3.813 \text{ in}$$

$$M_{\text{Rated}} = \frac{X_1 \cdot (S_c) \cdot d^2}{4} \quad M_{\text{Rated}} = 2.052 \cdot 10^3 \cdot \text{lb}$$

Rated Moment of Part 3 is 2.052×10^3 ft-lb / ft. width

Calculate the Total Rated Moment of Part 3

$$H = 6.417 \text{ ft} \quad M_{\text{Total}} = M_{\text{Rated}} \cdot H$$

$$M_{\text{Total}} = 1.317 \cdot 10^4 \cdot \text{lb} \cdot \text{ft}$$

The total moment capacity that the wall is rated for per the Arching Action Theory is 13,170.0 lb-ft., which is greater than the Maximum Moment of 3,008 ft-lb calculated for Part 3. The chart used on Page 71 of Ref. 2 has a factor of safety of 3 calculated into the numbers. Therefore, Part 3 is qualified in flexural stress using the Arching Action Theory.

Rev.	Orig.	Date	Chkd.	Date	
					Client/Project: <u>OCONEE NUCLEAR STATION</u>
					Subject: <u>QUALIFICATION OF MASONRY BLOCK</u>
					<u>WALL NO. A3-796.5-PQ-99-035</u>
					Calc. No.: <u>N838SQUGOUT-035</u> Sht. <u>17</u> of <u>19</u>
0	DRW	4-24-98	GNC	4-24-98	

FOR INFORMATION ONLY

Check Shear Stress

Part 3:

V_{\max} = maximum shear stress (Taken from shear diagram)

W = effective beam length

A_v = shear area (Ref. 2, Pg. 19)

$$V_{\max} = 1486 \text{ lb}$$

$$W = (54 - 2.5) \cdot \text{in}$$

$$W = 51.5 \cdot \text{in}$$

$$A_v = 16.67 \frac{\text{in}^2}{\text{ft}} \cdot W$$

$$A_v = 71.542 \cdot \text{in}^2$$

$$f_v = \frac{V_{\max}}{A_v}$$

$$f_v = 20.771 \cdot \text{lb} \cdot \text{in}^{-2}$$

Shear Allowable = 34.8 psi (Ref. 2, Pg. 21)

Part 3 is acceptable in shear.

The openings in the wall, Parts 1 and 2, and the interstory drift are qualified by comparison to Wall No. A2-796.5-RS-7475-0502, Calculation No. OSC-1414-033. The opening in the wall is smaller than the comparison wall and the door openings are equivalent with the comparison door being slightly smaller. With the allowable margin calculated in Calculation No. OSC-1414-033 for Part 1 and 2, the door/openings and interstory drift the smaller block size does not effect the comparison.

Rev.	Orig.	Date	Chkd.	Date	
					Client/Project: <u>OCONEE NUCLEAR STATION</u>
					Subject: <u>QUALIFICATION OF MASONRY BLOCK</u>
					<u>WALL NO. A3-796.5-PQ-99-035</u>
					Calc. No.: <u>N838SQUGOUT-035 Sht. 18 of 19</u>
0	DRW	4-24-18	GWC	4-24-18	

Verify Rollup Door Weight:

FOR INFORMATION ONLY

From Dwg. 0-1029-04 (Ref. 5) the rollup door is 7'-0" W x 8'-0" H. The door is a hollow metal steel door with a hand chain. The frame detail is 78" x 83".

Using the information provided in the Cookson Rolling Door Design Manual (Ref. 6 and Attachment B) calculate the weight of an equivalent rolling door.

From the information provided in the Cookson Design Manual the following will be used:

Slat #5 (5/8" x 2 1/4")

Bottom Bar Detail (2) L2 x 2 x 3/16 x 7'-0"

Face of Wall Mount Masonry Jamb (Consider (3) L2 1/2" x 2 1/2" x 1/4" x 9'-4 1/2" Lg.)

4" Hollow Tube x 7'-0" Lg.

Roller Hood (14 x 13 x 7'-0" x 0.04")

Sprocket, Chain, and Spring

Calculate Weight of Rollup Door:

Slat #5 (5/8" x 2 1/4")

For a 2 1/4" tall slat in a 8'-0" tall opening approximately 50 slats will be considered.

$$\text{Slat Wt.} = 50 \left[2(0.625") + 2.25" \right] (84") (0.04") \left(490 \frac{\text{lb}}{\text{ft}^3} \right) \left(\frac{1 \text{ Ft}^3}{1728 \text{ in}^3} \right) = 167 \text{ lbs.}$$

Bottom Bar Detail (2) L2 x 2 x 3/16 x 7'-0"

From AISC manual the weight of L2 x 2 x 3/16 = 2.44 lbs./Ft.

$$\text{Bar Wt.} = 2 \left(2.44 \frac{\text{lb.}}{\text{Ft.}} \right) \left(\frac{84"}{12} \right) = 34.16 \text{ lbs.}$$

Rev.	Orig.	Date	Chkd.	Date	
					Client/Project: <u>OCONEE NUCLEAR STATION</u>
					Subject: <u>QUALIFICATION OF MASONRY BLOCK</u>
					<u>WALL NO. A3-796.5-PQ-99-035</u>
					Calc. No.: <u>N838SQUGOUT-035</u> Sht. <u>19</u> of <u>19</u>
1	DRW	1-14-99	TWJ	2-3-99	

FOR INFORMATION ONLY

Face of Wall Mount Masonry Jamb (Consider (3) L2 ½" x 2 ½" x ¼" x 9'-4½" Lg.)

From AISC manual the weight of L2 ½" x 2 ½" x ¼" = 4.1 lb./Ft.

$$\text{Angle Wt.} = 2(3) \left(4.1 \frac{\text{lb.}}{\text{Ft.}} \right) [96" + 3.5" + 13"] \left(\frac{1}{12} \right) = 230 \text{ lbs.}$$

4" Hollow Tube x 7'-0" Lg.

From AISC manual the weight of a 4" Tube = 10.79 lb./Ft.

$$\text{Tube Wt.} = 10.79 \frac{\text{lb.}}{\text{Ft.}} (7') = 75.53 \text{ lbs.}$$

Roller Hood (14 x 13 x 7'-0" x 0.04")

$$\text{Hood Wt.} = [2(14" \times 13") + 14" (84") + 13" (84")] (0.04") \left(490 \frac{\text{lb.}}{\text{Ft.}} \right) \left(\frac{1 \text{ Ft}^3}{1728 \text{ in}^3} \right) = 29.85 \text{ lbs.}$$

Consider:

Sprocket = 10 lbs.

Chain = 5 lbs.

Spring = 30 lbs.

$$\text{Total Wt.} = (167 + 34.16 + 230 + 75.53 + 29.85 + 10 + 5 + 30) \text{ lbs.} = 581.54 \text{ lbs.}$$

Increase the weight by 10% for miscellaneous bolts and rollers = 640 lbs.

Therefore the weight of 700 lbs. used in the evaluation of the wall is conservative.

Rev.	Orig.	Date	Chkd.	Date	
					Client/Project: OCONEE NUCLEAR STATION
					Subject: QUALIFICATION OF MASONRY BLOCK
					WALL NO. A3-796.5-PQ-99-035
					Calc. No.: N838SQUGOUT-035 Sht. 19.1 of 19
1	DRW	1-14-99	TKS	2-3-99	

FOR INFORMATION ONLY

Form DPR -3.2B

Page 1 of 1

Revision 1

The portion above the rollup door (Part 3) is qualified using a horizontal span as per the bounding Wall No. A2-796.5-RS-7475-0502 (Ref. 6).

From the following comparison the wall opening configurations, the portion of the wall on each side of the door and the interstory drift qualified in this calculation is bounded by the wall opening configurations, the same sections on each side of the door, and interstory drift previously qualified in Oconee Calculation No. OSC-1414-033. This is done due to the low stresses and the smaller blocks for the comparison wall. The larger 8" blocks will increase the section modulus thus lowering the stresses. The differences are minor and will result in acceptable stresses for the wall. All other aspects of the wall are qualified in this calculation.

CONCLUSION:

Wall No. A3-796.5-PQ-99-035 is qualified by the previous calculation and has been shown to satisfy all applicable acceptance criteria of OSC-1288, Rev. 17(Ref. 2).

Rev.	Orig.	Date	Chkd.	Date	
					Client/Project: OCONEE NUCLEAR STATION
					Subject: QUALIFICATION OF MASONRY BLOCK
					WALL NO. A3-796.5-PQ-99-035
					Calc. No.: N838SQUGOUT-035 Sht. 19.2 of 19
1	Dpw	1-14-99	TKS	2-3-99	

FOR INFORMATION ONLY

ATTACHMENT A
Calculation N838SQUGOUT-035, Rev. 0
(Walkdown Information)
Page 1 of 2

The information found on this sketch is an accumulation of information taken from plant drawings or taken during a field walkdown. Any information not found on the architectural drawing was verified during a field walkdown with a tolerance of $\pm 6"$. The method used within this calculation to apply the walkdown data is conservative and this tolerance is acceptable.

Wall No. A3-796.5-99-PQ-0035

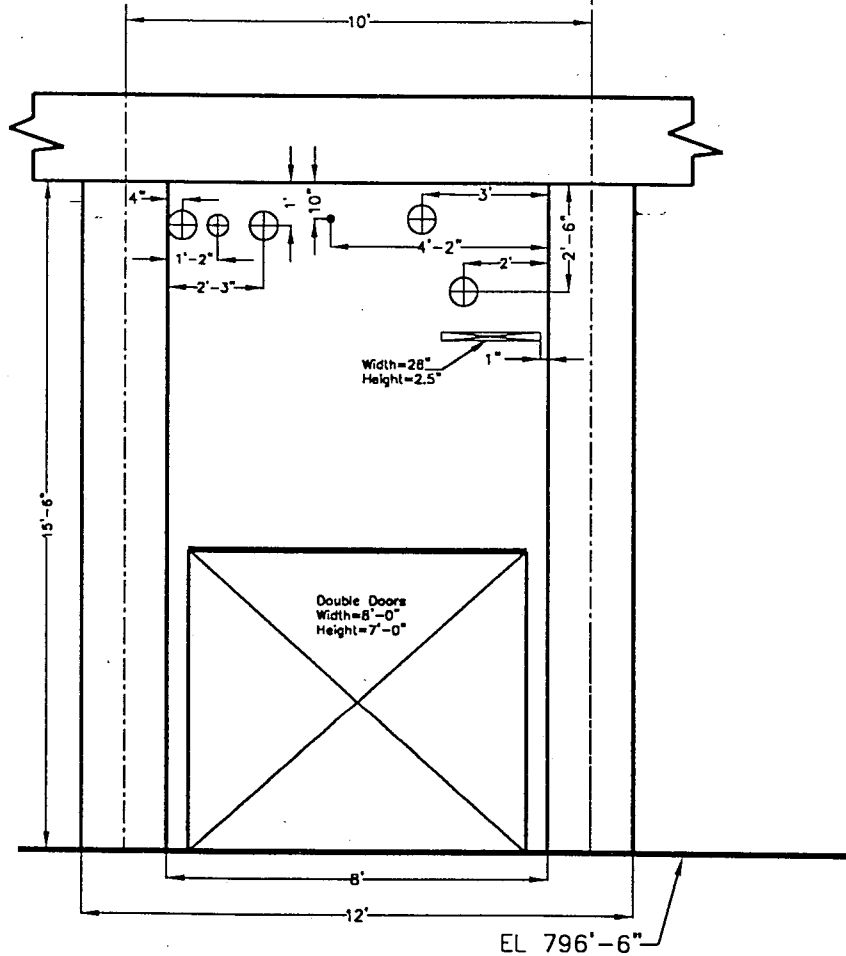
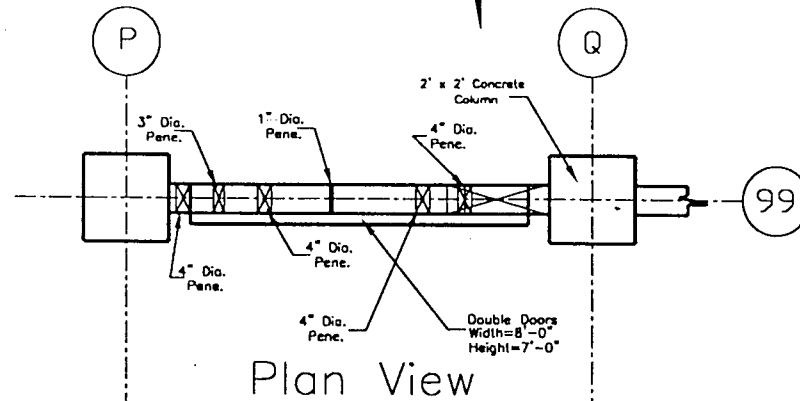
Date; 18 July 1997

Checked By: DANIEL WILLIAMS/ *Daniel Williams*

Verified By: *[Signature]* 4/4/98

North

FOR INFORMATION ONLY



Attachment A
Calculation N838SQUGOUT-35
Revision 0
Page 2 of 2

ATTACHMENT B
Calculation N838SQUGOUT-035, Rev. 1
(Rollup Door Information From the Cookson Design Manual)
Page 1 of 5



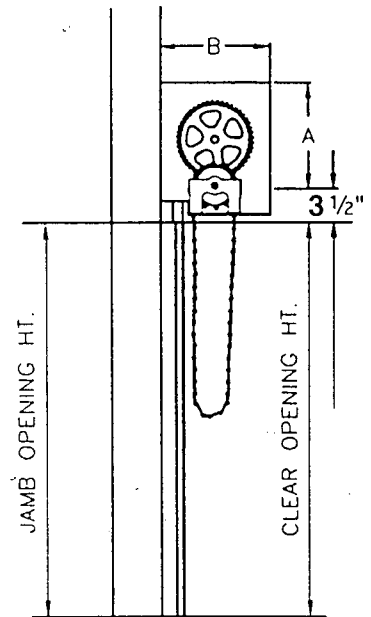
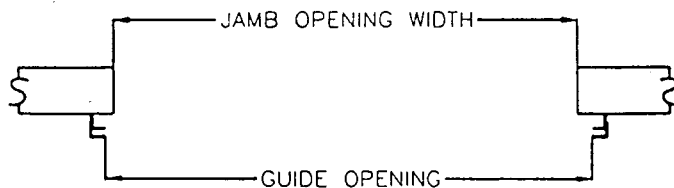
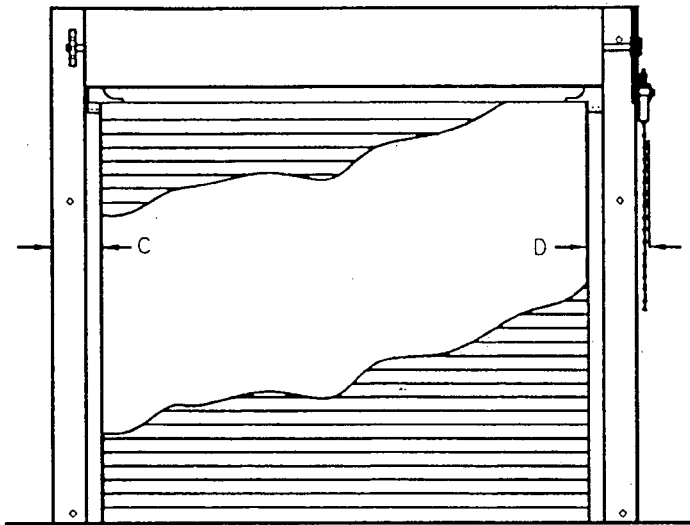
FOR INFORMATION ONLY The Cookson Company

Type FC - Chain Operated Service Door Aluminum - Full Weatherstrip - Face of Wall Mounted

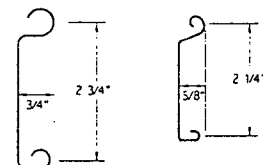
118385QUIGOUT-035 R/1

B

2 5

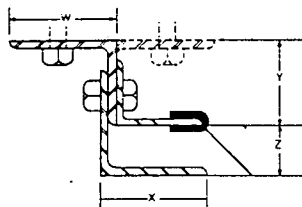


Slat Selection

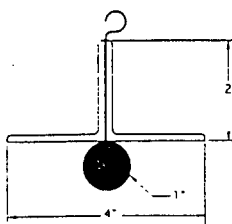


Slat #4

Slat #5



Guide Detail



Bottom Bar Detail

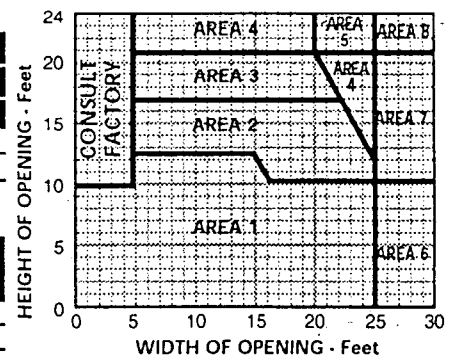
Service Door Guide Selection

Door Width	Standard Dimensions - Inches				
	W	X	Y	Z	
				#4 Slat	#5 Slat
0' to 14'-1"	2 1/2"	2 1/2"	2 1/2"	1 1/8"	1"
14'-1 1/2" to 24'-2"	2 1/2"	3"	2 1/2"	1 1/8"	1"
24'-2 1/2" to 30'-0"	2 1/2"	3"	3"	1 1/8"	

Door Size Selection Chart

Area	Slat	Dimensions - Inches			
		A	B	C	D
1	5	13"	14"	6"	8"
2	5	15"	16"	6"	9"
3	5	16"	17"	6"	9"
4	5	18"	19"	6"	9"
5	5	20"	21"	8"	9"
6	4	20"	21"	9"	10"
7	4	22"	23"	10"	12"
8	4	26"	27"	10"	12"

This chart is based on the use of certain slats, the use of other slats will increase the dimensions shown. Consult factory for the use of other slats and for doors over 30' in either dimension.



To Determine Dimensions For A Specific Door Size:

1. From chart above select proper Area Number for width and height of door. When size falls on black line, use next larger Area Number.
2. Refer to Door Size Selection Chart for dimensions. Use Area Number as selected in the chart above.
3. Chain Operation Recommended for Areas 1 & 2 Only.

Full size jamb and bottom bar details are available in the back of this section.

Revised: November 1, 1996

Type FC - Chain Operated Service Door

Aluminum - Full Weatherstrip - Face of Wall Mounted

FOR INFORMATION ONLY

1. GENERAL

1.1 Summary

- A. All Rolling Service Doors shall be as manufactured by The Cookson Company, Phoenix, Arizona. Furnished materials shall include all curtains, bottom bars, guides, brackets, hoods, operating mechanisms and any special features.
- B. Work not to be included by The Cookson Company includes design of, material for, and preparation of door openings but not limited to structural or miscellaneous iron work, access panels, finish painting, electrical wiring, conduit and disconnect switches.

1.2 Quality Assurance

- A. Exterior rolling service doors shall be designed to withstand at least a twenty (20) pounds per square foot windload. Endlocks/windlocks shall be installed on every slat for doors over 10'1" wide.
- B. All rolling service doors shall be designed to a standard maximum of 25 cycles per day and an overall maximum of 50,000 operating cycles for the life of the door.

2.0 PRODUCTS

2.1 Materials

- A. The door curtain shall be constructed of interconnected strip aluminum slats. The proper thickness of aluminum shall be chosen as follows:
 - 1. A .040 No. 5 (measuring 2-1/4" high by 5/8" deep) flat roll-formed slat as designated by The Cookson Company if the door width is under or including 21'2"...
 - 2. A .050 No. 4 (measuring 2-3/4" high by 3/4" deep) flat roll-formed slat as designated by The Cookson Company if the door width is over 21'2".
- B. The finish on the door curtain shall be [mill] [204-R1 clear anodized] [bronze anodized] finish.
- C. The bottom bar shall consist of two 3/16" aluminum angles mechanically joined together with a 1" diameter vinyl covered foam edge astragal continuous along the bottom. The finish on the bottom bar shall be [mill] [204-R1 clear anodized] [bronze anodized] finish.
- D. The guides shall consist of 3 aluminum angles bolted together with 3/8" fasteners to form a channel for the curtain to travel and shall include an extruded vinyl snap-on weatherstripping continuously along the exterior leg of the guide. The wall angle portion shall be continuous and fastened to the surrounding structure with minimum 1/2" fasteners on 36" centers. The finish on the guide angles shall be [mill] [204-R1 clear anodized] [bronze anodized] finish.

- E. The brackets shall be constructed of steel not less than 1/4" thick and shall be bolted to the wall angle with minimum 1/2" fasteners. The finish on the brackets shall be one (1) coat of aluminum prime paint.
- F. All gears shall be cast iron with teeth cast from machine cut patterns. The pinion gear shall not be less than a 3" pitch diameter. The gear ratio shall be designed for a maximum effort of not more than 30 pounds.
- G. The barrel shall be steel tubing of not less than 4" in diameter. Oil tempered torsion springs shall be capable of correctly counter balancing the weight of the curtain. The barrel shall be designed to limit the maximum deflection to .03" per foot of opening width. The springs shall be adjusted by means of an exterior wheel. The finish on the barrel shall be one (1) coat of bronze rust-inhibiting prime paint.
- H. The hood shall be fabricated from .040 aluminum and shall be formed to fit the curvature of the brackets. The hood shall be corrugated every 1" along the curvature for the entire length of the hood. The hood shall contain a waterproof baffle to control air infiltration. The finish on the hood shall be [mill] [204-R1 clear anodized] [bronze anodized] finish.

2.2 Operation

- A. Chain operated doors shall open and close with a maximum of 30 pounds of effort utilizing an endless chain and cast iron reduction gears.

2.3 Locking Mechanisms

- A. The chain door shall be secured by means of a chain lock.

3.0 EXECUTION

3.1 Installation

- A. All Cookson Rolling Service Doors shall be installed by an authorized Cookson Distributor.

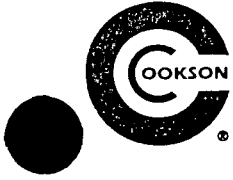
3.2 Warranty

- A. All Cookson Rolling Service Doors shall be warranted for a period of twelve (12) months from the time of shipment against defects in workmanship and materials.

Calc. No. N838SQUGOUT-035 R/I

Attachment No. B

Page 3 of 5



FOR INFORMATION ONLY

The Cookson Company

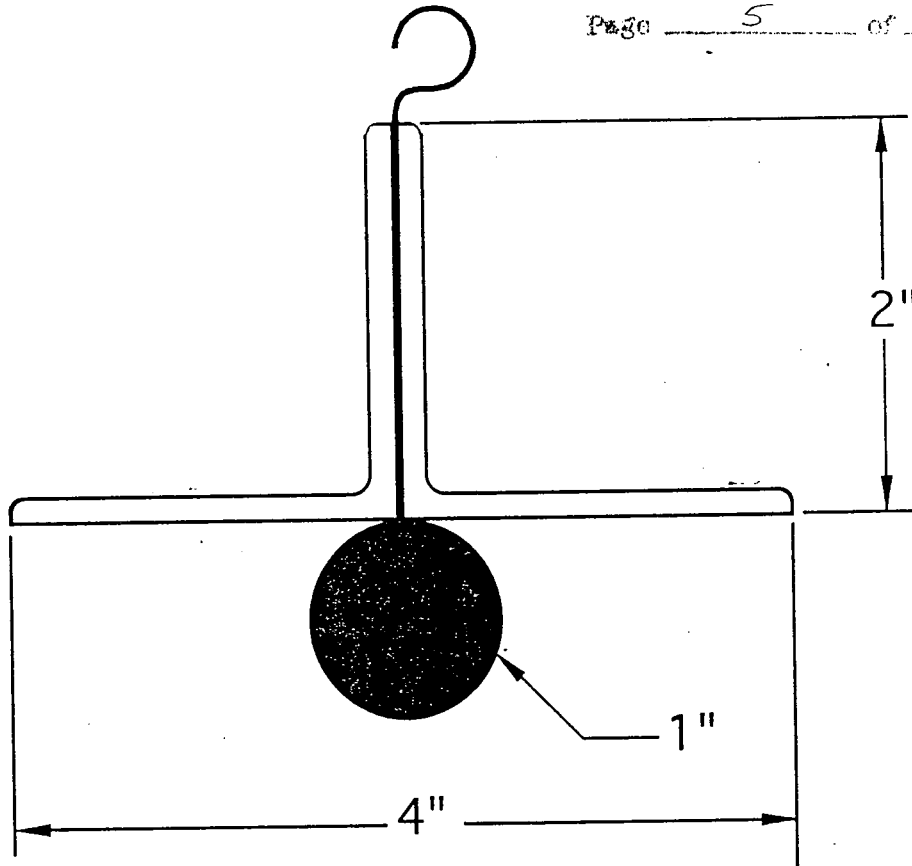
Rolling Service Doors

Full and Quarter Size, Bottom Bar Details

Calc. No. N838501600T-035 R/1

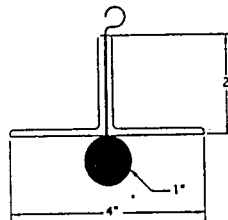
Attachment No. B

Page 5 of 5



SCALE = FULL

Bottom Bar with Astragal



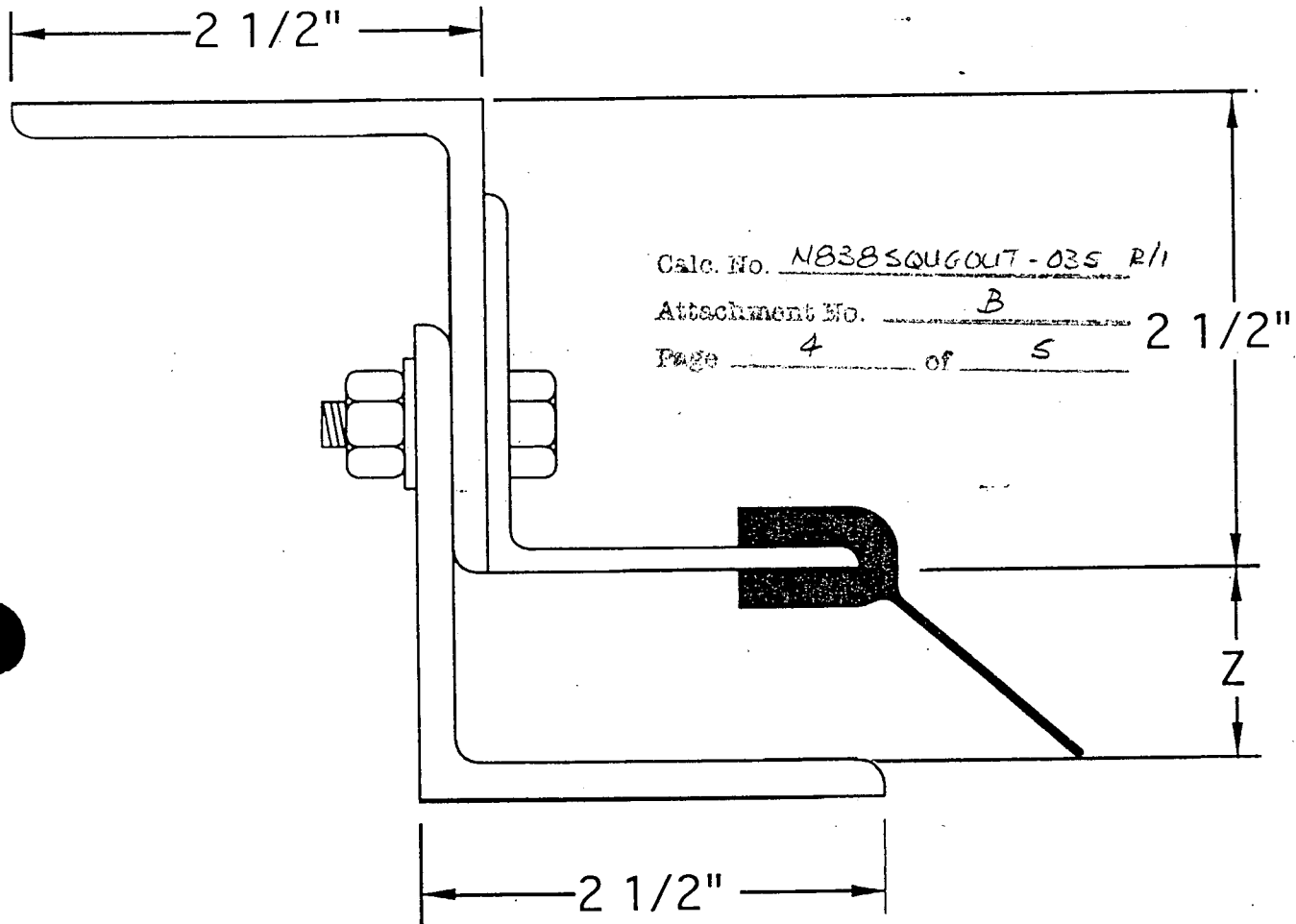
SCALE = 1/4



The Cookson Company

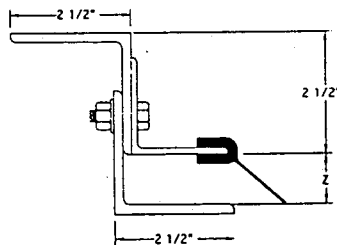
Rolling Service Doors

Full and Quarter Size, Jamb Details



SCALE = FULL

Guide Type 1, Face of Wall Mount (Masonry Jamb) with Weatherstrip
 Door Width 0' to 14'1"



SCALE = 1/4

ATTACHMENT

RAI 13a.1

Plant Tray Systems
Limited Analytical Reviews

AB-771-02

AB-809-10

TB-796-03

**(ATTACHMENT RAI
13a.1)**

AB-771-02

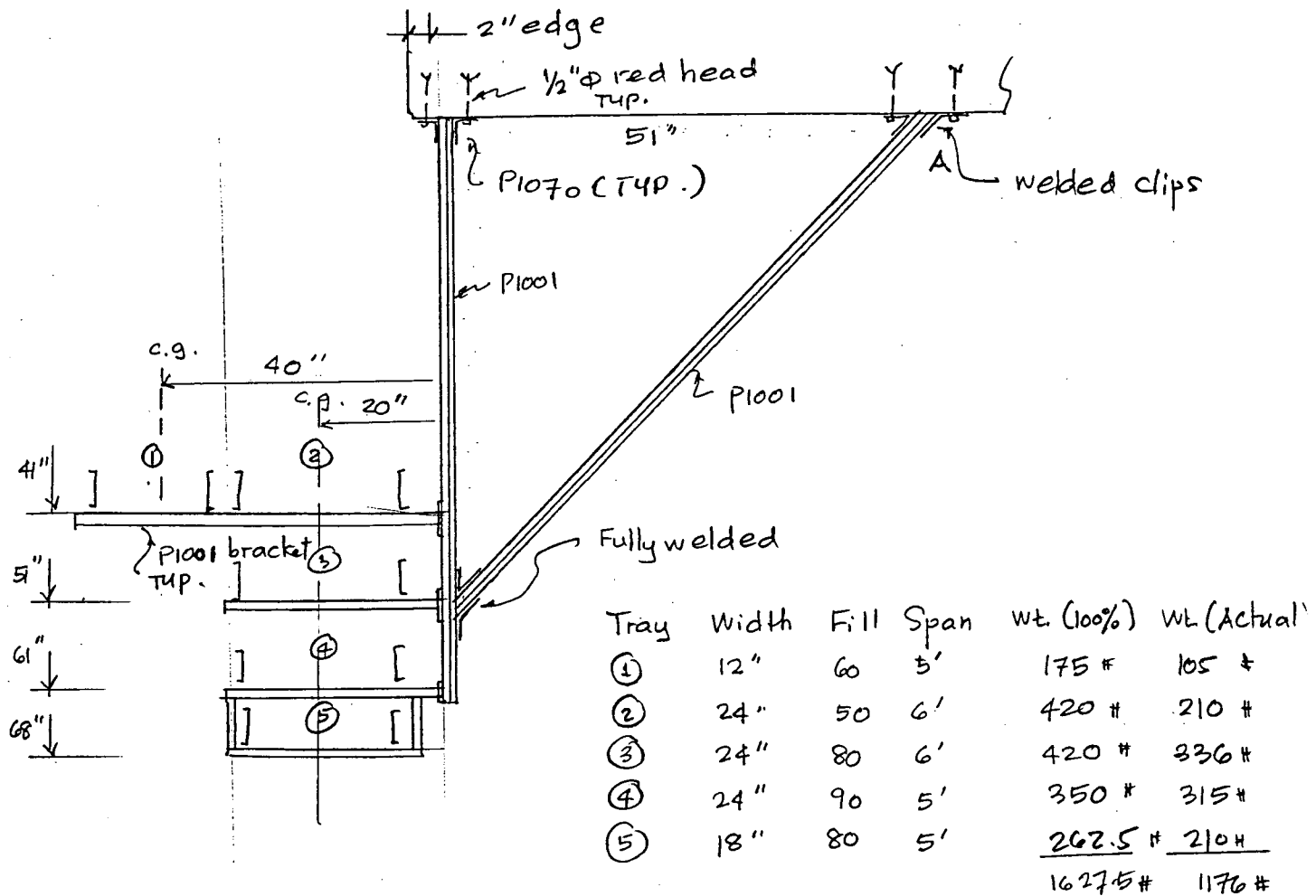


EQE INTERNATIONAL

INFORMATION ONLY

SHEET NO. 13

JOB NO. 59047 JOB OCONEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 5/2/95
 CALC. NO. QC-05-01 SUBJECT ANAL. REVIEW AB771-2 CHK'D JW DATE 7-10-95

5.2 ANALYTICAL REVIEW AB771-2Dead Load Check:

- Unistrut Bracket carrying trays ① & ②

$$M_{100\%} = 175(40) + 420(20) = 15,400" \# > 10875" \# \quad \text{No Good For 100\% Fill}$$

$$M_{\text{Actual}} = 105(40) + 210(20) = 8,400" \# < 10875" \# \quad \text{OK For Actual Fill}$$

- Unistrut Bracket carrying trays ④ & ⑤

$$M_{100\%} = (350 + 262.5)(20) = 12,250" \# > 10875" \# \quad \text{No Good For 100\% Fill}$$

$$M_{\text{Actual}} = (315 + 210)(20) = 10,500" \# < 10875" \# \quad \text{OK for Actual Fill}$$

Brackets are OK for actual Fill only



EQE INTERNATIONAL

FOR INFORMATION ONLY

SHEET NO. 14

JOB NO. 59047 JOB OWEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 5/2/95
 CALC. NO. 00-05-01 SUBJECT ANAL. REVIEW AB771-2 CHK'D JW DATE 7-10-95

DL Check Cont'dOverhead Anchorage:

check for Actual Fill

$$T_D = \frac{105(40+51) + (210+336+315+210)(20+51)}{51}$$

$$= 1678.4 \#$$

$$T_{CAP} = 3206 \# \quad (\text{same as AB771-1})$$

$$T_D < T_{CAP} \therefore \text{OK for DL}$$

VERTICAL CAPACITY CHECK: (Actual Fill)• Overhead Anchorage

$$T_{3DL} = 3 \times 1678.4 = 5035.1 \# > 3206 \#$$

Does not pass 3DL - OUTLIER (RESOLVED BY LAT. CHECK BELOW)

LATERAL CHECK $oh = 0.4 g$ (same as AB771-1)• Overhead Anchorage:Pullout due to lateral (Actual Fill) ΣM_x

$$T_L = \frac{[105(41) + 210(41) + 336(51) + 315(61) + 210(68)]}{51} 0.4$$

$$T_L = 498.4 \#$$

TOTAL

$$T = T_L + T_D = 498.4 + 1678.4 = 2176.8 \# < 3206 \# \therefore \text{OK}$$



EQE INTERNATIONAL

FOR INFORMATION ONLY

SHEET NO. 15

JOB NO. 59047 JOB OCONEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 5/2/95
CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB771-2 CHK'D JCW DATE 7-11-95

CONCLUSION:

This hanger is an outlier for the following reasons:

1. Vertical capacity is less than 3DL.

The outlier has been resolved by lateral check.

This hanger is adequate for actual fill only.

**(ATTACHMENT RAI
13a.1)**

AB-809-10

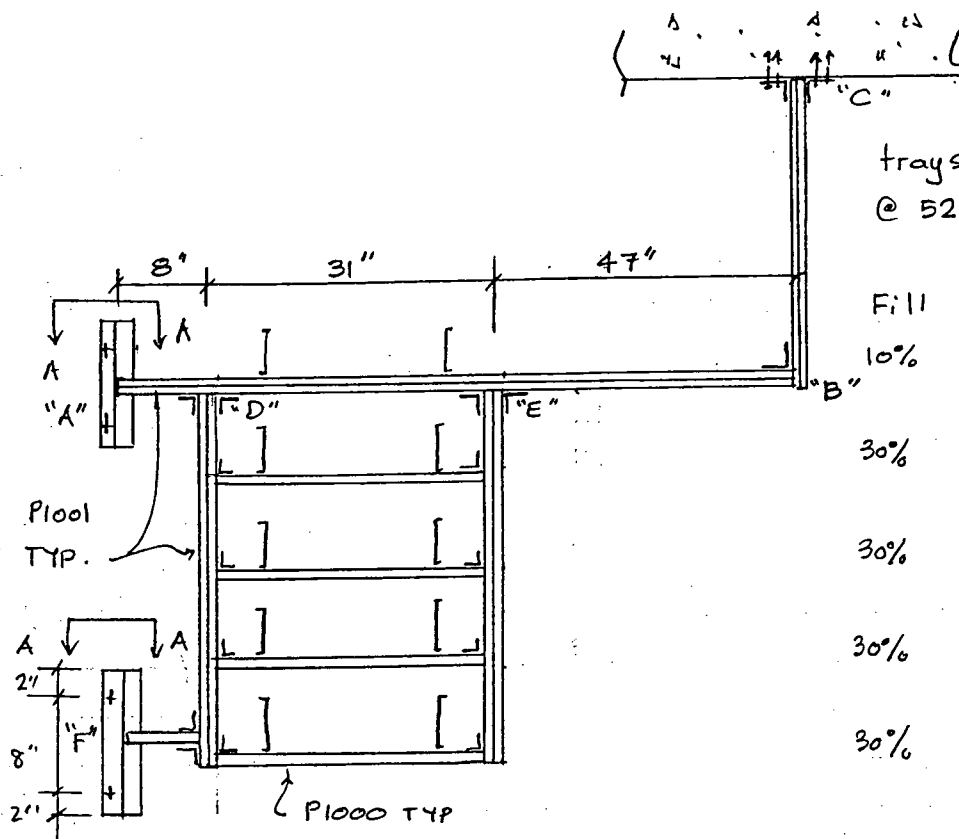


EQE INTERNATIONAL

INFORMATION ONLY

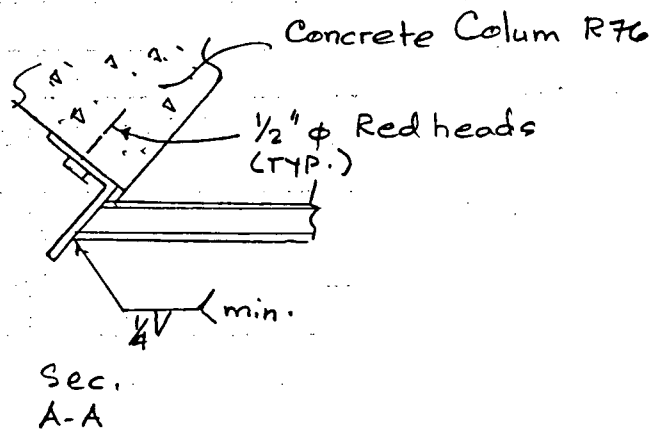
SHEET NO. 96

JOB NO. 59047 JOB OCONEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 4/26/95
 CALC. NO. 06-05-01 SUBJECT ANAL. REVIEW AB809-10 CHK'D VW DATE 7-11-95

5.24 ANALYTICAL REVIEW AB809-10

trays all 4"x18" Kurlock
 @ 52.5 lb/ft

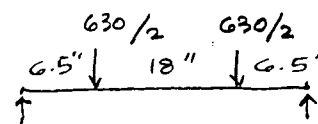
Fill	Span	W(100%)	W(Actual)
10%	9'	472.5	47.25
30%	9'	472.5	141.75
30%	9.5'	498.75	149.63
30%	11'	577.5	173.25
30%	12'	630	189.
Σ		2651.25	700.88

Dead Load Check for 100% Fill

- P1000 Tier Beams & P1026 Clips

$$M = \frac{630}{2} \left(\frac{31}{2} - \frac{18}{2} \right) = 2047.5 \text{ in} \cdot \text{ft}$$

$$D_L = 2047.5 / 203 \approx 10,086 \text{ PSI} < 25,000 \text{ OK}$$





EQE INTERNATIONAL

FOR INFORMATION ONLY

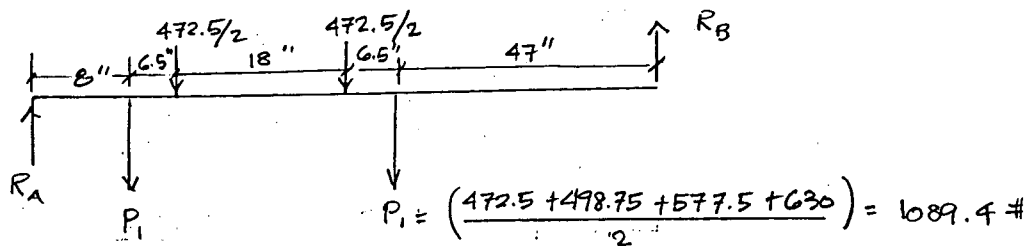
SHEET NO. 97

JOB NO. 59047 JOB OCONEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 4/26/97
 CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB809-10 CHK'D VLW DATE 7-1-95

ANAL. REVIEW AB809-10

$$\text{Clips Angle Shear} = \frac{630}{2} = 315 \# < 1500 \# \text{ OK}$$

• Floor horizontal Beam (100% Fill)

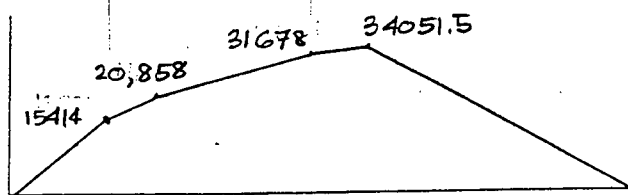
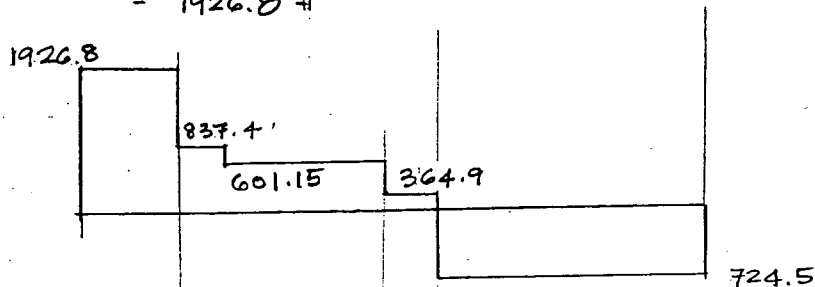


$$R_B = \left(1089.4 (8) + \frac{472.5}{2} (14.5) + \frac{472.5}{2} (32.5) + 1089.4 (39) \right) / 86$$

$$= 724.5 \#$$

$$R_A = (1089.4 + \frac{472.5}{2} + \frac{472.5}{2} + 1089.4) - 724.5$$

$$= 1926.8 \#$$



$$f_b = \frac{34052}{0.572} = 59,531 \gg 25,000$$

∴ This hanger is not adequate for 100% Fill,
 Check only for actual Fill



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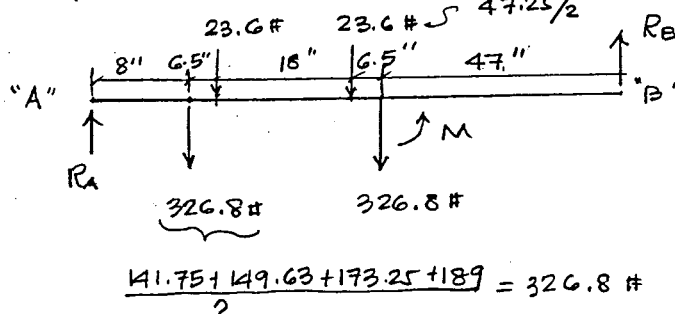
SHEET NO. 98

JOB NO. 59047 JOB O'CONNOR UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 4/26/95
 CALC. NO. 0C-05-01 SUBJECT ANAL. REVIEW AB809-10 CHK'D JLU DATE 7-11-95

ANAL. REVIEW AB809-10Dead Load Check for Actual Fill

- P1000 Tier Beam & P1026 Clip
OK for 100% Fill, thus also OK for actual fill

- P1001 horizontal Beam



$$R_B = \frac{(326.8(8) + 23.6(14.5) + 23.6(32.5) + 326.8(3))}{86}$$

$$= 191.5 \#$$

$$R_A = (326.8 + 23.6 + 23.6 + 326.8) - 191.5$$

$$= 509.3 \#$$

$$M = R_B(39) = 191.5(47)$$

$$= 9000.5 \text{ in } \#$$

$$f_b = \frac{9000}{.572} = 15,734 \text{ psi} < 25,000 \text{ psi OK}$$

$$c/d = 1.59$$

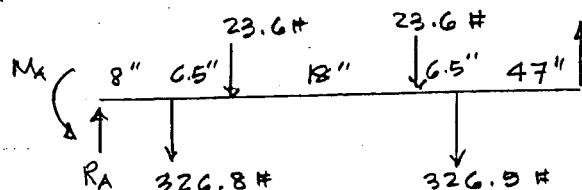
Connection at "B" P1026

$$R_B = 191.5 \# < 1500 \# \text{ slip capacity } \therefore \text{OK}$$

$$c/d = 7.8$$

Welded Connection at "A"

(Recalculate reactions at "A" with fixed condition)



$$R_A = \frac{326.8(78)(3 \times 86^2 - 78^2) + 23.6(71.5)(3 \times 86^2 - 71.5^2) + 23.6(53.5)(3 \times 86^2 - 53.5^2) + 326.8(47)(3 \times 86^2 - 47^2)}{2(86)^3}$$

$$= 605.5 \#$$



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SHEET NO. 99

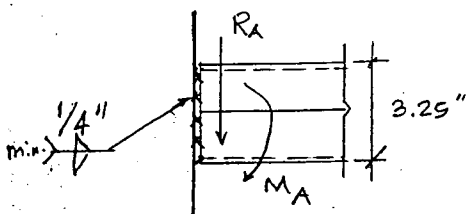
JOB NO. 59047 JOB O'CONNOR UNITS 1, 2 & 3 CABLE TRAYS BY JBS DATE 4/26/95
 CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB809-10 CHK'D VW DATE 7-11-95

ANAL. REVIEW AB809-10

$$M_A = (326.8(78)(8)(78+86) + 23.6(71.5)(14.5)(71.5+86) + 23.6(53.5)(32.5)(53.5+86) + 326.8(47)(39)(47+86)) / (2 \times 86^2)$$

$$= 8294.4 \text{ in} \cdot \text{#}$$

Check weld Connection at "A"



$$\text{Weld Area} = 3.25'' \times 2 \times 0.25'' \times 0.707$$

$$= 1.149 \text{ in}^2$$

$$\text{Weld Sect. Mod.} = 2 \times 0.707 \times 0.25 \times \frac{3.25^2}{6}$$

$$= 0.622 \text{ in}^3$$

$$\text{weld shear stress} = \frac{605.5}{1.149} = 527 \text{ psi}$$

$$\text{weld tens. stress} = \frac{8294.4}{0.622} = 13,335 \text{ psi}$$

$$\text{resultant} = (527^2 + 13,335^2)^{1/2} = 13,345 \text{ psi}$$

Using allow. for 60xx electrodes

$$f_w = 1.7 \times 0.3 \times 60.0 = 30.6 \text{ ksi} > 13.3 \text{ ksi} \quad \underline{\text{OK}}$$

$$C/D = 2130$$



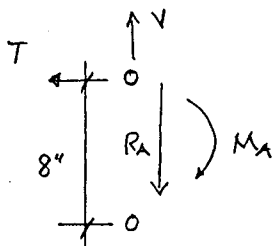
EQE INTERNATIONAL

FOR INFORMATION ONLY

SHEET NO. 100JOB NO. 59047 JOB OCONEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 4/26/95CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB809-10 CHK'D ✓LW DATE 7-11-95ANAL. REVIEW AB809-10

Dead Check Cont'd

Check Bolt Connection at "A"



$$T = M_A / 8 = 8294.4 / 8 = 1037 \#$$

$$V = R_A / 2 = 605.5 / 2 = 303 \#$$

$$\begin{aligned} T_A &= 2290 \# \\ V_A &= 2380 \# \end{aligned} \left\{ \begin{array}{l} \frac{1}{2} \text{ " } \# \text{ Red heads} \end{array} \right.$$

$$V/V_A = 0.12 < 0.3 \therefore T/T_A = 1037/2290 = 0.45 < 1 \therefore \text{OK}$$

$$C/D = 2.2$$

Check Connection at "C"

$$\text{Pullout} = R_B = 191.5 \# < \begin{array}{l} 2290 \times 2 = 4580 \# \text{ Pullout on 2 Bolts} \\ 1500 \times 2 = 3000 \# \text{ Slip on Clip} \end{array}$$

$$\therefore \text{OK} \quad C/D = 15.7$$

Check Connection at "D"

$$\text{Pullout} = 326.8 \# < 3000 \# \text{ Slip on Clip} \therefore \text{OK}$$

$$C/D = 9.2$$



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FOR INFORMATION ONLY

SHEET NO. 101

JOB NO. 59047 JOB OCONEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 4/26/95
 CALC. NO. 06-05-01 SUBJECT ANAL. REVIEW AB809-10 CHK'D JLV DATE 7-11-95

ANAL. REVIEW AB809-10

VERTICAL CAPACITY CHECK

Connection at "A"

weld: Shear 3DL = $3 \times 605 = 1815 \#$ shear stress = $1815 \# / 1.149 \text{ in.}^2 = 1,580 \text{ psi} < 30,600 \text{ psi OK}$ Bolts: Shear per bolt for 3DL = $1815 / 2 \text{ bolts} = 908 \# < 2380$
 $\therefore \text{OK}$

Connection at "B"

Clips: Slip Load 3DL = $3 \times 191.5 = 574.5 \# < 2000 \# \therefore \text{OK}$

1 bolt pullout

Connection at "C"

Clips: Vert. Load, 3DL = $3 \times 191.5 = 574.5 \# < 3000 \# \therefore \text{OK}$

Connection at "D"

Clips: Ver Load, 3DL = $3 \times 326.8 = 980.4 \# < 4000 \# \therefore \text{OK}$

C/D = 4.08 2 bolts

pullout

LATERAL LOAD CHECKTotal Wt. = $700.8 \#$ $a_h = 2.5 \times 0.364 = 0.91 g$ $\uparrow \text{env. E-W, N-S, 42 @ 838'}$ Inertia Load = $700.8 \times 0.91 = 637.7 \#$

Capacity of Connection at "A"

governed by Pullout of 2 bolts = $2 \times 2290 = 4580$

Capacity of Connection at "F"

governed by slip on 2 P1026 clips = $2 \times 1500 = 3000 \#$

Both Connections are adequate for the small inertia load.



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SHEET NO. 102

JOB NO. 59047 JOB COONEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 4/26/95
CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB809-10 CHK'D JW DATE 7-11-95

ANAL. REVIEW AB809-10

CONCLUSION:

This hanger is not adequate for 100% fill.
It is adequate for actual fill. The weakest link is P1001 beam bending with a C/D of 1.59 for actual fill. Therefore support may be loaded up to approx. an additional 60% of actual.

**(ATTACHMENT RAI
13a.1)**

TB-796-03

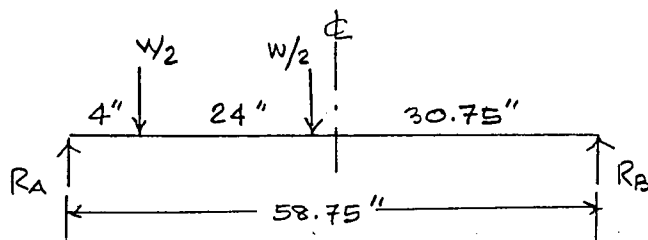


JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3 CABLE TRAYS BY BNS DATE 5/2/95
 CALC. NO. 16-05-01 SUBJECT ANAL. REVIEW TB796-3 CHK'D VW DATE 7-11-95

5.38. ANALYTICAL REVIEW TB796-3

The concern in this hanger is the P1000 tier beam with a relatively long span.

The other components of the hanger are judged adequate based on comparison with other analysis.

Check the P1000 Beam

Try 100% Fill

$$W = 70 \text{ \#/ft} \times 6 = 420 \text{ \#}$$

$$W/2 = 210 \text{ \#}$$

$$R_A = \frac{210 (54.75 + 30.75)}{58.75}$$

$$= 305.6 \text{ \#}$$

$$R_B = 420 - 305.6 = 114.4 \text{ \#}$$

$$M_{\max} = R_B (30.75) = 114.4 (30.75) = 3517.8 \text{ in \#}$$

$$f_b = \frac{3517.8}{.203} = 17,329 \text{ psi} < 25,000 \text{ psi}; \therefore \text{OK}$$

\therefore This hanger is adequate for 100% Fill

check wt. of 4-4" ϕ power cables

$$\text{wt /ft} \approx \frac{(4)(4.0)(8.76)}{3.34} = 42 \text{ lbs/ft} < 70 \text{ OK}$$

100% Fill Governs.

ATTACHMENT

RAI 13a.2

Reactor Building
Limited Analytical Reviews

[illegible]

Station Oconee Unit Rev. File No. OSC-6996 Sheet 1 Of 20Subject Limited Analytical Review of Cable Tray Supports Inside ContainmentBy R V HESTERDate 10/7/97Equip No. Checked By B. E. HesterDate 10/7/97

Statement of Problem: The USI A-46 program requires an evaluation of cable tray and tray support throughout the plant. This part of the calculation documents the "limited analytical review" of tray supports inside the Containment Buildings.

Relationship to Nuclear Safety: Cable and Tray and considered to be QA-1.

FSAR Applicability: N/A

Analytical Method Employed: Hand Calculation

QA Condition: This calculation is QA 1 quality and is being declared QA-1 so as to preserve that quality. The project itself as far as the scope, SQUG (USI A-46), is not part of the current licensing basis and is not required to be implemented under the stations's QA program. However, the individual assessments were completed with all the quality of a QA-1 supporting calculation. This has been the approach in order to support the future options regarding QA support of the USI A-46 program.

Assumptions: Stated within the body of the calculation.

Discussion:

Tray Supports inside Containment are of seven different types as shown on Dwgs O-884C, O-1884C, and O-2884C for Units 1,2, and 3 respectively, i.e. types 'A' through 'G'. 'A', 'B', 'C', 'D', and 'G' type supports are rigid cantilevers. For this type support, the Dead Load Check is the only check recommended by the GIP.

Of these types, 'B' appears most likely to fail the Dead Load check due to the use of P1000 Unistrut and the tributary spans it is required to support.

For the purpose of this calculation, a uniform weight per square foot of 35# was assumed for tray 100% full. By reviewing cabletray routing drawings, the tributary spans loading each support, and the distance from the support wall to the tray centerline could be determined. The applied moment was at the face of the P1075 bracket. Therefore, from the face of wall to tray centerline dimension, subtract 1.625" for the vertical P1000 and 4.75" for the P1075 bracket to obtain the moment arm. The applied force is 35.0 psf times the tray width times the tributary span.

References:

Unresolved Safety Issue (USI) - A64
Generic Implementation Procedure (GIP) Sect 8.3.1

O-884, 885, 886, 887, 1884, 1885, 1886, 1887, 2884, 2885, 2886, 2887 series drawings.
Unistrut Catalog #9 pg 52

Cable count from OCRS system data.

Station Oconee Unit Rev. File No. OSC-6996 Sheet 2 Of 20Subject Limited Analytical Review of Cable Tray Supports Inside ContainmentBy R V HESTERDate 10/7/97Equip No. Checked By *Belmont*Date 10/7/97

Where the support fails at 35.0 psf, the actual cable weight was approximated by estimating the maximum number of cables present at a given support and multiplying this number by an estimated average weight of 0.45 lb/linear ft, plus 5#/ft for the tray weight. The number of cables assumed to be present is determined from the available data on OCRS. OCRS data can be overly conservative because it lists all cable in a given tray regardless of location, whereas the field inspection gave true data. When the support fails based on

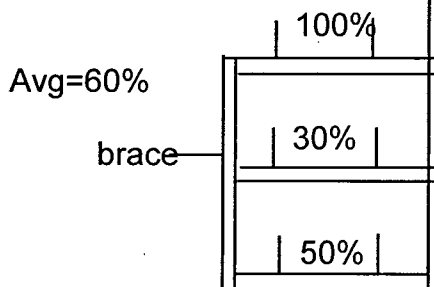
OCRS data, a field walkdown was performed to determine the true % fill at the support.

The allowable moment is the working stress allowable per the manufacturer of 25000.0 psi times the Section Modulus of P1000 about its 1-1 axis of .203 in³

$$25000.0 \times 0.203 = 5075.0 \text{ in-lb.}$$

Unistrut Catalog
#9 pg 14.

The following spreadsheets entitled 'Unit 1 Tray Supports (Type B)', 'Unit 2 Tray Supports (Type B)', and 'Unit 3 Tray Supports (Type B)', utilize EXCEL software to perform the above defined calculations.



Where multiple trays of various loading were supported by an individual support, and each horizontal P1000 of that support was braced to other horizontal P1000's in the same support by a vertical member, the average wt/ft was used if necessary to qualify the support. ie, supports 2SG3B2, 2SG11B2, & 2SG10B are tied together by a vertical brace. The average number of cables is 58 as shown in the spreadsheet.

Conclusion - Type B Supports: The four type 'B' hangers in Unit 2 and three in Unit 1 which the calculation showed failing when loaded based on OCRS data, were field inspected and found to be seismically adequate due to fewer cables installed than were estimated.

FOR INFORMATION ONLY Unit 1 Tray Supports (Type-B)

Calc. No. OSC-6996

Rev. 0 Sheet No. 3

By: SV/K Date 10/6/97

Ch: B. El Date 10/6/97

Support ID	Dwg #	Location	Tributary Span	Max # cables	Actual Moment	#/ft	Moment Arm (in)	100% Fill Moment	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	% Full to Fail
SO12B	O-887A	J-7	6.50	89	7800	53	26.625	9100	5075	Fail	Fail	56%
SG14B1	O-885E	I-6	5.42	5	800	70	21.125	8000	5075	Pass	Fail	63%
SG13B1	O-885E	I-5	5.00	5	800	70	21.125	7400	5075	Pass	Fail	69%
SG12B1	O-885E	I-4	4.75	5	700	70	21.125	7000	5075	Pass	Fail	73%
SG16B	O-885E	I-6	4.75	5	700	70	21.125	7000	5075	Pass	Fail	73%
SI7B	O-886E	H-9	6.10	78	5000	53	20.625	6600	5075	Pass	Fail	77%
SO8B	O-887	J-6	7.00	89	4600	53	14.625	5400	5075	Pass	Fail	94%
SG18B1	O-885E	H-4	5.98	16	1100	70	14.625	6100	5075	Pass	Fail	83%
SG11B2	O-885E	H-11	4.88	114	6500	53	23.625	6000	5075	Fail	Fail	85%
SI8B	O-886E	H-9	5.50	78	4500	53	20.625	6000	5075	Pass	Fail	85%
SG11B1	O-885E	H-4	4.00	5	600	70	21.125	5900	5075	Pass	Fail	86%
SG18B	O-885E	F-4	6.20	8	700	70	13.625	5900	5075	Pass	Fail	86%
SI3B	O-886E	H-7	5.38	78	4400	53	20.625	5800	5075	Pass	Fail	88%
SI17B	O-886E	I-3	6.00	81	4500	53	18.125	5700	5075	Pass	Fail	89%
SG7B2	O-885E	G-4	5.50	16	1000	70	14.625	5600	5075	Pass	Fail	91%
SG12B2	O-885E	H-12	4.50	114	6000	53	23.625	5600	5075	Fail	Fail	91%
SI2B	O-886E	H-7	5.09	78	4200	53	20.625	5500	5075	Pass	Fail	92%
SI10B	O-886E	H-10	5.00	78	4100	53	20.625	5400	5075	Pass	Fail	94%
SG14B2	O-885E	I-6	5.42	6	800	53	18.125	5200	5075	Pass	Fail	98%
SI7B1	O-886E	I-4	5.38	89	4400	53	18.125	5100	5075	Pass	Fail	100%
SI4B	O-886E	H-8	4.63		<5075	53	20.625	5000	5075	Pass	Pass	102%
SG7B3	O-885C	G-11	5.25		<5075	53	18.125	5000	5075	Pass	Pass	102%
SI9B3	O-875	J-1	5.25		<5075	53	18.125	5000	5075	Pass	Pass	102%
SG10B2	O-885E	H-10	4.00		<5075	53	23.625	5000	5075	Pass	Pass	102%
SG8B2	O-885E	I-9	4.50		<5075	53	20.625	4900	5075	Pass	Pass	104%
SG9B1	O-885B	E-10	5.00		<5075	53	18.125	4800	5075	Pass	Pass	106%
SG10B3	O-885E	I-5	5.00		<5075	53	18.125	4800	5075	Pass	Pass	106%
SI10B3	O-886E	I-10	5.00	89	<5075	53	18.125	4800	5075	Pass	Pass	106%
SG6B3	O-885C	F-10	4.75		<5075	53	18.125	4500	5075	Pass	Pass	113%
SG9B3	O-885E	I-4	4.75		<5075	53	18.125	4500	5075	Pass	Pass	113%
SG10B1	O-885E	I-6	4.75		<5075	53	18.125	4500	5075	Pass	Pass	113%
SG8B3	O-885E	H-4	4.00		<5075	53	18.125	3800	5075	Pass	Pass	134%
SO29B	O-887A	I-8	7.00		<5075	53	9.375	3400	5075	Pass	Pass	149%
SI1B3	O-886C	F-3	3.50		<5075	53	18.125	3300	5075	Pass	Pass	154%
SI2B3	O-886C	F-3	3.50		<5075	53	18.125	3300	5075	Pass	Pass	154%
SI3B3	O-886C	F-3	3.50		<5075	53	18.125	3300	5075	Pass	Pass	154%
SO17B	O-887	I-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO18B	O-887	I-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO19B	O-887	I-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO20B	O-887	H-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO21B	O-887	H-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO22B	O-887	G-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO23B	O-887	G-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO24B	O-887	G-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO25B	O-887	F-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SO26B	O-887	F-9	6.00		<5075	53	9.375	3000	5075	Pass	Pass	169%
SG5B1	O-885E	H-3	3.10		<5075	70	12.625	2700	5075	Pass	Pass	188%
SO11B	O-887	J-7	5.50		<5075	53	9.375	2700	5075	Pass	Pass	188%
SO1B	O-887A	J-4	5.00		<5075	53	9.375	2500	5075	Pass	Pass	203%
SO7B	O-887	J-5	5.00		<5075	53	9.375	2500	5075	Pass	Pass	203%
SO27B	O-887	F-9	5.00		<5075	53	9.375	2500	5075	Pass	Pass	203%
SO10B	O-887	J-7	4.50		<5075	53	9.375	2200	5075	Pass	Pass	231%
SO16B	O-887	I-9	4.50		<5075	53	9.375	2200	5075	Pass	Pass	231%
SO14B	O-887	J-8	4.00		<5075	53	9.375	2000	5075	Pass	Pass	254%
SO15B	O-887	J-8	4.00		<5075	53	9.375	2000	5075	Pass	Pass	254%
SO6B	O-887	K-5	3.50		<5075	53	9.375	1700	5075	Pass	Pass	299%
SO9B	O-887	K-7	3.50		<5075	53	9.375	1700	5075	Pass	Pass	299%
SO13B	O-887	J-8	3.50		<5075	53	9.375	1700	5075	Pass	Pass	299%
SG2B3	O-885E	H-3	3.10		<5075	53	9.625	1600	5075	Pass	Pass	317%
SO2B	O-887	J-4	3.00		<5075	53	9.375	1500	5075	Pass	Pass	338%
SO3B	O-887	J-4	3.00		<5075	53	9.375	1500	5075	Pass	Pass	338%
SO4B	O-887	K-5	3.00		<5075	53	9.375	1500	5075	Pass	Pass	338%
SO5B	O-887	K-5	3.00		<5075	53	9.375	1500	5075	Pass	Pass	338%

FOR INFORMATION ONLY

Unit 1 Tray Supports (Type-B)

Calc. No. OSC-6996Rev. 0 Sheet No. 4By: B. J. Hunt Date 10/6/97Ch: B. J. Hunt Date 10/7/98

Support ID	Dwg #	Location	Tributary Span	Max # cables	Actual Moment	#/ft	Moment Arm (in)	100% Full Moment	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	% Full to Fail
SO28B	O-887	I-5	3.00		<5075	53	9.375	1500	5075	Pass	Pass	338%
SB1B	O-884A	I-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB2B	O-884A	I-7	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB3B	O-885B	J-5	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB4B	O-884	J-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB5B	O-884	I-3	replaced by SB7B		<5075			<5075	5075	Pass	Pass	100%
SB6B	O-884	J-3	CANNOT FIND									
SB7B	O-884	J-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB8B	O-884	J-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB9B	O-884	E-9	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB10B	O-884	F-9	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB11B	O-884	E-9	CANNOT FIND									
SB12B	O-884	I-8	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SB1B1	O-884A	I-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG1B	O-885B	F-3	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG2B	O-885B	E-3	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG3B	O-885B	E-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG4B	O-885B	D-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG5B	O-885B	D-5	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG6B	O-885	I-9	CANNOT DETER		<5075			<5075	5075	Pass	Pass	100%
SG7B	O-885	I-9	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG10B	O-885E	H-10	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG11B	O-885E	H-11	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG13B	O-885E	I-9	NOT FIND		<5075			<5075	5075	Pass	Pass	100%
SG14B	O-885E	H-11	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG15B	O-885E	I-9	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG17B	O-885E	F-3	NOT FIND						5075			
SG19B	O-885E	F-12	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG1B1	O-885B	D-5	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG2B1	O-885B	D-9	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG3B1	O-885B	D-10	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG4B1	O-885	I-9	CANNOT DETER		<5075			<5075	5075	Pass	Pass	100%
SG7B1	O-885E	G-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG8B1	O-885B	D-10	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG1B2	O-885C	H-12	CANNOT DETER		<5075			<5075	5075	Pass	Pass	100%
SG2B2	O-885C	I-12	CANNOT DETER		<5075			<5075	5075	Pass	Pass	100%
SG3B2	O-885E	H-7	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG4B2	O-885E	H-8	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG5B2	O-885E	H-8	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG6B2	O-885E	H-8	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG9B2	O-885E	H-10	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG13B2	O-885B	E-11	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG15B2	O-885E	H-12	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG16B2	O-885E	G-12	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG17B2	O-885E	H-5	CANNOT DETER		<5075			<5075	5075	Pass	Pass	100%
SG3B3	O-885E	G-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG15B1	O-885E	G-13	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG16B1	O-885E	I-9	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG17B1	O-885E	F-4	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG5B3	O-885B	E-12	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG11B3	O-885E	H-4	OK BY INSPECTI		<5075		O-885E	<5075	5075	Pass	Pass	100%
SG1B4	O-885C	H-12	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SG2B4	O-885C	H-12	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SI1B	O-886C	G-3	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SI5B	O-886E	H-10	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SI9B	O-886E	H-10	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SI11B	O-886E	G-11	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SI12B	O-886E	G-6	CANNOT DETER		<5075			<5075	5075	Pass	Pass	100%
SI13B	O-886E	G-3	OK BY INSPECTI		<5075			<5075	5075	Pass	Pass	100%
SI15B	O-886E	H-2	CANNOT FIND						5075			
SI16B	O-886E	H-3	CANNOT FIND						5075			
SI19B			OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI3B1	O-886D	H-12	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%

FOR INFORMATION ONLY Unit 1 Tray Supports(Type-B)

Calc. No. **OSC- 6996**

Rev. 0 Sheet No. 5

By: RV/Kat Date 10/6/97

Ck: B. G. L. Date 10/7/97

Support ID	Dwg #	Location	Tributary Span	Max# cables	Actual Moment	#/ft	Moment Arm(in)	100% Full Moment	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	% Full to Fail
SI4B1	O-886D	H-12	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI5B1	O-886D	I-13	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI6B1	O-886D	J-13	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI4B3	O-886D	G-12	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI1B4	O-886C	E-5	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI2B4	O-886C	E-5	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI3B4	O-886C	E-6	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI1B5	O-886C	F-4	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI2B5	O-886C	F-4	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%
SI3B5	O-886C	E-5	OK BY INSPECTI		<5075	5075		<5075	5075	Pass	Pass	100%

FOR INFORMATION ONLY

Unit 2 Tray Supports (Type-B)

Calc. No. OSC- 6996Rev. 0 Sheet No. 6By: R. Photo Date 10/6/97CK: B. E. L. Date 10/7/97

Support ID	Dwg #	Location	Tributary Span	Max# cables	Actual Moment	#/ft	Moment Arm(ft)	100% Fill Moment	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	% Full to Fail
2SG18B	O-1885B	E-11	6.75	95	7600	53	1.97	8400	5075	fail	fail	60%
2SG12B1	O-1885E	I-10	5.25	6	1000	70	1.97	8700	5075	pass	fail	58%
2SI10B3	O-1886E	I-10	5	95	4900	70	1.72	7200	5075	pass	fail	70%
2SG13B1	O-1885E	I-10	5	6	900	70	1.97	8300	5075	pass	fail	61%
2SG14B1	O-1885E	J-9	4.875	16	1400	70	1.97	8100	5075	pass	fail	63%
2SG2B1	O-1885B	E-6	4	64	3200	53	1.97	5000	5075	pass	pass	102%
2SG16B	O-1885E	J-8	4.75	6	900	70	1.97	7900	5075	pass	fail	64%
2SB1B	O-1884A	E-5	4	95	3900	53	1.72	4300	5075	pass	pass	118%
2SG13B	O-1885E	I-5	4.5	91	4300	53	1.72	4900	5075	pass	pass	104%
2SG17B	O-1885B	E-10	6.17	2	900	53	1.97	7700	5075	pass	fail	66%
2SI7B3	O-1886C	F-4	4.75	95	4700	70	1.72	6900	5075	pass	fail	74%
2SI6B4	O-1886D	F-4	4.75	74	3800	70	1.72	6900	5075	pass	fail	74%
2SG9B1	O-1885B	E-4	5.5	64	4400	53	1.97	6800	5075	pass	fail	75%
2SG11B1	O-1885E	I-11	4.125	6	800	70	1.97	6800	5075	pass	fail	75%
2SG13B2	O-1885B	E-4	5.5	64	4400	53	1.97	6800	5075	pass	fail	75%
2SG3B2	O-1885E	I-7	6	58	3900	53	1.72	6500	5075	pass	fail	78%
2SB7B2	O-1884F	H-13	6.52	15	1100	70	1.22	6700	5075	pass	fail	76%
2SG11B2	O-1885E	H-4	5.25	58	3900	53	1.97	6500	5075	pass	fail	78%
2SI17B	O-1886E	I-11	6	35	2600	53	1.72	6500	5075	pass	fail	78%
2SI6B3	O-1886C	F-4	4.5	95	4400	70	1.72	6500	5075	pass	fail	78%
2SI9B3	O-1886E	I-10	4.5	95	4400	70	1.72	6500	5075	pass	fail	78%
2SI5B4	O-1886C	E-5	4.5	95	4400	70	1.72	6500	5075	pass	fail	78%
2SI1B3	O-1886C	F-12	5.875	95	5800	53	1.72	6400	5075	fail	fail	79%
2SG10B	O-1885E	I-5	5.75	58	3700	53	1.72	6200	5075	pass	fail	82%
2SI4B	O-1886E	I-7	5.75	77	4700	53	1.72	6200	5075	pass	fail	82%
2SG8B1	O-1885B	E-5	5	64	4000	53	1.97	6200	5075	pass	fail	82%
2SG18B2	O-1885B	E-10	5	15	1400	53	1.97	6200	5075	pass	fail	82%
2SB4B2	O-1884A	K-9	4.98	15	1000	70	1.47	6100	5075	pass	fail	83%
2SB6B2	O-1884F	G-13	5.88	15	1000	70	1.22	6000	5075	pass	fail	85%
2SI7B	O-1886E	I-6	5.5	77	4500	53	1.72	6000	5075	pass	fail	85%
2SI8B	O-1886E	I-5	5.5	77	4500	53	1.72	6000	5075	pass	fail	85%
2SB11B2	O-1884F	K-12	4.75	15	1000	70	1.47	5900	5075	pass	fail	86%
2SI7B4	O-1886D	G-4	4.75	74	3200	70	1.47	5900	5075	pass	fail	86%
2SI8B4	O-1886C	E-6	4.75	95	4000	70	1.47	5900	5075	pass	fail	86%
2SI5B3	O-1886C	E-5	4	95	3900	70	1.72	5800	5075	pass	fail	88%
2SI8B3	O-1886D	G-4	4	74	3200	70	1.72	5800	5075	pass	fail	88%
2SB5B2	O-1884A	K-9	5.61	74	3100	70	1.22	5700	5075	pass	fail	89%
2SI3B	O-1886E	I-7	5.25	77	4300	53	1.72	5700	5075	pass	fail	89%
2SG2B	O-1885B	F-12	6.125	95	5200	53	1.47	5700	5075	fail	fail	89%
2SG3B	O-1885B	E-11	6.125	95	5200	53	1.47	5700	5075	fail	fail	89%
2SB2B3	O-1884A	E-6	5	15	900	70	1.3	5500	5075	pass	fail	92%
2SB3B3	O-1884A	E-6	5	15	900	70	1.3	5500	5075	pass	fail	92%
2SI9B	O-1886E	I-4	4.375	95	4900	53	1.97	5400	5075	pass	fail	94%
2SI22B	O-1886E	F-11	8.875	39	2300	53	0.97	5400	5075	pass	fail	94%
2SG8B2	O-1885E	I-5	5	91	4700	53	1.72	5400	5075	pass	fail	94%
2SG10B3	O-1885E	I-10	5	91	4700	53	1.72	5400	5075	pass	fail	94%
2SI2B	O-1886E	I-8	5	77	4100	53	1.72	5400	5075	pass	fail	94%
2SI10B	O-1886E	H-4	5	95	4900	53	1.72	5400	5075	pass	fail	94%
2SI7B1	O-1886E	I-11	5	96	5000	53	1.72	5400	5075	pass	fail	94%
2SI1B2	O-1886E	J-9	5	95	4900	53	1.72	5400	5075	pass	fail	94%
2SG6B1	O-1885E	G-10	5.2	13	800	70	1.22	5300	5075	pass	fail	96%
2SG5B3	O-1885B	F-3	4.875	16	1200	53	1.72	5300	5075	pass	fail	96%
2SG9B3	O-1885E	I-10	4.875	91	4600	53	1.72	5300	5075	pass	fail	96%
2SB1B3	O-1884A	E-5	4.82	15	900	70	1.3	5300	5075	pass	fail	96%

FOR INFORMATION ONLY

Unit 2 Tray Supports (Type-B)

Calc. No. OSC- 6996Rev. 0 Sheet No. 7By: RVH Date 10/6/97Ck: BGL Date 10/7/97

Support ID	Dwg #	Location	Tributary Span	Max# cables	Actual Moment	#ft	Moment Arm(ft)	100% Fill Moment	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	% Full to Fail
2SI6B5	O-1886C	E-9	3.57	95	3500	70	1.72	5200	5075	pass	fail	98%
2SG6B3	O-1885C	F-4	4.75	16	1200	53	1.72	5100	5075	pass	fail	100%
2SG7B3	O-1885C	G-4	4.75	16	1200	53	1.72	5100	5075	pass	fail	100%
2SB2B2	O-1884A	K-8	4.125	15	900	70	1.47	5100	5075	pass	fail	100%
2SG15B2	O-1885E	H-2	5.5	82	4100	53	1.47	5100	5075	pass	fail	100%
2SI4B4	O-1886C	E-5	3.5	N/A		70	1.72	5100	5075	pass	fail	100%
2SG11B	O-1885E	I-4	5.375	N/A		53	1.47	5000	5075	pass	pass	102%
2SB8B2	O-1884F	I-12	6.1	N/A		70	0.97	5000	5075	pass	pass	102%
2SG19B2	O-1886B	E-11	4.82	N/A		70	1.22	4900	5075	pass	pass	104%
2SG7B1	O-1885E	H-11	4	N/A		70	1.47	4900	5075	pass	pass	104%
2SB4B3	O-1884A	F-7	4.5	N/A		70	1.3	4900	5075	pass	pass	104%
2SI9B	O-1886E	I-8	4.5	N/A		53	1.72	4900	5075	pass	pass	104%
2SG10B2	O-1885E	I-4	3.88	N/A		53	1.97	4800	5075	pass	pass	106%
2SG7B2	O-1885E	I-6	4.4	N/A		53	1.72	4800	5075	pass	pass	106%
2SI5B	O-1886E	I-4	4.375	N/A		53	1.72	4700	5075	pass	pass	108%
2SI1B5	O-1886C	E-11	3.25	N/A		70	1.72	4700	5075	pass	pass	108%
2SG3B1	O-1885B	E-5	3.75	N/A		53	1.97	4700	5075	pass	pass	108%
2SB3B2	O-1884A	K-8	3.75	N/A		70	1.47	4600	5075	pass	pass	110%
2SG6B	O-1885	I-3	5	N/A		53	1.47	4600	5075	pass	pass	110%
2SG15B1	O-1885E	H-2	5	N/A		53	1.47	4600	5075	pass	pass	110%
2SG14B2	O-1885E	J-9	5	N/A		53	1.47	4600	5075	pass	pass	110%
2SG16B2	O-1885E	H-2	5	N/A		53	1.47	4600	5075	pass	pass	110%
2SI20B	O-1886E	H-2	5	N/A		53	1.47	4600	5075	pass	pass	110%
2SI21B	O-1886E	H-2	5	N/A		53	1.47	4600	5075	pass	pass	110%
2SB1B1	O-1884A	E-5	4.9	N/A		53	1.47	4500	5075	pass	pass	113%
2SG17B2	O-1885E	H-10	4.9	N/A		53	1.47	4500	5075	pass	pass	113%
2SB5B3	O-1884A	F-7	5.5	N/A		70	0.97	4500	5075	pass	pass	113%
2SG8B3	O-1885E	I-11	4.125	N/A		53	1.72	4500	5075	pass	pass	113%
2SG14B	O-1885E	J-6	4.75	N/A		53	1.47	4400	5075	pass	pass	115%
2SG15B	O-1885E	J-6	4.75	N/A		53	1.47	4400	5075	pass	pass	115%
2SG4B2	O-1885E	I-7	4	N/A		53	1.72	4300	5075	pass	pass	118%
2SG23B2	O-1885E	G-13	3.5	N/A		70	1.47	4300	5075	pass	pass	118%
2SG4B4	O-1885C	G-4	3.9	N/A		53	1.72	4200	5075	pass	pass	121%
2SG19B	O-1885E	G-11	5.16	N/A		70	0.97	4200	5075	pass	pass	121%
2SG10B1	O-1885E	J-8	4.5	N/A		53	1.47	4200	5075	pass	pass	121%
2SG1B4	O-1885C	H-3	3.8	N/A		53	1.72	4100	5075	pass	pass	124%
2SG2B4	O-1885C	H-3	3.8	N/A		53	1.72	4100	5075	pass	pass	124%
2SG9B2	O-1885E	I-4	3.75	N/A		53	1.72	4100	5075	pass	pass	124%
2SB1B2	O-1884A	K-7	3.25	N/A		70	1.47	4000	5075	pass	pass	127%
2SI2B5	O-1886C	E-11	2.75	N/A		70	1.72	4000	5075	pass	pass	127%
2SI5B5	O-1886C	E-9	2.75	N/A		70	1.72	4000	5075	pass	pass	127%
2SB8B	O-1884	J-8	4.1	N/A		53	1.47	3800	5075	pass	pass	134%
2SG1B	O-1885B	G-12	4.1	N/A		53	1.47	3800	5075	pass	pass	134%
2SG6B2	O-1885E	I-6	3.5	N/A		53	1.72	3800	5075	pass	pass	134%
2SG22B2	O-1885E	G-13	4.5	N/A		70	0.97	3700	5075	pass	pass	137%
2SG12B2	O-1885E	H-4	2.9	N/A		53	1.97	3600	5075	pass	pass	141%
2SI3B1	O-1886D	H-3	3.875	N/A		53	1.47	3600	5075	pass	pass	141%
2SG5B2	O-1885E	I-7	3.25	N/A		53	1.72	3500	5075	pass	pass	145%
2SI4B3	O-1886D	G-3	3.75	N/A		53	1.47	3500	5075	pass	pass	145%
2SI13B	O-1886E	G-11	5.5	N/A		53	0.97	3400	5075	pass	pass	149%
2SG21B2	O-1885E	G-12	4.12	N/A		70	0.97	3400	5075	pass	pass	149%
2SI3B5	O-1886C	E-10	2.25	N/A		70	1.72	3300	5075	pass	pass	154%
2SI4B5	O-1886C	E-10	2.25	N/A		70	1.72	3300	5075	pass	pass	154%
2SB9B2	O-1884F	J-12	3	N/A		70	1.22	3100	5075	pass	pass	164%
2SO7B	O-1887	J-7	5	N/A		53	0.97	3100	5075	pass	pass	164%

Unit 2 Tray Supports(Type-B)

Calc. No. OSC- 6928Rev. 0 Sheet No. 2By: RVH Date 10/6/97Ch: BGL Date 10/7/97

FOR INFORMATION ONLY

Support ID	Dwg. #	Location	Tributary Span	Max# cables	Actual Moment	#/ft	Moment Arm(ft)	100% Full Moment	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	% Full to Fail
2SO8B	O-1887	J-6	5	N/A		53	0.97	3100	5075	pass	pass	164%
2SB7B	O-1884	J-8	3.25	N/A		53	1.47	3000	5075	pass	pass	169%
2SI2B3	O-1886C	F-12	3.25	N/A		53	1.47	3000	5075	pass	pass	169%
2SI3B3	O-1886C	F-12	3.25	N/A		53	1.47	3000	5075	pass	pass	169%
2SB5B	O-1884A	F-5	2.73	N/A		53	1.72	3000	5075	pass	pass	169%
2SB6B	O-1884A	H-7	4.8	N/A		53	0.97	2900	5075	pass	pass	175%
2SB10B2	O-1884F	J-12	2.75	N/A		70	1.22	2800	5075	pass	pass	181%
2SG3B3	O-1885E	H-11	4.57	N/A		53	0.97	2800	5075	pass	pass	181%
2SG7B	O-1885	I-3	3	N/A		53	1.47	2800	5075	pass	pass	181%
2SG5B1	O-1885E	I-11	3.38	N/A		70	0.97	2800	5075	pass	pass	181%
2SO11B	O-1887	J-5	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO12B	O-1887	J-5	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO17B	O-1887	I-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO18B	O-1887	H-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO19B	O-1887	H-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO20B	O-1887	H-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO21B	O-1887	G-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO22B	O-1887	G-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO23B	O-1887	G-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO24B	O-1887	F-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO25B	O-1887	F-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SO26B	O-1887	E-3	6	N/A		53	0.72	2700	5075	pass	pass	188%
2SI11B	O-1886E	H-3	2.5	N/A		53	1.72	2700	5075	pass	pass	188%
2SI5B1	O-1886D	I-2	2.5	N/A		53	1.47	2300	5075	pass	pass	221%
2SO6B	O-1887	J-7	5	N/A		53	0.72	2300	5075	pass	pass	221%
2SO9B	O-1887	J-5	5	N/A		53	0.72	2300	5075	pass	pass	221%
2SG4B1	O-1885	I-3	2.25	N/A		53	1.47	2100	5075	pass	pass	242%
2SI1B	O-1886C	G-12	2.25	N/A		53	1.47	2100	5075	pass	pass	242%
2SO1B	O-1887	J-8	4.5	N/A		53	0.72	2000	5075	pass	pass	254%
2SO16B	O-1887	I-3	4.5	N/A		53	0.72	2000	5075	pass	pass	254%
2SB4B	O-1884	J-7	2.1	N/A		53	1.47	1900	5075	pass	pass	267%
2SO27B	O-1887	E-3	4.25	N/A		53	0.72	1900	5075	pass	pass	267%
2SG20B2	O-1885E	G-11	2.3	N/A		70	0.97	1900	5075	pass	pass	267%
2SO10B	O-1887	J-5	4	N/A		53	0.72	1800	5075	pass	pass	282%
2SO14B	O-1887	I-4	4	N/A		53	0.72	1800	5075	pass	pass	282%
2SO13B	O-1887	I-4	3.5	N/A		53	0.72	1600	5075	pass	pass	317%
2SO15B	O-1887	I-4	3.5	N/A		53	0.72	1600	5075	pass	pass	317%
2SO29B	O-1887	J-4	3.5	N/A		53	0.72	1600	5075	pass	pass	317%
2SO9B	O-1887	I-13	5.25	N/A		53	0.47	1600	5075	pass	pass	317%
2SO2B	O-1887	J-8	3	N/A		53	0.72	1400	5075	pass	pass	363%
2SO3B	O-1887	J-8	3	N/A		53	0.72	1400	5075	pass	pass	363%
2SO4B	O-1887	J-7	3	N/A		53	0.72	1400	5075	pass	pass	363%
2SO5B	O-1887	J-7	3	N/A		53	0.72	1400	5075	pass	pass	363%
2SO28B	O-1887	J-7	3	N/A		53	0.72	1400	5075	pass	pass	363%
2SB2B	O-1884A	H-7	2.2	N/A		53	0.97	1300	5075	pass	pass	390%

FOR INFORMATION ONLY

Unit 3 Tray Supports (Type-B)

Calc. No. **OSC-6996**
 Rev. **6** Sheet No. **9**
 By: *RV* Date **10/6/97**
 Ch. *B. L. L.* Date **10/6/97**

SUPPORT ID	DWG#	LOCATION	TRIBUTARY SPAN	Max # Cables	C/L DIST	Actual Moment	#ft.	Moment Arm	Moment (100%)	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	% Full to Fail
3SB1B	O-2884A	E5	3.50		15		53	8.63	1599.94	5075.00		PASS	317%
3SB2B	O-2884A	H7	2.50		18		53	11.63	1540.31	5075.00		PASS	329%
3SB4B	O-2884	J7	2.00		24		53	17.63	1868.25	5075.00		PASS	272%
3SB5B	O-2884A	F5	2.83		15		53	8.63	1293.66	5075.00		PASS	392%
3SB6B	O-2884A	H7	5.42		18		53	11.63	3337.34	5075.00		PASS	152%
3SB7B	O-2884	J8	3.50		24		53	17.63	3269.44	5075.00		PASS	155%
3SB8B	O-2884	J8	4.00		24		53	17.63	3736.50	5075.00		PASS	136%
3SB9B	O-2884	F3	2.50		24		53	17.63	2335.31	5075.00		PASS	217%
3SB10B	O-2884	F3	3.50		24		53	17.63	3269.44	5075.00		PASS	155%
3SB11B	O-2884	E3	4.00		24		53	17.63	3736.50	5075.00		PASS	136%
3SB1B1	O-2884A	E5	8.00	24.00	25	2354.20	53	18.63	7897.00	5075.00	PASS	FAIL	64%
3SB1B2	O-2884A	K7	3.42		24		70	17.63	4215.31	5075.00		PASS	120%
3SB2B2	O-2884A	K8	4.17	6.00	24	565.47	70	17.63	5140.63	5075.00	PASS	FAIL	99%
3SB3B2	O-2884A	K8	3.75		24		70	17.63	4626.56	5075.00		PASS	110%
3SB4B2	O-2884A	K9	3.50		24		70	17.63	4318.13	5075.00		PASS	118%
3SB5B2	O-2884A	K9	5.50	13.00	24	1051.77	70	17.63	6785.63	5075.00	PASS	FAIL	75%
3SB6B2	O-2884F	G13	6.00	13.00	20	886.99	70	13.63	5722.50	5075.00	PASS	FAIL	89%
3SB7B2	O-2884F	H13	7.00	13.00	20	1034.82	70	13.63	6676.25	5075.00	PASS	FAIL	76%
3SB8B2	O-2884F	I12	7.00	13.00	18	882.92	70	11.63	5696.25	5075.00	PASS	FAIL	89%
3SB9B2	O-2884F	J12	3.25		20		70	13.63	3099.69	5075.00		PASS	164%
3SB10B2	O-2884F	J12	3.00		18		70	11.63	2441.25	5075.00		PASS	208%
3SB11B2	O-2884F	K12	5.50	13.00	21	872.75	70	14.63	5630.63	5075.00	PASS	FAIL	90%
3SB1B3	O-2884A	E5	4.50		22		70	15.63	4921.88	5075.00		PASS	103%
3SB2B3	O-2884A	E6	5.00	24.00	22	1234.38	70	15.63	5468.75	5075.00	PASS	FAIL	93%
3SB3B3	O-2884A	E6	5.00	24.00	22	1234.38	70	15.63	5468.75	5075.00	PASS	FAIL	93%
3SB4B3	O-2884A	F7	4.25		22	0.00	70	15.63	4648.44	5075.00		PASS	109%
3SB5B3	O-2884A	F7	7.00	24.00	18	1285.73	70	11.63	5696.25	5075.00	PASS	FAIL	89%
3SG1B	O-2885B	G12	4.00		26		53	19.63	4160.50	5075.00		PASS	122%
3SG2B	O-2885B	F12	6.50	13.00	26	1384.05	53	19.63	6760.81	5075.00	PASS	FAIL	75%
3SG3B	O-2885B	E11	6.50	13.00	26	1384.05	53	19.63	6760.81	5075.00	PASS	FAIL	75%
3SG6B	O-2885	I3	3.00		27	0.00	53	20.63	3279.38	5075.00		PASS	155%
3SG7B	O-2885	I3	4.00		27	0.00	53	20.63	4372.50	5075.00		PASS	116%
3SB10B	O-2885E	I5	5.75	27.00	27	2033.88	53	20.63	6285.47	5075.00	PASS	FAIL	81%
3SG11B	O-2885E	I4	6.00	27.00	26	2019.41	53	19.63	6240.75	5075.00	PASS	FAIL	81%
3SG13B	O-2885E	I5	4.83	27.00	27	1709.52	53	20.63	5283.07	5075.00	PASS	FAIL	96%
3SG14B	O-2885E	J6	2.50		24	0.00	53	17.63	2335.31	5075.00		PASS	217%
3SG15B	O-2885E	J6	2.50		24	0.00	53	17.63	2335.31	5075.00		PASS	217%
3SG16B	O-2885E	J8	3.50	2.00	30	487.86	70	23.63	5788.13	5075.00	PASS	FAIL	88%
3SG17B	O-2885B	E10	5.50	11.00	26	1073.98	53	19.63	5720.69	5075.00	PASS	FAIL	89%
3SG18B	O-2885B	E11	7.00	11.00	26	1366.88	70	19.63	9616.25	5075.00	PASS	FAIL	53%
3SG19B	O-2885E	G11	8.00	13.00	18	1009.05	70	11.63	6510.00	5075.00	PASS	FAIL	78%
3SG2B1	O-2885B	E6	3.25		26		70	19.63	4464.69	5075.00		PASS	114%
3SG3B1	O-2885B	E5	4.00	65.00	26	2688.63	70	19.63	5495.00	5075.00	PASS	FAIL	92%
3SG4B1	O-2885	I3	6.00	28.00	24	1861.20	53	17.63	5604.75	5075.00	PASS	FAIL	91%
3SG5B1	O-2885E	I11	5.00		12		70	5.63	1968.75	5075.00		PASS	258%
3SG6B1	O-2885E	G10	3.00		18		70	11.63	2441.25	5075.00		PASS	208%
3SG7B1	O-2885E	H11	7.50	6.00	24	1017.84	70	17.63	9253.13	5075.00	PASS	FAIL	55%
3SG8B1	O-2885B	E5	5.00		20		70	13.63	4768.75	5075.00		PASS	106%
3SG9B1	O-2885B	E4	5.50	65.00	20	2566.61	70	13.63	5245.63	5075.00	PASS	FAIL	97%
3SG10B1	O-2885E	J8	3.50		26		53	19.63	3640.44	5075.00		PASS	139%
3SG11B1	O-2885E	I11	3.50		26		70	19.63	4808.13	5075.00		PASS	106%
3SG12B1	O-2885E	I10	5.00	6.00	26	755.56	70	19.63	6868.75	5075.00	PASS	FAIL	74%
3SG13B1	O-2885E	I10	5.00	6.00	26	755.56	70	19.63	6868.75	5075.00	PASS	FAIL	74%
3SG14B1	O-2885E	J9	5.00	6.00	26	755.56	70	19.63	6868.75	5075.00	PASS	FAIL	74%
3SG15B1	O-2885E	H2	6.00	22.00	24	1575.68	53	17.63	5604.75	5075.00	PASS	FAIL	91%
3SG16B1	O-2885E	G8	7.00		9		35	2.63	643.13	5075.00		PASS	789%
3SG1B2	O-2885C	H3	2.75		24		70	17.63	3392.81	5075.00		PASS	150%
3SG2B2	O-2885C	I3	4.00		24		70	17.63	4935.00	5075.00		PASS	103%

FOR INFORMATION ONLY

Unit 3 Tray Supports (Type-B)

Calc. No. OSC- 6996

Rev. 0 Sheet No. 10

By: R. V. Hest Date 10/6/97

By: B. G. L. Date 10/6/97

SUPPORT ID	DWG#	LOCATION	TRIBUTARY SPAN	Max # Cables	C/L DIST	Actual Moment	#ft.	Moment Arm	Moment (100%)	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	%Full to Fail
3SG3B2	O-2885E	I7	6.50	44.00	27	3324.75	53	20.63	7105.31	5075.00	PASS	FAIL	71%
3SG4B2	O-2885E	I7	4.00		27		53	20.63	4372.50	5075.00		PASS	116%
3SG5B2	O-2885E	I7	3.25		27		53	20.63	3552.66	5075.00		PASS	143%
3SG6B2	O-2885E	I6	3.50		27		53	20.63	3825.94	5075.00		PASS	133%
3SG7B2	O-2885E	I6	4.50		27		53	20.63	4919.06	5075.00		PASS	103%
3SG8B2	O-2885E	I5	5.00	27.00	27	1768.59	53	20.63	5465.63	5075.00	PASS	FAIL	93%
3SG9B2	O-2885E	I4	4.25		27		53	20.63	4645.78	5075.00		PASS	109%
3SG10B2	O-2885E	I4	4.50	25.00	29	1654.45	53	22.63	5396.06	5075.00	PASS	FAIL	94%
3SG11B2	O-2885E	H4	4.83	25.00	29	1776.88	53	22.63	5795.37	5075.00	PASS	FAIL	88%
3SG12B2	O-2885E	H4	2.75		29		53	22.63	3297.59	5075.00		PASS	154%
3SG13B2	O-2885B	E4	5.00	63.00	24	2938.97	70	17.63	6168.75	5075.00	PASS	FAIL	82%
3SG14B2	O-2885E	J9	5.00		24		53	17.63	4670.63	5075.00		PASS	109%
3SG15B2	O-2885E	H2	5.50	9.00	24.5	902.17	53	18.13	5283.44	5075.00	PASS	FAIL	96%
3SG16B2	O-2885E	H2	5.00		24.5		53	18.13	4803.13	5075.00		PASS	106%
3SG17B2	O-2885E	H10	4.75		21		53	14.63	3681.84	5075.00		PASS	138%
3SG18B2	O-2885B	E10	5.00	13.00	24	956.16	70	17.63	6168.75	5075.00	PASS	FAIL	82%
3SG19B2	O-2885B	E9	5.50		12		53	5.63	1639.69	5075.00		PASS	310%
3SG20B2	O-2885E	G11	3.00		15		70	8.63	1811.25	5075.00		PASS	280%
3SG21B2	O-2885E	G12	4.17		15		70	8.63	2515.63	5075.00		PASS	202%
3SG22B2	O-2885E	G13	3.00		15		70	8.63	1811.25	5075.00		PASS	280%
3SG23B2	O-2885E	G13	5.00	13.00	22	847.66	70	15.63	5468.75	5075.00	PASS	FAIL	93%
3SG2B3	O-2885E	E11	4.00		21		53	14.63	3100.50	5075.00		PASS	164%
2SG3B3	O-2885E	H11	5.25		24		53	17.63	4904.16	5075.00		PASS	103%
3SG5B3	O-2885B	F3	5.00	56.00	24	2661.38	70	17.63	6168.75	5075.00	PASS	FAIL	82%
3SG6B3	O-2885C	F4	5.00	48.00	24	2344.13	70	17.63	6168.75	5075.00	PASS	FAIL	82%
3SG7B3	O-2885C	G4	5.00	52.00	24	2502.75	70	17.63	6168.75	5075.00	PASS	FAIL	82%
3SG8B3	O-2885E	I11	2.50		27		53	20.63	2732.81	5075.00		PASS	186%
3SG9B3	O-2885E	I10	5.00	49.00	27	2789.53	53	20.63	5465.63	5075.00	PASS	FAIL	93%
3SG10B3	O-2885E	I10	5.00	39.00	27	2325.47	53	20.63	5465.63	5075.00	PASS	FAIL	93%
3SG1B4	O-2885C	H3	4.00		24		70	17.63	4935.00	5075.00		PASS	103%
3SG2B4	O-2885C	H3	4.00		24		70	17.63	4935.00	5075.00		PASS	103%
3SG4B4	O-2885C	G4	4.00		24		70	17.63	4935.00	5075.00		PASS	103%
3SI1B	O-2886C	G12	4.17		24		53	17.63	3892.19	5075.00		PASS	130%
3SI2B	O-2886E	I7	6.00	35.00	27	2567.81	53	20.63	6558.75	5075.00	PASS	FAIL	77%
3SI3B	O-2886E	I7	5.50	34.00	27	2302.78	53	20.63	6012.19	5075.00	PASS	FAIL	84%
3SI4B	O-2886E	I4	6.00	31.00	27	2345.06	53	20.63	6558.75	5075.00	PASS	FAIL	77%
3SI5B	O-2886E	I6	4.00		27		53	20.63	4372.50	5075.00		PASS	116%
3SI7B	O-2886E	I5	5.50	30.00	27	2098.59	53	20.63	6012.19	5075.00	PASS	FAIL	84%
3SI8B	O-2886E	I4	5.50	30.00	27	2098.59	53	20.63	6012.19	5075.00	PASS	FAIL	84%
3SI9B	O-2886E	I4	3.42		32		53	25.63	4640.26	5075.00		PASS	109%
3SI10B	O-2886E	H4	5.00	24.00	32	2024.38	53	25.63	6790.63	5075.00	PASS	FAIL	75%
3SI11B	O-2886E	H3	2.75		32		53	25.63	3734.84	5075.00		PASS	136%
3SI13B	O-2886E	G11	7.00		18		53	11.63	4312.88	5075.00		PASS	118%
3SI17B	O-2886E	I11	7.00	20.00	27	2021.25	53	20.63	7651.88	5075.00	PASS	FAIL	66%
3SI19B	O-2886E	J8	3.50		27		53	20.63	3825.94	5075.00		PASS	133%
3SI20B	O-2886E	H2	4.00		26		53	19.63	4160.50	5075.00		PASS	122%
3SI21B	O-2886E	H2	4.00		26		53	19.63	4160.50	5075.00		PASS	122%
3SI3B1	O-2886D	H3	4.00		26		53	19.63	4160.50	5075.00		PASS	122%
3SI4B1	O-2886D	H3	4.50		26		53	19.63	4680.56	5075.00		PASS	108%
3SI5B1	O-2886D	I2	4.25		26		53	19.63	4420.53	5075.00		PASS	115%
3SI6B1	O-2886D	I2	3.25		26		53	19.63	3380.41	5075.00		PASS	150%
3SI7B1	O-2886E	I11	5.00	78.00	27	4135.31	53	20.63	5465.63	5075.00	PASS	FAIL	93%
3SI1B2	O-2886E	J9	5.00	31.00	27	1954.22	53	20.63	5465.63	5075.00	PASS	FAIL	93%
3SI1B3	O-2886C	F12	3.50		24		70	17.63	4318.13	5075.00		PASS	118%
3SI2B3	O-2886C	F12	3.50		24		70	17.63	4318.13	5075.00		PASS	118%
3SI3B3	O-2886C	F12	3.50		24		70	17.63	4318.13	5075.00		PASS	118%
3SI4B3	O-2886D	G3	4.00		27		53	20.63	4372.50	5075.00		PASS	116%
3SI5B3	O-2886C	E5	4.50	66.00	27	3220.59	70	20.63	6496.88	5075.00	PASS	FAIL	78%

FOR INFORMATION ONLY Unit 3 Tray Supports (Type-B)

Calc. No. **OSC- 6996**
 Rev. **0** Sheet No. **11**
 By: *[Signature]* Date **10/6/97**
 Ck: *[Signature]* Date **10/6/97**

SUPPORT ID	DWG#	LOCATION	TRIBUTARY SPAN	Max # Cables	CL DIST	Actual Moment	#ft.	Moment Arm	Moment (100%)	Allowable	Pass/Fail Actual Load	Pass/Fail @ 100% full	%Full to Fail
3SI6B3	O-2886C	F4	5.00	88.00	27	4599.38	70	20.63	7218.75	5075.00	PASS	FAIL	70%
3SI7B3	O-2886C	F4	5.00	80.00	27	4228.13	70	20.63	7218.75	5075.00	PASS	FAIL	70%
3SI8B3	O-2886D	G4	4.00		27		53	20.63	4372.50	5075.00		PASS	116%
3SI9B3	O-2886E	I10	4.75	78.00	27	3928.55	53	20.63	5192.34	5075.00	PASS	FAIL	98%
3SI10B3	O-2886E	I10	5.00	67.00	27	3624.84	53	20.63	5465.63	5075.00	PASS	FAIL	93%
3SI4B4	O-2886C	E5	6.00	73.00	27	4683.94	70	20.63	8662.50	5075.00	PASS	FAIL	59%
3SI5B4	O-2886C	E5	5.00	83.00	27	4367.34	70	20.63	7218.75	5075.00	PASS	FAIL	70%
3SI6B4	O-2886D	F4	5.00	76.00	30	4630.50	70	23.63	8268.75	5075.00	PASS	FAIL	61%
3SI7B4	O-2886D	G4	5.00	76.00	30	4630.50	70	23.63	8268.75	5075.00	PASS	FAIL	61%
3SI8B4	O-2886C	E6	3.50		22		70	15.63	3828.13	5075.00		PASS	133%
3SI1B5	O-2886C	E11	4.50	49.00	27	2510.58	70	20.63	6496.88	5075.00	PASS	FAIL	78%
3SI2B5	O-2886C	E11	3.00		27		70	20.63	4331.25	5075.00		PASS	117%
3SI3B5	O-2886C	E10	2.50		27		70	20.63	3609.38	5075.00		PASS	141%
3SI4B5	O-2886C	E10	2.50		27		70	20.63	3609.38	5075.00		PASS	141%
3SI5B5	O-2886C	E9	2.75		27		70	20.63	3970.31	5075.00		PASS	128%
3SI6B5	O-2886C	E9	4.00	49.00	27	2231.63	70	20.63	5775.00	5075.00	PASS	FAIL	88%
3SO1B	O-2887	J8				0.00		-6.38					
3SO2B	O-2887	J8				0.00		-6.38					
3SO3B	O-2887	J8				0.00		-6.38					
3SO4B	O-2887	J7				0.00		-6.38					
3SO5B	O-2887	J7				0.00		-6.38					
3SO6B	O-2887	J7				0.00		-6.38					
3SO7B	O-2887	J7				0.00		-6.38					
3SO8B	O-2887	J6				0.00		-6.38					
3SO9B	O-2887	I13				0.00		-6.38					
3SO10B	O-2887	J5				0.00		-6.38					
3SO11B	O-2887	J5				0.00		-6.38					
3SO12B	O-2887	J5				0.00		-6.38					
3SO13B	O-2887	I4				0.00		-6.38					
3SO14B	O-2887	I4				0.00		-6.38					
3SO15B	O-2887	I4				0.00		-6.38					
3SO16B	O-2887	I3				0.00		-6.38					
3SO17B	O-2887	I3				0.00		-6.38					
3SO18B	O-2887	H3				0.00		-6.38					
3SO19B	O-2887	H3				0.00		-6.38					
3SO20B	O-2887	H3				0.00		-6.38					
3SO21B	O-2887	G3				0.00		-6.38					
3SO22B	O-2887	G3				0.00		-6.38					
3SO23B	O-2887	G3				0.00		-6.38					
3SO24B	O-2887	F3				0.00		-6.38					
3SO25B	O-2887	F3				0.00		-6.38					
3SO26B	O-2887	E3				0.00		-6.38					
3SO27B	O-2887	E3				0.00		-6.38					
3SO28B	O-2887	J7				0.00		-6.38					
3SO29B	O-2887	J4				0.00		-6.38					

Based on engineering review, none of the "3SO" type supports fail. Therefore, they were not analysed.

FOR INFORMATION ONLY

Duke Power Company

Station Oconee Unit Rev. 0 File No. OSC-6996 Sheet 12 Of

Subject Limited Analytical Review of Cable Tray Supports Inside Containment

By R V HESTER Date 10/6/97

Equip No. Checked By B E L Date 10/6/97

'E' type supports are 'cantilever bracket' type. For this type, in addition to the 'Dead Load Check', a 3.0 times dead load 'Vertical Capacity Check' and a 'Ductility Check' are required. For the 'Vertical Capacity Check', the eccentricity of the load need not be considered. 'Even if overhead moment capacity is completely lost, the vertical support integrity is maintained as the support balances itself with the center of mass below the anchor point'. For this analysis, eccentricity is considered for evaluation of the connection between horizontal and vertical members. Capacities are based on ultimate strengths of the various components.

For 'E' type supports, the bending capacity is limited by slip in the bolt connecting the P2626 angle to the P1000, or by bending in the P2626. The slip capacity is 1500.0 lb based on Manufacturer's Data which the GIP allows.

Therefore, the ultimate bending capacity is the distance from the top of the P1000 to the center of its compression flange x 1500.0 lb or 1.5" x 1500# = 2250.0 "-lb.

For bending in the P2626, the ultimate moment is $S_z \times F_y$, the Plastic Modulus is $1.625 \times 0.25^2/4 = 0.025$ and $F_y = 36,000.0$ psi.

$$M_p = 0.025 \times 36000.0 = 900.0 \text{ "-lb.}$$

The P2626 is a 2.125x 2.125 angle, 1/4 in thick. The hole is 13/16 " from the end. $2.125 - 13/16 - .25/2 = 1.1875$

O-884C, 1884C,
2884C, GIP
8.3.2, 8.3.3, 8.3.8

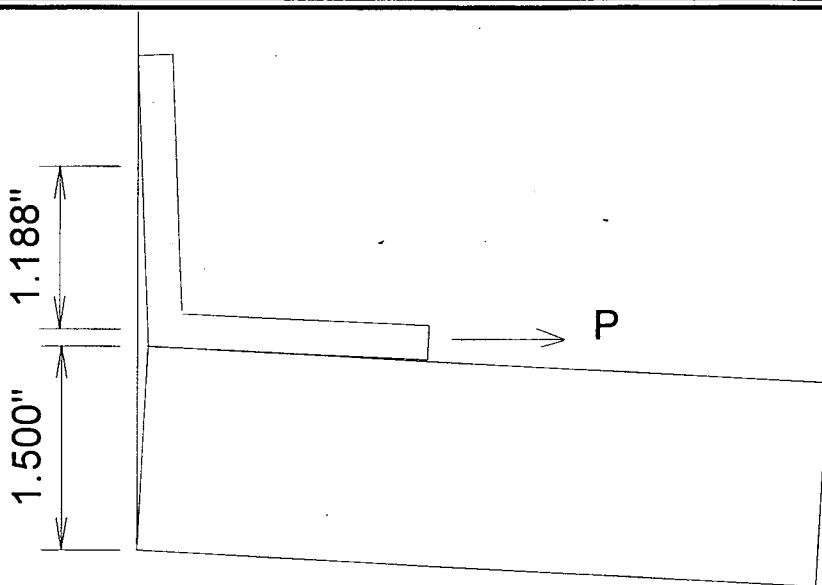
Unistrut Catalog
#12, pg 69; GIP
Sect 8.3.8

'Design of Steel
Structures' by
Gaylord and
Gaylord, pg 254

Unistrut Catalog
#12, pg 11.

ibid, pg 86

Station Oconee Unit Rev. 0 File No. OSC-6996 Sheet 13 Of
 Subject Limited Analytical Review of Cable Tray Supports Inside Containment
 By R V HESTER Date 10/6/97
 Equip No. Checked By B Elal Date 10/6/97



For a fixed-fixed beam displaced at one end, the moment is $P/2$.

$$M = P \times l/2.$$

$$P = M \times 2/l$$

$$P = 900.0\text{'-lb} \times 2/1.188\text{'} = 1515.0$$

and the ultimate moment in the P1000 is

$$1515 \times 1.5 = 2273.0 > 2250.0 \text{'-lb. capacity based on bolt slip.}$$

Therefore 2250.00"-lb is the allowable moment for 'E' type supports.

The allowable shear with one bolt resisting is 1500#.

The allowable tension in the P1001 is limited by slip in the P2245A;
 For only one bolt, the slip capacity is 1500.0 lb. All supports were welded
 to overhead steel with welds of capacity >> 1500.0 lb by inspection.
 It is adequate and conservative to use 1500.0 capacity since all anchorages
 had more than one bolt and weld capacity >> 1500.0 lb.

The applied moment is calculated as for 'B' types except the moment arm
 is the distance to the face of the vertical P1001, and all fill percentages
 were estimated from field inspection.

Field inspection discovered many of the supports designated as 'E' type
 supports are of a different more rugged design. Some had P-1075 brackets
 between the vertical and horizontal members. Others had supports at both

Manual of Steel
 Construction, 8th
 ed, pg 2-121.

Unistrut Catalog
 #12, pg 69

Unistrut Catalog
 #12, pg 69

FOR INFORMATION ONLY

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Subject Limited Analytical Review of Cable Tray Supports Inside Containment
By R V HESTER Date 10/6/97
Equip No. Checked By BCL Date 10/6/97

ends, and others had P-1026 angles top and bottom of a P-1001 horizontal member.

Two were not cable tray supports but were cable racks supported from the grating top and bottom, with cable draped over horizontal P-1000 members between two vertical P-1000's.

Some supports were not installed. Where supports were found to be missing, the as-found tributary length was used for adjacent supports. A summary of as-found Type 'E' supports is provided at the end of this calculation.

P-1075 bracket capacities were calculated similarly to 'B' type supports, with a capacity of 5075"-lb; supports at both ends were considered adequate by inspection; and for P-1026 brackets top and bottom of a P-1001, capacities were calculated similarly to 'E' type supports but using 3.25" instead of 1.5" for the resisting couple arm since the depth of a P-1001 is 3.25";

$$(3.25/1.5)2250 = 4875.0 \text{ "-lb}$$

The following spreadsheets entitled 'Unit 1 Tray Supports (Type E)', 'Unit 2 Tray Supports (Type E)', and 'Unit 3 Tray Supports (Type E)', utilize EXCEL software to perform the above defined calculations, although as stated earlier, several are not true 'E' type supports. All 'E' type designated supports with a capacity >2250.0"-lb (ie 5075 or 4875 "-lb), have P-1075 brackets or P-1026 T&B on a P-1001.

Conclusion - Type E Supports: Therefore no type 'E' hangers were outliers due to the vertical capacity check.

The 1 'E' type hanger in Unit 1, 1 in Unit 2, and 2 in Unit 3, which fail the Dead Load check are truly outliers requiring repair.

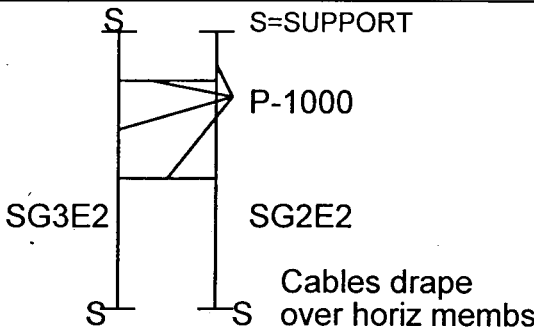
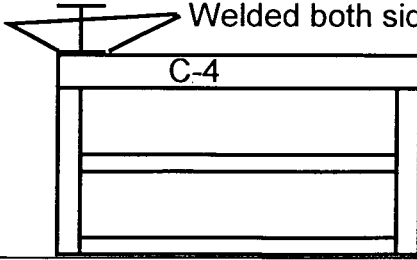
Station Oconee Unit Rev. 0 File No. OSC-6996 Sheet 15 Of
Subject Limited Analytical Review of Cable Tray Supports Inside Containment

By R V HESTER Date 10/6/97
Equip No. Checked By Belal Date 10/6/97

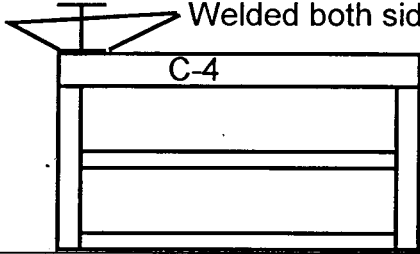
For the Ductility Check, it is necessary to show the anchorage is similar to ductile anchorages described in the GIP, or show ductility by other means. Fig 8-7D of the GIP is similar to the anchorage for type 'E' supports, therefore ductility is implicit.	GIP Sect 8.3.3
For type 'F' supports, the 'Dead Load' and '3 Times Dead Load Checks' can be performed by observing that for a maximum tributary length of 6 ft, and 100% full, 24" tray, the tension in a support leg with four braces can be computed: $6 \times 70 \times 4/2 = 840.0 \text{ \#} < 1500.0 \text{ \#}$ slip for even 1 bolt for 'Dead Load Check' vs working stress; and $3 \times 840.0 < 3 \times 1500.0$ for '3 times Dead Load' vs Ultimate. Ductility is demonstrated by the supporting brackets.	Unistrut Catalog #12, pg. 69.

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Summary of Type 'E' Supports Found Not To Be in Accordance With The Drawings

Support ID	Actual Configuration
SO1E	P-1075 BRACKET INSTEAD OF P-1026
SO2E	P-1075 BRACKET
SO3E	NOT INSTALLED
SO4E	P-1075 BRACKET
SO5E	P-1075 BRACKET
SO6E	P-1075 BRACKET
SO7E	P-1075 BRACKET
SI1E1	P-1075 BRACKET
SG2E2 SG3E2	
SI2E1	P-1075 BRACKET
SG5E1	P-1075 BRACKET
SG1E2	P-1075 BRACKET
SG3E1	P-1075 BRACKET
SG4E1	P-1075 BRACKET
SB6E	NOT INSTALLED
SB5E	'F' TYPE
SB1E SB2E SB4E	P-1001 HORIZONTAL MEMBER WITH P-1026 CLIPS T.&B.
SB3E	'F' TYPE
SG1E1 SG2E1	
2SO1E	NOT INSTALLED
2SO2E	P-1075
2SO3E	P-1075

Station Oconee Unit Rev. 0 File No. OSC-6996 Sheet 17 Of Subject Limited Analytical Review of Cable Tray Supports Inside ContainmentBy R V HESTERDate 10/6/97Equip No. Checked By B G LDate 10/6/97

2SO4E	P-1075
2SO5E	P-1075
2SO6E	P-1075
2SO7E	P-1075
2SI2E1	P-1075
2SG1E	P-1075
2SG7E1	P-1075
2SG6E1	P-1075
2SG5E2	P-1075
2SG5E1	P-1075 BRACKET; SUPPORTED FROM BOTTOM
2SG4E1	P-1075
2SG4E2	P-1075
2SG3E2	P-1075
2SG3E1	P-1075
2SG1E1 2SG2E1 3SG1E1 3SG2E1	 Welded both sides C-4
2SG2E2	P-1075
2SG2E3	P-1075
2SG1E3	P-1075
2SG1E2	P-1075
2SB6E	NOT INSTALLED
3SG3E1	P-1075
3SG4E1	P-1075
3SG1E2	SUPPORTED BOTH ENDS
3SG2E2	P-1075
3SG3E2	P-1075
3SI2E1	P-1075
3SI1E2	P-1075
3S03E	P-1075
3SO4E	P-1075
3SO5E	P-1075
3SO6E	P-1075
3SO7E	P-1075

Unit 1 Tray Supports(Type-E)

FOR INFORMATION ONLY

Support ID	Dwg #	Location	Tributary Span	%Full	Moment Arm	Actual Moment	3 x Dead Load(Lbs)	Allowable Moment	Allowable Direct Tension	Pass/Fail 3 x DL	Pass/Fail @ Actual Fill
SG2E2	O-885E	G-7	Vertical P-1000 supported top and bottom OK By EJ								
SO4E	O-887	J-7	6	75%	15.25	3637	716	5075	1500	Pass	Pass
SO6E	O-887	H-3	6	10%	15.25	485	95	5075	1500	Pass	Pass
SB8E	O-884	J-6	6	20%	20	1272	191	2250	1500	Pass	Pass
SB9E	O-884	J-6	6	20%	20	1272	191	2250	1500	Pass	Pass
SB10E	O-884	I-7	6	20%	20	1272	191	2250	1500	Pass	Pass
SO2E	O-887	H-4	5	10%	15.25	404	80	5075	1500	Pass	Pass
SO7E	O-887	I-3	4.75	10%	15.25	384	76	5075	1500	Pass	Pass
SB11E	O-884	I-8	4.75	20%	20	1007	151	2250	1500	Pass	Pass
SO1E	O-887	H-4	4	10%	15.25	323	64	5075	1500	Pass	Pass
SO5E	O-887	J-7	4	75%	15.25	2425	477	5075	1500	Pass	Pass
SB6E	O-884	J-4	Not Installed								
SB7E	O-884	J-4	4	20%	20	848	127	2250	1500	Pass	Pass
SO3E	O-887	J-6	Not Installed								
SG2E1	O-885B	E-8	Supported on each end								
SI1E1	O-886C	G-4	3.5	20%	20	742	111	2250	1500	Pass	Pass
SG1E2	O-885E	H-5	5	67%	15.25	2696	530	5075	1500	Pass	Pass
SG1E1	O-885B	E-7	Supported on each end								
SB4E	O-884A	I-5	3	25%	20	795	119	4875	1500	Pass	Pass
SI1E2	O-886C	K-4	4.25	50%	20	2253	338	2250	1500	Pass	Fail
SB1E	O-884A	J-4	4	25%	20	1060	159	4875	1500	Pass	Pass
SB2E	O-884A	J-4	3.75	25%	20	994	149	4875	1500	Pass	Pass
SB3E	O-884A	I-4	Supported Both Ends								
SG3E2	O-885E	G-7	Vertical P-1000 supported top and bottom OK By EJ								
SG3E1	O-885C	I-12	4	50%	15.25	1617	318	5075	1500	Pass	Pass
SG4E1	O-885C	I-12	4	50%	15.25	1617	318	5075	1500	Pass	Pass
SG5E1	O-885E	F-7	4	25%	15.25	808	159	5075	1500	Pass	Pass
SI2E1	O-886C	G-4	3	20%	20	636	95	2250	1500	Pass	Pass
SB5E	O-884	E-9	Supported Both Ends								

Calc No: OSC- 6996

Rev. 0 Sheet No. 18

By: R. J. Hest Date 10/6/97

Ch: B. E. Hest Date 10/6/97

Support ID	Dwg #	Location	Tributary Span	% Full	Moment Arm	Actual Moment	3 x Dead Load(Lbs)	Allowable Moment	Allowable Direct Tension	Pass/Fail 3 x DL	Pass/Fail @ Actual Fill
2SO4E	O-1887	J-6	6	80%	15.25	3900	763	5075	1500	Pass	Pass
2SO6E	O-1887	H-8	5	10%	15.25	400	80	5075	1500	Pass	Pass
2SO7E	O-1887	H-8	4.75	10%	15.25	400	76	5075	1500	Pass	Pass
2SG1E2	O-1885E	I-9	5.6	100%	10.25	3000	890	5075	1500	Pass	Pass
2SO2E	O-1887	H-8	4.5	10%	17.75	400	72	5075	1500	Pass	Pass
2SG3E2	O-1885B	F-10	5	50%	20.75	2700	398	5075	1500	Pass	Pass
2SI1E2	O-1886C	J-11	6.37	80%	24	6500	810	5075	1500	Pass	Fail
2SO1E	O-1887	H-8	Not Installed								
2SG2E1	O-1885B	E-7	Supported Both Ends								
2SG6E1	O-1885B	H-8	Needs Repair-Work Order Initiated								
2SO3E	O-1887	J-7	3	80%	15.25	1900	382	5075	1500	Pass	Pass
2SO5E	O-1887	J-6	3	80%	15.25	1900	382	5075	1500	Pass	Pass
2SG2E2	O-1885B	F-9	5	50%	7.25	1000	398	5075	1500	Pass	Pass
2SG5E1	O-1885E	G-8	-3	5%	15	100	24	2250	1500	Pass	Pass
2SG4E2	O-1885E	G-4	2.5	10%	15	200	40	5075	1500	Pass	Pass
2SG1E3	O-1885E	F-4	2.5	10%	15	200	40	5075	1500	Pass	Pass
2SB6E	O-1884	J-8	Not Installed								
2SG1E1	O-1885B	E-8	Supported Both Ends								
2SB7E	O-1884	J-7	10	5%	15	400	80	5075	1500	Pass	Pass
2SG2E3	O-1885E	F-4	1.5	10%	15	100	24	5075	1500	Pass	Pass
2SI2E1	O-1886C	G-11	3.75	30%	15	900	179	5075	1500	Pass	Pass
2SG5E2	O-1885E	G-5	2	10%	15	200	32	5075	1500	Pass	Pass
2SG3E1	O-1885C	I-3	4	50%	15	1600	318	5075	1500	Pass	Pass
2SG4E1	O-1885C	I-3	4	50%	10.25	1100	318	5075	1500	Pass	Pass
2SB5E	O-1884	E-3	10	5%	15	400	80	2250	1500	Pass	Pass
2SG7E1	O-1885B	G-8	4.5	5%	18	200	36	5075	1500	Pass	Pass
2SG1E	O-1885E	F-4	2	50%	15	800	159	5075	1500	Pass	Pass
2SG6E2	O-1885B	G-8	Cannot Find on Drawing Assume Deleted								

Calc. No. OSC- 6996

Rev. 0 Sheet No. 19

By: [Signature] Date 10/6/92

Ck: [Signature] Date 10/6/92

Unit 3 Tray Supports(Type-E)

FOR INFORMATION ONLY

SUPPORT ID	DWG#	LOCATION	TRIBUTARY SPAN	Max # Cables or % Full	Moment Arm	Actual Moment	3x Dead Load	Allowable Moment	Allowable Direct Tension(lbs)	Pass/Fail 3xDL	Pass/Fail @ Actual Fill
3SB5E	O-2884	E3	5.00	4	15	510.00	102.00	2250.00	1500.00	PASS	PASS
3SB6E	O-2884	J8	4.00	5%	15	159.00	31.80	2250.00	1500.00	PASS	PASS
3SB7E	O-2884	J7	4.00	5%	15	159.00	31.80	2250.00	1500.00	PASS	PASS
3SG1E	O-2885E	F4	3.00	2	9	159.00	53.00	2250.00	1500.00	PASS	PASS
3SG1E1	O-2885B	E8	Supported Both Ends								
3SG2E1	O-2885B	E7	Supported Both Ends								
3SG3E1	O-2885C	I3	4.50	80%	14.25	2718.90	572.40	5075.00	1500.00	PASS	PASS
3SG4E1	O-2885C	I3	4.00	80%	14.25	2416.80	508.80	5075.00	1500.00	PASS	PASS
3SG5E1	O-2885E	G8	3.00	15	12	423.00	105.75	2250.00	1500.00	PASS	PASS
3SG6E1	O-2885B	H8	4.00	5	18	522.00	87.00	2250.00	1500.00	PASS	PASS
3SG7E1	O-2885B	G8	6.00	29	24	2599.00	324.88	5075.00	1500.00	PASS	PASS
3SG1E2	O-2885E	I9	Supported on Each End								
3SG2E2	O-2885B	F9	6.00	20%	39	2480.40	190.80	5075.00	1500.00	PASS	PASS
3SG3E2	O-2885B	F10	5.50	75%	18	3935.25	655.88	5075.00	1500.00	PASS	PASS
3SG4E2	O-2885E	G4	3.50	10	15	499.00	99.80	2250.00	1500.00	PASS	PASS
3SG5E2	O-2885E	G5	2.50	10	15	356.00	71.20	2250.00	1500.00	PASS	PASS
3SG1E3	O-2885E	G4	3.00	10	15	428.00	85.60	2250.00	1500.00	PASS	PASS
3SG2E3	O-2885E	F4	1.50	10	15	214.00	42.80	2250.00	1500.00	PASS	PASS
3SI2E1	O-2886C	G11	4.00	60%	9	1144.80	381.60	5075.00	1500.00	PASS	PASS
3SI1E2	O-2886C	J11	5.00	95%	23.25	5853.19	755.25	5075.00	1500.00	PASS	FAIL
3SO1E	O-2887	H8	4.00	9	12	434.00	108.50	5075.00	1500.00	PASS	PASS
3SO2E	O-2887	H8	4.50	10%	18.75	447.19	71.55	5075.00	1500.00	PASS	PASS
3SO3E	O-2887	J7	3.00	90%	9	1287.90	429.30	5075.00	1500.00	PASS	PASS
3SO4E	O-2887	J6	6.00	90%	19.5	5580.90	858.60	5075.00	1500.00	PASS	FAIL
3SO5E	O-2887	J6	3.00	90%	9	1287.90	429.30	5075.00	1500.00	PASS	PASS
3SO6E	O-2887	H8	6.50	10	12	741.00	185.25	5075.00	1500.00	PASS	PASS
3SO7E	O-2887	H8	5.00	10	12	570.00	142.50	5075.00	1500.00	PASS	PASS

Calc. No. OSC-6996
 Rev. 0 Sheet No. 20
 By: RVH Date 10/6/97
 Ck: BGL Date 10/6/97

ATTACHMENT

RAI 13a.3

Outlier
Limited Analytical Reviews

R-4: AB-796-10

R-6: AB-809-09

R-18: TB-796-08

R-22: 3SO4E

**(ATTACHMENT RAI
13a.3)**

**Outlier R-4
AB-796-10**



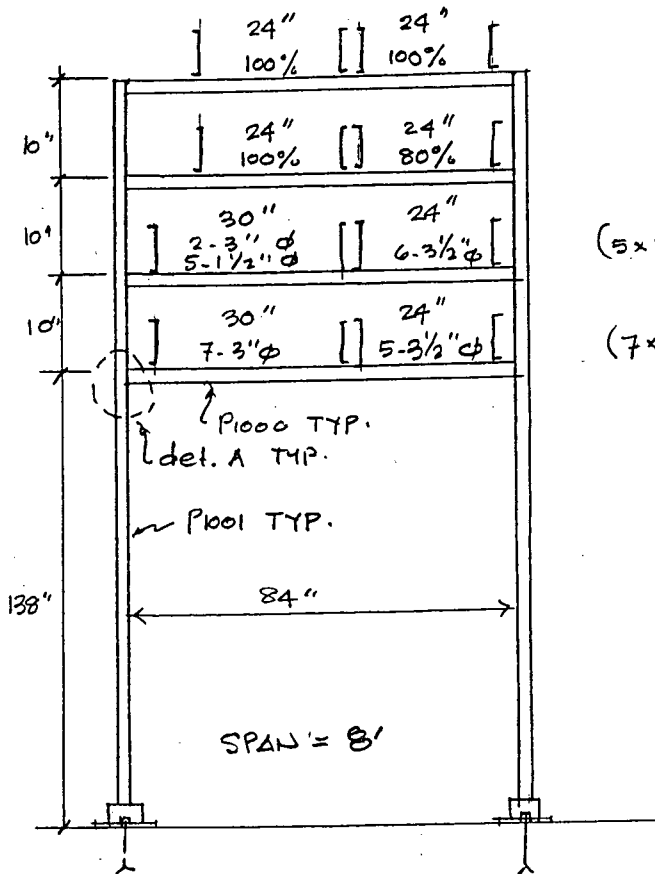
EQE INTERNATIONAL

REVISION 0017

SHEET NO. 55

JOB NO. 59047 JOB O'CONNOR UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 5/1/95
CALC. NO. 0C-05-01 SUBJECT ANAL. REVIEW AB796-10 CHK'D JLN DATE 7-11-95

5.12 ANALYTICAL REVIEW AB796-10



Wt. (Actual)

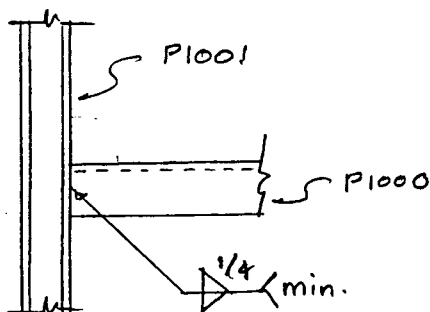
1120 #

1008 #

$$(5 \times 1.43 + 2 \times 7.44 + 6 \times 9.31) 8' = 623 \#$$

$$(7 \times 7.44 + 5 \times 9.31) 8' = 789 \#$$

det. A, Typical



1/2" ϕ Red head (TYP)



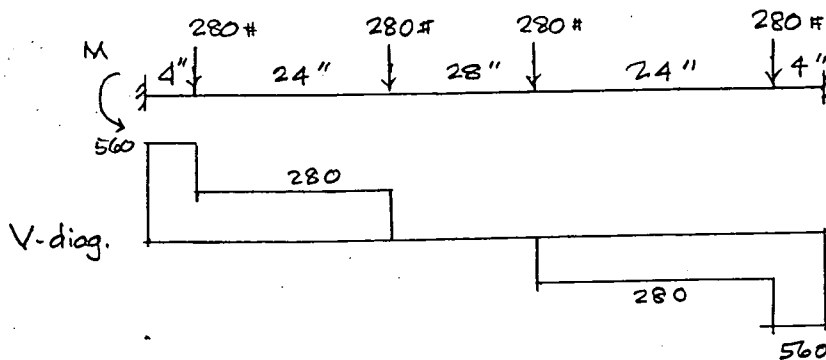
EQE INTERNATIONAL

SHEET NO. 56

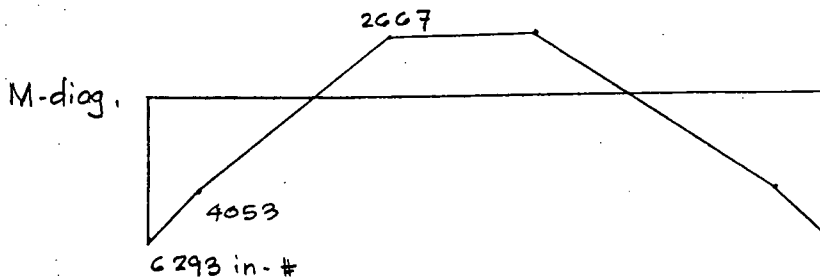
JOB NO. 59047 JOB O'CONNOR UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 5/1/95
 CALC. NO. 0C-05-01 SUBJECT ANAL. REVIEW AB 796-10 CHK'D JW DATE 7-11-95

Dead Load Check

• P1000 Tier Beam

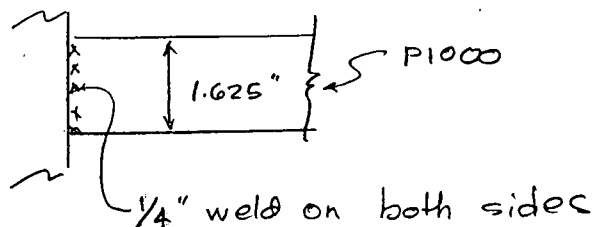


$$M = \frac{280(4 \times 80^2 + 28 \times 56^2 + 56 \times 28^2 + 80 \times 4^2)}{84^2} = 6293 \text{ in} \cdot \#$$



$$f_b = \frac{6293}{0.203} = 31,000 > 25,000 \quad \text{No Good}$$

• P1000 Connection



$$M_{cap} = 0.707 \times 0.25 \times \frac{1.625^2}{6} \times 2 \times 30,600 = 4761 \text{ in} \cdot \#$$

$$M = 6293 > 4761 \text{ in} \cdot \# \therefore \text{No Good}$$

• Column Buckling

$$P_{buck} = 5,000 \# \text{ for } \frac{L}{K} = 1.0$$

$$P_{col} = (1120 + 1008 + 623 + 789) / 2 = 1770 \# \leftarrow \text{Judged OK}$$



EQE INTERNATIONAL

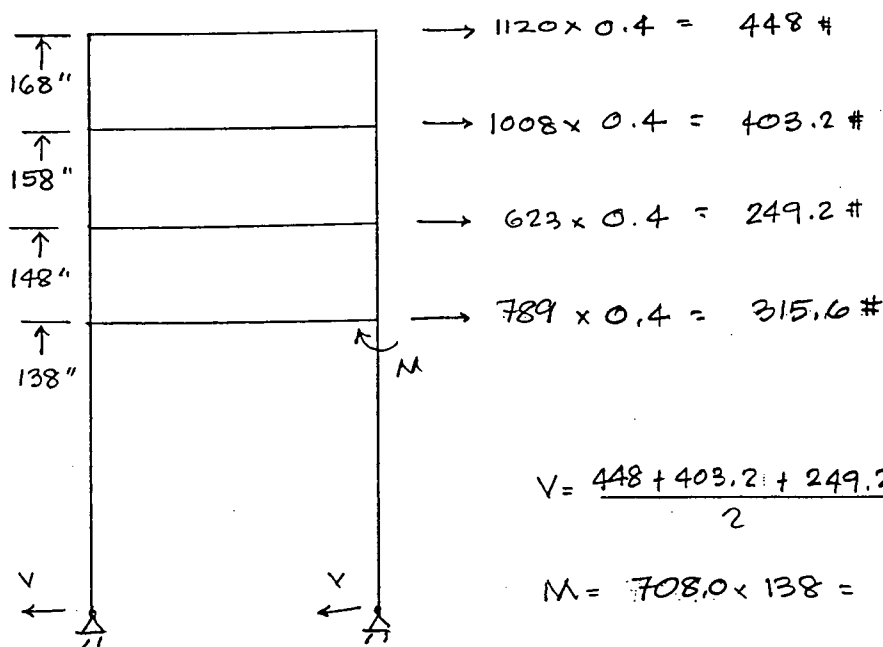
SHEET NO. 57

JOB NO. 59047 JOB O'CONNOR UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 5/1/95
 CALC. NO. 0605-01 SUBJECT ANAL. REVIEW AB796-10 CHK'D VW DATE 7-11-95

CHECK FOR LATERAL LOAD


$$a_h = 2.5 \times 0.16 = 0.40 g$$

↑ Env. N-S, E-W, 43 @ 796-6



$$V = \frac{448 + 403.2 + 249.2 + 315.6}{2} = 708.0 \#$$

$$M = 708.0 \times 138 = 97,704 \text{ in } \#$$

Moment Capacity of Column:  $S_{22} = 0.588 \text{ in}^3$

$$M_{CAP} = 0.588 \times 25,000$$

$$= 14,700 \ll 100,436 \text{ in } \#$$

∴ This support will become unstable under lateral loading. This requires modification in the form of cross bracing.

CONCLUSION:

- P1000 Beam & Welded connection inadequate for actual load
- Support is inadequate for lateral load
- modification req'd.

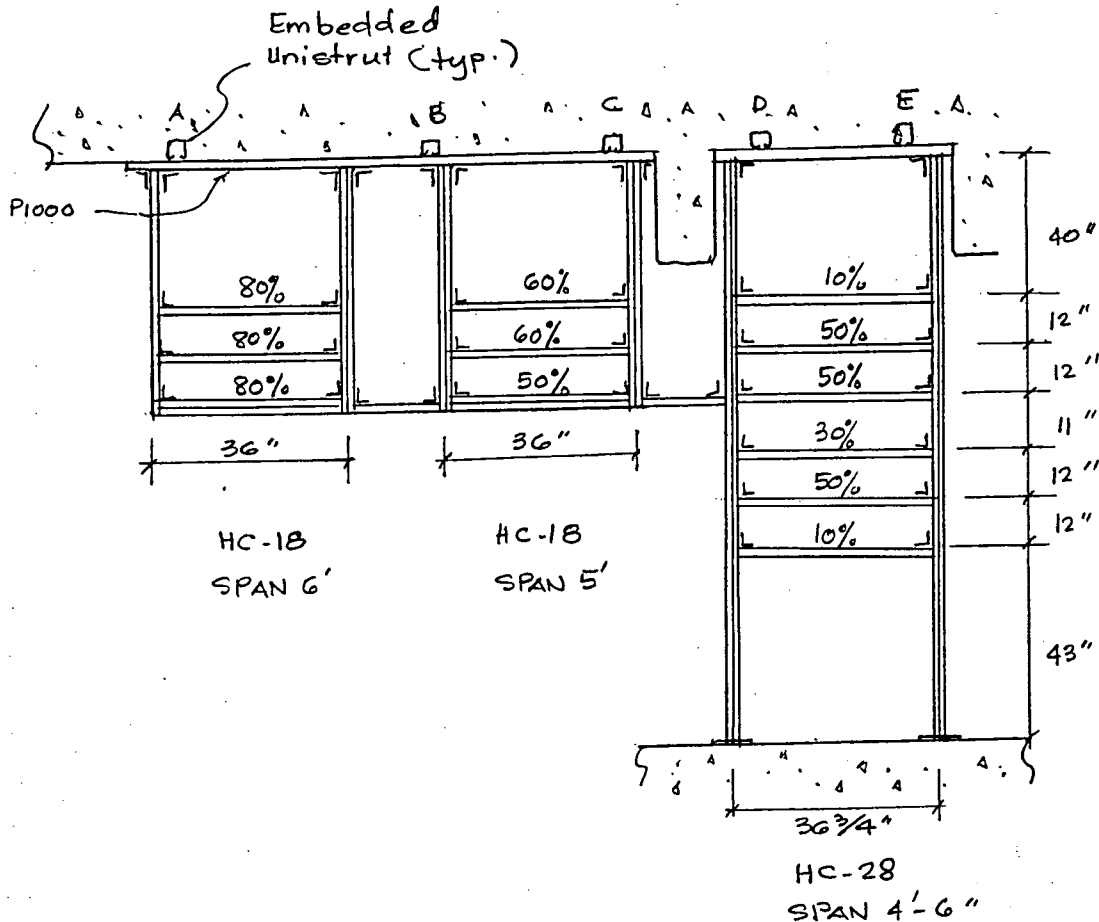
**(ATTACHMENT RAI
13a.3)**

**Outlier R-6
AB-809-09**



EQE INTERNATIONAL

INFORMATION ONLY

SHEET NO. 89JOB NO. 99047 JOB OCONEE UNITS 1, 2 & 3 CABLE TRAYSBY BNSDATE 4/24/95CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB 809-9CHK'D JLWDATE 7-1-955.23 ANALYTICAL REVIEW AB 809-9

All trays are
Husky Burndy
24" wide
5" deep

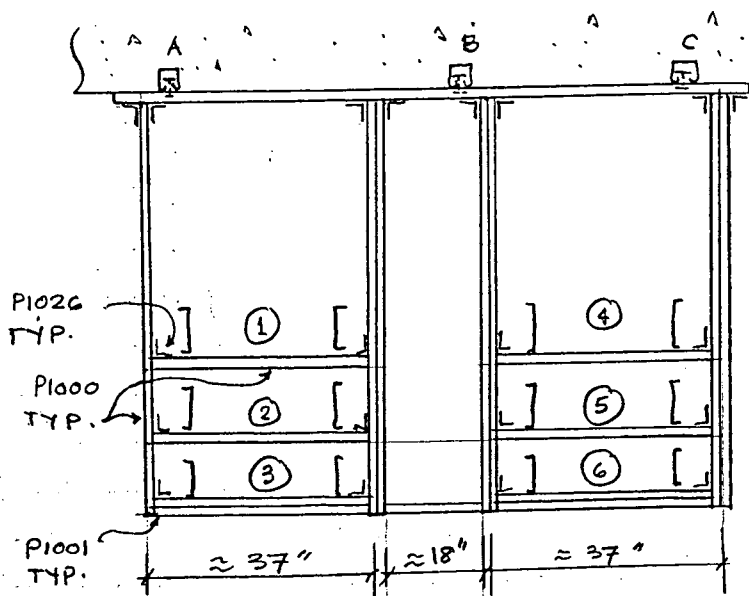
- 2 HC-18 hangers are supported by the ceiling embed unistrut (A, B & C).
- Hanger HC-28 is a floor-to-ceiling hanger which has added lateral load from the connection to the HC-18 hangers.



EQE INTERNATIONAL

SHEET NO. 90JOB NO. 59047 JOB OCONEE UNIT 1, 2 & 3 CABLE TRAYSBY BNS DATE 4/24/95CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB809-9CHK'D VLW DATE 7-11-95ANAL. REVIEW AB809-9HC-18 Hangers

The two hangers will be analysed independent of the HC-28 hanger. This is conservative, since the HC-28 hanger provides additional lateral restraint to the HC-18 hangers.

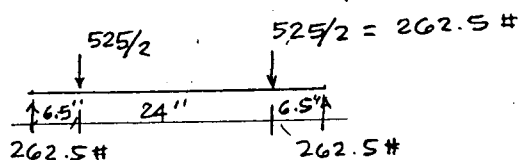


Tray	Span	Fill %	Wt (100%) (#)	Wt (Actual)
①	6'	80	525 #	420 #
②	6'	80	525 #	420 #
③	6'	80	525 #	420 #
④	5'	60	437.5 #	262.5 #
⑤	5'	60	437.5 #	262.5 #
⑥	5'	50	437.5 #	218.8 #

* trays are all 24" wide, 5" deep, $w = 70 \times \frac{5}{4} = 87.5 \text{ lb/ft.}$

Dead Load Check For 100% Fill

• P1000 & P1026 clips



$$M = 262.5 (18.5 - 12) = 1706.3 \text{ in #}$$

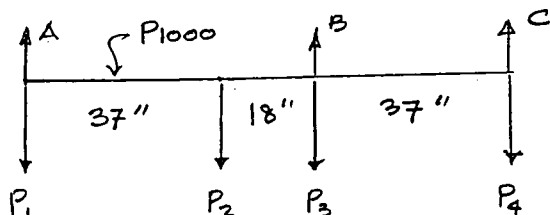
$$f_b = \frac{1706.3}{203} = 8400 \text{ psi} < 25,000 \text{ psi} \quad \text{OK}$$

$$\text{Clip Load} = 262.5 \text{ #} < 1500 \text{ #} \quad \text{OK.}$$

• P1000 & P1026 adequate for 100% Fill.

JOB NO. 59047 JOB OCONEE UNIT 1,2&3 CABLE TRAYSBY BNSDATE 4/24/95CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB809-9CHK'D WlrDATE 7-11-95

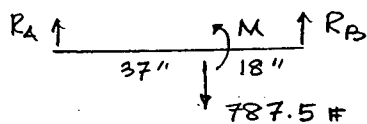
• P1000 & Ceiling Insert - HC18 Hanger



$$P_1 = P_2 = \frac{525 \times 3}{2} = 787.5 \# \text{ (100\% Fill)}$$

$$P_4 = P_3 = \frac{437.5 \times 3}{2} = 656.3 \# \text{ (100\% Fill)}$$

P1000 Beam bet. A & B

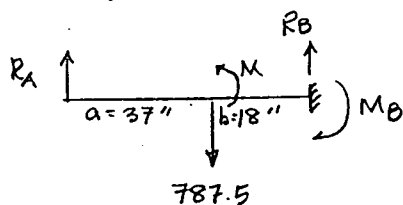


$$R_B = 787.5 \left(\frac{37}{37+18} \right) = 529.8 \#$$

$$M = R_B (18) = 9536 \text{ in } \#$$

$$f_b = \frac{9536}{.203} = 47,000 \text{ psi} > 25,000 \text{ psi} \text{ No Good}$$

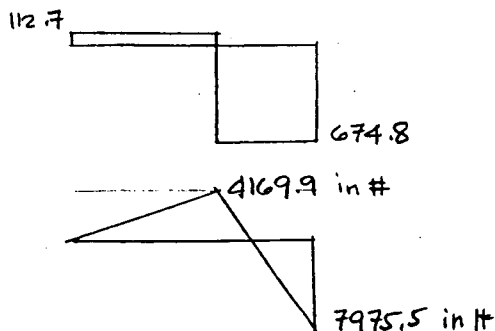
Use actual end condition



$$M_B = 787.5 \frac{(37)(18)(37+55)}{2(55)^2} = 7975.5 \text{ in } \#$$

$$R_A = \frac{787.5(18) - 7975.5}{55} = 112.7 \#$$

$$R_B = 787.5 - 112.5 = 674.8 \#$$



$$f_b = \frac{7975.5}{.203} = 39,300 \text{ psi} > 25,000 \text{ psi}$$

No Good

for actual fill (80%)

$$f_b = 39,300 \times 0.8 = 31,440 \text{ psi} > 25,000$$

No Good

• The pin to the ceiling is inadequate for actual fill.



JOB NO. 59047 JOB OCONEE UNIT 1, 2 & 3 CABLE TRAYS BY BNS DATE 4/24/95
 CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB 809-9 CHK'D JW DATE 7/11/95

Ceiling Insert (DL Check) HC 18 Hanger

$$P = R_B + P_3 = 674.8 + 656.3 = 1331.1 \# < 3,000 \# \text{ OK}$$

(100% Fill)

∴ The insert is adequate

VERTICAL CAPACITY CHECK HC-18 Hanger

The overhead P1000 horizontal beam is not adequate for 1 DL, thus also inadequate for 3 DL for the actual fill. Yielding of this beam will result in loss of vertical support.

Check embedded Unistrut

$$\text{Pullout for 1 DL} = 1331.1 \# \text{ (100\% Fill)}$$

$$3 \text{ DL} = 1331.1 \times 3 = 3993.3 \# > 3,000 \#$$

No Good

DUCTILITY CHECK HC-18 Hanger

Due to lateral load, this hanger will behave in a ductile manner due to bending of clip angles.

CONCLUSION:

Since this hanger did not pass the DL check (Actual Fill), support modification is necessary.

Additional ceiling anchorage is recommended. By inspection, the hanger will pass 1 DL & 3 DL with additional anchorage, with comparable capacities as "B".

$$P_3 = 787.5 \times 3 = 2362.5 \# < 3000 \# \text{ OK (100\% Fill)}$$



EQE INTERNATIONAL

SHEET NO. 93

JOB NO. 59047. JOB O'CONNOR UNIT 1, 2 & 3 CABLE TRAYS

BY BNS

DATE 4/24/95

CALC. NO. 0C-05-01 SUBJECT ANAL. REVIEW AB 809-9

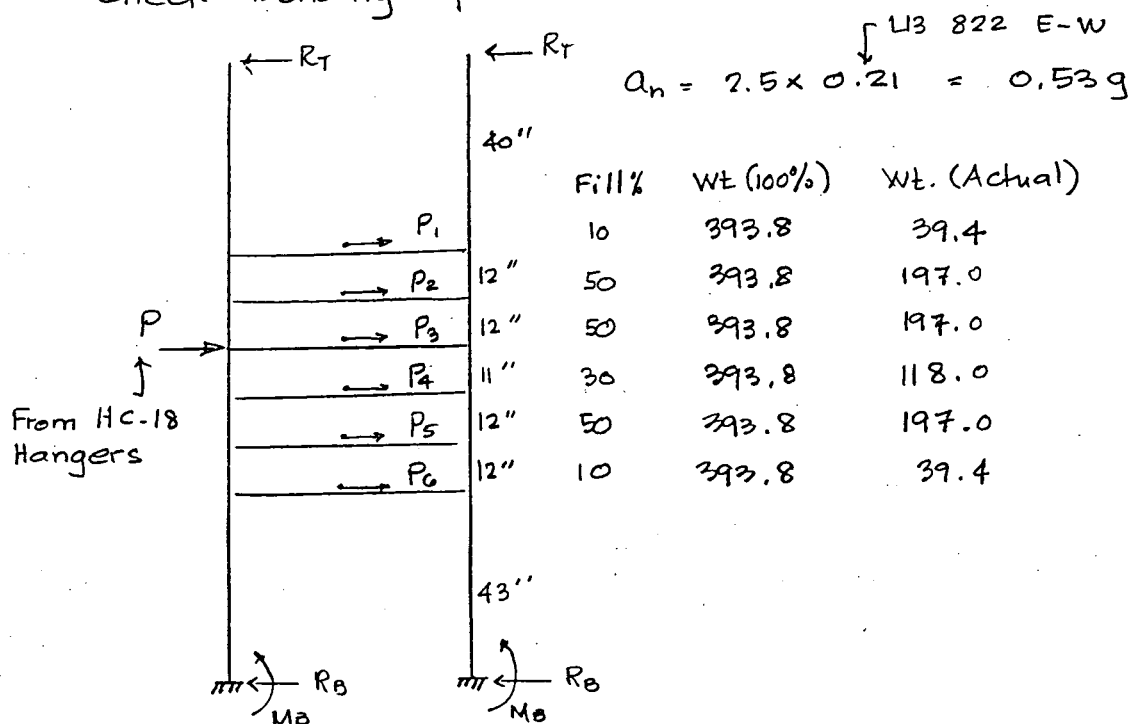
CHK'D JLT

DATE 7-11-95

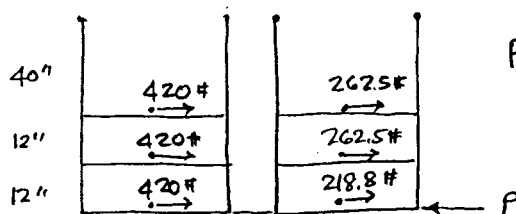
ANALYTICAL REVIEW AB 809-9HC-28 Hanger

By comparison to AB809-1, this floor-to-ceiling support is adequate. However, due to continuity with HC-18 hangers, this support needs to be checked for additional lateral loads.

Check Bending of Columns due to Lateral Load.



Lat. Load from HC-18 Hangers (1 G lat. acc.) Actual Fill



$$P = \frac{(420 + 262.5)(40') + (420 + 262.5)(52') + (420 + 218.8)(64')}{64}$$

$$= 1620 \#$$



EQE INTERNATIONAL

SHEET NO. 94JOB NO. 59047 JOB OCONEE UNIT 1, 2 & 3 CABLE TRAYSBY BNSDATE 4/24/95CALC. NO. 00-05-01 SUBJECT ANAL. REVIEW AB809-9CHK'D JLWDATE 7/11/95ANAL. REVIEW AB809-9

$$2M_B = \left[\frac{39.4(99)(43)(99+142) + 197(87)(55)(87+142) + 118(75)(67)(75+142) + (197+1620)(64)(78)(64+142) + 197(52)(90)(52+142) + 39.4(40)(102)(40+142)}{2(142)^2} \right]$$

$$2M_B = 1002 + 5353 + 3196 + 46333 + 4435 + 725 = 61045$$

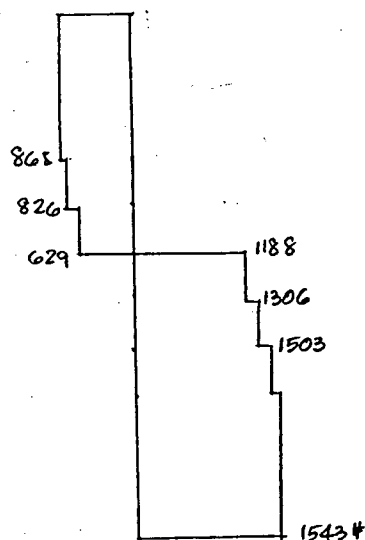
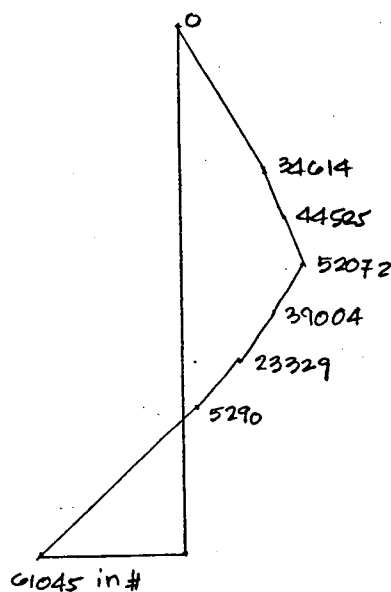
$$2R_T(142) = 39.4(43) + 197(55) + 118(67) + \overbrace{(197+1620)(78)}^{1817} + 197(90) + 39.4(102)$$

$$- 2M_B$$

$$2R_T = \frac{122865}{142} = 865.25 \#$$

$$2R_B = (39.4 + 197 + 118 + 1817 + 197 + 39.4) - 865.25$$

$$= 1542.7 \#$$

V-diagram
(2 columns)M-diagram
(2 columns)

$$\text{Max. Column } M = \frac{61045}{2} = 30523 \text{ in } \# \text{ (1 column)}$$

$$f_b = \frac{30523}{0.572} = 53,361 \text{ psi for 1G lateral}$$

$$28,281 \text{ psi for 0.53 G lateral} > 25,000 \text{ psi}$$

Working stress
allowable.



JOB NO. 59047 JOB OCONEE UNITS 1, 2 & 3 CABLE TRAYS BY BNS DATE 4/24/95
CALC. NO. OC-05-01 SUBJECT ANAL. REVIEW AB809-9 CHK'D JLW DATE 7-11-95

The bending stress in the column exceeds the allowable. ^(Actual Fill)
The overstress could be more due to fixed base assumption
which is not conservative.

In summary this hanger needs to be modified:

- a) Add ceiling anchorage to HC-18. This will make HC-18 acceptable for 100% Fill.
- b) Delete connecting strut between HC-18 & HC-28. HC-28 will then become a simple floor-to-ceiling hanger enveloped by AB809-1. This will make HC-28 also acceptable for 100% Fill

**(ATTACHMENT RAI
13a.3)**

**Outlier R-18
TB-796-08**

EQE ENGINEERING

SHEET NO. 226

JOB NO. 59047 JOB O'CONNOR UNITS 1-3 CABLE TRAY

BY TADA

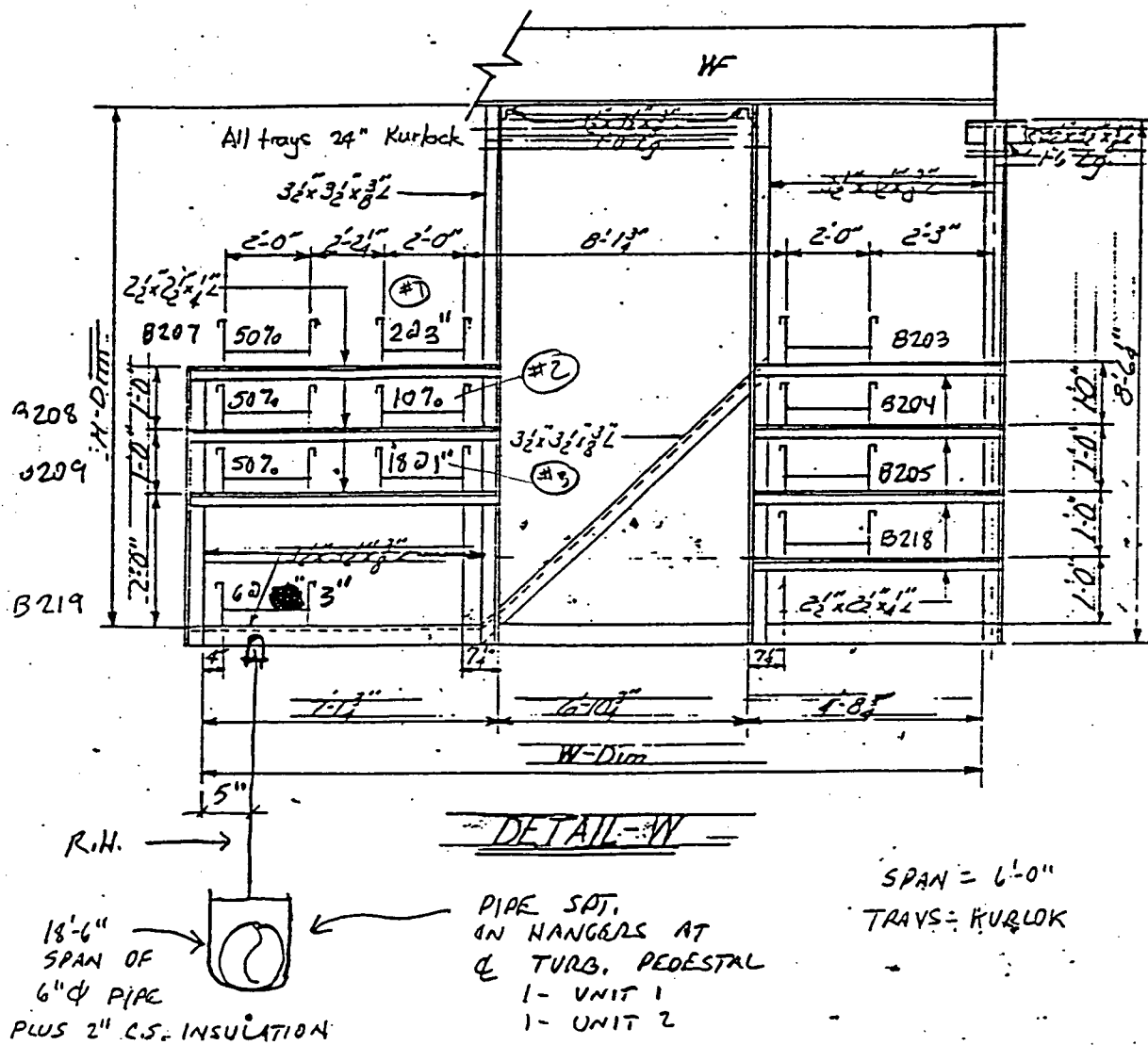
DATE 6-16-95

JOB NO. 21077 JOB 2-2077
CALC. NO. 06-05-01 SUBJECT ANAL. REVIEW TB 796-8

CHK'D Jun

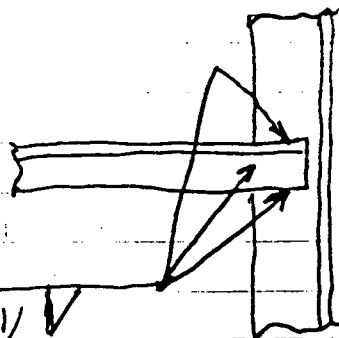
DATE 7-12-95

5.43 ANALYTICAL REVIEW TB 796-8



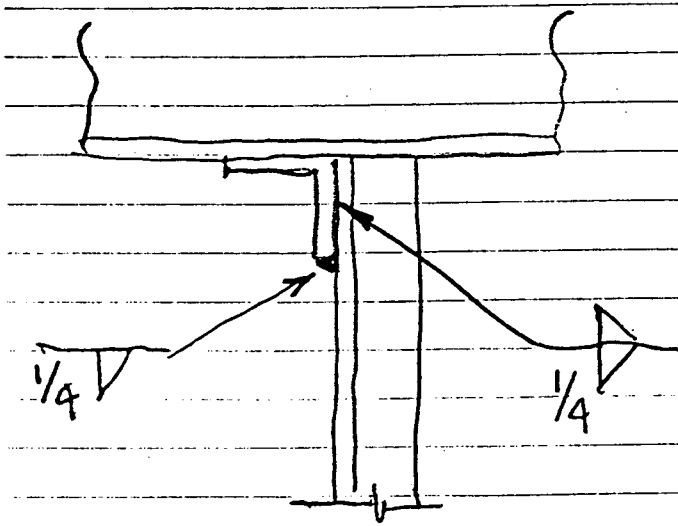
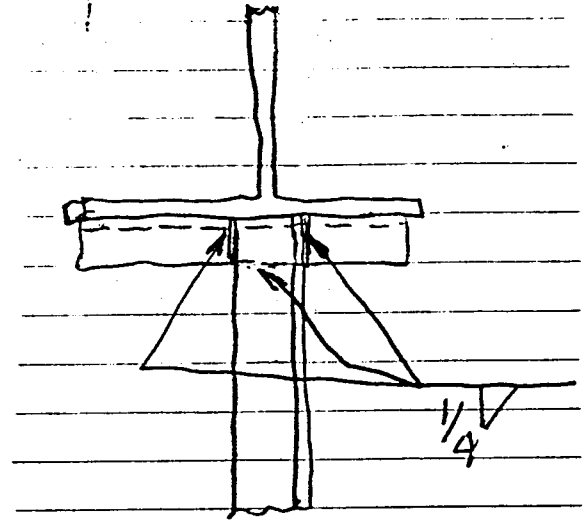
HANGER HT-1282 K

FROM DWG.
0-1934 REV. 9



$\frac{1}{4}$ min.

TYR.

JOB NO. 59047 JOB DOONEE UNITS 1-3 CABLE TRAYBY TDADATE 6-16-95CALC. NO. 06-05-01 SUBJECT ANAL. REVIEW TB 796-8CHK'D JWDATE 7-12-95LEGS A & BTOP CONNECTIONLEG CFILLS

B203 50%

B204 50%

B205 100%

B218 4 @ 3"

B219 6 @ 3" (instead
of 3 1/2")

Change

JOB NO. 59047 JOB O'CONNOR UNITS 1-3 CABLE TRAY

BY TDDA

DATE 6-16-85

CALC. NO. 06-05-01 SUBJECT ANAL. REVIEW TB796-8

CHK'D JUN

DATE 7-12-85

- DETERMINE DEAD LOADS

Cable weight is as follows:

$$3" \phi = 7.44 \#/\text{FT} \quad 1" \phi = 0.65 \#/\text{FT}$$

Pipe weight as follows: Assume std wall thickness

$$6" \phi = \underset{\text{pipe}}{18.97} + \underset{\text{data}}{12.51} = 31.48 \#/\text{FT}$$

$$\text{add } 10\% \text{ for insulation} = 34.6 \#/\text{FT}$$

TRAY WEIGHT:

$$B207 = (70 \#/\text{FT})(6')(50\%) = 210 \#$$

Nodes 2 & 3

$$B208 = (70 \#/\text{FT})(6')(50\%) = 210 \#$$

Nodes 8 & 9

$$B209 = (70 \#/\text{FT})(6')(50\%) = 210 \#$$

Nodes 14 & 15

$$B219 = (6 \text{ cables})(7.44 \#/\text{FT})(6') = 268 \#$$

Nodes 20 & 22

$$\text{Pipe} = (18.5')(34.6 \#/\text{FT}) = 640 \#$$

Node 21

$$\#1 = (2 \text{ cables})(7.44 \#/\text{FT})(6') = 89 \#$$

Nodes 4 & 5

$$\#2 = (70 \#/\text{FT})(6')(10\%) = 42 \#$$

Nodes 10 & 11

$$\#3 = (18 \text{ cables})(0.65 \#/\text{FT})(6') = 70 \#$$

Nodes 16 & 17

$$B203 = (70 \#/\text{FT})(6')(50\%) = 210 \#$$

Nodes 38 & 39

$$B204 = (70 \#/\text{FT})(6')(50\%) = 210 \#$$

Nodes 40 & 41

JOB NO. 59047 JOB O'CONNOR UNITS 1-3 CABLE TRAY
 CALC. NO. 00-05-01 SUBJECT ANAL REVIEW TB 796-8

BY TRDA DATE 6-16-95
 CHK'D SLW DATE 7-12-95

$$B205 = (70 \#/\text{FT}) \times (6') = 420 \#$$

nodes 42 & 43

$$B218 = (4 \text{ cables}) \times (7.44 \#/\text{FT}) \times (6') = 179 \#$$

nodes 44 & 45

FROM TB 796-1 find the $acc_L = 0.47g$

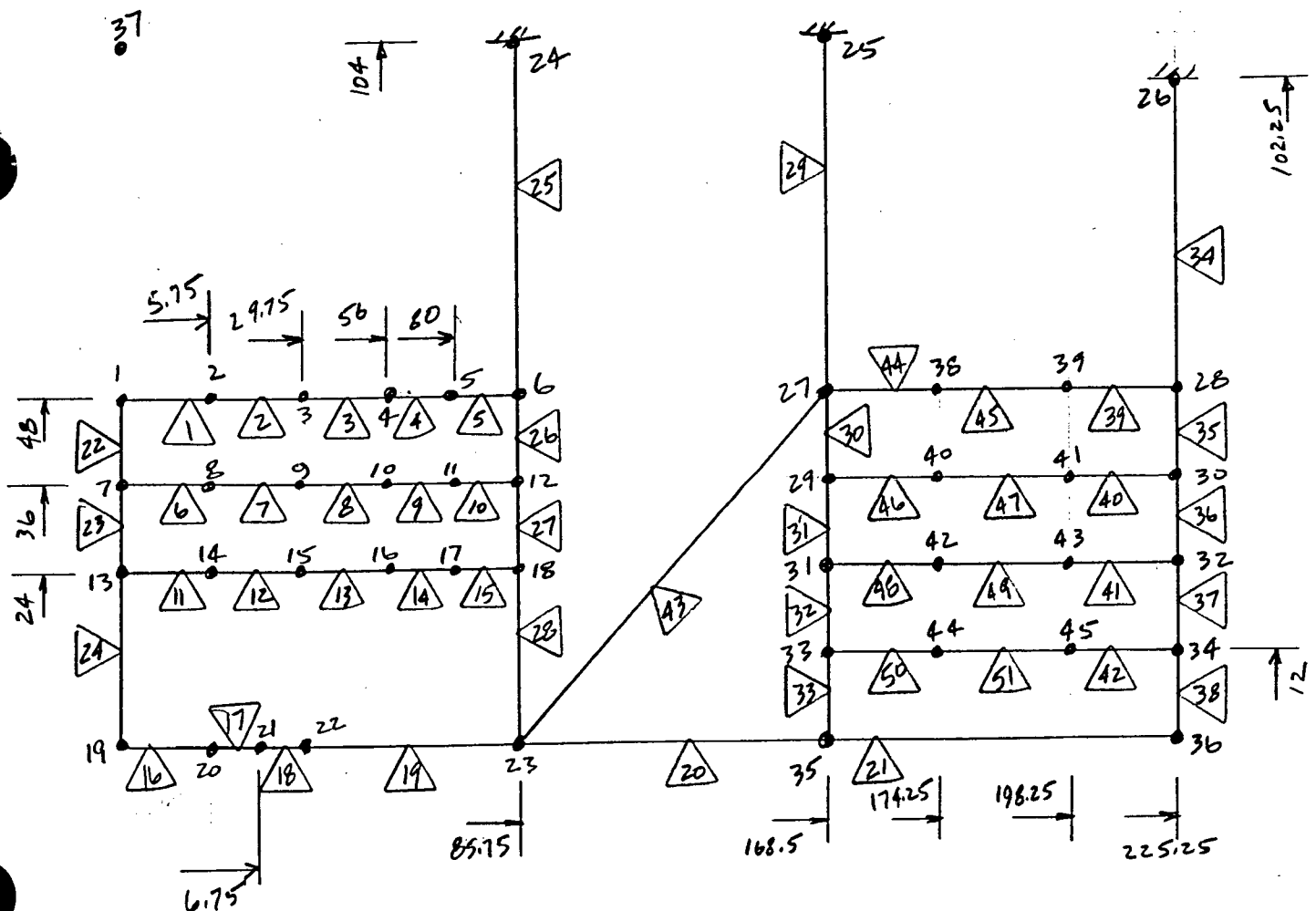
LOAD SUMMARY

<u>NODE</u>	<u>DL</u>	<u>3DL</u>	<u>LAT LOAD</u>
2	105	315	49
3	105	315	49
8	105	315	49
9	105	315	49
14	105	315	49
15	105	315	49
20	134	402	63
22	134	402	63
21	640	1920	-
4	45	135	21
5	45	135	21
10	21	63	10
11	21	63	10
16	35	105	16
17	35	105	16
38	105	315	49
39	105	315	49
40	105	315	49
41	105	315	49
42	210	630	99
43	210	630	99
44	90	270	42
45	90	270	42

JOB NO. 59047 JOB O'CONNOR UNITS 1-3 CABLE TRAY BY PDA DATE 6-16-95
 CALC. NO. 0C-05-01 SUBJECT ANAL. REVIEW TB 796-8 CHK'D JWR DATE 7-12-95

The support will be analyzed for the following loading conditions:

- 1) DEAD LOAD
- 2) 3 DL
- 3) LAT. LOAD
- 4) DL and (+) LAT LOAD
- 5) DL and (-) LAT LOAD



JOB NO. 59047 JOB O'CONNOR UNITS 1-3 CABLE TRAY BY ~~RA~~ DATE 7-5-95
CALC. NO. 0005-01 SUBJECT ANAL. REVIEW TB 796-8 CHK'D JWR DATE 7-12-95

8.3.1 DEAD LOAD CHECK

From the output file TB 796-8. S find the following
Maximum stresses: LOAD CASE 1

MEM	1	$\sigma = 23.7$ KSI	} > 21.6 KSI allow
"	2	$\sigma = 22.6$ KSI	
"	4	$\sigma = 30.0$ KSI	
"	5	$\sigma = 35.4$ KSI	
"	9	$\sigma = 24.6$ KSI	
"	10	$\sigma = 28.9$ KSI	
"	14	$\sigma = 22.5$ KSI	
"	15	$\sigma = 26.9$ KSI	
"	19	$\sigma = 30.1$ KSI	
"	25	$\sigma = 28.4$ KSI	

The Support is not adequate for
1.0 x DEAD LOAD.

CHECK SAME SUPPORT W/O THE PIPING LOAD AT NODE 21.



CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

BY BNS DATE 12/5/97

CHK'D 78 DATE 12-5-97

[illegible]

2	51	2	0	1	0	0	0	0	0	0		
1	2.900E+07	3.000E-01	0.000E+00	0.000E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	.000			
1	2.480E+00	0.000E+00	0.000E+00	1.000E-03	2.870E+00	2.870E+00	1.150	1.150	.0000	.0000	.0000	
2	1.190E+00	0.000E+00	0.000E+00	1.000E-03	7.030E-01	7.030E-01	0.394	0.394	.0000	.0000	.0000	
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00								
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00								
0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00								
1	1	2	37	1	2	0	0	0	0	0	0	0
2	2	3	37	1	2	0	0	0	0	0	0	0
3	3	4	37	1	2	0	0	0	0	0	0	0
4	4	5	37	1	2	0	0	0	0	0	0	0
5	5	6	37	1	2	0	0	0	0	0	0	0



EQE INTERNATIONAL

SHEET NO. 233 OF JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3BY BNS DATE 12/5/97CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8CHK'D 7 DATE 12-5-97

6	7	8	37	1	2	0	0	0	0	0	0	0	0
7	8	9	37	1	2	0	0	0	0	0	0	0	0
8	9	10	37	1	2	0	0	0	0	0	0	0	0
9	10	11	37	1	2	0	0	0	0	0	0	0	0
10	11	12	37	1	2	0	0	0	0	0	0	0	0
11	13	14	37	1	2	0	0	0	0	0	0	0	0
12	14	15	37	1	2	0	0	0	0	0	0	0	0
13	15	16	37	1	2	0	0	0	0	0	0	0	0
14	16	17	37	1	2	0	0	0	0	0	0	0	0
15	17	18	37	1	2	0	0	0	0	0	0	0	0
16	19	20	37	1	1	0	0	0	0	0	0	0	0
17	20	21	37	1	1	0	0	0	0	0	0	0	0
18	21	22	37	1	1	0	0	0	0	0	0	0	0
19	22	23	37	1	1	0	0	0	0	0	0	0	0
20	23	35	37	1	1	0	0	0	0	0	0	0	0
21	35	36	37	1	1	0	0	0	0	0	0	0	0
22	1	7	37	1	1	0	0	0	0	0	0	0	0
23	7	13	37	1	1	0	0	0	0	0	0	0	0
24	13	19	37	1	1	0	0	0	0	0	0	0	0
25	24	6	37	1	1	0	0	0	0	0	0	0	0
26	6	12	37	1	1	0	0	0	0	0	0	0	0
27	12	18	37	1	1	0	0	0	0	0	0	0	0
28	18	23	37	1	1	0	0	0	0	0	0	0	0
29	25	27	37	1	1	0	0	0	0	0	0	0	0
30	27	29	37	1	1	0	0	0	0	0	0	0	0
31	29	31	37	1	1	0	0	0	0	0	0	0	0
32	31	33	37	1	1	0	0	0	0	0	0	0	0
33	33	35	37	1	1	0	0	0	0	0	0	0	0
34	26	28	37	1	1	0	0	0	0	0	0	0	0
35	28	30	37	1	1	0	0	0	0	0	0	0	0
36	30	32	37	1	1	0	0	0	0	0	0	0	0
37	32	34	37	1	1	0	0	0	0	0	0	0	0
38	34	36	37	1	1	0	0	0	0	0	0	0	0
39	28	39	37	1	2	0	0	0	0	0	0	0	0
40	30	41	37	1	2	0	0	0	0	0	0	0	0
41	32	43	37	1	2	0	0	0	0	0	0	0	0
42	34	45	37	1	2	0	0	0	0	0	0	0	0
43	23	27	37	1	1	0	0	0	0	0	0	0	0
44	27	38	37	1	2	0	0	0	0	0	0	0	0
45	38	39	37	1	2	0	0	0	0	0	0	0	0
46	29	40	37	1	2	0	0	0	0	0	0	0	0
47	40	41	37	1	2	0	0	0	0	0	0	0	0
48	31	42	37	1	2	0	0	0	0	0	0	0	0
49	42	43	37	1	2	0	0	0	0	0	0	0	0
50	33	44	37	1	2	0	0	0	0	0	0	0	0
51	44	45	37	1	2	0	0	0	0	0	0	0	0
2	1	0.000E+00-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
3	1	0.000E+00-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
4	1	0.000E+00-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
5	1	0.000E+00-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
8	1	0.000E+00-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
9	1	0.000E+00-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
10	1	0.000E+00-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
11	1	0.000E+00-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
14	1	0.000E+00-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
15	1	0.000E+00-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
16	1	0.000E+00-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
17	1	0.000E+00-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						
20	1	0.000E+00-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1						

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[illegible]



CHK'D FB DATE 12-5-97

[illegible]



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 236 OF

BY BNS DATE 12/5/97

CHK'D B DATE 12-5-97

1**** Algor (c) Linear Stress Analysis - Released 08-SEP-92 Ver. 10.02-3H

DATE: DECEMBER 5, 1997

TIME: 10:37 AM

INPUT FILE.....run5 (tb796-8)

Analytical Review No. TB796-8

1**** CONTROL INFORMATION

number of node points	(NUMNP)	=	45
number of element types	(NELTYP)	=	1
number of load cases	(LL)	=	5
number of frequencies	(NF)	=	0
geometric stiffness flag	(GEOSTF)	=	0
analysis type code	(NDYN)	=	0
solution mode	(MODEX)	=	0
equations per block	(KEQB)	=	0
weight and c.g. flag	(IWTCG)	=	0
bandwidth minimization flag	(MINBND)	=	0
gravitational constant	(GRAV)	=	3.8600E+02

bandwidth minimization specified

1**** NODAL DATA

BOUNDARY CONDITION CODES							NODAL POINT COORDINATES			
NODE NO.	DX	DY	DZ	RX	RY	RZ	X	Y	Z	T
1	0	0	0	0	0	0	0.000E+00	4.800E+01	0.000E+00	0.000E+00
2	0	0	0	0	0	0	5.750E+00	4.800E+01	0.000E+00	0.000E+00
3	0	0	0	0	0	0	2.975E+01	4.800E+01	0.000E+00	0.000E+00
4	0	0	0	0	0	0	5.600E+01	4.800E+01	0.000E+00	0.000E+00
5	0	0	0	0	0	0	8.000E+01	4.800E+01	0.000E+00	0.000E+00
6	0	0	0	0	0	0	8.575E+01	4.800E+01	0.000E+00	0.000E+00
7	0	0	0	0	0	0	0.000E+00	3.600E+01	0.000E+00	0.000E+00
8	0	0	0	0	0	0	5.750E+00	3.600E+01	0.000E+00	0.000E+00
9	0	0	0	0	0	0	2.975E+01	3.600E+01	0.000E+00	0.000E+00
10	0	0	0	0	0	0	5.600E+01	3.600E+01	0.000E+00	0.000E+00
11	0	0	0	0	0	0	8.000E+01	3.600E+01	0.000E+00	0.000E+00
12	0	0	0	0	0	0	8.575E+01	3.600E+01	0.000E+00	0.000E+00
13	0	0	0	0	0	0	0.000E+00	2.400E+01	0.000E+00	0.000E+00
14	0	0	0	0	0	0	5.750E+00	2.400E+01	0.000E+00	0.000E+00
15	0	0	0	0	0	0	2.975E+01	2.400E+01	0.000E+00	0.000E+00
16	0	0	0	0	0	0	5.600E+01	2.400E+01	0.000E+00	0.000E+00
17	0	0	0	0	0	0	8.000E+01	2.400E+01	0.000E+00	0.000E+00
18	0	0	0	0	0	0	8.575E+01	2.400E+01	0.000E+00	0.000E+00
19	0	0	0	0	0	0	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	0	0	0	0	0	0	5.750E+00	0.000E+00	0.000E+00	0.000E+00
21	0	0	0	0	0	0	6.750E+00	0.000E+00	0.000E+00	0.000E+00



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22	0	0	0	0	0	0	2.975E+01	0.000E+00	0.000E+00	0.000E+00
23	0	0	0	0	0	0	8.575E+01	0.000E+00	0.000E+00	0.000E+00
24	1	1	1	1	1	1	8.575E+01	1.040E+02	0.000E+00	0.000E+00
25	1	1	1	1	1	1	1.685E+02	1.040E+02	0.000E+00	0.000E+00
26	1	1	1	1	1	1	2.253E+02	1.022E+02	0.000E+00	0.000E+00
27	0	0	0	0	0	0	1.685E+02	4.800E+01	0.000E+00	0.000E+00
28	0	0	0	0	0	0	2.253E+02	4.800E+01	0.000E+00	0.000E+00
29	0	0	0	0	0	0	1.685E+02	3.600E+01	0.000E+00	0.000E+00
30	0	0	0	0	0	0	2.253E+02	3.600E+01	0.000E+00	0.000E+00
31	0	0	0	0	0	0	1.685E+02	2.400E+01	0.000E+00	0.000E+00
32	0	0	0	0	0	0	2.253E+02	2.400E+01	0.000E+00	0.000E+00
33	0	0	0	0	0	0	1.685E+02	1.200E+01	0.000E+00	0.000E+00
34	0	0	0	0	0	0	2.253E+02	1.200E+01	0.000E+00	0.000E+00
35	0	0	0	0	0	0	1.685E+02	0.000E+00	0.000E+00	0.000E+00
36	0	0	0	0	0	0	2.253E+02	0.000E+00	0.000E+00	0.000E+00
37	1	1	1	1	1	1	1.000E+01	1.040E+02	0.000E+00	0.000E+00
38	0	0	0	0	0	0	1.742E+02	4.800E+01	0.000E+00	0.000E+00
39	0	0	0	0	0	0	1.982E+02	4.800E+01	0.000E+00	0.000E+00
40	0	0	0	0	0	0	1.742E+02	3.600E+01	0.000E+00	0.000E+00
41	0	0	0	0	0	0	1.982E+02	3.600E+01	0.000E+00	0.000E+00
42	0	0	0	0	0	0	1.742E+02	2.400E+01	0.000E+00	0.000E+00
43	0	0	0	0	0	0	1.982E+02	2.400E+01	0.000E+00	0.000E+00
44	0	0	0	0	0	0	1.742E+02	1.200E+01	0.000E+00	0.000E+00
45	0	0	0	0	0	0	1.982E+02	1.200E+01	0.000E+00	0.000E+00

**** PRINT OF EQUATION NUMBERS SUPPRESSED

1**** BEAM ELEMENTS

number of beam elements	=	51
number of area property sets	=	2
number of fixed end force sets	=	0
number of materials	=	1
number of intermediate load sets	=	0

1**** MATERIAL PROPERTIES

INDEX	E	MU	MASS DENSITY	WEIGHT DENSITY	THERMAL EXPANSION X Y Z			REFERENCE TEMPERATURE
1	2.90E+07	.300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.000E+00

1**** AREA PROPERTIES

INDEX	AREAS			TORSION	FLEXURAL INERTIAS		
	AXIAL A(1)	SHEAR A(2)	SHEAR A(3)	J(1)	I(2)	I(3)	
1	2.480E+00	0.000E+00	0.000E+00	1.000E-03	2.870E+00	2.870E+00	
2	1.190E+00	0.000E+00	0.000E+00	1.000E-03	7.030E-01	7.030E-01	

1**** STRESS PROPERTIES



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INDEX	SECTION S (2)	MODULI S (3)
1	1.150E+00	1.150E+00
2	3.940E-01	3.940E-01

1**** ELEMENT LOAD MULTIPLIERS

	CASE A	CASE B	CASE C	CASE D
X-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Z-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1**** ELEMENT CONNECTIVITY DATA

ELEMENT NO.	NODE I	NODE J	NODE K	MAT`L INDEX	SECTN INDEX	---ELEMENT A	LOADS--- B	RELEASE C	CODES D	MEMBER I-END	J-END	NO.
1	1	2	37	1	2	0	0	0	0	0	0	0
2	2	3	37	1	2	0	0	0	0	0	0	0
3	3	4	37	1	2	0	0	0	0	0	0	0
4	4	5	37	1	2	0	0	0	0	0	0	0
5	5	6	37	1	2	0	0	0	0	0	0	0
6	7	8	37	1	2	0	0	0	0	0	0	0
7	8	9	37	1	2	0	0	0	0	0	0	0
8	9	10	37	1	2	0	0	0	0	0	0	0
9	10	11	37	1	2	0	0	0	0	0	0	0
10	11	12	37	1	2	0	0	0	0	0	0	0
11	13	14	37	1	2	0	0	0	0	0	0	0
12	14	15	37	1	2	0	0	0	0	0	0	0
13	15	16	37	1	2	0	0	0	0	0	0	0
14	16	17	37	1	2	0	0	0	0	0	0	0
15	17	18	37	1	2	0	0	0	0	0	0	0
16	19	20	37	1	1	0	0	0	0	0	0	0
17	20	21	37	1	1	0	0	0	0	0	0	0
18	21	22	37	1	1	0	0	0	0	0	0	0
19	22	23	37	1	1	0	0	0	0	0	0	0
20	23	35	37	1	1	0	0	0	0	0	0	0
21	35	36	37	1	1	0	0	0	0	0	0	0
22	1	7	37	1	1	0	0	0	0	0	0	0
23	7	13	37	1	1	0	0	0	0	0	0	0
24	13	19	37	1	1	0	0	0	0	0	0	0
25	24	6	37	1	1	0	0	0	0	0	0	0
26	6	12	37	1	1	0	0	0	0	0	0	0
27	12	18	37	1	1	0	0	0	0	0	0	0
28	18	23	37	1	1	0	0	0	0	0	0	0
29	25	27	37	1	1	0	0	0	0	0	0	0
30	27	29	37	1	1	0	0	0	0	0	0	0
31	29	31	37	1	1	0	0	0	0	0	0	0
32	31	33	37	1	1	0	0	0	0	0	0	0
33	33	35	37	1	1	0	0	0	0	0	0	0



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34	26	28	37	1	1	0	0	0	0	0	0
35	28	30	37	1	1	0	0	0	0	0	0
36	30	32	37	1	1	0	0	0	0	0	0
37	32	34	37	1	1	0	0	0	0	0	0
38	34	36	37	1	1	0	0	0	0	0	0
39	28	39	37	1	2	0	0	0	0	0	0
40	30	41	37	1	2	0	0	0	0	0	0
41	32	43	37	1	2	0	0	0	0	0	0
42	34	45	37	1	2	0	0	0	0	0	0
43	23	27	37	1	1	0	0	0	0	0	0
44	27	38	37	1	2	0	0	0	0	0	0
45	38	39	37	1	2	0	0	0	0	0	0
46	29	40	37	1	2	0	0	0	0	0	0
47	40	41	37	1	2	0	0	0	0	0	0
48	31	42	37	1	2	0	0	0	0	0	0
49	42	43	37	1	2	0	0	0	0	0	0
50	33	44	37	1	2	0	0	0	0	0	0
51	44	45	37	1	2	0	0	0	0	0	0

1**** BANDWIDTH MINIMIZATION

minbnd (bandwidth control parameter) = 1
bandwidth before resequencing = 66
bandwidth after resequencing = 42

**** EQUATION PARAMETERS

total number of equations = 246
bandwidth = 42
number of equations in a block = 246
number of blocks = 1
blocking memory (kilobytes) = 13677
available memory (kilobytes) = 13677

**** Hard disk file size information for processor:

Available hard disk space on drive = 716.407 megabytes
Estimated required hard disk space = .325 megabytes

1**** NODAL LOADS (STATIC) OR MASSES (DYNAMIC)

NODE NUMBER	LOAD CASE	X-AXIS FORCE	Y-AXIS FORCE	Z-AXIS FORCE	X-AXIS MOMENT	Y-AXIS MOMENT	Z-AXIS MOMENT
2	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	1	0.000E+00	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	1	0.000E+00	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	1	0.000E+00	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	1	0.000E+00	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00



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15	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	1	0.000E+00	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	1	0.000E+00	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	1	0.000E+00	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	1	0.000E+00	-6.400E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	1	0.000E+00	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	1	0.000E+00	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	1	0.000E+00	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	1	0.000E+00	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	1	0.000E+00	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	2	0.000E+00	-1.350E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	2	0.000E+00	-1.350E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	2	0.000E+00	-6.300E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	2	0.000E+00	-6.300E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	2	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	2	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	2	0.000E+00	-4.020E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	2	0.000E+00	-1.920E+03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	2	0.000E+00	-4.020E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	2	0.000E+00	-6.300E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	2	0.000E+00	-6.300E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	2	0.000E+00	-2.700E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	2	0.000E+00	-2.700E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	3	2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	3	2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	3	1.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	3	1.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	3	1.600E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	3	1.600E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	3	6.300E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	3	6.300E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1.2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 24/ OF

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39	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	3	9.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	3	9.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	3	4.200E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	3	4.200E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	4	2.100E+01	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	4	2.100E+01	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	4	1.000E+01	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	4	1.000E+01	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	4	1.600E+01	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	4	1.600E+01	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	4	6.300E+01	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	4	0.000E+00	-6.400E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	4	6.300E+01	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	4	9.900E+01	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	4	9.900E+01	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	4	4.200E+01	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	4	4.200E+01	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	5	-2.100E+01	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	5	-2.100E+01	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	5	-1.000E+01	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	5	-1.000E+01	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	5	-1.600E+01	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	5	-1.600E+01	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	5	-6.300E+01	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	5	0.000E+00	-6.400E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	5	-6.300E+01	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	5	-9.900E+01	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	5	-9.900E+01	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	5	-4.200E+01	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8SHEET NO. 242 OFBY BNB DATE 12/5/97CHK'D 7 DATE 12-5-97

45 5 -4.200E+01 -9.000E+01 0.000E+00 0.000E+00 0.000E+00 0.000E+00

1**** ELEMENT LOAD MULTIPLIERS

load case	case A	case B	case C	case D
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1**** STIFFNESS MATRIX PARAMETERS

minimum non-zero diagonal element	=	6.8413E+02
maximum diagonal element	=	1.0040E+09
maximum/minimum	=	1.4676E+06
average diagonal element	=	3.4863E+07
density of the matrix	=	8.1301E+00

1**** STATIC ANALYSIS

LOAD CASE = 1

Displacements/Rotations(degrees) of nodes

NODE	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	-1.1166E-01	-9.7685E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.4490E-01
2	-1.1142E-01	-9.4522E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.8437E-01
3	-1.1040E-01	-6.8570E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.0611E-01
4	-1.0929E-01	-2.8942E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.3178E-01
5	-1.0827E-01	-2.6278E-02	0.0000E+00	0.0000E+00	0.0000E+00	3.3556E-01
6	-1.0803E-01	-2.3633E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.3522E-01
7	-6.2967E-02	-9.7686E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.4424E-01
8	-6.3169E-02	-9.4594E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.7132E-01
9	-6.4012E-02	-6.9829E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.7027E-01
10	-6.4934E-02	-3.1404E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.2442E-01
11	-6.5776E-02	-3.7213E-02	0.0000E+00	0.0000E+00	0.0000E+00	4.2250E-01
12	-6.5978E-02	-2.8071E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.5856E-01
13	-1.0356E-02	-9.7688E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.6227E-01
14	-1.0218E-02	-9.4475E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.7772E-01
15	-9.6448E-03	-7.0110E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.5094E-01
16	-9.0173E-03	-3.2417E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.1913E-01
17	-8.4436E-03	-4.1658E-02	0.0000E+00	0.0000E+00	0.0000E+00	4.5729E-01
18	-8.3062E-03	-3.2011E-03	0.0000E+00	0.0000E+00	0.0000E+00	3.0441E-01
19	1.1700E-01	-9.7693E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.1680E-01
20	1.1692E-01	-9.3063E-01	0.0000E+00	0.0000E+00	0.0000E+00	5.0649E-01
21	1.1690E-01	-9.2165E-01	0.0000E+00	0.0000E+00	0.0000E+00	5.2238E-01



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CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

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BY BNC DATE 12/5/97

CHK'D B DATE 12-5-97

22	1.1656E-01	-6.5392E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.7339E-01
23	1.1572E-01	-3.8879E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.8225E-01
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	1.1099E-01	4.4638E-04	0.0000E+00	0.0000E+00	0.0000E+00	3.9311E-02
28	1.0944E-01	-2.2470E-04	0.0000E+00	0.0000E+00	0.0000E+00	7.3585E-02
29	1.1809E-01	4.1601E-04	0.0000E+00	0.0000E+00	0.0000E+00	2.2402E-02
30	1.1855E-01	-2.7721E-04	0.0000E+00	0.0000E+00	0.0000E+00	2.1152E-02
31	1.2056E-01	4.1579E-04	0.0000E+00	0.0000E+00	0.0000E+00	-3.0471E-04
32	1.2063E-01	-3.2483E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.9756E-03
33	1.1958E-01	4.6629E-04	0.0000E+00	0.0000E+00	0.0000E+00	-9.9831E-03
34	1.1923E-01	-3.5309E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.2753E-02
35	1.1585E-01	5.3604E-04	0.0000E+00	0.0000E+00	0.0000E+00	-3.0001E-02
36	1.1614E-01	-3.7058E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.0616E-02
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	1.1084E-01	2.2087E-03	0.0000E+00	0.0000E+00	0.0000E+00	-4.3413E-04
39	1.1018E-01	-1.0166E-02	0.0000E+00	0.0000E+00	0.0000E+00	-2.5859E-02
40	1.1814E-01	1.2872E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.1389E-03
41	1.1833E-01	-5.4227E-03	0.0000E+00	0.0000E+00	0.0000E+00	-9.4787E-03
42	1.2057E-01	-1.0936E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.5414E-02
43	1.2060E-01	-1.1024E-02	0.0000E+00	0.0000E+00	0.0000E+00	3.3523E-03
44	1.1954E-01	-8.6592E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.5043E-02
45	1.1939E-01	-4.1086E-03	0.0000E+00	0.0000E+00	0.0000E+00	6.4193E-03

1**** STATIC ANALYSIS

LOAD CASE =

2

Displacements/Rotations(degrees) of nodes

NODE number	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	-3.3498E-01	-2.9306E+00	0.0000E+00	0.0000E+00	0.0000E+00	7.3469E-01
2	-3.3425E-01	-2.8357E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.1531E+00
3	-3.3120E-01	-2.0571E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4183E+00
4	-3.2787E-01	-8.6826E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.4953E+00
5	-3.2482E-01	-7.8833E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.0067E+00
6	-3.2409E-01	-7.0898E-03	0.0000E+00	0.0000E+00	0.0000E+00	4.0565E-01
7	-1.8890E-01	-2.9306E+00	0.0000E+00	0.0000E+00	0.0000E+00	7.3271E-01
8	-1.8951E-01	-2.8378E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.1140E+00
9	-1.9203E-01	-2.0949E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.3108E+00
10	-1.9480E-01	-9.4212E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.4733E+00
11	-1.9733E-01	-1.1164E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.2675E+00
12	-1.9794E-01	-8.4213E-03	0.0000E+00	0.0000E+00	0.0000E+00	7.7569E-01
13	-3.1068E-02	-2.9307E+00	0.0000E+00	0.0000E+00	0.0000E+00	7.8682E-01
14	-3.0655E-02	-2.8343E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.1332E+00
15	-2.8934E-02	-2.1033E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.2528E+00
16	-2.7052E-02	-9.7250E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.4574E+00
17	-2.5331E-02	-1.2497E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.3719E+00
18	-2.4919E-02	-9.6034E-03	0.0000E+00	0.0000E+00	0.0000E+00	9.1324E-01



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BY BNS DATE 12/5/97

CHK'D B DATE 12-5-97

19	3.5101E-01	-2.9308E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.2504E+00
20	3.5076E-01	-2.7919E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5195E+00
21	3.5071E-01	-2.7650E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5671E+00
22	3.4968E-01	-1.9617E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.3202E+00
23	3.4717E-01	-1.1664E-02	0.0000E+00	0.0000E+00	0.0000E+00	8.4676E-01
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	3.3298E-01	1.3391E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.1793E-01
28	3.2833E-01	-6.7411E-04	0.0000E+00	0.0000E+00	0.0000E+00	2.2075E-01
29	3.5428E-01	1.2480E-03	0.0000E+00	0.0000E+00	0.0000E+00	6.7207E-02
30	3.5564E-01	-8.3164E-04	0.0000E+00	0.0000E+00	0.0000E+00	6.3455E-02
31	3.6169E-01	1.2474E-03	0.0000E+00	0.0000E+00	0.0000E+00	-9.1412E-04
32	3.6188E-01	-9.7450E-04	0.0000E+00	0.0000E+00	0.0000E+00	5.9267E-03
33	3.5873E-01	1.3989E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.9949E-02
34	3.5768E-01	-1.0593E-03	0.0000E+00	0.0000E+00	0.0000E+00	-3.8260E-02
35	3.4754E-01	1.6081E-03	0.0000E+00	0.0000E+00	0.0000E+00	-9.0003E-02
36	3.4842E-01	-1.1117E-03	0.0000E+00	0.0000E+00	0.0000E+00	-3.1849E-02
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	3.3252E-01	6.6261E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.3024E-03
39	3.3055E-01	-3.0498E-02	0.0000E+00	0.0000E+00	0.0000E+00	-7.7576E-02
40	3.5441E-01	3.8616E-03	0.0000E+00	0.0000E+00	0.0000E+00	-6.4167E-03
41	3.5499E-01	-1.6268E-02	0.0000E+00	0.0000E+00	0.0000E+00	-2.8436E-02
42	3.6171E-01	-3.2809E-03	0.0000E+00	0.0000E+00	0.0000E+00	-7.6243E-02
43	3.6179E-01	-3.3073E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.0057E-02
44	3.5862E-01	-2.5977E-03	0.0000E+00	0.0000E+00	0.0000E+00	-4.5128E-02
45	3.5818E-01	-1.2326E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.9258E-02

1**** STATIC ANALYSIS

LOAD CASE =

3

Displacements/Rotations(degrees) of nodes

NODE number	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	7.2525E-02	-3.4690E-02	0.0000E+00	0.0000E+00	0.0000E+00	4.4599E-02
2	7.2486E-02	-3.0749E-02	0.0000E+00	0.0000E+00	0.0000E+00	3.4215E-02
3	7.2287E-02	-2.2730E-02	0.0000E+00	0.0000E+00	0.0000E+00	8.9295E-03
4	7.2032E-02	-1.8664E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.4629E-02
5	7.1785E-02	-6.0744E-03	0.0000E+00	0.0000E+00	0.0000E+00	5.0336E-02
6	7.1722E-02	-3.9055E-04	0.0000E+00	0.0000E+00	0.0000E+00	6.3216E-02
7	8.1647E-02	-3.4687E-02	0.0000E+00	0.0000E+00	0.0000E+00	3.8597E-02
8	8.1684E-02	-3.1108E-02	0.0000E+00	0.0000E+00	0.0000E+00	3.2854E-02
9	8.1803E-02	-2.1024E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.7655E-02
10	8.1896E-02	-1.3677E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.7237E-02
11	8.1974E-02	-3.9280E-03	0.0000E+00	0.0000E+00	0.0000E+00	3.1672E-02
12	8.1991E-02	-4.7724E-04	0.0000E+00	0.0000E+00	0.0000E+00	3.7232E-02
13	8.8145E-02	-3.4682E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.3178E-02
14	8.8168E-02	-3.2366E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.2987E-02
15	8.8232E-02	-2.2852E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.2529E-02



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16	8.8264E-02	-1.2528E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.2648E-02
17	8.8283E-02	-2.9183E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.3326E-02
18	8.8285E-02	-5.6540E-04	0.0000E+00	0.0000E+00	0.0000E+00	2.3569E-02
19	9.4522E-02	-3.4673E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.5453E-02
20	9.4512E-02	-3.2931E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.9176E-02
21	9.4509E-02	-3.2591E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.9761E-02
22	9.4450E-02	-2.2662E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.8063E-02
23	9.4255E-02	-7.4181E-04	0.0000E+00	0.0000E+00	0.0000E+00	7.0503E-03
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	9.2187E-02	3.8056E-04	0.0000E+00	0.0000E+00	0.0000E+00	5.2652E-02
28	9.1366E-02	9.6741E-06	0.0000E+00	0.0000E+00	0.0000E+00	6.4468E-02
29	9.9812E-02	3.9011E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.9492E-02
30	9.9903E-02	-1.1982E-06	0.0000E+00	0.0000E+00	0.0000E+00	1.9499E-02
31	1.0115E-01	4.0406E-04	0.0000E+00	0.0000E+00	0.0000E+00	-5.3912E-03
32	1.0112E-01	-1.6463E-05	0.0000E+00	0.0000E+00	0.0000E+00	-5.8592E-03
33	9.8372E-02	4.1686E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.7753E-02
34	9.8401E-02	-3.0579E-05	0.0000E+00	0.0000E+00	0.0000E+00	-1.6760E-02
35	9.4816E-02	4.2595E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.1624E-02
36	9.4983E-02	-4.0983E-05	0.0000E+00	0.0000E+00	0.0000E+00	-1.2401E-02
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	9.2116E-02	4.0306E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.1914E-02
39	9.1782E-02	-1.9417E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.9386E-02
40	9.9832E-02	1.7734E-03	0.0000E+00	0.0000E+00	0.0000E+00	8.7184E-03
41	9.9883E-02	-4.0505E-05	0.0000E+00	0.0000E+00	0.0000E+00	-1.0277E-02
42	1.0117E-01	1.0743E-05	0.0000E+00	0.0000E+00	0.0000E+00	-2.6208E-03
43	1.0118E-01	3.0093E-04	0.0000E+00	0.0000E+00	0.0000E+00	2.1492E-03
44	9.8385E-02	-8.7463E-04	0.0000E+00	0.0000E+00	0.0000E+00	-8.5499E-03
45	9.8408E-02	2.5044E-04	0.0000E+00	0.0000E+00	0.0000E+00	7.9211E-03

1**** STATIC ANALYSIS

LOAD CASE =

4

Displacements/Rotations(degrees) of nodes

NODE number	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	-3.9135E-02	-1.0115E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.8950E-01
2	-3.8931E-02	-9.7597E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.1858E-01
3	-3.8114E-02	-7.0843E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.1504E-01
4	-3.7257E-02	-3.0808E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.4641E-01
5	-3.6488E-02	-3.2352E-02	0.0000E+00	0.0000E+00	0.0000E+00	3.8589E-01
6	-3.6308E-02	-2.7538E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.9843E-01
7	1.8681E-02	-1.0116E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.8283E-01
8	1.8515E-02	-9.7705E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.0417E-01
9	1.7791E-02	-7.1932E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.8792E-01
10	1.6962E-02	-3.2772E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.4165E-01
11	1.6197E-02	-4.1141E-02	0.0000E+00	0.0000E+00	0.0000E+00	4.5417E-01
12	1.6012E-02	-3.2843E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.9580E-01



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13	7.7789E-02	-1.0116E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.8545E-01
14	7.7950E-02	-9.7712E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.0071E-01
15	7.8587E-02	-7.2395E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.7347E-01
16	7.9247E-02	-3.3670E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.4178E-01
17	7.9839E-02	-4.4576E-02	0.0000E+00	0.0000E+00	0.0000E+00	4.8062E-01
18	7.9978E-02	-3.7665E-03	0.0000E+00	0.0000E+00	0.0000E+00	3.2798E-01
19	2.1153E-01	-1.0116E+00	0.0000E+00	0.0000E+00	0.0000E+00	4.3225E-01
20	2.1143E-01	-9.6356E-01	0.0000E+00	0.0000E+00	0.0000E+00	5.2566E-01
21	2.1141E-01	-9.5424E-01	0.0000E+00	0.0000E+00	0.0000E+00	5.4214E-01
22	2.1101E-01	-6.7658E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.0145E-01
23	2.0998E-01	-4.6297E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.8930E-01
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	2.0318E-01	8.2694E-04	0.0000E+00	0.0000E+00	0.0000E+00	9.1963E-02
28	2.0081E-01	-2.1503E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.3805E-01
29	2.1790E-01	8.0613E-04	0.0000E+00	0.0000E+00	0.0000E+00	4.1894E-02
30	2.1845E-01	-2.7841E-04	0.0000E+00	0.0000E+00	0.0000E+00	4.0650E-02
31	2.2171E-01	8.1986E-04	0.0000E+00	0.0000E+00	0.0000E+00	-5.6959E-03
32	2.2175E-01	-3.4130E-04	0.0000E+00	0.0000E+00	0.0000E+00	-3.8836E-03
33	2.1795E-01	8.8315E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.7736E-02
34	2.1763E-01	-3.8367E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.9514E-02
35	2.1066E-01	9.6200E-04	0.0000E+00	0.0000E+00	0.0000E+00	-4.1625E-02
36	2.1112E-01	-4.1156E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.3017E-02
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	2.0295E-01	6.2393E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.1480E-02
39	2.0197E-01	-1.2108E-02	0.0000E+00	0.0000E+00	0.0000E+00	-5.5244E-02
40	2.1797E-01	3.0606E-03	0.0000E+00	0.0000E+00	0.0000E+00	6.5795E-03
41	2.1821E-01	-5.4632E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.9756E-02
42	2.2174E-01	-1.0829E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.8035E-02
43	2.2178E-01	-1.0723E-02	0.0000E+00	0.0000E+00	0.0000E+00	5.5016E-03
44	2.1793E-01	-1.7405E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.3593E-02
45	2.1780E-01	-3.8582E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.4340E-02

1**** STATIC ANALYSIS

LOAD CASE =

5

Displacements/Rotations(degrees) of nodes

NODE number	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	-1.8419E-01	-9.4216E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.0030E-01
2	-1.8390E-01	-9.1447E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.5015E-01
3	-1.8269E-01	-6.6297E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.9718E-01
4	-1.8132E-01	-2.7076E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.1715E-01
5	-1.8006E-01	-2.0203E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.8522E-01
6	-1.7975E-01	-1.9727E-03	0.0000E+00	0.0000E+00	0.0000E+00	7.2002E-02
7	-1.4461E-01	-9.4218E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.0564E-01
8	-1.4485E-01	-9.1483E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.3847E-01
9	-1.4581E-01	-6.7727E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.5261E-01



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10	-1.4683E-01	-3.0036E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.0718E-01
11	-1.4775E-01	-3.3285E-02	0.0000E+00	0.0000E+00	0.0000E+00	3.9083E-01
12	-1.4797E-01	-2.3298E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.2133E-01
13	-9.8501E-02	-9.4220E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.3910E-01
14	-9.8387E-02	-9.1239E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.5473E-01
15	-9.7877E-02	-6.7825E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.2841E-01
16	-9.7282E-02	-3.1164E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.9648E-01
17	-9.6726E-02	-3.8740E-02	0.0000E+00	0.0000E+00	0.0000E+00	4.3396E-01
18	-9.6591E-02	-2.6357E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.8084E-01
19	2.2483E-02	-9.4226E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.0135E-01
20	2.2407E-02	-8.9770E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.8731E-01
21	2.2394E-02	-8.8906E-01	0.0000E+00	0.0000E+00	0.0000E+00	5.0261E-01
22	2.2111E-02	-6.3125E-01	0.0000E+00	0.0000E+00	0.0000E+00	7.4532E-01
23	2.1469E-02	-3.1461E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.7520E-01
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	1.8807E-02	6.5826E-05	0.0000E+00	0.0000E+00	0.0000E+00	-1.3341E-02
28	1.8079E-02	-2.3438E-04	0.0000E+00	0.0000E+00	0.0000E+00	9.1169E-03
29	1.8280E-02	2.5900E-05	0.0000E+00	0.0000E+00	0.0000E+00	2.9106E-03
30	1.8644E-02	-2.7602E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.6531E-03
31	1.9418E-02	1.1729E-05	0.0000E+00	0.0000E+00	0.0000E+00	5.0865E-03
32	1.9510E-02	-3.0837E-04	0.0000E+00	0.0000E+00	0.0000E+00	7.8348E-03
33	2.1204E-02	4.9425E-05	0.0000E+00	0.0000E+00	0.0000E+00	7.7695E-03
34	2.0826E-02	-3.2251E-04	0.0000E+00	0.0000E+00	0.0000E+00	4.0067E-03
35	2.1030E-02	1.1009E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.8377E-02
36	2.1156E-02	-3.2959E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.7847E-03
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	1.8723E-02	-1.8219E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.2348E-02
39	1.8402E-02	-8.2242E-03	0.0000E+00	0.0000E+00	0.0000E+00	3.5269E-03
40	1.8306E-02	-4.8623E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.0857E-02
41	1.8447E-02	-5.3822E-03	0.0000E+00	0.0000E+00	0.0000E+00	7.9837E-04
42	1.9405E-02	-1.1044E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.2794E-02
43	1.9418E-02	-1.1325E-02	0.0000E+00	0.0000E+00	0.0000E+00	1.2031E-03
44	2.1156E-02	8.7145E-06	0.0000E+00	0.0000E+00	0.0000E+00	-6.4929E-03
45	2.0986E-02	-4.3590E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.5018E-03

1**** TEMPORARY FILE STORAGE (MEGABYTES)

UNIT NO. 7 : .000
UNIT NO. 8 : .002
UNIT NO. 9 : .000
UNIT NO. 10 : .000
UNIT NO. 11 : .003
UNIT NO. 12 : .010
UNIT NO. 13 : .000
UNIT NO. 14 : .012
UNIT NO. 15 : .000
UNIT NO. 17 : .000

TOTAL : .027



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1**** End of file



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CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 249 OF

BY BNS DATE 12/5/97

CHK'D B DATE 12-5-97

1**** Algor (c) FEA Stress Processor MKNSO 10-NOV-92, Ver 3.02-3H

DATE: DECEMBER 5, 1997

TIME: 10:39 AM

INPUT FILE.....run5 (tb796-8)

1**** BEAM ELEMENTS

number of beam elements	=	51
number of area property sets	=	2
number of fixed end force sets	=	0
number of materials	=	1
number of intermediate load sets	=	0

1**** MATERIAL PROPERTIES

INDEX	E	MU	MASS DENSITY	WEIGHT DENSITY	THERMAL EXPANSION			REFERENCE TEMPERATURE
					X	Y	Z	
1	2.90E+07	.300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.000E+00

1**** AREA PROPERTIES

INDEX	AREAS			TORSION	--FLEXURAL INERTIAS--		
	AXIAL A(1)	SHEAR A(2)	SHEAR A(3)	J(1)	I(2)	I(3)	
1	2.480E+00	0.000E+00	0.000E+00	1.000E-03	2.870E+00	2.870E+00	
2	1.190E+00	0.000E+00	0.000E+00	1.000E-03	7.030E-01	7.030E-01	

1**** STRESS PROPERTIES

INDEX	SECTION S(2)	MODULI S(3)
1	1.150E+00	1.150E+00
2	3.940E-01	3.940E-01

1**** ELEMENT LOAD MULTIPLIERS

	CASE A	CASE B	CASE C	CASE D
X-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Z-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1**** BEAM ELEMENT FORCES AND MOMENTS

ELEMENT NO.	CASE (MODE)	AXIAL FORCE	SHEAR FORCE	SHEAR FORCE	TORSION MOMENT	BENDING MOMENT	BENDING MOMENT
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EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 250 OF

BY BNS DATE 12/5/97

CHK'D JB DATE 12-5-97

		R1	R2	R3	M1	M2	M3
1	1	-1.461E+03	-7.517E+01	0.000E+00	0.000E+00	0.000E+00	-8.847E+03
		1.461E+03	7.517E+01	0.000E+00	0.000E+00	0.000E+00	8.415E+03
1	2	-4.383E+03	-2.255E+02	0.000E+00	0.000E+00	0.000E+00	-2.654E+04
		4.383E+03	2.255E+02	0.000E+00	0.000E+00	0.000E+00	2.524E+04
1	3	2.368E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	6.943E+02
		-2.368E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	-5.908E+02
1	4	-1.224E+03	-5.717E+01	0.000E+00	0.000E+00	0.000E+00	-8.153E+03
		1.224E+03	5.717E+01	0.000E+00	0.000E+00	0.000E+00	7.824E+03
1	5	-1.698E+03	-9.316E+01	0.000E+00	0.000E+00	0.000E+00	-9.541E+03
		1.698E+03	9.316E+01	0.000E+00	0.000E+00	0.000E+00	9.006E+03
2	1	-1.461E+03	-1.802E+02	0.000E+00	0.000E+00	0.000E+00	-8.415E+03
		1.461E+03	1.802E+02	0.000E+00	0.000E+00	0.000E+00	4.091E+03
2	2	-4.383E+03	-5.405E+02	0.000E+00	0.000E+00	0.000E+00	-2.524E+04
		4.383E+03	5.405E+02	0.000E+00	0.000E+00	0.000E+00	1.227E+04
2	3	2.858E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	5.908E+02
		-2.858E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	-1.589E+02
2	4	-1.175E+03	-1.622E+02	0.000E+00	0.000E+00	0.000E+00	-7.824E+03
		1.175E+03	1.622E+02	0.000E+00	0.000E+00	0.000E+00	3.932E+03
2	5	-1.747E+03	-1.982E+02	0.000E+00	0.000E+00	0.000E+00	-9.006E+03
		1.747E+03	1.982E+02	0.000E+00	0.000E+00	0.000E+00	4.250E+03
3	1	-1.461E+03	-2.852E+02	0.000E+00	0.000E+00	0.000E+00	-4.091E+03
		1.461E+03	2.852E+02	0.000E+00	0.000E+00	0.000E+00	-3.395E+03
3	2	-4.383E+03	-8.555E+02	0.000E+00	0.000E+00	0.000E+00	-1.227E+04
		4.383E+03	8.555E+02	0.000E+00	0.000E+00	0.000E+00	-1.018E+04
3	3	3.348E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	1.589E+02
		-3.348E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	3.134E+02
3	4	-1.126E+03	-2.672E+02	0.000E+00	0.000E+00	0.000E+00	-3.932E+03
		1.126E+03	2.672E+02	0.000E+00	0.000E+00	0.000E+00	-3.081E+03
3	5	-1.796E+03	-3.032E+02	0.000E+00	0.000E+00	0.000E+00	-4.250E+03
		1.796E+03	3.032E+02	0.000E+00	0.000E+00	0.000E+00	-3.708E+03
4	1	-1.461E+03	-3.302E+02	0.000E+00	0.000E+00	0.000E+00	3.395E+03
		1.461E+03	3.302E+02	0.000E+00	0.000E+00	0.000E+00	-1.132E+04
4	2	-4.383E+03	-9.905E+02	0.000E+00	0.000E+00	0.000E+00	1.018E+04
		4.383E+03	9.905E+02	0.000E+00	0.000E+00	0.000E+00	-3.396E+04
4	3	3.558E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	-3.134E+02
		-3.558E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	7.453E+02
4	4	-1.105E+03	-3.122E+02	0.000E+00	0.000E+00	0.000E+00	3.081E+03
		1.105E+03	3.122E+02	0.000E+00	0.000E+00	0.000E+00	-1.057E+04
4	5	-1.817E+03	-3.482E+02	0.000E+00	0.000E+00	0.000E+00	3.708E+03
		1.817E+03	3.482E+02	0.000E+00	0.000E+00	0.000E+00	-1.206E+04
5	1	-1.461E+03	-3.752E+02	0.000E+00	0.000E+00	0.000E+00	1.132E+04
		1.461E+03	3.752E+02	0.000E+00	0.000E+00	0.000E+00	-1.348E+04
5	2	-4.383E+03	-1.125E+03	0.000E+00	0.000E+00	0.000E+00	3.396E+04
		4.383E+03	1.125E+03	0.000E+00	0.000E+00	0.000E+00	-4.043E+04
5	3	3.768E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	-7.453E+02



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 251 OF

BY RNC DATE 12/5/97

CHK'D P DATE 12-5-97

		-3.768E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	8.488E+02
5	4	-1.084E+03	-3.572E+02	0.000E+00	0.000E+00	0.000E+00	1.057E+04
		1.084E+03	3.572E+02	0.000E+00	0.000E+00	0.000E+00	-1.263E+04
5	5	-1.838E+03	-3.932E+02	0.000E+00	0.000E+00	0.000E+00	1.206E+04
		1.838E+03	3.932E+02	0.000E+00	0.000E+00	0.000E+00	-1.432E+04
6	1	1.212E+03	-4.635E+01	0.000E+00	0.000E+00	0.000E+00	-7.997E+03
		-1.212E+03	4.635E+01	0.000E+00	0.000E+00	0.000E+00	7.731E+03
6	2	3.636E+03	-1.390E+02	0.000E+00	0.000E+00	0.000E+00	-2.399E+04
		-3.636E+03	1.390E+02	0.000E+00	0.000E+00	0.000E+00	2.319E+04
6	3	-2.202E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	3.805E+02
		2.202E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	-3.303E+02
6	4	9.919E+02	-3.761E+01	0.000E+00	0.000E+00	0.000E+00	-7.617E+03
		-9.919E+02	3.761E+01	0.000E+00	0.000E+00	0.000E+00	7.401E+03
6	5	1.432E+03	-5.509E+01	0.000E+00	0.000E+00	0.000E+00	-8.378E+03
		-1.432E+03	5.509E+01	0.000E+00	0.000E+00	0.000E+00	8.061E+03
7	1	1.212E+03	-1.513E+02	0.000E+00	0.000E+00	0.000E+00	-7.731E+03
		-1.212E+03	1.513E+02	0.000E+00	0.000E+00	0.000E+00	4.099E+03
7	2	3.636E+03	-4.540E+02	0.000E+00	0.000E+00	0.000E+00	-2.319E+04
		-3.636E+03	4.540E+02	0.000E+00	0.000E+00	0.000E+00	1.230E+04
7	3	-1.712E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	3.303E+02
		1.712E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	-1.204E+02
7	4	1.041E+03	-1.426E+02	0.000E+00	0.000E+00	0.000E+00	-7.401E+03
		-1.041E+03	1.426E+02	0.000E+00	0.000E+00	0.000E+00	3.978E+03
7	5	1.383E+03	-1.601E+02	0.000E+00	0.000E+00	0.000E+00	-8.061E+03
		-1.383E+03	1.601E+02	0.000E+00	0.000E+00	0.000E+00	4.219E+03
8	1	1.212E+03	-2.563E+02	0.000E+00	0.000E+00	0.000E+00	-4.099E+03
		-1.212E+03	2.563E+02	0.000E+00	0.000E+00	0.000E+00	-2.631E+03
8	2	3.636E+03	-7.690E+02	0.000E+00	0.000E+00	0.000E+00	-1.230E+04
		-3.636E+03	7.690E+02	0.000E+00	0.000E+00	0.000E+00	-7.892E+03
8	3	-1.222E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	1.204E+02
		1.222E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	1.091E+02
8	4	1.090E+03	-2.476E+02	0.000E+00	0.000E+00	0.000E+00	-3.978E+03
		-1.090E+03	2.476E+02	0.000E+00	0.000E+00	0.000E+00	-2.521E+03
8	5	1.334E+03	-2.651E+02	0.000E+00	0.000E+00	0.000E+00	-4.219E+03
		-1.334E+03	2.651E+02	0.000E+00	0.000E+00	0.000E+00	-2.740E+03
9	1	1.212E+03	-2.773E+02	0.000E+00	0.000E+00	0.000E+00	2.631E+03
		-1.212E+03	2.773E+02	0.000E+00	0.000E+00	0.000E+00	-9.287E+03
9	2	3.636E+03	-8.320E+02	0.000E+00	0.000E+00	0.000E+00	7.892E+03
		-3.636E+03	8.320E+02	0.000E+00	0.000E+00	0.000E+00	-2.786E+04
9	3	-1.122E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	-1.091E+02
		1.122E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	3.189E+02
9	4	1.100E+03	-2.686E+02	0.000E+00	0.000E+00	0.000E+00	2.521E+03
		-1.100E+03	2.686E+02	0.000E+00	0.000E+00	0.000E+00	-8.968E+03
9	5	1.324E+03	-2.861E+02	0.000E+00	0.000E+00	0.000E+00	2.740E+03
		-1.324E+03	2.861E+02	0.000E+00	0.000E+00	0.000E+00	-9.606E+03
10	1	1.212E+03	-2.983E+02	0.000E+00	0.000E+00	0.000E+00	9.287E+03
		-1.212E+03	2.983E+02	0.000E+00	0.000E+00	0.000E+00	-1.100E+04



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1.2 & 3CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8SHEET NO. 252 OF BY BNS DATE 12/5/97CHK'D B DATE 12-5-97

10	2	3.636E+03	-8.950E+02	0.000E+00	0.000E+00	0.000E+00	2.786E+04
		-3.636E+03	8.950E+02	0.000E+00	0.000E+00	0.000E+00	-3.301E+04
10	3	-1.022E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	-3.189E+02
		1.022E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	3.692E+02
10	4	1.110E+03	-2.896E+02	0.000E+00	0.000E+00	0.000E+00	8.968E+03
		-1.110E+03	2.896E+02	0.000E+00	0.000E+00	0.000E+00	-1.063E+04
10	5	1.314E+03	-3.071E+02	0.000E+00	0.000E+00	0.000E+00	9.606E+03
		-1.314E+03	3.071E+02	0.000E+00	0.000E+00	0.000E+00	-1.137E+04
11	1	-8.249E+02	-2.359E+01	0.000E+00	0.000E+00	0.000E+00	-7.212E+03
		8.249E+02	2.359E+01	0.000E+00	0.000E+00	0.000E+00	7.076E+03
11	2	-2.475E+03	-7.076E+01	0.000E+00	0.000E+00	0.000E+00	-2.164E+04
		2.475E+03	7.076E+01	0.000E+00	0.000E+00	0.000E+00	2.123E+04
11	3	-1.405E+02	3.354E-01	0.000E+00	0.000E+00	0.000E+00	1.276E+01
		1.405E+02	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	-1.083E+01
11	4	-9.654E+02	-2.325E+01	0.000E+00	0.000E+00	0.000E+00	-7.199E+03
		9.654E+02	2.325E+01	0.000E+00	0.000E+00	0.000E+00	7.065E+03
11	5	-6.844E+02	-2.392E+01	0.000E+00	0.000E+00	0.000E+00	-7.225E+03
		6.844E+02	2.392E+01	0.000E+00	0.000E+00	0.000E+00	7.087E+03
12	1	-8.249E+02	-1.286E+02	0.000E+00	0.000E+00	0.000E+00	-7.076E+03
		8.249E+02	1.286E+02	0.000E+00	0.000E+00	0.000E+00	3.990E+03
12	2	-2.475E+03	-3.858E+02	0.000E+00	0.000E+00	0.000E+00	-2.123E+04
		2.475E+03	3.858E+02	0.000E+00	0.000E+00	0.000E+00	1.197E+04
12	3	-9.147E+01	3.354E-01	0.000E+00	0.000E+00	0.000E+00	1.083E+01
		9.147E+01	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	-2.779E+00
12	4	-9.164E+02	-1.283E+02	0.000E+00	0.000E+00	0.000E+00	-7.065E+03
		9.164E+02	1.283E+02	0.000E+00	0.000E+00	0.000E+00	3.987E+03
12	5	-7.334E+02	-1.289E+02	0.000E+00	0.000E+00	0.000E+00	-7.087E+03
		7.334E+02	1.289E+02	0.000E+00	0.000E+00	0.000E+00	3.993E+03
13	1	-8.249E+02	-2.336E+02	0.000E+00	0.000E+00	0.000E+00	-3.990E+03
		8.249E+02	2.336E+02	0.000E+00	0.000E+00	0.000E+00	-2.142E+03
13	2	-2.475E+03	-7.008E+02	0.000E+00	0.000E+00	0.000E+00	-1.197E+04
		2.475E+03	7.008E+02	0.000E+00	0.000E+00	0.000E+00	-6.425E+03
13	3	-4.247E+01	3.354E-01	0.000E+00	0.000E+00	0.000E+00	2.779E+00
		4.247E+01	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	6.025E+00
13	4	-8.674E+02	-2.333E+02	0.000E+00	0.000E+00	0.000E+00	-3.987E+03
		8.674E+02	2.333E+02	0.000E+00	0.000E+00	0.000E+00	-2.135E+03
13	5	-7.824E+02	-2.339E+02	0.000E+00	0.000E+00	0.000E+00	-3.993E+03
		7.824E+02	2.339E+02	0.000E+00	0.000E+00	0.000E+00	-2.148E+03
14	1	-8.249E+02	-2.686E+02	0.000E+00	0.000E+00	0.000E+00	2.142E+03
		8.249E+02	2.686E+02	0.000E+00	0.000E+00	0.000E+00	-8.588E+03
14	2	-2.475E+03	-8.058E+02	0.000E+00	0.000E+00	0.000E+00	6.425E+03
		2.475E+03	8.058E+02	0.000E+00	0.000E+00	0.000E+00	-2.576E+04
14	3	-2.647E+01	3.354E-01	0.000E+00	0.000E+00	0.000E+00	-6.025E+00
		2.647E+01	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	1.407E+01
14	4	-8.514E+02	-2.683E+02	0.000E+00	0.000E+00	0.000E+00	2.135E+03
		8.514E+02	2.683E+02	0.000E+00	0.000E+00	0.000E+00	-8.574E+03
14	5	-7.984E+02	-2.689E+02	0.000E+00	0.000E+00	0.000E+00	2.148E+03
		7.984E+02	2.689E+02	0.000E+00	0.000E+00	0.000E+00	-8.602E+03



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 253 OF

BY BNS DATE 12/5/97

CHK'D JB DATE 12-5-97

15	1	-8.249E+02	-3.036E+02	0.000E+00	0.000E+00	0.000E+00	8.588E+03
		8.249E+02	3.036E+02	0.000E+00	0.000E+00	0.000E+00	-1.033E+04
15	2	-2.475E+03	-9.108E+02	0.000E+00	0.000E+00	0.000E+00	2.576E+04
		2.475E+03	9.108E+02	0.000E+00	0.000E+00	0.000E+00	-3.100E+04
15	3	-1.047E+01	3.354E-01	0.000E+00	0.000E+00	0.000E+00	-1.407E+01
		1.047E+01	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	1.600E+01
15	4	-8.354E+02	-3.033E+02	0.000E+00	0.000E+00	0.000E+00	8.574E+03
		8.354E+02	3.033E+02	0.000E+00	0.000E+00	0.000E+00	-1.032E+04
15	5	-8.144E+02	-3.039E+02	0.000E+00	0.000E+00	0.000E+00	8.602E+03
		8.144E+02	3.039E+02	0.000E+00	0.000E+00	0.000E+00	-1.035E+04
16	1	1.074E+03	1.451E+02	0.000E+00	0.000E+00	0.000E+00	-2.224E+04
		-1.074E+03	-1.451E+02	0.000E+00	0.000E+00	0.000E+00	2.307E+04
16	2	3.222E+03	4.353E+02	0.000E+00	0.000E+00	0.000E+00	-6.672E+04
		-3.222E+03	-4.353E+02	0.000E+00	0.000E+00	0.000E+00	6.922E+04
16	3	1.238E+02	-2.707E+01	0.000E+00	0.000E+00	0.000E+00	-1.018E+03
		-1.238E+02	2.707E+01	0.000E+00	0.000E+00	0.000E+00	8.628E+02
16	4	1.198E+03	1.180E+02	0.000E+00	0.000E+00	0.000E+00	-2.326E+04
		-1.198E+03	-1.180E+02	0.000E+00	0.000E+00	0.000E+00	2.394E+04
16	5	9.501E+02	1.722E+02	0.000E+00	0.000E+00	0.000E+00	-2.122E+04
		-9.501E+02	-1.722E+02	0.000E+00	0.000E+00	0.000E+00	2.221E+04
17	1	1.074E+03	1.110E+01	0.000E+00	0.000E+00	0.000E+00	-2.307E+04
		-1.074E+03	-1.110E+01	0.000E+00	0.000E+00	0.000E+00	2.309E+04
17	2	3.222E+03	3.331E+01	0.000E+00	0.000E+00	0.000E+00	-6.922E+04
		-3.222E+03	-3.331E+01	0.000E+00	0.000E+00	0.000E+00	6.926E+04
17	3	1.868E+02	-2.707E+01	0.000E+00	0.000E+00	0.000E+00	-8.628E+02
		-1.868E+02	2.707E+01	0.000E+00	0.000E+00	0.000E+00	8.357E+02
17	4	1.261E+03	-1.597E+01	0.000E+00	0.000E+00	0.000E+00	-2.394E+04
		-1.261E+03	1.597E+01	0.000E+00	0.000E+00	0.000E+00	2.392E+04
17	5	8.871E+02	3.818E+01	0.000E+00	0.000E+00	0.000E+00	-2.221E+04
		-8.871E+02	-3.818E+01	0.000E+00	0.000E+00	0.000E+00	2.225E+04
18	1	1.074E+03	-6.289E+02	0.000E+00	0.000E+00	0.000E+00	-2.309E+04
		-1.074E+03	6.289E+02	0.000E+00	0.000E+00	0.000E+00	8.621E+03
18	2	3.222E+03	-1.887E+03	0.000E+00	0.000E+00	0.000E+00	-6.926E+04
		-3.222E+03	1.887E+03	0.000E+00	0.000E+00	0.000E+00	2.586E+04
18	3	1.868E+02	-2.707E+01	0.000E+00	0.000E+00	0.000E+00	-8.357E+02
		-1.868E+02	2.707E+01	0.000E+00	0.000E+00	0.000E+00	2.130E+02
18	4	1.261E+03	-6.560E+02	0.000E+00	0.000E+00	0.000E+00	-2.392E+04
		-1.261E+03	6.560E+02	0.000E+00	0.000E+00	0.000E+00	8.834E+03
18	5	8.871E+02	-6.018E+02	0.000E+00	0.000E+00	0.000E+00	-2.225E+04
		-8.871E+02	6.018E+02	0.000E+00	0.000E+00	0.000E+00	8.408E+03
19	1	1.074E+03	-7.629E+02	0.000E+00	0.000E+00	0.000E+00	-8.621E+03
		-1.074E+03	7.629E+02	0.000E+00	0.000E+00	0.000E+00	-3.410E+04
19	2	3.222E+03	-2.289E+03	0.000E+00	0.000E+00	0.000E+00	-2.586E+04
		-3.222E+03	2.289E+03	0.000E+00	0.000E+00	0.000E+00	-1.023E+05
19	3	2.498E+02	-2.707E+01	0.000E+00	0.000E+00	0.000E+00	-2.130E+02
		-2.498E+02	2.707E+01	0.000E+00	0.000E+00	0.000E+00	-1.303E+03
19	4	1.324E+03	-7.900E+02	0.000E+00	0.000E+00	0.000E+00	-8.834E+03



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19	5	-1.324E+03	7.900E+02	0.000E+00	0.000E+00	0.000E+00	-3.540E+04
		8.241E+02	-7.358E+02	0.000E+00	0.000E+00	0.000E+00	-8.408E+03
		-8.241E+02	7.358E+02	0.000E+00	0.000E+00	0.000E+00	-3.280E+04
20	1	-1.060E+02	3.133E+02	0.000E+00	0.000E+00	0.000E+00	1.844E+04
		1.060E+02	-3.133E+02	0.000E+00	0.000E+00	0.000E+00	7.480E+03
20	2	-3.180E+02	9.398E+02	0.000E+00	0.000E+00	0.000E+00	5.533E+04
		3.180E+02	-9.398E+02	0.000E+00	0.000E+00	0.000E+00	2.244E+04
20	3	-4.877E+02	-7.880E+00	0.000E+00	0.000E+00	0.000E+00	1.776E+00
		4.877E+02	7.880E+00	0.000E+00	0.000E+00	0.000E+00	-6.539E+02
20	4	-5.937E+02	3.054E+02	0.000E+00	0.000E+00	0.000E+00	1.845E+04
		5.937E+02	-3.054E+02	0.000E+00	0.000E+00	0.000E+00	6.827E+03
20	5	3.817E+02	3.212E+02	0.000E+00	0.000E+00	0.000E+00	1.844E+04
		-3.817E+02	-3.212E+02	0.000E+00	0.000E+00	0.000E+00	8.134E+03
21	1	-3.703E+02	-1.048E+02	0.000E+00	0.000E+00	0.000E+00	-3.472E+03
		3.703E+02	1.048E+02	0.000E+00	0.000E+00	0.000E+00	-2.480E+03
21	2	-1.111E+03	-3.144E+02	0.000E+00	0.000E+00	0.000E+00	-1.042E+04
		1.111E+03	3.144E+02	0.000E+00	0.000E+00	0.000E+00	-7.441E+03
21	3	-2.105E+02	-6.236E+01	0.000E+00	0.000E+00	0.000E+00	-1.751E+03
		2.105E+02	6.236E+01	0.000E+00	0.000E+00	0.000E+00	-1.791E+03
21	4	-5.808E+02	-1.671E+02	0.000E+00	0.000E+00	0.000E+00	-5.223E+03
		5.808E+02	1.671E+02	0.000E+00	0.000E+00	0.000E+00	-4.271E+03
21	5	-1.597E+02	-4.243E+01	0.000E+00	0.000E+00	0.000E+00	-1.721E+03
		1.597E+02	4.243E+01	0.000E+00	0.000E+00	0.000E+00	-6.893E+02
22	1	-7.517E+01	1.461E+03	0.000E+00	0.000E+00	0.000E+00	8.847E+03
		7.517E+01	-1.461E+03	0.000E+00	0.000E+00	0.000E+00	8.687E+03
22	2	-2.255E+02	4.383E+03	0.000E+00	0.000E+00	0.000E+00	2.654E+04
		2.255E+02	-4.383E+03	0.000E+00	0.000E+00	0.000E+00	2.606E+04
22	3	1.800E+01	-2.368E+02	0.000E+00	0.000E+00	0.000E+00	-6.943E+02
		-1.800E+01	2.368E+02	0.000E+00	0.000E+00	0.000E+00	-2.147E+03
22	4	-5.717E+01	1.224E+03	0.000E+00	0.000E+00	0.000E+00	8.153E+03
		5.717E+01	-1.224E+03	0.000E+00	0.000E+00	0.000E+00	6.539E+03
22	5	-9.316E+01	1.698E+03	0.000E+00	0.000E+00	0.000E+00	9.541E+03
		9.316E+01	-1.698E+03	0.000E+00	0.000E+00	0.000E+00	1.083E+04
23	1	-1.215E+02	2.490E+02	0.000E+00	0.000E+00	0.000E+00	-6.893E+02
		1.215E+02	-2.490E+02	0.000E+00	0.000E+00	0.000E+00	3.678E+03
23	2	-3.645E+02	7.471E+02	0.000E+00	0.000E+00	0.000E+00	-2.068E+03
		3.645E+02	-7.471E+02	0.000E+00	0.000E+00	0.000E+00	1.103E+04
23	3	2.674E+01	-1.664E+01	0.000E+00	0.000E+00	0.000E+00	1.767E+03
		-2.674E+01	1.664E+01	0.000E+00	0.000E+00	0.000E+00	-1.966E+03
23	4	-9.478E+01	2.324E+02	0.000E+00	0.000E+00	0.000E+00	1.077E+03
		9.478E+01	-2.324E+02	0.000E+00	0.000E+00	0.000E+00	1.711E+03
23	5	-1.483E+02	2.657E+02	0.000E+00	0.000E+00	0.000E+00	-2.456E+03
		1.483E+02	-2.657E+02	0.000E+00	0.000E+00	0.000E+00	5.644E+03
24	1	-1.451E+02	1.074E+03	0.000E+00	0.000E+00	0.000E+00	3.534E+03
		1.451E+02	-1.074E+03	0.000E+00	0.000E+00	0.000E+00	2.224E+04
24	2	-4.353E+02	3.222E+03	0.000E+00	0.000E+00	0.000E+00	1.060E+04
		4.353E+02	-3.222E+03	0.000E+00	0.000E+00	0.000E+00	6.672E+04



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24	3	2.707E+01	1.238E+02	0.000E+00	0.000E+00	0.000E+00	1.954E+03
		-2.707E+01	-1.238E+02	0.000E+00	0.000E+00	0.000E+00	1.018E+03
24	4	-1.180E+02	1.198E+03	0.000E+00	0.000E+00	0.000E+00	5.488E+03
		1.180E+02	-1.198E+03	0.000E+00	0.000E+00	0.000E+00	2.326E+04
24	5	-1.722E+02	9.501E+02	0.000E+00	0.000E+00	0.000E+00	1.581E+03
		1.722E+02	-9.501E+02	0.000E+00	0.000E+00	0.000E+00	2.122E+04
25	1	-3.035E+03	-9.902E+02	0.000E+00	0.000E+00	0.000E+00	-2.422E+04
		3.035E+03	9.902E+02	0.000E+00	0.000E+00	0.000E+00	-3.123E+04
25	2	-9.105E+03	-2.971E+03	0.000E+00	0.000E+00	0.000E+00	-7.265E+04
		9.105E+03	2.971E+03	0.000E+00	0.000E+00	0.000E+00	-9.370E+04
25	3	-5.016E+02	2.322E+02	0.000E+00	0.000E+00	0.000E+00	8.141E+03
		5.016E+02	-2.322E+02	0.000E+00	0.000E+00	0.000E+00	4.862E+03
25	4	-3.537E+03	-7.580E+02	0.000E+00	0.000E+00	0.000E+00	-1.608E+04
		3.537E+03	7.580E+02	0.000E+00	0.000E+00	0.000E+00	-2.637E+04
25	5	-2.534E+03	-1.222E+03	0.000E+00	0.000E+00	0.000E+00	-3.236E+04
		2.534E+03	1.222E+03	0.000E+00	0.000E+00	0.000E+00	-3.609E+04
26	1	-2.660E+03	4.709E+02	0.000E+00	0.000E+00	0.000E+00	1.776E+04
		2.660E+03	-4.709E+02	0.000E+00	0.000E+00	0.000E+00	-1.211E+04
26	2	-7.980E+03	1.413E+03	0.000E+00	0.000E+00	0.000E+00	5.327E+04
		7.980E+03	-1.413E+03	0.000E+00	0.000E+00	0.000E+00	-3.632E+04
26	3	-5.196E+02	-1.446E+02	0.000E+00	0.000E+00	0.000E+00	-4.013E+03
		5.196E+02	1.446E+02	0.000E+00	0.000E+00	0.000E+00	2.278E+03
26	4	-3.180E+03	3.263E+02	0.000E+00	0.000E+00	0.000E+00	1.374E+04
		3.180E+03	-3.263E+02	0.000E+00	0.000E+00	0.000E+00	-9.828E+03
26	5	-2.140E+03	6.155E+02	0.000E+00	0.000E+00	0.000E+00	2.177E+04
		2.140E+03	-6.155E+02	0.000E+00	0.000E+00	0.000E+00	-1.438E+04
27	1	-2.362E+03	-7.412E+02	0.000E+00	0.000E+00	0.000E+00	1.103E+03
		2.362E+03	7.412E+02	0.000E+00	0.000E+00	0.000E+00	-9.997E+03
27	2	-7.085E+03	-2.223E+03	0.000E+00	0.000E+00	0.000E+00	3.309E+03
		7.085E+03	2.223E+03	0.000E+00	0.000E+00	0.000E+00	-2.999E+04
27	3	-5.283E+02	-4.243E+01	0.000E+00	0.000E+00	0.000E+00	-1.909E+03
		5.283E+02	4.243E+01	0.000E+00	0.000E+00	0.000E+00	1.399E+03
27	4	-2.890E+03	-7.836E+02	0.000E+00	0.000E+00	0.000E+00	-8.055E+02
		2.890E+03	7.836E+02	0.000E+00	0.000E+00	0.000E+00	-8.598E+03
27	5	-1.833E+03	-6.987E+02	0.000E+00	0.000E+00	0.000E+00	3.012E+03
		1.833E+03	6.987E+02	0.000E+00	0.000E+00	0.000E+00	-1.140E+04
28	1	-2.058E+03	8.375E+01	0.000E+00	0.000E+00	0.000E+00	-3.361E+02
		2.058E+03	-8.375E+01	0.000E+00	0.000E+00	0.000E+00	2.346E+03
28	2	-6.174E+03	2.512E+02	0.000E+00	0.000E+00	0.000E+00	-1.008E+03
		6.174E+03	-2.512E+02	0.000E+00	0.000E+00	0.000E+00	7.038E+03
28	3	-5.287E+02	-3.196E+01	0.000E+00	0.000E+00	0.000E+00	-1.383E+03
		5.287E+02	3.196E+01	0.000E+00	0.000E+00	0.000E+00	6.163E+02
28	4	-2.587E+03	5.179E+01	0.000E+00	0.000E+00	0.000E+00	-1.719E+03
		2.587E+03	-5.179E+01	0.000E+00	0.000E+00	0.000E+00	2.962E+03
28	5	-1.529E+03	1.157E+02	0.000E+00	0.000E+00	0.000E+00	1.047E+03
		1.529E+03	-1.157E+02	0.000E+00	0.000E+00	0.000E+00	1.730E+03
29	1	5.733E+02	5.220E+02	0.000E+00	0.000E+00	0.000E+00	1.564E+04



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		-5.733E+02	-5.220E+02	0.000E+00	0.000E+00	0.000E+00	1.360E+04
29	2	1.720E+03	1.566E+03	0.000E+00	0.000E+00	0.000E+00	4.691E+04
		-1.720E+03	-1.566E+03	0.000E+00	0.000E+00	0.000E+00	4.079E+04
29	3	4.887E+02	3.780E+02	0.000E+00	0.000E+00	0.000E+00	1.195E+04
		-4.887E+02	-3.780E+02	0.000E+00	0.000E+00	0.000E+00	9.217E+03
29	4	1.062E+03	8.999E+02	0.000E+00	0.000E+00	0.000E+00	2.758E+04
		-1.062E+03	-8.999E+02	0.000E+00	0.000E+00	0.000E+00	2.281E+04
29	5	8.454E+01	1.440E+02	0.000E+00	0.000E+00	0.000E+00	3.687E+03
		-8.454E+01	-1.440E+02	0.000E+00	0.000E+00	0.000E+00	4.379E+03
30	1	-1.820E+02	3.672E+02	0.000E+00	0.000E+00	0.000E+00	1.564E+02
		1.820E+02	-3.672E+02	0.000E+00	0.000E+00	0.000E+00	4.250E+03
30	2	-5.460E+02	1.102E+03	0.000E+00	0.000E+00	0.000E+00	4.691E+02
		5.460E+02	-1.102E+03	0.000E+00	0.000E+00	0.000E+00	1.275E+04
30	3	5.728E+01	4.017E+01	0.000E+00	0.000E+00	0.000E+00	-3.773E+03
		-5.728E+01	-4.017E+01	0.000E+00	0.000E+00	0.000E+00	4.255E+03
30	4	-1.247E+02	4.074E+02	0.000E+00	0.000E+00	0.000E+00	-3.617E+03
		1.247E+02	-4.074E+02	0.000E+00	0.000E+00	0.000E+00	8.505E+03
30	5	-2.393E+02	3.270E+02	0.000E+00	0.000E+00	0.000E+00	3.930E+03
		2.393E+02	-3.270E+02	0.000E+00	0.000E+00	0.000E+00	-5.149E+00
31	1	-1.326E+00	9.095E+01	0.000E+00	0.000E+00	0.000E+00	-2.203E+03
		1.326E+00	-9.095E+01	0.000E+00	0.000E+00	0.000E+00	3.294E+03
31	2	-3.977E+00	2.728E+02	0.000E+00	0.000E+00	0.000E+00	-6.609E+03
		3.977E+00	-2.728E+02	0.000E+00	0.000E+00	0.000E+00	9.883E+03
31	3	8.360E+01	-8.258E+01	0.000E+00	0.000E+00	0.000E+00	-3.508E+03
		-8.360E+01	8.258E+01	0.000E+00	0.000E+00	0.000E+00	2.517E+03
31	4	8.228E+01	8.371E+00	0.000E+00	0.000E+00	0.000E+00	-5.711E+03
		-8.228E+01	-8.371E+00	0.000E+00	0.000E+00	0.000E+00	5.811E+03
31	5	-8.493E+01	1.735E+02	0.000E+00	0.000E+00	0.000E+00	1.305E+03
		8.493E+01	-1.735E+02	0.000E+00	0.000E+00	0.000E+00	7.777E+02
32	1	3.026E+02	5.182E+01	0.000E+00	0.000E+00	0.000E+00	-8.607E+02
		-3.026E+02	-5.182E+01	0.000E+00	0.000E+00	0.000E+00	1.483E+03
32	2	9.079E+02	1.555E+02	0.000E+00	0.000E+00	0.000E+00	-2.582E+03
		-9.079E+02	-1.555E+02	0.000E+00	0.000E+00	0.000E+00	4.448E+03
32	3	7.672E+01	-2.021E+02	0.000E+00	0.000E+00	0.000E+00	-2.709E+03
		-7.672E+01	2.021E+02	0.000E+00	0.000E+00	0.000E+00	2.835E+02
32	4	3.794E+02	-1.503E+02	0.000E+00	0.000E+00	0.000E+00	-3.570E+03
		-3.794E+02	1.503E+02	0.000E+00	0.000E+00	0.000E+00	1.766E+03
32	5	2.259E+02	2.540E+02	0.000E+00	0.000E+00	0.000E+00	1.849E+03
		-2.259E+02	-2.540E+02	0.000E+00	0.000E+00	0.000E+00	1.199E+03
33	1	4.181E+02	2.643E+02	0.000E+00	0.000E+00	0.000E+00	-8.377E+02
		-4.181E+02	-2.643E+02	0.000E+00	0.000E+00	0.000E+00	4.009E+03
33	2	1.254E+03	7.928E+02	0.000E+00	0.000E+00	0.000E+00	-2.513E+03
		-1.254E+03	-7.928E+02	0.000E+00	0.000E+00	0.000E+00	1.203E+04
33	3	5.448E+01	-2.772E+02	0.000E+00	0.000E+00	0.000E+00	-9.214E+02
		-5.448E+01	2.772E+02	0.000E+00	0.000E+00	0.000E+00	-2.405E+03
33	4	4.725E+02	-1.295E+01	0.000E+00	0.000E+00	0.000E+00	-1.759E+03
		-4.725E+02	1.295E+01	0.000E+00	0.000E+00	0.000E+00	1.604E+03
33	5	3.636E+02	5.415E+02	0.000E+00	0.000E+00	0.000E+00	8.364E+01



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CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

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		-3.636E+02	-5.415E+02	0.000E+00	0.000E+00	0.000E+00	6.414E+03
34	1	-2.982E+02	4.682E+02	0.000E+00	0.000E+00	0.000E+00	1.466E+04
		2.982E+02	-4.682E+02	0.000E+00	0.000E+00	0.000E+00	1.072E+04
34	2	-8.945E+02	1.405E+03	0.000E+00	0.000E+00	0.000E+00	4.398E+04
		8.945E+02	-1.405E+03	0.000E+00	0.000E+00	0.000E+00	3.215E+04
34	3	1.284E+01	3.818E+02	0.000E+00	0.000E+00	0.000E+00	1.208E+04
		-1.284E+01	-3.818E+02	0.000E+00	0.000E+00	0.000E+00	8.620E+03
34	4	-2.853E+02	8.501E+02	0.000E+00	0.000E+00	0.000E+00	2.674E+04
		2.853E+02	-8.501E+02	0.000E+00	0.000E+00	0.000E+00	1.934E+04
34	5	-3.110E+02	8.636E+01	0.000E+00	0.000E+00	0.000E+00	2.585E+03
		3.110E+02	-8.636E+01	0.000E+00	0.000E+00	0.000E+00	2.096E+03
35	1	-3.147E+02	-4.732E+02	0.000E+00	0.000E+00	0.000E+00	-9.186E+03
		3.147E+02	4.732E+02	0.000E+00	0.000E+00	0.000E+00	3.508E+03
35	2	-9.441E+02	-1.420E+03	0.000E+00	0.000E+00	0.000E+00	-2.756E+04
		9.441E+02	1.420E+03	0.000E+00	0.000E+00	0.000E+00	1.052E+04
35	3	-6.516E+01	-1.479E+02	0.000E+00	0.000E+00	0.000E+00	-6.331E+03
		6.516E+01	1.479E+02	0.000E+00	0.000E+00	0.000E+00	4.556E+03
35	4	-3.799E+02	-6.211E+02	0.000E+00	0.000E+00	0.000E+00	-1.552E+04
		3.799E+02	6.211E+02	0.000E+00	0.000E+00	0.000E+00	8.064E+03
35	5	-2.495E+02	-3.253E+02	0.000E+00	0.000E+00	0.000E+00	-2.855E+03
		2.495E+02	3.253E+02	0.000E+00	0.000E+00	0.000E+00	-1.048E+03
36	1	-2.854E+02	-1.969E+02	0.000E+00	0.000E+00	0.000E+00	-3.503E+03
		2.854E+02	1.969E+02	0.000E+00	0.000E+00	0.000E+00	1.140E+03
36	2	-8.562E+02	-5.908E+02	0.000E+00	0.000E+00	0.000E+00	-1.051E+04
		8.562E+02	5.908E+02	0.000E+00	0.000E+00	0.000E+00	3.419E+03
36	3	-9.148E+01	-1.232E+02	0.000E+00	0.000E+00	0.000E+00	-3.809E+03
		9.148E+01	1.232E+02	0.000E+00	0.000E+00	0.000E+00	2.331E+03
36	4	-3.769E+02	-3.201E+02	0.000E+00	0.000E+00	0.000E+00	-7.312E+03
		3.769E+02	3.201E+02	0.000E+00	0.000E+00	0.000E+00	3.470E+03
36	5	-1.939E+02	-7.379E+01	0.000E+00	0.000E+00	0.000E+00	3.056E+02
		1.939E+02	7.379E+01	0.000E+00	0.000E+00	0.000E+00	-1.191E+03
37	1	-1.694E+02	-1.578E+02	0.000E+00	0.000E+00	0.000E+00	-2.730E+03
		1.694E+02	1.578E+02	0.000E+00	0.000E+00	0.000E+00	8.361E+02
37	2	-5.081E+02	-4.735E+02	0.000E+00	0.000E+00	0.000E+00	-8.190E+03
		5.081E+02	4.735E+02	0.000E+00	0.000E+00	0.000E+00	2.508E+03
37	3	-8.460E+01	-2.016E+02	0.000E+00	0.000E+00	0.000E+00	-2.529E+03
		8.460E+01	2.016E+02	0.000E+00	0.000E+00	0.000E+00	1.101E+02
37	4	-2.540E+02	-3.594E+02	0.000E+00	0.000E+00	0.000E+00	-5.259E+03
		2.540E+02	3.594E+02	0.000E+00	0.000E+00	0.000E+00	9.461E+02
37	5	-8.476E+01	4.376E+01	0.000E+00	0.000E+00	0.000E+00	-2.008E+02
		8.476E+01	-4.376E+01	0.000E+00	0.000E+00	0.000E+00	7.260E+02
38	1	-1.048E+02	-3.703E+02	0.000E+00	0.000E+00	0.000E+00	-1.963E+03
		1.048E+02	3.703E+02	0.000E+00	0.000E+00	0.000E+00	-2.480E+03
38	2	-3.144E+02	-1.111E+03	0.000E+00	0.000E+00	0.000E+00	-5.888E+03
		3.144E+02	1.111E+03	0.000E+00	0.000E+00	0.000E+00	-7.441E+03
38	3	-6.236E+01	-2.105E+02	0.000E+00	0.000E+00	0.000E+00	-7.355E+02
		6.236E+01	2.105E+02	0.000E+00	0.000E+00	0.000E+00	-1.791E+03



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38	4	-1.671E+02	-5.808E+02	0.000E+00	0.000E+00	0.000E+00	-2.698E+03
		1.671E+02	5.808E+02	0.000E+00	0.000E+00	0.000E+00	-4.271E+03
38	5	-4.243E+01	-1.597E+02	0.000E+00	0.000E+00	0.000E+00	-1.227E+03
		4.243E+01	1.597E+02	0.000E+00	0.000E+00	0.000E+00	-6.893E+02
39	1	9.414E+02	-1.654E+01	0.000E+00	0.000E+00	0.000E+00	-1.530E+03
		-9.414E+02	1.654E+01	0.000E+00	0.000E+00	0.000E+00	1.082E+03
39	2	2.824E+03	-4.962E+01	0.000E+00	0.000E+00	0.000E+00	-4.589E+03
		-2.824E+03	4.962E+01	0.000E+00	0.000E+00	0.000E+00	3.245E+03
39	3	5.298E+02	-7.800E+01	0.000E+00	0.000E+00	0.000E+00	-2.289E+03
		-5.298E+02	7.800E+01	0.000E+00	0.000E+00	0.000E+00	1.754E+02
39	4	1.471E+03	-9.454E+01	0.000E+00	0.000E+00	0.000E+00	-3.819E+03
		-1.471E+03	9.454E+01	0.000E+00	0.000E+00	0.000E+00	1.257E+03
39	5	4.117E+02	6.146E+01	0.000E+00	0.000E+00	0.000E+00	7.593E+02
		-4.117E+02	-6.146E+01	0.000E+00	0.000E+00	0.000E+00	9.061E+02
40	1	-2.763E+02	2.932E+01	0.000E+00	0.000E+00	0.000E+00	-4.951E+00
		2.763E+02	-2.932E+01	0.000E+00	0.000E+00	0.000E+00	7.994E+02
40	2	-8.288E+02	8.795E+01	0.000E+00	0.000E+00	0.000E+00	-1.485E+01
		8.288E+02	-8.795E+01	0.000E+00	0.000E+00	0.000E+00	2.398E+03
40	3	-2.475E+01	-2.632E+01	0.000E+00	0.000E+00	0.000E+00	-7.476E+02
		2.475E+01	2.632E+01	0.000E+00	0.000E+00	0.000E+00	3.426E+01
40	4	-3.010E+02	2.991E+00	0.000E+00	0.000E+00	0.000E+00	-7.526E+02
		3.010E+02	-2.991E+00	0.000E+00	0.000E+00	0.000E+00	8.337E+02
40	5	-2.515E+02	5.564E+01	0.000E+00	0.000E+00	0.000E+00	7.427E+02
		2.515E+02	-5.564E+01	0.000E+00	0.000E+00	0.000E+00	7.651E+02
41	1	-3.913E+01	1.160E+02	0.000E+00	0.000E+00	0.000E+00	1.590E+03
		3.913E+01	-1.160E+02	0.000E+00	0.000E+00	0.000E+00	1.554E+03
41	2	-1.174E+02	3.481E+02	0.000E+00	0.000E+00	0.000E+00	4.771E+03
		1.174E+02	-3.481E+02	0.000E+00	0.000E+00	0.000E+00	4.662E+03
41	3	7.843E+01	6.883E+00	0.000E+00	0.000E+00	0.000E+00	1.984E+02
		-7.843E+01	-6.883E+00	0.000E+00	0.000E+00	0.000E+00	-1.188E+01
41	4	3.930E+01	1.229E+02	0.000E+00	0.000E+00	0.000E+00	1.789E+03
		-3.930E+01	-1.229E+02	0.000E+00	0.000E+00	0.000E+00	1.542E+03
41	5	-1.176E+02	1.091E+02	0.000E+00	0.000E+00	0.000E+00	1.392E+03
		1.176E+02	-1.091E+02	0.000E+00	0.000E+00	0.000E+00	1.566E+03
42	1	2.124E+02	6.458E+01	0.000E+00	0.000E+00	0.000E+00	1.127E+03
		-2.124E+02	-6.458E+01	0.000E+00	0.000E+00	0.000E+00	6.233E+02
42	2	6.373E+02	1.937E+02	0.000E+00	0.000E+00	0.000E+00	3.380E+03
		-6.373E+02	-1.937E+02	0.000E+00	0.000E+00	0.000E+00	1.870E+03
42	3	8.949E+00	2.224E+01	0.000E+00	0.000E+00	0.000E+00	6.254E+02
		-8.949E+00	-2.224E+01	0.000E+00	0.000E+00	0.000E+00	-2.270E+01
42	4	2.214E+02	8.682E+01	0.000E+00	0.000E+00	0.000E+00	1.752E+03
		-2.214E+02	-8.682E+01	0.000E+00	0.000E+00	0.000E+00	6.006E+02
42	5	2.035E+02	4.234E+01	0.000E+00	0.000E+00	0.000E+00	5.013E+02
		-2.035E+02	-4.234E+01	0.000E+00	0.000E+00	0.000E+00	6.460E+02
43	1	1.441E+03	2.993E+02	0.000E+00	0.000E+00	0.000E+00	1.800E+04
		-1.441E+03	-2.993E+02	0.000E+00	0.000E+00	0.000E+00	1.063E+04
43	2	4.323E+03	8.978E+02	0.000E+00	0.000E+00	0.000E+00	5.401E+04



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		-4.323E+03	-8.978E+02	0.000E+00	0.000E+00	0.000E+00	3.188E+04
43	3	9.213E+02	5.457E+01	0.000E+00	0.000E+00	0.000E+00	1.918E+03
		-9.213E+02	-5.457E+01	0.000E+00	0.000E+00	0.000E+00	3.303E+03
43	4	2.362E+03	3.538E+02	0.000E+00	0.000E+00	0.000E+00	1.992E+04
		-2.362E+03	-3.538E+02	0.000E+00	0.000E+00	0.000E+00	1.393E+04
43	5	5.196E+02	2.447E+02	0.000E+00	0.000E+00	0.000E+00	1.609E+04
		-5.196E+02	-2.447E+02	0.000E+00	0.000E+00	0.000E+00	7.323E+03
44	1	9.414E+02	2.265E+02	0.000E+00	0.000E+00	0.000E+00	3.127E+03
		-9.414E+02	-2.265E+02	0.000E+00	0.000E+00	0.000E+00	-1.835E+03
44	2	2.824E+03	6.796E+02	0.000E+00	0.000E+00	0.000E+00	9.380E+03
		-2.824E+03	-6.796E+02	0.000E+00	0.000E+00	0.000E+00	-5.506E+03
44	3	4.318E+02	7.800E+01	0.000E+00	0.000E+00	0.000E+00	2.141E+03
		-4.318E+02	-7.800E+01	0.000E+00	0.000E+00	0.000E+00	-1.697E+03
44	4	1.373E+03	3.045E+02	0.000E+00	0.000E+00	0.000E+00	5.268E+03
		-1.373E+03	-3.045E+02	0.000E+00	0.000E+00	0.000E+00	-3.532E+03
44	5	5.097E+02	1.485E+02	0.000E+00	0.000E+00	0.000E+00	9.856E+02
		-5.097E+02	-1.485E+02	0.000E+00	0.000E+00	0.000E+00	-1.389E+02
45	1	9.414E+02	1.215E+02	0.000E+00	0.000E+00	0.000E+00	1.835E+03
		-9.414E+02	-1.215E+02	0.000E+00	0.000E+00	0.000E+00	1.082E+03
45	2	2.824E+03	3.646E+02	0.000E+00	0.000E+00	0.000E+00	5.506E+03
		-2.824E+03	-3.646E+02	0.000E+00	0.000E+00	0.000E+00	3.245E+03
45	3	4.808E+02	7.800E+01	0.000E+00	0.000E+00	0.000E+00	1.697E+03
		-4.808E+02	-7.800E+01	0.000E+00	0.000E+00	0.000E+00	1.754E+02
45	4	1.422E+03	1.995E+02	0.000E+00	0.000E+00	0.000E+00	3.532E+03
		-1.422E+03	-1.995E+02	0.000E+00	0.000E+00	0.000E+00	1.257E+03
45	5	4.607E+02	4.354E+01	0.000E+00	0.000E+00	0.000E+00	1.389E+02
		-4.607E+02	-4.354E+01	0.000E+00	0.000E+00	0.000E+00	9.061E+02
46	1	-2.763E+02	1.807E+02	0.000E+00	0.000E+00	0.000E+00	2.047E+03
		2.763E+02	-1.807E+02	0.000E+00	0.000E+00	0.000E+00	-1.017E+03
46	2	-8.288E+02	5.421E+02	0.000E+00	0.000E+00	0.000E+00	6.141E+03
		8.288E+02	-5.421E+02	0.000E+00	0.000E+00	0.000E+00	-3.051E+03
46	3	-1.227E+02	2.632E+01	0.000E+00	0.000E+00	0.000E+00	7.476E+02
		1.227E+02	-2.632E+01	0.000E+00	0.000E+00	0.000E+00	-5.975E+02
46	4	-3.990E+02	2.070E+02	0.000E+00	0.000E+00	0.000E+00	2.794E+03
		3.990E+02	-2.070E+02	0.000E+00	0.000E+00	0.000E+00	-1.615E+03
46	5	-1.535E+02	1.544E+02	0.000E+00	0.000E+00	0.000E+00	1.299E+03
		1.535E+02	-1.544E+02	0.000E+00	0.000E+00	0.000E+00	-4.195E+02
47	1	-2.763E+02	7.568E+01	0.000E+00	0.000E+00	0.000E+00	1.017E+03
		2.763E+02	-7.568E+01	0.000E+00	0.000E+00	0.000E+00	7.994E+02
47	2	-8.288E+02	2.271E+02	0.000E+00	0.000E+00	0.000E+00	3.051E+03
		8.288E+02	-2.271E+02	0.000E+00	0.000E+00	0.000E+00	2.398E+03
47	3	-7.375E+01	2.632E+01	0.000E+00	0.000E+00	0.000E+00	5.975E+02
		7.375E+01	-2.632E+01	0.000E+00	0.000E+00	0.000E+00	3.426E+01
47	4	-3.500E+02	1.020E+02	0.000E+00	0.000E+00	0.000E+00	1.615E+03
		3.500E+02	-1.020E+02	0.000E+00	0.000E+00	0.000E+00	8.337E+02
47	5	-2.025E+02	4.936E+01	0.000E+00	0.000E+00	0.000E+00	4.195E+02
		2.025E+02	-4.936E+01	0.000E+00	0.000E+00	0.000E+00	7.651E+02



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48	1	-3.913E+01	3.040E+02	0.000E+00	0.000E+00	0.000E+00	2.434E+03
		3.913E+01	-3.040E+02	0.000E+00	0.000E+00	0.000E+00	-7.011E+02
48	2	-1.174E+02	9.119E+02	0.000E+00	0.000E+00	0.000E+00	7.301E+03
		1.174E+02	-9.119E+02	0.000E+00	0.000E+00	0.000E+00	-2.103E+03
48	3	-1.196E+02	-6.883E+00	0.000E+00	0.000E+00	0.000E+00	-1.926E+02
		1.196E+02	6.883E+00	0.000E+00	0.000E+00	0.000E+00	1.533E+02
48	4	-1.587E+02	2.971E+02	0.000E+00	0.000E+00	0.000E+00	2.241E+03
		1.587E+02	-2.971E+02	0.000E+00	0.000E+00	0.000E+00	-5.478E+02
48	5	8.045E+01	3.109E+02	0.000E+00	0.000E+00	0.000E+00	2.626E+03
		-8.045E+01	-3.109E+02	0.000E+00	0.000E+00	0.000E+00	-8.545E+02
49	1	-3.913E+01	9.397E+01	0.000E+00	0.000E+00	0.000E+00	7.011E+02
		3.913E+01	-9.397E+01	0.000E+00	0.000E+00	0.000E+00	1.554E+03
49	2	-1.174E+02	2.819E+02	0.000E+00	0.000E+00	0.000E+00	2.103E+03
		1.174E+02	-2.819E+02	0.000E+00	0.000E+00	0.000E+00	4.662E+03
49	3	-2.057E+01	-6.883E+00	0.000E+00	0.000E+00	0.000E+00	-1.533E+02
		2.057E+01	6.883E+00	0.000E+00	0.000E+00	0.000E+00	-1.188E+01
49	4	-5.970E+01	8.709E+01	0.000E+00	0.000E+00	0.000E+00	5.478E+02
		5.970E+01	-8.709E+01	0.000E+00	0.000E+00	0.000E+00	1.542E+03
49	5	-1.855E+01	1.009E+02	0.000E+00	0.000E+00	0.000E+00	8.545E+02
		1.855E+01	-1.009E+02	0.000E+00	0.000E+00	0.000E+00	1.566E+03
50	1	2.124E+02	1.154E+02	0.000E+00	0.000E+00	0.000E+00	6.448E+02
		-2.124E+02	-1.154E+02	0.000E+00	0.000E+00	0.000E+00	1.311E+01
50	2	6.373E+02	3.463E+02	0.000E+00	0.000E+00	0.000E+00	1.934E+03
		-6.373E+02	-3.463E+02	0.000E+00	0.000E+00	0.000E+00	3.933E+01
50	3	-7.505E+01	-2.224E+01	0.000E+00	0.000E+00	0.000E+00	-6.379E+02
		7.505E+01	2.224E+01	0.000E+00	0.000E+00	0.000E+00	5.111E+02
50	4	1.374E+02	9.318E+01	0.000E+00	0.000E+00	0.000E+00	6.943E+00
		-1.374E+02	-9.318E+01	0.000E+00	0.000E+00	0.000E+00	5.242E+02
50	5	2.875E+02	1.377E+02	0.000E+00	0.000E+00	0.000E+00	1.283E+03
		-2.875E+02	-1.377E+02	0.000E+00	0.000E+00	0.000E+00	-4.980E+02
51	1	2.124E+02	2.542E+01	0.000E+00	0.000E+00	0.000E+00	-1.311E+01
		-2.124E+02	-2.542E+01	0.000E+00	0.000E+00	0.000E+00	6.233E+02
51	2	6.373E+02	7.627E+01	0.000E+00	0.000E+00	0.000E+00	-3.933E+01
		-6.373E+02	-7.627E+01	0.000E+00	0.000E+00	0.000E+00	1.870E+03
51	3	-3.305E+01	-2.224E+01	0.000E+00	0.000E+00	0.000E+00	-5.111E+02
		3.305E+01	2.224E+01	0.000E+00	0.000E+00	0.000E+00	-2.270E+01
51	4	1.794E+02	3.183E+00	0.000E+00	0.000E+00	0.000E+00	-5.242E+02
		-1.794E+02	-3.183E+00	0.000E+00	0.000E+00	0.000E+00	6.006E+02
51	5	2.455E+02	4.766E+01	0.000E+00	0.000E+00	0.000E+00	4.980E+02
		-2.455E+02	-4.766E+01	0.000E+00	0.000E+00	0.000E+00	6.460E+02

1**** BEAM ELEMENT STRESSES

ELEMENT NO.	CASE (MODE)	P/A	P/A+M2/S2	P/A-M2/S2	P/A+M3/S3	P/A-M3/S3	WORST SUM
1	1	1.228E+03	1.228E+03	1.228E+03	2.368E+04	-2.123E+04	2.368E+04
		1.228E+03	1.228E+03	1.228E+03	2.258E+04	-2.013E+04	2.258E+04



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1	2	3.684E+03	3.684E+03	3.684E+03	7.105E+04	-6.368E+04	7.105E+04
		3.684E+03	3.684E+03	3.684E+03	6.775E+04	-6.039E+04	6.775E+04
1	3	-1.990E+02	-1.990E+02	-1.990E+02	-1.961E+03	1.563E+03	-1.961E+03
		-1.990E+02	-1.990E+02	-1.990E+02	-1.699E+03	1.301E+03	-1.699E+03
1	4	1.029E+03	1.029E+03	1.029E+03	2.172E+04	-1.966E+04	2.172E+04
		1.029E+03	1.029E+03	1.029E+03	2.089E+04	-1.883E+04	2.089E+04
1	5	1.427E+03	1.427E+03	1.427E+03	2.564E+04	-2.279E+04	2.564E+04
		1.427E+03	1.427E+03	1.427E+03	2.428E+04	-2.143E+04	2.428E+04
2	1	1.228E+03	1.228E+03	1.228E+03	2.258E+04	-2.013E+04	2.258E+04
		1.228E+03	1.228E+03	1.228E+03	1.161E+04	-9.155E+03	1.161E+04
2	2	3.684E+03	3.684E+03	3.684E+03	6.775E+04	-6.039E+04	6.775E+04
		3.684E+03	3.684E+03	3.684E+03	3.483E+04	-2.746E+04	3.483E+04
2	3	-2.402E+02	-2.402E+02	-2.402E+02	-1.740E+03	1.259E+03	-1.740E+03
		-2.402E+02	-2.402E+02	-2.402E+02	-6.436E+02	1.632E+02	-6.436E+02
2	4	9.877E+02	9.877E+02	9.877E+02	2.085E+04	-1.887E+04	2.085E+04
		9.877E+02	9.877E+02	9.877E+02	1.097E+04	-8.991E+03	1.097E+04
2	5	1.468E+03	1.468E+03	1.468E+03	2.432E+04	-2.139E+04	2.432E+04
		1.468E+03	1.468E+03	1.468E+03	1.225E+04	-9.318E+03	1.225E+04
3	1	1.228E+03	1.228E+03	1.228E+03	1.161E+04	-9.155E+03	1.161E+04
		1.228E+03	1.228E+03	1.228E+03	-7.389E+03	9.844E+03	9.844E+03
3	2	3.684E+03	3.684E+03	3.684E+03	3.483E+04	-2.746E+04	3.483E+04
		3.684E+03	3.684E+03	3.684E+03	-2.217E+04	2.953E+04	2.953E+04
3	3	-2.813E+02	-2.813E+02	-2.813E+02	-6.847E+02	1.221E+02	-6.847E+02
		-2.813E+02	-2.813E+02	-2.813E+02	5.142E+02	-1.077E+03	-1.077E+03
3	4	9.465E+02	9.465E+02	9.465E+02	1.093E+04	-9.033E+03	1.093E+04
		9.465E+02	9.465E+02	9.465E+02	-6.874E+03	8.767E+03	8.767E+03
3	5	1.509E+03	1.509E+03	1.509E+03	1.230E+04	-9.277E+03	1.230E+04
		1.509E+03	1.509E+03	1.509E+03	-7.903E+03	1.092E+04	1.092E+04
4	1	1.228E+03	1.228E+03	1.228E+03	-7.389E+03	9.844E+03	9.844E+03
		1.228E+03	1.228E+03	1.228E+03	-2.750E+04	2.996E+04	2.996E+04
4	2	3.684E+03	3.684E+03	3.684E+03	-2.217E+04	2.953E+04	2.953E+04
		3.684E+03	3.684E+03	3.684E+03	-8.250E+04	8.987E+04	8.987E+04
4	3	-2.990E+02	-2.990E+02	-2.990E+02	4.965E+02	-1.095E+03	-1.095E+03
		-2.990E+02	-2.990E+02	-2.990E+02	1.593E+03	-2.191E+03	-2.191E+03
4	4	9.289E+02	9.289E+02	9.289E+02	-6.892E+03	8.750E+03	8.750E+03
		9.289E+02	9.289E+02	9.289E+02	-2.591E+04	2.777E+04	2.777E+04
4	5	1.527E+03	1.527E+03	1.527E+03	-7.885E+03	1.094E+04	1.094E+04
		1.527E+03	1.527E+03	1.527E+03	-2.909E+04	3.215E+04	3.215E+04
5	1	1.228E+03	1.228E+03	1.228E+03	-2.750E+04	2.996E+04	2.996E+04
		1.228E+03	1.228E+03	1.228E+03	-3.298E+04	3.543E+04	3.543E+04
5	2	3.684E+03	3.684E+03	3.684E+03	-8.250E+04	8.987E+04	8.987E+04
		3.684E+03	3.684E+03	3.684E+03	-9.893E+04	1.063E+05	1.063E+05
5	3	-3.166E+02	-3.166E+02	-3.166E+02	1.575E+03	-2.208E+03	-2.208E+03
		-3.166E+02	-3.166E+02	-3.166E+02	1.838E+03	-2.471E+03	-2.471E+03
5	4	9.112E+02	9.112E+02	9.112E+02	-2.593E+04	2.775E+04	2.775E+04
		9.112E+02	9.112E+02	9.112E+02	-3.114E+04	3.296E+04	3.296E+04
5	5	1.544E+03	1.544E+03	1.544E+03	-2.908E+04	3.216E+04	3.216E+04
		1.544E+03	1.544E+03	1.544E+03	-3.481E+04	3.790E+04	3.790E+04



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6	1	-1.019E+03	-1.019E+03	-1.019E+03	1.928E+04	-2.132E+04	-2.132E+04
		-1.019E+03	-1.019E+03	-1.019E+03	1.860E+04	-2.064E+04	-2.064E+04
6	2	-3.056E+03	-3.056E+03	-3.056E+03	5.784E+04	-6.395E+04	-6.395E+04
		-3.056E+03	-3.056E+03	-3.056E+03	5.581E+04	-6.192E+04	-6.192E+04
6	3	1.850E+02	1.850E+02	1.850E+02	-7.808E+02	1.151E+03	1.151E+03
		1.850E+02	1.850E+02	1.850E+02	-6.532E+02	1.023E+03	1.023E+03
6	4	-8.336E+02	-8.336E+02	-8.336E+02	1.850E+04	-2.017E+04	-2.017E+04
		-8.336E+02	-8.336E+02	-8.336E+02	1.795E+04	-1.962E+04	-1.962E+04
6	5	-1.204E+03	-1.204E+03	-1.204E+03	2.006E+04	-2.247E+04	-2.247E+04
		-1.204E+03	-1.204E+03	-1.204E+03	1.926E+04	-2.166E+04	-2.166E+04
7	1	-1.019E+03	-1.019E+03	-1.019E+03	1.860E+04	-2.064E+04	-2.064E+04
		-1.019E+03	-1.019E+03	-1.019E+03	9.384E+03	-1.142E+04	-1.142E+04
7	2	-3.056E+03	-3.056E+03	-3.056E+03	5.581E+04	-6.192E+04	-6.192E+04
		-3.056E+03	-3.056E+03	-3.056E+03	2.815E+04	-3.426E+04	-3.426E+04
7	3	1.438E+02	1.438E+02	1.438E+02	-6.944E+02	9.821E+02	9.821E+02
		1.438E+02	1.438E+02	1.438E+02	-1.618E+02	4.495E+02	4.495E+02
7	4	-8.747E+02	-8.747E+02	-8.747E+02	1.791E+04	-1.966E+04	-1.966E+04
		-8.747E+02	-8.747E+02	-8.747E+02	9.222E+03	-1.097E+04	-1.097E+04
7	5	-1.162E+03	-1.162E+03	-1.162E+03	1.930E+04	-2.162E+04	-2.162E+04
		-1.162E+03	-1.162E+03	-1.162E+03	9.546E+03	-1.187E+04	-1.187E+04
8	1	-1.019E+03	-1.019E+03	-1.019E+03	9.384E+03	-1.142E+04	-1.142E+04
		-1.019E+03	-1.019E+03	-1.019E+03	-7.695E+03	5.658E+03	-7.695E+03
8	2	-3.056E+03	-3.056E+03	-3.056E+03	2.815E+04	-3.426E+04	-3.426E+04
		-3.056E+03	-3.056E+03	-3.056E+03	-2.309E+04	1.697E+04	-2.309E+04
8	3	1.027E+02	1.027E+02	1.027E+02	-2.030E+02	4.083E+02	4.083E+02
		1.027E+02	1.027E+02	1.027E+02	3.795E+02	-1.742E+02	3.795E+02
8	4	-9.159E+02	-9.159E+02	-9.159E+02	9.181E+03	-1.101E+04	-1.101E+04
		-9.159E+02	-9.159E+02	-9.159E+02	-7.316E+03	5.484E+03	-7.316E+03
8	5	-1.121E+03	-1.121E+03	-1.121E+03	9.587E+03	-1.183E+04	-1.183E+04
		-1.121E+03	-1.121E+03	-1.121E+03	-8.075E+03	5.832E+03	-8.075E+03
9	1	-1.019E+03	-1.019E+03	-1.019E+03	-7.695E+03	5.658E+03	-7.695E+03
		-1.019E+03	-1.019E+03	-1.019E+03	-2.459E+04	2.255E+04	-2.459E+04
9	2	-3.056E+03	-3.056E+03	-3.056E+03	-2.309E+04	1.697E+04	-2.309E+04
		-3.056E+03	-3.056E+03	-3.056E+03	-7.377E+04	6.766E+04	-7.377E+04
9	3	9.426E+01	9.426E+01	9.426E+01	3.711E+02	-1.826E+02	3.711E+02
		9.426E+01	9.426E+01	9.426E+01	9.037E+02	-7.152E+02	9.037E+02
9	4	-9.243E+02	-9.243E+02	-9.243E+02	-7.324E+03	5.475E+03	-7.324E+03
		-9.243E+02	-9.243E+02	-9.243E+02	-2.369E+04	2.184E+04	-2.369E+04
9	5	-1.113E+03	-1.113E+03	-1.113E+03	-8.066E+03	5.841E+03	-8.066E+03
		-1.113E+03	-1.113E+03	-1.113E+03	-2.549E+04	2.327E+04	-2.549E+04
10	1	-1.019E+03	-1.019E+03	-1.019E+03	-2.459E+04	2.255E+04	-2.459E+04
		-1.019E+03	-1.019E+03	-1.019E+03	-2.894E+04	2.691E+04	-2.894E+04
10	2	-3.056E+03	-3.056E+03	-3.056E+03	-7.377E+04	6.766E+04	-7.377E+04
		-3.056E+03	-3.056E+03	-3.056E+03	-8.683E+04	8.072E+04	-8.683E+04
10	3	8.585E+01	8.585E+01	8.585E+01	8.953E+02	-7.236E+02	8.953E+02
		8.585E+01	8.585E+01	8.585E+01	1.023E+03	-8.512E+02	1.023E+03
10	4	-9.327E+02	-9.327E+02	-9.327E+02	-2.369E+04	2.183E+04	-2.369E+04



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		-9.327E+02	-9.327E+02	-9.327E+02	-2.792E+04	2.606E+04	-2.792E+04
10	5	-1.104E+03	-1.104E+03	-1.104E+03	-2.548E+04	2.328E+04	-2.548E+04
		-1.104E+03	-1.104E+03	-1.104E+03	-2.997E+04	2.776E+04	-2.997E+04
11	1	6.932E+02	6.932E+02	6.932E+02	1.900E+04	-1.761E+04	1.900E+04
		6.932E+02	6.932E+02	6.932E+02	1.865E+04	-1.727E+04	1.865E+04
11	2	2.080E+03	2.080E+03	2.080E+03	5.699E+04	-5.283E+04	5.699E+04
		2.080E+03	2.080E+03	2.080E+03	5.596E+04	-5.180E+04	5.596E+04
11	3	1.180E+02	1.180E+02	1.180E+02	8.567E+01	1.504E+02	1.504E+02
		1.180E+02	1.180E+02	1.180E+02	9.056E+01	1.455E+02	1.455E+02
11	4	8.112E+02	8.112E+02	8.112E+02	1.908E+04	-1.746E+04	1.908E+04
		8.112E+02	8.112E+02	8.112E+02	1.874E+04	-1.712E+04	1.874E+04
11	5	5.752E+02	5.752E+02	5.752E+02	1.891E+04	-1.776E+04	1.891E+04
		5.752E+02	5.752E+02	5.752E+02	1.856E+04	-1.741E+04	1.856E+04
12	1	6.932E+02	6.932E+02	6.932E+02	1.865E+04	-1.727E+04	1.865E+04
		6.932E+02	6.932E+02	6.932E+02	1.082E+04	-9.434E+03	1.082E+04
12	2	2.080E+03	2.080E+03	2.080E+03	5.596E+04	-5.180E+04	5.596E+04
		2.080E+03	2.080E+03	2.080E+03	3.246E+04	-2.830E+04	3.246E+04
12	3	7.687E+01	7.687E+01	7.687E+01	4.938E+01	1.044E+02	1.044E+02
		7.687E+01	7.687E+01	7.687E+01	6.981E+01	8.392E+01	8.392E+01
12	4	7.701E+02	7.701E+02	7.701E+02	1.870E+04	-1.716E+04	1.870E+04
		7.701E+02	7.701E+02	7.701E+02	1.089E+04	-9.350E+03	1.089E+04
12	5	6.163E+02	6.163E+02	6.163E+02	1.860E+04	-1.737E+04	1.860E+04
		6.163E+02	6.163E+02	6.163E+02	1.075E+04	-9.518E+03	1.075E+04
13	1	6.932E+02	6.932E+02	6.932E+02	1.082E+04	-9.434E+03	1.082E+04
		6.932E+02	6.932E+02	6.932E+02	-4.742E+03	6.128E+03	6.128E+03
13	2	2.080E+03	2.080E+03	2.080E+03	3.246E+04	-2.830E+04	3.246E+04
		2.080E+03	2.080E+03	2.080E+03	-1.423E+04	1.839E+04	1.839E+04
13	3	3.569E+01	3.569E+01	3.569E+01	2.864E+01	4.275E+01	4.275E+01
		3.569E+01	3.569E+01	3.569E+01	5.098E+01	2.040E+01	5.098E+01
13	4	7.289E+02	7.289E+02	7.289E+02	1.085E+04	-9.391E+03	1.085E+04
		7.289E+02	7.289E+02	7.289E+02	-4.691E+03	6.149E+03	6.149E+03
13	5	6.575E+02	6.575E+02	6.575E+02	1.079E+04	-9.477E+03	1.079E+04
		6.575E+02	6.575E+02	6.575E+02	-4.793E+03	6.108E+03	6.108E+03
14	1	6.932E+02	6.932E+02	6.932E+02	-4.742E+03	6.128E+03	6.128E+03
		6.932E+02	6.932E+02	6.932E+02	-2.110E+04	2.249E+04	2.249E+04
14	2	2.080E+03	2.080E+03	2.080E+03	-1.423E+04	1.839E+04	1.839E+04
		2.080E+03	2.080E+03	2.080E+03	-6.331E+04	6.747E+04	6.747E+04
14	3	2.225E+01	2.225E+01	2.225E+01	3.754E+01	6.954E+00	3.754E+01
		2.225E+01	2.225E+01	2.225E+01	5.797E+01	-1.348E+01	5.797E+01
14	4	7.155E+02	7.155E+02	7.155E+02	-4.705E+03	6.135E+03	6.135E+03
		7.155E+02	7.155E+02	7.155E+02	-2.104E+04	2.248E+04	2.248E+04
14	5	6.710E+02	6.710E+02	6.710E+02	-4.780E+03	6.122E+03	6.122E+03
		6.710E+02	6.710E+02	6.710E+02	-2.116E+04	2.250E+04	2.250E+04
15	1	6.932E+02	6.932E+02	6.932E+02	-2.110E+04	2.249E+04	2.249E+04
		6.932E+02	6.932E+02	6.932E+02	-2.553E+04	2.692E+04	2.692E+04
15	2	2.080E+03	2.080E+03	2.080E+03	-6.331E+04	6.747E+04	6.747E+04
		2.080E+03	2.080E+03	2.080E+03	-7.660E+04	8.076E+04	8.076E+04



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15	3	8.801E+00	8.801E+00	8.801E+00	4.452E+01	-2.692E+01	4.452E+01
		8.801E+00	8.801E+00	8.801E+00	4.942E+01	-3.182E+01	4.942E+01
15	4	7.020E+02	7.020E+02	7.020E+02	-2.106E+04	2.246E+04	2.246E+04
		7.020E+02	7.020E+02	7.020E+02	-2.548E+04	2.689E+04	2.689E+04
15	5	6.844E+02	6.844E+02	6.844E+02	-2.115E+04	2.252E+04	2.252E+04
		6.844E+02	6.844E+02	6.844E+02	-2.558E+04	2.695E+04	2.695E+04
16	1	-4.330E+02	-4.330E+02	-4.330E+02	1.891E+04	-1.977E+04	-1.977E+04
		-4.330E+02	-4.330E+02	-4.330E+02	1.963E+04	-2.050E+04	-2.050E+04
16	2	-1.299E+03	-1.299E+03	-1.299E+03	5.672E+04	-5.932E+04	-5.932E+04
		-1.299E+03	-1.299E+03	-1.299E+03	5.890E+04	-6.149E+04	-6.149E+04
16	3	-4.993E+01	-4.993E+01	-4.993E+01	8.357E+02	-9.356E+02	-9.356E+02
		-4.993E+01	-4.993E+01	-4.993E+01	7.003E+02	-8.002E+02	-8.002E+02
16	4	-4.830E+02	-4.830E+02	-4.830E+02	1.974E+04	-2.071E+04	-2.071E+04
		-4.830E+02	-4.830E+02	-4.830E+02	2.033E+04	-2.130E+04	-2.130E+04
16	5	-3.831E+02	-3.831E+02	-3.831E+02	1.807E+04	-1.884E+04	-1.884E+04
		-3.831E+02	-3.831E+02	-3.831E+02	1.893E+04	-1.970E+04	-1.970E+04
17	1	-4.330E+02	-4.330E+02	-4.330E+02	1.963E+04	-2.050E+04	-2.050E+04
		-4.330E+02	-4.330E+02	-4.330E+02	1.964E+04	-2.051E+04	-2.051E+04
17	2	-1.299E+03	-1.299E+03	-1.299E+03	5.890E+04	-6.149E+04	-6.149E+04
		-1.299E+03	-1.299E+03	-1.299E+03	5.892E+04	-6.152E+04	-6.152E+04
17	3	-7.534E+01	-7.534E+01	-7.534E+01	6.749E+02	-8.256E+02	-8.256E+02
		-7.534E+01	-7.534E+01	-7.534E+01	6.514E+02	-8.020E+02	-8.020E+02
17	4	-5.084E+02	-5.084E+02	-5.084E+02	2.031E+04	-2.132E+04	-2.132E+04
		-5.084E+02	-5.084E+02	-5.084E+02	2.029E+04	-2.131E+04	-2.131E+04
17	5	-3.577E+02	-3.577E+02	-3.577E+02	1.896E+04	-1.967E+04	-1.967E+04
		-3.577E+02	-3.577E+02	-3.577E+02	1.899E+04	-1.971E+04	-1.971E+04
18	1	-4.330E+02	-4.330E+02	-4.330E+02	1.964E+04	-2.051E+04	-2.051E+04
		-4.330E+02	-4.330E+02	-4.330E+02	7.064E+03	-7.930E+03	-7.930E+03
18	2	-1.299E+03	-1.299E+03	-1.299E+03	5.892E+04	-6.152E+04	-6.152E+04
		-1.299E+03	-1.299E+03	-1.299E+03	2.119E+04	-2.379E+04	-2.379E+04
18	3	-7.534E+01	-7.534E+01	-7.534E+01	6.514E+02	-8.020E+02	-8.020E+02
		-7.534E+01	-7.534E+01	-7.534E+01	1.099E+02	-2.606E+02	-2.606E+02
18	4	-5.084E+02	-5.084E+02	-5.084E+02	2.029E+04	-2.131E+04	-2.131E+04
		-5.084E+02	-5.084E+02	-5.084E+02	7.173E+03	-8.190E+03	-8.190E+03
18	5	-3.577E+02	-3.577E+02	-3.577E+02	1.899E+04	-1.971E+04	-1.971E+04
		-3.577E+02	-3.577E+02	-3.577E+02	6.954E+03	-7.669E+03	-7.669E+03
19	1	-4.330E+02	-4.330E+02	-4.330E+02	7.064E+03	-7.930E+03	-7.930E+03
		-4.330E+02	-4.330E+02	-4.330E+02	-3.009E+04	2.922E+04	-3.009E+04
19	2	-1.299E+03	-1.299E+03	-1.299E+03	2.119E+04	-2.379E+04	-2.379E+04
		-1.299E+03	-1.299E+03	-1.299E+03	-9.026E+04	8.766E+04	-9.026E+04
19	3	-1.007E+02	-1.007E+02	-1.007E+02	8.448E+01	-2.860E+02	-2.860E+02
		-1.007E+02	-1.007E+02	-1.007E+02	-1.234E+03	1.032E+03	-1.234E+03
19	4	-5.338E+02	-5.338E+02	-5.338E+02	7.148E+03	-8.216E+03	-8.216E+03
		-5.338E+02	-5.338E+02	-5.338E+02	-3.132E+04	3.025E+04	-3.132E+04
19	5	-3.323E+02	-3.323E+02	-3.323E+02	6.979E+03	-7.644E+03	-7.644E+03
		-3.323E+02	-3.323E+02	-3.323E+02	-2.885E+04	2.819E+04	-2.885E+04
20	1	4.274E+01	4.274E+01	4.274E+01	-1.600E+04	1.608E+04	1.608E+04



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		4.274E+01	4.274E+01	4.274E+01	6.547E+03	-6.462E+03	6.547E+03
20	2	1.282E+02	1.282E+02	1.282E+02	-4.799E+04	4.824E+04	4.824E+04
		1.282E+02	1.282E+02	1.282E+02	1.964E+04	-1.939E+04	1.964E+04
20	3	1.967E+02	1.967E+02	1.967E+02	1.951E+02	1.982E+02	1.982E+02
		1.967E+02	1.967E+02	1.967E+02	-3.719E+02	7.652E+02	7.652E+02
20	4	2.394E+02	2.394E+02	2.394E+02	-1.580E+04	1.628E+04	1.628E+04
		2.394E+02	2.394E+02	2.394E+02	6.176E+03	-5.697E+03	6.176E+03
20	5	-1.539E+02	-1.539E+02	-1.539E+02	-1.619E+04	1.588E+04	-1.619E+04
		-1.539E+02	-1.539E+02	-1.539E+02	6.919E+03	-7.227E+03	-7.227E+03
21	1	1.493E+02	1.493E+02	1.493E+02	3.168E+03	-2.870E+03	3.168E+03
		1.493E+02	1.493E+02	1.493E+02	-2.007E+03	2.306E+03	2.306E+03
21	2	4.479E+02	4.479E+02	4.479E+02	9.505E+03	-8.609E+03	9.505E+03
		4.479E+02	4.479E+02	4.479E+02	-6.022E+03	6.918E+03	6.918E+03
21	3	8.489E+01	8.489E+01	8.489E+01	1.608E+03	-1.438E+03	1.608E+03
		8.489E+01	8.489E+01	8.489E+01	-1.472E+03	1.642E+03	1.642E+03
21	4	2.342E+02	2.342E+02	2.342E+02	4.776E+03	-4.307E+03	4.776E+03
		2.342E+02	2.342E+02	2.342E+02	-3.480E+03	3.948E+03	3.948E+03
21	5	6.440E+01	6.440E+01	6.440E+01	1.561E+03	-1.432E+03	1.561E+03
		6.440E+01	6.440E+01	6.440E+01	-5.350E+02	6.638E+02	6.638E+02
22	1	3.031E+01	3.031E+01	3.031E+01	-7.663E+03	7.723E+03	7.723E+03
		3.031E+01	3.031E+01	3.031E+01	7.584E+03	-7.523E+03	7.584E+03
22	2	9.093E+01	9.093E+01	9.093E+01	-2.299E+04	2.317E+04	2.317E+04
		9.093E+01	9.093E+01	9.093E+01	2.275E+04	-2.257E+04	2.275E+04
22	3	-7.256E+00	-7.256E+00	-7.256E+00	5.965E+02	-6.110E+02	-6.110E+02
		-7.256E+00	-7.256E+00	-7.256E+00	-1.874E+03	1.860E+03	-1.874E+03
22	4	2.305E+01	2.305E+01	2.305E+01	-7.066E+03	7.112E+03	7.112E+03
		2.305E+01	2.305E+01	2.305E+01	5.710E+03	-5.663E+03	5.710E+03
22	5	3.756E+01	3.756E+01	3.756E+01	-8.259E+03	8.334E+03	8.334E+03
		3.756E+01	3.756E+01	3.756E+01	9.458E+03	-9.383E+03	9.458E+03
23	1	4.900E+01	4.900E+01	4.900E+01	6.484E+02	-5.504E+02	6.484E+02
		4.900E+01	4.900E+01	4.900E+01	3.247E+03	-3.149E+03	3.247E+03
23	2	1.470E+02	1.470E+02	1.470E+02	1.945E+03	-1.651E+03	1.945E+03
		1.470E+02	1.470E+02	1.470E+02	9.741E+03	-9.447E+03	9.741E+03
23	3	-1.078E+01	-1.078E+01	-1.078E+01	-1.547E+03	1.526E+03	-1.547E+03
		-1.078E+01	-1.078E+01	-1.078E+01	-1.721E+03	1.699E+03	-1.721E+03
23	4	3.822E+01	3.822E+01	3.822E+01	-8.987E+02	9.751E+02	9.751E+02
		3.822E+01	3.822E+01	3.822E+01	1.526E+03	-1.450E+03	1.526E+03
23	5	5.978E+01	5.978E+01	5.978E+01	2.196E+03	-2.076E+03	2.196E+03
		5.978E+01	5.978E+01	5.978E+01	4.968E+03	-4.848E+03	4.968E+03
24	1	5.851E+01	5.851E+01	5.851E+01	-3.015E+03	3.132E+03	3.132E+03
		5.851E+01	5.851E+01	5.851E+01	1.940E+04	-1.928E+04	1.940E+04
24	2	1.755E+02	1.755E+02	1.755E+02	-9.044E+03	9.395E+03	9.395E+03
		1.755E+02	1.755E+02	1.755E+02	5.819E+04	-5.784E+04	5.819E+04
24	3	-1.092E+01	-1.092E+01	-1.092E+01	-1.710E+03	1.688E+03	-1.710E+03
		-1.092E+01	-1.092E+01	-1.092E+01	8.747E+02	-8.965E+02	-8.965E+02
24	4	4.759E+01	4.759E+01	4.759E+01	-4.724E+03	4.820E+03	4.820E+03
		4.759E+01	4.759E+01	4.759E+01	2.027E+04	-2.018E+04	2.027E+04
24	5	6.943E+01	6.943E+01	6.943E+01	-1.305E+03	1.444E+03	1.444E+03



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		6.943E+01	6.943E+01	6.943E+01	1.852E+04	-1.838E+04	1.852E+04
25	1	1.224E+03	1.224E+03	1.224E+03	2.228E+04	-1.984E+04	2.228E+04
		1.224E+03	1.224E+03	1.224E+03	-2.594E+04	2.838E+04	2.838E+04
25	2	3.672E+03	3.672E+03	3.672E+03	6.685E+04	-5.951E+04	6.685E+04
		3.672E+03	3.672E+03	3.672E+03	-7.781E+04	8.515E+04	8.515E+04
25	3	2.023E+02	2.023E+02	2.023E+02	-6.877E+03	7.282E+03	7.282E+03
		2.023E+02	2.023E+02	2.023E+02	4.430E+03	-4.025E+03	4.430E+03
25	4	1.426E+03	1.426E+03	1.426E+03	1.541E+04	-1.255E+04	1.541E+04
		1.426E+03	1.426E+03	1.426E+03	-2.151E+04	2.436E+04	2.436E+04
25	5	1.022E+03	1.022E+03	1.022E+03	2.916E+04	-2.712E+04	2.916E+04
		1.022E+03	1.022E+03	1.022E+03	-3.037E+04	3.241E+04	3.241E+04
26	1	1.073E+03	1.073E+03	1.073E+03	-1.437E+04	1.651E+04	1.651E+04
		1.073E+03	1.073E+03	1.073E+03	-9.454E+03	1.160E+04	1.160E+04
26	2	3.218E+03	3.218E+03	3.218E+03	-4.310E+04	4.954E+04	4.954E+04
		3.218E+03	3.218E+03	3.218E+03	-2.836E+04	3.480E+04	3.480E+04
26	3	2.095E+02	2.095E+02	2.095E+02	3.699E+03	-3.280E+03	3.699E+03
		2.095E+02	2.095E+02	2.095E+02	2.190E+03	-1.771E+03	2.190E+03
26	4	1.282E+03	1.282E+03	1.282E+03	-1.067E+04	1.323E+04	1.323E+04
		1.282E+03	1.282E+03	1.282E+03	-7.264E+03	9.828E+03	9.828E+03
26	5	8.631E+02	8.631E+02	8.631E+02	-1.807E+04	1.979E+04	1.979E+04
		8.631E+02	8.631E+02	8.631E+02	-1.164E+04	1.337E+04	1.337E+04
27	1	9.523E+02	9.523E+02	9.523E+02	-6.999E+00	1.912E+03	1.912E+03
		9.523E+02	9.523E+02	9.523E+02	-7.741E+03	9.645E+03	9.645E+03
27	2	2.857E+03	2.857E+03	2.857E+03	-2.100E+01	5.735E+03	5.735E+03
		2.857E+03	2.857E+03	2.857E+03	-2.322E+04	2.894E+04	2.894E+04
27	3	2.130E+02	2.130E+02	2.130E+02	1.873E+03	-1.447E+03	1.873E+03
		2.130E+02	2.130E+02	2.130E+02	1.430E+03	-1.004E+03	1.430E+03
27	4	1.165E+03	1.165E+03	1.165E+03	1.866E+03	4.649E+02	1.866E+03
		1.165E+03	1.165E+03	1.165E+03	-6.311E+03	8.642E+03	8.642E+03
27	5	7.392E+02	7.392E+02	7.392E+02	-1.880E+03	3.358E+03	3.358E+03
		7.392E+02	7.392E+02	7.392E+02	-9.171E+03	1.065E+04	1.065E+04
28	1	8.298E+02	8.298E+02	8.298E+02	1.122E+03	5.376E+02	1.122E+03
		8.298E+02	8.298E+02	8.298E+02	2.870E+03	-1.210E+03	2.870E+03
28	2	2.490E+03	2.490E+03	2.490E+03	3.366E+03	1.613E+03	3.366E+03
		2.490E+03	2.490E+03	2.490E+03	8.610E+03	-3.631E+03	8.610E+03
28	3	2.132E+02	2.132E+02	2.132E+02	1.416E+03	-9.898E+02	1.416E+03
		2.132E+02	2.132E+02	2.132E+02	7.491E+02	-3.227E+02	7.491E+02
28	4	1.043E+03	1.043E+03	1.043E+03	2.538E+03	-4.522E+02	2.538E+03
		1.043E+03	1.043E+03	1.043E+03	3.619E+03	-1.533E+03	3.619E+03
28	5	6.167E+02	6.167E+02	6.167E+02	-2.940E+02	1.527E+03	1.527E+03
		6.167E+02	6.167E+02	6.167E+02	2.121E+03	-8.875E+02	2.121E+03
29	1	-2.312E+02	-2.312E+02	-2.312E+02	-1.383E+04	1.336E+04	-1.383E+04
		-2.312E+02	-2.312E+02	-2.312E+02	1.159E+04	-1.205E+04	-1.205E+04
29	2	-6.935E+02	-6.935E+02	-6.935E+02	-4.148E+04	4.009E+04	-4.148E+04
		-6.935E+02	-6.935E+02	-6.935E+02	3.477E+04	-3.616E+04	-3.616E+04
29	3	-1.971E+02	-1.971E+02	-1.971E+02	-1.059E+04	1.019E+04	-1.059E+04
		-1.971E+02	-1.971E+02	-1.971E+02	7.818E+03	-8.212E+03	-8.212E+03



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29	4	-4.282E+02	-4.282E+02	-4.282E+02	-2.441E+04	2.356E+04	-2.441E+04
		-4.282E+02	-4.282E+02	-4.282E+02	1.941E+04	-2.027E+04	-2.027E+04
29	5	-3.409E+01	-3.409E+01	-3.409E+01	-3.240E+03	3.172E+03	-3.240E+03
		-3.409E+01	-3.409E+01	-3.409E+01	3.774E+03	-3.842E+03	-3.842E+03
30	1	7.339E+01	7.339E+01	7.339E+01	-6.258E+01	2.094E+02	2.094E+02
		7.339E+01	7.339E+01	7.339E+01	3.769E+03	-3.622E+03	3.769E+03
30	2	2.202E+02	2.202E+02	2.202E+02	-1.878E+02	6.281E+02	6.281E+02
		2.202E+02	2.202E+02	2.202E+02	1.131E+04	-1.087E+04	1.131E+04
30	3	-2.310E+01	-2.310E+01	-2.310E+01	3.258E+03	-3.304E+03	-3.304E+03
		-2.310E+01	-2.310E+01	-2.310E+01	3.677E+03	-3.723E+03	-3.723E+03
30	4	5.029E+01	5.029E+01	5.029E+01	3.195E+03	-3.095E+03	3.195E+03
		5.029E+01	5.029E+01	5.029E+01	7.446E+03	-7.346E+03	7.446E+03
30	5	9.649E+01	9.649E+01	9.649E+01	-3.320E+03	3.513E+03	3.513E+03
		9.649E+01	9.649E+01	9.649E+01	9.201E+01	1.010E+02	1.010E+02
31	1	5.346E-01	5.346E-01	5.346E-01	1.916E+03	-1.915E+03	1.916E+03
		5.346E-01	5.346E-01	5.346E-01	2.865E+03	-2.864E+03	2.865E+03
31	2	1.604E+00	1.604E+00	1.604E+00	5.749E+03	-5.746E+03	5.749E+03
		1.604E+00	1.604E+00	1.604E+00	8.596E+03	-8.593E+03	8.596E+03
31	3	-3.371E+01	-3.371E+01	-3.371E+01	3.016E+03	-3.084E+03	-3.084E+03
		-3.371E+01	-3.371E+01	-3.371E+01	2.155E+03	-2.222E+03	-2.222E+03
31	4	-3.318E+01	-3.318E+01	-3.318E+01	4.933E+03	-4.999E+03	-4.999E+03
		-3.318E+01	-3.318E+01	-3.318E+01	5.020E+03	-5.086E+03	-5.086E+03
31	5	3.425E+01	3.425E+01	3.425E+01	-1.100E+03	1.169E+03	1.169E+03
		3.425E+01	3.425E+01	3.425E+01	7.105E+02	-6.420E+02	7.105E+02
32	1	-1.220E+02	-1.220E+02	-1.220E+02	6.264E+02	-8.704E+02	-8.704E+02
		-1.220E+02	-1.220E+02	-1.220E+02	1.167E+03	-1.411E+03	-1.411E+03
32	2	-3.661E+02	-3.661E+02	-3.661E+02	1.879E+03	-2.611E+03	-2.611E+03
		-3.661E+02	-3.661E+02	-3.661E+02	3.501E+03	-4.234E+03	-4.234E+03
32	3	-3.094E+01	-3.094E+01	-3.094E+01	2.325E+03	-2.387E+03	-2.387E+03
		-3.094E+01	-3.094E+01	-3.094E+01	2.156E+02	-2.774E+02	-2.774E+02
32	4	-1.530E+02	-1.530E+02	-1.530E+02	2.951E+03	-3.257E+03	-3.257E+03
		-1.530E+02	-1.530E+02	-1.530E+02	1.383E+03	-1.689E+03	-1.689E+03
32	5	-9.110E+01	-9.110E+01	-9.110E+01	-1.699E+03	1.516E+03	-1.699E+03
		-9.110E+01	-9.110E+01	-9.110E+01	9.515E+02	-1.134E+03	-1.134E+03
33	1	-1.686E+02	-1.686E+02	-1.686E+02	5.599E+02	-8.970E+02	-8.970E+02
		-1.686E+02	-1.686E+02	-1.686E+02	3.317E+03	-3.654E+03	-3.654E+03
33	2	-5.057E+02	-5.057E+02	-5.057E+02	1.680E+03	-2.691E+03	-2.691E+03
		-5.057E+02	-5.057E+02	-5.057E+02	9.952E+03	-1.096E+04	-1.096E+04
33	3	-2.197E+01	-2.197E+01	-2.197E+01	7.792E+02	-8.231E+02	-8.231E+02
		-2.197E+01	-2.197E+01	-2.197E+01	-2.113E+03	2.069E+03	-2.113E+03
33	4	-1.905E+02	-1.905E+02	-1.905E+02	1.339E+03	-1.720E+03	-1.720E+03
		-1.905E+02	-1.905E+02	-1.905E+02	1.204E+03	-1.585E+03	-1.585E+03
33	5	-1.466E+02	-1.466E+02	-1.466E+02	-2.193E+02	-7.388E+01	-2.193E+02
		-1.466E+02	-1.466E+02	-1.466E+02	5.431E+03	-5.724E+03	-5.724E+03
34	1	1.202E+02	1.202E+02	1.202E+02	-1.263E+04	1.287E+04	1.287E+04
		1.202E+02	1.202E+02	1.202E+02	9.439E+03	-9.198E+03	9.439E+03
34	2	3.607E+02	3.607E+02	3.607E+02	-3.788E+04	3.861E+04	3.861E+04



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		3.607E+02	3.607E+02	3.607E+02	2.832E+04	-2.759E+04	2.832E+04
34	3	-5.176E+00	-5.176E+00	-5.176E+00	-1.051E+04	1.050E+04	-1.051E+04
		-5.176E+00	-5.176E+00	-5.176E+00	7.491E+03	-7.501E+03	-7.501E+03
34	4	1.151E+02	1.151E+02	1.151E+02	-2.313E+04	2.336E+04	2.336E+04
		1.151E+02	1.151E+02	1.151E+02	1.693E+04	-1.670E+04	1.693E+04
34	5	1.254E+02	1.254E+02	1.254E+02	-2.122E+03	2.373E+03	2.373E+03
		1.254E+02	1.254E+02	1.254E+02	1.948E+03	-1.697E+03	1.948E+03
35	1	1.269E+02	1.269E+02	1.269E+02	8.115E+03	-7.861E+03	8.115E+03
		1.269E+02	1.269E+02	1.269E+02	3.177E+03	-2.924E+03	3.177E+03
35	2	3.807E+02	3.807E+02	3.807E+02	2.435E+04	-2.358E+04	2.435E+04
		3.807E+02	3.807E+02	3.807E+02	9.532E+03	-8.771E+03	9.532E+03
35	3	2.627E+01	2.627E+01	2.627E+01	5.532E+03	-5.479E+03	5.532E+03
		2.627E+01	2.627E+01	2.627E+01	3.988E+03	-3.936E+03	3.988E+03
35	4	1.532E+02	1.532E+02	1.532E+02	1.365E+04	-1.334E+04	1.365E+04
		1.532E+02	1.532E+02	1.532E+02	7.166E+03	-6.859E+03	7.166E+03
35	5	1.006E+02	1.006E+02	1.006E+02	2.583E+03	-2.382E+03	2.583E+03
		1.006E+02	1.006E+02	1.006E+02	-8.109E+02	1.012E+03	1.012E+03
36	1	1.151E+02	1.151E+02	1.151E+02	3.161E+03	-2.931E+03	3.161E+03
		1.151E+02	1.151E+02	1.151E+02	1.106E+03	-8.759E+02	1.106E+03
36	2	3.452E+02	3.452E+02	3.452E+02	9.484E+03	-8.793E+03	9.484E+03
		3.452E+02	3.452E+02	3.452E+02	3.318E+03	-2.628E+03	3.318E+03
36	3	3.689E+01	3.689E+01	3.689E+01	3.349E+03	-3.275E+03	3.349E+03
		3.689E+01	3.689E+01	3.689E+01	2.064E+03	-1.990E+03	2.064E+03
36	4	1.520E+02	1.520E+02	1.520E+02	6.510E+03	-6.206E+03	6.510E+03
		1.520E+02	1.520E+02	1.520E+02	3.170E+03	-2.866E+03	3.170E+03
36	5	7.819E+01	7.819E+01	7.819E+01	-1.875E+02	3.439E+02	3.439E+02
		7.819E+01	7.819E+01	7.819E+01	-9.575E+02	1.114E+03	1.114E+03
37	1	6.829E+01	6.829E+01	6.829E+01	2.442E+03	-2.306E+03	2.442E+03
		6.829E+01	6.829E+01	6.829E+01	7.953E+02	-6.587E+02	7.953E+02
37	2	2.049E+02	2.049E+02	2.049E+02	7.326E+03	-6.917E+03	7.326E+03
		2.049E+02	2.049E+02	2.049E+02	2.386E+03	-1.976E+03	2.386E+03
37	3	3.411E+01	3.411E+01	3.411E+01	2.233E+03	-2.165E+03	2.233E+03
		3.411E+01	3.411E+01	3.411E+01	1.298E+02	-6.162E+01	1.298E+02
37	4	1.024E+02	1.024E+02	1.024E+02	4.675E+03	-4.471E+03	4.675E+03
		1.024E+02	1.024E+02	1.024E+02	9.251E+02	-7.203E+02	9.251E+02
37	5	3.418E+01	3.418E+01	3.418E+01	2.088E+02	-1.404E+02	2.088E+02
		3.418E+01	3.418E+01	3.418E+01	6.655E+02	-5.971E+02	6.655E+02
38	1	4.225E+01	4.225E+01	4.225E+01	1.749E+03	-1.665E+03	1.749E+03
		4.225E+01	4.225E+01	4.225E+01	-2.114E+03	2.199E+03	2.199E+03
38	2	1.268E+02	1.268E+02	1.268E+02	5.247E+03	-4.994E+03	5.247E+03
		1.268E+02	1.268E+02	1.268E+02	-6.343E+03	6.597E+03	6.597E+03
38	3	2.515E+01	2.515E+01	2.515E+01	6.647E+02	-6.144E+02	6.647E+02
		2.515E+01	2.515E+01	2.515E+01	-1.532E+03	1.582E+03	1.582E+03
38	4	6.740E+01	6.740E+01	6.740E+01	2.414E+03	-2.279E+03	2.414E+03
		6.740E+01	6.740E+01	6.740E+01	-3.647E+03	3.781E+03	3.781E+03
38	5	1.711E+01	1.711E+01	1.711E+01	1.084E+03	-1.050E+03	1.084E+03
		1.711E+01	1.711E+01	1.711E+01	-5.823E+02	6.165E+02	6.165E+02



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39	1	-7.911E+02	-7.911E+02	-7.911E+02	3.092E+03	-4.674E+03	-4.674E+03
		-7.911E+02	-7.911E+02	-7.911E+02	1.954E+03	-3.536E+03	-3.536E+03
39	2	-2.373E+03	-2.373E+03	-2.373E+03	9.275E+03	-1.402E+04	-1.402E+04
		-2.373E+03	-2.373E+03	-2.373E+03	5.862E+03	-1.061E+04	-1.061E+04
39	3	-4.452E+02	-4.452E+02	-4.452E+02	5.365E+03	-6.255E+03	-6.255E+03
		-4.452E+02	-4.452E+02	-4.452E+02	4.789E+02	-8.904E+02	-8.904E+02
39	4	-1.236E+03	-1.236E+03	-1.236E+03	8.457E+03	-1.093E+04	-1.093E+04
		-1.236E+03	-1.236E+03	-1.236E+03	1.954E+03	-4.427E+03	-4.427E+03
39	5	-3.459E+02	-3.459E+02	-3.459E+02	-2.273E+03	1.581E+03	-2.273E+03
		-3.459E+02	-3.459E+02	-3.459E+02	1.954E+03	-2.646E+03	-2.646E+03
40	1	2.321E+02	2.321E+02	2.321E+02	2.447E+02	2.196E+02	2.447E+02
		2.321E+02	2.321E+02	2.321E+02	2.261E+03	-1.797E+03	2.261E+03
40	2	6.964E+02	6.964E+02	6.964E+02	7.341E+02	6.587E+02	7.341E+02
		6.964E+02	6.964E+02	6.964E+02	6.783E+03	-5.390E+03	6.783E+03
40	3	2.079E+01	2.079E+01	2.079E+01	1.918E+03	-1.877E+03	1.918E+03
		2.079E+01	2.079E+01	2.079E+01	1.078E+02	-6.617E+01	1.078E+02
40	4	2.529E+02	2.529E+02	2.529E+02	2.163E+03	-1.657E+03	2.163E+03
		2.529E+02	2.529E+02	2.529E+02	2.369E+03	-1.863E+03	2.369E+03
40	5	2.114E+02	2.114E+02	2.114E+02	-1.674E+03	2.096E+03	2.096E+03
		2.114E+02	2.114E+02	2.114E+02	2.153E+03	-1.731E+03	2.153E+03
41	1	3.288E+01	3.288E+01	3.288E+01	-4.003E+03	4.069E+03	4.069E+03
		3.288E+01	3.288E+01	3.288E+01	3.977E+03	-3.912E+03	3.977E+03
41	2	9.864E+01	9.864E+01	9.864E+01	-1.201E+04	1.221E+04	1.221E+04
		9.864E+01	9.864E+01	9.864E+01	1.193E+04	-1.173E+04	1.193E+04
41	3	-6.590E+01	-6.590E+01	-6.590E+01	-5.695E+02	4.377E+02	-5.695E+02
		-6.590E+01	-6.590E+01	-6.590E+01	-9.606E+01	-3.575E+01	-9.606E+01
41	4	-3.303E+01	-3.303E+01	-3.303E+01	-4.573E+03	4.507E+03	-4.573E+03
		-3.303E+01	-3.303E+01	-3.303E+01	3.881E+03	-3.947E+03	-3.947E+03
41	5	9.878E+01	9.878E+01	9.878E+01	-3.434E+03	3.631E+03	3.631E+03
		9.878E+01	9.878E+01	9.878E+01	4.073E+03	-3.876E+03	4.073E+03
42	1	-1.785E+02	-1.785E+02	-1.785E+02	-3.038E+03	2.681E+03	-3.038E+03
		-1.785E+02	-1.785E+02	-1.785E+02	1.403E+03	-1.760E+03	-1.760E+03
42	2	-5.355E+02	-5.355E+02	-5.355E+02	-9.115E+03	8.044E+03	-9.115E+03
		-5.355E+02	-5.355E+02	-5.355E+02	4.210E+03	-5.281E+03	-5.281E+03
42	3	-7.521E+00	-7.521E+00	-7.521E+00	-1.595E+03	1.580E+03	-1.595E+03
		-7.521E+00	-7.521E+00	-7.521E+00	-6.513E+01	5.009E+01	-6.513E+01
42	4	-1.860E+02	-1.860E+02	-1.860E+02	-4.633E+03	4.261E+03	-4.633E+03
		-1.860E+02	-1.860E+02	-1.860E+02	1.338E+03	-1.710E+03	-1.710E+03
42	5	-1.710E+02	-1.710E+02	-1.710E+02	-1.443E+03	1.101E+03	-1.443E+03
		-1.710E+02	-1.710E+02	-1.710E+02	1.469E+03	-1.811E+03	-1.811E+03
43	1	-5.810E+02	-5.810E+02	-5.810E+02	-1.624E+04	1.507E+04	-1.624E+04
		-5.810E+02	-5.810E+02	-5.810E+02	8.659E+03	-9.821E+03	-9.821E+03
43	2	-1.743E+03	-1.743E+03	-1.743E+03	-4.871E+04	4.522E+04	-4.871E+04
		-1.743E+03	-1.743E+03	-1.743E+03	2.598E+04	-2.946E+04	-2.946E+04
43	3	-3.715E+02	-3.715E+02	-3.715E+02	-2.039E+03	1.296E+03	-2.039E+03
		-3.715E+02	-3.715E+02	-3.715E+02	2.500E+03	-3.243E+03	-3.243E+03
43	4	-9.525E+02	-9.525E+02	-9.525E+02	-1.828E+04	1.637E+04	-1.828E+04
		-9.525E+02	-9.525E+02	-9.525E+02	1.116E+04	-1.306E+04	-1.306E+04



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43	5	-2.095E+02	-2.095E+02	-2.095E+02	-1.420E+04	1.378E+04	-1.420E+04
		-2.095E+02	-2.095E+02	-2.095E+02	6.158E+03	-6.577E+03	-6.577E+03
44	1	-7.911E+02	-7.911E+02	-7.911E+02	-8.727E+03	7.145E+03	-8.727E+03
		-7.911E+02	-7.911E+02	-7.911E+02	-5.450E+03	3.867E+03	-5.450E+03
44	2	-2.373E+03	-2.373E+03	-2.373E+03	-2.618E+04	2.143E+04	-2.618E+04
		-2.373E+03	-2.373E+03	-2.373E+03	-1.635E+04	1.160E+04	-1.635E+04
44	3	-3.628E+02	-3.628E+02	-3.628E+02	-5.797E+03	5.071E+03	-5.797E+03
		-3.628E+02	-3.628E+02	-3.628E+02	-4.669E+03	3.943E+03	-4.669E+03
44	4	-1.154E+03	-1.154E+03	-1.154E+03	-1.452E+04	1.222E+04	-1.452E+04
		-1.154E+03	-1.154E+03	-1.154E+03	-1.012E+04	7.810E+03	-1.012E+04
44	5	-4.283E+02	-4.283E+02	-4.283E+02	-2.930E+03	2.073E+03	-2.930E+03
		-4.283E+02	-4.283E+02	-4.283E+02	-7.808E+02	-7.574E+01	-7.808E+02
45	1	-7.911E+02	-7.911E+02	-7.911E+02	-5.450E+03	3.867E+03	-5.450E+03
		-7.911E+02	-7.911E+02	-7.911E+02	1.954E+03	-3.536E+03	-3.536E+03
45	2	-2.373E+03	-2.373E+03	-2.373E+03	-1.635E+04	1.160E+04	-1.635E+04
		-2.373E+03	-2.373E+03	-2.373E+03	5.862E+03	-1.061E+04	-1.061E+04
45	3	-4.040E+02	-4.040E+02	-4.040E+02	-4.710E+03	3.902E+03	-4.710E+03
		-4.040E+02	-4.040E+02	-4.040E+02	4.122E+01	-8.492E+02	-8.492E+02
45	4	-1.195E+03	-1.195E+03	-1.195E+03	-1.016E+04	7.769E+03	-1.016E+04
		-1.195E+03	-1.195E+03	-1.195E+03	1.995E+03	-4.385E+03	-4.385E+03
45	5	-3.871E+02	-3.871E+02	-3.871E+02	-7.396E+02	-3.457E+01	-7.396E+02
		-3.871E+02	-3.871E+02	-3.871E+02	1.913E+03	-2.687E+03	-2.687E+03
46	1	2.321E+02	2.321E+02	2.321E+02	-4.963E+03	5.427E+03	5.427E+03
		2.321E+02	2.321E+02	2.321E+02	-2.349E+03	2.813E+03	2.813E+03
46	2	6.964E+02	6.964E+02	6.964E+02	-1.489E+04	1.628E+04	1.628E+04
		6.964E+02	6.964E+02	6.964E+02	-7.047E+03	8.440E+03	8.440E+03
46	3	1.031E+02	1.031E+02	1.031E+02	-1.794E+03	2.000E+03	2.000E+03
		1.031E+02	1.031E+02	1.031E+02	-1.413E+03	1.620E+03	1.620E+03
46	4	3.353E+02	3.353E+02	3.353E+02	-6.757E+03	7.428E+03	7.428E+03
		3.353E+02	3.353E+02	3.353E+02	-3.763E+03	4.433E+03	4.433E+03
46	5	1.290E+02	1.290E+02	1.290E+02	-3.169E+03	3.427E+03	3.427E+03
		1.290E+02	1.290E+02	1.290E+02	-9.358E+02	1.194E+03	1.194E+03
47	1	2.321E+02	2.321E+02	2.321E+02	-2.349E+03	2.813E+03	2.813E+03
		2.321E+02	2.321E+02	2.321E+02	2.261E+03	-1.797E+03	2.261E+03
47	2	6.964E+02	6.964E+02	6.964E+02	-7.047E+03	8.440E+03	8.440E+03
		6.964E+02	6.964E+02	6.964E+02	6.783E+03	-5.390E+03	6.783E+03
47	3	6.197E+01	6.197E+01	6.197E+01	-1.455E+03	1.578E+03	1.578E+03
		6.197E+01	6.197E+01	6.197E+01	1.489E+02	-2.499E+01	1.489E+02
47	4	2.941E+02	2.941E+02	2.941E+02	-3.804E+03	4.392E+03	4.392E+03
		2.941E+02	2.941E+02	2.941E+02	2.410E+03	-1.822E+03	2.410E+03
47	5	1.702E+02	1.702E+02	1.702E+02	-8.946E+02	1.235E+03	1.235E+03
		1.702E+02	1.702E+02	1.702E+02	2.112E+03	-1.772E+03	2.112E+03
48	1	3.288E+01	3.288E+01	3.288E+01	-6.144E+03	6.210E+03	6.210E+03
		3.288E+01	3.288E+01	3.288E+01	-1.747E+03	1.812E+03	1.812E+03
48	2	9.864E+01	9.864E+01	9.864E+01	-1.843E+04	1.863E+04	1.863E+04
		9.864E+01	9.864E+01	9.864E+01	-5.240E+03	5.437E+03	5.437E+03
48	3	1.005E+02	1.005E+02	1.005E+02	5.892E+02	-3.882E+02	5.892E+02



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 271 OF

BY BNS DATE 12/5/97

CHK'D ZS DATE 12-5-97

		1.005E+02	1.005E+02	1.005E+02	4.896E+02	-2.887E+02	4.896E+02
48	4	1.334E+02	1.334E+02	1.334E+02	-5.555E+03	5.822E+03	5.822E+03
		1.334E+02	1.334E+02	1.334E+02	-1.257E+03	1.524E+03	1.524E+03
48	5	-6.760E+01	-6.760E+01	-6.760E+01	-6.733E+03	6.598E+03	-6.733E+03
		-6.760E+01	-6.760E+01	-6.760E+01	-2.236E+03	2.101E+03	-2.236E+03
49	1	3.288E+01	3.288E+01	3.288E+01	-1.747E+03	1.812E+03	1.812E+03
		3.288E+01	3.288E+01	3.288E+01	3.977E+03	-3.912E+03	3.977E+03
49	2	9.864E+01	9.864E+01	9.864E+01	-5.240E+03	5.437E+03	5.437E+03
		9.864E+01	9.864E+01	9.864E+01	1.193E+04	-1.173E+04	1.193E+04
49	3	1.729E+01	1.729E+01	1.729E+01	4.064E+02	-3.718E+02	4.064E+02
		1.729E+01	1.729E+01	1.729E+01	-1.286E+01	4.744E+01	4.744E+01
49	4	5.017E+01	5.017E+01	5.017E+01	-1.340E+03	1.441E+03	1.441E+03
		5.017E+01	5.017E+01	5.017E+01	3.965E+03	-3.864E+03	3.965E+03
49	5	1.559E+01	1.559E+01	1.559E+01	-2.153E+03	2.184E+03	2.184E+03
		1.559E+01	1.559E+01	1.559E+01	3.990E+03	-3.959E+03	3.990E+03
50	1	-1.785E+02	-1.785E+02	-1.785E+02	-1.815E+03	1.458E+03	-1.815E+03
		-1.785E+02	-1.785E+02	-1.785E+02	-1.452E+02	-2.118E+02	-2.118E+02
50	2	-5.355E+02	-5.355E+02	-5.355E+02	-5.445E+03	4.374E+03	-5.445E+03
		-5.355E+02	-5.355E+02	-5.355E+02	-4.357E+02	-6.354E+02	-6.354E+02
50	3	6.307E+01	6.307E+01	6.307E+01	1.682E+03	-1.556E+03	1.682E+03
		6.307E+01	6.307E+01	6.307E+01	1.360E+03	-1.234E+03	1.360E+03
50	4	-1.154E+02	-1.154E+02	-1.154E+02	-1.331E+02	-9.782E+01	-1.331E+02
		-1.154E+02	-1.154E+02	-1.154E+02	1.215E+03	-1.446E+03	-1.446E+03
50	5	-2.416E+02	-2.416E+02	-2.416E+02	-3.497E+03	3.014E+03	-3.497E+03
		-2.416E+02	-2.416E+02	-2.416E+02	-1.505E+03	1.022E+03	-1.505E+03
51	1	-1.785E+02	-1.785E+02	-1.785E+02	-1.452E+02	-2.118E+02	-2.118E+02
		-1.785E+02	-1.785E+02	-1.785E+02	1.403E+03	-1.760E+03	-1.760E+03
51	2	-5.355E+02	-5.355E+02	-5.355E+02	-4.357E+02	-6.354E+02	-6.354E+02
		-5.355E+02	-5.355E+02	-5.355E+02	4.210E+03	-5.281E+03	-5.281E+03
51	3	2.777E+01	2.777E+01	2.777E+01	1.325E+03	-1.269E+03	1.325E+03
		2.777E+01	2.777E+01	2.777E+01	-2.983E+01	8.538E+01	8.538E+01
51	4	-1.507E+02	-1.507E+02	-1.507E+02	1.180E+03	-1.481E+03	-1.481E+03
		-1.507E+02	-1.507E+02	-1.507E+02	1.374E+03	-1.675E+03	-1.675E+03
51	5	-2.063E+02	-2.063E+02	-2.063E+02	-1.470E+03	1.058E+03	-1.470E+03
		-2.063E+02	-2.063E+02	-2.063E+02	1.433E+03	-1.846E+03	-1.846E+03

1**** End of file



JOB NO. 59047 JOB O'CONNOR UNITS 1-3 CABLE TRAY BY BDA DATE 6-22-95
 CALC. NO. OC-05-D1 SUBJECT ANAL. REVIEW TB 796-8 CHK'D JUN DATE 7-12-95

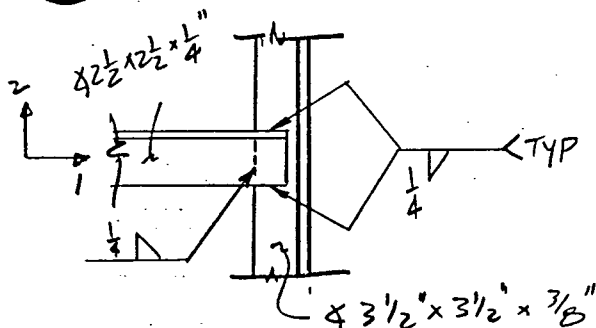
8.3.1 DEAD LOAD CHECK

FROM the output file 7968NPIP.S find the following
 maximum stresses: LOAD CASE 1

MEM 5 : 22.9 ksi ← 6% overstress judged OK
 MEM 10 : 18.6 ksi
 MEM 15 : 17.7 ksi } < 21.6 ksi OK
 MEM 19 : 18.3 ksi
 MEM 25 : 17.1 ksi

ALL MEMBER STRESSES OK

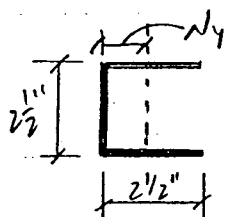
- CHECK CONNECTIONS:



MEM 5: $F_1 = 789^{\#}$ $F_2 = 270^{\#}$
 $M_3 = 8760^{\#}\text{in}$

Allow weld = $(\frac{1}{4}\text{in})(1.707)(30,600\text{psi}) = 5409^{\#}/\text{in}$

(FROM REF. 10)



$$J = \frac{(2b+d)^3}{12} - \frac{b^2(b+d)^2}{(2b+d)} = \frac{(2(2\frac{1}{2})+2\frac{1}{2})^3}{12} - \frac{(2\frac{1}{2})^2(5)^2}{(2(2\frac{1}{2})+2\frac{1}{2})}$$

$$= 14.32\text{in}^3$$

$$A_w = 3(2\frac{1}{2}\text{in}) = 7.5\text{in}$$

$$N_y = \frac{b^2}{2b+d} = \frac{(2.5)^2}{5+2.5} = .833\text{in}$$

$$f_w = \left[\left(\frac{789}{7.5} \right)^2 + \left(\frac{8760(2\frac{1}{2} - .833)}{14.32} + \frac{270}{7.5} \right)^2 + \left(\frac{8760(\frac{1}{4}\text{in})}{14.32} \right)^2 \right]^{1/2} = 1303^{\#}/\text{in}$$



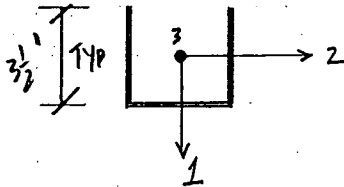
EQE INTERNATIONAL

SHEET NO. 273

JOB NO. 59017 JOB DCONEE UNITS 1-3 CABLE TRAY BY TADA DATE 7-5-95
 CALC. NO. DC-DS-01 SUBJECT ANAL REVIEW No TB 796-B CHK'D JAW DATE 7-12-95

CHECK TOP CONNECTIONS

MEM 25:	$F_1 = 1939^\#$	$F_2 = 593^\#$	$M_3 = 14,510^\#"$
MEM 29:	$F_1 = 49^\#$	$F_2 = 315^\#$	$M_3 = 9413^\#"$
MEM 34:	$F_1 = 297^\#$	$F_2 = 278^\#$	$M_3 = 8730^\#"$



$$J = \frac{(2(3\frac{1}{2}'') + (3\frac{1}{2}''))^3}{12} - \frac{(3\frac{1}{2})^2 (3\frac{1}{2} + 3\frac{1}{2})^2}{(2(3\frac{1}{2}) + 3\frac{1}{2})} = 39.3 \text{ in}^3$$

$$N_y = \frac{(3\frac{1}{2})^2}{2(3\frac{1}{2}) + 3\frac{1}{2}} = 1.17 \text{ in}$$

$$A_w = 3(3\frac{1}{2}'') = 10.5 \text{ in}$$

$$f_w = \left[\left(\frac{1939}{10.5} + \frac{14510(1\frac{3}{4})}{39.3} \right)^2 + \left(\frac{593}{10.5} \right)^2 + \left(\frac{14510(3\frac{1}{2} - 1.17)}{39.3} \right)^2 \right]^{\frac{1}{2}} = 1197^\#/\text{IN}$$

$$\underline{5409^\#/\text{IN} > 1197^\#/\text{IN}} \quad \left. \vphantom{\underline{5409^\#/\text{IN} > 1197^\#/\text{IN}}} \right\} \text{ TOP CONNECTIONS OK}$$

ENTIRE SUPPORT OK FOR DEAD LOAD



JOB NO. 59047 JOB O'CONNOR UNITS 1-3 CABLE TRAY BY TDA DATE 6-23-95
 CALC. NO. DL-05-01 SUBJECT ANAL. REVIEW No. TB 796-8 CHK'D LW DATE 7-12-95

8.3.2 VERTICAL CAPACITY CHECK Check connections.

MEM 5: $F_1 = 2168^\#$ $F_2 = 778^\#$ $M_3 = 24890^\#"$

$$f_w = \left[\left(\frac{2168}{7.5} \right)^2 + \left(\frac{24890(2\frac{1}{2} - .833)}{14.32} + \frac{778}{7.5} \right)^2 + \left(\frac{24890(1\frac{1}{4})}{14.32} \right)^2 \right]^{1/2} = 3716^\#/\text{IN}$$

$$5409^\#/\text{IN} > 3716^\#/\text{IN} \} \text{OK}$$

TOP CONNECTION:

MEM 25: $F_1 = 5459^\#$ $F_2 = 1663^\#$ $M_3 = 40690^\#"$

$$f_w = \left[\left(\frac{5459}{10.5} + \frac{40690(1\frac{3}{4})}{39.3} \right)^2 + \left(\frac{1663}{10.5} \right)^2 + \left(\frac{40690(3\frac{1}{2} - 1.17)}{39.3} \right)^2 \right]^{1/2}$$

$$= 3359^\#/\text{IN} < 5409^\#/\text{IN} \} \text{OK}$$

SUPPORT OK FOR VERTICAL CAPACITY

8.3.3 DUCTILITY CHECK

Because of the internal bracing the support is classified as potentially non-ductile and must be subject to a lateral load check.

JOB NO. 59047 JOB DCONEE UNITS 1-3 CABLE TRAYBY JDADATE 7-5-95CALC. NO. DC-05-01 SUBJECT ANAL. REVIEW NO. TB 796-BCHK'D JarDATE 7-12-95B.3.4 LATERAL LOAD CHECK

The computer evaluation load cases 4 & 5 are the lateral load checks.

MEM 4 LOAD CASE 5 $\sigma = 20.1 \text{ ksi}$
 MEM 5 " " " $\sigma = 24.1 \text{ ksi}$

$$\text{Allow} = 1.7(.6)(36 \text{ ksi}) = 36.7 \text{ ksi}$$

} OK

- CHECK CONNECTIONS

MEM 5 $F_1 = 1100^{\#}$ $F_2 = 278^{\#}$ $M_3 = 9144^{\#}\text{'}$

All loads are less than loads resulting from 3DL } OK

- CHECK TOP CONNECTIONS

MEM 25	$F_1 = 2321^{\#}$	$F_2 = 787^{\#}$	$M_3 = 22350^{\#}\text{'}$	} Envelope
MEM 29	$F_1 = 492^{\#}$	$F_2 = 673^{\#}$	$M_3 = 20770^{\#}\text{'}$	
MEM 34	$F_1 = 310^{\#}$	$F_2 = 641^{\#}$	$M_3 = 20220^{\#}\text{'}$	

All loads are essentially the same as the 3DL loads } OK

SUPPORT OK FOR LATERAL LOAD CHECK

CONCLUSION: SUPPORT IS SEISMICALLY ADEQUATE FOR EXISTING TRAY FILL ASSUMING NO PIPE LOAD.



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BY BNS DATE 12/5/97

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45	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0.000000E+00	4.800000E+01	0.000000E+00	0	0.0000E+00	0	0	386.0	0
2	0	0	0	0	0	0	5.750000E+00	4.800000E+01	0.000000E+00	0	0.0000E+00	0	0		
3	0	0	0	0	0	0	2.975000E+01	4.800000E+01	0.000000E+00	0	0.0000E+00	0	0		
4	0	0	0	0	0	0	5.600000E+01	4.800000E+01	0.000000E+00	0	0.0000E+00	0	0		
5	0	0	0	0	0	0	8.000000E+01	4.800000E+01	0.000000E+00	0	0.0000E+00	0	0		
6	0	0	0	0	0	0	8.575000E+01	4.800000E+01	0.000000E+00	0	0.0000E+00	0	0		
7	0	0	0	0	0	0	0.000000E+00	3.600000E+01	0.000000E+00	0	0.0000E+00	0	0		
8	0	0	0	0	0	0	5.750000E+00	3.600000E+01	0.000000E+00	0	0.0000E+00	0	0		
9	0	0	0	0	0	0	2.975000E+01	3.600000E+01	0.000000E+00	0	0.0000E+00	0	0		
10	0	0	0	0	0	0	5.600000E+01	3.600000E+01	0.000000E+00	0	0.0000E+00	0	0		
11	0	0	0	0	0	0	8.000000E+01	3.600000E+01	0.000000E+00	0	0.0000E+00	0	0		
12	0	0	0	0	0	0	8.575000E+01	3.600000E+01	0.000000E+00	0	0.0000E+00	0	0		
13	0	0	0	0	0	0	0.000000E+00	2.400000E+01	0.000000E+00	0	0.0000E+00	0	0		
14	0	0	0	0	0	0	5.750000E+00	2.400000E+01	0.000000E+00	0	0.0000E+00	0	0		
15	0	0	0	0	0	0	2.975000E+01	2.400000E+01	0.000000E+00	0	0.0000E+00	0	0		
16	0	0	0	0	0	0	5.600000E+01	2.400000E+01	0.000000E+00	0	0.0000E+00	0	0		
17	0	0	0	0	0	0	8.000000E+01	2.400000E+01	0.000000E+00	0	0.0000E+00	0	0		
18	0	0	0	0	0	0	8.575000E+01	2.400000E+01	0.000000E+00	0	0.0000E+00	0	0		
19	0	0	0	0	0	0	0.000000E+00	0.000000E+00	0.000000E+00	0	0.0000E+00	0	0		
20	0	0	0	0	0	0	5.750000E+00	0.000000E+00	0.000000E+00	0	0.0000E+00	0	0		
21	0	0	0	0	0	0	6.750000E+00	0.000000E+00	0.000000E+00	0	0.0000E+00	0	0		
22	0	0	0	0	0	0	2.975000E+01	0.000000E+00	0.000000E+00	0	0.0000E+00	0	0		
23	0	0	0	0	0	0	8.575000E+01	0.000000E+00	0.000000E+00	0	0.0000E+00	0	0		
24	1	1	1	1	1	1	8.575000E+01	1.040000E+02	0.000000E+00	0	0.0000E+00	0	0		
25	1	1	1	1	1	1	1.685000E+02	1.040000E+02	0.000000E+00	0	0.0000E+00	0	0		
26	1	1	1	1	1	1	2.253000E+02	1.022000E+02	0.000000E+00	0	0.0000E+00	0	0		
27	0	0	0	0	0	0	1.685000E+02	4.800000E+01	0.000000E+00	0	0.0000E+00	0	0		
28	0	0	0	0	0	0	2.253000E+02	4.800000E+01	0.000000E+00	0	0.0000E+00	0	0		
29	0	0	0	0	0	0	1.685000E+02	3.600000E+01	0.000000E+00	0					

2	51	2	0	1	0	0	0	0	0	0	0
1	2.900E+07	3.000E-01	0.000E+00	0.000E+00	0.000E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.000	
1	2.480E+00	0.000E+00	0.000E+00	0.000E+00	1.000E-03	2.870E+00	2.870E+00	1.150	1.150		
2	1.190E+00	0.000E+00	0.000E+00	0.000E+00	1.000E-03	7.030E-01	7.030E-01	0.394	0.394		

```
0.000E+00 0.000E+00 0.000E+00 0.000E+00
0.000E+00 0.000E+00 0.000E+00 0.000E+00
0.000E+00 0.000E+00 0.000E+00 0.000E+00
```

1	1	2	37	1	2	0	0	0	0	0	0	0
2	2	3	37	1	2	0	0	0	0	0	0	0
3	3	4	37	1	2	0	0	0	0	0	0	0
4	4	5	37	1	2	0	0	0	0	0	0	0
5	5	6	37	1	2	0	0	0	0	0	0	0



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6	7	8	37	1	2	0	0	0	0	0	0	0	0
7	8	9	37	1	2	0	0	0	0	0	0	0	0
8	9	10	37	1	2	0	0	0	0	0	0	0	0
9	10	11	37	1	2	0	0	0	0	0	0	0	0
10	11	12	37	1	2	0	0	0	0	0	0	0	0
11	13	14	37	1	2	0	0	0	0	0	0	0	0
12	14	15	37	1	2	0	0	0	0	0	0	0	0
13	15	16	37	1	2	0	0	0	0	0	0	0	0
14	16	17	37	1	2	0	0	0	0	0	0	0	0
15	17	18	37	1	2	0	0	0	0	0	0	0	0
16	19	20	37	1	1	0	0	0	0	0	0	0	0
17	20	21	37	1	1	0	0	0	0	0	0	0	0
18	21	22	37	1	1	0	0	0	0	0	0	0	0
19	22	23	37	1	1	0	0	0	0	0	0	0	0
20	23	35	37	1	1	0	0	0	0	0	0	0	0
21	35	36	37	1	1	0	0	0	0	0	0	0	0
22	1	7	37	1	1	0	0	0	0	0	0	0	0
23	7	13	37	1	1	0	0	0	0	0	0	0	0
24	13	19	37	1	1	0	0	0	0	0	0	0	0
25	24	6	37	1	1	0	0	0	0	0	0	0	0
26	6	12	37	1	1	0	0	0	0	0	0	0	0
27	12	18	37	1	1	0	0	0	0	0	0	0	0
28	18	23	37	1	1	0	0	0	0	0	0	0	0
29	25	27	37	1	1	0	0	0	0	0	0	0	0
30	27	29	37	1	1	0	0	0	0	0	0	0	0
31	29	31	37	1	1	0	0	0	0	0	0	0	0
32	31	33	37	1	1	0	0	0	0	0	0	0	0
33	33	35	37	1	1	0	0	0	0	0	0	0	0
34	26	28	37	1	1	0	0	0	0	0	0	0	0
35	28	30	37	1	1	0	0	0	0	0	0	0	0
36	30	32	37	1	1	0	0	0	0	0	0	0	0
37	32	34	37	1	1	0	0	0	0	0	0	0	0
38	34	36	37	1	1	0	0	0	0	0	0	0	0
39	28	39	37	1	2	0	0	0	0	0	0	0	0
40	30	41	37	1	2	0	0	0	0	0	0	0	0
41	32	43	37	1	2	0	0	0	0	0	0	0	0
42	34	45	37	1	2	0	0	0	0	0	0	0	0
43	23	27	37	1	1	0	0	0	0	0	0	0	0
44	27	38	37	1	2	0	0	0	0	0	0	0	0
45	38	39	37	1	2	0	0	0	0	0	0	0	0
46	29	40	37	1	2	0	0	0	0	0	0	0	0
47	40	41	37	1	2	0	0	0	0	0	0	0	0
48	31	42	37	1	2	0	0	0	0	0	0	0	0
49	42	43	37	1	2	0	0	0	0	0	0	0	0
50	33	44	37	1	2	0	0	0					



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[illegible]



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1.2 & 3CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8SHEET NO. 279 OFBY BNS DATE 12/5/97CHK'D B DATE 12-5-97

10	4	1.000E+01-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
11	4	1.000E+01-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
14	4	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
15	4	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
16	4	1.600E+01-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
17	4	1.600E+01-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
20	4	6.300E+01-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
22	4	6.300E+01-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
38	4	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
39	4	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
40	4	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
41	4	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
42	4	9.900E+01-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
43	4	9.900E+01-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
44	4	4.200E+01-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
45	4	4.200E+01-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
2	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
3	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
4	5	2.100E+01-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
5	5	2.100E+01-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
8	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
9	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
10	5	1.000E+01-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
11	5	1.000E+01-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
14	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
15	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
16	5	1.600E+01-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
17	5	1.600E+01-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
20	5	6.300E+01-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
22	5	6.300E+01-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
38	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
39	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
40	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
41	5	4.900E+01-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
42	5	9.900E+01-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
43	5	9.900E+01-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
44	5	4.200E+01-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
45	5	4.200E+01-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00-1
0	0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00 0
		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1.2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 280 OF

BY BN DATE 12/5/97CHK'D JB DATE 12-5-97

1**** Algor (c) Linear Stress Analysis - Released 08-SEP-92 Ver. 10.02-3H

DATE: DECEMBER 5, 1997

TIME: 12:00 PM

INPUT FILE.....run6

(7968npip)

Analytical Review No. TB796-8

1**** CONTROL INFORMATION

number of node points	(NUMNP)	=	45
number of element types	(NELTYP)	=	1
number of load cases	(LL)	=	5
number of frequencies	(NF)	=	0
geometric stiffness flag	(GEOSTF)	=	0
analysis type code	(NDYN)	=	0
solution mode	(MODEX)	=	0
equations per block	(KEQB)	=	0
weight and c.g. flag	(IWTCG)	=	0
bandwidth minimization flag	(MINBND)	=	0
gravitational constant	(GRAV)	=	3.8600E+02

bandwidth minimization specified

1**** NODAL DATA

NODE NO.	BOUNDARY CONDITION CODES						NODAL POINT COORDINATES			
	DX	DY	DZ	RX	RY	RZ	X	Y	Z	T
1	0	0	0	0	0	0	0.000E+00	4.800E+01	0.000E+00	0.000E+00
2	0	0	0	0	0	0	5.750E+00	4.800E+01	0.000E+00	0.000E+00
3	0	0	0	0	0	0	2.975E+01	4.800E+01	0.000E+00	0.000E+00
4	0	0	0	0	0	0	5.600E+01	4.800E+01	0.000E+00	0.000E+00
5	0	0	0	0	0	0	8.000E+01	4.800E+01	0.000E+00	0.000E+00
6	0	0	0	0	0	0	8.575E+01	4.800E+01	0.000E+00	0.000E+00
7	0	0	0	0	0	0	0.000E+00	3.600E+01	0.000E+00	0.000E+00
8	0	0	0	0	0	0	5.750E+00	3.600E+01	0.000E+00	0.000E+00
9	0	0	0	0	0	0	2.975E+01	3.600E+01	0.000E+00	0.000E+00
10	0	0	0	0	0	0	5.600E+01	3.600E+01	0.000E+00	0.000E+00
11	0	0	0	0	0	0	8.000E+01	3.600E+01	0.000E+00	0.000E+00
12	0	0	0	0	0	0	8.575E+01	3.600E+01	0.000E+00	0.000E+00
13	0	0	0	0	0	0	0.000E+00	2.400E+01	0.000E+00	0.000E+00
14	0	0	0	0	0	0	5.750E+00	2.400E+01	0.000E+00	0.000E+00
15	0	0	0	0	0	0	2.975E+01	2.400E+01	0.000E+00	0.000E+00
16	0	0	0	0	0	0	5.600E+01	2.400E+01	0.000E+00	0.000E+00
17	0	0	0	0	0	0	8.000E+01	2.400E+01	0.000E+00	0.000E+00
18	0	0	0	0	0	0	8.575E+01	2.400E+01	0.000E+00	0.000E+00
19	0	0	0	0	0	0	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	0	0	0	0	0	0	5.750E+00	0.000E+00	0.000E+00	0.000E+00
21	0	0	0	0	0	0	6.750E+00	0.000E+00	0.000E+00	0.000E+00



EQE INTERNATIONAL

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22	0	0	0	0	0	0	2.975E+01	0.000E+00	0.000E+00	0.000E+00
23	0	0	0	0	0	0	8.575E+01	0.000E+00	0.000E+00	0.000E+00
24	1	1	1	1	1	1	8.575E+01	1.040E+02	0.000E+00	0.000E+00
25	1	1	1	1	1	1	1.685E+02	1.040E+02	0.000E+00	0.000E+00
26	1	1	1	1	1	1	2.253E+02	1.022E+02	0.000E+00	0.000E+00
27	0	0	0	0	0	0	1.685E+02	4.800E+01	0.000E+00	0.000E+00
28	0	0	0	0	0	0	2.253E+02	4.800E+01	0.000E+00	0.000E+00
29	0	0	0	0	0	0	1.685E+02	3.600E+01	0.000E+00	0.000E+00
30	0	0	0	0	0	0	2.253E+02	3.600E+01	0.000E+00	0.000E+00
31	0	0	0	0	0	0	1.685E+02	2.400E+01	0.000E+00	0.000E+00
32	0	0	0	0	0	0	2.253E+02	2.400E+01	0.000E+00	0.000E+00
33	0	0	0	0	0	0	1.685E+02	1.200E+01	0.000E+00	0.000E+00
34	0	0	0	0	0	0	2.253E+02	1.200E+01	0.000E+00	0.000E+00
35	0	0	0	0	0	0	1.685E+02	0.000E+00	0.000E+00	0.000E+00
36	0	0	0	0	0	0	2.253E+02	0.000E+00	0.000E+00	0.000E+00
37	1	1	1	1	1	1	1.000E+01	1.040E+02	0.000E+00	0.000E+00
38	0	0	0	0	0	0	1.742E+02	4.800E+01	0.000E+00	0.000E+00
39	0	0	0	0	0	0	1.982E+02	4.800E+01	0.000E+00	0.000E+00
40	0	0	0	0	0	0	1.742E+02	3.600E+01	0.000E+00	0.000E+00
41	0	0	0	0	0	0	1.982E+02	3.600E+01	0.000E+00	0.000E+00
42	0	0	0	0	0	0	1.742E+02	2.400E+01	0.000E+00	0.000E+00
43	0	0	0	0	0	0	1.982E+02	2.400E+01	0.000E+00	0.000E+00
44	0	0	0	0	0	0	1.742E+02	1.200E+01	0.000E+00	0.000E+00
45	0	0	0	0	0	0	1.982E+02	1.200E+01	0.000E+00	0.000E+00

**** PRINT OF EQUATION NUMBERS SUPPRESSED

1**** BEAM ELEMENTS

number of beam elements	=	51
number of area property sets	=	2
number of fixed end force sets	=	0
number of materials	=	1
number of intermediate load sets	=	0

1**** MATERIAL PROPERTIES

INDEX	E	MU	MASS DENSITY	WEIGHT DENSITY	THERMAL EXPANSION			REFERENCE TEMPERATURE
					X	Y	Z	
1	2.90E+07	.300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.000E+00

1**** AREA PROPERTIES

INDEX	AREAS			TORSION	--FLEXURAL INERTIAS--		
	AXIAL A(1)	SHEAR A(2)	SHEAR A(3)	J(1)	I(2)	I(3)	
1	2.480E+00	0.000E+00	0.000E+00	1.000E-03	2.870E+00	2.870E+00	
2	1.190E+00	0.000E+00	0.000E+00	1.000E-03	7.030E-01	7.030E-01	

1**** STRESS PROPERTIES



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INDEX	SECTION S (2)	MODULI S (3)
1	1.150E+00	1.150E+00
2	3.940E-01	3.940E-01

1**** ELEMENT LOAD MULTIPLIERS

	CASE A	CASE B	CASE C	CASE D
X-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Z-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1**** ELEMENT CONNECTIVITY DATA

ELEMENT NO.	NODE I	NODE J	NODE K	MAT INDEX	L SECTN INDEX	---ELEMENT LOADS---				RELEASE CODES		MEMBER NO.
						A	B	C	D	I-END	J-END	
1	1	2	37	1	2	0	0	0	0	0	0	0
2	2	3	37	1	2	0	0	0	0	0	0	0
3	3	4	37	1	2	0	0	0	0	0	0	0
4	4	5	37	1	2	0	0	0	0	0	0	0
5	5	6	37	1	2	0	0	0	0	0	0	0
6	7	8	37	1	2	0	0	0	0	0	0	0
7	8	9	37	1	2	0	0	0	0	0	0	0
8	9	10	37	1	2	0	0	0	0	0	0	0
9	10	11	37	1	2	0	0	0	0	0	0	0
10	11	12	37	1	2	0	0	0	0	0	0	0
11	13	14	37	1	2	0	0	0	0	0	0	0
12	14	15	37	1	2	0	0	0	0	0	0	0
13	15	16	37	1	2	0	0	0	0	0	0	0
14	16	17	37	1	2	0	0	0	0	0	0	0
15	17	18	37	1	2	0	0	0	0	0	0	0
16	19	20	37	1	1	0	0	0	0	0	0	0
17	20	21	37	1	1	0	0	0	0	0	0	0
18	21	22	37	1	1	0	0	0	0	0	0	0
19	22	23	37	1	1	0	0	0	0	0	0	0
20	23	35	37	1	1	0	0	0	0	0	0	0
21	35	36	37	1	1	0	0	0	0	0	0	0
22	1	7	37	1	1	0	0	0	0	0	0	0
23	7	13	37	1	1	0	0	0	0	0	0	0
24	13	19	37	1	1	0	0	0	0	0	0	0
25	24	6	37	1	1	0	0	0	0	0	0	0
26	6	12	37	1	1	0	0	0	0	0	0	0
27	12	18	37	1	1	0	0	0	0	0	0	0
28	18	23	37	1	1	0	0	0	0	0	0	0
29	25	27	37	1	1	0	0	0	0	0	0	0
30	27	29	37	1	1	0	0	0	0	0	0	0
31	29	31	37	1	1	0	0	0	0	0	0	0
32	31	33	37	1	1	0	0	0	0	0	0	0
33	33	35	37	1	1	0	0	0	0	0	0	0



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34	26	28	37	1	1	0	0	0	0	0	0
35	28	30	37	1	1	0	0	0	0	0	0
36	30	32	37	1	1	0	0	0	0	0	0
37	32	34	37	1	1	0	0	0	0	0	0
38	34	36	37	1	1	0	0	0	0	0	0
39	28	39	37	1	2	0	0	0	0	0	0
40	30	41	37	1	2	0	0	0	0	0	0
41	32	43	37	1	2	0	0	0	0	0	0
42	34	45	37	1	2	0	0	0	0	0	0
43	23	27	37	1	1	0	0	0	0	0	0
44	27	38	37	1	2	0	0	0	0	0	0
45	38	39	37	1	2	0	0	0	0	0	0
46	29	40	37	1	2	0	0	0	0	0	0
47	40	41	37	1	2	0	0	0	0	0	0
48	31	42	37	1	2	0	0	0	0	0	0
49	42	43	37	1	2	0	0	0	0	0	0
50	33	44	37	1	2	0	0	0	0	0	0
51	44	45	37	1	2	0	0	0	0	0	0

1**** BANDWIDTH MINIMIZATION

```

minbnd (bandwidth control parameter) = 1
bandwidth before resequencing = 66
bandwidth after resequencing = 42

```

**** EQUATION PARAMETERS

```

total number of equations = 246
bandwidth = 42
number of equations in a block = 246
number of blocks = 1
blocking memory (kilobytes) = 15340
available memory (kilobytes) = 15340

```

**** Hard disk file size information for processor:

```

Available hard disk space on drive = 715.489 megabytes
Estimated required hard disk space = .325 megabytes

```

1**** NODAL LOADS (STATIC) OR MASSES (DYNAMIC)

NODE NUMBER	LOAD CASE	X-AXIS FORCE	Y-AXIS FORCE	Z-AXIS FORCE	X-AXIS MOMENT	Y-AXIS MOMENT	Z-AXIS MOMENT
2	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	1	0.000E+00	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	1	0.000E+00	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	1	0.000E+00	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	1	0.000E+00	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00



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15	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	1	0.000E+00	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	1	0.000E+00	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	1	0.000E+00	-1.676E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	1	0.000E+00	-1.676E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	1	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	1	0.000E+00	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	1	0.000E+00	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	1	0.000E+00	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	1	0.000E+00	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	2	0.000E+00	-1.350E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	2	0.000E+00	-1.350E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	2	0.000E+00	-6.300E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	2	0.000E+00	-6.300E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	2	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	2	0.000E+00	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	2	0.000E+00	-4.020E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	2	0.000E+00	-4.020E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	2	0.000E+00	-3.150E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	2	0.000E+00	-6.300E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	2	0.000E+00	-6.300E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	2	0.000E+00	-2.700E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	2	0.000E+00	-2.700E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	3	2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	3	2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	3	1.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	3	1.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	3	1.600E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	3	1.600E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	3	6.300E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	3	6.300E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00



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41	3	4.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	3	9.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	3	9.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	3	4.200E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	3	4.200E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	4	2.100E+01	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	4	2.100E+01	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	4	1.000E+01	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	4	1.000E+01	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	4	1.600E+01	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	4	1.600E+01	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	4	6.300E+01	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	4	6.300E+01	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	4	4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	4	9.900E+01	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	4	9.900E+01	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	4	4.200E+01	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	4	4.200E+01	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	5	-2.100E+01	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	5	-2.100E+01	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	5	-1.000E+01	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	5	-1.000E+01	-2.100E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	5	-1.600E+01	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	5	-1.600E+01	-3.500E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	5	-6.300E+01	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	5	-6.300E+01	-1.340E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	5	-4.900E+01	-1.050E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
42	5	-9.900E+01	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
43	5	-9.900E+01	-2.100E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
44	5	-4.200E+01	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
45	5	-4.200E+01	-9.000E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1**** ELEMENT LOAD MULTIPLIERS



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load case	case A	case B	case C	case D
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1**** STIFFNESS MATRIX PARAMETERS

minimum non-zero diagonal element	=	6.8413E+02
maximum diagonal element	=	1.0040E+09
maximum/minimum	=	1.4676E+06
average diagonal element	=	3.4863E+07
density of the matrix	=	8.1301E+00



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 287 OF

BY BNS DATE 12/5/97

CHK'D Z DATE 12-5-97

1**** STATIC ANALYSIS

LOAD CASE =

1

Displacements/Rotations(degrees) of nodes

NODE number	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	-6.6713E-02	-5.8712E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.4223E-01
2	-6.6581E-02	-5.6912E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.1687E-01
3	-6.6033E-02	-4.2026E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.7368E-01
4	-6.5433E-02	-1.8068E-01	0.0000E+00	0.0000E+00	0.0000E+00	5.1416E-01
5	-6.4884E-02	-1.6315E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.0995E-01
6	-6.4752E-02	-1.5096E-03	0.0000E+00	0.0000E+00	0.0000E+00	8.0928E-02
7	-3.8115E-02	-5.8711E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.4389E-01
8	-3.8233E-02	-5.6930E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.1173E-01
9	-3.8725E-02	-4.2630E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.5484E-01
10	-3.9264E-02	-1.9363E-01	0.0000E+00	0.0000E+00	0.0000E+00	5.0751E-01
11	-3.9756E-02	-2.2630E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.5874E-01
12	-3.9874E-02	-1.7881E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.5341E-01
13	-6.9481E-03	-5.8710E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.5507E-01
14	-6.8546E-03	-5.6858E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.1503E-01
15	-6.4642E-03	-4.2862E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.4127E-01
16	-6.0372E-03	-2.0081E-01	0.0000E+00	0.0000E+00	0.0000E+00	5.0505E-01
17	-5.6469E-03	-2.5531E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.8212E-01
18	-5.5533E-03	-2.0320E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.8280E-01
19	6.9916E-02	-5.8706E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.5438E-01
20	6.9865E-02	-5.5885E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.0714E-01
21	6.9856E-02	-5.5342E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.1595E-01
22	6.9651E-02	-3.9382E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.6078E-01
23	6.9150E-02	-2.4467E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.7064E-01
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	6.6405E-02	3.7102E-05	0.0000E+00	0.0000E+00	0.0000E+00	2.2583E-02
28	6.5424E-02	-2.2310E-04	0.0000E+00	0.0000E+00	0.0000E+00	4.4527E-02
29	7.0605E-02	-1.9289E-05	0.0000E+00	0.0000E+00	0.0000E+00	1.3103E-02
30	7.0857E-02	-2.7010E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.2602E-02
31	7.2033E-02	-4.7602E-05	0.0000E+00	0.0000E+00	0.0000E+00	-1.3680E-03
32	7.2078E-02	-3.1015E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.7813E-03
33	7.1397E-02	-2.5442E-05	0.0000E+00	0.0000E+00	0.0000E+00	-6.1565E-03
34	7.1244E-02	-3.3059E-04	0.0000E+00	0.0000E+00	0.0000E+00	-7.4640E-03
35	6.9208E-02	1.6869E-05	0.0000E+00	0.0000E+00	0.0000E+00	-1.7718E-02
36	6.9390E-02	-3.4115E-04	0.0000E+00	0.0000E+00	0.0000E+00	-6.4285E-03
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	6.6307E-02	7.2504E-04	0.0000E+00	0.0000E+00	0.0000E+00	-5.7743E-03
39	6.5892E-02	-8.5718E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.4146E-02
40	7.0631E-02	1.9238E-04	0.0000E+00	0.0000E+00	0.0000E+00	-6.2869E-03
41	7.0737E-02	-5.6133E-03	0.0000E+00	0.0000E+00	0.0000E+00	-4.3594E-03
42	7.2037E-02	-1.6274E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.5789E-02
43	7.2056E-02	-1.1333E-02	0.0000E+00	0.0000E+00	0.0000E+00	4.4065E-03



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44	7.1381E-02	-1.0825E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.3257E-02
45	7.1317E-02	-4.5581E-03	0.0000E+00	0.0000E+00	0.0000E+00	4.9645E-03

1**** STATIC ANALYSIS

LOAD CASE =

2

Displacements/Rotations(degrees) of nodes

NODE number	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	-1.8712E-01	-1.6461E+00	0.0000E+00	0.0000E+00	0.0000E+00	3.9647E-01
2	-1.8676E-01	-1.5961E+00	0.0000E+00	0.0000E+00	0.0000E+00	6.0121E-01
3	-1.8525E-01	-1.1823E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.3228E+00
4	-1.8360E-01	-5.0982E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.4485E+00
5	-1.8210E-01	-4.5963E-02	0.0000E+00	0.0000E+00	0.0000E+00	5.9262E-01
6	-1.8173E-01	-4.2503E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.2662E-01
7	-1.0724E-01	-1.6461E+00	0.0000E+00	0.0000E+00	0.0000E+00	4.0216E-01
8	-1.0757E-01	-1.5965E+00	0.0000E+00	0.0000E+00	0.0000E+00	5.8808E-01
9	-1.0895E-01	-1.1984E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.2712E+00
10	-1.1046E-01	-5.4531E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.4288E+00
11	-1.1184E-01	-6.3563E-02	0.0000E+00	0.0000E+00	0.0000E+00	7.2794E-01
12	-1.1217E-01	-5.0311E-03	0.0000E+00	0.0000E+00	0.0000E+00	4.2934E-01
13	-2.0076E-02	-1.6460E+00	0.0000E+00	0.0000E+00	0.0000E+00	4.3326E-01
14	-1.9801E-02	-1.5945E+00	0.0000E+00	0.0000E+00	0.0000E+00	5.9667E-01
15	-1.8657E-02	-1.2055E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.2319E+00
16	-1.7406E-02	-5.6619E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.4224E+00
17	-1.6262E-02	-7.1887E-02	0.0000E+00	0.0000E+00	0.0000E+00	7.9544E-01
18	-1.5988E-02	-5.7128E-03	0.0000E+00	0.0000E+00	0.0000E+00	5.1355E-01
19	1.9601E-01	-1.6459E+00	0.0000E+00	0.0000E+00	0.0000E+00	7.1943E-01
20	1.9587E-01	-1.5661E+00	0.0000E+00	0.0000E+00	0.0000E+00	8.6933E-01
21	1.9584E-01	-1.5507E+00	0.0000E+00	0.0000E+00	0.0000E+00	8.9413E-01
22	1.9526E-01	-1.1005E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.2948E+00
23	1.9383E-01	-6.8651E-03	0.0000E+00	0.0000E+00	0.0000E+00	4.7724E-01
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	1.8621E-01	-1.1009E-05	0.0000E+00	0.0000E+00	0.0000E+00	6.2985E-02
28	1.8343E-01	-6.6870E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.2510E-01
29	1.9796E-01	-1.8819E-04	0.0000E+00	0.0000E+00	0.0000E+00	3.6534E-02
30	1.9865E-01	-8.0810E-04	0.0000E+00	0.0000E+00	0.0000E+00	3.5273E-02
31	2.0192E-01	-2.8175E-04	0.0000E+00	0.0000E+00	0.0000E+00	-4.5026E-03
32	2.0205E-01	-9.2600E-04	0.0000E+00	0.0000E+00	0.0000E+00	5.2108E-03
33	2.0010E-01	-2.2398E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.7415E-02
34	1.9970E-01	-9.8500E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.0878E-02
35	1.9399E-01	-1.0551E-04	0.0000E+00	0.0000E+00	0.0000E+00	-4.9422E-02
36	1.9450E-01	-1.0146E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.8073E-02
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	1.8593E-01	1.7490E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.8804E-02
39	1.8475E-01	-2.5237E-02	0.0000E+00	0.0000E+00	0.0000E+00	-3.9047E-02
40	1.9803E-01	2.4979E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.0102E-02



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38	9.2116E-02	4.0306E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.1914E-02
39	9.1782E-02	-1.9417E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.9386E-02
40	9.9832E-02	1.7734E-03	0.0000E+00	0.0000E+00	0.0000E+00	8.7184E-03
41	9.9883E-02	-4.0505E-05	0.0000E+00	0.0000E+00	0.0000E+00	-1.0277E-02
42	1.0117E-01	1.0743E-05	0.0000E+00	0.0000E+00	0.0000E+00	-2.6208E-03
43	1.0118E-01	3.0093E-04	0.0000E+00	0.0000E+00	0.0000E+00	2.1492E-03
44	9.8385E-02	-8.7463E-04	0.0000E+00	0.0000E+00	0.0000E+00	-8.5499E-03
45	9.8408E-02	2.5044E-04	0.0000E+00	0.0000E+00	0.0000E+00	7.9211E-03

1**** STATIC ANALYSIS

LOAD CASE =

4

Displacements/Rotations(degrees) of nodes

NODE number	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	1.0151E-02	-5.8339E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.7675E-01
2	1.0232E-02	-5.6280E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.3462E-01
3	1.0536E-02	-4.1681E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.4986E-01
4	1.0831E-02	-1.8860E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.9747E-01
5	1.1086E-02	-2.1396E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.4788E-01
6	1.1144E-02	-1.8073E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.3876E-01
7	4.5900E-02	-5.8338E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.7265E-01
8	4.5827E-02	-5.6328E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.2888E-01
9	4.5486E-02	-4.2051E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.4139E-01
10	4.5076E-02	-1.9545E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.9351E-01
11	4.4694E-02	-2.5116E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.7432E-01
12	4.4601E-02	-2.1543E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.8034E-01
13	8.1453E-02	-5.8336E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.6760E-01
14	8.1568E-02	-5.6387E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.2188E-01
15	8.2013E-02	-4.2467E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.3317E-01
16	8.2462E-02	-2.0126E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.9677E-01
17	8.2862E-02	-2.6881E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.8847E-01
18	8.2955E-02	-2.4697E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.9475E-01
19	1.5986E-01	-5.8330E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.5526E-01
20	1.5980E-01	-5.5495E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.0895E-01
21	1.5979E-01	-5.4948E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.1780E-01
22	1.5953E-01	-3.8948E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.5965E-01
23	1.5887E-01	-3.0302E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.6613E-01
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	1.5426E-01	3.7689E-04	0.0000E+00	0.0000E+00	0.0000E+00	7.3647E-02
28	1.5251E-01	-2.1322E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.0617E-01
29	1.6580E-01	3.2738E-04	0.0000E+00	0.0000E+00	0.0000E+00	3.1670E-02
30	1.6612E-01	-2.7056E-04	0.0000E+00	0.0000E+00	0.0000E+00	3.1256E-02
31	1.6845E-01	3.1015E-04	0.0000E+00	0.0000E+00	0.0000E+00	-6.8920E-03
32	1.6847E-01	-3.2513E-04	0.0000E+00	0.0000E+00	0.0000E+00	-4.1223E-03
33	1.6507E-01	3.4220E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.3558E-02
34	1.6497E-01	-3.5891E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.3720E-02



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35	1.5948E-01	3.9078E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.8098E-02
36	1.5982E-01	-3.7918E-04	0.0000E+00	0.0000E+00	0.0000E+00	-1.8426E-02
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	1.5409E-01	4.6136E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.5646E-02
39	1.5337E-01	-1.0354E-02	0.0000E+00	0.0000E+00	0.0000E+00	-4.2401E-02
40	1.6584E-01	1.8567E-03	0.0000E+00	0.0000E+00	0.0000E+00	2.0177E-03
41	1.6599E-01	-5.6736E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.4128E-02
42	1.6848E-01	-1.6719E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.8459E-02
43	1.6851E-01	-1.1062E-02	0.0000E+00	0.0000E+00	0.0000E+00	6.6739E-03
44	1.6507E-01	-1.9812E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.1644E-02
45	1.6504E-01	-4.3531E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.2754E-02

1**** STATIC ANALYSIS

LOAD CASE =

5

Displacements/Rotations(degrees) of nodes

NODE number	X- translation	Y- translation	Z- translation	X- rotation	Y- rotation	Z- rotation
1	-1.3490E-01	-5.1401E-01	0.0000E+00	0.0000E+00	0.0000E+00	8.7557E-02
2	-1.3474E-01	-5.0130E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.6619E-01
3	-1.3404E-01	-3.7135E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.3200E-01
4	-1.3323E-01	-1.5128E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.6822E-01
5	-1.3248E-01	-9.2467E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.4720E-01
6	-1.3230E-01	-1.0262E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.2325E-02
7	-1.1739E-01	-5.1401E-01	0.0000E+00	0.0000E+00	0.0000E+00	9.5455E-02
8	-1.1754E-01	-5.0107E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.6317E-01
9	-1.1812E-01	-3.7846E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.0608E-01
10	-1.1872E-01	-1.6809E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.5903E-01
11	-1.1925E-01	-1.7260E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.1098E-01
12	-1.1938E-01	-1.1998E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.0588E-01
13	-9.4837E-02	-5.1400E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.2124E-01
14	-9.4769E-02	-4.9914E-01	0.0000E+00	0.0000E+00	0.0000E+00	1.7590E-01
15	-9.4451E-02	-3.7897E-01	0.0000E+00	0.0000E+00	0.0000E+00	3.8811E-01
16	-9.4066E-02	-1.7620E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.5148E-01
17	-9.3703E-02	-2.1044E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.4182E-01
18	-9.3614E-02	-1.3389E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.4761E-01
19	-2.9184E-02	-5.1395E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.2436E-01
20	-2.9223E-02	-4.8909E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.7060E-01
21	-2.9229E-02	-4.8430E-01	0.0000E+00	0.0000E+00	0.0000E+00	2.7828E-01
22	-2.9364E-02	-3.4416E-01	0.0000E+00	0.0000E+00	0.0000E+00	4.0353E-01
23	-2.9645E-02	-1.5466E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.5203E-01
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
27	-3.0118E-02	-3.8423E-04	0.0000E+00	0.0000E+00	0.0000E+00	-3.1657E-02
28	-3.0222E-02	-2.3257E-04	0.0000E+00	0.0000E+00	0.0000E+00	-2.2768E-02
29	-3.3824E-02	-4.5284E-04	0.0000E+00	0.0000E+00	0.0000E+00	-7.3140E-03
30	-3.3685E-02	-2.6817E-04	0.0000E+00	0.0000E+00	0.0000E+00	-7.7411E-03
31	-3.3838E-02	-4.9798E-04	0.0000E+00	0.0000E+00	0.0000E+00	3.8903E-03



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32	-3.3768E-02	-2.9220E-04	0.0000E+00	0.0000E+00	0.0000E+00	7.5961E-03
33	-3.1672E-02	-4.9152E-04	0.0000E+00	0.0000E+00	0.0000E+00	1.1948E-02
34	-3.1833E-02	-2.9775E-04	0.0000E+00	0.0000E+00	0.0000E+00	9.8008E-03
35	-3.0154E-02	-4.6113E-04	0.0000E+00	0.0000E+00	0.0000E+00	-4.8496E-03
36	-3.0149E-02	-2.9721E-04	0.0000E+00	0.0000E+00	0.0000E+00	6.3765E-03
37	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
38	-3.0140E-02	-3.4476E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.8182E-02
39	-3.0197E-02	-6.4707E-03	0.0000E+00	0.0000E+00	0.0000E+00	1.6370E-02
40	-3.3821E-02	-1.6902E-03	0.0000E+00	0.0000E+00	0.0000E+00	-1.5419E-02
41	-3.3775E-02	-5.5926E-03	0.0000E+00	0.0000E+00	0.0000E+00	6.4259E-03
42	-3.3853E-02	-1.6934E-03	0.0000E+00	0.0000E+00	0.0000E+00	-2.3218E-02
43	-3.3850E-02	-1.1664E-02	0.0000E+00	0.0000E+00	0.0000E+00	2.3755E-03
44	-3.1698E-02	-2.3191E-04	0.0000E+00	0.0000E+00	0.0000E+00	-4.5444E-03
45	-3.1777E-02	-4.8540E-03	0.0000E+00	0.0000E+00	0.0000E+00	-3.0880E-03

1**** TEMPORARY FILE STORAGE (MEGABYTES)

UNIT NO. 7 :	.000
UNIT NO. 8 :	.002
UNIT NO. 9 :	.000
UNIT NO. 10 :	.000
UNIT NO. 11 :	.003
UNIT NO. 12 :	.010
UNIT NO. 13 :	.000
UNIT NO. 14 :	.012
UNIT NO. 15 :	.000
UNIT NO. 17 :	.000
TOTAL :	.027

1**** End of file



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SHEET NO. 293 OF

BY BNS DATE 12/5/97

CHK'D ~~B~~ DATE 12-5-97

1**** Algor (c) FEA Stress Processor MKNSO 10-NOV-92, Ver 3.02-3H

DATE: DECEMBER 5, 1997

TIME: 12:02 PM

INPUT FILE.....run6 (7968 npip)

1**** BEAM ELEMENTS

number of beam elements	=	51
number of area property sets	=	2
number of fixed end force sets	=	0
number of materials	=	1
number of intermediate load sets	=	0

1**** MATERIAL PROPERTIES

INDEX	E	MU	MASS DENSITY	WEIGHT DENSITY	THERMAL EXPANSION X	Y	Z	REFERENCE TEMPERATURE
1	2.90E+07	.300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.000E+00

1**** AREA PROPERTIES

INDEX	AXIAL A(1)	SHEAR A(2)	SHEAR A(3)	TORSION J(1)	---FLEXURAL INERTIAS---	I(2)	I(3)
1	2.480E+00	0.000E+00	0.000E+00	1.000E-03	2.870E+00	2.870E+00	
2	1.190E+00	0.000E+00	0.000E+00	1.000E-03	7.030E-01	7.030E-01	

1**** STRESS PROPERTIES

INDEX	---SECTION S(2)	MODULI--- S(3)
1	1.150E+00	1.150E+00
2	3.940E-01	3.940E-01

1**** ELEMENT LOAD MULTIPLIERS

	CASE A	CASE B	CASE C	CASE D
X-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Z-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1**** BEAM ELEMENT FORCES AND MOMENTS

ELEMENT NO.	CASE (MODE)	AXIAL FORCE	SHEAR FORCE	SHEAR FORCE	TORSION MOMENT	BENDING MOMENT	BENDING MOMENT
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EQE INTERNATIONAL

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CHK'D P DATE 12-5-97

		R1	R2	R3	M1	M2	M3
1	1	-7.890E+02	3.015E+01	0.000E+00	0.000E+00	0.000E+00	-4.532E+03
		7.890E+02	-3.015E+01	0.000E+00	0.000E+00	0.000E+00	4.706E+03
1	2	-2.168E+03	1.216E+02	0.000E+00	0.000E+00	0.000E+00	-1.232E+04
		2.168E+03	-1.216E+02	0.000E+00	0.000E+00	0.000E+00	1.302E+04
1	3	2.368E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	6.943E+02
		-2.368E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	-5.908E+02
1	4	-4.859E+02	5.852E+01	0.000E+00	0.000E+00	0.000E+00	-3.412E+03
		4.859E+02	-5.852E+01	0.000E+00	0.000E+00	0.000E+00	3.749E+03
1	5	-9.595E+02	2.253E+01	0.000E+00	0.000E+00	0.000E+00	-4.801E+03
		9.595E+02	-2.253E+01	0.000E+00	0.000E+00	0.000E+00	4.931E+03
2	1	-7.890E+02	-7.485E+01	0.000E+00	0.000E+00	0.000E+00	-4.706E+03
		7.890E+02	7.485E+01	0.000E+00	0.000E+00	0.000E+00	2.909E+03
2	2	-2.168E+03	-1.934E+02	0.000E+00	0.000E+00	0.000E+00	-1.302E+04
		2.168E+03	1.934E+02	0.000E+00	0.000E+00	0.000E+00	8.377E+03
2	3	2.858E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	5.908E+02
		-2.858E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	-1.589E+02
2	4	-4.369E+02	-4.648E+01	0.000E+00	0.000E+00	0.000E+00	-3.749E+03
		4.369E+02	4.648E+01	0.000E+00	0.000E+00	0.000E+00	2.633E+03
2	5	-1.009E+03	-8.247E+01	0.000E+00	0.000E+00	0.000E+00	-4.931E+03
		1.009E+03	8.247E+01	0.000E+00	0.000E+00	0.000E+00	2.951E+03
3	1	-7.890E+02	-1.799E+02	0.000E+00	0.000E+00	0.000E+00	-2.909E+03
		7.890E+02	1.799E+02	0.000E+00	0.000E+00	0.000E+00	-1.812E+03
3	2	-2.168E+03	-5.084E+02	0.000E+00	0.000E+00	0.000E+00	-8.377E+03
		2.168E+03	5.084E+02	0.000E+00	0.000E+00	0.000E+00	-4.969E+03
3	3	3.348E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	1.589E+02
		-3.348E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	3.134E+02
3	4	-3.879E+02	-1.515E+02	0.000E+00	0.000E+00	0.000E+00	-2.633E+03
		3.879E+02	1.515E+02	0.000E+00	0.000E+00	0.000E+00	-1.343E+03
3	5	-1.058E+03	-1.875E+02	0.000E+00	0.000E+00	0.000E+00	-2.951E+03
		1.058E+03	1.875E+02	0.000E+00	0.000E+00	0.000E+00	-1.970E+03
4	1	-7.890E+02	-2.249E+02	0.000E+00	0.000E+00	0.000E+00	1.812E+03
		7.890E+02	2.249E+02	0.000E+00	0.000E+00	0.000E+00	-7.208E+03
4	2	-2.168E+03	-6.434E+02	0.000E+00	0.000E+00	0.000E+00	4.969E+03
		2.168E+03	6.434E+02	0.000E+00	0.000E+00	0.000E+00	-2.041E+04
4	3	3.558E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	-3.134E+02
		-3.558E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	7.453E+02
4	4	-3.669E+02	-1.965E+02	0.000E+00	0.000E+00	0.000E+00	1.343E+03
		3.669E+02	1.965E+02	0.000E+00	0.000E+00	0.000E+00	-6.058E+03
4	5	-1.079E+03	-2.325E+02	0.000E+00	0.000E+00	0.000E+00	1.970E+03
		1.079E+03	2.325E+02	0.000E+00	0.000E+00	0.000E+00	-7.549E+03
5	1	-7.890E+02	-2.699E+02	0.000E+00	0.000E+00	0.000E+00	7.208E+03
		7.890E+02	2.699E+02	0.000E+00	0.000E+00	0.000E+00	-8.760E+03
5	2	-2.168E+03	-7.784E+02	0.000E+00	0.000E+00	0.000E+00	2.041E+04
		2.168E+03	7.784E+02	0.000E+00	0.000E+00	0.000E+00	-2.489E+04
5	3	3.768E+02	1.800E+01	0.000E+00	0.000E+00	0.000E+00	-7.453E+02



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		-3.768E+02	-1.800E+01	0.000E+00	0.000E+00	0.000E+00	8.488E+02
5	4	-3.459E+02	-2.415E+02	0.000E+00	0.000E+00	0.000E+00	6.058E+03
		3.459E+02	2.415E+02	0.000E+00	0.000E+00	0.000E+00	-7.447E+03
5	5	-1.100E+03	-2.775E+02	0.000E+00	0.000E+00	0.000E+00	7.549E+03
		1.100E+03	2.775E+02	0.000E+00	0.000E+00	0.000E+00	-9.144E+03
6	1	7.079E+02	4.481E+01	0.000E+00	0.000E+00	0.000E+00	-4.069E+03
		-7.079E+02	-4.481E+01	0.000E+00	0.000E+00	0.000E+00	4.327E+03
6	2	1.983E+03	1.615E+02	0.000E+00	0.000E+00	0.000E+00	-1.104E+04
		-1.983E+03	-1.615E+02	0.000E+00	0.000E+00	0.000E+00	1.197E+04
6	3	-2.202E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	3.805E+02
		2.202E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	-3.303E+02
6	4	4.409E+02	6.257E+01	0.000E+00	0.000E+00	0.000E+00	-3.300E+03
		-4.409E+02	-6.257E+01	0.000E+00	0.000E+00	0.000E+00	3.660E+03
6	5	8.812E+02	4.509E+01	0.000E+00	0.000E+00	0.000E+00	-4.061E+03
		-8.812E+02	-4.509E+01	0.000E+00	0.000E+00	0.000E+00	4.320E+03
7	1	7.079E+02	-6.019E+01	0.000E+00	0.000E+00	0.000E+00	-4.327E+03
		-7.079E+02	6.019E+01	0.000E+00	0.000E+00	0.000E+00	2.882E+03
7	2	1.983E+03	-1.535E+02	0.000E+00	0.000E+00	0.000E+00	-1.197E+04
		-1.983E+03	1.535E+02	0.000E+00	0.000E+00	0.000E+00	8.286E+03
7	3	-1.712E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	3.303E+02
		1.712E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	-1.204E+02
7	4	4.899E+02	-4.243E+01	0.000E+00	0.000E+00	0.000E+00	-3.660E+03
		-4.899E+02	4.243E+01	0.000E+00	0.000E+00	0.000E+00	2.641E+03
7	5	8.322E+02	-5.991E+01	0.000E+00	0.000E+00	0.000E+00	-4.320E+03
		-8.322E+02	5.991E+01	0.000E+00	0.000E+00	0.000E+00	2.882E+03
8	1	7.079E+02	-1.652E+02	0.000E+00	0.000E+00	0.000E+00	-2.882E+03
		-7.079E+02	1.652E+02	0.000E+00	0.000E+00	0.000E+00	-1.454E+03
8	2	1.983E+03	-4.685E+02	0.000E+00	0.000E+00	0.000E+00	-8.286E+03
		-1.983E+03	4.685E+02	0.000E+00	0.000E+00	0.000E+00	-4.013E+03
8	3	-1.222E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	1.204E+02
		1.222E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	1.091E+02
8	4	5.389E+02	-1.474E+02	0.000E+00	0.000E+00	0.000E+00	-2.641E+03
		-5.389E+02	1.474E+02	0.000E+00	0.000E+00	0.000E+00	-1.228E+03
8	5	7.832E+02	-1.649E+02	0.000E+00	0.000E+00	0.000E+00	-2.882E+03
		-7.832E+02	1.649E+02	0.000E+00	0.000E+00	0.000E+00	-1.447E+03
9	1	7.079E+02	-1.862E+02	0.000E+00	0.000E+00	0.000E+00	1.454E+03
		-7.079E+02	1.862E+02	0.000E+00	0.000E+00	0.000E+00	-5.923E+03
9	2	1.983E+03	-5.315E+02	0.000E+00	0.000E+00	0.000E+00	4.013E+03
		-1.983E+03	5.315E+02	0.000E+00	0.000E+00	0.000E+00	-1.677E+04
9	3	-1.122E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	-1.091E+02
		1.122E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	3.189E+02
9	4	5.489E+02	-1.684E+02	0.000E+00	0.000E+00	0.000E+00	1.228E+03
		-5.489E+02	1.684E+02	0.000E+00	0.000E+00	0.000E+00	-5.271E+03
9	5	7.732E+02	-1.859E+02	0.000E+00	0.000E+00	0.000E+00	1.447E+03
		-7.732E+02	1.859E+02	0.000E+00	0.000E+00	0.000E+00	-5.909E+03
10	1	7.079E+02	-2.072E+02	0.000E+00	0.000E+00	0.000E+00	5.923E+03
		-7.079E+02	2.072E+02	0.000E+00	0.000E+00	0.000E+00	-7.114E+03



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10	2	1.983E+03	-5.945E+02	0.000E+00	0.000E+00	0.000E+00	1.677E+04
		-1.983E+03	5.945E+02	0.000E+00	0.000E+00	0.000E+00	-2.019E+04
10	3	-1.022E+02	8.743E+00	0.000E+00	0.000E+00	0.000E+00	-3.189E+02
		1.022E+02	-8.743E+00	0.000E+00	0.000E+00	0.000E+00	3.692E+02
10	4	5.589E+02	-1.894E+02	0.000E+00	0.000E+00	0.000E+00	5.271E+03
		-5.589E+02	1.894E+02	0.000E+00	0.000E+00	0.000E+00	-6.360E+03
10	5	7.632E+02	-2.069E+02	0.000E+00	0.000E+00	0.000E+00	5.909E+03
		-7.632E+02	2.069E+02	0.000E+00	0.000E+00	0.000E+00	-7.098E+03
11	1	-5.613E+02	6.076E+01	0.000E+00	0.000E+00	0.000E+00	-3.536E+03
		5.613E+02	-6.076E+01	0.000E+00	0.000E+00	0.000E+00	3.885E+03
11	2	-1.645E+03	2.075E+02	0.000E+00	0.000E+00	0.000E+00	-9.516E+03
		1.645E+03	-2.075E+02	0.000E+00	0.000E+00	0.000E+00	1.071E+04
11	3	-1.405E+02	3.354E-01	0.000E+00	0.000E+00	0.000E+00	1.276E+01
		1.405E+02	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	-1.083E+01
11	4	-6.889E+02	6.949E+01	0.000E+00	0.000E+00	0.000E+00	-3.159E+03
		6.889E+02	-6.949E+01	0.000E+00	0.000E+00	0.000E+00	3.559E+03
11	5	-4.079E+02	6.882E+01	0.000E+00	0.000E+00	0.000E+00	-3.185E+03
		4.079E+02	-6.882E+01	0.000E+00	0.000E+00	0.000E+00	3.580E+03
12	1	-5.613E+02	-4.424E+01	0.000E+00	0.000E+00	0.000E+00	-3.885E+03
		5.613E+02	4.424E+01	0.000E+00	0.000E+00	0.000E+00	2.823E+03
12	2	-1.645E+03	-1.075E+02	0.000E+00	0.000E+00	0.000E+00	-1.071E+04
		1.645E+03	1.075E+02	0.000E+00	0.000E+00	0.000E+00	8.128E+03
12	3	-9.147E+01	3.354E-01	0.000E+00	0.000E+00	0.000E+00	1.083E+01
		9.147E+01	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	-2.779E+00
12	4	-6.399E+02	-3.551E+01	0.000E+00	0.000E+00	0.000E+00	-3.559E+03
		6.399E+02	3.551E+01	0.000E+00	0.000E+00	0.000E+00	2.706E+03
12	5	-4.569E+02	-3.618E+01	0.000E+00	0.000E+00	0.000E+00	-3.580E+03
		4.569E+02	3.618E+01	0.000E+00	0.000E+00	0.000E+00	2.712E+03
13	1	-5.613E+02	-1.492E+02	0.000E+00	0.000E+00	0.000E+00	-2.823E+03
		5.613E+02	1.492E+02	0.000E+00	0.000E+00	0.000E+00	-1.094E+03
13	2	-1.645E+03	-4.225E+02	0.000E+00	0.000E+00	0.000E+00	-8.128E+03
		1.645E+03	4.225E+02	0.000E+00	0.000E+00	0.000E+00	-2.964E+03
13	3	-4.247E+01	3.354E-01	0.000E+00	0.000E+00	0.000E+00	2.779E+00
		4.247E+01	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	6.025E+00
13	4	-5.909E+02	-1.405E+02	0.000E+00	0.000E+00	0.000E+00	-2.706E+03
		5.909E+02	1.405E+02	0.000E+00	0.000E+00	0.000E+00	-9.821E+02
13	5	-5.059E+02	-1.412E+02	0.000E+00	0.000E+00	0.000E+00	-2.712E+03
		5.059E+02	1.412E+02	0.000E+00	0.000E+00	0.000E+00	-9.941E+02
14	1	-5.613E+02	-1.842E+02	0.000E+00	0.000E+00	0.000E+00	1.094E+03
		5.613E+02	1.842E+02	0.000E+00	0.000E+00	0.000E+00	-5.516E+03
14	2	-1.645E+03	-5.275E+02	0.000E+00	0.000E+00	0.000E+00	2.964E+03
		1.645E+03	5.275E+02	0.000E+00	0.000E+00	0.000E+00	-1.563E+04
14	3	-2.647E+01	3.354E-01	0.000E+00	0.000E+00	0.000E+00	-6.025E+00
		2.647E+01	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	1.407E+01
14	4	-5.749E+02	-1.755E+02	0.000E+00	0.000E+00	0.000E+00	9.821E+02
		5.749E+02	1.755E+02	0.000E+00	0.000E+00	0.000E+00	-5.194E+03
14	5	-5.219E+02	-1.762E+02	0.000E+00	0.000E+00	0.000E+00	9.941E+02
		5.219E+02	1.762E+02	0.000E+00	0.000E+00	0.000E+00	-5.223E+03



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15	1	-5.613E+02	-2.192E+02	0.000E+00	0.000E+00	0.000E+00	5.516E+03
		5.613E+02	2.192E+02	0.000E+00	0.000E+00	0.000E+00	-6.777E+03
15	2	-1.645E+03	-6.325E+02	0.000E+00	0.000E+00	0.000E+00	1.563E+04
		1.645E+03	6.325E+02	0.000E+00	0.000E+00	0.000E+00	-1.926E+04
15	3	-1.047E+01	3.354E-01	0.000E+00	0.000E+00	0.000E+00	-1.407E+01
		1.047E+01	-3.354E-01	0.000E+00	0.000E+00	0.000E+00	1.600E+01
15	4	-5.589E+02	-2.105E+02	0.000E+00	0.000E+00	0.000E+00	5.194E+03
		5.589E+02	2.105E+02	0.000E+00	0.000E+00	0.000E+00	-6.405E+03
15	5	-5.379E+02	-2.112E+02	0.000E+00	0.000E+00	0.000E+00	5.223E+03
		5.379E+02	2.112E+02	0.000E+00	0.000E+00	0.000E+00	-6.437E+03
16	1	6.424E+02	-1.357E+02	0.000E+00	0.000E+00	0.000E+00	-1.372E+04
		-6.424E+02	1.357E+02	0.000E+00	0.000E+00	0.000E+00	1.294E+04
16	2	1.830E+03	-4.905E+02	0.000E+00	0.000E+00	0.000E+00	-3.928E+04
		-1.830E+03	4.905E+02	0.000E+00	0.000E+00	0.000E+00	3.646E+04
16	3	1.238E+02	-2.707E+01	0.000E+00	0.000E+00	0.000E+00	-1.018E+03
		-1.238E+02	2.707E+01	0.000E+00	0.000E+00	0.000E+00	8.628E+02
16	4	7.339E+02	-1.906E+02	0.000E+00	0.000E+00	0.000E+00	-1.411E+04
		-7.339E+02	1.906E+02	0.000E+00	0.000E+00	0.000E+00	1.302E+04
16	5	4.862E+02	-1.364E+02	0.000E+00	0.000E+00	0.000E+00	-1.208E+04
		-4.862E+02	1.364E+02	0.000E+00	0.000E+00	0.000E+00	1.129E+04
17	1	6.424E+02	-3.033E+02	0.000E+00	0.000E+00	0.000E+00	-1.294E+04
		-6.424E+02	3.033E+02	0.000E+00	0.000E+00	0.000E+00	1.264E+04
17	2	1.830E+03	-8.925E+02	0.000E+00	0.000E+00	0.000E+00	-3.646E+04
		-1.830E+03	8.925E+02	0.000E+00	0.000E+00	0.000E+00	3.557E+04
17	3	1.868E+02	-2.707E+01	0.000E+00	0.000E+00	0.000E+00	-8.628E+02
		-1.868E+02	2.707E+01	0.000E+00	0.000E+00	0.000E+00	8.357E+02
17	4	7.969E+02	-3.246E+02	0.000E+00	0.000E+00	0.000E+00	-1.302E+04
		-7.969E+02	3.246E+02	0.000E+00	0.000E+00	0.000E+00	1.269E+04
17	5	4.232E+02	-2.704E+02	0.000E+00	0.000E+00	0.000E+00	-1.129E+04
		-4.232E+02	2.704E+02	0.000E+00	0.000E+00	0.000E+00	1.102E+04
18	1	6.424E+02	-3.033E+02	0.000E+00	0.000E+00	0.000E+00	-1.264E+04
		-6.424E+02	3.033E+02	0.000E+00	0.000E+00	0.000E+00	5.659E+03
18	2	1.830E+03	-8.925E+02	0.000E+00	0.000E+00	0.000E+00	-3.557E+04
		-1.830E+03	8.925E+02	0.000E+00	0.000E+00	0.000E+00	1.504E+04
18	3	1.868E+02	-2.707E+01	0.000E+00	0.000E+00	0.000E+00	-8.357E+02
		-1.868E+02	2.707E+01	0.000E+00	0.000E+00	0.000E+00	2.130E+02
18	4	7.969E+02	-3.246E+02	0.000E+00	0.000E+00	0.000E+00	-1.269E+04
		-7.969E+02	3.246E+02	0.000E+00	0.000E+00	0.000E+00	5.226E+03
18	5	4.232E+02	-2.704E+02	0.000E+00	0.000E+00	0.000E+00	-1.102E+04
		-4.232E+02	2.704E+02	0.000E+00	0.000E+00	0.000E+00	4.800E+03
19	1	6.424E+02	-4.709E+02	0.000E+00	0.000E+00	0.000E+00	-5.659E+03
		-6.424E+02	4.709E+02	0.000E+00	0.000E+00	0.000E+00	-2.071E+04
19	2	1.830E+03	-1.295E+03	0.000E+00	0.000E+00	0.000E+00	-1.504E+04
		-1.830E+03	1.295E+03	0.000E+00	0.000E+00	0.000E+00	-5.745E+04
19	3	2.498E+02	-2.707E+01	0.000E+00	0.000E+00	0.000E+00	-2.130E+02
		-2.498E+02	2.707E+01	0.000E+00	0.000E+00	0.000E+00	-1.303E+03
19	4	8.599E+02	-4.586E+02	0.000E+00	0.000E+00	0.000E+00	-5.226E+03



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CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

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19	5	-8.599E+02	4.586E+02	0.000E+00	0.000E+00	0.000E+00	-2.045E+04
		3.602E+02	-4.044E+02	0.000E+00	0.000E+00	0.000E+00	-4.800E+03
		-3.602E+02	4.044E+02	0.000E+00	0.000E+00	0.000E+00	-1.785E+04
20	1	-5.024E+01	1.903E+02	0.000E+00	0.000E+00	0.000E+00	1.118E+04
		5.024E+01	-1.903E+02	0.000E+00	0.000E+00	0.000E+00	4.567E+03
20	2	-1.364E+02	5.326E+02	0.000E+00	0.000E+00	0.000E+00	3.128E+04
		1.364E+02	-5.326E+02	0.000E+00	0.000E+00	0.000E+00	1.279E+04
20	3	-4.877E+02	-7.880E+00	0.000E+00	0.000E+00	0.000E+00	1.776E+00
		4.877E+02	7.880E+00	0.000E+00	0.000E+00	0.000E+00	-6.539E+02
20	4	-5.332E+02	1.697E+02	0.000E+00	0.000E+00	0.000E+00	1.043E+04
		5.332E+02	-1.697E+02	0.000E+00	0.000E+00	0.000E+00	3.610E+03
20	5	4.423E+02	1.854E+02	0.000E+00	0.000E+00	0.000E+00	1.043E+04
		-4.423E+02	-1.854E+02	0.000E+00	0.000E+00	0.000E+00	4.918E+03
21	1	-2.305E+02	-6.328E+01	0.000E+00	0.000E+00	0.000E+00	-2.086E+03
		2.305E+02	6.328E+01	0.000E+00	0.000E+00	0.000E+00	-1.508E+03
21	2	-6.494E+02	-1.774E+02	0.000E+00	0.000E+00	0.000E+00	-5.839E+03
		6.494E+02	1.774E+02	0.000E+00	0.000E+00	0.000E+00	-4.236E+03
21	3	-2.105E+02	-6.236E+01	0.000E+00	0.000E+00	0.000E+00	-1.751E+03
		2.105E+02	6.236E+01	0.000E+00	0.000E+00	0.000E+00	-1.791E+03
21	4	-4.270E+02	-1.215E+02	0.000E+00	0.000E+00	0.000E+00	-3.698E+03
		4.270E+02	1.215E+02	0.000E+00	0.000E+00	0.000E+00	-3.203E+03
21	5	-5.939E+00	3.232E+00	0.000E+00	0.000E+00	0.000E+00	-1.953E+02
		5.939E+00	-3.232E+00	0.000E+00	0.000E+00	0.000E+00	3.789E+02
22	1	3.015E+01	7.890E+02	0.000E+00	0.000E+00	0.000E+00	4.532E+03
		-3.015E+01	-7.890E+02	0.000E+00	0.000E+00	0.000E+00	4.935E+03
22	2	1.216E+02	2.168E+03	0.000E+00	0.000E+00	0.000E+00	1.232E+04
		-1.216E+02	-2.168E+03	0.000E+00	0.000E+00	0.000E+00	1.370E+04
22	3	1.800E+01	-2.368E+02	0.000E+00	0.000E+00	0.000E+00	-6.943E+02
		-1.800E+01	2.368E+02	0.000E+00	0.000E+00	0.000E+00	-2.147E+03
22	4	5.852E+01	4.859E+02	0.000E+00	0.000E+00	0.000E+00	3.412E+03
		-5.852E+01	-4.859E+02	0.000E+00	0.000E+00	0.000E+00	2.419E+03
22	5	2.253E+01	9.595E+02	0.000E+00	0.000E+00	0.000E+00	4.801E+03
		-2.253E+01	-9.595E+02	0.000E+00	0.000E+00	0.000E+00	6.713E+03
23	1	7.496E+01	8.103E+01	0.000E+00	0.000E+00	0.000E+00	-8.665E+02
		-7.496E+01	-8.103E+01	0.000E+00	0.000E+00	0.000E+00	1.839E+03
23	2	2.831E+02	1.849E+02	0.000E+00	0.000E+00	0.000E+00	-2.656E+03
		-2.831E+02	-1.849E+02	0.000E+00	0.000E+00	0.000E+00	4.875E+03
23	3	2.674E+01	-1.664E+01	0.000E+00	0.000E+00	0.000E+00	1.767E+03
		-2.674E+01	1.664E+01	0.000E+00	0.000E+00	0.000E+00	-1.966E+03
23	4	1.211E+02	4.500E+01	0.000E+00	0.000E+00	0.000E+00	8.813E+02
		-1.211E+02	-4.500E+01	0.000E+00	0.000E+00	0.000E+00	-3.413E+02
23	5	6.762E+01	7.827E+01	0.000E+00	0.000E+00	0.000E+00	-2.652E+03
		-6.762E+01	-7.827E+01	0.000E+00	0.000E+00	0.000E+00	3.591E+03
24	1	1.357E+02	6.424E+02	0.000E+00	0.000E+00	0.000E+00	1.697E+03
		-1.357E+02	-6.424E+02	0.000E+00	0.000E+00	0.000E+00	1.372E+04
24	2	4.905E+02	1.830E+03	0.000E+00	0.000E+00	0.000E+00	4.641E+03
		-4.905E+02	-1.830E+03	0.000E+00	0.000E+00	0.000E+00	3.928E+04



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24	3	2.707E+01	1.238E+02	0.000E+00	0.000E+00	0.000E+00	1.954E+03
		-2.707E+01	-1.238E+02	0.000E+00	0.000E+00	0.000E+00	1.018E+03
24	4	1.906E+02	7.339E+02	0.000E+00	0.000E+00	0.000E+00	3.500E+03
		-1.906E+02	-7.339E+02	0.000E+00	0.000E+00	0.000E+00	1.411E+04
24	5	1.364E+02	4.862E+02	0.000E+00	0.000E+00	0.000E+00	-4.068E+02
		-1.364E+02	-4.862E+02	0.000E+00	0.000E+00	0.000E+00	1.208E+04
25	1	-1.939E+03	-5.932E+02	0.000E+00	0.000E+00	0.000E+00	-1.451E+04
		1.939E+03	5.932E+02	0.000E+00	0.000E+00	0.000E+00	-1.871E+04
25	2	-5.459E+03	-1.663E+03	0.000E+00	0.000E+00	0.000E+00	-4.070E+04
		5.459E+03	1.663E+03	0.000E+00	0.000E+00	0.000E+00	-5.245E+04
25	3	-5.016E+02	2.322E+02	0.000E+00	0.000E+00	0.000E+00	8.141E+03
		5.016E+02	-2.322E+02	0.000E+00	0.000E+00	0.000E+00	4.862E+03
25	4	-2.321E+03	-3.223E+02	0.000E+00	0.000E+00	0.000E+00	-5.424E+03
		2.321E+03	3.223E+02	0.000E+00	0.000E+00	0.000E+00	-1.262E+04
25	5	-1.318E+03	-7.867E+02	0.000E+00	0.000E+00	0.000E+00	-2.171E+04
		1.318E+03	7.867E+02	0.000E+00	0.000E+00	0.000E+00	-2.235E+04
26	1	-1.669E+03	1.958E+02	0.000E+00	0.000E+00	0.000E+00	9.948E+03
		1.669E+03	-1.958E+02	0.000E+00	0.000E+00	0.000E+00	-7.599E+03
26	2	-4.680E+03	5.047E+02	0.000E+00	0.000E+00	0.000E+00	2.757E+04
		4.680E+03	-5.047E+02	0.000E+00	0.000E+00	0.000E+00	-2.151E+04
26	3	-5.196E+02	-1.446E+02	0.000E+00	0.000E+00	0.000E+00	-4.013E+03
		5.196E+02	1.446E+02	0.000E+00	0.000E+00	0.000E+00	2.278E+03
26	4	-2.080E+03	2.364E+01	0.000E+00	0.000E+00	0.000E+00	5.176E+03
		2.080E+03	-2.364E+01	0.000E+00	0.000E+00	0.000E+00	-4.892E+03
26	5	-1.040E+03	3.128E+02	0.000E+00	0.000E+00	0.000E+00	1.320E+04
		1.040E+03	-3.128E+02	0.000E+00	0.000E+00	0.000E+00	-9.448E+03
27	1	-1.462E+03	-5.122E+02	0.000E+00	0.000E+00	0.000E+00	4.850E+02
		1.462E+03	5.122E+02	0.000E+00	0.000E+00	0.000E+00	-6.631E+03
27	2	-4.086E+03	-1.478E+03	0.000E+00	0.000E+00	0.000E+00	1.323E+03
		4.086E+03	1.478E+03	0.000E+00	0.000E+00	0.000E+00	-1.907E+04
27	3	-5.283E+02	-4.243E+01	0.000E+00	0.000E+00	0.000E+00	-1.909E+03
		5.283E+02	4.243E+01	0.000E+00	0.000E+00	0.000E+00	1.399E+03
27	4	-1.890E+03	-5.353E+02	0.000E+00	0.000E+00	0.000E+00	-1.467E+03
		1.890E+03	5.353E+02	0.000E+00	0.000E+00	0.000E+00	-4.956E+03
27	5	-8.336E+02	-4.504E+02	0.000E+00	0.000E+00	0.000E+00	2.350E+03
		8.336E+02	4.504E+02	0.000E+00	0.000E+00	0.000E+00	-7.754E+03
28	1	-1.243E+03	4.917E+01	0.000E+00	0.000E+00	0.000E+00	-1.459E+02
		1.243E+03	-4.917E+01	0.000E+00	0.000E+00	0.000E+00	1.326E+03
28	2	-3.453E+03	1.667E+02	0.000E+00	0.000E+00	0.000E+00	-1.972E+02
		3.453E+03	-1.667E+02	0.000E+00	0.000E+00	0.000E+00	4.198E+03
28	3	-5.287E+02	-3.196E+01	0.000E+00	0.000E+00	0.000E+00	-1.383E+03
		5.287E+02	3.196E+01	0.000E+00	0.000E+00	0.000E+00	6.163E+02
28	4	-1.680E+03	2.360E+01	0.000E+00	0.000E+00	0.000E+00	-1.449E+03
		1.680E+03	-2.360E+01	0.000E+00	0.000E+00	0.000E+00	2.015E+03
28	5	-6.224E+02	8.752E+01	0.000E+00	0.000E+00	0.000E+00	1.318E+03
		6.224E+02	-8.752E+01	0.000E+00	0.000E+00	0.000E+00	7.829E+02
29	1	4.765E+01	3.149E+02	0.000E+00	0.000E+00	0.000E+00	9.403E+03



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		-4.765E+01	-3.149E+02	0.000E+00	0.000E+00	0.000E+00	8.231E+03
29	2	-1.414E+01	8.839E+02	0.000E+00	0.000E+00	0.000E+00	2.638E+04
		1.414E+01	-8.839E+02	0.000E+00	0.000E+00	0.000E+00	2.312E+04
29	3	4.887E+02	3.780E+02	0.000E+00	0.000E+00	0.000E+00	1.195E+04
		-4.887E+02	-3.780E+02	0.000E+00	0.000E+00	0.000E+00	9.217E+03
29	4	4.840E+02	6.726E+02	0.000E+00	0.000E+00	0.000E+00	2.074E+04
		-4.840E+02	-6.726E+02	0.000E+00	0.000E+00	0.000E+00	1.692E+04
29	5	-4.935E+02	-8.330E+01	0.000E+00	0.000E+00	0.000E+00	-3.154E+03
		4.935E+02	8.330E+01	0.000E+00	0.000E+00	0.000E+00	-1.511E+03
30	1	-3.380E+02	2.676E+02	0.000E+00	0.000E+00	0.000E+00	4.581E+02
		3.380E+02	-2.676E+02	0.000E+00	0.000E+00	0.000E+00	2.753E+03
30	2	-1.062E+03	7.710E+02	0.000E+00	0.000E+00	0.000E+00	1.424E+03
		1.062E+03	-7.710E+02	0.000E+00	0.000E+00	0.000E+00	7.828E+03
30	3	5.728E+01	4.017E+01	0.000E+00	0.000E+00	0.000E+00	-3.773E+03
		-5.728E+01	-4.017E+01	0.000E+00	0.000E+00	0.000E+00	4.255E+03
30	4	-2.967E+02	2.972E+02	0.000E+00	0.000E+00	0.000E+00	-3.298E+03
		2.967E+02	-2.972E+02	0.000E+00	0.000E+00	0.000E+00	6.865E+03
30	5	-4.112E+02	2.168E+02	0.000E+00	0.000E+00	0.000E+00	4.248E+03
		4.112E+02	-2.168E+02	0.000E+00	0.000E+00	0.000E+00	-1.646E+03
31	1	-1.697E+02	1.148E+02	0.000E+00	0.000E+00	0.000E+00	-1.063E+03
		1.697E+02	-1.148E+02	0.000E+00	0.000E+00	0.000E+00	2.441E+03
31	2	-5.607E+02	3.505E+02	0.000E+00	0.000E+00	0.000E+00	-2.864E+03
		5.607E+02	-3.505E+02	0.000E+00	0.000E+00	0.000E+00	7.071E+03
31	3	8.360E+01	-8.258E+01	0.000E+00	0.000E+00	0.000E+00	-3.508E+03
		-8.360E+01	8.258E+01	0.000E+00	0.000E+00	0.000E+00	2.517E+03
31	4	-1.033E+02	3.427E+01	0.000E+00	0.000E+00	0.000E+00	-4.462E+03
		1.033E+02	-3.427E+01	0.000E+00	0.000E+00	0.000E+00	4.874E+03
31	5	-2.705E+02	1.994E+02	0.000E+00	0.000E+00	0.000E+00	2.553E+03
		2.705E+02	-1.994E+02	0.000E+00	0.000E+00	0.000E+00	-1.598E+02
32	1	1.328E+02	8.762E+01	0.000E+00	0.000E+00	0.000E+00	-5.395E+01
		-1.328E+02	-8.762E+01	0.000E+00	0.000E+00	0.000E+00	1.105E+03
32	2	3.462E+02	2.725E+02	0.000E+00	0.000E+00	0.000E+00	7.193E+01
		-3.462E+02	-2.725E+02	0.000E+00	0.000E+00	0.000E+00	3.198E+03
32	3	7.672E+01	-2.021E+02	0.000E+00	0.000E+00	0.000E+00	-2.709E+03
		-7.672E+01	2.021E+02	0.000E+00	0.000E+00	0.000E+00	2.835E+02
32	4	1.921E+02	-1.113E+02	0.000E+00	0.000E+00	0.000E+00	-2.685E+03
		-1.921E+02	1.113E+02	0.000E+00	0.000E+00	0.000E+00	1.350E+03
32	5	3.869E+01	2.930E+02	0.000E+00	0.000E+00	0.000E+00	2.733E+03
		-3.869E+01	-2.930E+02	0.000E+00	0.000E+00	0.000E+00	7.825E+02
33	1	2.536E+02	1.803E+02	0.000E+00	0.000E+00	0.000E+00	-3.179E+02
		-2.536E+02	-1.803E+02	0.000E+00	0.000E+00	0.000E+00	2.481E+03
33	2	7.100E+02	5.131E+02	0.000E+00	0.000E+00	0.000E+00	-7.962E+02
		-7.100E+02	-5.131E+02	0.000E+00	0.000E+00	0.000E+00	6.953E+03
33	3	5.448E+01	-2.772E+02	0.000E+00	0.000E+00	0.000E+00	-9.214E+02
		-5.448E+01	2.772E+02	0.000E+00	0.000E+00	0.000E+00	-2.405E+03
33	4	2.912E+02	-1.062E+02	0.000E+00	0.000E+00	0.000E+00	-1.187E+03
		-2.912E+02	1.062E+02	0.000E+00	0.000E+00	0.000E+00	-8.742E+01
33	5	1.822E+02	4.482E+02	0.000E+00	0.000E+00	0.000E+00	6.560E+02



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		-1.822E+02	-4.482E+02	0.000E+00	0.000E+00	0.000E+00	4.723E+03
34	1	-2.960E+02	2.783E+02	0.000E+00	0.000E+00	0.000E+00	8.735E+03
		2.960E+02	-2.783E+02	0.000E+00	0.000E+00	0.000E+00	6.348E+03
34	2	-8.873E+02	7.795E+02	0.000E+00	0.000E+00	0.000E+00	2.448E+04
		8.873E+02	-7.795E+02	0.000E+00	0.000E+00	0.000E+00	1.777E+04
34	3	1.284E+01	3.818E+02	0.000E+00	0.000E+00	0.000E+00	1.208E+04
		-1.284E+01	-3.818E+02	0.000E+00	0.000E+00	0.000E+00	8.620E+03
34	4	-2.829E+02	6.417E+02	0.000E+00	0.000E+00	0.000E+00	2.023E+04
		2.829E+02	-6.417E+02	0.000E+00	0.000E+00	0.000E+00	1.454E+04
34	5	-3.086E+02	-1.220E+02	0.000E+00	0.000E+00	0.000E+00	-3.917E+03
		3.086E+02	1.220E+02	0.000E+00	0.000E+00	0.000E+00	-2.697E+03
35	1	-2.817E+02	-3.178E+02	0.000E+00	0.000E+00	0.000E+00	-5.772E+03
		2.817E+02	3.178E+02	0.000E+00	0.000E+00	0.000E+00	1.958E+03
35	2	-8.355E+02	-9.074E+02	0.000E+00	0.000E+00	0.000E+00	-1.632E+04
		8.355E+02	9.074E+02	0.000E+00	0.000E+00	0.000E+00	5.429E+03
35	3	-6.516E+01	-1.479E+02	0.000E+00	0.000E+00	0.000E+00	-6.331E+03
		6.516E+01	1.479E+02	0.000E+00	0.000E+00	0.000E+00	4.556E+03
35	4	-3.437E+02	-4.504E+02	0.000E+00	0.000E+00	0.000E+00	-1.177E+04
		3.437E+02	4.504E+02	0.000E+00	0.000E+00	0.000E+00	6.366E+03
35	5	-2.133E+02	-1.546E+02	0.000E+00	0.000E+00	0.000E+00	8.918E+02
		2.133E+02	1.546E+02	0.000E+00	0.000E+00	0.000E+00	-2.746E+03
36	1	-2.400E+02	-1.650E+02	0.000E+00	0.000E+00	0.000E+00	-2.300E+03
		2.400E+02	1.650E+02	0.000E+00	0.000E+00	0.000E+00	3.197E+02
36	2	-7.066E+02	-4.869E+02	0.000E+00	0.000E+00	0.000E+00	-6.560E+03
		7.066E+02	4.869E+02	0.000E+00	0.000E+00	0.000E+00	7.178E+02
36	3	-9.148E+01	-1.232E+02	0.000E+00	0.000E+00	0.000E+00	-3.809E+03
		9.148E+01	1.232E+02	0.000E+00	0.000E+00	0.000E+00	2.331E+03
36	4	-3.270E+02	-2.855E+02	0.000E+00	0.000E+00	0.000E+00	-5.995E+03
		3.270E+02	2.855E+02	0.000E+00	0.000E+00	0.000E+00	2.570E+03
36	5	-1.441E+02	-3.913E+01	0.000E+00	0.000E+00	0.000E+00	1.622E+03
		1.441E+02	3.913E+01	0.000E+00	0.000E+00	0.000E+00	-2.091E+03
37	1	-1.225E+02	-1.379E+02	0.000E+00	0.000E+00	0.000E+00	-1.946E+03
		1.225E+02	1.379E+02	0.000E+00	0.000E+00	0.000E+00	2.920E+02
37	2	-3.536E+02	-4.089E+02	0.000E+00	0.000E+00	0.000E+00	-5.611E+03
		3.536E+02	4.089E+02	0.000E+00	0.000E+00	0.000E+00	7.050E+02
37	3	-8.460E+01	-2.016E+02	0.000E+00	0.000E+00	0.000E+00	-2.529E+03
		8.460E+01	2.016E+02	0.000E+00	0.000E+00	0.000E+00	1.101E+02
37	4	-2.025E+02	-3.379E+02	0.000E+00	0.000E+00	0.000E+00	-4.400E+03
		2.025E+02	3.379E+02	0.000E+00	0.000E+00	0.000E+00	3.451E+02
37	5	-3.326E+01	6.530E+01	0.000E+00	0.000E+00	0.000E+00	6.587E+02
		3.326E+01	-6.530E+01	0.000E+00	0.000E+00	0.000E+00	1.249E+02
38	1	-6.328E+01	-2.305E+02	0.000E+00	0.000E+00	0.000E+00	-1.258E+03
		6.328E+01	2.305E+02	0.000E+00	0.000E+00	0.000E+00	-1.508E+03
38	2	-1.774E+02	-6.494E+02	0.000E+00	0.000E+00	0.000E+00	-3.557E+03
		1.774E+02	6.494E+02	0.000E+00	0.000E+00	0.000E+00	-4.236E+03
38	3	-6.236E+01	-2.105E+02	0.000E+00	0.000E+00	0.000E+00	-7.355E+02
		6.236E+01	2.105E+02	0.000E+00	0.000E+00	0.000E+00	-1.791E+03



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 302 OF

BY BNS DATE 12/5/97

CHK'D B DATE 12-5-97

38	4	-1.215E+02	-4.270E+02	0.000E+00	0.000E+00	0.000E+00	-1.921E+03
		1.215E+02	4.270E+02	0.000E+00	0.000E+00	0.000E+00	-3.203E+03
38	5	3.232E+00	-5.939E+00	0.000E+00	0.000E+00	0.000E+00	-4.501E+02
		-3.232E+00	5.939E+00	0.000E+00	0.000E+00	0.000E+00	3.789E+02
39	1	5.961E+02	1.431E+01	0.000E+00	0.000E+00	0.000E+00	-5.765E+02
		-5.961E+02	-1.431E+01	0.000E+00	0.000E+00	0.000E+00	9.642E+02
39	2	1.687E+03	5.185E+01	0.000E+00	0.000E+00	0.000E+00	-1.453E+03
		-1.687E+03	-5.185E+01	0.000E+00	0.000E+00	0.000E+00	2.858E+03
39	3	5.298E+02	-7.800E+01	0.000E+00	0.000E+00	0.000E+00	-2.289E+03
		-5.298E+02	7.800E+01	0.000E+00	0.000E+00	0.000E+00	1.754E+02
39	4	1.092E+03	-6.072E+01	0.000E+00	0.000E+00	0.000E+00	-2.773E+03
		-1.092E+03	6.072E+01	0.000E+00	0.000E+00	0.000E+00	1.128E+03
39	5	3.253E+01	9.528E+01	0.000E+00	0.000E+00	0.000E+00	1.805E+03
		-3.253E+01	-9.528E+01	0.000E+00	0.000E+00	0.000E+00	7.772E+02
40	1	-1.528E+02	4.172E+01	0.000E+00	0.000E+00	0.000E+00	3.426E+02
		1.528E+02	-4.172E+01	0.000E+00	0.000E+00	0.000E+00	7.880E+02
40	2	-4.205E+02	1.288E+02	0.000E+00	0.000E+00	0.000E+00	1.131E+03
		4.205E+02	-1.288E+02	0.000E+00	0.000E+00	0.000E+00	2.361E+03
40	3	-2.475E+01	-2.632E+01	0.000E+00	0.000E+00	0.000E+00	-7.476E+02
		2.475E+01	2.632E+01	0.000E+00	0.000E+00	0.000E+00	3.426E+01
40	4	-1.649E+02	1.662E+01	0.000E+00	0.000E+00	0.000E+00	-3.706E+02
		1.649E+02	-1.662E+01	0.000E+00	0.000E+00	0.000E+00	8.211E+02
40	5	-1.154E+02	6.927E+01	0.000E+00	0.000E+00	0.000E+00	1.125E+03
		1.154E+02	-6.927E+01	0.000E+00	0.000E+00	0.000E+00	7.526E+02
41	1	-2.717E+01	1.175E+02	0.000E+00	0.000E+00	0.000E+00	1.627E+03
		2.717E+01	-1.175E+02	0.000E+00	0.000E+00	0.000E+00	1.558E+03
41	2	-7.802E+01	3.530E+02	0.000E+00	0.000E+00	0.000E+00	4.894E+03
		7.802E+01	-3.530E+02	0.000E+00	0.000E+00	0.000E+00	4.674E+03
41	3	7.843E+01	6.883E+00	0.000E+00	0.000E+00	0.000E+00	1.984E+02
		-7.843E+01	-6.883E+00	0.000E+00	0.000E+00	0.000E+00	-1.188E+01
41	4	5.242E+01	1.246E+02	0.000E+00	0.000E+00	0.000E+00	1.830E+03
		-5.242E+01	-1.246E+02	0.000E+00	0.000E+00	0.000E+00	1.546E+03
41	5	-1.044E+02	1.108E+02	0.000E+00	0.000E+00	0.000E+00	1.433E+03
		1.044E+02	-1.108E+02	0.000E+00	0.000E+00	0.000E+00	1.570E+03
42	1	9.266E+01	5.923E+01	0.000E+00	0.000E+00	0.000E+00	9.658E+02
		-9.266E+01	-5.923E+01	0.000E+00	0.000E+00	0.000E+00	6.394E+02
42	2	2.406E+02	1.762E+02	0.000E+00	0.000E+00	0.000E+00	2.852E+03
		-2.406E+02	-1.762E+02	0.000E+00	0.000E+00	0.000E+00	1.923E+03
42	3	8.949E+00	2.224E+01	0.000E+00	0.000E+00	0.000E+00	6.254E+02
		-8.949E+00	-2.224E+01	0.000E+00	0.000E+00	0.000E+00	-2.270E+01
42	4	8.914E+01	8.097E+01	0.000E+00	0.000E+00	0.000E+00	1.576E+03
		-8.914E+01	-8.097E+01	0.000E+00	0.000E+00	0.000E+00	6.183E+02
42	5	7.124E+01	3.649E+01	0.000E+00	0.000E+00	0.000E+00	3.252E+02
		-7.124E+01	-3.649E+01	0.000E+00	0.000E+00	0.000E+00	6.637E+02
43	1	8.482E+02	1.800E+02	0.000E+00	0.000E+00	0.000E+00	1.086E+04
		-8.482E+02	-1.800E+02	0.000E+00	0.000E+00	0.000E+00	6.361E+03
43	2	2.373E+03	5.034E+02	0.000E+00	0.000E+00	0.000E+00	3.037E+04



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		-2.373E+03	-5.034E+02	0.000E+00	0.000E+00	0.000E+00	1.779E+04
43	3	9.213E+02	5.457E+01	0.000E+00	0.000E+00	0.000E+00	1.918E+03
		-9.213E+02	-5.457E+01	0.000E+00	0.000E+00	0.000E+00	3.303E+03
43	4	1.712E+03	2.224E+02	0.000E+00	0.000E+00	0.000E+00	1.204E+04
		-1.712E+03	-2.224E+02	0.000E+00	0.000E+00	0.000E+00	9.232E+03
43	5	-1.304E+02	1.132E+02	0.000E+00	0.000E+00	0.000E+00	8.205E+03
		1.304E+02	-1.132E+02	0.000E+00	0.000E+00	0.000E+00	2.626E+03
44	1	5.961E+02	1.957E+02	0.000E+00	0.000E+00	0.000E+00	2.328E+03
		-5.961E+02	-1.957E+02	0.000E+00	0.000E+00	0.000E+00	-1.212E+03
44	2	1.687E+03	5.782E+02	0.000E+00	0.000E+00	0.000E+00	6.753E+03
		-1.687E+03	-5.782E+02	0.000E+00	0.000E+00	0.000E+00	-3.458E+03
44	3	4.318E+02	7.800E+01	0.000E+00	0.000E+00	0.000E+00	2.141E+03
		-4.318E+02	-7.800E+01	0.000E+00	0.000E+00	0.000E+00	-1.697E+03
44	4	9.940E+02	2.707E+02	0.000E+00	0.000E+00	0.000E+00	4.392E+03
		-9.940E+02	-2.707E+02	0.000E+00	0.000E+00	0.000E+00	-2.849E+03
44	5	1.305E+02	1.147E+02	0.000E+00	0.000E+00	0.000E+00	1.100E+02
		-1.305E+02	-1.147E+02	0.000E+00	0.000E+00	0.000E+00	5.439E+02
45	1	5.961E+02	9.069E+01	0.000E+00	0.000E+00	0.000E+00	1.212E+03
		-5.961E+02	-9.069E+01	0.000E+00	0.000E+00	0.000E+00	9.642E+02
45	2	1.687E+03	2.632E+02	0.000E+00	0.000E+00	0.000E+00	3.458E+03
		-1.687E+03	-2.632E+02	0.000E+00	0.000E+00	0.000E+00	2.858E+03
45	3	4.808E+02	7.800E+01	0.000E+00	0.000E+00	0.000E+00	1.697E+03
		-4.808E+02	-7.800E+01	0.000E+00	0.000E+00	0.000E+00	1.754E+02
45	4	1.043E+03	1.657E+02	0.000E+00	0.000E+00	0.000E+00	2.849E+03
		-1.043E+03	-1.657E+02	0.000E+00	0.000E+00	0.000E+00	1.128E+03
45	5	8.153E+01	9.720E+00	0.000E+00	0.000E+00	0.000E+00	-5.439E+02
		-8.153E+01	-9.720E+00	0.000E+00	0.000E+00	0.000E+00	7.772E+02
46	1	-1.528E+02	1.683E+02	0.000E+00	0.000E+00	0.000E+00	1.690E+03
		1.528E+02	-1.683E+02	0.000E+00	0.000E+00	0.000E+00	-7.308E+02
46	2	-4.205E+02	5.012E+02	0.000E+00	0.000E+00	0.000E+00	4.964E+03
		4.205E+02	-5.012E+02	0.000E+00	0.000E+00	0.000E+00	-2.107E+03
46	3	-1.227E+02	2.632E+01	0.000E+00	0.000E+00	0.000E+00	7.476E+02
		1.227E+02	-2.632E+01	0.000E+00	0.000E+00	0.000E+00	-5.975E+02
46	4	-2.629E+02	1.934E+02	0.000E+00	0.000E+00	0.000E+00	2.402E+03
		2.629E+02	-1.934E+02	0.000E+00	0.000E+00	0.000E+00	-1.300E+03
46	5	-1.742E+01	1.407E+02	0.000E+00	0.000E+00	0.000E+00	9.070E+02
		1.742E+01	-1.407E+02	0.000E+00	0.000E+00	0.000E+00	-1.049E+02
47	1	-1.528E+02	6.328E+01	0.000E+00	0.000E+00	0.000E+00	7.308E+02
		1.528E+02	-6.328E+01	0.000E+00	0.000E+00	0.000E+00	7.880E+02
47	2	-4.205E+02	1.862E+02	0.000E+00	0.000E+00	0.000E+00	2.107E+03
		4.205E+02	-1.862E+02	0.000E+00	0.000E+00	0.000E+00	2.361E+03
47	3	-7.375E+01	2.632E+01	0.000E+00	0.000E+00	0.000E+00	5.975E+02
		7.375E+01	-2.632E+01	0.000E+00	0.000E+00	0.000E+00	3.426E+01
47	4	-2.139E+02	8.838E+01	0.000E+00	0.000E+00	0.000E+00	1.300E+03
		2.139E+02	-8.838E+01	0.000E+00	0.000E+00	0.000E+00	8.211E+02
47	5	-6.642E+01	3.573E+01	0.000E+00	0.000E+00	0.000E+00	1.049E+02
		6.642E+01	-3.573E+01	0.000E+00	0.000E+00	0.000E+00	7.526E+02



EQE INTERNATIONAL

JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

CALC. NO. OC-05-01 Rev. 2 SUBJECT Analytical Review No. TB796-8

SHEET NO. 304 OF

BY BNS DATE 12/5/97

CHK'D P DATE 12-5-97

48	1	-2.717E+01	3.025E+02	0.000E+00	0.000E+00	0.000E+00	2.387E+03
		2.717E+01	-3.025E+02	0.000E+00	0.000E+00	0.000E+00	-6.623E+02
48	2	-7.802E+01	9.070E+02	0.000E+00	0.000E+00	0.000E+00	7.143E+03
		7.802E+01	-9.070E+02	0.000E+00	0.000E+00	0.000E+00	-1.973E+03
48	3	-1.196E+02	-6.883E+00	0.000E+00	0.000E+00	0.000E+00	-1.926E+02
		1.196E+02	6.883E+00	0.000E+00	0.000E+00	0.000E+00	1.533E+02
48	4	-1.456E+02	2.954E+02	0.000E+00	0.000E+00	0.000E+00	2.188E+03
		1.456E+02	-2.954E+02	0.000E+00	0.000E+00	0.000E+00	-5.043E+02
48	5	9.357E+01	3.092E+02	0.000E+00	0.000E+00	0.000E+00	2.573E+03
		-9.357E+01	-3.092E+02	0.000E+00	0.000E+00	0.000E+00	-8.110E+02
49	1	-2.717E+01	9.250E+01	0.000E+00	0.000E+00	0.000E+00	6.623E+02
		2.717E+01	-9.250E+01	0.000E+00	0.000E+00	0.000E+00	1.558E+03
49	2	-7.802E+01	2.770E+02	0.000E+00	0.000E+00	0.000E+00	1.973E+03
		7.802E+01	-2.770E+02	0.000E+00	0.000E+00	0.000E+00	4.674E+03
49	3	-2.057E+01	-6.883E+00	0.000E+00	0.000E+00	0.000E+00	-1.533E+02
		2.057E+01	6.883E+00	0.000E+00	0.000E+00	0.000E+00	-1.188E+01
49	4	-4.658E+01	8.544E+01	0.000E+00	0.000E+00	0.000E+00	5.043E+02
		4.658E+01	-8.544E+01	0.000E+00	0.000E+00	0.000E+00	1.546E+03
49	5	-5.433E+00	9.920E+01	0.000E+00	0.000E+00	0.000E+00	8.110E+02
		5.433E+00	-9.920E+01	0.000E+00	0.000E+00	0.000E+00	1.570E+03
50	1	9.266E+01	1.208E+02	0.000E+00	0.000E+00	0.000E+00	7.875E+02
		-9.266E+01	-1.208E+02	0.000E+00	0.000E+00	0.000E+00	-9.908E+01
50	2	2.406E+02	3.638E+02	0.000E+00	0.000E+00	0.000E+00	2.402E+03
		-2.406E+02	-3.638E+02	0.000E+00	0.000E+00	0.000E+00	-3.283E+02
50	3	-7.505E+01	-2.224E+01	0.000E+00	0.000E+00	0.000E+00	-6.379E+02
		7.505E+01	2.224E+01	0.000E+00	0.000E+00	0.000E+00	5.111E+02
50	4	5.136E+00	9.903E+01	0.000E+00	0.000E+00	0.000E+00	1.628E+02
		-5.136E+00	-9.903E+01	0.000E+00	0.000E+00	0.000E+00	4.017E+02
50	5	1.552E+02	1.435E+02	0.000E+00	0.000E+00	0.000E+00	1.439E+03
		-1.552E+02	-1.435E+02	0.000E+00	0.000E+00	0.000E+00	-6.205E+02
51	1	9.266E+01	3.077E+01	0.000E+00	0.000E+00	0.000E+00	9.908E+01
		-9.266E+01	-3.077E+01	0.000E+00	0.000E+00	0.000E+00	6.394E+02
51	2	2.406E+02	9.380E+01	0.000E+00	0.000E+00	0.000E+00	3.283E+02
		-2.406E+02	-9.380E+01	0.000E+00	0.000E+00	0.000E+00	1.923E+03
51	3	-3.305E+01	-2.224E+01	0.000E+00	0.000E+00	0.000E+00	-5.111E+02
		3.305E+01	2.224E+01	0.000E+00	0.000E+00	0.000E+00	-2.270E+01
51	4	4.714E+01	9.026E+00	0.000E+00	0.000E+00	0.000E+00	-4.017E+02
		-4.714E+01	-9.026E+00	0.000E+00	0.000E+00	0.000E+00	6.183E+02
51	5	1.132E+02	5.351E+01	0.000E+00	0.000E+00	0.000E+00	6.205E+02
		-1.132E+02	-5.351E+01	0.000E+00	0.000E+00	0.000E+00	6.637E+02

1**** BEAM ELEMENT STRESSES

ELEMENT NO.	CASE (MODE)	P/A	P/A+M2/S2	P/A-M2/S2	P/A+M3/S3	P/A-M3/S3	WORST SUM
1	1	6.630E+02	6.630E+02	6.630E+02	1.217E+04	-1.084E+04	1.217E+04
		6.630E+02	6.630E+02	6.630E+02	1.261E+04	-1.128E+04	1.261E+04



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1	2	1.822E+03	1.822E+03	1.822E+03	3.309E+04	-2.945E+04	3.309E+04
		1.822E+03	1.822E+03	1.822E+03	3.487E+04	-3.122E+04	3.487E+04
1	3	-1.990E+02	-1.990E+02	-1.990E+02	-1.961E+03	1.563E+03	-1.961E+03
		-1.990E+02	-1.990E+02	-1.990E+02	-1.699E+03	1.301E+03	-1.699E+03
1	4	4.083E+02	4.083E+02	4.083E+02	9.069E+03	-8.253E+03	9.069E+03
		4.083E+02	4.083E+02	4.083E+02	9.923E+03	-9.107E+03	9.923E+03
1	5	8.063E+02	8.063E+02	8.063E+02	1.299E+04	-1.138E+04	1.299E+04
		8.063E+02	8.063E+02	8.063E+02	1.332E+04	-1.171E+04	1.332E+04
2	1	6.630E+02	6.630E+02	6.630E+02	1.261E+04	-1.128E+04	1.261E+04
		6.630E+02	6.630E+02	6.630E+02	8.047E+03	-6.721E+03	8.047E+03
2	2	1.822E+03	1.822E+03	1.822E+03	3.487E+04	-3.122E+04	3.487E+04
		1.822E+03	1.822E+03	1.822E+03	2.308E+04	-1.944E+04	2.308E+04
2	3	-2.402E+02	-2.402E+02	-2.402E+02	-1.740E+03	1.259E+03	-1.740E+03
		-2.402E+02	-2.402E+02	-2.402E+02	-6.436E+02	1.632E+02	-6.436E+02
2	4	3.672E+02	3.672E+02	3.672E+02	9.882E+03	-9.148E+03	9.882E+03
		3.672E+02	3.672E+02	3.672E+02	7.051E+03	-6.317E+03	7.051E+03
2	5	8.475E+02	8.475E+02	8.475E+02	1.336E+04	-1.167E+04	1.336E+04
		8.475E+02	8.475E+02	8.475E+02	8.338E+03	-6.643E+03	8.338E+03
3	1	6.630E+02	6.630E+02	6.630E+02	8.047E+03	-6.721E+03	8.047E+03
		6.630E+02	6.630E+02	6.630E+02	-3.936E+03	5.262E+03	5.262E+03
3	2	1.822E+03	1.822E+03	1.822E+03	2.308E+04	-1.944E+04	2.308E+04
		1.822E+03	1.822E+03	1.822E+03	-1.079E+04	1.443E+04	1.443E+04
3	3	-2.813E+02	-2.813E+02	-2.813E+02	-6.847E+02	1.221E+02	-6.847E+02
		-2.813E+02	-2.813E+02	-2.813E+02	5.142E+02	-1.077E+03	-1.077E+03
3	4	3.260E+02	3.260E+02	3.260E+02	7.010E+03	-6.358E+03	7.010E+03
		3.260E+02	3.260E+02	3.260E+02	-3.082E+03	3.734E+03	3.734E+03
3	5	8.887E+02	8.887E+02	8.887E+02	8.379E+03	-6.602E+03	8.379E+03
		8.887E+02	8.887E+02	8.887E+02	-4.110E+03	5.888E+03	5.888E+03
4	1	6.630E+02	6.630E+02	6.630E+02	-3.936E+03	5.262E+03	5.262E+03
		6.630E+02	6.630E+02	6.630E+02	-1.763E+04	1.896E+04	1.896E+04
4	2	1.822E+03	1.822E+03	1.822E+03	-1.079E+04	1.443E+04	1.443E+04
		1.822E+03	1.822E+03	1.822E+03	-4.998E+04	5.363E+04	5.363E+04
4	3	-2.990E+02	-2.990E+02	-2.990E+02	4.965E+02	-1.095E+03	-1.095E+03
		-2.990E+02	-2.990E+02	-2.990E+02	-1.593E+03	-2.191E+03	-2.191E+03
4	4	3.083E+02	3.083E+02	3.083E+02	-3.100E+03	3.716E+03	3.716E+03
		3.083E+02	3.083E+02	3.083E+02	-1.507E+04	1.568E+04	1.568E+04
4	5	9.063E+02	9.063E+02	9.063E+02	-4.093E+03	5.905E+03	5.905E+03
		9.063E+02	9.063E+02	9.063E+02	-1.825E+04	2.007E+04	2.007E+04
5	1	6.630E+02	6.630E+02	6.630E+02	-1.763E+04	1.896E+04	1.896E+04
		6.630E+02	6.630E+02	6.630E+02	-2.157E+04	2.290E+04	2.290E+04
5	2	1.822E+03	1.822E+03	1.822E+03	-4.998E+04	5.363E+04	5.363E+04
		1.822E+03	1.822E+03	1.822E+03	-6.134E+04	6.499E+04	6.499E+04
5	3	-3.166E+02	-3.166E+02	-3.166E+02	1.575E+03	-2.208E+03	-2.208E+03
		-3.166E+02	-3.166E+02	-3.166E+02	1.838E+03	-2.471E+03	-2.471E+03
5	4	2.907E+02	2.907E+02	2.907E+02	-1.509E+04	1.567E+04	1.567E+04
		2.907E+02	2.907E+02	2.907E+02	-1.861E+04	1.919E+04	1.919E+04
5	5	9.240E+02	9.240E+02	9.240E+02	-1.824E+04	2.008E+04	2.008E+04
		9.240E+02	9.240E+02	9.240E+02	-2.228E+04	2.413E+04	2.413E+04



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6	1	-5.949E+02	-5.949E+02	-5.949E+02	9.732E+03	-1.092E+04	-1.092E+04
		-5.949E+02	-5.949E+02	-5.949E+02	1.039E+04	-1.158E+04	-1.158E+04
6	2	-1.667E+03	-1.667E+03	-1.667E+03	2.636E+04	-2.969E+04	-2.969E+04
		-1.667E+03	-1.667E+03	-1.667E+03	2.871E+04	-3.205E+04	-3.205E+04
6	3	1.850E+02	1.850E+02	1.850E+02	-7.808E+02	1.151E+03	1.151E+03
		1.850E+02	1.850E+02	1.850E+02	-6.532E+02	1.023E+03	1.023E+03
6	4	-3.705E+02	-3.705E+02	-3.705E+02	8.005E+03	-8.746E+03	-8.746E+03
		-3.705E+02	-3.705E+02	-3.705E+02	8.918E+03	-9.659E+03	-9.659E+03
6	5	-7.405E+02	-7.405E+02	-7.405E+02	9.566E+03	-1.105E+04	-1.105E+04
		-7.405E+02	-7.405E+02	-7.405E+02	1.022E+04	-1.171E+04	-1.171E+04
7	1	-5.949E+02	-5.949E+02	-5.949E+02	1.039E+04	-1.158E+04	-1.158E+04
		-5.949E+02	-5.949E+02	-5.949E+02	6.720E+03	-7.910E+03	-7.910E+03
7	2	-1.667E+03	-1.667E+03	-1.667E+03	2.871E+04	-3.205E+04	-3.205E+04
		-1.667E+03	-1.667E+03	-1.667E+03	1.936E+04	-2.270E+04	-2.270E+04
7	3	1.438E+02	1.438E+02	1.438E+02	-6.944E+02	9.821E+02	9.821E+02
		1.438E+02	1.438E+02	1.438E+02	-1.618E+02	4.495E+02	4.495E+02
7	4	-4.117E+02	-4.117E+02	-4.117E+02	8.877E+03	-9.700E+03	-9.700E+03
		-4.117E+02	-4.117E+02	-4.117E+02	6.292E+03	-7.116E+03	-7.116E+03
7	5	-6.994E+02	-6.994E+02	-6.994E+02	1.027E+04	-1.166E+04	-1.166E+04
		-6.994E+02	-6.994E+02	-6.994E+02	6.616E+03	-8.015E+03	-8.015E+03
8	1	-5.949E+02	-5.949E+02	-5.949E+02	6.720E+03	-7.910E+03	-7.910E+03
		-5.949E+02	-5.949E+02	-5.949E+02	-4.285E+03	3.096E+03	-4.285E+03
8	2	-1.667E+03	-1.667E+03	-1.667E+03	1.936E+04	-2.270E+04	-2.270E+04
		-1.667E+03	-1.667E+03	-1.667E+03	-1.185E+04	8.518E+03	-1.185E+04
8	3	1.027E+02	1.027E+02	1.027E+02	-2.030E+02	4.083E+02	4.083E+02
		1.027E+02	1.027E+02	1.027E+02	3.795E+02	-1.742E+02	3.795E+02
8	4	-4.529E+02	-4.529E+02	-4.529E+02	6.251E+03	-7.157E+03	-7.157E+03
		-4.529E+02	-4.529E+02	-4.529E+02	-3.571E+03	2.665E+03	-3.571E+03
8	5	-6.582E+02	-6.582E+02	-6.582E+02	6.657E+03	-7.974E+03	-7.974E+03
		-6.582E+02	-6.582E+02	-6.582E+02	-4.330E+03	3.014E+03	-4.330E+03
9	1	-5.949E+02	-5.949E+02	-5.949E+02	-4.285E+03	3.096E+03	-4.285E+03
		-5.949E+02	-5.949E+02	-5.949E+02	-1.563E+04	1.444E+04	-1.563E+04
9	2	-1.667E+03	-1.667E+03	-1.667E+03	-1.185E+04	8.518E+03	-1.185E+04
		-1.667E+03	-1.667E+03	-1.667E+03	-4.423E+04	4.089E+04	-4.423E+04
9	3	9.426E+01	9.426E+01	9.426E+01	3.711E+02	-1.826E+02	3.711E+02
		9.426E+01	9.426E+01	9.426E+01	9.037E+02	-7.152E+02	9.037E+02
9	4	-4.613E+02	-4.613E+02	-4.613E+02	-3.579E+03	2.657E+03	-3.579E+03
		-4.613E+02	-4.613E+02	-4.613E+02	-1.384E+04	1.292E+04	-1.384E+04
9	5	-6.498E+02	-6.498E+02	-6.498E+02	-4.322E+03	3.022E+03	-4.322E+03
		-6.498E+02	-6.498E+02	-6.498E+02	-1.565E+04	1.435E+04	-1.565E+04
10	1	-5.949E+02	-5.949E+02	-5.949E+02	-1.563E+04	1.444E+04	-1.563E+04
		-5.949E+02	-5.949E+02	-5.949E+02	-1.865E+04	1.746E+04	-1.865E+04
10	2	-1.667E+03	-1.667E+03	-1.667E+03	-4.423E+04	4.089E+04	-4.423E+04
		-1.667E+03	-1.667E+03	-1.667E+03	-5.290E+04	4.957E+04	-5.290E+04
10	3	8.585E+01	8.585E+01	8.585E+01	8.953E+02	-7.236E+02	8.953E+02
		8.585E+01	8.585E+01	8.585E+01	1.023E+03	-8.512E+02	1.023E+03
10	4	-4.697E+02	-4.697E+02	-4.697E+02	-1.385E+04	1.291E+04	-1.385E+04



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		-4.697E+02	-4.697E+02	-4.697E+02	-1.661E+04	1.567E+04	-1.661E+04
10	5	-6.414E+02	-6.414E+02	-6.414E+02	-1.564E+04	1.436E+04	-1.564E+04
		-6.414E+02	-6.414E+02	-6.414E+02	-1.866E+04	1.737E+04	-1.866E+04
11	1	4.717E+02	4.717E+02	4.717E+02	9.446E+03	-8.502E+03	9.446E+03
		4.717E+02	4.717E+02	4.717E+02	1.033E+04	-9.389E+03	1.033E+04
11	2	1.382E+03	1.382E+03	1.382E+03	2.553E+04	-2.277E+04	2.553E+04
		1.382E+03	1.382E+03	1.382E+03	2.856E+04	-2.580E+04	2.856E+04
11	3	1.180E+02	1.180E+02	1.180E+02	8.567E+01	1.504E+02	1.504E+02
		1.180E+02	1.180E+02	1.180E+02	9.056E+01	1.455E+02	1.455E+02
11	4	5.789E+02	5.789E+02	5.789E+02	8.597E+03	-7.439E+03	8.597E+03
		5.789E+02	5.789E+02	5.789E+02	9.611E+03	-8.453E+03	9.611E+03
11	5	3.428E+02	3.428E+02	3.428E+02	8.426E+03	-7.740E+03	8.426E+03
		3.428E+02	3.428E+02	3.428E+02	9.430E+03	-8.744E+03	9.430E+03
12	1	4.717E+02	4.717E+02	4.717E+02	1.033E+04	-9.389E+03	1.033E+04
		4.717E+02	4.717E+02	4.717E+02	7.638E+03	-6.694E+03	7.638E+03
12	2	1.382E+03	1.382E+03	1.382E+03	2.856E+04	-2.580E+04	2.856E+04
		1.382E+03	1.382E+03	1.382E+03	2.201E+04	-1.925E+04	2.201E+04
12	3	7.687E+01	7.687E+01	7.687E+01	4.938E+01	1.044E+02	1.044E+02
		7.687E+01	7.687E+01	7.687E+01	6.981E+01	8.392E+01	8.392E+01
12	4	5.377E+02	5.377E+02	5.377E+02	9.570E+03	-8.495E+03	9.570E+03
		5.377E+02	5.377E+02	5.377E+02	7.407E+03	-6.331E+03	7.407E+03
12	5	3.840E+02	3.840E+02	3.840E+02	9.471E+03	-8.703E+03	9.471E+03
		3.840E+02	3.840E+02	3.840E+02	7.267E+03	-6.499E+03	7.267E+03
13	1	4.717E+02	4.717E+02	4.717E+02	7.638E+03	-6.694E+03	7.638E+03
		4.717E+02	4.717E+02	4.717E+02	-2.306E+03	3.249E+03	3.249E+03
13	2	1.382E+03	1.382E+03	1.382E+03	2.201E+04	-1.925E+04	2.201E+04
		1.382E+03	1.382E+03	1.382E+03	-6.141E+03	8.906E+03	8.906E+03
13	3	3.569E+01	3.569E+01	3.569E+01	2.864E+01	4.275E+01	4.275E+01
		3.569E+01	3.569E+01	3.569E+01	5.098E+01	2.040E+01	5.098E+01
13	4	4.965E+02	4.965E+02	4.965E+02	7.366E+03	-6.372E+03	7.366E+03
		4.965E+02	4.965E+02	4.965E+02	-1.996E+03	2.989E+03	2.989E+03
13	5	4.251E+02	4.251E+02	4.251E+02	7.308E+03	-6.458E+03	7.308E+03
		4.251E+02	4.251E+02	4.251E+02	-2.098E+03	2.948E+03	2.948E+03
14	1	4.717E+02	4.717E+02	4.717E+02	-2.306E+03	3.249E+03	3.249E+03
		4.717E+02	4.717E+02	4.717E+02	-1.353E+04	1.447E+04	1.447E+04
14	2	1.382E+03	1.382E+03	1.382E+03	-6.141E+03	8.906E+03	8.906E+03
		1.382E+03	1.382E+03	1.382E+03	-3.828E+04	4.104E+04	4.104E+04
14	3	2.225E+01	2.225E+01	2.225E+01	3.754E+01	6.954E+00	3.754E+01
		2.225E+01	2.225E+01	2.225E+01	5.797E+01	-1.348E+01	5.797E+01
14	4	4.831E+02	4.831E+02	4.831E+02	-2.009E+03	2.976E+03	2.976E+03
		4.831E+02	4.831E+02	4.831E+02	-1.270E+04	1.367E+04	1.367E+04
14	5	4.386E+02	4.386E+02	4.386E+02	-2.085E+03	2.962E+03	2.962E+03
		4.386E+02	4.386E+02	4.386E+02	-1.282E+04	1.369E+04	1.369E+04
15	1	4.717E+02	4.717E+02	4.717E+02	-1.353E+04	1.447E+04	1.447E+04
		4.717E+02	4.717E+02	4.717E+02	-1.673E+04	1.767E+04	1.767E+04
15	2	1.382E+03	1.382E+03	1.382E+03	-3.828E+04	4.104E+04	4.104E+04
		1.382E+03	1.382E+03	1.382E+03	-4.751E+04	5.027E+04	5.027E+04



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JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

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15	3	8.801E+00	8.801E+00	8.801E+00	4.452E+01	-2.692E+01	4.452E+01
		8.801E+00	8.801E+00	8.801E+00	4.942E+01	-3.182E+01	4.942E+01
15	4	4.696E+02	4.696E+02	4.696E+02	-1.271E+04	1.365E+04	1.365E+04
		4.696E+02	4.696E+02	4.696E+02	-1.579E+04	1.673E+04	1.673E+04
15	5	4.520E+02	4.520E+02	4.520E+02	-1.280E+04	1.371E+04	1.371E+04
		4.520E+02	4.520E+02	4.520E+02	-1.589E+04	1.679E+04	1.679E+04
16	1	-2.590E+02	-2.590E+02	-2.590E+02	1.167E+04	-1.219E+04	-1.219E+04
		-2.590E+02	-2.590E+02	-2.590E+02	1.099E+04	-1.151E+04	-1.151E+04
16	2	-7.379E+02	-7.379E+02	-7.379E+02	3.342E+04	-3.490E+04	-3.490E+04
		-7.379E+02	-7.379E+02	-7.379E+02	3.097E+04	-3.244E+04	-3.244E+04
16	3	-4.993E+01	-4.993E+01	-4.993E+01	8.357E+02	-9.356E+02	-9.356E+02
		-4.993E+01	-4.993E+01	-4.993E+01	7.003E+02	-8.002E+02	-8.002E+02
16	4	-2.959E+02	-2.959E+02	-2.959E+02	1.198E+04	-1.257E+04	-1.257E+04
		-2.959E+02	-2.959E+02	-2.959E+02	1.102E+04	-1.161E+04	-1.161E+04
16	5	-1.960E+02	-1.960E+02	-1.960E+02	1.030E+04	-1.070E+04	-1.070E+04
		-1.960E+02	-1.960E+02	-1.960E+02	9.622E+03	-1.001E+04	-1.001E+04
17	1	-2.590E+02	-2.590E+02	-2.590E+02	1.099E+04	-1.151E+04	-1.151E+04
		-2.590E+02	-2.590E+02	-2.590E+02	1.073E+04	-1.125E+04	-1.125E+04
17	2	-7.379E+02	-7.379E+02	-7.379E+02	3.097E+04	-3.244E+04	-3.244E+04
		-7.379E+02	-7.379E+02	-7.379E+02	3.019E+04	-3.167E+04	-3.167E+04
17	3	-7.534E+01	-7.534E+01	-7.534E+01	6.749E+02	-8.256E+02	-8.256E+02
		-7.534E+01	-7.534E+01	-7.534E+01	6.514E+02	-8.020E+02	-8.020E+02
17	4	-3.213E+02	-3.213E+02	-3.213E+02	1.100E+04	-1.164E+04	-1.164E+04
		-3.213E+02	-3.213E+02	-3.213E+02	1.072E+04	-1.136E+04	-1.136E+04
17	5	-1.706E+02	-1.706E+02	-1.706E+02	9.647E+03	-9.989E+03	-9.989E+03
		-1.706E+02	-1.706E+02	-1.706E+02	9.412E+03	-9.754E+03	-9.754E+03
18	1	-2.590E+02	-2.590E+02	-2.590E+02	1.073E+04	-1.125E+04	-1.125E+04
		-2.590E+02	-2.590E+02	-2.590E+02	4.662E+03	-5.180E+03	-5.180E+03
18	2	-7.379E+02	-7.379E+02	-7.379E+02	3.019E+04	-3.167E+04	-3.167E+04
		-7.379E+02	-7.379E+02	-7.379E+02	1.234E+04	-1.382E+04	-1.382E+04
18	3	-7.534E+01	-7.534E+01	-7.534E+01	6.514E+02	-8.020E+02	-8.020E+02
		-7.534E+01	-7.534E+01	-7.534E+01	1.099E+02	-2.606E+02	-2.606E+02
18	4	-3.213E+02	-3.213E+02	-3.213E+02	1.072E+04	-1.136E+04	-1.136E+04
		-3.213E+02	-3.213E+02	-3.213E+02	4.223E+03	-4.866E+03	-4.866E+03
18	5	-1.706E+02	-1.706E+02	-1.706E+02	9.412E+03	-9.754E+03	-9.754E+03
		-1.706E+02	-1.706E+02	-1.706E+02	4.004E+03	-4.345E+03	-4.345E+03
19	1	-2.590E+02	-2.590E+02	-2.590E+02	4.662E+03	-5.180E+03	-5.180E+03
		-2.590E+02	-2.590E+02	-2.590E+02	-1.827E+04	1.775E+04	-1.827E+04
19	2	-7.379E+02	-7.379E+02	-7.379E+02	1.234E+04	-1.382E+04	-1.382E+04
		-7.379E+02	-7.379E+02	-7.379E+02	-5.070E+04	4.922E+04	-5.070E+04
19	3	-1.007E+02	-1.007E+02	-1.007E+02	8.448E+01	-2.860E+02	-2.860E+02
		-1.007E+02	-1.007E+02	-1.007E+02	-1.234E+03	1.032E+03	-1.234E+03
19	4	-3.467E+02	-3.467E+02	-3.467E+02	4.198E+03	-4.891E+03	-4.891E+03
		-3.467E+02	-3.467E+02	-3.467E+02	-1.813E+04	1.744E+04	-1.813E+04
19	5	-1.452E+02	-1.452E+02	-1.452E+02	4.029E+03	-4.319E+03	-4.319E+03
		-1.452E+02	-1.452E+02	-1.452E+02	-1.567E+04	1.537E+04	-1.567E+04
20	1	2.026E+01	2.026E+01	2.026E+01	-9.702E+03	9.742E+03	9.742E+03



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		2.026E+01	2.026E+01	2.026E+01	3.992E+03	-3.951E+03	3.992E+03
20	2	5.498E+01	5.498E+01	5.498E+01	-2.715E+04	2.726E+04	2.726E+04
		5.498E+01	5.498E+01	5.498E+01	1.118E+04	-1.107E+04	1.118E+04
20	3	1.967E+02	1.967E+02	1.967E+02	1.951E+02	1.982E+02	1.982E+02
		1.967E+02	1.967E+02	1.967E+02	-3.719E+02	7.652E+02	7.652E+02
20	4	2.150E+02	2.150E+02	2.150E+02	-8.854E+03	9.284E+03	9.284E+03
		2.150E+02	2.150E+02	2.150E+02	3.354E+03	-2.924E+03	3.354E+03
20	5	-1.783E+02	-1.783E+02	-1.783E+02	-9.244E+03	8.888E+03	-9.244E+03
		-1.783E+02	-1.783E+02	-1.783E+02	4.098E+03	-4.455E+03	-4.455E+03
21	1	9.295E+01	9.295E+01	9.295E+01	1.907E+03	-1.721E+03	1.907E+03
		9.295E+01	9.295E+01	9.295E+01	-1.219E+03	1.405E+03	1.405E+03
21	2	2.619E+02	2.619E+02	2.619E+02	5.340E+03	-4.816E+03	5.340E+03
		2.619E+02	2.619E+02	2.619E+02	-3.422E+03	3.945E+03	3.945E+03
21	3	8.489E+01	8.489E+01	8.489E+01	1.608E+03	-1.438E+03	1.608E+03
		8.489E+01	8.489E+01	8.489E+01	-1.472E+03	1.642E+03	1.642E+03
21	4	1.722E+02	1.722E+02	1.722E+02	3.388E+03	-3.043E+03	3.388E+03
		1.722E+02	1.722E+02	1.722E+02	-2.613E+03	2.957E+03	2.957E+03
21	5	2.395E+00	2.395E+00	2.395E+00	1.722E+02	-1.675E+02	1.722E+02
		2.395E+00	2.395E+00	2.395E+00	3.319E+02	-3.271E+02	3.319E+02
22	1	-1.216E+01	-1.216E+01	-1.216E+01	-3.953E+03	3.929E+03	-3.953E+03
		-1.216E+01	-1.216E+01	-1.216E+01	4.279E+03	-4.304E+03	-4.304E+03
22	2	-4.903E+01	-4.903E+01	-4.903E+01	-1.076E+04	1.066E+04	-1.076E+04
		-4.903E+01	-4.903E+01	-4.903E+01	1.186E+04	-1.196E+04	-1.196E+04
22	3	-7.256E+00	-7.256E+00	-7.256E+00	5.965E+02	-6.110E+02	-6.110E+02
		-7.256E+00	-7.256E+00	-7.256E+00	-1.874E+03	1.860E+03	-1.874E+03
22	4	-2.360E+01	-2.360E+01	-2.360E+01	-2.991E+03	2.944E+03	-2.991E+03
		-2.360E+01	-2.360E+01	-2.360E+01	2.079E+03	-2.127E+03	-2.127E+03
22	5	-9.086E+00	-9.086E+00	-9.086E+00	-4.184E+03	4.166E+03	-4.184E+03
		-9.086E+00	-9.086E+00	-9.086E+00	5.828E+03	-5.847E+03	-5.847E+03
23	1	-3.023E+01	-3.023E+01	-3.023E+01	7.233E+02	-7.837E+02	-7.837E+02
		-3.023E+01	-3.023E+01	-3.023E+01	1.569E+03	-1.629E+03	-1.629E+03
23	2	-1.141E+02	-1.141E+02	-1.141E+02	2.196E+03	-2.424E+03	-2.424E+03
		-1.141E+02	-1.141E+02	-1.141E+02	4.125E+03	-4.353E+03	-4.353E+03
23	3	-1.078E+01	-1.078E+01	-1.078E+01	-1.547E+03	1.526E+03	-1.547E+03
		-1.078E+01	-1.078E+01	-1.078E+01	-1.721E+03	1.699E+03	-1.721E+03
23	4	-4.883E+01	-4.883E+01	-4.883E+01	-8.152E+02	7.176E+02	-8.152E+02
		-4.883E+01	-4.883E+01	-4.883E+01	-3.456E+02	2.480E+02	-3.456E+02
23	5	-2.727E+01	-2.727E+01	-2.727E+01	2.279E+03	-2.333E+03	-2.333E+03
		-2.727E+01	-2.727E+01	-2.727E+01	3.096E+03	-3.150E+03	-3.150E+03
24	1	-5.473E+01	-5.473E+01	-5.473E+01	-1.530E+03	1.421E+03	-1.530E+03
		-5.473E+01	-5.473E+01	-5.473E+01	1.188E+04	-1.198E+04	-1.198E+04
24	2	-1.978E+02	-1.978E+02	-1.978E+02	-4.233E+03	3.837E+03	-4.233E+03
		-1.978E+02	-1.978E+02	-1.978E+02	3.396E+04	-3.436E+04	-3.436E+04
24	3	-1.092E+01	-1.092E+01	-1.092E+01	-1.710E+03	1.688E+03	-1.710E+03
		-1.092E+01	-1.092E+01	-1.092E+01	8.747E+02	-8.965E+02	-8.965E+02
24	4	-7.685E+01	-7.685E+01	-7.685E+01	-3.121E+03	2.967E+03	-3.121E+03
		-7.685E+01	-7.685E+01	-7.685E+01	1.219E+04	-1.235E+04	-1.235E+04
24	5	-5.501E+01	-5.501E+01	-5.501E+01	2.987E+02	-4.087E+02	-4.087E+02



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		-5.501E+01	-5.501E+01	-5.501E+01	1.045E+04	-1.056E+04	-1.056E+04
25	1	7.818E+02	7.818E+02	7.818E+02	1.340E+04	-1.184E+04	1.340E+04
		7.818E+02	7.818E+02	7.818E+02	-1.549E+04	1.705E+04	1.705E+04
25	2	2.201E+03	2.201E+03	2.201E+03	3.759E+04	-3.319E+04	3.759E+04
		2.201E+03	2.201E+03	2.201E+03	-4.341E+04	4.781E+04	4.781E+04
25	3	2.023E+02	2.023E+02	2.023E+02	-6.877E+03	7.282E+03	7.282E+03
		2.023E+02	2.023E+02	2.023E+02	4.430E+03	-4.025E+03	4.430E+03
25	4	9.359E+02	9.359E+02	9.359E+02	5.653E+03	-3.781E+03	5.653E+03
		9.359E+02	9.359E+02	9.359E+02	-1.004E+04	1.191E+04	1.191E+04
25	5	5.314E+02	5.314E+02	5.314E+02	1.941E+04	-1.834E+04	1.941E+04
		5.314E+02	5.314E+02	5.314E+02	-1.890E+04	1.996E+04	1.996E+04
26	1	6.730E+02	6.730E+02	6.730E+02	-7.978E+03	9.324E+03	9.324E+03
		6.730E+02	6.730E+02	6.730E+02	-5.935E+03	7.281E+03	7.281E+03
26	2	1.887E+03	1.887E+03	1.887E+03	-2.208E+04	2.586E+04	2.586E+04
		1.887E+03	1.887E+03	1.887E+03	-1.682E+04	2.059E+04	2.059E+04
26	3	2.095E+02	2.095E+02	2.095E+02	3.699E+03	-3.280E+03	3.699E+03
		2.095E+02	2.095E+02	2.095E+02	2.190E+03	-1.771E+03	2.190E+03
26	4	8.386E+02	8.386E+02	8.386E+02	-3.662E+03	5.340E+03	5.340E+03
		8.386E+02	8.386E+02	8.386E+02	-3.416E+03	5.093E+03	5.093E+03
26	5	4.195E+02	4.195E+02	4.195E+02	-1.106E+04	1.190E+04	1.190E+04
		4.195E+02	4.195E+02	4.195E+02	-7.796E+03	8.635E+03	8.635E+03
27	1	5.894E+02	5.894E+02	5.894E+02	1.677E+02	1.011E+03	1.011E+03
		5.894E+02	5.894E+02	5.894E+02	-5.177E+03	6.355E+03	6.355E+03
27	2	1.647E+03	1.647E+03	1.647E+03	4.967E+02	2.798E+03	2.798E+03
		1.647E+03	1.647E+03	1.647E+03	-1.493E+04	1.823E+04	1.823E+04
27	3	2.130E+02	2.130E+02	2.130E+02	1.873E+03	-1.447E+03	1.873E+03
		2.130E+02	2.130E+02	2.130E+02	1.430E+03	-1.004E+03	1.430E+03
27	4	7.622E+02	7.622E+02	7.622E+02	2.038E+03	-5.139E+02	2.038E+03
		7.622E+02	7.622E+02	7.622E+02	-3.547E+03	5.071E+03	5.071E+03
27	5	3.361E+02	3.361E+02	3.361E+02	-1.707E+03	2.379E+03	2.379E+03
		3.361E+02	3.361E+02	3.361E+02	-6.407E+03	7.079E+03	7.079E+03
28	1	5.010E+02	5.010E+02	5.010E+02	6.279E+02	3.742E+02	6.279E+02
		5.010E+02	5.010E+02	5.010E+02	1.654E+03	-6.520E+02	1.654E+03
28	2	1.392E+03	1.392E+03	1.392E+03	1.564E+03	1.221E+03	1.564E+03
		1.392E+03	1.392E+03	1.392E+03	5.042E+03	-2.258E+03	5.042E+03
28	3	2.132E+02	2.132E+02	2.132E+02	1.416E+03	-9.898E+02	1.416E+03
		2.132E+02	2.132E+02	2.132E+02	7.491E+02	-3.227E+02	7.491E+02
28	4	6.773E+02	6.773E+02	6.773E+02	1.937E+03	-5.828E+02	1.937E+03
		6.773E+02	6.773E+02	6.773E+02	2.430E+03	-1.075E+03	2.430E+03
28	5	2.510E+02	2.510E+02	2.510E+02	-8.948E+02	1.397E+03	1.397E+03
		2.510E+02	2.510E+02	2.510E+02	9.317E+02	-4.298E+02	9.317E+02
29	1	-1.921E+01	-1.921E+01	-1.921E+01	-8.196E+03	8.157E+03	-8.196E+03
		-1.921E+01	-1.921E+01	-1.921E+01	7.138E+03	-7.177E+03	-7.177E+03
29	2	5.701E+00	5.701E+00	5.701E+00	-2.294E+04	2.295E+04	2.295E+04
		5.701E+00	5.701E+00	5.701E+00	2.011E+04	-2.010E+04	2.011E+04
29	3	-1.971E+02	-1.971E+02	-1.971E+02	-1.059E+04	1.019E+04	-1.059E+04
		-1.971E+02	-1.971E+02	-1.971E+02	7.818E+03	-8.212E+03	-8.212E+03



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29	4	-1.952E+02	-1.952E+02	-1.952E+02	-1.823E+04	1.784E+04	-1.823E+04
		-1.952E+02	-1.952E+02	-1.952E+02	1.452E+04	-1.491E+04	-1.491E+04
29	5	1.990E+02	1.990E+02	1.990E+02	2.941E+03	-2.543E+03	2.941E+03
		1.990E+02	1.990E+02	1.990E+02	-1.115E+03	1.513E+03	1.513E+03
30	1	1.363E+02	1.363E+02	1.363E+02	-2.620E+02	5.346E+02	5.346E+02
		1.363E+02	1.363E+02	1.363E+02	2.530E+03	-2.258E+03	2.530E+03
30	2	4.282E+02	4.282E+02	4.282E+02	-8.102E+02	1.667E+03	1.667E+03
		4.282E+02	4.282E+02	4.282E+02	7.235E+03	-6.379E+03	7.235E+03
30	3	-2.310E+01	-2.310E+01	-2.310E+01	3.258E+03	-3.304E+03	-3.304E+03
		-2.310E+01	-2.310E+01	-2.310E+01	3.677E+03	-3.723E+03	-3.723E+03
30	4	1.196E+02	1.196E+02	1.196E+02	2.988E+03	-2.749E+03	2.988E+03
		1.196E+02	1.196E+02	1.196E+02	6.089E+03	-5.850E+03	6.089E+03
30	5	1.658E+02	1.658E+02	1.658E+02	-3.528E+03	3.860E+03	3.860E+03
		1.658E+02	1.658E+02	1.658E+02	-1.265E+03	1.597E+03	1.597E+03
31	1	6.842E+01	6.842E+01	6.842E+01	9.928E+02	-8.560E+02	9.928E+02
		6.842E+01	6.842E+01	6.842E+01	2.191E+03	-2.054E+03	2.191E+03
31	2	2.261E+02	2.261E+02	2.261E+02	2.717E+03	-2.265E+03	2.717E+03
		2.261E+02	2.261E+02	2.261E+02	6.375E+03	-5.922E+03	6.375E+03
31	3	-3.371E+01	-3.371E+01	-3.371E+01	3.016E+03	-3.084E+03	-3.084E+03
		-3.371E+01	-3.371E+01	-3.371E+01	2.155E+03	-2.222E+03	-2.222E+03
31	4	4.166E+01	4.166E+01	4.166E+01	3.922E+03	-3.839E+03	3.922E+03
		4.166E+01	4.166E+01	4.166E+01	4.280E+03	-4.196E+03	4.280E+03
31	5	1.091E+02	1.091E+02	1.091E+02	-2.111E+03	2.329E+03	2.329E+03
		1.091E+02	1.091E+02	1.091E+02	-2.990E+01	2.481E+02	2.481E+02
32	1	-5.355E+01	-5.355E+01	-5.355E+01	-6.638E+00	-1.005E+02	-1.005E+02
		-5.355E+01	-5.355E+01	-5.355E+01	9.076E+02	-1.015E+03	-1.015E+03
32	2	-1.396E+02	-1.396E+02	-1.396E+02	-2.022E+02	-7.706E+01	-2.022E+02
		-1.396E+02	-1.396E+02	-1.396E+02	2.641E+03	-2.921E+03	-2.921E+03
32	3	-3.094E+01	-3.094E+01	-3.094E+01	2.325E+03	-2.387E+03	-2.387E+03
		-3.094E+01	-3.094E+01	-3.094E+01	2.156E+02	-2.774E+02	-2.774E+02
32	4	-7.747E+01	-7.747E+01	-7.747E+01	2.258E+03	-2.413E+03	-2.413E+03
		-7.747E+01	-7.747E+01	-7.747E+01	1.096E+03	-1.251E+03	-1.251E+03
32	5	-1.560E+01	-1.560E+01	-1.560E+01	-2.392E+03	2.361E+03	-2.392E+03
		-1.560E+01	-1.560E+01	-1.560E+01	6.649E+02	-6.961E+02	-6.961E+02
33	1	-1.023E+02	-1.023E+02	-1.023E+02	1.742E+02	-3.787E+02	-3.787E+02
		-1.023E+02	-1.023E+02	-1.023E+02	2.055E+03	-2.260E+03	-2.260E+03
33	2	-2.863E+02	-2.863E+02	-2.863E+02	4.060E+02	-9.786E+02	-9.786E+02
		-2.863E+02	-2.863E+02	-2.863E+02	5.760E+03	-6.332E+03	-6.332E+03
33	3	-2.197E+01	-2.197E+01	-2.197E+01	7.792E+02	-8.231E+02	-8.231E+02
		-2.197E+01	-2.197E+01	-2.197E+01	-2.113E+03	2.069E+03	-2.113E+03
33	4	-1.174E+02	-1.174E+02	-1.174E+02	9.145E+02	-1.149E+03	-1.149E+03
		-1.174E+02	-1.174E+02	-1.174E+02	-1.934E+02	-4.138E+01	-1.934E+02
33	5	-7.347E+01	-7.347E+01	-7.347E+01	-6.439E+02	4.969E+02	-6.439E+02
		-7.347E+01	-7.347E+01	-7.347E+01	4.033E+03	-4.180E+03	-4.180E+03
34	1	1.194E+02	1.194E+02	1.194E+02	-7.476E+03	7.715E+03	7.715E+03
		1.194E+02	1.194E+02	1.194E+02	5.639E+03	-5.401E+03	5.639E+03
34	2	3.578E+02	3.578E+02	3.578E+02	-2.093E+04	2.164E+04	2.164E+04



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		3.578E+02	3.578E+02	3.578E+02	1.581E+04	-1.510E+04	1.581E+04
34	3	-5.176E+00	-5.176E+00	-5.176E+00	-1.051E+04	1.050E+04	-1.051E+04
		-5.176E+00	-5.176E+00	-5.176E+00	7.491E+03	-7.501E+03	-7.501E+03
34	4	1.141E+02	1.141E+02	1.141E+02	-1.748E+04	1.771E+04	1.771E+04
		1.141E+02	1.141E+02	1.141E+02	1.276E+04	-1.253E+04	1.276E+04
34	5	1.244E+02	1.244E+02	1.244E+02	3.531E+03	-3.282E+03	3.531E+03
		1.244E+02	1.244E+02	1.244E+02	-2.221E+03	2.469E+03	2.469E+03
35	1	1.136E+02	1.136E+02	1.136E+02	5.132E+03	-4.905E+03	5.132E+03
		1.136E+02	1.136E+02	1.136E+02	1.816E+03	-1.589E+03	1.816E+03
35	2	3.369E+02	3.369E+02	3.369E+02	1.453E+04	-1.385E+04	1.453E+04
		3.369E+02	3.369E+02	3.369E+02	5.058E+03	-4.384E+03	5.058E+03
35	3	2.627E+01	2.627E+01	2.627E+01	5.532E+03	-5.479E+03	5.532E+03
		2.627E+01	2.627E+01	2.627E+01	3.988E+03	-3.936E+03	3.988E+03
35	4	1.386E+02	1.386E+02	1.386E+02	1.037E+04	-1.010E+04	1.037E+04
		1.386E+02	1.386E+02	1.386E+02	5.674E+03	-5.397E+03	5.674E+03
35	5	8.602E+01	8.602E+01	8.602E+01	-6.894E+02	8.615E+02	8.615E+02
		8.602E+01	8.602E+01	8.602E+01	-2.302E+03	2.474E+03	2.474E+03
36	1	9.678E+01	9.678E+01	9.678E+01	2.097E+03	-1.903E+03	2.097E+03
		9.678E+01	9.678E+01	9.678E+01	3.748E+02	-1.812E+02	3.748E+02
36	2	2.849E+02	2.849E+02	2.849E+02	5.990E+03	-5.420E+03	5.990E+03
		2.849E+02	2.849E+02	2.849E+02	9.091E+02	-3.392E+02	9.091E+02
36	3	3.689E+01	3.689E+01	3.689E+01	3.349E+03	-3.275E+03	3.349E+03
		3.689E+01	3.689E+01	3.689E+01	2.064E+03	-1.990E+03	2.064E+03
36	4	1.319E+02	1.319E+02	1.319E+02	5.345E+03	-5.082E+03	5.345E+03
		1.319E+02	1.319E+02	1.319E+02	2.367E+03	-2.103E+03	2.367E+03
36	5	5.809E+01	5.809E+01	5.809E+01	-1.352E+03	1.468E+03	1.468E+03
		5.809E+01	5.809E+01	5.809E+01	-1.761E+03	1.877E+03	1.877E+03
37	1	4.940E+01	4.940E+01	4.940E+01	1.742E+03	-1.643E+03	1.742E+03
		4.940E+01	4.940E+01	4.940E+01	3.033E+02	-2.045E+02	3.033E+02
37	2	1.426E+02	1.426E+02	1.426E+02	5.022E+03	-4.737E+03	5.022E+03
		1.426E+02	1.426E+02	1.426E+02	7.556E+02	-4.705E+02	7.556E+02
37	3	3.411E+01	3.411E+01	3.411E+01	2.233E+03	-2.165E+03	2.233E+03
		3.411E+01	3.411E+01	3.411E+01	1.298E+02	-6.162E+01	1.298E+02
37	4	8.164E+01	8.164E+01	8.164E+01	3.907E+03	-3.744E+03	3.907E+03
		8.164E+01	8.164E+01	8.164E+01	3.817E+02	-2.184E+02	3.817E+02
37	5	1.341E+01	1.341E+01	1.341E+01	-5.593E+02	5.862E+02	5.862E+02
		1.341E+01	1.341E+01	1.341E+01	1.220E+02	-9.521E+01	1.220E+02
38	1	2.552E+01	2.552E+01	2.552E+01	1.119E+03	-1.068E+03	1.119E+03
		2.552E+01	2.552E+01	2.552E+01	-1.286E+03	1.337E+03	1.337E+03
38	2	7.153E+01	7.153E+01	7.153E+01	3.165E+03	-3.022E+03	3.165E+03
		7.153E+01	7.153E+01	7.153E+01	-3.612E+03	3.755E+03	3.755E+03
38	3	2.515E+01	2.515E+01	2.515E+01	6.647E+02	-6.144E+02	6.647E+02
		2.515E+01	2.515E+01	2.515E+01	-1.532E+03	1.582E+03	1.582E+03
38	4	4.899E+01	4.899E+01	4.899E+01	1.720E+03	-1.622E+03	1.720E+03
		4.899E+01	4.899E+01	4.899E+01	-2.736E+03	2.834E+03	2.834E+03
38	5	-1.303E+00	-1.303E+00	-1.303E+00	3.901E+02	-3.927E+02	-3.927E+02
		-1.303E+00	-1.303E+00	-1.303E+00	3.282E+02	-3.308E+02	-3.308E+02



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39	1	-5.009E+02	-5.009E+02	-5.009E+02	9.623E+02	-1.964E+03	-1.964E+03
		-5.009E+02	-5.009E+02	-5.009E+02	1.946E+03	-2.948E+03	-2.948E+03
39	2	-1.418E+03	-1.418E+03	-1.418E+03	2.269E+03	-5.105E+03	-5.105E+03
		-1.418E+03	-1.418E+03	-1.418E+03	5.836E+03	-8.671E+03	-8.671E+03
39	3	-4.452E+02	-4.452E+02	-4.452E+02	5.365E+03	-6.255E+03	-6.255E+03
		-4.452E+02	-4.452E+02	-4.452E+02	4.789E+02	-8.904E+02	-8.904E+02
39	4	-9.177E+02	-9.177E+02	-9.177E+02	6.121E+03	-7.957E+03	-7.957E+03
		-9.177E+02	-9.177E+02	-9.177E+02	1.945E+03	-3.781E+03	-3.781E+03
39	5	-2.734E+01	-2.734E+01	-2.734E+01	-4.608E+03	4.554E+03	-4.608E+03
		-2.734E+01	-2.734E+01	-2.734E+01	1.945E+03	-2.000E+03	-2.000E+03
40	1	1.284E+02	1.284E+02	1.284E+02	-7.410E+02	9.979E+02	9.979E+02
		1.284E+02	1.284E+02	1.284E+02	2.128E+03	-1.872E+03	2.128E+03
40	2	3.534E+02	3.534E+02	3.534E+02	-2.517E+03	3.224E+03	3.224E+03
		3.534E+02	3.534E+02	3.534E+02	6.345E+03	-5.638E+03	6.345E+03
40	3	2.079E+01	2.079E+01	2.079E+01	1.918E+03	-1.877E+03	1.918E+03
		2.079E+01	2.079E+01	2.079E+01	1.078E+02	-6.617E+01	1.078E+02
40	4	1.386E+02	1.386E+02	1.386E+02	1.079E+03	-8.021E+02	1.079E+03
		1.386E+02	1.386E+02	1.386E+02	2.223E+03	-1.946E+03	2.223E+03
40	5	9.699E+01	9.699E+01	9.699E+01	-2.757E+03	2.951E+03	2.951E+03
		9.699E+01	9.699E+01	9.699E+01	2.007E+03	-1.813E+03	2.007E+03
41	1	2.283E+01	2.283E+01	2.283E+01	-4.106E+03	4.151E+03	4.151E+03
		2.283E+01	2.283E+01	2.283E+01	3.976E+03	-3.931E+03	3.976E+03
41	2	6.556E+01	6.556E+01	6.556E+01	-1.235E+04	1.249E+04	1.249E+04
		6.556E+01	6.556E+01	6.556E+01	1.193E+04	-1.180E+04	1.193E+04
41	3	-6.590E+01	-6.590E+01	-6.590E+01	-5.695E+02	4.377E+02	-5.695E+02
		-6.590E+01	-6.590E+01	-6.590E+01	-9.606E+01	-3.575E+01	-9.606E+01
41	4	-4.405E+01	-4.405E+01	-4.405E+01	-4.688E+03	4.600E+03	-4.688E+03
		-4.405E+01	-4.405E+01	-4.405E+01	3.880E+03	-3.968E+03	-3.968E+03
41	5	8.776E+01	8.776E+01	8.776E+01	-3.549E+03	3.724E+03	3.724E+03
		8.776E+01	8.776E+01	8.776E+01	4.072E+03	-3.897E+03	4.072E+03
42	1	-7.787E+01	-7.787E+01	-7.787E+01	-2.529E+03	2.373E+03	-2.529E+03
		-7.787E+01	-7.787E+01	-7.787E+01	1.545E+03	-1.701E+03	-1.701E+03
42	2	-2.022E+02	-2.022E+02	-2.022E+02	-7.441E+03	-7.036E+03	-7.441E+03
		-2.022E+02	-2.022E+02	-2.022E+02	4.679E+03	-5.083E+03	-5.083E+03
42	3	-7.521E+00	-7.521E+00	-7.521E+00	-1.595E+03	1.580E+03	-1.595E+03
		-7.521E+00	-7.521E+00	-7.521E+00	-6.513E+01	5.009E+01	-6.513E+01
42	4	-7.490E+01	-7.490E+01	-7.490E+01	-4.075E+03	3.925E+03	-4.075E+03
		-7.490E+01	-7.490E+01	-7.490E+01	1.494E+03	-1.644E+03	-1.644E+03
42	5	-5.986E+01	-5.986E+01	-5.986E+01	-8.853E+02	7.656E+02	-8.853E+02
		-5.986E+01	-5.986E+01	-5.986E+01	1.625E+03	-1.744E+03	-1.744E+03
43	1	-3.420E+02	-3.420E+02	-3.420E+02	-9.784E+03	9.100E+03	-9.784E+03
		-3.420E+02	-3.420E+02	-3.420E+02	5.190E+03	-5.874E+03	-5.874E+03
43	2	-9.567E+02	-9.567E+02	-9.567E+02	-2.736E+04	2.545E+04	-2.736E+04
		-9.567E+02	-9.567E+02	-9.567E+02	1.451E+04	-1.642E+04	-1.642E+04
43	3	-3.715E+02	-3.715E+02	-3.715E+02	-2.039E+03	1.296E+03	-2.039E+03
		-3.715E+02	-3.715E+02	-3.715E+02	2.500E+03	-3.243E+03	-3.243E+03
43	4	-6.904E+02	-6.904E+02	-6.904E+02	-1.116E+04	9.779E+03	-1.116E+04
		-6.904E+02	-6.904E+02	-6.904E+02	7.337E+03	-8.718E+03	-8.718E+03



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43	5	5.258E+01	5.258E+01	5.258E+01	-7.082E+03	7.187E+03	7.187E+03
		5.258E+01	5.258E+01	5.258E+01	2.336E+03	-2.231E+03	2.336E+03
44	1	-5.009E+02	-5.009E+02	-5.009E+02	-6.409E+03	5.407E+03	-6.409E+03
		-5.009E+02	-5.009E+02	-5.009E+02	-3.578E+03	2.576E+03	-3.578E+03
44	2	-1.418E+03	-1.418E+03	-1.418E+03	-1.856E+04	1.572E+04	-1.856E+04
		-1.418E+03	-1.418E+03	-1.418E+03	-1.019E+04	7.359E+03	-1.019E+04
44	3	-3.628E+02	-3.628E+02	-3.628E+02	-5.797E+03	5.071E+03	-5.797E+03
		-3.628E+02	-3.628E+02	-3.628E+02	-4.669E+03	3.943E+03	-4.669E+03
44	4	-8.353E+02	-8.353E+02	-8.353E+02	-1.198E+04	1.031E+04	-1.198E+04
		-8.353E+02	-8.353E+02	-8.353E+02	-8.067E+03	6.396E+03	-8.067E+03
44	5	-1.097E+02	-1.097E+02	-1.097E+02	-3.889E+02	1.695E+02	-3.889E+02
		-1.097E+02	-1.097E+02	-1.097E+02	1.271E+03	-1.490E+03	-1.490E+03
45	1	-5.009E+02	-5.009E+02	-5.009E+02	-3.578E+03	2.576E+03	-3.578E+03
		-5.009E+02	-5.009E+02	-5.009E+02	1.946E+03	-2.948E+03	-2.948E+03
45	2	-1.418E+03	-1.418E+03	-1.418E+03	-1.019E+04	7.359E+03	-1.019E+04
		-1.418E+03	-1.418E+03	-1.418E+03	5.836E+03	-8.671E+03	-8.671E+03
45	3	-4.040E+02	-4.040E+02	-4.040E+02	-4.710E+03	3.902E+03	-4.710E+03
		-4.040E+02	-4.040E+02	-4.040E+02	4.122E+01	-8.492E+02	-8.492E+02
45	4	-8.765E+02	-8.765E+02	-8.765E+02	-8.108E+03	6.355E+03	-8.108E+03
		-8.765E+02	-8.765E+02	-8.765E+02	1.986E+03	-3.739E+03	-3.739E+03
45	5	-6.851E+01	-6.851E+01	-6.851E+01	1.312E+03	-1.449E+03	-1.449E+03
		-6.851E+01	-6.851E+01	-6.851E+01	1.904E+03	-2.041E+03	-2.041E+03
46	1	1.284E+02	1.284E+02	1.284E+02	-4.161E+03	4.418E+03	4.418E+03
		1.284E+02	1.284E+02	1.284E+02	-1.726E+03	1.983E+03	1.983E+03
46	2	3.534E+02	3.534E+02	3.534E+02	-1.224E+04	1.295E+04	1.295E+04
		3.534E+02	3.534E+02	3.534E+02	-4.995E+03	5.701E+03	5.701E+03
46	3	1.031E+02	1.031E+02	1.031E+02	-1.794E+03	2.000E+03	2.000E+03
		1.031E+02	1.031E+02	1.031E+02	-1.413E+03	1.620E+03	1.620E+03
46	4	2.209E+02	2.209E+02	2.209E+02	-5.876E+03	6.318E+03	6.318E+03
		2.209E+02	2.209E+02	2.209E+02	-3.078E+03	3.520E+03	3.520E+03
46	5	1.464E+01	1.464E+01	1.464E+01	-2.287E+03	2.317E+03	2.317E+03
		1.464E+01	1.464E+01	1.464E+01	-2.515E+02	2.808E+02	2.808E+02
47	1	1.284E+02	1.284E+02	1.284E+02	-1.726E+03	1.983E+03	1.983E+03
		1.284E+02	1.284E+02	1.284E+02	2.128E+03	-1.872E+03	2.128E+03
47	2	3.534E+02	3.534E+02	3.534E+02	-4.995E+03	5.701E+03	5.701E+03
		3.534E+02	3.534E+02	3.534E+02	6.345E+03	-5.638E+03	6.345E+03
47	3	6.197E+01	6.197E+01	6.197E+01	-1.455E+03	1.578E+03	1.578E+03
		6.197E+01	6.197E+01	6.197E+01	1.489E+02	-2.499E+01	1.489E+02
47	4	1.798E+02	1.798E+02	1.798E+02	-3.119E+03	3.479E+03	3.479E+03
		1.798E+02	1.798E+02	1.798E+02	2.264E+03	-1.904E+03	2.264E+03
47	5	5.582E+01	5.582E+01	5.582E+01	-2.104E+02	3.220E+02	3.220E+02
		5.582E+01	5.582E+01	5.582E+01	1.966E+03	-1.854E+03	1.966E+03
48	1	2.283E+01	2.283E+01	2.283E+01	-6.034E+03	6.080E+03	6.080E+03
		2.283E+01	2.283E+01	2.283E+01	-1.658E+03	1.704E+03	1.704E+03
48	2	6.556E+01	6.556E+01	6.556E+01	-1.806E+04	1.819E+04	1.819E+04
		6.556E+01	6.556E+01	6.556E+01	-4.942E+03	5.073E+03	5.073E+03
48	3	1.005E+02	1.005E+02	1.005E+02	5.892E+02	-3.882E+02	5.892E+02



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JOB NO. 59047 JOB OCONEE UNITS 1,2 & 3

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CHK'D B DATE 12-5-97

		1.005E+02	1.005E+02	1.005E+02	4.896E+02	-2.887E+02	4.896E+02
48	4	1.223E+02	1.223E+02	1.223E+02	-5.432E+03	5.676E+03	5.676E+03
		1.223E+02	1.223E+02	1.223E+02	-1.158E+03	1.402E+03	1.402E+03
48	5	-7.863E+01	-7.863E+01	-7.863E+01	-6.610E+03	6.453E+03	-6.610E+03
		-7.863E+01	-7.863E+01	-7.863E+01	-2.137E+03	1.980E+03	-2.137E+03
49	1	2.283E+01	2.283E+01	2.283E+01	-1.658E+03	1.704E+03	1.704E+03
		2.283E+01	2.283E+01	2.283E+01	3.976E+03	-3.931E+03	3.976E+03
49	2	6.556E+01	6.556E+01	6.556E+01	-4.942E+03	5.073E+03	5.073E+03
		6.556E+01	6.556E+01	6.556E+01	1.193E+04	-1.180E+04	1.193E+04
49	3	1.729E+01	1.729E+01	1.729E+01	4.064E+02	-3.718E+02	4.064E+02
		1.729E+01	1.729E+01	1.729E+01	-1.286E+01	4.744E+01	4.744E+01
49	4	3.914E+01	3.914E+01	3.914E+01	-1.241E+03	1.319E+03	1.319E+03
		3.914E+01	3.914E+01	3.914E+01	3.963E+03	-3.885E+03	3.963E+03
49	5	4.565E+00	4.565E+00	4.565E+00	-2.054E+03	2.063E+03	2.063E+03
		4.565E+00	4.565E+00	4.565E+00	3.989E+03	-3.980E+03	3.989E+03
50	1	-7.787E+01	-7.787E+01	-7.787E+01	-2.077E+03	1.921E+03	-2.077E+03
		-7.787E+01	-7.787E+01	-7.787E+01	-3.293E+02	1.736E+02	-3.293E+02
50	2	-2.022E+02	-2.022E+02	-2.022E+02	-6.298E+03	5.894E+03	-6.298E+03
		-2.022E+02	-2.022E+02	-2.022E+02	-1.035E+03	6.310E+02	-1.035E+03
50	3	6.307E+01	6.307E+01	6.307E+01	1.682E+03	-1.556E+03	1.682E+03
		6.307E+01	6.307E+01	6.307E+01	1.360E+03	-1.234E+03	1.360E+03
50	4	-4.316E+00	-4.316E+00	-4.316E+00	-4.175E+02	4.088E+02	-4.175E+02
		-4.316E+00	-4.316E+00	-4.316E+00	1.015E+03	-1.024E+03	-1.024E+03
50	5	-1.305E+02	-1.305E+02	-1.305E+02	-3.781E+03	3.521E+03	-3.781E+03
		-1.305E+02	-1.305E+02	-1.305E+02	-1.705E+03	1.444E+03	-1.705E+03
51	1	-7.787E+01	-7.787E+01	-7.787E+01	-3.293E+02	1.736E+02	-3.293E+02
		-7.787E+01	-7.787E+01	-7.787E+01	1.545E+03	-1.701E+03	-1.701E+03
51	2	-2.022E+02	-2.022E+02	-2.022E+02	-1.035E+03	6.310E+02	-1.035E+03
		-2.022E+02	-2.022E+02	-2.022E+02	4.679E+03	-5.083E+03	-5.083E+03
51	3	2.777E+01	2.777E+01	2.777E+01	1.325E+03	-1.269E+03	1.325E+03
		2.777E+01	2.777E+01	2.777E+01	-2.983E+01	8.538E+01	8.538E+01
51	4	-3.961E+01	-3.961E+01	-3.961E+01	9.799E+02	-1.059E+03	-1.059E+03
		-3.961E+01	-3.961E+01	-3.961E+01	1.530E+03	-1.609E+03	-1.609E+03
51	5	-9.516E+01	-9.516E+01	-9.516E+01	-1.670E+03	1.480E+03	-1.670E+03
		-9.516E+01	-9.516E+01	-9.516E+01	1.589E+03	-1.780E+03	-1.780E+03

1**** End of file

**(ATTACHMENT RAI
13a.3)**

**Outlier R-22
3SO4E**

**See ATTACHMENT RAI 13a.2
Pages 12, 13, 14, 15, and 20**

ATTACHMENT

RAI 14

Control Room Ventilation System
Evaluation Methodology
(OSC-6735 Appendix A)



EQE INTERNATIONAL

FOR INFORMATION ONLY

SHEET NO. A1

JOB NO. 200138 JOB Duke Power Oconee 1, 2, 3 BY F DATE 8-1-96
CALC. NO. C-001 SUBJECT CRVS Ducting CHK'D JD DATE 8/5/96

APPENDIX A

WALKDOWN PROCEDURE AND ANALYTICAL EVALUATION CRITERIA FOR THE SEISMIC ADEQUACY REVIEW OF HVAC DUCTS AT THE OCONEE NUCLEAR STATION, UNITS 1, 2 & 3